National Park Service
U.S. Department of the Interior

Mojave National Preserve

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Mojave









General Management Plan

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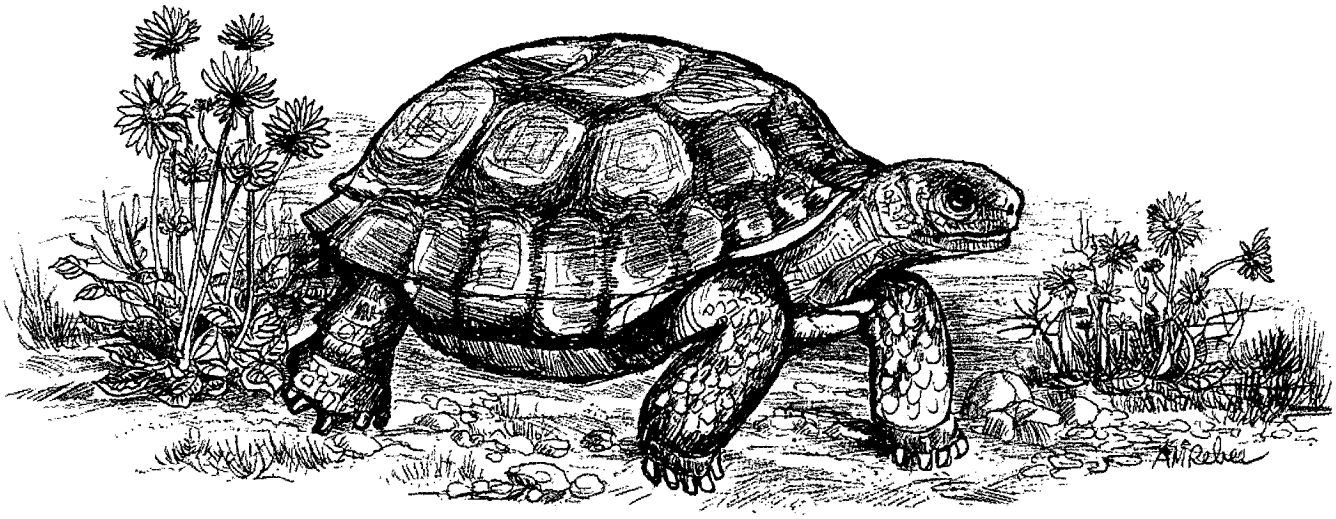
San Bernardino County, California

April 2002

This General Management Plan is Mojave National Preserve's overall management strategy for a ten to fifteen year period. This document summarizes the selected alternative from the Final General Management Plan / Environmental Impact Statement (July 2001).The Record of Decision (ROD), signed on September 21, 2001, is included in this document as an appendix. The ROD includes a summary of public and interagency involvement.



U.S. Department of the Interior ■ National Park Service



cover photos: girl in field photo: David Aikenhead, Kelso Dunes photo: Guss Vopalensky

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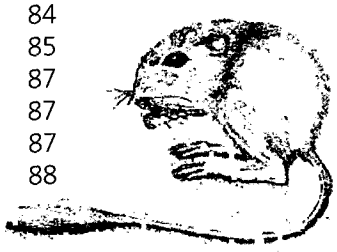
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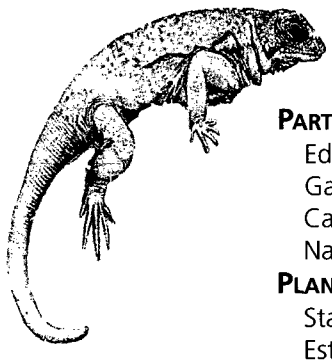
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Introduction




ZZYZX
Mineral Springs
12,000 ACRES
DRIVE SLOWLY...5 MI. PER HR.
for reservations or information...
...COME TO OFFICE
KINDLY PARK YOUR CAR
IN OUR PARKING ZONE...
YOU ARE INVITED
TO HAVE DINNER WITH US...
No Charge is made... You are our Guests



Introduction

Overview

This *General Management Plan* is Mojave National Preserve's overall management strategy for a 10–15 year period. This plan focuses on the park's purposes, its significant attributes, its mission in relation to the overall mission of the National Park Service, what activities are appropriate within these constraints, and resource protection strategies. It provides guidelines for visitor use and development of facilities for visitor enjoyment and administration of the Preserve. It serves as the overall umbrella guidance under which more detailed activity or implementation plans are prepared.

This plan envisions Mojave National Preserve as a natural environment and a cultural landscape where the protection of native desert ecosystems, natural processes, and historic resources is assured for future generations. The protection and perpetuation of native species in a self-sustaining environment is a primary long-term goal. The plan seeks to manage the Preserve to perpetuate the sense of discovery, solitude and adventure that currently exists. The plan also seeks to provide the public, consistent with the NPS mission, with maximum opportunities for roadside camping, back-country camping and access to the Preserve by existing roads. The plan would seek funding for the complete rehabilitation of the historic Kelso Depot and its use as a museum and interpretive facility. The goal of this plan is to determine how to best manage this new park unit to meet the Congressional intent and the mission of the National Park Service.

The California Desert Protection Act also requires the plan to place emphasis on the historical and cultural sites and ecological and wilderness values in the Preserve. It calls for the evaluation of the feasibility of using the Kelso Depot and the existing railroad corridor to provide public access to and a facility for special interpretive, educational, and scientific programs. It specifies that the plan address the needs of individuals with disabilities in the design of services, programs, accommodations, and facilities.



Description of Mojave National Preserve

Mojave National Preserve is a 1.6 million-acre unit of the National Park Service, established by Congress on October 31, 1994, by the California Desert Protection Act. The Preserve is a vast expanse of desert lands that represents a combination of Great Basin, Sonoran, and Mojave desert ecosystems. This combination allows a visitor to experience a wide variety of desert plant life in combinations that exist nowhere else in the United States in such proximity.

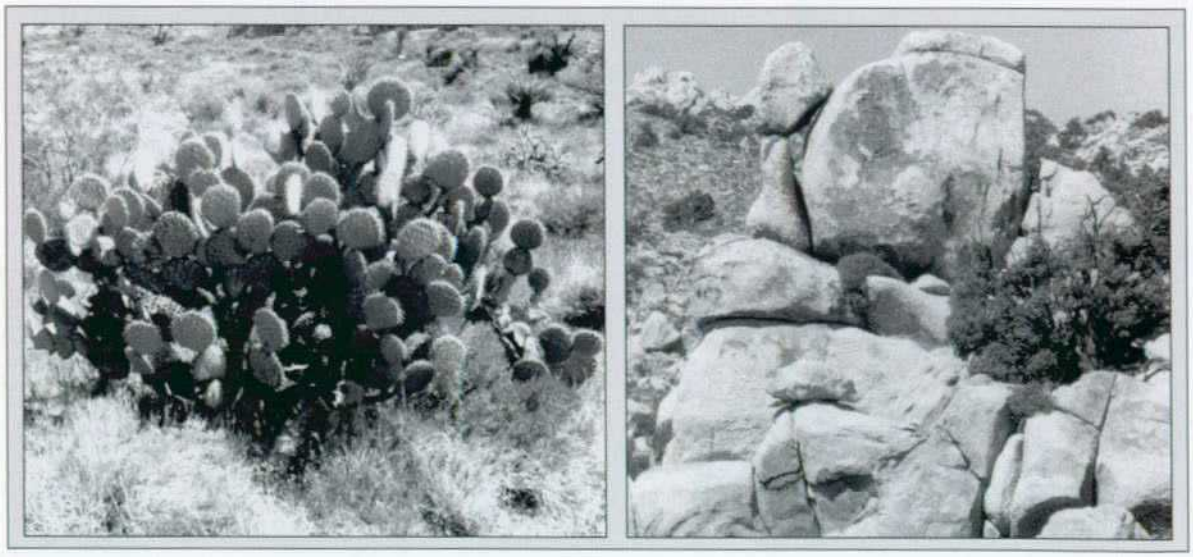
Located in southern California, the desert area is a land of mountain ranges, sand dunes, great mesas and extinct volcanoes. Mojave contains several diverse mountain ranges, the Kelso dune system, dry lakebeds and evidence of volcanic activity (domes, lava flows, cinder cones). Plant and animal life complement the geological features. Mojave contains the largest Joshua tree forest in the world. Providence Mountain State Recreation Area (Mitchell Caverns), the University of California's Granite Mountains Natural Reserve, and California State University's Soda Springs Desert Studies Center at Soda Springs are also within the park boundaries.



Mojave is bounded to the north and south by major interstate highways, I-15 and I-40. The Nevada–California stateline makes up most of the eastern boundary. Located about half way between Las Vegas and Joshua Tree National Park, it is an area that many people have seen through their windshields, but few have taken time to explore.

Of the Preserve's 1.6 million acres, about 700,000 acres are designated wilderness. In addition, about half is designated as critical habitat for the federally listed threatened desert tortoise.

Evidence of the early human uses includes archeological sites, possibly dating back to 12,000 years. Historic features, such as mail and trade/travel routes, ranching, farming, and mining, are abundant and often well preserved. The old Union Pacific train depot at Kelso serves as a wonderful reminder the railroading hey-days of the 1920s. The collection of buildings at Soda Springs, called Zzyzx, built by Curtis H. Springer also has a remarkably interesting tale to tell of this most unusual man. These two features and many more, such as Fort Piute, Government Holes, and Ivanpah town sites add to the very rich history of the Preserve.



Purpose and Management

Unit purpose, significant features, and agency mission and mandates (laws) form the basis for management decisions and planning. Decisions about the management of resources are generally measured against these elements to determine activities that may be acceptable in a unit.

Purpose and Mission

The park purpose is the reasons why Congress set the area aside for protection as a unit of the national park system. As a unit of the national park system, Mojave must be managed in accordance with the National Park Service preservation mission as provided in the Organic Act of 1916; 16 USC 1, which provides that the primary purpose of park units is:

> *"...to conserve the scenery and the natural and historic objects and the wildlife therein, and to provide for the enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations."*

In the 1970 General Authorities Act, Congress recognized that a confusing variety of designations had been used in the creation of National Park System units (parks, monuments, seashores, historic parks, recreation areas, preserves, etc.). They responded by amending the Organic Act to clarify that all units, regardless of their specific designation, are to be managed under the Organic Act mandate.

> *"...these areas, though distinct in character, are united through their interrelated purposes and resources into one national park system as cumulative expressions of a single national heritage; ...and that it is the purpose of this Act to include all such areas in the System and to clarify the authorities applicable to the system."*

In 1978, Congress amended the General Authorities Act in the Redwood National Park Act to further clarify the importance of park resources systemwide:

> *"The authorization of activities shall be construed and the protection, management, and administration of these areas shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided for by Congress."*

In addition to the overall purpose of parks as outlined in the NPS Organic Act, as amended, specific purposes may also be provided in each unit's establishing or enabling legislation. Certain activities may also be authorized that would otherwise be contrary to the Organic Act (i.e. hunting, grazing, mining, etc.). These activities are not legislative purposes of the unit, but rather exceptions made by Congress to recognize pre-existing rights or activities. In the case of Mojave National Preserve, for example, hunting is an activity not normally found in national park units. Where hunting is permitted in NPS units, the area is called a preserve rather than a park.

Congress provides more specific direction for the new California desert parks and wilderness areas in section 2 (b)(1) of the California Desert Protection Act:

> *Preserve unrivaled scenic, geologic and wildlife values associated with these unique natural landscapes;*
>
> *Perpetuate in their natural state significant and diverse ecosystems of the California desert;*
>
> *Protect and preserve the historical and cultural values of the California Desert associated with ancient Indian cultures, patterns of western exploration and settlement, and sites exemplifying the mining, ranching and railroading history of the Old West;*
>
> *Provide opportunities for compatible public outdoor recreation, protect and interpret ecological and geological features and historic, paleontological, and archeological sites, maintain wilderness resource values, and promote public understanding and appreciation of the California desert; and*
>
> *Retain and enhance opportunities for scientific research in undisturbed ecosystems.*

The specific purposes for Mojave National Preserve, as derived from the Organic Act and the CDPA, can be summarized as follows:

- Preserve and protect the natural and scenic resources of the Mojave Desert, including transitional elements of the Sonoran and Great Basin deserts.
- Preserve and protect cultural resources representing human use associated with Native American cultures and westward expansion.

- Provide opportunities for compatible outdoor recreation and promote understanding and appreciation of the California desert.

Significance

Park significance statements tell why the park is special and deserves to be a part of the national park system. Statements of significance clearly define the importance of the park's resources as they relate to the park purpose. These statements help set resource protection priorities, identify primary interpretive themes, and develop desirable visitor experiences.

Significance in this context is the importance of a feature or an outstanding value. It may be locally, regionally, nationally or globally significant or important to our national and cultural heritage. It may be a feature that is unique or extraordinary. Significance is not used here in a legal sense, such as with the National Environmental Policy Act or the National Historic Preservation Act.

The following significance statements were developed for the Preserve and serve as the basis for management actions:

- Mojave National Preserve protects an extensive variety of habitats, species, and landforms unique to the Mojave Desert and is the best place to experience this ecosystem.

- Mojave National Preserve contains outstanding scenic resources, rich in visual diversity containing a varied landscape of sand dunes, mountain ranges, dry lakebeds, lava flows, cinder cones, Joshua tree forests, and far-reaching vistas.

- The Joshua tree forest of Cima Dome and Shadow Valley is the largest and densest population of Joshua trees in the world.

- The Preserve is internationally known as a place to conduct desert research, and its lands are known for their geological features such as Cima Dome, the Cinder Cones, and the Kelso Dunes.

- Mojave is a naturally quiet desert environment with very dark night skies that offers visitors and researchers opportunities for natural quiet, solitude and star gazing with few human caused noise or light glare sources.

- The Mojave Desert has a long cultural history as a travel corridor across a harsh and foreboding desert, linking different areas in the Southwest. During the late 19th and early 20th centuries, railroads were constructed in this historic transportation corridor; more recently, modern interstate highways traverse the area.

- Mojave National Preserve protects many significant rock art sites that provide evidence of early Native American use of the Mojave Desert.

- Mojave National Preserve protects numerous historic sites from early mining, ranching, homesteading and railroading endeavors that serve as reminders of the bold and tough people that opened the harsh and forbidding western frontier.

- Historic Kelso Depot is associated with the early 20th century heyday of the great steam locomotives and the establishment of the final major rail crossings of the Mojave Desert. The Kelso Depot, built in 1924, is a rare surviving example of a combined depot, railroad restaurant, and employees' rooming house.



Interpretive Themes

The primary park stories or interpretive themes are overview statements that provide the basis for communicating the purpose and significance of the park and provide the elements that the park believes each visitor should develop an understanding of during their visit. Interpretation is a process of education designed to stimulate curiosity and convey messages to the visiting public. These themes will be developed during the preparation of a comprehensive interpretive plan for the Preserve and will guide the development of interpretive materials (signs, brochures, walks, talks, etc.).

Management Objectives

Seek to protect significant natural and cultural resources and values, including geologic features, and to foster an improved understanding of natural processes and cultural resources through monitoring efforts and scientific research.

Participate cooperatively in the preservation of ecological resources and cultural / ethnographic resources that extend beyond the Preserve's boundaries.

Manage visitor use in a manner that promotes and perpetuates a sense of exploration and self-discovery, while protecting resources from overuse.

Educate visitors regarding the National Park Service mission and the natural and cultural resources of the Preserve.

Seek to continually improve the efficiency and effectiveness of operations and administration. Adopt and incorporate sustainable practices into all aspects of park operations.

Perpetuate the natural quiet and sense of solitude in the Preserve. Adopt strategies and work actively to reduce human-caused noise impacts from internal and external noise sources, including aircraft overflights.

Perpetuate scenic and cultural landscapes. Landscapes should be free from activities and facilities that distract from the scenic beauty or the historic condition of the landscape.

Protect wilderness values and the wilderness experience in areas congressionally designated as wilderness and manage desert resources, including wilderness, for maximum statutory protection provided for under the law.

Perpetuate and improve dark night sky conditions wherever feasible. Adopt criteria for protecting dark sky conditions and work with adjacent permitting entities to reduce glare from light sources.

Find creative ways to increase the accessibility of NPS programs, facilities and experiences in a reasonable manner. Provide access for all segments of the population, including visitors with disabilities, small children, senior citizens, and populations that generally do no use national parks, in accordance with the laws requiring the National Park Service to preserve and protect wilderness and cultural and natural resources for the enjoyment of future generations.

Pursue mutually supportive partnerships with representatives from gateway communities and local and tribal governments. Consider ways in which communities and the parks can support each other. Promote economic growth of communities in ways that complement the Preserve's management objectives.



Policy and Planning

Park units are administered by the National Park Service, an agency under the Department of the Interior. Management of the national park system and NPS programs is guided by the Constitution, public laws, treaties, proclamations, executive orders, directives of the Secretary of the Interior and the Assistant Secretary for Fish and Wildlife and

Parks, and by rules and regulations. Servicewide management policies are established by the director and provide the overall framework and guidance for park management decisions.

The NPS planning process is designed in tiers to be flexible and dynamic, beginning with overall management strategies and becoming increasingly more detailed and complementary. General management plans represent the first phase of tiered planning for parks and provide the overall management framework under which other more detailed plans are developed. This first plan is designed to remain effective for at least 15 years, but generally, much of it will not change significantly. Decisions about site-specific actions are deferred to implementation planning when more detailed site-specific analysis would be done.

The most dynamic parts of park planning are the "implementation plans" that are prepared to implement the general management plan. These plans may change as often as necessary to accommodate new information. Examples of implementation plans that may be necessary at Mojave are listed under Future Planning Needs below.

Strategic Planning

In 1993, Congress passed the Government Performance and Results Act (GPRA), requiring the federal government to adopt goal driven performance management concepts already widely used by the private sector. The purpose of this directive was to engage agencies in more effectively and efficiently managing their activities to achieve their missions, and to more effectively communicate with the Congress and the American people.

GPRA requires agencies to develop:

Strategic plans covering five years
Annual Performance Plans
Annual Performance Reports

The Preserve developed its first strategic plan in 1997. This plan layed out a five-year strategy for park operations covering fiscal years 1998–2002. A new five-year strategic plan was prepared in April 2000 for the years 2001–2005. Each year, beginning in fiscal year 1998, the park prepared an annual performance plan that identifies goals and action steps to achieve those goals. At the end of each fiscal year, a performance report is prepared documenting achievements towards our goals.

Future Planning Needs

Additional NPS planning documents have been identified as being needed to supply detailed information for specific topics. These activity level plans developed under the general management plan are subject to further review as required by NEPA and in accordance with NPS *Management Policies*. Additional planning efforts that may be undertaken over the next ten years include:

- comprehensive interpretive plan — initiated in FY99
- resource management plan — initiated in FY99
- fire management plan — initiated in FY99
- backcountry/wilderness management plan — initiated in FY99
- development concept plan for Hole-in-the-Wall — initiated in FY99
- grazing management plan — initiated in FY00
- water resource management plan
- development concept plan for Soda Springs
- road management plan
- communication management plan
- fee study plan
- inventorying and monitoring plan
- cave management plan
- Zzyzx historic structures report/cultural landscape report
- historic resources study
- administrative history -- initiated in 02

Environmental Compliance Responsibilities

Every action taken or plan proposed by the National Park Service that could affect natural and cultural resources or the quality of the human environment is subject to a host of laws and regulations designed to protect and enhance the environment. These laws and regulations constitute Mojave's environmental compliance responsibilities.

National Environmental Policy Act

The National Environmental Policy Act of 1969, Public Law 91-190, (NEPA) declared a national environmental policy; created a formal, legal process for integrating environmental values into federal decision-making; and provided an umbrella under which compliance with several environmental laws can be integrated.

In the National Park Service, construction activities, natural or cultural resource management projects,

actions on external proposals such as rights-of-way and mining plans of operation, and park plans trigger the majority of NEPA analyses. Numerous environmental laws, regulations, policies, and executive orders fall under the NEPA "umbrella."

Endangered Species Act of 1973

(Public Law 93-205)

The Endangered Species Act of 1973 (ESA) calls for the preservation and recovery of threatened and endangered species and their habitat. Some of the most important provisions of the act are:

Section 3 gives legal definition to the terms "threatened" and "endangered." "Endangered species" means "any species which is in danger of extinction throughout all or a significant portion of its range." "Threatened species" means "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range."

Section 7 requires federal agencies to consult with the U.S. Fish and Wildlife Service if their activities may affect a listed species, and requires the agencies to develop programs for the conservation of listed species (50 CFR 402 provides details on the consultation process).

Section 9 contains "taking" prohibitions for endangered animal species. The term "take" means to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or to attempt to engage in any such conduct."

The ESA also requires the U.S. Fish and Wildlife Service to develop recovery plans designed to increase the populations of threatened and endangered species to the point where they could be removed from the list.

Due to the presence of the threatened desert tortoise, the ESA is a law that pervades nearly all actions taken within Mojave.

Other laws that Mojave must consider as part of its regular environmental compliance responsibilities include the Clean Air Act, the Clean Water Act, and the Wilderness Act. In addition, Mojave must comply with laws and regulations that pertain to cultural resources.

As part of its stewardship, the National Park Service is mandated by Congress to preserve and protect resources within its jurisdiction. The Organic Act of 1916, as amended by U.S.C.1a-5, which created the Service, was enacted:

> To conserve the scenery and the natural and historic objects and wild life therein and to provide for the enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations (Act of August 25, 1916).

Other federal legislation that also applies to cultural resources:

- Antiquities Act of 1906 (Public Law 59-209; 16 U.S.C. 431-33)
- National Historic Preservation Act of 1966 (Public Law 89-665, as amended in 1980 and 1992, Public Law 102-575, 16 U.S.C. 470)
- National Environmental Policy Act of 1969, as amended (Public Law 91-190; 42 U.S.C. 4321, 4331, 4332)
- Archeological Resources Protection Act of 1979 (Public Law 96-95; 16 U.S.C. 470)
- Native American Graves Protection and Repatriation Act of 1990 (Public Law 101-601; 25 U.S.C. 3001)

In addition, the management of cultural resources is guided by:

- Advisory Council on Historic Preservation's implementing regulations (36 CFR Part 800) "Protection of Historic Properties"
- Advisory Council on Historic Preservation's implementing regulations (36 CFR Part 800) "Protection of Historic Properties"
- *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995)
- National Park Service's *Management Policies*
- National Park Service's Director's Order 28 (1998)
- 1995 "Programmatic Agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers."

The National Park Service, in conjunction with the Chemehuevi, Fort Mojave, and Las Vegas Piute tribes, and the San Manuel Tribal Community, strives to survey, inventory, and evaluate all cultural resources on lands under its jurisdiction, that is, all archeological, historic, and ethnographic resources. Section 110 of the National Historic Preservation Act requires that historic properties be identified and

evaluated for their eligibility for listing on the National Register of Historic Places. Section 110 also stipulates that historic properties be managed in a way that preserves and protects their historic and cultural values, especially nationally significant values.

Section 106 of the National Historic Preservation Act of 1966 requires that federal agencies consider the effects of their actions on historic properties and that they seek comments from the state historic preservation officer and, if necessary, the Advisory Council on Historic Preservation. Amendments to 36 CFR 800 in 1999 strengthen the requirement to provide the public an opportunity to comment on agency actions. The purpose of section 106 is to avoid harm to historic properties or other cultural resources either listed in or eligible for listing in the National Register of Historic Places and to afford the state historic preservation officer and the Advisory Council an opportunity to comment and advise, especially if mitigation becomes necessary.

The National Park Service consults with the tribal historic preservation officers on all matters affecting cultural resources. Native American consultations honor in particular the government-to-government relationship between the United States of America and those tribal entities that are historically associated with the lands in the Preserve. Thus, the National Park Service is consulting with the tribal governments of the aforementioned neighboring American Indian peoples through their duly elected representatives.

The opportunity to consult with American Indians and other Native Americans arises from the historic as well as current government-to-government relationship of the federal government with them and from the related federal trust responsibility to help conserve tribal resources. Tribal sovereignty is involved and supported by the government-to-government relationship. The government-to-government relationship stems from treaties, laws, and other legal entities, including presidential executive orders, proclamations, and memorandums; federal regulations; and agency management policies and directives. Examples are:

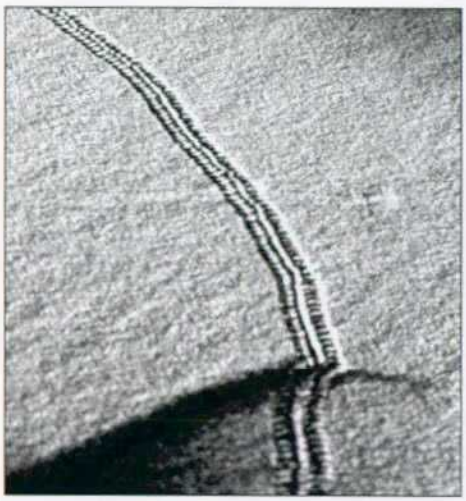
- the Native American Graves Protection and Repatriation Act of 1990
- the National Historic Preservation Act of 1966
- the 1994 amendments to the Indian Self-Determination and Education Assistance Act of 1975
- the Presidential Memorandum of April 29, 1994, entitled "Government-to-Government Relations With Native American Tribal Governments"
- and Executive Order 13007 of May 24, 1996, entitled "Indian Sacred Sites"





The Plan









The Plan

Overview

The vision for the Preserve is the protection and perpetuation of a natural environment and cultural landscape, where protection of self-sustaining native desert ecosystems and processes is ensured for future generations. The preservation and interpretation of historic and archeological resources pertaining to historic land use activities are an important source of visitor education and enjoyment. Educational opportunities and research activities of the natural and cultural environment are encouraged and access for all people, regardless of capability, is assured.



The plan strives to perpetuate the solitude and quiet, and the sense of discovery and adventure that now exists. The plan emphasizes minimum overall development that would detract from the setting and sense of discovery that currently exists. This means minimizing new development, including the proliferation of signs, new campgrounds and outdoor interpretive exhibits. The plan looks to adjacent communities to provide most visitor support services such as food, gas, and lodging.

Opportunities for roadside vehicle camping, backcountry camping, and access to the Preserve by existing roads consistent with the NPS mission will be provided.

A central museum and interpretive facility will be provided at Kelso Depot. The National Park Service proposes to seek funding to rehabilitate and partially restore the historic depot for visitor services, including interpretive displays.

This plan incorporates the NPS mission into the management of the resources within the 1.6 million-acre Preserve, in accordance with the 1994 Congressional designation of the area as a unit of the national park system. Stated simply, this means the primary goal is to protect the resources while providing for visitor enjoyment. However, at Mojave National Preserve, management must also consider the existence of major utility corridors and with other mandates from Congress, such as grazing, hunting, and mining under NPS regulations. Some changes are proposed for these activities, with the goal of providing for resource preservation and visitor enjoyment.

The plan would retain the ability of landowners to develop their private property, provided such developments not detrimental to the integrity of the Preserve or otherwise incompatible with the CDPA. The overall goal is purchasing property from willing sellers to enhance the primary mission of preserving resources.

ORGANIZATION:

Issues are presented under the following headings:

- Land Protection
- Management of Park Resources
- Facilities and Development
- Use of the Preserve
- Partnerships and Other Relationships
- Plan Implementation



Summary of Plan Actions

LAND PROTECTION

Preserve Boundary:

- Update boundary maps and legal description to reflect the change in status as parcels in Lanfair Valley are acquired.
- Legal description corrected to reflect that private lands in Lanfair Valley, other than Catellus, are not part of the Preserve, *until acquired.*
- No boundary changes proposed.

Wilderness Management:

- Manage wilderness areas for use and enjoyment of the American people in a way that would leave them unimpaired for future use and enjoyment as wilderness.
- Prepare backcountry/wilderness management plan to address specific management issues.
- Use minimum tool determination prior to granting approval for motorized/ mechanical equipment use within wilderness.
- Implement provisions of CDPA dealing with Native American uses, federal reserved water rights, and private property access.
- Official maps and legal descriptions will be prepared.

Fire Management:

- Current fire policy is to suppress all fires in the Preserve until fire history and effects studies are completed and a fire management plan is written and approved. Develop future fire policy based on best available science.
- Suppress all human caused fire, and implement all fire management actions using methods, equipment and tactics that cause the least impact on natural and cultural resources.
- Use minimum requirements process for fires in wilderness. Use of mechanized equipment will remain an exception to be used sparingly.
- Assess research needs and initiate long-term studies.

Disturbed Lands:

- Seek to perpetuate native plants and animals as part of natural ecosystems.
- Plantings in all areas will consist of species native to the park or appropriate for the period or event commemorated as outlined in the Secretary of the Interior's Standards for the Treatment of Historic Properties.
- Use of exotic species will conform to the NPS exotic species policy (NPS 2001).
- In natural areas, disturbances caused by natural phenomena such as landslides, earthquakes, floods, and natural fires will not be modified unless required for public safety, protection of NPS facilities, or necessary reconstruction of dispersed-use facilities, such as trails.
- Complete a comprehensive inventory of all Abandoned Mine Lands to serve as a basis for future planning and reclamation program implementation.
- Complete site assessments for Aiken Mine, Reily Camp, Kelso Dunes Mine, Death Valley Mine, New Trial Mine, and Rattle Snake Mine.

Non-federal Land and External Development:

- A Land Protection Plan serves as the basis for determining priorities for acquisitions.
- Seek funds to acquire private lands and interests in the Preserve on the basis of priorities presented in the Land Protection Plan.
- Donations and exchanges of real property from willing sellers will be a priority, and third-party acquisitions from willing sellers will be encouraged.
- Purchase of base property from willing seller ranchers is a priority over other acquisitions, in accordance with CDPA direction (section 510).
- Whenever acquisitions of private land occurs, the parcel will automatically become part of the Preserve pursuant to section 517 of the CDPA, and no boundary adjustment is needed.
- Parcels within the boundaries of wilderness automatically become wilderness upon acquisition according to section 704.
- Review permit applications and environmental documents and determine threats to park resources or visitor experience from external threats.

MANAGEMENT OF PARK RESOURCES

Resource Protection Goals and Criteria:

- Develop a set of protection goals and criteria through the inventory and monitoring program to establish a standard set of resource protection guidelines.

Inventorying and Monitoring:

- Assemble baseline inventory data describing the natural and cultural resources under its stewardship, and will monitor the resources at regular intervals to detect or predict changes.
- Develop and implement a systematic, integrated program to identify, inventory, and monitor its natural and cultural resources.

Natural Resources:

Air Quality:

- Protect air quality under both the 1916 Organic Act and the Clean Air Act.
- Seek class I designation and seek to perpetuate the best possible air quality because of its critical importance to visitor enjoyment, human health, scenic vistas, and the preservation of natural systems and cultural resources.

Viewsheds/Visual Quality:

- Prepare guidelines for the built environment to establish visual consistency and themes in facility development and to create harmony between the built environment and the natural environment.
- Prepare a communication management plan to address the NPS goals and the need to establish sites for communication equipment.
- Encourage compatible adjacent land uses and mitigate potential adverse effects.

Night Sky:

- Partner with communities and local government agencies to minimize reflected light and artificial light intrusion on the dark night sky.
- Use artificial outdoor lighting limited to basic safety requirements and shielded to keep light on the intended subject and out of the night sky.
- Establish baseline light measurements for night use for monitoring changes over time.

Natural Ambient Sound:

- Preserve the natural quiet and sounds associated with the physical and biological resources.
- Cooperate with the Department of Defense to minimize impacts on visitors and resources from military overflights.

Soil Resources:

- Inventory and preserve soil resources, and prevent, to the extent possible, the unnatural erosion, physical removal, or contamination of the soil, or its contamination of other resources.
- Monitor potential impacts on soil resources as necessary.

Water Resources:

- Protect, perpetuate, and possibly restore surface water and groundwater as integral components of park aquatic and terrestrial ecosystems.
- Work with holders of water rights to restore modified waters sources to natural conditions while still allowing for valid uses consistent with the State permit.
- Seek to restore, maintain, or enhance the quality of all surface and ground waters within the Preserve consistent with the Clean Water Act.
- Avoid occupancy and modification of floodplain and wetland areas wherever possible.
- Should the National Park Service seek to acquire private land within its boundaries, the essential water rights attached to those lands will also be sought for acquisition.

Paleontological Resources:

- Manage paleontological resources in accordance with NPS management policies and goals established by the NPS Strategic Plan.
- Inventory, monitor, protect, and preserve, and where appropriate, make available for scientific research.
- Ensure that the nature and specific location of these resources remain confidential.

Geological Resources:

- Inventory, preserve and protect geological resources as integral components of the natural systems, including both geologic features and geologic processes.
- Protect geologic features from the adverse effects of human activity, while allowing natural processes to continue.
- Address geological processes in planning and other management activities to reduce hazards to visitors, staff, and park infrastructure.

Cave Resources:

- Manage caves in a manner that protects the natural conditions such as drainage patterns, airflow, and plant and animal communities.
- Continue to work cooperatively with the California Department of Parks and Recreation to inventory, study and protect the significant cave resources that are found at Providence Mountains State Recreation Area.
- Avoid development of caves and to perpetuate natural conditions, while seeking to protect the resource.
- Develop a cave management program where significant cave resources exist.

- Enhance knowledge of cave resources through comprehensive inventory, monitoring and research.

Biological Resources:

- Minimize human impacts on native ecosystems and dynamics of naturally functioning populations.

Flora:

- Seek to perpetuate native plant life (such as vascular plants, ferns, mosses, algae, fungi, and bacteria) as critical components of natural desert ecosystems.
- Seek to develop a complete inventory of all floristic components and establish monitoring programs to serve as early warning systems for health of the system.

Fauna:

- Preserve and protect native wildlife and their natural habitat in a manner that will result in self-sustaining populations of native species.

Sensitive Species:

- Identify, inventory, monitor and promote the conservation of all federally listed or proposed threatened or endangered species and their critical habitats in ways that are consistent with the purposes of the Endangered Species Act.
- Identify, inventory, monitor and promote the conservation of all state and locally listed threatened, endangered, rare, declining, sensitive, fully protected, or candidate species that are native to and present in the Preserve, as well as their critical habitats.
- All management actions for protection and perpetuation of special status species will be determined through the Preserve's resource management plan.

Desert Tortoise:

- The management goal of this plan is the delisting of the desert tortoise following recovery of the Mojave population.
- Protect the desert tortoise and its habitat regardless of its location or habitat designation throughout the park.
- Implement desert tortoise recovery measures as delineated in this plan.
- If a development project is proposed on federal land within the desert tortoise category I habitat (e.g. a right-of way, mining, range development) and will disturb or otherwise modify the native plant community or ground surface, the developer will be required to purchase equivalent habitat for the desert tortoise's preservation in accordance with the compensation formula established by the Desert Tortoise Management Oversight Group.

Mohave Tui Chub:

- Develop a cooperative agreement between the National Park Service, California Department of Fish and Game, U.S. Fish and Wildlife Service and California State University to identify management objectives and strategies, consistent with the recovery plan, for maintaining the Mohave tui chub population (such as cattail and other aquatic plant removal and dredging of the pond).
- Pursue funding to provide for continued maintenance of the ponds and monitoring of the population.

Desert Bighorn Sheep:

- Inventory, monitor, and protect a self-sustaining population of bighorn, while allowing some hunting as mandated by Congress.
- Conduct research to determine need for artificial water sources and predator control, impacts of rock-climbing and effects of jet noise.

Sensitive Habitats:

- Inventory, map and monitor sensitive, unusual and limited distribution habitats.
- Fire planning will address efforts to protect white fir stands from wildfire, since they are not tolerant to extremes in heat and have a thin outer bark.
- Park management goals for Joshua tree woodland include inventorying and monitoring the extent, density, and age distribution of the Joshua tree woodland; researching the long-term effects of grazing; and investigating fire management strategies that consider short and long-term fire effects on components of this community and determine appropriate strategies.
- Inventory, monitor and study "unusual" plant communities (meaning they may be particularly sensitive to disturbance, or are limited in distribution) to determine appropriate management actions.

Introduced Species:

- Nonnative plants and animals will not be used/introduced, except at historic sites where treatment plans (using the "Secretary of the Interior's Standards for Historic Properties") have been approved by the superintendent.
- The management of populations of exotic plant and animal species, up to and including eradication, will be undertaken in accordance with NPS *Management Policies* wherever such invasive species threaten park resources or public health and when control was prudent and feasible.

Burros:

- The management goal at Mojave is to remove all burros from inside the boundary and implement actions, to the extent practicable, to ensure that they do not reenter.
- Burros will be removed in a multi-phased approach similar to that used successfully in Death Valley National Monument. Phase one consists of live capture and removal of burros up to two years. Mojave uses four capture methods and has three placement sources. Phase two consists of soliciting interested animal protection groups to begin removing the remaining few animals for a maximum of six months. In Phase three, NPS staff or contractors will eliminate the remaining few animals in a humane manner to achieve a zero population. Phase three will continue for an indefinite time.
- Fence Clark Mountain because of the adjacent BLM herd management area.

Rocky Mountain Mule Deer:

- No actions to remove this species are warranted until the genetics of the deer population are studied.

Chukar:

- Encourage reductions in this population of exotic birds by seeking a higher bag limit, as compared to the native quail population.
- No new releases of birds allowed.

Tamarisk:

- Continue to identify and remove the invasive nonnative salt cedar tamarisk (*Tamarisk ramosissima*).
- Use only authorized herbicides in tamarisk control efforts.
- Retention of athel tamarisk trees at Kelso Depot and Zzyzx as part of the historic landscape will be evaluated during planning efforts for those sites.

Cultural Resources:

- Develop and implement a systematic, integrated cultural resource management program in accordance with the NPS *Management Policies* (2001) and *Director's Order 28*.
- Identify, inventory, monitor, and evaluate archeological sites, historic properties, cultural landscapes, and ethnographic resources; nominating significant resources to the National Register of Historic Places and manage, protect, and preserve such listed properties in a way that will preserve their documented archeological, architectural, ethnographic, historic, or research values.
- Develop partnerships with agencies and organizations with cultural resources expertise.

Baseline Data:

- Develop and implement a systematic applied cultural resource research program to ensure that (1) there will be adequate baseline information on location, condition, threats, and significance/integrity of resources; (2) interpretation and preservation treatment of resources will be accurate; and (3) appropriate means will be used to manage, protect, preserve, and interpret Native American heritage or other ethnographic resources.

List of Classified Structures:

- Maintain and update this list as necessary to reflect current research, surveys and interpretations.

Cultural Landscapes:

- Inventory the cultural landscapes and prepare nomination for those determined to be eligible for the National Register of Historic Places.

National Register Properties:

- Complete a Historic Resources Study by 2005 to identify additional properties that may be nominated to the National Register such as the Ivanpah and Providence townsites and the Death Valley Mine.

Ethnography:

- Develop programs, policies, guidelines, and data to help Preserve management identify

and protect culturally significant resources.

Collections Management:

- Prepare a scope of collections statement and a collection management plan to address and document the management, protection, preservation, and use of natural and cultural specimens, objects, documents, photographs or electronic media.

Archeological Resources:

- Identify, protect, preserve, and interpret archeological resources under its jurisdiction.
- Continue to maintain Archeological Sites Management Inventory System (ASMIS) database.

FACILITIES AND DEVELOPMENTS

- Management goal is to minimize development of new facilities that would detract from the setting and sense of discovery that currently exists.
- Locate some management facilities outside the Preserve.

Sustainable Design:

- Implement sustainable practices and pollution prevention activities in all its management actions, including the planning, construction and maintenance of facilities.
- Park facilities and operations will incorporate sustainable practices and elements to the maximum extent practicable in planning, design, siting, construction, building materials, utility systems, recycling, and waste management.

Visitor Information:

Information Centers and Sources:

- A small information and visitor contact desk will be staffed at the headquarters building in Barstow to serve the public and fill the needs of local communities.
- The Hole-in-the-Wall information center will continue to provide visitor information and serve seasonally as a base for interpretive programs such as ranger-led walks and talks.

Interpretive Facilities:

- Interpretive plan will be developed to provide overall direction for interpretive programs. This document will support the vision of a park mostly free of developments with opportunities to feel a sense of exploration and discovery.
- Staffed information centers will continue to operate in Baker and Needles for the near future.
- Pursue partnerships with other agencies, tribes, and private organizations to offer a broad range of visitor information at key gateway locations.

Kelso Depot:

- Rehabilitate Kelso Depot for use as a museum and interpretive facility.
- Rehabilitate other spaces inside the depot for visitor information displays, natural and cultural exhibits, audiovisual exhibits, an auditorium, public restrooms, publication sales, working space for staff, conference/classroom space, and storage space.

Soda Springs:

- The interpretive shade structure, comfort station and parking lot will serve as the focal point for visitors coming to Zzyzx for day use.
- Explore opportunities for expanded day use trails in the area, and expand the existing self-guided interpretive program and exhibits.

Hole-in-the-Wall:

- Improve visitor information about recreational activities in the area, and provide interpretation of natural and cultural resources.
- Develop a site-specific management plan for the Hole-in-the-Wall area to address visitor and administrative facilities under guidance provided in this document.

Signing and Orientation:

- Prepare a sign plan to ensure that the vision of signs as unobtrusive, minimal, and blend with the natural environment so that the undeveloped wild character and sense of exploration remains.
- Signs on major roads will direct visitors to major points of interest.
- Secondary or backcountry roads will remain relatively free of signs.
- Portable media will be used to minimize proliferation of signs.

Wayside Exhibits:

- A minimal number of road or trailside

interpretive wayside panels will be installed along paved or other heavily traveled roads to interpret significant and interesting resources visible from each area.
- Safety and orientation panels will be provided at key trailheads, developed campgrounds and other high visitor use areas such as Kelso Dunes.

Developed Campgrounds:
- Retain Mid Hills and Hole-in-the-Wall campgrounds and continue ongoing improvements.
- Redesign trails and campsites in Mid Hills to improve accessibility.
- Consider one new semi-developed campground with fewer services and campsites in a separate planning effort.

Research and Education Centers:

Soda Springs Desert Studies Center:
- Produce cooperative agreement with California State University to manage these federally owned facilities and continue to provide desert research and education at the Soda Springs Desert Study Center.
- Buildings not routinely used by CSU may be considered for park offices or housing, especially where an NPS presence will assist in supporting and protecting facilities and provide staff to interact with public not associated with CSU programs.

Granite Mountains Natural Reserve:
- Maintain cooperative agreement with University of California to manage area for desert research and education.
- Cooperate with the Reserve to develop informational kiosks for key entry points to provide information to the visiting public about the purpose of the Reserve, the NPS mission, and the need to exercise caution when visiting the area so as to not inadvertently disturb research projects.

Park Support Facilities:
- Locate some facilities outside Preserve boundaries including headquarters site in Barstow, visitor facilities in Baker and Needles and possibly employee housing, offices or maintenance shops in Baker or Essex.

Headquarters:
- Headquarters for Mojave National Preserve will continue to be located in the Barstow area.

Field Offices:
- Site specific development plans in areas such as Cima, Kelso, Lanfair Valley and the Hole-in-the-Wall vicinity will address the need for facilities similar to the site in Baker.

Maintenance Facilities:
- Baker currently serves as the interim central maintenance operation, taking care of most short-term maintenance needs.
- A maintenance area is being added to the new interagency fire center at Hole-in-the-Wall.
- General areas under consideration for a central maintenance function include Cima, Hole-in-the-Wall vicinity, Lanfair Valley, and Essex.

Interagency Fire Center:
- Wildland fire management operations will continue to be managed in cooperation with the Bureau of Land Management.
- Replace the existing dormitory, office and garage at Hole-in-the-Wall due to their poor condition.
- A separate development concept plan and environmental assessment for the entire Hole-in-the-Wall area will consider other visitor facilities.

Employee Housing:
- When staffing levels exceed available NPS and private housing in Baker, new housing will be constructed to replace the existing double-wide trailers.
- The National Park Service will consider leases or similar agreements with private parties to ensure housing for employees.
- Employee housing will not be provided in Needles or Barstow.
- The National Park Service will evaluate acquired housing in the Preserve for use as employee housing.
- New housing construction would also be considered.
- A housing management plan is being prepared to consider the number and types of units necessary to meet the mission of the Preserve.

Access and Circulation:

Roads:

- No major changes will be made to the existing roads.
- Vehicle use will be limited to street legal vehicles. No offroad driving permitted.
- Prepare a road management plan to evaluate the need for duplicate road sections, road surface conditions, and the appropriate level of maintenance.
- San Bernardino County will continue to manage paved roads under a cooperative agreement with the NPS, as well as the graded dirt Cedar Canyon, Black Canyon, Ivanpah, and Lanfair Valley roads.
- The NPS maintains graded dirt access roads to Zzyzx, Kelso Dunes and Wild Horse Canyon road.
- High-clearance and four-wheel-drive roads will not be routinely maintained by the Preserve or the County; however, emergency repairs or limited maintenance might be undertaken by the NPS or volunteer groups under cooperative agreements.
- The Mojave Road will remain open for street legal vehicles, mountain bikes, equestrians, and hikers.
- Business permits for commercial guided tours of Mojave Road may be considered to provide visitors without the appropriate vehicle an opportunity to experience this resource.
- Large groups on Mojave Road will be required to camp at designated areas and obtain a special use permit. The number of large groups may be limited to avoid adverse impacts.

Sand and Gravel for Road Maintenance:

- Allow the collection and stockpiling of material that washes onto roads during flood events for emergency use in repairing damage.
- The National Park Service and San Bernardino County will obtain borrow from outside sources unless economically infeasible.

Trails:

- All trails are currently open to hikers and equestrian use.
- The backcountry/wilderness management plan will address trail use by hikers, equestrians, bicycles, and visitors with disabilities. The plan will identify the type and intensity of trail development, including the number of signs, trails, and trailheads, long distance trails extending into Bureau of Land Management or California State Parks and other jurisdictions, and anticipated maintenance levels for developed trails.
- Existing roads now within wilderness will be examined for conversion to single-track hiking trails.

Rights-of-Way and Easements:

- Additional research and record checking over the next several years will be conducted in order to adequately document all the existing rights-of-way/easements and develop an administration plan.
- Convert existing rights-of-way to NPS standards and regulations wherever possible or relocate outside Preserve.
- Develop a procedure to administer annual fee/rental collection. At present, the BLM collects and retains all annual fees/rentals associated with rights-of-ways/easements in the Preserve.

Railroads:

- If passenger train service resumes, coordinate with Amtrak on the feasibility of placing NPS information and interpreters on trains and allowing passengers to stop at Kelso Depot.
- Support the concept of using rail as an alternative form of transportation for visitors entering the Preserve.
- Pursue cooperative agreements to address spill response, emergency operations, permitting, maintenance of flood control structures, use of pesticides and herbicides and other relevant issues.

Roads:

- Most of the roads in the Preserve were constructed without rights-of-ways or easements being granted. The county of San Bernardino contends that all established roads in the Preserve are valid RS-2477 rights-of-ways.
- The NPS retains the authority to regulate use of an RS-2477 right-of-way.

Wildlife Guzzlers:

- Retain guzzlers for native wildlife if they are

found to be necessary to replace water lost due to actions taken by previous human activities.
- Restore natural water sources to be self-sustaining.
- Modify existing water developments to prevent desert tortoise from gaining access and to ensure they are able to escape from them.

Ranching Developments:
- Specific detailed lists and maps of the locations, ownership and maintenance responsibility of all these developments will be prepared during the grazing management plan development.
- If and when a grazing permit is purchased by a third part and donated to the NPS for retirement, most ranching developments will be removed following cultural resource inventory and analysis.

USE OF THE PRESERVE

Recreational Activities:
- NPS *Management Policies* provides guidance for determining the appropriateness of recreational activities in units of the national park system.

Rock-climbing:
- The management goal will be to allow climbers to enjoy their experience with a sense of challenge in a manner that will leave the environment relatively unchanged and not impacted, allowing future climbers an opportunity for a similar experience.
- Work with groups such as the Access Fund to educate the park's climbing community.
- Power drills will be not be allowed in the Preserve at any time.
- Chipping of rock faces and gluing of holds onto the rock will be prohibited, as will intentional removal of vegetation from climbing routes.
- Climbing will not be permitted within 500 feet of any prehistoric or historic rock art site or other cultural resource.
- Existing bolts and other fixed anchors that are deemed unsafe by climbers could be replaced on a piece-by-piece basis.
- Leaving fixed ropes for extended periods for the purpose of ascending and descending (rappelling) rock walls is not allowed.
- All wilderness areas within Mojave will be closed to any further placement of new bolts and other types of fixed anchors.
- The area immediately behind and within sight (within 500 feet) of the Hole-in-the-Wall visitor center will be closed to technical rock-climbing, including the placement of permanent climbing anchors.
- Study climbing impacts to bighorn sheep, and if necessary, impose seasonal closures on visitation to Clark Mountain in order to protect the bighorn.
- The University of California prohibits climbing on their property in the Granite Mountains Natural Reserve in order to protect research plots.
- Multiple social trails and heavily impacted zones at the base of hikes will not be allowed.

Hunting, Fishing, Trapping:
- Section 506(b) of the CDPA allows for the continuation of hunting, fishing, and trapping in the Preserve.
- The CDPA also reiterates the NPS mandate to preserve wildlife by affording the Preserve full recognition and statutory protection to establish periods when, no hunting, fishing, or trapping will be permitted for reasons of public safety, administration, or compliance with provisions of applicable law.
- Goals of the proposal are to provide better protection to desert tortoise and other park resources and to enhance visitor safety. It is also to strike a balance with the mission of the park, which is preservation of resources.
- Hunting will generally follow existing CDF&G regulations, except the Preserve will seek special regulations to limit hunting to upland game birds, cottontails, jackrabbits, and big game.
- Target shooting and plinking is not allowed anywhere in the Preserve
- Trapping within the Preserve will follow California's 1998 Proposition 4 to the extent that it does not conflict with federal wildlife management.
- Sport collection of amphibians and reptiles will not be allowed since it is in conflict with our administration of the area to meet the preservation mandates of the NPS mission and regulations found at 36 CFR Part 2.
- Fishing will follow existing CDF&G fishing regulations, except the collection of nongame birds, reptiles, amphibians, and invertebrates will not be permitted without a valid NPS scientific collection permit issued under NPS regulations (CFR 36 2.2 b.4 & 2.5.a).

Hiking:

- The backcountry/wilderness management plan will address trail use by hikers, equestrians, bicycles, and visitors with disabilities.
- Until completion of the plan, all trails will be open for use by hikers and equestrians, except where management problems were identified and restrictions needed to be established.

Equestrian Use:

- All trails will be open for use by hikers and equestrians, except where management problems were identified and restrictions needed to be established.
- Horses may travel cross-country.
- Groups and organized events need to obtain a permit. Large horse groups may be restricted to existing roads.

Bicycling:

- Bicycles will be allowed on all open roads, but not on single-track trails, in wilderness, or off existing roads.
- The backcountry/wilderness management plan will consider the feasibility of designating dirt roads as bicycle routes.
- Groups and organized events need to obtain a permit.

Motorcycles and ATVs:

- Street legal and licensed vehicles are permitted on open roads in the Preserve, when operated by a licensed driver in accordance with State law and NPS regulations.
- All terrain vehicles are not permitted on any paved roads.
- Motorcycles must have mufflers that permit normal conversation when the engine is idling.
- Groups and organized events need to obtain a permit.

Aircraft:

- There are no designated airstrips in Mojave National Preserve on public lands.
- Landing of aircraft on roads, dry lakes, or other areas of the Preserve is not allowed.
- Use of aircraft must be in accordance with FAA Regulations, which provide for a recommended minimum altitude of 2,000 feet.

Backcountry Use and Roadside Vehicle Camping:

- Backcountry camping will continue to be allowed only in previously used areas along open routes of travel, outside of wilderness.
- Inventory previously used campsites and prepare a backcountry/ wilderness management plan that may provide additional restrictions.
- Campsites must be more than 200 yards from any natural or constructed water source.
- Groups and organized events will need to obtain a permit.
- No new campsites and no driving off roads.
- Campfires will be allowed in existing fire rings, or in a fire pan. Visitors are not allowed to collect firewood in the Preserve.
- Backcountry structures on public lands will remain available to the public on a first come basis.
- Backcountry campers may camp anywhere outside designated closed areas, but must erect tents out of view of paved roads.

Camping in High Use Areas:

- Limit camping to designated campsites in high use areas.
- Monitor resource conditions and visitor use to determine the need for designating sites such as Caruthers Canyon, Cima Dome, Cinder Cones, Clark Mountain, Granite Pass (Kelbaker Road), and Grotto Hills.

Camping in Desert Tortoise Critical Habitat:

- In sensitive areas designated as critical habitat for the desert tortoise, vehicle-based roadside camping will be confined to a limited number of designated campsites with metal fire rings or campsite markers to identify them for use.
- Modify park literature on camping in the backcountry to include information about the desert tortoise and actions the public should take when camping in desert tortoise habitat.

No Camping Areas:

No camping areas include:

- All areas within ¼ mile of paved roads, unless formally designated as a camping area.
- The access road to the Kelso Dunes, the parking lot, and the area north of the road to the crest of the dunes, or a distance of 1 mile, and the area ¼ mile south of the road.
- All areas within ¼ mile of the access road to Zzyzx, including the visitor parking lot.
- All areas within ½ mile of Fort Piute.
- All areas within ½ mile of the Kelso Depot.

Groups and Organized Events:

- A permit is required for all organized events in the Preserve, and for group activities over a certain size.

Visitor Use Fees:

- Explore options for fee collection revenues consistent with congressional direction.
- Prepare an entrance fee study.
- Camping fees for developed campgrounds and the group area at Hole-in-the-Wall are collected. Fees are also collected for special use permits.

Research and Educational Activities:

Education:

- Maintain an active presence in local classrooms throughout the high desert.
- Provide staff to lead specific ranger walks and talks for school groups as requested.
- Offer educational activities for school groups at the Kelso Depot visitor center when this facility is operational.
- Encourage and support the Granite Mountains Natural Reserve and the Soda Springs Desert Study Center to continue educational activities and specific classes for students and the general public via cooperative agreements with the park.

Research and Permits:

- Promote cooperative relationships with educational and scientific institutions and qualified individuals with specialized expertise that can provide significant assistance to the park
- Cooperate with researchers and universities to identify methods and techniques that may be employed to ensure protection of research equipment and plots.
- Non-NPS studies are not required to address specifically identified NPS management issues or information needs. These studies, including data and specimen collection, require an NPS research/collecting permit.
- Published research results are required to be provided to the park as a condition of all permits and be made available for use by park staff and the public.

Natural Resource Collections:

- Natural resource collections are managed as NPS museum collections.
- Collecting in Mojave would not be permitted if specimens could be obtained elsewhere.
- Living collections will be managed in accordance with the provisions of a park's resource management plan (when developed), the Federal Animal Welfare Act, and other appropriate requirements.
- With respect to paleontological resources, any rare or scientifically significant specimens would be collected, or stabilized and protected in situ.

Commercial Activities:

Mineral Development:

- Mineral development activities may only occur on valid existing rights under existing laws and regulations applicable to such activities.
- Congress closed Mojave to all new mining claim location and all other forms of appropriation and disposal.
- Regulations governing mining on all patented and unpatented claims in park units are found at 36 CFR Part 9A, which requires operators to file a plan of operations with the National Park Service for all mineral related activities.
- During the evaluation of the mining proposal, a sensitive resource analysis based on an objective analysis of physical, biological, cultural and visitor use values relative to the project mining impacts would also be initiated.
- Each mining proposal is required to submit a detailed mining and reclamation plan and undergo separate environmental impact analysis.
- Whenever a proposed mineral development fails to meet the regulatory approval standards and no alternative development scenario is feasible, the National Park Service will seek funding to initiate acquisition of the mineral rights.
- Validity will be determined on each unpatented mining claim prior to approval of a plan of operation.

Cattle Grazing:

- Special use permits were issued to ranchers to allow continuation of cattle grazing on the portions of eleven previous BLM grazing allotments that are now partially or wholly within the boundary of the Preserve.
- The overall management goal is to achieve the permanent retirement of grazing.
- If ranchers notify the superintendent of their

willingness to sell base property, the superintendent will immediately notify the Secretary of the Interior of the priority acquisition and request Land and Water Conservation Fund funding from Congress.

- Work with conservation organizations to purchase grazing permits and/or fee property from willing sellers.
- Once a grazing permit was purchased and the new owners (i.e. conservation organizations) requested retirement, it will be permanently retired.
- When grazing permits are retired, ranching developments might eventually be removed and site restoration undertaken, subject to environmental and cultural compliance, including a determination of national register eligibility and section 106 compliance on all cultural features over 50 years old.
- The NPS portions of the Clark Mountain and Valley Wells grazing allotments will be acquired via third party conservation groups and retired. Cattle grazing will be removed from the area and the boundary of the Clark Mountain unit will be fenced.
- While acquisitions are being pursued, and for permit holders unwilling to sell, the privilege of grazing cattle on lands in the Preserve will otherwise continue to be exercised at no more than the current level (as of October 31, 1994) under several conditions identified in the GMP and the USFWS Biological Opinion.
- Grazing will be managed over the short-term under existing BLM allotment management plans, and subject to applicable NPS regulations and policies, relevant FWS Biological Opinions.

Filming:

- Filming for commercial or educational purposes may be authorized, subject to NPS policies and regulations governing such activities, including wilderness restrictions.
- A special use permit is required for all filming activities and a fee will be assessed.

Solid Waste Disposal:

- Haul solid waste generated by visitors and park operations to an approved site outside the Preserve.
- Work cooperatively with Baker and the county to find locations outside the Preserve to relocate the existing transfer site and sewage lagoons.

Visitor Services:

- A concession contract to operate a small food service facility in the Kelso Depot is being considered. No other food service facilities are being considered on park lands.
- The park will not develop lodging facilities for visitors on park lands, but will rely on gateway communities to provide these services.
- Some level of commercial services may be sought in the Kelso Depot, Cima and Hole-in-the-Wall areas to provide compatible recreation services and equipment for visitors.

Military Activities:

- Section 802 of the California Desert Protection Act (CDPA) authorizes continued low-level overflights by military aircraft over new parks and wilderness areas.
- Monitor military overflights and attempt to document where conflicts with visitor use or resource protection may exist and seek to minimize conflicts wherever possible, while recognizing the military's mission and authorized use.
- Work closely with the airspace manager and the Overflight Working Group to identify conflicts and implement solutions.

PARTNERSHIPS AND OTHER RELATIONSHIPS

Education and Research Partnerships:

- Promote cooperative relationships with educational and scientific institutions and qualified individuals with specialized expertise that can provide significant assistance to the park.
- Staff will continue to pursue partnerships with school teachers and university field offices at the Soda Springs Desert Study Center, the Granite Mountains Natural Reserve, and others to provide students and the public with current information on the cultural and natural elements of the Preserve.
- A special educational outreach effort will be made to reach students that might otherwise not have an opportunity to visit national parks.
- Develop a cooperative management agreement with California State University (CSU) to provide for the management of the facilities and ensure the continuation of desert research and educational activities, consistent with laws applicable to NPS units.
- Continue a cooperative management agreement between the National Park Service and the University of California to provide for the man-

agement of lands within the Granite Mountains Natural Reserve and to ensure the continuation of arid lands research and educational activities, consistent with laws applicable to NPS units.

- Mojave supports the retention of the existing Cooperative Ecosystem Studies Unit (CESU) at UNLV, and embraces the newer CESU concept, and will utilize them as one mechanism to provide research, inventory and monitoring capabilities to meet park objectives.

Gateway Communities:

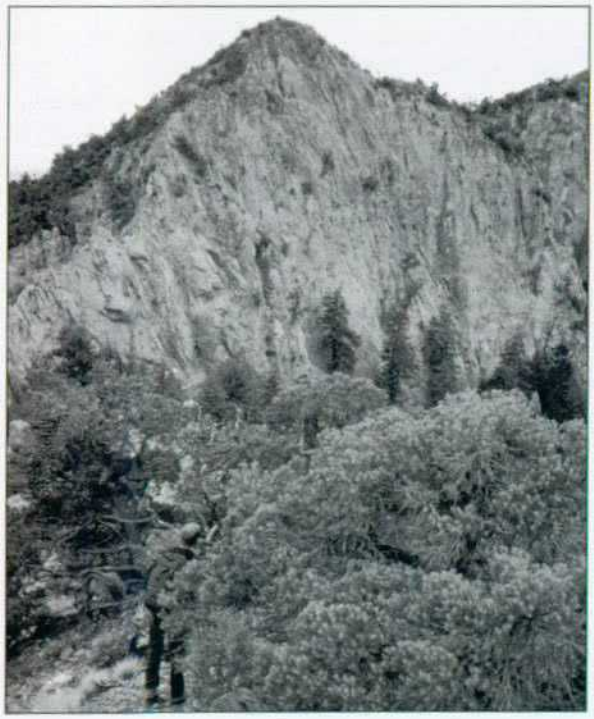
- Encourage and support economic growth of gateway communities in ways that complement the Preserve's mission and management objectives.

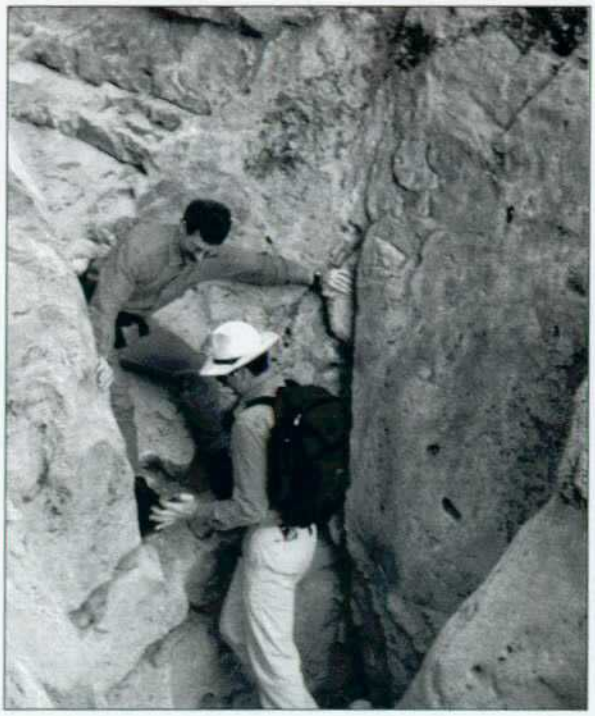
California Department of Parks and Recreation:

- Seek to develop a local partnership with the State to share staff, expertise, facilities and other resources for cooperative resource management, interpretation, law enforcement and maintenance activities, share radio system repeater sites and equipment, collaborate on signing on interstates and park roads, and collaborate on planning efforts for visitor service programs.

Native American Interests and Relationships:

- Consult on a regular basis with historically affiliated tribes to accomplish its programs in ways that respect their traditions, beliefs, practices, and other cultural values.
- Any archeological, ethnographic, and historical collections of Mojave National Preserve would be managed in accordance with the *NPS Management Policies* (2001), its *Museum Handbook* (1998); and its *Cultural Resource Management Guidance* (Director's Order 28: 1998).
- Any human remains of Indian affiliation found within the National Preserve, now and in the future, would be treated under the regulations of the Native American Graves Protection and Repatriation Act of 1990.
- Any closures for traditional cultural and religious activities are to be for the smallest area practicable and for the minimum necessary period.
- Identify, preserve, and manage sacred sites.
- Identify, preserve, and manage "Indian trust resources" as specified in the aforementioned departmental order and corresponding NPS policy document.





Preserve Boundary

Official Maps and Authorized Acreage

Background

Section 502 of the California Desert Protection Act established the Preserve and cited the acreage at approximately 1,419,800 acres. The Congressional maps delineating the boundary of the Preserve and referred to in section 502, are dated May 17, 1994, are often commonly called the "S-21 Maps." This set of 21 blueline map sheets provided the basis for the National Park Service to prepare the official boundary maps and legal description. The National Park Service prepared the official boundary maps (seven map sheets dated July 1996) according to section 504 and submitted them to Congress in August 1996, completing the legislative process of preparing official boundary maps of the Preserve. These maps are on file with the superintendent for inspection. All maps provided in this document reflect the official boundary.

The acreage of the Preserve identified in section 502 was estimated based on calculations done manually, and apparently did not include some private lands in Lanfair Valley. However, sections 516 and 517 of the California Desert Protection Act provide authority to acquire **any** lands within the boundary of the Preserve (under certain conditions prescribed), and that acquired lands automatically become a part of the Preserve. The National Park Service interprets the Congressional language and official maps to mean that private lands, other than Catellus, in the Lanfair Valley area, are not part of the Preserve for purposes of regulation, but because they are included within the external boundary, they may be acquired and would then become part of the Preserve automatically. Therefore, the official boundary map submitted to Congress reflects a more accurate total acreage of 1,589,165 acres of land included within the external boundary of Mojave. The *Land Protection Plan* provides a breakdown of the landownership.

A minor clerical correction in the boundary of the Preserve and the legal description was made in 1999 to correct an inaccurate description in the official legal description of the boundary at Budweiser Wash where it intersects interstate 40. The boundary was previously attached to a non-existent road, and was thus redescribed along a nearby section line. The legal description was also corrected to reflect that private lands in Lanfair Valley, other than Catellus, are not part of the Preserve, *until acquired.*

Plan Actions

As parcels are acquired the official boundary maps and legal description maintained by the National Park Service will be updated to reflect the change in status for these Lanfair Valley parcels.

Modifications to Boundary. NPS criteria for examining potential boundary modifications in a general management plan are done with the purpose of adding lands with significant resources or opportunities, or that are critical to fulfilling the park mission. No such suggestions for boundary adjustments were received during scoping. To create a boundary change proposal to exclude land from the park or from wilderness would not fit the NPS criteria for boundary adjustments.

No changes in the boundary of the Preserve are proposed at this time. During the prolonged debate over the California Desert Protection Act the boundaries were subjected to considerable Congressional scrutiny and debate. The National Park Service believes a comprehensive examination of potential boundary modifications at this time is unwarranted and should be delayed until the Preserve has been able to manage the area with the existing boundaries for a time to determine if there are areas where adjustments are justified.

Potential future boundary modifications that have been suggested as additions include the Viceroy Mine exclusion on the eastern boundary of the Preserve, and the Molycorp Mine exclusion between the Clark Mountain Unit and the main unit of the Preserve. These areas were previously included in the East Mojave Scenic Area, but were excluded in the legislation due to mining interests. Recently, Viceroy has indicated that mining will end within about two years. The current boundary configuration in this area excludes a vast area that is topographically and visually within the Lanfair Valley area. In addition, the area is home to bighorn sheep and some significant cultural resources. Adjustment of the boundary to include this area will reduce the potential for incompatible uses. Molycorp has initiated a plan of operation for continued operation and expansion of their facilities.

Wilderness Management

Background

In 1994, with passage of the California Desert Protection Act Congress designated 695,200 acres of wilderness within the Mojave National Preserve.

In 1995 the federal managers of the Mojave Desert adopted "Principles for Wilderness Management in the California Desert" as guidance for themselves and their staff in implementing the Wilderness Act and pertinent sections of the California Desert Protection Act. The managers represented the Bureau of Land Management (California Desert and Yuma Districts), the National Park Service (Death Valley and Joshua Tree National Parks and Mojave National Preserve) and the U.S. Fish and Wildlife Service (California State Supervisor). This interagency effort also provides some consistency in desert wilderness management.

Plan Actions

The National Park Service will continue to manage wilderness areas for the use and enjoyment of the American people in a way that would leave them unimpaired for future use and enjoyment as wilderness. Management will include the maximum statutory protection allowed for these areas, the preservation of their wilderness character, and the gathering and dissemination of information regarding their use and enjoyment as wilderness. Public use of wilderness may include recreation, scenic preservation, scientific study, education, conservation, historical use, and solitude. A separate backcountry/wilderness management plan will be prepared (in accordance with Director's Order 43) to address specific management issues.

The Wilderness Act generally prohibits motorized equipment or mechanized transport in designated wilderness areas; however, it allows them "as necessary to meet minimum requirements for the administration of the area for the purpose of this Act." The superintendent will continue to administer wilderness with the minimum disturbance to the area or its resources. This method of managing the wilderness area is often referred to as the "minimum tool concept." All decisions pertaining to administrative practices and use of equipment in wilderness will be based on this concept. Potential disruption of wilderness character and resources and applicable safety concerns will be considered before, and given significantly more weight than, economic efficiency. If some compromise of wilderness resources or character was unavoidable, only those actions that will have localized, short-term adverse impacts would be acceptable.

The NPS will take steps necessary to protect Federal reserved water rights that are explicitly reserved for BLM and NPS wilderness [sec. 706 (a)] in a quantity sufficient to fulfill the purposes of the Act.

Existing developments in Wilderness will be examined in light of the restrictions in the Wilderness Act on structures and installations, subject to private rights.

Wilderness Maps and Legal Description. Section 602 of the California Desert Protection Act requires that maps and legal descriptions of the wilderness areas be prepared as soon as practicable. The process of interpreting the wilderness boundaries provided by Congress and preparing the official maps and legal descriptions is currently underway. Once completed, final wilderness boundary maps will be submitted to Congress. It is assumed that the actual wilderness acreage may deviate from the approximate acreage of 695,200 acres estimated in section 601 of the act.

Additions or deletions to designated wilderness, or changes in corridors prescribed by Congress, will require legislation to enact. No such proposals are being made at this time.

Access to Private Lands and Interests in Wilderness. A minimum tool determination will be used to determine if granting approval for motorized/mechanical equipment use within wilderness will be allowed. Motorized access to private land, range developments, guzzlers and other interests in wilderness would be considered extraordinary and will not be routinely allowed unless unusual circumstances warrant it.

The CDPA provides two provisions relative to access to wilderness areas:

- Owners of nonfederal lands or interests in land are provided adequate access for reasonable use and enjoyment of their property in units of the national park system, including NPS wilderness and BLM wilderness [sec 708]. Access will normally be allowed only via foot or horseback, however approval motorized access is determined on a case-by-case basis using the minimal tool analysis described under the wilderness section.
- Section 705 of the CDPA recognizes past uses of the parks and wilderness areas by Indian people for traditional cultural and religious purposes, and ensures access for these uses. The Act also provides for temporary closures to the general public, upon request of an Indian tribe or Indian religious community, of one or more specific portions of the park or wilderness area in order to protect the privacy of such activities. Any closures are to be for the smallest area

practicable and for the minimum necessary period. Access must be consistent with the purpose and intent of the American Indian Religious Freedom Act, and the Wilderness Act if applicable.

Fire Management

Background

Data gathering and research began in fiscal year 1998 to examine the history of fire and its effects on the natural environment. Results from this effort and other information will be used in developing a fire management plan. Preparation of the plan is scheduled to begin in FY 99. An ongoing vegetation mapping effort by the U.S. Geological Survey will help the park refine fuel types and their distribution.

The National Park Service recognizes the natural role of fire in ecosystem processes. Recent changes in federal wildland fire management policy allow for a broader range of fire management options within carefully defined parameters, as established in an approved fire management plan. Management options include full suppression, prescribed fire; natural fire managed to achieve benefits to natural resources, or a combination of these. In many cases, appropriate management strategies will be pre-determined in the planning process, based on life and property considerations, location, identification of natural or cultural resources at risk, existing vegetation and fuels, terrain, and other factors. In other instances, management strategies will be determined on a situational basis, factoring in additional variables such as current and predicted weather conditions, staffing levels, resource management objectives, terrain, and identified planning parameters.

Plan Actions

The current fire policy is to suppress all fires in the Preserve until fire history and effects studies are completed and a fire management plan is written and approved. These studies will provide data for determining whether to provide for natural and prescribed fires to burn in the Preserve. Minimum impact suppression techniques are utilized in all areas of the park.

Firefighter safety and the protection of life is first and foremost. All human caused fire will be suppressed, and all fire management actions will be implemented using methods, equipment and tactics that cause the least impact on natural and cultural resources. Heavy equipment, such as bulldozers, will not be used except in emergencies as determined on a case-by-case basis by the superintendent. All staff will receive training on appropriate strategy, tactics and precautions in desert tortoise habitat.

Fire management strategies within wilderness areas will also be determined based on the criteria discussed. Additionally, a "minimum requirement" process will continue to be used for every fire in wilderness to determine the "minimum tool or administrative practice necessary to successfully and safely accomplish the management objective with the least adverse impact on wilderness character and resources" (NPS *Management Policies* 6:4). The use of mechanized equipment and transport (i.e. chain saws, portable pumps, vehicles and aircraft) will remain an exception to be exercised sparingly and only when it meets the test of being the minimum necessary for wilderness purposes. The superintendent or his/her designee must approve such exceptions.

The effects of fire on components of desert ecosystems, and the extent and degree of its historic role on biota are not well understood. The National Park Service is assessing and documenting the state of existing fire effects research in desert ecosystems. Over the short-term (1–10 years) fire management strategies will be developed based on the best available science, field observations of fire effects and post-burn monitoring of selected sites. Additionally, in cooperation with other desert parks, allied federal and state land managers, agency and university research staff, the National Park Service will assess research needs and long-term studies will be initiated. Specific research topics might include fire effects on desert tortoise and its habitat, post-fire successional trends, or effective post-fire rehabilitation strategies.

Disturbed Lands

Background

Disturbance of the native vegetation and soils in the Preserve has occurred as a result of many human activities, including mining, road building, utility lines, dumps, grazing, burros, offroad vehicles, and fire. No comprehensive inventory of this disturbance has been completed to document the areas, period of disturbance and extent of recovery. However, some inventory work has been initiated, such as for abandoned mines. Some of the disturbed areas are still subject to the use that caused the disturbance, and will not be subject to rehabilitation until such time as the activity is curtailed.

Abandoned Mines. The Preserve has an inventory of abandoned mining properties that was generated from existing information in U.S. Geological Survey and Bureau of Mines databases. This inventory reflects a legacy of past mining in the Preserve has left an estimated 419 abandoned mine sites with possibly thousands of mine openings and workings. Preliminary observations indicate the problem is a significant land management issue that may deserve program status. The Preserve initiated detailed and comprehensive inventories of these sites in 1998 and will continue this inventory and documentation process.

The 1992 Western Region Directive WR-085, *Management of Abandoned Mineral Lands* outlines the framework for a park abandoned mine lands program. The preliminary inventory of abandoned mining properties was generated from existing information in U.S. Geological Survey and Bureau of Mines databases. Additional surveys are currently underway to further inventory abandoned mineral properties.

Hazardous Materials. Numerous potential hazardous material sites existed within the Preserve when it was established. The National Park Service has removed hazardous materials and conducted cleanup operations on over a dozen sites, including illegal drug labs, abandoned wastes on mining claims, and illegal dumps. New sites discovered are responded to with immediate surveys and cleanup operations through licensed contractors. These locations are primarily related to mining activities where chemical processing took place, however, there are continuing instances of illegal waste dumping or clandestine drug lab activities. Potential hazards are prioritized and investigated based on relative threat posed to human health and the environment. Hazards and threats documented through this investigation process are addressed by seeking special project funding for environmental clean up work.

In addition to managing the cleanup of contaminated waste spilled from pipelines owned and operated by Unocal (Molycorp Mine) in the Mountain Pass area of the Preserve, the Preserve is currently working actively on hazardous waste issues at Morningstar Mine, Sterner Claims (Rainbow Wells and Columbia Mine), Telegraph Mine, and Hole-in-the-Wall.

Solid waste locations are scattered throughout the Preserve. These sites are primarily associated with mining or ranching operations, but are no longer used. The National Park Service and the Bureau of Land Management have partnered with state and local agencies to inventory and respond to open dump sites within the California desert. Occasional household hazardous materials are typically encountered. An inventory and assessment program is underway. Some cleanups have occurred by contract, through partnerships with volunteer organizations and state agencies, and by staff participation in all employee cleanup projects.

Plan Actions

The National Park Service will seek to perpetuate native plants and animals as part of natural ecosystems. Natural landscapes and plants will be manipulated only when necessary to achieve approved management objectives. To the maximum extent possible, plantings in all areas will consist of species native to the park or appropriate for the period or event commemorated as outlined in the Secretary of the Interior's Standards for the Treatment of Historic Properties. Local seeds will be collected from areas as near the disturbed site as possible. If these seeds were not available an assessment will be made on the possible impacts of importing and planting seeds that may be genetically dissimilar to the native vegetation. The use of exotic species will conform to the NPS exotic species policy (NPS 2001). Landscapes and plants might be manipulated to maintain habitat for threatened or endangered species, but in natural areas, only native plants could be used if additional plantings were done. Existing plants will be manipulated in a manner designed to restore or enhance the functioning of the plant and animal community of which the endangered species is a natural part.

In natural areas, disturbances caused by natural phenomena such as landslides, earthquakes, floods, and natural fires will not be modified unless required for public safety, protection of NPS facilities, or necessary reconstruction of dispersed-use facilities, such as trails. Terrain and plants could be manipulated where necessary to restore natural conditions on lands altered by human activity.

In cultural areas, such as at Kelso Depot and Zzyzx, trees, other plants, and landscape features will be managed to reflect the historical landscape or the historical scene associated with a significant historical theme or activity.

Abandoned Mines. The National Park Service will complete a comprehensive inventory of all Abandoned Mine Lands to serve as a basis for future planning and reclamation program implementation.

The inventory will build upon existing information from the U.S. Geological Survey, Bureau of Mines, and BLM databases. Mines will not be reclaimed until evaluated for historical significance and integrity in compliance with the National Historic Preservation Act of 1980, as amended. The program goals will include eliminating physical safety hazards and hazardous materials; mitigation of adverse environmental impacts to park resources, including the restoration of landscapes, soils and vegetation; protection of important wildlife habitat such as bat habitat; and preservation of historic and cultural resources which may include stabilization of structures.

Hazardous Materials. Site assessments are planned for Aiken Mine, Reily Camp, Kelso Dunes Mine, Death Valley Mine, New Trail Mine, and Rattle Snake Mine. Some of these sites may be eligible for listing on the National Register. A National Register Determination of Eligibility will be conducted before hazmat action is taken.

Mojave has potentially significant issues related to transportation (highway, rail, natural gas and petroleum pipeline) incidents. Mojave will work with the transporters to develop a specific plan to address operations and responsibilities in case of a major incident. This plan will also address routine hazardous waste generation and disposal (paints, oils, etc) and incidents of illegal dumping (investigation, response and disposal).

The National Park Service is also required by Secretarial Order 3127 to conduct a site assessment for hazardous materials on all properties being considered for acquisition. This process begins with a certified inspector completing a Level I checklist. If no evidence of previous hazardous materials use exists on the property or in the county, state or federal records, the property is cleared for acquisition. If contamination is discovered or suspected, samples may be collected and analyzed at a licensed laboratory. Cleanup costs are generally considered the responsibility of the landowner.

Non-Federal Land and External Development

Background

In 1994, when the Preserve was established, there were over 2,000 nonfederal land parcels within the boundaries of Mojave National Preserve totaling nearly 220,000 acres. In addition, there are hundreds of outstanding rights that are owned by individuals or corporations (water rights, mining claims, rights-of-ways, easements).

California state lands include 36,503 acres of school land, a 139.4-acre tract of land at Piute Springs owned by the Department of Fish and Game, the Providence Mountains State Recreation Area owned by the Department of Recreation, and 2,199 acres of land in the Granite Mountains Natural Reserve owned by the University of California.

Total private land in the Preserve, as of October 2001, is 86,708 acres. Less than 50 people are permanent residents in the Preserve with most private tracts remaining undeveloped. There are over 70,000 acres of private land in the Lanfair Valley area. The remainder of private lands are scattered throughout the Preserve. In June 2000, the Wildlands Conservancy and the National Park Service cooperated in jointly funding the acquisition of 82,628 acres of Catellus lands.

Patented mining claims total 1,350 acres in the Preserve. As of June 2000, there were approximately 471 unpatented claims in 28 groups totaling just over 12,500 acres.

Water Rights. Initial research on outstanding water rights in the Preserve recorded at the California Water Resources Control Board revealed that there are approximately 110 appropriated water rights claims on 97 water sources (springs, seeps, streams, wells) in the Preserve. Many of these were obtained by ranchers who lease grazing allotments. In November 2000, the National Park Service also accepted donation of the Kessler Springs and Lanfair Valley permits, including water rights on 53 sources. Other rights may exist that have not been recorded with the State. Water rights that were held by the Bureau of Land Management on numerous water sources have been converted to the National Park Service. In April 2000, the National Park Service accepted donation of the Granite Mountains grazing permit, including water rights on 29 sources.

Development on Private Lands. Most development on private lands is regulated by the County of San Bernardino. The county adopts and enforces land use regulations that control the type and density of land use and development on private property, and ensure adherence to basic public health and safety standards. A General Plan for the county provides guidance for acceptable development on private lands. With the exception of one parcel at Cima, the entire Preserve is zoned for resource con-

servation, where single family homes are allowed with minimum lot size of 40 acres.

Section 519 of the CDPA provides that private lands within the boundary of Mojave are not subject to rules and regulations that are applicable solely to federal lands. However, this section also provides that this restriction does not apply to mining, oil and gas development or Clean Air Act requirements. The National Park Service has legislated authority to regulate mining on patented mining claims and oil and gas development on private lands. Regulations are contained in 36 CFR part 9A for mining and part 9B for oil and gas. 36 CFR Part 6 precludes the development of new sites for the disposal of solid wastes.

Plan Actions

Land Acquisition. The Department of the Interior policy requires that the National Park Service prepare a land protection plan for every unit of the National Park Service that has nonfederal lands or interests within its authorized boundary. Detailed descriptions of the nonfederal lands and interests are included in Mojave National Preserve's *Land Protection Plan* (2001).

The National Park Service will seek funds to acquire private lands and interests in the Preserve on the basis of priorities presented in the *Land Protection Plan*. The California Desert Protection Act (CDPA), section 516, provides the National Park Service authority to acquire all lands and interests in lands with the boundary of the Preserve. Donations and exchanges of real property from willing sellers will be a priority, and third-party acquisitions from willing sellers will be encouraged. Private land in wilderness, habitat for threatened or endangered species, and riparian habitat are considered high priority. Purchase of base property from willing seller ranchers is a priority over other acquisitions, in accordance with CDPA direction (section 510). Purchase of willing seller base property in desert tortoise habitat will receive first consideration. Water rights will be purchased with permit.

Private land that contains single family homes will not be considered for acquisition, unless offered by the owners, or unless development on the property is proposed or occurring that is detrimental to the integrity of the Preserve or is incompatible with the purposes of the CDPA, Title V.

Whenever acquisitions of private land occurs, the parcel will automatically become part of the Preserve pursuant to section 517 of the CDPA, and no boundary adjustment is needed. Parcels within the boundaries of wilderness automatically become wilderness upon acquisition according to section 704.

External Development on Adjacent Lands. To fulfill the mandate to preserve park resources unimpaired for future generations, adopting strategies and actions beyond park boundaries has become increasingly necessary. Because ecological processes cross park boundaries, and parks typically do not incorporate the entire ecosystem or scenic vista, many activities proposed or existing on adjacent lands have the potential to significantly affect park resources, programs, visitor experiences and wilderness values.

Recognizing these issues, the park staff will work cooperatively with others to anticipate, avoid, and resolve potential conflicts and to address mutual interests in the quality of life for community residents. This strategy will include participation in local and regional planning activities of other federal, state and local agencies, tribal governments, neighboring landowners and non-governmental groups and organizations. The park will establish close ties with permitting agencies and ensure that notices of proposed development or activities are received. Park staff will review permit applications and environmental documents and determine threats to park resources or visitor experience. The park will engage constructively within this arena to identify incompatible activities in the same manner that any adjacent landowner would do. The NPS will utilize all available authorities to protect park resources and values from potential harm and will seek to mitigate adverse activities. The park will utilize this forum to promote better understanding of the park's mission and mandates, and the reasons for our concerns beyond our boundaries.



Management of Park Resources

As a unit of the national park system, Mojave must be managed in accordance with the National Park Service preservation mission as provided in the agencies authorizing legislation (Organic Act of 1916; 16 USC 1), which provides that the primary purpose of park units is:

> *"...to conserve the scenery and the natural and historic objects and the wild life therein, and to provide for the enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations."*

Resource Protection Goals and Criteria

Specific resource protection goals and criteria have not yet been established. Management of the Preserve's resources is currently guided by direction provided in the enabling legislation and NPS regulations and policies. A set of protection goals and criteria will be developed through the inventory and monitoring program to establish a standard set of resource protection guidelines.

Inventorying and Monitoring

Background

Inventorying and monitoring of the Preserve's natural and cultural resources is necessary to gain a more complete understanding of their value and condition.

Project priorities are determined on the basis of existing staff availability and funding. An annual performance plan is prepared annually that provides goals, objectives, and annual work plans. Mojave's strategic plan also establishes five-year goals that provide a limited view of resource issues and allocation of staffing and funding.

The Bureau of Land Management established long-term monitoring areas in the Ivanpah Valley and near Colton Hills. These are fenced areas that have precluded cattle and burro grazing for many years. Dr. Hal Avery of the Biological Resource Division, USGS, Riverside, California, is presently conducting research and monitoring of the desert tortoise the Ivanpah area. A reexamination of the plant growth within and outside of Colton Hills enclosure has not been conducted for almost 20 years. This area has been segregated from large mammal grazing pressure for over 30 years and may be used to measure the effects of grazing on the desert environment.

Plan Actions

Mojave will assemble baseline inventory data describing the natural and cultural resources under its stewardship, and will monitor the resources at regular intervals to detect or predict changes. The resulting information will be analyzed to detect changes that may require intervention and to provide reference points for comparison with other, more altered environments. Mojave will also use this information to maintain — and, where necessary, restore — the integrity of natural systems, and to protect the public, park staff, and the park infrastructure.

Mojave will develop and implement a systematic, integrated program to identify, inventory, and monitor its natural and cultural resources. This program will be developed through collaborative partnerships with government agencies and public and private organizations with natural and cultural resource management or research expertise. A comprehensive strategy will be developed and implemented to ensure that regional, local or national trends are documented and appropriate actions undertaken. The National Park Service has identified twelve data sets that each park unit should collect in order to have a basic understanding of their resources. Mojave is actively working in cooperation with other desert parks on an integrated inventory and monitoring strategy, using the vital signs approach.

An example of a needed inventory is a biological inventory of all spring and wetland areas on Preserve lands, including the identification of threats, impacts, and necessary protections. Included in the inventory will be recommendations for restoration. In addition to federal lands, the National Park Service will work with private holders of water rights to restore modified water sources to natural conditions while still allowing for valid existing uses.

Mojave will consult with the research community regarding the benefits of retaining exclosures if the cattle grazing permits are retired.

Natural Resources

Physical Resources

Air Quality/Visibility

Background

The Mojave Desert Air Quality Management District manages and enforces the Clean Air Act's air quality standards in the Mojave National Preserve. The

district includes the desert portion of San Bernardino County.

Congress established the Prevention of Significant Deterioration program as part of the Clean Air Act. To facilitate the implementation of this program, an area classification scheme was established. This classification scheme has class I receiving the highest degree of protection with only small amounts of certain kinds of additional air pollution (sulfur dioxide and particulate matter) allowed. The other two areas are class II, which allows moderate increases in certain air pollutants; and class III, which allows a large amount of new air pollution (Congress has yet to designate any class III areas). There are no class I areas in the California Mojave Desert. Mojave National Preserve is a class II floor area, meaning that it may never be redesignated to class III.

The Clean Air Act developed national ambient air quality standards for a finite number of criteria pollutants. The criteria pollutants are: sulfur dioxide, carbon monoxide, total suspended particulates, nitrogen oxides, lead, ozone, and particulate matter less than 10 microns in diameter (PM_{10}).

The Environmental Protection Agency has classified the Mojave National Preserve as a nonattainment area for ozone and PM_{10} standards. Nonattainment areas are areas that are not in compliance with the national ambient air quality standards, and therefore must reduce pollution to reach compliance.

The National Park Service is responsible for protecting air quality under both the 1916 Organic Act and the Clean Air Act. Although the Clean Air Act gives the highest level of air quality protection to class I areas, it also provides many opportunities for the National Park Service to participate in the development of pollution control programs to preserve, protect, and enhance the air quality of all units of the national park system, including class II areas.

Sections 118 and 176 of the Clean Air Act require federal agencies and facilities to meet all federal, state, and local air pollution control laws and regulations. If units or facilities are located in areas that do not meet federal or state air pollution control standards (nonattainment areas), those units or facilities must conform to requirements established to attain and maintain those standards. The requirements may include provisions to reduce emissions from existing facilities and limit emissions from proposed facilities on a greater than 1:1 basis.

Plan Actions

The National Park Service will seek class I designation for the Preserve and will seek to perpetuate the best possible air quality in parks because of its critical importance to visitor enjoyment, human health, scenic vistas, and the preservation of natural systems and cultural resources. The National Park Service will work toward promoting and pursuing measures to safeguard these values from air pollution's adverse effects and will strive to set the best example for others to follow in all the agency's development and management activities. In cases of doubt as to the effects of existing or potential air pollution on park resources, the National Park Service will err on the side of protecting air quality and related values for future generations.

Since Mojave is located in a nonattainment area for one or more air pollutant, no action proposed in this plan will lead to violations of federal or state air pollution control laws or regulations, and no action will increase emissions or violate the state conformity requirements. The Preserve's staff will work with appropriate air pollution control officials to ensure compliance with all requirements.

Viewsheds/Visual Quality

Background

Visibility is probably the most important air quality resource in the desert region, and it is the most easily affected by activities that generate dust (especially fine particulates) and sulfur dioxide. Visibility impacts occur from long-range transport of pollutants from as far away as the San Joaquin Valley and the Los Angeles basin (RESOLVE study 1988, cited in BLM 1995).

Nearby sources of emissions include the Army's National Training Center at Fort Irwin; Viceroy Mine near Searchlight, Nevada; the Mojave Generation Station near Laughlin, Nevada; Molycorp Mine and Stateline Power Generation Station near Primm (Stateline), Nevada; and vehicle traffic on Interstates 15 and 40.

Local pollution sources in the desert consist primarily of particulate matter from off-road vehicles, windblown soil, mining operations, livestock grazing, and agricultural activities. These sources have left certain areas denuded or sparsely vegetated, allowing wind erosion to occur and air quality to suffer and occasionally causing violations of particulate standards at many locations.

The National Park Service will seek to enhance beneficial effects and to mitigate adverse effects in ways consistent with its policies and management objectives. The agency will encourage compatible adjacent land uses and seek to mitigate potential adverse effects on park values by actively participating in planning and regulatory processes of neighboring jurisdictions, other federal, state, and local agencies, and Native Americans.

Plan Actions

Mojave National Preserve will prepare guidelines for the built environment to establish visual consistency and themes in facility development. Guidelines will also be created for reaching visual compatibility with surrounding landscapes, significant architectural features, and site details. The primary objective of these guidelines will be to create harmony between the built environment and the natural environment.

With the increasing use of cellular communication equipment, more antennas and relay equipment are being installed throughout the country. The overall management goal of each NPS unit is to protect and maintain the visual quality of the landscape and the built environment. To help achieve this goal, a communication management plan will be prepared that will address the NPS goals and the need to establish sites for communication equipment. No new permits will be issued until the completion of such a plan. The plan will include the following requirements:

- All above-ground communication equipment must not distract from the visual quality of the scenery.
- Each new proposal for radio or cellular antennas or towers must demonstrate that the equipment would provide a critical service for visitors and NPS staff and is not duplicative.
- The installation of new equipment outside the Preserve or on existing communication towers or at defined sites must be considered before the construction of new sites is considered.
- New locations will be reviewed through the environmental assessment process, which must consider impacts on the visual quality of the scenery.

The National Park Service will work with neighboring landowners on topics of mutual interest being sensitive to the influences and effects that park management might have on adjacent landowners.

Night Sky

Background

Mojave is a naturally quiet desert environment with very dark night skies that offers visitors and researchers opportunities for natural quiet, solitude, and star gazing with few human caused noise or light glare sources. However, the northern and southern boundaries are interstate highways. Traffic on these highways and the lights from Baker, California, Primm, Nevada, and Laughlin, Nevada are beginning to have a noticeable adverse effect on the night sky. No known background data currently exist that document the dark sky. Mojave recognizes that preservation of this resource is critical to the future visitor experience.

Plan Actions

The National Park Service will partner with communities and local government agencies to minimize reflected light and artificial light intrusion on the dark night sky, recognizing the essential component that a carpet of stars against a black night sky is for a natural outdoor experience. The National Park Service will strive to set the best example in all developments that involve the use of artificial outdoor lighting, ensuring that such lighting is limited to basic safety requirements and shielded to the maximum extent possible, to keep light on the intended subject and out of the night sky. Baseline light measurements will be established to monitor changes over time.

Natural Ambient Sound

Background

Mojave National Preserve is generally a quiet landscape, with occasional, short-term interruptions of the natural quiet. Depending on the atmospheric conditions, the closeness to a noise source, and topographic features, visitors generally experience very little human-caused noise while in the backcountry. Occasional overflights of commercial jets at cruising altitudes, small private aircraft, and rare military jets at low altitudes may be heard. Vehicle noise is generally not an issue within the Preserve in spite of some nearby major roads (I-15, I-40, and major paved roads). Because of the Preserve's vastness, most areas are well away from traffic and its noise. Other areas where localized noise occurs are at the Rasor Open Area, adjacent to the western boundary of the Preserve, the Union Pacific and Santa Fe rail lines, and mining operations. The Union Pacific and Southern Pacific railroad lines are heavily used, but the faint distant rumble of freight

trains is faintly audible when one is within a few miles of the tracks.

Plan Actions

The National Park Service will strive to preserve the natural quiet and sounds associated with the physical and biological resources of Mojave. Activities causing excessive or unnecessary sounds in or adjacent to parks, including low-level aircraft overflights, will be monitored, and action would be taken to prevent or minimize unnatural sounds adversely affecting park resources and values or visitor enjoyment. The National Park Service will cooperate with the Department of Defense to minimize impacts on visitors and resources from military overflights. The National Park Service will strive to set the best example in all developments that involve the use of equipment that produces noise.

Soils

Background

A wide array of soils comprises Mojave National Preserve. Examples include: soils with sandy textures with gravel and cobble cimas; soils with medium textures; soils with calcium carbonate (e.g. caliche) accumulations; fine textured soils found in playa prone areas; soils with a developed horizon reflecting age or formation during a different moisture regime; shallow soils; and upland soils. The park also contains escarpments, ephemeral streams, a large area of dunes, and a lava flow area (e.g. Lava Beds). Detailed soil surveys have not been conducted. However, a digitized, general soils map is available from the statewide digital soils database.

Plan Actions

Mojave will seek to inventory and preserve its soil resources, and to prevent, to the extent possible, the unnatural erosion, physical removal, or contamination of the soil, or its contamination of other resources. Soil surveys will follow National Cooperative Soil Survey Standards. Products will include soil maps, determinations of the physical and chemical characteristics of soils, and the interpretations needed to guide resource management and development decisions. In particular, areas of existing disturbance and potentially sensitive soils, such as cryptogammic crusts, will be highlighted for possible restoration or protection.

Potential impacts on soil resources will be monitored as necessary. Management action will be taken to prevent or mitigate adverse, potentially irreversible, impacts on soils. Conservation and soil amendment practices may be implemented to reduce impacts. Importation of offsite soil or soil amendments may be used to restore damaged sites. Offsite soil normally will be salvaged soil, not soil removed from pristine sites, unless the use of pristine-site soil can be achieved without causing any overall ecosystem impairment. Prior to using any offsite materials, Mojave will develop a prescription, and select the materials that necessary to restore the physical, chemical, and biological characteristics of original native soils without introducing any exotic species.

When soil excavation is an unavoidable part of an approved facility development project, Mojave will limit the excavation to the minimum amount necessary, and avoid erosion or offsite soil migration during and after the development activity.

Water

Background

Groundwater. Groundwater is found underneath most of the Preserve and varies greatly in depth and quality. The Mojave River is the primary subsurface water source for the Preserve (BLM 1996). Groundwater is the Preserve's principal source for desert springs, seeps, and a few ephemeral streams, and its only perennial spring, Piute Creek. The maintenance of groundwater quality and quantity is critical to the survival of desert surface waters and their associated plant and animal life.

Surface Water Sources. Over 200 springs and seeps have been identified in the Preserve (King and Casebier 1981). Many, if not most, have been altered by the installation of retention dams, pipelines, and troughs for livestock use. Most are also available for wildlife and burro use. In the eastern portion of the Preserve is a 1-mile perennial stream called Piute Creek, which is an important wildlife water source as well as a popular recreation site. The small springs and seeps in the Preserve offer isolated and limited water for plants, wildlife, or domestic or commercial purposes. Some springs produce potable water, but overall water quality is poor because of high dissolved mineral concentrations (BLM 1996).

Water wells have been drilled primarily for domestic use and livestock needs, but a number of wells have also been drilled for mining use. Viceroy Gold Mine has developed a well field that is adjacent to and within the Preserve. This well field is within a 9-square mile area located northwest of the mining site. Viceroy is permitted to pump 725 acre-feet per

year, but it has been averaging about 400 acre-feet (about 11 million gallons per month) since 1995 (BLM 1997).

Water wells have also been drilled specifically for visitor and administration use at the Mid Hills campground and Hole-in-the-Wall campgrounds.

Floodplains and Wetlands. No systematic inventory of 100 and 500-year floodplains, or wetland areas has been undertaken in the Preserve. Some general information is available on USGS topographical maps. Specific inventories are often conducted when a development project may encounter these resources.

Water Rights. Initial research on outstanding water rights in the Preserve that are recorded at the State Water Resources Control Board in Sacramento revealed that there were approximately 110 appropriated water rights claims on 97 water sources (springs, seeps, streams, wells) in their records that existed in the Preserve in 1997. Many of these were obtained by ranchers who lease grazing allotments. In April 2000, the NPS accepted donation of the Granite Mountains grazing permit, including water rights on 29 water sources. Other rights may exist that have not been recorded with the State. In November 2000, the National Park Service also accepted donation of the Kessler Springs and Lanfair Valley permits, including 53 water rights.

The California Desert Protection Act of 1994 in section 706(a), with respect to each wilderness area, reserves a quantity of water sufficient to fulfill the purposes of the act. Section 706(b) mandates that the Secretary of the Interior and all other officers of the United States take "all steps necessary to protect the rights reserved by this section." Federal reserved rights generally arise from the purposes for the reservation of land by the federal government. When the government reserves land for a particular purpose, it also reserves, explicitly or by implication, enough unappropriated water at the time of the reservation as is necessary to accomplish the purposes for which Congress or the president authorized the land to be reserved, without regard to the limitations of state law. The rights vest as of the date of the reservation, whether or not the water is actually put to use, and are superior to the rights of those who commence the use of water after the reservation date. General adjudications are the means by which the federal government claims its reserved water rights. The McCarran Amendment (66 Stat. 560, 43 U.S.C. 666, June 10, 1952) provides the mechanism by which the United States, when properly joined, consents to be a defendant in a suit to adjudicate water rights. The precise nature and extent of the National Park Service's water rights probably will remain uncertain until the United States is joined in an adjudication, the Department of Justice files claims to water rights on behalf of the National Park Service, and the court decrees the United States. Hence, it is the responsibility of both the National Park Service and the Bureau of Land Management to protect the reserved water rights established under the California Desert Protection Act and other applicable federal authorities.

Plan Actions

Groundwater and Surface Water. Water for the preservation, management, development, and use of the Preserve's water system will be obtained and used in accordance with legal authority and with due consideration for the needs of other water users. Water will be used efficiently and frugally. The National Park Service will seek to protect, perpetuate, and possibly restore surface water and groundwater as integral components of park aquatic and terrestrial ecosystems. Surface water and groundwater withdrawn for public use will be the minimum amount necessary to achieve Preserve purposes. All water withdrawn for domestic use will be returned to the watershed system once it has been treated to ensure that there will be no impairment of Preserve resources. Interbasin transfers will be avoided. The effects to the Preserve's resources from water withdrawn from sources outside of the Preserve (for example, developments at Primm and mining activities at the Molycorp mine at Mountain Pass) would be monitored. If adverse effects were found, the National Park Service will take all legal and appropriate steps necessary to protect natural resources from the effects attributed to such activities. The park will work with holders of water rights to restore modified waters sources to natural conditions while still allowing for valid uses consistent with the State permit.

Pursuant to Congressional direction in the California Desert Protection Act, Mojave National Preserve will seek to restore, maintain, or enhance the quality of all surface and ground waters within the Preserve consistent with the Clean Water Act (33 USC et seq.) and other applicable federal, state, and local laws and regulations.

Floodplain and Wetland Areas. The occupancy and modification of floodplain and wetland areas

will be avoided wherever possible. Where no practicable alternatives exist, mitigating measures will be implemented to minimize potential harm to life, property, and the natural floodplain and wetland values. Management of floodplain and wetland areas is subject to the provisions of Executive Order 11988, "Floodplain Management" (42 USC 4321), Executive Order 11990, "Protection of Wetlands" (42 USC 4321), and the Rivers and Harbors Act (33 USC 401 et. seq.), and section 404 of the Clean Water Act (33 USC 1344).

Water Rights. Should the National Park Service seek to acquire private land within its boundaries, the essential water rights attached to those lands will also be sought for acquisition.

The National Park Service in its general planning process for each unit of the national park system, and the Bureau of Land Management in its planning process for each wilderness area, have jointly agreed to incorporate their respective policies, guidelines, and administrative procedures and apply the following principles to discharge their responsibilities under section 706 of the California Desert Protection Act to manage and protect federal reserved water rights (Desert Managers Group 1995):

- inventory all water sources within the boundaries of the wilderness area/park unit
- identify as a federally reserved water right all unappropriated water from any water source identified on federal lands within the boundaries of designated wilderness and/or park areas in the California desert
- share water source inventory data
- jointly request from the California Division of Water Rights notification of any filing for appropriated water rights within or adjacent to the boundaries of BLM wilderness or units of the national park system
- defend federally reserved water rights through the state of California administrative process and, if necessary, seek judicial remedy in the appropriate courts
- quantify the amount of water reserved to fulfill the purpose of the reservation as part of any adjudication in California in which the United States may be joined under the McCarran Amendment
- where necessary, pursue acquisition of any existing nonfederal appropriated water right within their respective jurisdictions
- because use of percolating groundwater does not require a permit from the state of California, participate in local government proceedings that authorize nonfederal parties to withdraw percolating groundwater where such withdrawals may impact water sources within their respective jurisdictions to which federally reserved water rights are attached
- participate in any proceedings pursuant to Nevada state water law that may authorize withdrawal of groundwater where such withdrawal may impact water sources within their jurisdictions to which federally reserved or appropriated water rights are attached

Paleontological Resources

Background

The Preserve contains a fragile and irreplaceable paleontological record. The richness and diversity of that record is unknown as significant inventory work has not been performed on the various geologic formations that do or could contain fossil resources. Fossils have many values including (1) stratigraphic indicators for correlation of deposits containing them and for determination of relative geologic age, (2) records of past life forms showing the course of evolutionary trends of plants and animals, and (3) evidence of changing paleoenvironments.

A literature and records search was completed for the Preserve area by Robert E. Reynolds, Curator, Earth Sciences, San Bernardino County Museum, Redlands, California. The records and literature search identified a number of potentially sensitive fossiliferous areas in the planning area. Significant paleontological resources and records relating to paleobiostratigraphic events that occur within or near the Preserve are as follows:

- The world's oldest mitosing cells, 990 million years old, are preserved in silica in the Beck Spring Formation.
- Significant Cambrian trilobite and invertebrate fossil localities mark the boundary of the Paleozoic Era, 550 million years of age.
- The only dinosaur tracks in California and the only record of Jurassic dinosaurs in California are in the Mescal Range, just north of the Mojave National Preserve.
- Early records of crustal extension and breakup that occurred 24 million years ago to form basins in the Mojave Desert are found in or near the Preserve. Significant occurrences of fossils,

including rhinoceros, camel, canid, felid, bird track, and plant, are located in the Ship Mountains, Little Piute Mountains, Hackberry Mountains, Castle Mountains, Lanfair Valley, and Wild Horse Mesa in or near Mojave National Preserve.

- There are significant Plio-Pleistocene fossil localities, which are being damaged by erosion and amateur collecting, at Valley Wells and Kingston Wash.
- Cave deposits in the Mescal Range have produced significant vertebrate fossils.

Plan Actions

Paleontological resources, fossils and their associated data, are the physical evidence of past life on the earth and include representatives of all kingdoms of life — Monera, Protista, Fungi, Plantae, and Animalia. Trace fossils (burrows, tracks, etc.) are included. These resources will be managed in accordance with NPS *Management Policies* and goals established by the National Park Service Strategic Plan.

Paleontological resources will be inventoried, monitored, protected, and preserved, and where appropriate, made available for scientific research. Collection of specimens will only be allowed in limited circumstances. All specimens collected from the park will be appropriately curated and have adequate documentation of the specimen, the locality, the geologic context, and other pertinent data. Where appropriate, the resources will be managed for public education and interpretation in accordance with park management objectives and approved resource management plans. The National Park Service will identify areas where additional research by the academic community will aid in protection of the resources. The park will also seek to develop collaborative partnerships with other parks, government agencies and public and private organizations with paleontological resource management or research capabilities/expertise.

To protect paleontological resources from harm, theft, or destruction, Mojave will ensure that the nature and specific location of these resources remain confidential. Mojave will take all actions necessary to prevent unauthorized collection and removal of fossils. The sale of scientifically significant original paleontological specimens (which includes *all* vertebrate specimens) is prohibited in parks.

Geological Resources

Background

The geology of Mojave National Preserve is very complex and diverse due to igneous and metamorphic activity and structural deformations associated with these activities. Erosional geologic processes have altered the landscape resulting in outcrops of rocks ranging from Precambrian to Recent ages.

The Mojave is characterized by isolated mountain ranges and ridges separated by alluvium-filled, irregular large valleys. Dividing Mojave National Preserve in half is the northeast trending Providence–Mid Hills–New York Mountain ranges. The principal valleys within the Preserve include Ivanpah Valley, Kelso/Cedar Wash, Lanfair Valley, Devils Playground, Piute Valley and the northern area of Fenner Valley. Ivanpah Valley and Kelso/ Cedar Wash line up in a northeasterly to southwesterly fashion, but drain in opposite directions because of an inconspicuous northwest trending divide near the town of Cima. Both Lanfair and Piute Valleys drain via Piute Wash into the Colorado River. The remaining valleys have self-contained drainage systems as represented by playa lakes such as Soda and Ivanpah.

Plan Actions

Mojave will inventory, preserve and protect geological resources as integral components of the natural systems, including both geologic features and geologic processes. The park will work with partners to assess the impacts of natural processes and human-related events on geologic resources; maintain and restore the integrity of existing geologic resources; integrate geologic resource management into park operations and planning; and interpret geologic resources for park visitors.

As a natural ecosystem, geologic processes will proceed in Mojave unimpeded. Geologic processes are the natural physical and chemical forces that act within natural systems, as well as upon human developments, across a broad spectrum of space and time. Such processes include, but are not limited to, erosion and sedimentation, karst processes, seismic and volcanic activity. Geologic processes will be addressed during planning and other management activities in an effort to reduce hazards that can threaten the safety of park visitors and staff and the long-term viability of park infrastructure.

Mojave will protect geologic features from the adverse effects of human activity, while allowing natural processes to continue. Geologic features include rocks, soils, mineral specimens, cave and karst systems, canyons, sand dunes, dramatic or unusual rock outcrops and formations, and fos-

silized plants and animals. In Mojave, recognition of valid existing mineral rights may affect our ability to prevent all adverse effects, unless they are deemed significant or funding is available to purchase the valid right.

Caves

Background

Caves, as defined by the Federal Cave Resources Protection Act, include any natural feature that a person can enter. They include talus caves, erosional caves, dissolution caves, lava tubes, and others. They do not include mine adits, shafts, or declines. The Mitchell Caverns area within the Preserve has significant cave resources. Many other areas within the Preserve are also known to contain caves as defined by the Federal Cave Resources Protection Act. One of these is the fairly well known lava tube in the Cima/Lava Beds area of Mojave. Other tubes may occur, but a comprehensive inventory has not been completed.

Most of the caves have not been inventoried, so little is known of the specific resources at the sites or the impacts on them. The presence of speleothems (limestone cave depositional features), cultural materials, and bat usage will likely be found in many of the caves.

The Mitchell Caverns Natural Preserve was established in 1954 to protect and interpret two caves connected by a constructed tunnel. The 97-acre Mitchell Caverns Natural Preserve is within the larger 5,890-acre Providence Mountains State Recreation Area, which is operated by the California Department of Parks and Recreation. The developed cave area consists of two small, but well decorated caves. A tunnel connected the two caves, known as El Pavika and Tecopa, in 1968. The caves contain areas of interesting speleothems, provide roost area for at least two species of bats (one of which is *Plecotis townsendii*), and may hold archeological material in the entrance areas. This cave has had a long history of recreational use and has been impacted by human activity.

Cave of the Winding Stair is a small but deep cave in the recreation area, open by permit to experienced vertical cavers. Several other small and unsurveyed caves exist with the local area. Very little is known about these caves and a comprehensive inventory is needed.

Plan Actions

Cave resources will be managed in accordance with the NPS *Management Policies* and specific guidance in NPS Director's Order 77, the Federal Cave Resources Protection Act, and goals established by the Park Service Strategic Plan. In general, the park will manage caves in a manner that protects the natural conditions such as drainage patterns, airflow, and plant and animal communities. Atmospheric, geologic, biological, ecological, and cultural resources will be addressed and managed in accordance with approved cave management plans.

The National Park Service will enhance its own knowledge of the resources present through comprehensive inventory and monitoring programs. It will also identify areas where additional research by the academic community will enhance the protection of the resources. The park will also seek to develop partnerships with academia, government agencies (in particular USGS), geological and paleontological societies, and others to enhance our conservation and management of the resources.

The National Park Service will continue to work cooperatively with the California Department of Parks and Recreation to assist with inventory, study and protection of significant cave resources that are found in the Providence Mountains.

In general, the NPS management direction is to avoid development of caves and to perpetuate natural conditions, while seeking to protect the resource. Potentially harmful developments or uses, including those that allow for general public entry, such as pathways, lighting, and elevator shafts, will not be allowed in, above, or adjacent to caves until it can be demonstrated that these will not significantly affect natural cave conditions, including subsurface water movements. Developments already in place above caves will be removed if they are significantly altering natural conditions. Where significant cave resources exist, a cave management program should be developed which may include the following elements, depending on the situation:

- interpretive program
- visitor safety
- cave protection guidelines
- cave restoration program
- trail and lighting system maintenance
- cave zoning classification system
- safety and health guidelines
- cave geographic information system
- inventory system and guidelines

Biological Resources

Background

The wildlife and vegetative resources of Mojave National Preserve reflect the mingling of three major North American deserts: the Great Basin, the Mojave, and the Sonoran deserts. Vegetation consists primarily of species common to the Mojave Desert, but the Preserve also contains floral species of the Great Basin, Sonoran, and even some elements of the California coastal zone. Mojave National Preserve was established to preserve an ecologically diverse, yet fragile desert ecosystem, comprised of scenic, geologic and wildlife values unique not only to the Mojave, but the Great Basin and Sonoran desert environs as well. This transition zone, ranging from nine hundred to nearly eight thousand feet in elevation, embraces a plethora of landforms: cinder cones, sand dunes, dry lake beds, alluvial fans, mountain ranges, table-top mesas, large desert bajadas (alluvial fans) and valleys. This harsh Mojave desert landscape provides refugium for over one thousand plant and animal species, including threatened and endangered species.

Plan Actions

Management emphasis at Mojave will be on minimizing human impacts on native ecosystems and the dynamics of naturally functioning populations. Native ecosystems occur as a result of natural processes that have occurred, are now occurring, or may occur in the future. Any species that have moved onto park lands directly or indirectly as the result of human activities are not considered native.

Flora

Background

The Preserve consists primarily of vegetative attributes of the Mojave Desert but contains floral species of the Great Basin, Sonoran and even some elements of the California Chaparral Zone.

Many plant species are distributed only within its boundaries; while other areas such as the New York Mountains contain species of manzanita, California lilac, oak, and silk tassel, which are normally associated with coastal California. The Mid Hills have significant stands of Great Basin sagebrush and Utah juniper. The strongest association however, is with the Sonoran Desert, whose northernmost range is often recognized to intermingle with the southern border of the park. Sonoran plant species such as pancake prickly pear and smoke tree are found extending a dozen or more miles into the southeast portion of Mojave National Preserve.

Community types common elsewhere in the desert and also present within the Preserve are the playas, saltbush, creosote-covered flats and alluvial fans, and Joshua tree woodlands. There are also many important unique or rare habitats within the Mojave. The Preserve is unusual in the complexity and density of the Joshua tree community, which is represented on Cima Dome. The quality and sheer vastness of the Joshua tree forest on Cima Dome is unparalleled anywhere in the world. There are seven different types of wash plant species associations including catclaw acacia, smoke trees, and desert willows. Higher elevations support grassland, sagebrush, blackbrush, pinyon-juniper woodlands as well as unique remnant habitats containing small white fir forests, and pinyon-junipers with oak. The Piute Creek desert oasis also supports a very fragile and limited community. A total of 803 species of plants representing 85 plant families have been identified in the Preserve (Thomas, 1999).

Plan Actions

Mojave National Preserve is considered a unique floristic area, with many plant species found only within its boundaries. Mojave will seek to perpetuate native plant life (such as vascular plants, ferns, mosses, algae, fungi, and bacteria) as critical components of natural desert ecosystems. Mojave will seek to develop a complete inventory of all floristic components and establish monitoring programs to serve as early warning systems for health of the system.

Plants and plant communities will be manipulated only when necessary to achieve approved management objectives. To the maximum extent possible, plantings will use seeds, cuttings, or transplants representing species and gene pools native to the ecological portion of the park in which the restoration project is occurring. In some isolated cases, plants that are historically appropriate for the period or event commemorated may be used. Use of exotic plant species is restricted to situations that conform to the exotic species policy. Plants and plant communities may be manipulated to maintain habitat for threatened or endangered species, but only native plants may be used if additional plantings are done, and manipulation of existing plants will be carried out in a manner designed to restore or enhance the natural functioning of the plant and animal community of which the endangered species is a natural part.

Use of non-natural plantings [exotic plants] may be permitted under the following conditions:

- In localized, specific areas, screen plantings may be used to protect against the undesirable impacts of adjacent land uses, provided that the plantings do not result in the invasion of exotic species.
- Where necessary to preserve and protect the presentation of significant cultural resources and landscapes, trees and other plants, plant communities, and landscapes will generally be managed to reflect the historic designed landscape or the scene that prevailed during the historic period.
- Where needed in developed areas, plantings would use native or historic species and materials to the maximum extent possible. Certain native species may be fostered for aesthetic, interpretive, or educational purposes.

Fauna

Background

In its entirety, the California desert contains no finer grouping of different wildlife habitats than in Mojave National Preserve, both from the standpoint of total number of species and the total number of animals.

The intermingling of the three desert environments has produced approximately 35 wildlife habitat types. The diverse habitats support about 300 species of wildlife. The literature documents 36 species of reptiles, 206 species of birds and 47 species of mammals. A few of the most notable species include the gila monster, desert tortoise, Mohave tui chub, Mojave fringe-toed lizard, regal ring-necked snake, and desert striped whipsnake. Significant avian fauna include the prairie falcon, Bendire's thrasher, California thrasher, gray vireo, golden eagle, Lucy's warbler, mourning dove and Gambel's quail. The Preserve has one of the more significant bat faunas of the California desert. There are also populations of rock squirrels in pinyon-juniper woodland, a relict population of dusky-footed woodrats, mule deer, porcupines, mountain lions, and desert bighorn sheep.

A large portion of the Preserve is critical desert tortoise habitat. Some of the highest densities of tortoise are found in the Ivanpah Valley in the north end of the Preserve.

Plan Actions

The NPS management goal will be to preserve and protect native wildlife and their natural habitat in a manner that will result in self-sustaining populations of native species. The NPS policy is to maintain all components and processes of naturally evolving park ecosystems, including the natural abundance, diversity and ecological integrity of all native species. The park will not promote actions that will attempt to solely preserve or enhance populations of individual species (except threatened, endangered, and sensitive species). Intervention in natural processes will only be undertaken: (1) when directed by Congress, (2) in emergencies when human life and property are at stake, (3) to restore native ecosystem functioning that has been disrupted by past or ongoing human activities, or (4) when directed by an approved recovery plan or conservation strategy.

Sensitive Species

Background

Within the Mojave National Preserve are confirmed populations or potentially viable habitat for 3 federally endangered, 1 federally threatened, 6 state (California) endangered and 1 state threatened plants and animals.

Federally listed species known to inhabit the Mojave National Preserve are the desert tortoise (*Gopherus agassizii*) and the Mohave tui chub (*Gila bicolor mohavensis*). Final recovery plans exist for both of these species. The southwestern willow flycatcher (*Empidonax trailli extimus*) and least Bells vireo (*Vireo bellii pusillus*) are listed birds that could periodically inhabit riparian areas such as Piute Spring but have not been verified to occur in the Preserve.

California listed species known to occur in the Preserve are the desert tortoise, the Mohave tui chub, and the willow flycatcher (*Empidonax trailli).* The California (or western) yellow-billed cuckoo (*Coccyzus americanus occidentalis*), normally in need of broad riparian cover, may have some, but limited potential to appear in the Preserve.

There are no known federally listed or proposed plant species in the Preserve. Thorne's buckwheat (*Eriogonum ericifolium* var. *thornei*) is listed by the state of California as an endangered species. It is known from only two occurrences in the Preserve's New York Mountains. This buckwheat is found at elevations upward of 5,500 feet in pinyon and juniper woodland and prefers copper-rich gravel (*The Jepson Manual: Higher Plants of California*, James C. Hickman, ed.)

Plan Actions

The National Park Service will identify, inventory, monitor and promote the conservation of all federally listed or proposed threatened or endangered species and their critical habitats in ways that are consistent with the purposes of the Endangered Species Act. As necessary, the National Park Service will control visitor access to and use of critical habitats and might limit access to especially sensitive areas. Active management programs will be conducted as necessary to perpetuate the natural distribution and abundance of threatened or endangered species and the ecosystems on which they depend. Such programs will be undertaken only after appropriate consultation with the U.S. Fish and Wildlife Service and the California Department of Fish and Game.

The National Park Service will also identify, inventory, monitor and promote the conservation of all state and locally listed threatened, endangered, rare, declining, sensitive, fully protected, or candidate species that are native to and present in the Preserve, as well as their critical habitats. Controlling access to critical habitats or conducting active management programs might be considered that would be similar to activities conducted to perpetuate the natural distribution and abundance of federally listed species. Plant and animal species considered rare or unique to Mojave National Preserve will be identified, their distribution mapped, and programs established to monitor their status. All management actions for protection and perpetuation of special status species will be determined through the Preserve's resource management plan.

The National Park Service will develop collaborative partnerships with federal, state, and local agencies that manage lands adjacent to Mojave National Preserve, and with academic institutions with research capabilities in desert ecology or ecosystem management to help achieve these goals.

Desert Tortoise

Background

The range of the desert tortoise includes the Mojave and Sonoran deserts in southern California, Arizona, southern Nevada, the southwestern tip of Utah, and Sonora and northern Sinaloa, Mexico.

The Mojave population of the desert tortoise primarily occupies valleys and bajadas characterized by scattered shrubs. The soils range from sand to sandy-gravel, though caliche soils, desert pavement, and rocky, boulder terrain are occasionally used (FWS 1994). Desert tortoises spend a large portion of the year underground to avoid extreme temperatures and, for younger tortoises, to avoid a variety of predators, such as coyotes, foxes, raptors, and ravens (BLM 1996). Tortoises generally are active during spring, early summer, and autumn when annual plants are most common and daily temperatures are tolerable. Additional activity occasionally occurs during warm weather in winter months and after summer rainstorms (BLM 1996).

Desert tortoise habitat has been destroyed, degraded, and fragmented as a result of urbanization, agricultural development, livestock grazing, mining and roads. The removal of tortoises by humans for pets or for use as food or folk medicine is also a major factor in the decline of the desert tortoise population (FWS 1994). A respiratory disease is an additional cause of desert tortoise mortality and population decline, particularly in the western Mojave Desert (FWS 1994).

The Mojave population of the desert tortoise (an administrative designation for animals living north and west of the Colorado River) is listed as a threatened species by the federal government since 1990 and the State of California. Critical habitat for this species was designated in 1994 (FWS 1994).

In June 1994, the U.S. Fish and Wildlife Service released the *Desert Tortoise (Mojave Population) Recovery Plan*, which presented recommended prescriptions for population recovery and included maps of the tortoise's critical habitat and where recovery actions are recommended.

There are two areas of designated critical habitat in the Preserve. The northern area includes Ivanpah Valley, south of Nipton Road, including the areas north, west and south of Cima Dome, extending up to Interstate 15. This area totals approximately 492,360 acres (769 square miles) and is within the Eastern Mojave Recovery Unit. The second area of the park that contains desert tortoise critical habitat is the Fenner/Clipper Valley. This area contains 280,103 acres (438 square miles) of federal land. This habitat is also within the Eastern Mojave Recovery Unit. Private, state and local agency lands were not considered in this general management plan recovery effort and are not considered part of the recovery effort unless the land is subsequently acquired by the adjacent managing agency. These two areas of critical habitat combined total about 772,463 acres (48%) of the Preserve designated as critical

habitat for this species (FWS 1994). Critical habitat also extends north of the Preserve onto BLM lands in the Shadow Valley area up to the southern slope of the Kingston Range and on adjoining BLM lands north of Nipton Road up to Ivanpah Dry Lake. There are also large areas of critical habitat to the south and east of the Fenner/Clipper valley area in California and Nevada.

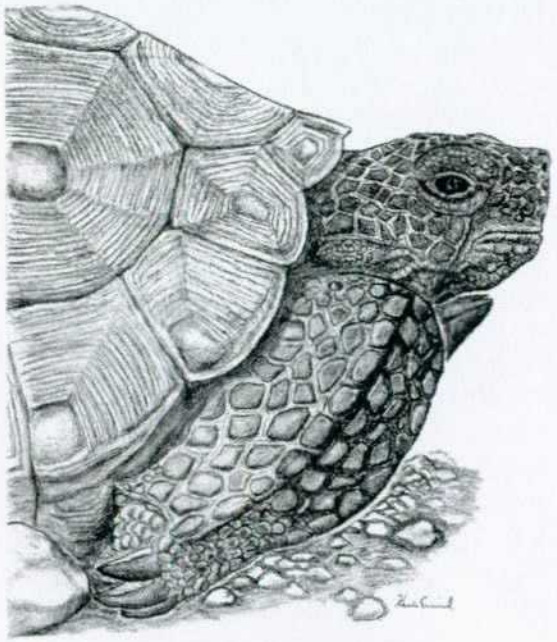
The recovery plan provides five criteria for delisting, which are:

1. As determined by a scientifically credible monitoring plan, an upward or stationary trend within a recovery unit for at least 25 years;
2. At least one protected area (called Desert Wildlife Management Area by the Recovery Plan) with reserve level management of 1,000 square miles or more, except under unusual circumstances;
3. A population lambda (discrete growth rate) of at least 1.0 in each protected area;
4. Regulatory mechanisms and land management commitments are adequate and in place to ensure long-term habitat protection; and
5. The population is likely to remain stable or increase in the future.

Plan Actions

The management goal of this plan is the full recovery and delisting of the desert tortoise following recovery of the Mojave population. NPS manages for multiple species and protection of habitats for all native species. Desert tortoise management is directly linked with the management of grazing, burros, hunting, and camping (see those discussions for details).

As part of this desert tortoise recovery proposal, the NPS recommends that the U.S. Fish and Wildlife Service modify existing critical habitat boundaries to coincide with the category I desert tortoise habitat as mapped by tortoise biologists. Category I habitat is an older BLM classification of tortoise habitat. Category I was the best quality habitat identified by tortoise biologists during their surveys in the 1970s. Critical habitat was designated in the Preserve to coincide with the category I habitat, except for Cima Dome, which was not classified, and the area south of Kelso Depot, which was BLM category II. The lands in Mojave above 4,000 feet on Cima Dome were not classified by BLM biologists as category I desert tortoise habitat. We believe that considering them as part of the critical habitat acreage for recovery purposes is misleading since it is marginal tortoise habitat. Any tortoises in this area will still be fully protected because of the wilderness designation and other protective measures the park proposes to put in effect.



In order to ensure the long-term protection of the desert tortoise in the park, Mojave will implement or continue the following measures to protect the desert tortoise:

Management policies already in effect:

- Vehicles are permitted only on existing roads, camping and parking areas. All vehicles must be street legal and licensed. No offroad or wash driving is allowed anywhere in the Preserve.
- No competitive motorized events are permitted. Organized events that do not involve timed races might be acceptable on existing roads, outside desert tortoise active periods, with appropriate restrictions and subject to other NPS statutes and regulations.
- No existing or new landfills are allowed anywhere in park units under NPS regulations. The National Park Service is currently closing and cleaning up old, informal trash dumps. The National Park Service enforces regulations prohibiting dumping and littering.
- The National Park Service aggressively manages trash and litter to avoid subsidizing ravens. Raven proof trash containers are being installed throughout Mojave.

- No agricultural clearing or commercial vegetation harvest is permitted on park lands.
- No surface disturbance is permitted on park lands, unless it is balanced with appropriate restoration or acquisition of replacement lands for mitigation.
- The National Park Service imposes strict limits on research in the desert tortoise critical habitat that might adversely affect the desert tortoise.
- The National Park Service closely monitors permit actions and requires special stipulations to ensure desert tortoises are protected.
- The National Park Service has removed over 3,000 burros from the Preserve since 1997. A management goal of zero feral burros will remain in effect and removals will continue until the goal is reached.
- Mojave enforces NPS regulations (36 CFR 2.4(a)(2)(ii)) prohibiting plinking (random target shooting).
- NPS regulations require dogs to be on a leash (or under physical or voice control of owner for ensuring that their pets do not harass wildlife if used for hunting).
- No collecting of any natural or cultural resources, including desert tortoise, is permitted under NPS regulations, unless done under a research collection permit.
- In order to prevent the spread of disease from captive tortoises, the National Park Service prohibits the release of captive desert tortoises in accordance with 36 CFR 2.1. The park would work with other federal and state agencies to develop a cooperative program where residents can drop off unwanted and injured desert tortoises, and can adopt healthy, previously captive desert tortoises.

Additional NPS management actions to be taken:

- In high desert tortoise use areas, during the active season, the park will undertake additional temporary signing and staffing of heavily used entrances on busy weekends to raise visitor awareness of tortoise presence. If necessary, speed limits may be temporarily adjusted.
- The National Park Service will support and participate in an interagency regional study of raven predation in order to determine the appropriate management actions.
- No new roads will be built in the desert tortoise critical habitat. Duplicate roads and those that provide access to range developments, active mines or other development sites will be closed and restored when no longer needed for that function.
- Congressional wilderness designation in 1994 resulted in the permanent closure of approximately 147 miles of unmaintained backcountry dirt roads in designated critical habitat. During the wilderness/backcountry management plan development over the next two years the NPS will inventory and evaluate all remaining open dirt roads in desert tortoise critical habitat and determine duplicate or unneeded routes. The goal will be to permanently close up to an additional 100 miles of roads.
- The park will strive to eliminate unnecessary rights-of-way (ROWs) and easements and will require minimum maintenance in order to prevent increased vehicle traffic. Holders of ROWs and easements may be required to install desert tortoise barrier fencing through the desert tortoise critical habitat if traffic levels suggest a problem and fencing is identified as enhancing protection of the tortoise. Maintenance activities on rights-of-way will be allowed only after the holder conducts an adequate survey of tortoise burrows along the route and complies with all stipulations from the USFWS biological opinion on this plan.
- The park will establish an active restoration program for disturbed areas after appropriate site-specific historical review and compliance.
- The National Park Service will make lands within the desert tortoise critical habitat a high priority for acquisition.
- The National Park Service will develop extensive educational materials on the life history, threats and recovery efforts of the desert tortoise for use in schools, museums, clubs, published media, site bulletins, and displays in the park information and visitor centers.
- The National Park Service will adopt minimum-impact fire suppression techniques in the desert tortoise critical habitat, followed immediately by restoration of disturbed areas.
- The National Park Service will encourage and support research on the impacts of fire on the desert tortoise.
- The park will inventory and eliminate hazards to the desert tortoise from abandoned mining activities or facilities (e.g., install devices to exclude the tortoise from mine shafts).

- The park will modify existing water developments (mostly small game guzzlers) to prevent desert tortoise from gaining access and to ensure they are able to escape from them.

Recommended Cooperative Interagency Management Actions:

- The National Park Service will support the proposed cooperative interagency desert tortoise population inventory and monitoring effort using protocols and methods adopted by the interagency Desert Managers Group. A coordinator was hired by the U.S. Fish and Wildlife Service to oversee this effort and Mojave has hired a wildlife biologist to coordinate our monitoring and research. The park will inventory and monitor desert tortoise populations throughout the Preserve in coordination with the interagency, rangewide efforts.
- The National Park Service will work with the California Department of Fish and Game to limit hunting in Mojave to big game and upland game bird species during their normal state seasons and cottontails and jackrabbits from September through January. This action, combined with the existing policy on no target shooting, will eliminate the discharge of firearms during the active tortoise period in the spring.
- The National Park Service will work with the county to find a suitable location outside the Preserve to relocate the Baker waste transfer station. The National Park Service will also encourage and provide support for the relocation of the open sewage lagoons so as to eliminate odors at the Preserve entrance and to reduce raven subsidizing.
- The National Park Service recommends that Caltrans, and communities of Baker, Nipton and Ludlow, and the County of San Bernardino, adopt and enforce appropriate steps to eliminate raven access to trash and food subsidies in areas within their immediate control. The National Park Service also recommends that these entities work with the National Park Service to develop and install public education materials on desert tortoise life history and threats at all rest stops along Interstates 15 and 40, and at other heavily used public use areas throughout the desert.
- The National Park Service recommends that the U.S. Fish and Wildlife Service develop and implement a coordinated interagency program of raven control and reduction in areas where raven predation on juvenile tortoises exceeds natural levels. The raven is protected under federal law as a migratory bird and USFWS is the agency responsible for their management. Also, management of raven populations must be undertaken on a broad scale across many jurisdictions.
- The National Park Service recommends that the California Department of Transportation fund and install desert tortoise barrier fencing material on their existing fences along 25 miles of Interstate 15 and 39 miles of Interstate 40 that bisect desert tortoise critical habitat. These major highways are already significant habitat intrusions and receive substantial amounts of traffic. They also have numerous existing culverts to provide occasional tortoise passage.
- Mojave does not support the concept of installing new desert tortoise barrier fencing on paved roads in the Preserve. Mojave has already undertaken measures (entrance signs and information kiosks) to increase awareness of travelers of potential tortoise and other wildlife encounters. Fencing will lead to further habitat fragmentation and will conflict with our goal of eliminating fencing in the Preserve as grazing permits are retired. Other measures have been identified above that will be implemented seasonally to heighten awareness and slow traffic. However, the park will consider allowing barrier fencing along sections of the Kelso-Cima road if installed by Union Pacific as a construction mitigation measure. The fence will be placed out of visual site so as to not increase the visibility of tortoises walking along the fence. The fence will be left in place for a period of five years after construction and the park will undertake research to compare the fenced portion of this road with a similar unfenced portion to determine the advantages and disadvantages to tortoise and other animals.
- Mojave will work with the U.S. Fish and Wildlife Service, the U.S. Geological Survey, the California Department of Fish and Game, and the San Bernardino County to develop road maintenance standards that minimize impacts on desert tortoise. Berms and roadside vegetation are two issues that need standards to be developed.

If a development project is proposed on federal land within the desert tortoise critical habitat (e.g. a right-of way, mining, range development) and will disturb or otherwise modify the native plant community or ground surface, the developer will be

required to purchase equivalent habitat for the desert tortoise's preservation in accordance with the compensation formula established by the Desert Tortoise Management Oversight Group. Similar requirements are enforced by U.S. Fish and Wildlife Service (USFWS) on private lands. Some activities might be required to provide for tortoise monitoring during the project. The National Park Service will apply stipulations as appropriate, for all activities permitted in areas where potential encounters with desert tortoise may occur. Mojave will continually evaluate ongoing research and consult with USFWS to modify these stipulations to reflect current research recommendations.

Mohave tui chub

Background

The Mohave tui chub (*Gila bicolor mohavensis*) is in the minnow family and can reach over 10 inches in length. The Mohave tui chub was listed as an endangered species in 1970 by the U.S. Fish and Wildlife Service. The Mohave tui chub is the only fish native to the Mojave River basin in California. The arroyo chub (*Gila orcutti*) was introduced into the Mojave River system in the 1930s. This exotic chub successfully hybridized with the Mohave tui chub, and by 1970 the latter fish species was believed to have been eliminated by this process of introgression. A small population of genetically pure Mohave tui chub was found at a small pond (6 feet deep and 9 feet in diameter) at Soda Springs on the western bank of the dry Soda Lake (FWS 1984). Since its rediscovery, populations have been successfully introduced to constructed ponds at Soda Lake, Camp Cady, and China Lake Naval Air Weapons Station. The total estimated population at these four areas is between 10,000 and 20,000 fish (Mohave tui chub recovery team meeting, November 1996).

The Mohave tui chub is morphologically similar to the Owens tui chub (*G. b. Snyderi*) and the Lahontan tui chub (*G. b. obesa*) (FWS 1984). A genetic study, completed in September 1997, found that the Mohave tui chub is a distinct subspecies (May et al. 1997).

Plan Actions

A population of the endangered Mohave tui chub (*Gila bicolor mohavensis*) is maintained in small artificial ponds at Soda Springs. A final recovery plan exists for this species. Mojave will develop a cooperative agreement between the National Park Service, California Department of Fish and Game (CDF&G), U.S. Fish and Wildlife Service and California State University to identify management objectives and strategies, consistent with the recovery plan, for maintaining the Mohave tui chub population (such as cattail and other aquatic plant removal and dredging of the pond). Mojave National Preserve will also pursue funding to provide for continued maintenance of the ponds and monitoring of the population.



Desert Bighorn Sheep

Background

Native populations of Nelson's bighorn sheep (*Ovis canadensis nelsonii*) are found in most of the mountainous terrain of the park, with population estimates as of 1994 at between 400 and 675 or more animals (Torres, S. G. et al. 1994). The population is listed as "fully protected" by the state, primarily due to the fragmentation of habitat throughout its range. It is not a federally listed species. Mojave National Preserve provides substantial protected habitat for desert bighorn sheep and is also one of the few places in California where bighorn sheep hunting is allowed. Limited hunting of bighorn sheep began in 1987 (BLM 1988). A limited number of permits to hunt bighorn sheep are issued each year by CDF&G through a lottery system. (See Table 1: Bighorn Sheep Populations in or near Mojave National Preserve).

Plan Actions

The park management goal is to inventory, monitor, and protect a self-sustaining population of bighorn, while allowing some hunting as mandated by Congress. Research will be encouraged and supported to address the following management issues:

- To determine the need for artificial water guzzlers and predator control.
- To determine the impact that rock-climbing has on sheep lambing in the Clark Mountains.
- To determine potential effects of jet noise from the proposed development of a major regional airport only miles from the park's northern boundary.

Sensitive Habitats

Background

Chaparral Habitat: Several canyons, located within the New York Mountains, contains a unique assemblage of plants and an interesting blending of plant communities not found elsewhere within the Preserve. Besides the small stand white fir trees (see section below), an "enriched" pinyon-juniper-oak woodland, or interior chaparral community, is found in Caruthers, Keystone, and Live Oak Canyons. Manzanita (*Arctostaphylos pungens*), oaks (*Quercus chrysolepis* and *Q. turbinella*), silktassel (*Garrya flavescens)*, single-leaved ash (*Fraxinus anomala*) western service-berry (*Amelanchier utahensis*), holly-leafed redberry (*Rhamnus ilicifolia*), yerba santa *(Eriodictyon angustifolium)*, and desert olive (*Forestiera neomexicana*) are all species that occur in the chaparral habitats of California and Arizona. Chaparral is typically a fire tolerant community, supporting intense fire due to volatile compounds in the plants, but recovering over time to a similar community. Calcicolous scrub, a community that grows only highly calcic soils, is also found within the New York Mountains.

White Fir Populations: Small populations of Rocky Mountain white fir (*Abies concolor concolor*), relict populations from the late Pleistocene-early Holocene period can be found in the upper reaches of the New York Mountains and on Clark Mountain. These pockets of white fir trees probably exist due to favorable conditions at the microsite level, with humidities in these small areas sufficient to favor sufficiently low evapotranspiration rates (Latting and Rowlands 1995). These north-facing canyons are wetter and cooler than the surrounding desert and shelter these relict stands.

Joshua Tree Woodlands: The most obvious feature of Cima Dome, next to its unique geological form, is the Joshua tree *(Yucca brevifolia jaegeriana)*. The Joshua tree woodland covering the dome and surrounding areas is considered to be the largest and most dense stand within the tree's range, covering in excess of 150 square miles and probably containing more than a million trees. Although methods of aging of the trees are still subject to some disagreement, some of the trees with base diameters in excess of three feet and heights of 30 feet or more, may be 500–1,000 years old. The Joshua tree forest on the Cima Dome has not been surveyed and mapped for age distribution, nor are there any quantitative data to indicate the status of new seedling recruitment into the population. Joshua trees are susceptible to wildfire, and above ground portions of the plants are often killed.

Plan Actions

Mojave will inventory, map and monitor sensitive, unusual and limited distribution habitats. The National Park Service will also encourage and support research to assist in determining threats and appropriate management strategies. The park will encourage and support visitor use and education efforts in order to promote understanding of them.

White Fir: Fire planning will address efforts to protect white fir stands from wildfire, since they are not tolerant to extremes in heat and have a thin outer bark. Its seedlings need shade to germinate and establish, so if a stand were destroyed by fire, conditions for new tree growth will not be favorable.

Joshua Tree Woodlands: Park management goals will include:

- Inventory and monitor the extent, density, and age distribution of the Joshua tree woodland.
- Research the long-term effects of grazing and, possibly, how the removal of cattle would effect population dynamics of the Yucca species.
- Investigate fire management strategies that consider short and long-term fire effects on components of this community and determine appropriate strategies.

Other Unusual Plant Communities

Background

Calcicolous Scrub: Vegetation associated with limestone and dolomitic outcrops occurring in the Providence, New York, and Clark mountains. Characterized by the occurrence of many uncommon plants.

Sagebrush Scrub: Great Basin sagebrush (*Artemisia tridentata tridentata*) occurs in the Round and Gold Valleys in the Mid Hills area. This community is typical of the Great Basin desert to the north and is one example of the intersection of the three great southwestern deserts.

Desert Grassland: A large expanse of desert grassland containing about 20 species of perennial grasses is found in eastern Lanfair Valley.

Shadscale Scrub: A stand of *Atriplex confertifolia* occurs at Valley Wells and is characteristic of alkaline soils of the Great Basin Desert.

Kelso Dunes: The Kelso Dunes, reaching over 600 feet above the surrounding terrain, are the largest accumulation of sand within the Devil's Playground area. The Kelso Dunes are one of six "booming" dune systems in the entire world. These are dunes that emit audible booming, humming, or buzzing sounds as they shift. Sand from the Kelso Dunes originated in Afton Canyon fan at the southern end of Soda Lake (Lancaster). They also support psammophytic, or sand-growing plant communities and a diverse, but largely unseen contingent of diverse and sometimes rare invertebrates. Dune invertebrates include arthropods such as scorpions, roaches and beetles. Scorpions prey on smaller insects. Roaches and beetles depend on wind-blown organic material for both food and for nursery sites.

Mojave Yucca: The slopes of the Hackberry, Woods, and Providence mountains support stands of very tall (up to 25 feet) *Yucca schidigera*.

Succulents (Cactus Gardens): Many slopes of the Preserve mountains support extensive stands of succulent shrubs, including barrel, silver cholla, buckhorn cholla, hedgehog, Mojave mound, beavertail, and prickly pear cacti.

Riparian: Piute Creek, the Preserve's only perennial stream, and the ephemeral Bull Canyon's stream in the Granite Mountains supports a lush stand of cottonwoods, willows, and other riparian vegetation. Seeps and springs are relatively scarce and sometimes support riparian species. Studies have shown riparian areas, including large washes, to be extremely important for ecosystem biodiversity and sustainability.

Mesquite: Mesquite thickets, which indicate a high water table, occur in substantial numbers near Crucero, south of Soda Lake. Illegal offroad vehicle usage from the adjacent BLM Rasor OHV area poses threats to this community.

Smoke Tree: The smoketree (*Dalea spinosa*) is a species reaching its northern distribution in or near the Preserve. This Sonoran desert plant occurs in washes primarily along interstate 40, although it is also found in the Mojave River drainage west of the Preserve. A large assemblage of smoketree in Piute Valley was recognized by the Bureau of Land Management as a Sensitive Unusual Plant Assemblage.

Plan Actions

Plant communities, identified as "unusual," meaning they may be particularly sensitive to disturbance, or are limited in distribution, will be inventoried, monitored and studied to determine appropriate management actions.

Introduced Species

Background

Exotic (nonnative) species can include both plants and animals. They are generally defined as those species that occur in a given place as a result of direct or indirect, deliberate or accidental actions by humans. The exotic species introduced because of such human action would not have evolved with the species native to the place in question and therefore would not be a natural component of the ecological system characteristic of that place. There are 60 known nonnative plant species that have been identified in the Preserve. Examples of exotic wildlife species in the Preserve include burros and chukar, and plants like tamarisk, goat-head thorns, halogeton, cheat grass and Russian thistle.

Plan Actions

Nonnative plants and animals will not be used/introduced, except at historic sites where treatment plans (using the "Secretary of the Interior's Standards for Historic Properties") have been approved by the superintendent. The management of populations of exotic plant and animal species, up to and including eradication, will be undertaken in accordance with NPS *Management Policies* wherever such invasive species threaten park resources or public health and when control was prudent and feasible.

Burros

Background

Before the passage of the California Desert Protection Act, the Bureau of Land Management (BLM) administered herd management areas (HMAs) in what is now the Mojave National Preserve. Their prescribed number of burros for what is now the main unit of the Preserve was 130 animals. On February 28, 1995, the superintendents of Death Valley National Park and Mojave National Preserve signed an agreement with the BLM to an interim management policy for burros on lands formerly managed by the BLM.

A survey conducted in September 1996 estimated there were 1,415 burros in the surveyed portion of Mojave (National Park Service, 1997). This figure was produced from mark-recapture estimates derived from over 200 hours of helicopter aerial surveys. The areas chosen for the survey included

approximately 985,000 acres of the 1.6 million-acre park. Funds limited the amount of land that could be surveyed; therefore, the study targeted previous BLM Herd Management Areas.

Since the survey was conducted, burro distribution has been discovered to be more extensive than originally determined. The number of burros estimated to exist within the Preserve outside of the original study area, based on casual observations by the park's field biologist, is at least a few hundred burros. Although an exact number cannot be determined unless a new survey is conducted, for planning purposes, a revised population estimate of 1,650 animals is believed to have existed in Mojave at the time of the 1996 survey.

To plan the burro removal program in Mojave, annual population increases due to reproduction are calculated. Empirical evidence indicates that burro herd sizes can increase at rates ranging from 11 to 29 percent per year (Douglas and Hurst, 1993; Morgart and Ohmart, 1976; Ruffner et. al., 1977; Woodward, 1976). Experience at Mojave suggests that a reproduction rate at the upper end of this spectrum is most representative of Mojave burro herds, as indicated by:

- Results of the 1996 Mojave survey showed that "when the reproductive rate is looked at as a percentage of the adult population accompanied by colts, the values...averaged 25.8%" (National Park Service, 1997).
- Of the 520 burros captured in Mojave during calendar year 1998, approximately 50% were female. Of those females, nearly every animal was either pregnant or accompanied by a colt[1].

Taking into account these indicators of high reproductive rates, it is therefore reasonable to assume a herd reproduction rate of 25% for estimating the size of the Mojave burro population during the multiyear capture and removal program.

Mojave received Natural Resource Preservation Program (NRPP) project dollars to remove burros from 1999–2001.

In September 1997, Mojave began removing burros by live trapping them in corrals. In one month 600 burros were captured and removed. Between June and October 1998, 520 burros were captured and removed; and in 1999, Mojave captured and removed 650 animals; for a total of 1,770 burros removed from Mojave during the two and one-half year period. Assuming a 25% average annual population growth, plus these three years of captures, there were approximately 915 burros in Mojave at the beginning of calendar year 2000 (see table 2).

Plan Actions

Feral burros are an invasive, nonnative species that damage native habitat and compete with desert bighorn, desert tortoise and other native species for limited forage. The proposed management goal at Mojave is to remove all burros from inside the boundary and implement actions, to the extent practicable, to ensure that they do no reenter.

Thirty days after the "Record of Decision" was signed, the National Park Service's multi-phased plan for the removal of the remainder of Mojave's burros became effective. Burros will be removed in a multi-phased approach similar to that used successfully in Death Valley National Monument (NPS, 1982) as described below.

Phase One. During phase one, up to two years will be allowed for the live capture and removal of as many burros as possible. The methods and procedures for capture, transport, and placement are the same as those used in the existing management program. They are summarized below and presented in detail in the *Action Plan for the Removal of Feral Burros* (NPS, 1998c). The capture techniques will include water trapping, horseback wrangling, helicopter-assisted roping and trapping, and net gunning. The captured burros will be placed through the BLM adoption program, animal protection groups, or direct or indirect placement programs of the National Park Service.

Four **capture methods** will be used or considered for Mojave's burro program: 1) water trapping, 2) horseback wrangling, 3) helicopter-assisted roping and trapping, and 4) net gunning. A phased approach will be employed in implementing these methods. Water trapping is considered the easiest and least expensive means of capture, with horseback wrangling and helicopter methods becoming increasingly more difficult and expensive. The more difficult capture methods, however, are also more effective at capturing elusive, remote, and solitary animals. It is anticipated that as water trapping

[1] This observation implies an even higher reproductive rate than the 1996 survey suggests, but these numbers are not from a representative sample, so generalizations cannot be made about the entire population of Mojave burros.

becomes less effective, horseback wrangling and helicopter methods will become the primary focus of capture operations.

The four capture methods are described in detail below. The number of burros that are removed with each method is subject to modification as the program progresses and various capture methods prove more or less effective than anticipated.

1. **Water Trapping**. Burros are habituated to drinking at certain cattle corrals and developed waters in the desert. During water trapping, the animals enter a corral through a one-way gate known as a "finger trap" or "trigger" to obtain water, and cannot exit. Only existing corrals or previously developed water sources are used. Temporary corrals would be set up around those developed water sources planned for trapping where no corral exists. Temporary corrals are made of 6-rail livestock panels. No trapping is or would be conducted at springs, wetlands, riparian areas, or other sensitive environments. All trapping locations are previously heavily impacted by livestock and feral burro use.

   Traps are checked for animals every day during water trapping operations. Trapped animals are loaded on a trailer and hauled to a central holding corral, where they await shipment out of Mojave. Holding corrals, like the trapping corrals, are located on ground that is previously heavily disturbed by livestock use. Only existing corrals are used. Burros wait in the holding corral no more than five days before shipment out of the park. Whether in the trap or in the holding corral, burros are given constant access to water and are provided adequate feed.

   Water trapping has been highly successful at Mojave, resulting in the capture of 1,841 burros during three separate trapping seasons. Experience in other locations suggests that water trapping is most effective in the summer, when the animals are more thirsty and more willing to enter a trap to get a drink, and when there are fewer natural water sources available. Based on the effectiveness of the water trapping program to date, however, Mojave is attempting to water trap burros on a year-round basis. If water trapping becomes ineffective in the spring, fall, or winter, trapping during these seasons will be halted. Additionally, it is anticipated that as the program progresses, even warm-season water trapping will become less successful, because the burro herd will be reduced to only those animals that drink at natural sources.

2. **Horseback Wrangling**. As burro numbers are reduced, water trapping will become less effective. One alternative is horseback wrangling, where riders capture burros by driving them into corrals or by roping the animals and leading them into corrals. Efforts would be made to use existing corrals or set up temporary corrals (using six-rail livestock panels) in previously disturbed areas. Like water trapping, burros will be moved to a central holding corral where they await removal from the park. They will be held no more than five days, would have free access to water, and will receive regular food.

   It is anticipated that horseback wrangling will be used throughout the life of the program to capture animals that cannot be water trapped and are not concentrated enough to warrant the expense of helicopter capture. Costs per animal capture are expected to increase over the life of the program as burros become harder to reach due to terrain factors and distance from roads.

3. **Helicopter-Assisted Roping and Trapping.** During helicopter-assisted trapping, a helicopter is used to locate burros and herd them into a funnel trap. Wranglers wait until the burros enter the mouth of the funnel trap and then close in behind the animals, herding them into the corral. During helicopter-assisted roping, a helicopter is used to herd the animals to a capture site where wranglers are waiting. The wranglers rope the animals and lead them to a corral. Like the other two methods, captured burros will be placed in a temporary holding corral where they would be cared for while awaiting removal from Mojave.

   Helicopter-assisted roping and trapping will be employed to capture burros in those areas were water trapping and horseback wrangling are not feasible or effective, and where there is a high enough concentration of burros that helicopter methods will prove cost effective. Costs per animal capture are expected to increase over the life of the program as burro numbers are reduced. In FY2000, Mojave initiated helicopter-assisted roundups in the Lava Beds and Granite Mountains, resulting in the capture of over 513 burros by this technique.

4. **Net Gunning**. During net gunning, a net is fired onto the animal from an overhead helicopter. Animal handlers (either already on the ground or in the helicopter) then move the burro to a designated holding corral. Captured animals will be placed in a temporary holding corral where they are cared for while awaiting removal from Mojave. It is anticipated that only the most remote and elusive burros will be captured through net gunning. Net gunning will be used sparingly and only in those situations where no other option exists for burro capture. Costs per animal are expected to be extremely high.

Mojave currently utilizes three **placement sources** for captured burros. The market for burros in the United States is limited, and no single placement source is capable of absorbing all the burros that must be removed. Cost also factors into decisions on placement. The three placement sources are:

1. **The Fund for Animals' Black Beauty Ranch**. The Black Beauty Ranch, located in East Texas and owned by the late Cleveland Amory's Fund for Animals, is a haven for unwanted animals. In a signed general agreement with the NPS, the Fund has agreed to accept up to 300 Mojave burros per year at the Black Beauty Ranch. Under the terms of the agreement, the Fund takes the animals free of charge. The NPS must finance shipping the animals to Texas, plus all necessary veterinarian check-ups and blood work. Mojave contracts for shipping and veterinarian services.

   Upon arrival at the Black Beauty Ranch, the burros become the property of the Fund for Animals, and they are adopted to interested parties or live out their lives on the ranch. In 1998, 100 burros were successfully sent to the Black Beauty Ranch under this agreement. In 1999, 300 animals were placed there.

2. **Private Contractor**. In 1998, Mojave contracted with a private company to remove and market burros for the NPS. The company picked up the burros from the park, transported the animals to their facilities, and sold them to private entities. Their market included selling burros for pets, breeding, pack stock, and other recreational purposes. Under contract stipulations, no burros were sold for slaughter, and the company made available to the NPS records indicating where each burro was sold. The program with this company has been highly successful, resulting in the placement of hundreds of burros. Mojave will continue to use this contract to place burros in the future.

3. **Bureau of Land Management Wild Horse and Burro Adoption Program**. The BLM has a well-established adoption program for horses and burros removed from the wild. During 1997, Mojave placed 600 burros through the BLM program. Another 100 animals were placed with BLM in 1999. Due to a saturated market, fiscal considerations, and BLM's interpretation of the 1971 Wild and Free-Roaming Horse and Burro Act, BLM's ability to take burros from Mojave is limited, but this option will be used in the future where appropriate.

   Burro herd migrations, size of the park, and uncertainties associated with the effectiveness of the various capture methods make predictions on the timing of burro capture very difficult. Generally, horseback wrangling and helicopter-assisted capture will be conducted during the warmer months when burro herds are concentrated around water sources. Water trapping, which is assumed to be more effective in the summer, will nevertheless be attempted year-round to test the efficacy of a four-season operation.

Predictions about **capture locations** are also difficult to make. Mojave is a large area with few geographic boundaries that can inhibit burro migration within the park. The 1996 survey (NPS, 1997) and burro monitoring over the last three years by park staff, suggest that burro herds are concentrated in the following general locations: Granite Mountains, Providence Mountains/Clipper Valley, Woods/Hackberry Mountains, New York Mountains, Ivanpah Mountains, Cima Dome, Cinder Cones, and Clark Mountain. The combined area of these locations totals over one million acres. Predicting burro herd locations within these general geographic areas is problematic. Decisions on general capture areas will be based on monitoring observations taken approximately two weeks prior to capture operations.

Decisions regarding specific trap and holding corral locations will be made immediately after the determination of the general capture locations. The specific number of livestock corrals in Mojave that could serve as potential traps or holding facilities is unknown, but may number in the dozens. Potential holding facilities exist within a few miles of almost all capture locations.

Phase Two. Upon signing of the "Record of Decision," the National Park Service will provide a maximum of six months during which animal protection groups may remove any remaining animals, at their expense, from areas of the Preserve where live trapping/capture techniques have achieved the maximum cost effective results. If the group's proposal is agreeable with the NPS, an agreement will be negotiated and signed between the National Park Service and the interested group(s). The National Park Service will provide oversight, logistics support, and the use of some equipment and corrals.

It is anticipated that most of the Mojave's burros will likely be captured and removed through phases one and two. If an agreement with an animal protection group is not reached within six months of the signing of the "Record of Decision," the NPS will immediately begin Phase three. Phases one and two must result in adequate removals each year to reduce the populations substantially in the area being targeted. If phase one proves unsuccessful in the first year, the NPS could move to phases two and three as needed to achieve the desired results. One area of the Preserve may remain in phase one, while other areas proceed to phases two and three as necessary.

Phase Three. In phase three, NPS staff or contractors will eliminate the remaining few animals in a humane manner to achieve a zero population. This action will occur only when desert tortoises are not active above ground. By timing operations in this manner, juvenile tortoises will not be subject to increased predation by ravens, which are likely to congregate near burro carcasses. Phase three will continue for an indefinite time. The park also maintains the option of implementing phase three if live captures do not succeed in reducing populations. As captures proceed, a particular area of the park could be placed in phase two or three separate from the rest of the park.

The NPS is aware of the burro's potential for rapid population growth (up to 25% per year). The above proposed removal strategy will result in a burro population that approaches zero within five years of its initiation in 1997.

A BLM burro Herd Management Area (HMA) lies adjacent to Clark Mountain, with no natural or constructed barriers to prevent burros from entering this satellite unit of the Preserve. No other BLM HMAs exist immediately adjacent to Mojave. In addition, the BLM proposes to retain cattle grazing surrounding the Clark Mountain area. Because of this situation, the National Park Service will:

- Fence the Clark Mountain unit of the Mojave National Preserve, following the Preserve boundary. To allow for deer and bighorn sheep ingress and egress, critical portions of the fence would be constructed similar to that proposed by Andrew, Lesicka, and Bleich (1997), which allows deer and bighorn sheep to pass, but not burros or cattle. This alternative could not be implemented until the existing cattle grazing permits within the park are retired.
- Work cooperatively with BLM and CDF&G on conducting joint gathers and aerial surveys.

Rocky Mountain Mule Deer

Background

The California Department of Fish and Game introduced the Rocky Mountain mule deer (*Odocoileus hemionus hemionus*) into the New York and Providence Mountains of the Preserve in February and March of 1948 from Arizona (Dasmann 1968). Nine bucks and 31 does were released. The first authorized hunt of this population was in 1955. The department estimates that about 25 deer are taken per year. The population has remained relatively stable since the first introduction.

Mule deer are native to the Mojave Desert and occur in nearby mountain ranges. Although the deer in Mojave were introduced by the California Department of Fish and Game, anecdotal information suggests that a resident population may have occurred in the pinyon-juniper and sagebrush habitat prior to these introductions. It is likely that these deer have interacted and bred with adjacent herds over the last 50 years and may now be genetically similar. DNA studies would help to resolve this apparent information discrepancy.

Plan Actions

No actions to remove this species are warranted until the genetics of the deer population are studied.

Chukar

Background

The chukar (*Alectoris graeca*), an upland game bird popular among hunters, was first introduced into California (from India) in 1932 (Mallette c.1970). Between 1932 and 1955, more than 52,000 birds were released by the California Department of Fish and Game (Mallette c.1970). The birds prefer rocky open hills and flats. Sightings have been reported from below sea level to above 12,000 feet in the White Mountains and Sierra Nevada. The animal is abundant in parts of the Preserve.

Plan Actions

In order to protect the native quail population and to maintain a native desert ecosystem, the NPS will encourage reductions in this population of exotic birds by seeking a higher bag limit, as compared to the native quail population. No new releases of these, or other exotic species, will be authorized.

Nonnative Plants

Background

There are 60 known nonnative plant species that have been identified in the Preserve. Tamarisk or salt cedar (*Tamarix ramosissima*), Russian thistle, and introduced annual grasses (from Europe and Asia) are some of the more pernicious exotics within the Mojave National Preserve. These species often outcompete native vegetation, subsequently eliminating or displacing natives and associated native animals. Annual plants such as introduced grasses and Russian thistle often cause an unnatural increase in the amount of dried material available as wildfire fuel.

Salt cedar, an introduced shrub or small tree 5 to 20 feet tall, is an opportunistic invader of moist areas. Both the Bureau of Land Management and the National Park Service have ongoing control programs that are attempting to manage this invasive plant. Continuing control is needed to prevent this weedy tree from outcompeting and eliminating native vegetation. A larger, less invasive relative, the athel (*T. Aphylla*), has been planted (typically as a windbreak or sand-break) in a number of locations in the Preserve (e.g., near Kelso Depot). This species does not spread easily and is not considered a threat. Some of these trees may be considered part of the historic landscape would be evaluated during planning efforts for those sites.

Russian thistle (commonly called tumbleweed) is common in many disturbed areas in Mojave National Preserve, such as at old mining sites and along roadsides. Introduced annual grasses such as *Bromus* and *Schismus* species are serious pests when mature (Hitchcock and Chase 1971). "The narrow, sharp-pointed minutely barbed florets (or fruits) with their long rough awns work into the eyes, nostrils, and mouths of stock, causing inflammation and offer serious injury" (Hitchcock and Chase 1971). The increase of these grasses throughout much of the arid west is believed to be an important contributing factor in the increase in desert wildfires, which were uncommon at one time.

Plan Actions

Tamarisk. Mojave will continue to identify and remove the invasive nonnative salt cedar tamarisk (*Tamarisk ramosissima*). Successful control of tamarisk has been demonstrated in numerous projects throughout the southwest. Only authorized herbicides will be used in tamarisk control efforts. Such herbicides are non-persistent, non-toxic to aquatic life and are used in accordance with accepted management practices and proper dosages. Any use of poisons or other chemical agents on federal lands within the Preserve, including use by the park or by permittees, requires review and permission under the NPS Integrated Pest Management program.

Athel tamarisk trees (*Tamarisk aphylla*), such as those planted along the Union Pacific railroad corridor for protection of the tracks from blowing sand, do not spread easily and are not considered a threat. Retention of athel tamarisk trees at Kelso Depot and Zzyzx as part of the historic landscape will be evaluated during planning efforts for those sites.

Cultural Resources

Program Goals

The National Park Service will develop and implement a systematic, integrated cultural resource management program in accordance with the NPS *Management Policies* (2001) and *Director's Order 28*. This program will identify, inventory, monitor, and evaluate archeological sites, historic properties, cultural landscapes, and ethnographic resources; nominating significant resources to the National Register of Historic Places and will manage, protect, and preserve such listed properties in a way that will preserve their documented archeological, architectural, ethnographic, historic, or research values. The program will be developed through collaborative partnerships with government agencies and public and private organizations with cultural resource management expertise.



Mojave's resource management plan will address the requirements, projects, and funding to implement the cultural resource program. To support this program, the National Park Service will develop collaborative partnerships with government agencies, as well as public and private organizations with expertise in cultural resource management or research capabilities. These entities could include federal, state, and county agencies, academic institutions, local and regional cultural and historical associations, and Native American tribes affiliated with lands in the Preserve. As requested, the National Park Service will cooperate with owners of historic properties within the Preserve boundaries to ensure the their preservation. To achieve cultural resource program objectives, under the authority of 36 CFR 1.5, the National Park Service might control or limit human activities in areas designated as culturally sensitive or threatened.

Baseline Data

The National Park Service will develop and implement a systematic applied cultural resource research program to ensure that (1) there will be adequate baseline information on location, condition, threats, and significance/integrity of resources; (2) interpretation and preservation treatment of resources will be accurate; and (3) appropriate means will be used to manage, protect, preserve, and interpret Native American heritage or other ethnographic resources. The research program will include the following studies:

- archeological studies, including a regionally based archeological research plan, an archeological overview and assessment, and archeological identification and evaluation studies
- ethnographic studies, including an ethnographic overview and assessment, a cultural sites inventory, and cultural affiliation studies
- historic resources studies (including possible separate studies of ranching, mining, transportation, and military use), historic structure reports, historic furnishings plans, an administrative history, and special history studies. A historic resources study is an illustrated narrative history and normally is accompanied by draft National Register forms together with requisite maps and photographs for all properties identified within the study as meeting National Register criteria, while the study itself identifies those which lack either sufficient age, or integrity, or significance, and thus have been evaluated as not qualifying for the National Register. The historic resource study should evaluate privately-owned properties within the Preserve without preparation of NR forms so that should such properties later be acquired or be potentially affected by some Federal action, their status will already have been evaluated. Mojave National Preserve is so large an area and current funding for historic resource studies comes in such small amounts that it will be necessary to schedule a series of historic resource studies, each focused on a different topic, to cover the history of the resources within the Preserve: (1) mining; (2) ranching; (3) homesteading (4) exploration; (5) transportation routes (trails [Old Spanish Trail], wagon roads [Beale's Road, Mojave Road], railroads, automobile roads [Route 66], etc.) and communication facilities; (6) settlements and towns; (7) military camps, Patton's Desert Training Center facilities, and Desert Strike training (1964); (8) military operations against Desert Indians; (9) prohibition and law enforcement; miscellaneous other topics not covered by the foregoing Recreation] etc.
- a scope of collections statement and a collection management plan
- revising the list of classified structures, cultural landscape inventories, evaluations, and assessments with emphasis on themes of the history of western exploration and settlement, mining, ranching, and railroading

List of Classified Structures

The List of Classified Structures (LCS) is a park's computerized inventory of known historic and prehistoric structures having historical, architectural, or engineering significance in which the NPS has, or plans to acquire, any legal interest. Properties included in the LCS are either on or eligible to the National Register or are to be treated as cultural resources by law, policy, or decision reached through the planning process even though they do not meet all National Register requirements. The LCS documents significance, condition, use, threats, treatments, cost estimates for treatment, and physical description. Seventy-two structures are currently listed in the Preserve's LCS. This list is a preliminary list and will be maintained and updated as necessary to reflect current research, surveys and interpretations.

Cultural Landscapes

Background

The Cultural Landscape Inventory (CLI) is an evaluated inventory of all cultural landscapes (landscapes, component landscapes, landscape features, and component landscape features) having historic significance in which the National Park Service has or plans to acquire legal interest. The CLI provides the baseline information for a cultural landscape. As such, the CLI assists park managers and cultural resource specialists in planning, programming, and recording treatment and management of listed landscapes. The Cultural Landscape Inventory has three primary functions:

- To identify and inventory cultural landscapes in a national data base,
- To record information about these resources related to their identification, location, description, characteristics, historical development and current management, and
- To provide park staff with the information necessary to make informed decisions about appropriate treatment of these cultural resources.

A Cultural Landscape Report (CLR) serves two important functions; it is the principal treatment document for cultural landscapes and the primary tool for long-term management of those landscapes. A CLR guides management and treatment decisions about a landscape's physical attributes, biotic systems, and use when that use contributes to historical significance. A comprehensive Cultural Landscape Report has three parts, which include:

- A site history with maps, a description of the existing conditions, and an analysis and evaluation of the identified resources,
- Proposed treatment of the landscape, and
- A record of treatment for that landscape

At least sixteen potential historic landscapes have been identified in Mojave National Preserve that are potentially eligible for listing on the National Register of Historic Places, but cultural landscape studies have not been undertaken to identify their character-defining elements.

Plan Actions

Landscapes reflecting mining, ranching, railroading, and ethnographic activities can be seen throughout the Preserve. The Preserve will inventory the cultural landscapes and prepare nomination for those determined to be eligible for the National Register of Historic Places.

A Cultural Landscape Inventory of the Kelso Club House and Restaurant Historic District was completed in FY 2001. A Cultural Landscape Inventory of the Soda Springs Historic District commenced in FY 2000. The basic cultural landscape inventories have been completed for:

Zzyzx Mineral Springs Historic District (Draft Nomination) (Landscape)
Kelso Depot Historic District (Draft Nomination) (Landscape)
Mojave Road (Landscape)

Potentially Significant Landscapes that will be evaluated:

Marl Springs
Rock Springs
Paiute Pass (feature)
New York Hills Historic District (1890s) (Landscape)
Death Valley Mine (Landscape)
Vanderbilt Site (Component)
Providence Mountains Historic District (Landscape)
Foshay Pass (Feature)
Macedonia Mining District (Landscape)
Rock Springs/Government Holes (Component)
Ivanpah Historic District (Landscape)
Ivanpah (Component)
Clark Mountain Mining District (Landscape)
General Patton's Desert Training Center (Camp Essex) (Landscape)
Lanfair Valley (Landscape with multiple owners)

Given the following historic landscapes are not managed by the NPS there are no plans to evaluate these resources for possible listing:

Union Pacific Los Angeles to Salt Lake City Line (Landscape)
Boulder Transmission Line (Landscape)
Mitchell Caverns (Landscape)

National Register Properties

Background

Authorized by the National Historic Preservation Act of 1966 and administered by the NPS in the National Center for Cultural Resources Stewardship and Partnership Programs, the National Register is the nation's official list of districts, sites, buildings,

structures, landscapes and objects in both public and private ownership that are significant in American history, architecture, archeology, engineering, and culture. Section 110 of the NHPA mandates that all federal properties that are over 50 years of age must be inventoried and evaluated for eligibility to the National Register. It further directs that those properties over 50 years of age that have not yet been evaluated be treated as though they were eligible to the National Register until documented as non-eligible.

The following properties within Mojave NP are listed on the National Register:

- Kelso Depot
- Piute Pass Archeological District
- Aikens Wash National Register District
- Historic Boulder Transmission Lines 1, 2, and 3 Archeological District

Plan Actions

The Kelso Depot was listed on the national register in August 2001. A Historic Structure Report containing history, archeology and architecture sections, and both historic, HABS, and other recent drawings has been completed and published on the Kelso Depot. A Historic Furnishings Report for the Kelso Depot has also been completed (November 2001) for certain rooms that are proposed to be refurnished to their historic appearance.

The following properties have been determined to be potentially eligible to the National Register and National Register nomination forms are being prepared for them:

- Soda Springs Historic District
- Mojave Road
- Rock House

The Historic Resources Study, scheduled for completion by 2005, will identify and evaluate additional properties that may be nominated to the National Register such as the Ivanpah and Providence townsites and the Death Valley Mine.

If the Soda Springs Historic District is determined to be eligible to the National Register, management of the facility could be affected. The National Park Service will produce a Cultural Landscape Report / Historic Structures Report that will specify the historic preservation treatments for the various historic structures and cultural landscape elements at Soda Springs that were associated with Dr. Springer and the Zzyzx Mineral Springs. The report may recommend the preparation of development concept plans for the coordination of new and existing facilities to better support current and proposed operations.

As a result of the series of historic resource studies, a large number of other properties, including numerous ranches, homesteads, townsites, railroad stations, mines, springs, and ranching developments may be evaluated for their historical significance and integrity.

Ethnography

Background

Attention to the peoples whose lifeways are traditionally associated with resources under National Park Service stewardship is mandated in legislation and the NPS *Management Policies* (2001). Ethnography, part of cultural anthropology, is concerned with the peoples associated with parks, with their cultural systems or ways of life, and with the related technology, sites, structures, other material features, and natural resources. In addition to traditional regimes for resource use and family and community economic and social features, cultural systems include expressive elements that celebrate or record significant events and may carry considerable symbolic and emotional weight. These include rituals, sacred narratives such as origin myths, verbal arts including folk tales, and performing and graphic arts. Cultural anthropologists refer to behavioral, value, and expressive patterns, and technology, as features of cultural systems. Preservation specialists may use the term "intangible" to refer to behavior, values, and expressive culture.

Plan Actions

Developing programs, policies, guidelines, and data to help Preserve management identify and protect culturally significant resources falls to the Preserve's applied ethnography program. A major goal is to facilitate collaborative relationships between the NPS and the people, including Native American groups and the ranching and grazing communities in the Preserve area, whose customary ways of life affect, and are affected by, NPS resource management. Seeking practical outcomes, the program identifies issues that concern management, communities, and the resources they both value and provides information to promote mutually acceptable solutions.

While no ethnographic or traditional cultural properties have been identified in the Preserve, this may change during future dialogues, between NPS staff, the Native American tribes, and the ranching and grazing communities.

Collections Management

Background

The Preserve has existing collections onsite, including a library, a growing collection of paper and photographic archives, and a few historic items from Kelso Depot. Archeological materials emanating from compliance activities currently are stored at WACC. A recently purchased collection of Chemehuevi baskets is being curated at Death Valley National Park. Future acquisitions may include archeological collections, historical collections relating to mining, ranching/homesteading, native and ethnographic communities, and modern military exercises; and contemporary items associated with recreation/tourism (for example, Soda Springs).

Plan Actions

The National Park Service will prepare a scope of collections statement and a collection management plan to address and document the management, protection, preservation, and use of natural and cultural specimens, objects, documents, photographs or electronic media in accordance with the provisions of NPS *Director's Order 77*. The scope of collections statement will address the significance of the collections and set limits on collections consistent with the park's mission, purpose and identified themes in its interpretive prospectus. It would also address collections generated by research, resource management, and compliance activities. The collection management plan will document and evaluate alternative approaches to management, preservation, and protection of collections identified in the scope of collections statement. Alternatives will include developing in-house collection management capability, with a museum storage facility, or developing cooperative agreements with other park units, other federal agencies, or universities and museums. Mojave staff are currently working with the Pacific Great Basin and Columbia Cascades staff curators and the Death Valley National Park curators regarding these alternatives and other curatorial planning needs. Curatorial storage preference will be given to local facilities that will be more readily accessible to park staff and researchers.

Archeological Resources

Background

Archeological resources occur in almost every unit of the national park system. What makes archeological resources significant are their identity, age, location, and context in conjunction with their capacity to reveal information through the investigatory research designs, methods, and scientific techniques used by archeologists. Such resources are critical to understanding and interpreting American prehistory and history; however, archeological resources are fragile and may be easily destroyed unless proper attention is paid to their management as mandated by the following federal laws and policies, and their respective implementing regulations, standards, and guidelines:

- NPS *Management Policies* (2001)
- Antiquities Act of 1906
- Sections 106 and 110 of the National Historic Preservation Act of 1966
- Archeological and Historic Preservation Act
- Archeological Resources Protection Act of 1979
- Native American Graves Protection and Repatriation Act of 1990

There is significant documentation of archeological information at Mojave which continues to expand. Since 1997, Mojave has been developing an archeological sites management inventory system (ASMIS). The ASMIS database is the NPS standard database for archeological resources and provides data necessary to complete GPRA reporting requirements. All Mojave archeological base maps on file in San Bernardino have been digitized. Archeological and project data collected up to 1999 (approxi-



mately 1,300 sites) has been entered in the database. All available site files have been scanned, verified, and entered in the database. A GIS has been created to integrate all available data through a series of custom tools in ArcView. ASMIS is the only electronic site database for national parks in California like Mojave.

In 1996 the California Historical Resources Information System (CHRIS) was initiated, with the support of the Desert Managers Group, for the development of an Internet-based GIS application for the digitizing archeological information available in the California Information Centers. A massive undertaking, thus far the CHRIS has digitized all the base maps at the San Bernardino Information Center.

Plan Actions

Mojave National Preserve will seek to identify, protect, preserve, and interpret archeological resources under its jurisdiction.

The development phase of the ASMIS program will continue with completion anticipated in 2001. Updates to the database would be undertaken as new information becomes available. Except as necessary for projects with proposed land disturbance, little new archeologically-based research is anticipated in the foreseeable future.



Facilities and Development

The management goal is to minimize development of new facilities that would detract from the setting and sense of discovery that currently exists. This means minimizing new development, including the proliferation of signs, new campgrounds and outdoor interpretive exhibits. Mojave will look to adjacent communities to provide most visitor support services such as food, gas, and lodging.

The National Park Service intends to locate some management facilities outside the Preserve, consistent with the existing management direction and proposed actions identified in this plan. This will include, but is not limited to, the headquarters site in Barstow, visitor information facilities in Baker and Needles and potentially employee housing in Baker, Nipton, or Essex. Buildings may be acquired through donation or acquisition. An assessment will be made for possible future uses such as visitor contact stations, administrative facilities, employee housing or restoration as historical interpretive properties.

Sustainable Design

The Congressional mandate to the National Park Service has been expressed as conserving resources while providing for their enjoyment by the public in a manner that will leave them unimpaired for future generations. This concept can best be expressed today as *sustainability*, which is defined simply as making decisions and engaging in practices that meet the needs of the present generation, without compromising the ability of the next generation to meet its needs. The National Park Service has issued, and will update as necessary, guiding principles for sustainable design that will be applied throughout the Preserve.

Mojave will implement sustainable practices and pollution prevention activities in all its management actions, including the planning, construction and maintenance of facilities. New and rehabilitated visitor and management facilities in Mojave will be harmonious with park resources, compatible with natural processes, aesthetically pleasing, functional, as accessible as possible to all segments of the population, welcoming to traditionally associated groups, energy-efficient, and cost-effective. In practical terms, the park must also integrate this philosophy into its daily standard operating procedures through adoption of water and energy conservation, recycling and waste reduction practices. Alternative energy sources such as solar electricity will be considered for facilities at remote NPS locations of housing or operations. Park facilities and operations will incorporate sustainable practices and elements to the maximum extent practicable in planning, design, siting, construction, building materials, utility systems, recycling, and waste management.

Visitor Information

Information Centers and Sources

Background

The National Park Service currently leases commercial space under the giant thermometer adjacent to the Bun Boy Restaurant in Baker, California as a visitor information center. The Death Valley Natural History Association and Mojave National Preserve share support and material costs. Information is available about recreational activities in Death Valley National Park, Mojave National Preserve and surrounding Bureau of Land Management recreation sites such as Dumont Dunes.

The Preserve leases office space in downtown Needles, California, for a visitor information center. This facility is jointly staffed by the National Park Service and the Bureau of Land Management and provides interpretive and recreational information about Mojave, Lake Mead, and BLM lands.

The Preserve also operates a visitor contact center at Hole-in-the-Wall in a building constructed by the Bureau of Land Management. A small amphitheater and picnic area are also available. This visitor contact center serves as a point for people camping in or visiting the area and provides overnight, short-term housing for one NPS staff member. Electricity is provided by a solar electric system.

Information on park recreational opportunities has become increasingly available on the internet over the last several years. The National Park Service maintains sites on every park unit at the address: www.nps.gov. By accessing this site, visitors can also gain access to numerous other links about NPS issues, policies and visitor data. This site will help visitors planning a trip to the area gain the basic information about activities, camping, and phone numbers. From the general nationwide homepage, the park has constructed much more detailed information on Mojave. For instance, detailed information on the geology of the Preserve has been assembled in a cooperative venture with the U.S. Geological Survey. In addition, the park cooperated in the development of an interagency desert-wide website that provides information on public lands in the desert and links to many interesting and informative sites. This page can be found at: www.californiadesert.gov.

Plan Actions

A small information and visitor contact desk will be staffed at the headquarters building in Barstow to serve the public and fill the needs of local communities. Staffed information centers at Baker and Needles will continue to operate with the same focus as at present for the near future, although the exact location is subject to change since the facilities are leased. Mojave will continue to pursue partnerships with other agencies (federal, state and local), tribes and private organizations to offer a broad range of visitor information at key desert gateway locations that target a variety of users.

The Preserve has many highway entrances and only two staffed information centers outside its boundary. Many visitors arrive without much opportunity to receive advanced information. To remedy this situation, the staff will continually investigate and develop effective means of providing advanced information about the Preserve and the Mojave Desert. The overall objective of this proposal will be to try to provide advance information that will enhance the quality of visitor's experience.

The Hole-in-the-Wall information center will continue to provide visitor information and serve as a base for interpretive programs such as ranger-led walks and talks. Eventual replacement of the existing information center is being evaluated in a separate development concept plan for Hole-in-the-Wall. One objective of this development concept planning effort is to design and locate facilities to be operationally efficient in their purpose, provide unstaffed visitor information, but be visually secondary and complementary to the beauty of the natural resources.

The park will continue to maintain and enhance information on Mojave via the National Park Service website (www.nps.gov/moja), and will continue to explore new opportunities for information distribution as technology develops. Mojave is also a partner in a project to provide interagency desert-wide visitor information on the internet at a single site (www.californiadesert.gov).

Interpretive Facilities

Kelso Depot

Background

The Kelso Depot offers considerable potential as the main interpretive and visitor contact facility for the Preserve. The building has two main floors above ground, and a basement space. Total area in the



building is 11,500 square feet. Currently, it is not accessible to the public, and it is interpreted only by a couple of information panels around the building. The building was abandoned by Union Pacific in 1985 and has been damaged over the ensuing years by vandalism, removal of asbestos, earthquakes, and fifteen years of nonuse. Most of the historic furnishings were removed prior to NPS ownership. Modifications over the years have resulted in alteration of the historic fabric in some parts of the building, such as the addition of modern drywall, new wall partitions and drop ceilings. Most of the historic landscaping has long since died or been removed, except for six large date palms. Parking is on denuded grounds to the west and north of the building. Bricks from the front of the building were removed by BLM and stored in a large steel container onsite. The site has easy access to electrical power, but telephone lines are limited at this time. Water and sewer are no longer available and must be developed if the building is to serve the public as a visitor center. Portable toilets were installed by the NPS in 1995 due to the high use in the area.

The depot is within a 100-year floodplain. The National Park Service conducted a floodplain study in 1997 to determine the potential threat of flooding to the building. Mitigating measures such as armoring the dike north of the depot, elevating a portion of Kelbaker Road so as to fill in the gap in the dike that the road creates, or establishing an advanced warning system could reasonably address concerns for the protection of human life and government property.

Plan Actions

Kelso Depot will be rehabilitated for use as a museum and interpretive facility. The exterior of the building will be restored to its pre-1942 appearance, as will certain interior spaces such as the Beanery, the ticket office, the conductor's room and two overnight lodging rooms. Other spaces inside the depot will be rehabilitated for visitor information displays, natural and cultural exhibits, audiovi-

sual exhibits, an auditorium, public restrooms, publication sales, working space for staff, conference/classroom space, and storage space. The landscaping will be rehabilitated to approximate the historic scene as much as possible, recognizing the need for parking, restrooms and concern for water conservation. The building will be fully accessible and provide the following primary functions:

- Visitor information and interpretation of the Preserve's natural and cultural resources
- Space for interpretive talks, videos, slide shows and educational classes
- Some NPS administrative offices, workspace and storage for interpretive and cooperating association functions
- Space for a Natural History Association sales outlet where books and other educational materials relating to Mojave can be purchased.
- Some overnight rooms for volunteers, researchers or employees
- Limited food sales initially, but potential for full service restaurant at some point in the future

Besides the depot itself, the following are other key elements of the Kelso Depot rehabilitation and visitor center strategy. The development concept plan for the Kelso Depot provides a more complete description of these concepts, as well as discussions of alternative layouts and building schematics:

- Evaluate the town of Kelso for possible nomination as a historic district
- Seek to acquire (or develop partnerships) the Kelso schoolhouse and general store for possible preservation and interpretation
- Seek to acquire adjacent private lands to provide adequate space for parking and exhibits and to allow the protection of the cultural landscape of the Kelso area
- Take necessary steps to secure flood dike to ensure protection of the depot during flood events
- Install water well and septic system
- Evaluate possible related interpretation of historic iron ore loading bin and Vulcan Mine

Soda Springs (Zzyzx)

Background

The visitor shade structure, restroom, and parking lot have been reconstructed or replaced to remove structurally unsafe and nonfunctional facilities. A self-guided trail and some interpretive panels provide some basic information on some aspects of the history and current use. A few interpretive panels and a self-guided trail currently provide limited visitor information. In 2000, the NPS replaced an existing interpretive shade structure, comfort station and parking lot. These facilities will serve as the focal point for visitors coming to Zzyzx for day use.

Interpretive opportunities at this historic desert oasis abound. This site has been used for hundreds of years, from early Native Americans, to a stage stop and public bathing site in the 1870s, to the Tonopah and Tidewater Railroad in the early 1900s, to a religious group attempting to mine gold in the nearby hills in 1914, to Curtis Springer and his Zzyzx Mineral Springs and Health Resort, and finally to its current education and research use for the last twenty years. The area also provides habitat for the endangered Mohave tui chub and offers a unique opportunity for visitors to experience and learn about the importance and diversity of desert wetland/riparian habitat.

Plan Actions

Mojave will explore opportunities for expanded day use trails in the area, and will expand the existing self-guided interpretive program and exhibits. These opportunities will be developed through the long-range interpretive plan and site specific planning. Occasional ranger-led programs may be provided. Planning, visitor use and interpretive programs in this area will be coordinated with California State University. Where possible, the ongoing desert research will be interpreted to the public.

Hole-in-the-Wall

Background

Existing interpretive facilities are limited to basic information and displays in the existing visitor information center. Maps and book sales are also available. Seasonal staff or volunteers open the building during the spring, summer and fall. A couple of existing interpretive panels are also in place at the top of the Rings Trail.

Plan Actions

This proposal will be implemented to improve visitor information about recreational activities in the area, and will provide some interpretation of the natural and cultural resources. The NPS will develop a site-specific management plan for the Hole-in-the-Wall area to address visitor and administrative facilities.

This effort will be guided by the following goals:

- Visitor and administrative facilities will be separated and their footprint on the landscape will be minimized. Sustainable practices will be fully incorporated as buildings are replaced or as opportunities arise.
- Overnight facilities will be relocated outside of active 100-year flood channels or warning/protective systems installed.



- Information will be provided in ways to interpret the natural and cultural history of the area regardless of the staffing of the information center.
- Disturbed areas will be restored with native vegetation and interpretive information on desert disturbance and restoration will be developed.
- The existing picnic area and group/equestrian sites will be evaluated for possible relocation.
- New trail opportunities to expand visitor use activities in the area will be considered.

Signing and Orientation

Background

Existing signs in the Preserve can be categorized as directional, regulatory and informational. The county posts the regulatory signs (i.e. speed limits) along the main travel routes. Directional signs, providing mileages and directions to specific sites, have been posted by the county, the National Park Service and the state. The park has recently erected major entrance monuments at each of the six paved entrances, marking the entrances into the Preserve, and including an information panel with a map and general information. Caltrans has also recently erected Mojave National Preserve signs along I-15 and I-40 at each of the entrances. Informational signs mark points of interest and visitor facilities or may provide interpretive information about a particular resource. Many such signs existed when the Park Service began administering the area in 1994. Most of the signs marking the visitor facilities have been replaced with standard NPS signs, reflecting the new Mojave National Preserve designation.

Plan Actions

The philosophy on signs will be for them to be unobtrusive, used sparingly, and blend with the natural environment so that the undeveloped wild character and sense of exploration remains. The National Park Service will prepare a sign plan to ensure that this vision will be carried out. The sign plan will provide for directional signs to major points of interest, which are typically located on the major roads that carry most of the traffic. Secondary or backcountry roads will remain relatively free of directional signs. The intention will be to keep visitors from becoming lost. Efforts will be made in the sign plan to use international symbols or other appropriate methods to keep signs simple and easily understood for the broad spectrum of visitors entering the parks. Because the desert can be unforgiving in the summer, emphasis will be placed in the sign plan for signs that could help protect the health and safety of visitors unfamiliar with the desert.



A variety of portable media will also be used to minimize the proliferation of signs. Technological media such as compact disks and audiotapes will be provided to give visitors portable information. Brochures and other printed material will support a self-guiding interpretive program. Information will be provided in several languages and for various learning styles. These items might be part of an advance information program. NPS employees will emphasize visitor safety and resource protection.

NPS staff will develop an interpretive plan that will guide the overall direction and emphasis of the interpretive and educational programs. The overall objective will be to support the vision of visitors

being able to experience a land relatively free of development and improvements, with opportunities to feel a sense of exploration and discovery. The staff will constantly seek to understand and respond to visitor needs while striving to improve interpretive programs and facilities. To help accomplish this goal, visitor studies will be conducted every 5–10 years or as needed to gain the appropriate information (as funds are available). The National Park Service will work with California State Parks to develop a coordinated interpretive program that will offer information on Providence Mountains State Recreation Area and the Mojave National Preserve.

Existing interpretive media will be analyzed for accuracy, effectiveness, and appropriateness; some might be removed or replaced. Interpretive services will be supported by nonpersonal media such as wayside exhibits, brochures, and publications. Personal services such as ranger-led tours and nature walks will also be available.

Wayside Exhibits

Background

The BLM installed interpretive panels at Kelso Dunes, Zzyzx, Hole-in-the-Wall, Ft. Piute, Rock Springs, and the Teutonia Peak trailhead. The National Park Service has also installed an interpretive panel at the Kelso Depot.

Plan Actions

A minimal number of road or trailside interpretive wayside panels will be installed. Displays typically will be placed along paved or other heavily traveled roads to interpret significant and interesting resources visible from each area. Safety and orientation panels will be installed at key trailheads, developed campgrounds and other high visitor use areas such as Kelso Dunes. Care will be taken to make and keep these displays as unobtrusive as possible and secondary to the landscape they were interpreting. The objective behind this proposal is to provide a landscape relatively free of exhibits or signs so that visitors could experience a sense of exploration and discovery. Signs will be posted in parking areas asking visitors to check for tortoises under their vehicles before leaving parking areas.

Developed Campgrounds

Background

Mojave National Preserve has two developed campgrounds, Hole-in-the-Wall and Mid Hills. There is no fee to enter Mojave National Preserve, but a fee is charged at Hole-in-the-Wall and Mid Hills campgrounds for the use of an individual or group campground.

Hole-in-the-Wall contains 35 campsites, water, vault toilets, an RV dump station and a campground host site. It is in very good condition. All campsites are accessible to visitors with disabilities and are designed for access by large recreational vehicles. The water system has recently been refurbished to provide better service. There is also a group camping facility with equestrian facilities at Hole-in-the-Wall.

The Mid Hills campground contains 26 campsites. It was not designed for larger vehicles, but serves tent campers and those with small recreational vehicles. The Mid Hills water system has been completely replaced and new vault toilets were installed in late 1997. Picnic tables and fire grates have also been upgraded.

California State Parks also operates a small, six-site campground at Mitchell Caverns.

Plan Actions

Mojave will retain the two existing developed campgrounds at Mid Hills and Hole-in-the-Wall that together provide 61 campsites. Ongoing improvements to existing campgrounds will continue. Campsites and trails in the Mid Hills campground will be redesigned to increase the level of accessibility for people with disabilities and to resolve other concerns. Campsite densities will not be increased. If visitation significantly increased to the point where many visitors were being turned away during most of the peak season, a campsite reservation system will be considered.

One new semi-developed campground with fewer services and campsites (approximately 15) will be considered in a separate planning effort.

Research and Education Centers

This section specifically addresses ownership and maintenance of facilities at existing research and education centers in Mojave National Preserve. The "Partnership" section of this plan addresses the NPS education and research mission and mandate, and partnership opportunities with universities to fulfill this mission. Use of the park as a natural laboratory for scientific study, research permits and collections are addressed under "Research and Educational Activities."

Soda Springs Desert Study Center

Background

Soda Springs Desert Study Center is located a few miles south of I-15 off the Zzyzx exit, which is approximately 8 miles south of Baker. It is home to the Desert Studies Consortium, part of the California State University system. The facility, operated under an agreement with the National Park Service, offers dormitory-like lodging and classroom space for researchers and students attending field classes and extended education courses. Solar, diesel, and wind power provide electricity to the buildings. The facility consists of a complex of historic and modern buildings all located on National Park Service property. The historic buildings and site features have been nominated for the National Register of Historic Places as a historic district. There are 12 buildings, 3 sites, and 11 structures that have been identified as contributing elements to the historic setting. A total of 12 buildings/structures that have not been identified as contributing to the historic setting.

All the buildings (except mobile ones brought in by California State University) are federal property. The consortium has repaired and maintained most of the buildings and site features over the years to keep them in good condition. The site, structures, and buildings are to be managed through a cooperative agreement being developed between the consortium and the National Park Service. A caretaker associated with the consortium lives at the facility.

An unstaffed visitor information shade structure with restrooms and parking is located at the entrance to the education center. A path with interpretive signs leads visitors from the shade structure and around the pond directly to the east.

A fence and gate south of the facility keeps most trespass vehicles from the adjacent BLM Rasor off highway vehicle open area out of the facilities, but on occasion vehicles illegally bypass the fence and come across the dry lakebed, which has been designated as wilderness.

Plan Actions

The California Desert Protection Act (section 514) calls for a cooperative management agreement between the National Park Service and the California State University to manage facilities and provide desert research and education at the Soda Springs Desert Study Center. This center operates at Zzyzx in facilities and land owned by the federal government. The cooperative agreement will define use and maintenance responsibilities of the buildings and other facilities between CSU and the NPS. Buildings not routinely used by CSU may be considered for park offices or housing, especially where an NPS presence will assist in supporting and protecting resources and provide staff to interact with public not associated with CSU programs.

By virtue of its inclusion within the Mojave National Preserve, and as specified in law, the area must be managed consistent with federal laws and NPS policy and regulations. Many historic structures are located at this desert oasis, which has served as a desert research and educational facility for over twenty years. Historic structures, cultural landscapes, and other cultural resources must be maintained in accordance with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation. The NPS and the public could benefit from a continued partnership with CSU to provide for continued maintenance and security of the facilities, offering of educational activities on desert resources for the public, and to attract scientific interests to pursue research in the Preserve.

Granite Mountains Natural Reserve

Background

The Granite Mountains Natural Reserve is part of the University of California natural reserve system and is dedicated to ecological research and education. The purpose of these reserves is to manage, protect and preserve sites that are undisturbed examples of California's extraordinary and diverse habitats for long term scientific research and for public education. On federal lands, this State purpose must be balanced with the park purpose and mission of protecting resources unimpaired for future generations and to provide for visitor enjoyment. The reserve serves as a classroom, laboratory, and ecosystem library for field studies in natural sciences. Every year, field classes and researchers come to the reserve. With the passage of the California Desert Protection Act, Congress designated 9,000 acres of the Mojave National Preserve as the Granite Mountains Natural Reserve. Within the 9,000 acres, approximately 2,200 acres are owned by the University of California. Housing, classroom facilities, a library, and office space is constructed and maintained by University of California, Riverside (UCR) on state land. No facilities are located on NPS land. UCR has sole authority for the use and maintenance of their facilities. The NPS and UCR have signed a cooperative agreement for the management and visitor use of the reserve.

Plan Actions

Section 513 of the CDPA designated the Granite Mountains Natural Reserve and called for a cooperative management agreement between the National Park Service and University of California to manage facilities and provide desert research and education. That agreement was signed by the UC Riverside Chancellor and the National Park Service.

The National Park Service will cooperate with the Reserve to develop informational kiosks for key entry points to provide information to the visiting public about the purpose of the Reserve, the NPS mission, and the need to exercise caution when visiting the area so as to not inadvertently disturb research projects.

Park Support Facilities

The National Park Service intends to locate some facilities outside the Preserve, consistent with the existing management direction and proposed actions identified in this plan. This will include, but is not limited to, the headquarters site in Barstow, visitor facilities in Baker and Needles and possibly employee housing, offices or maintenance shops in Baker or Essex.

Headquarters

Background

The headquarters for Mojave National Preserve currently occupies leased office space in the Mercado Mall (222 East Main Street) in Barstow, California. Other suites are available for leasing, but secured parking for government vehicle storage and warehouse space is unavailable at this site. In 2000, Mojave initiated steps through the General Services Administration to have new office space built to suit the needs of the headquarters operation. Commercial support services and housing are readily available in Barstow, Victorville, and surrounding communities.

Plan Action

Headquarters for Mojave National Preserve will continue to be located in the Barstow area. Space will be provided for the superintendent's staff, administration, planning, visitor services, resource management, special uses, and other central administrative offices. In addition, Mojave is co-locating with desert management partners (Department of Defense, Mojave Desert Ecosystem Program, Department of the Interior and Department of Defense Desert Manager coordinators and the U.S. Fish and Wildlife Service) to improve public access to agencies and information.

Field Offices

Background

Field offices are needed to provide working space for park rangers, resource and maintenance staff. The information center at Hole-in the-Wall is also used as a field office for NPS staff. A visitor information center in Needles is in a leased building and also serves as office space for ranger staff. A small building was constructed in Baker in early 1998 for use as an office for interpretive, visitor protection, and maintenance staff. A mobile home in Kelso is used as a residence/office for a visitor protection ranger.

Plan Actions

Similar offices, such as the one built in Baker, are needed at other locations in the Preserve. The specific location and design of these buildings will be addressed in site specific development concept plans for these areas. Areas of prime consideration include Cima, Kelso, Lanfair Valley and the Hole-in-the-Wall vicinity. Sites with other existing development, electrical and phone service would receive first consideration. Facilities acquired from willing sellers will be evaluated in accordance with NPS policies for adaptive use as administrative sites.

Maintenance Facilities

Background

An office building was constructed in early 1998 in the abandoned Caltrans yard in Baker. Maintenance and visitor protection staff currently have offices in this building. The yard has several small structures that are used for storage and covered parking. A small carpenter shop was constructed in one of the empty buildings. The maintenance yard has plenty of open space to be used for vehicle and material storage. Some maintenance work is also based out of the Hole-in-the-Wall fire center.

A central maintenance facility is needed to provide storage and work space for maintenance activities. Baker currently serves as the interim central maintenance operation, taking care of most short-term maintenance needs. In late 2001, a maintenance area was being added to the new interagency fire center (see below). Other facilities such as shops, enclosed storage, and offices are also being constructed alongside this facility.

Plan Actions

The National Park Service will consider the option of contracting for some maintenance services if it will make economic and practical sense. General areas

that will be considered for a central maintenance function include Cima, Hole-in-the-Wall vicinity, Lanfair Valley and Essex.

Interagency Fire Center

Background

As of October 2001, the wildland fire control operation at Hole-in-the-Wall included a dormitory, office space, a vehicle storage building, and other storage buildings. Electricity is provided by a diesel generator. The Hole-in-the-Wall fire center dormitory, which is in fair to poor condition, houses 12 employees. Current staffing plans call for 15 employees in 1998 and up to 20 employees in the future, which means the dormitory is inadequate. Staff offices are also located in this building. The National Park Service added aboveground storage tanks for gasoline and diesel fuel. A dirt helicopter pad located just outside the fire center compound does not meet current agency standards. When used in the past, the access road to the group camping and equestrian areas was blocked.

Facilities for a seasonal interagency fire crew of fifteen, two large fire trucks, and support vehicles and equipment are necessary in close proximity to the historical fire occurrence. The fire crew responds to wildland fires throughout the Preserve, and extending south to Joshua Tree National Park and north to about Shoshone. Natural lightning caused fires occur primarily in the line of mountains extending from Granite Mountains to the Castle Peaks on the Nevada state line. In addition, vehicle fires along interstates 15 and 40 during the hot summer months threaten park resources. The fire crews respond to the vehicle fires not to suppress the vehicle fire but to ensure it does not spread to wildland.

Plan Actions

Wildland fire management operations will continue to be managed in cooperation with the Bureau of Land Management. An existing dormitory, office and garage at Hole-in-the-Wall are being replaced due to their poor condition. A value analysis process was utilized to consider the advantages of various building designs and about twelve alternative site locations. A separate development concept plan and environmental assessment for the entire Hole-in-the-Wall area is currently being developed. This plan will consider other visitor facilities. Construction to replace the existing fire center began in October 2001.

Employee Housing

Background

Most employees are not offered government housing, and must find their own residence on their own based on their assigned duty station location. However, some field positions, such as protection rangers and maintenance staff may be duty stationed at locations inside the park in order to have an onsite presence. It is also necessary to have short response times for these positions in the event of an emergency.

NPS employees find housing in many different ways. At headquarters in Barstow, employees obtain housing in the local communities. Employees in Baker may have the option of living in one of the five doublewide trailers once owned by the California Department of Transportation (Caltrans) or renting space in the community. Rentals are limited in Baker. The trailers, which are in an old Caltrans maintenance yard on BLM-managed federal land at the north end of town, are in fair to good condition. The NPS has upgraded them for occupation.

Kelso has a number of doublewide trailers that the railroad uses to house employees. Not all of the trailers have been occupied, and the National Park Service was able to rent one of them for employee housing. The stability of this housing option is uncertain. The National Park Service also owns a home northeast of the Hole-in-the-Wall ranger station off Black Canyon Road. The home is in poor condition and is undergoing major rehabilitation before it can be occupied. The visitor contact center at Hole-in-the-Wall provides a small efficiency apartment for one person. Existing housing in the community of Needles meets employee needs.

Plan Actions

When staffing levels exceed available NPS and private housing in Baker, new housing will be constructed to replace the existing double-wide trailers. Construction of new housing in Baker outside the existing yard will require appropriate approval and will depend on the availability of funding to buy private land to construct housing. The NPS will also consider leases or similar agreements with private parties to ensure housing for employees. Until then, the National Park Service will continue to upgrade the existing double-wide trailers where possible. NPS employee housing will not be provided in Needles or Barstow; rather, employees will find housing on the open market.

If existing homes in the Preserve were acquired by government purchase or donation, the park will evaluate the historical and aesthetic value, management needs, and the cost effectiveness of bringing these homes up to current standards. Standards and guidelines will include current NPS housing guidelines, building codes, historic preservation guidelines and standards, accessibility and energy conservation. Housing might be renovated, replaced, stabilized or removed as appropriate.

Before upgrading or renovating existing acquired homes or constructing new housing for employees, the National Park Service will evaluate the location of the housing and determine whether private housing within a one hour drive could serve the same need, and whether the total housing units are the minimum necessary to meet the mission of the Preserve. New housing construction will be considered when the evaluation step determined that renovation was not practical from an economical or operational standpoint and that the home had no historic significance.

Additional housing for employees in the Kelso area will also be pursued to support park programs. Housing may also be provided at the Hole-in-the-Wall area as positions are filled and adequate housing within a one-hour drive is unavailable outside the Preserve. A housing management plan is being prepared to consider the number and types of units necessary to meet the mission of the Preserve.

Access and Circulation

Background

Mojave National Preserve offers visitors a broad range of access options. Existing developed roads range from unmaintained primitive jeep roads to paved highways. A network of over 2,000 miles of roads is available. Hundreds of miles of old roads in wilderness, as well as developed hiking trails, and cross-country hiking provide foot and horseback access to all of the diverse and remote reaches of the Preserve.

In addition, the Union Pacific railroad traverses the center of the Preserve and provides a unique opportunity for seeing some of the inaccessible portions of the area, especially through the Devil's Playground. Train traffic on the Union Pacific tracks is also very active with up to 30 trains per day.

The region contains several highways that serve as major transportation corridors through the state. Interstates 40 and 15 function as major routes between Los Angeles and southern California and many states to the east.

Kelso Depot is located at the Preserve's most used crossroad, where the 1997 average was 172 cars per day. Weekend traffic levels are estimated as being much higher but exact figures are not available.

Old Route 66 (National Trails Highway) runs through the south end of the planning area between Needles and Ludlow. The road is maintained by the county of San Bernardino. An increasing number of travelers have been attracted to this road because of the American culture and nostalgia attached to this highway. Movies such as *Bagdad Cafe* and other media have raised awareness to the point where even international visitors are driving the highway. Many cities and businesses along the highway are promoting Route 66 for the potential revenues from tourism. The highway has been nominated for the National Register of Historic Places.

Traffic has increased on local paved and maintained roads over the past years. The roads carry travelers north of Palm Springs, through Mojave National Preserve onto I-15, then back again. It is assumed that most of these travelers are headed to Las Vegas for the weekend.

Roads

Plan Actions

No major changes will be made to the existing roads. Some limited improvement of heavily used roads might be undertaken when funds permitted, such as the addition of crushed rock to the Kelso Dunes and Soda Springs access roads. Vehicle use will be limited to street legal vehicles. No offroad driving will be permitted. Driving in desert washes is not permitted unless they are shown as a developed road on park maps. These routes are usually easily identified on the ground, even after storms, due to the distinctive lack of vegetation from years of use forming a road alignment. Tracks caused from one or two vehicle passes do not establish a road.

To provide detailed guidance for managing the Preserve's road system, a road management plan will be prepared to evaluate the need for duplicate road sections, road surface conditions, and the appropriate level of maintenance. The management philosophy will be to enhance the visitor experience while providing for safe and efficient accommodation of park visitors and also protecting the natural and cultural environment. It also will include the

need to provide a road system that will allow for a variety of driving experiences consistent with the purpose and significance statements, as well as the desired future conditions for the Preserve.

Paved Roads

Background

Mojave National Preserve has six main paved entryways: Kelbaker Road, Cima Road, and Ivanpah Road off of I-15 on the north side; Kelbaker Road and Essex Road off I-40, and Goffs/Lanfair Road off of Route 66 on the south side. All these roads generally lead visitors in a north-south orientation with Kelso as a common point for four of these roads. The roads are all suitable for standard sedans and are in fair to good condition. Among these roads, Kelbaker road from I-40 to Kelso, Kelso-Cima Road and Morning Star Mine Road receives the heaviest use. Most traffic occurs on weekends as many drivers use these roads to travel to and from Las Vegas and Palm Springs.

The National Park Service does not maintain any paved roads at this time. San Bernardino County maintains an estimated 255 miles of road in the Preserve of which 176 miles is paved.

A road inventory by the county in 1996 indicated that there are approximately 2,180 miles of roads within the Preserve. Approximately 345 miles of roads were closed to mechanized and motorized use by Congressional designation of wilderness in the 1994 California Desert Protection Act. Roads were created over many years for access to utility corridors, ranching improvements, private property, mines, homesteading, favorite hunting or camping areas, viewpoints and for a variety of other reasons.

Plan Actions

The county of San Bernardino will continue to maintain the paved roads throughout the Preserve under a cooperative agreement with the NPS. An inventory of these roads, totaling about 176 miles, will be included in the cooperative agreement. In accordance with NPS regulations at 36 CFR 4.2.1, and to assure the safety of visitors and protection of park resources. Signing along these roads will be a joint responsibility, with the county installing and maintaining most regulatory signs, while the NPS will install and maintain interpretive and directional signs.

Maintained Dirt Roads

Background

The National Park Service maintains approximately 20 miles of dirt roads, including the Wildhorse Canyon, Kelso Dunes (first three miles), and the Zzyzx access road. The county maintains the unpaved Black Canyon Road, Lanfair Valley Road and Cedar Canyon Road (approximately 79 miles), which are normally suitable for use by passenger cars, except for occasional flood damage.

Plan Actions

The county of San Bernardino will continue to maintain the graded dirt Cedar Canyon, Black Canyon, Ivanpah, and Lanfair Valley roads (approximately 79 miles). The National Park Service maintains graded dirt access roads to Zzyzx, Kelso Dunes and Wild Horse Canyon road (approximately 20 miles). The cooperative agreement with the county will identify limited existing sites for equipment and materials storage, and specify road maintenance standards, lengths and widths. As with paved roads, signing along these roads will be a joint responsibility, with the county installing and maintaining most regulatory signs, while the NPS will install and maintain interpretive and directional signs.

Backcountry Dirt Roads

Background

The Preserve also has hundreds of miles of unmaintained dirt roads that traverse the backcountry. The condition of these roads varies considerably, from sometimes being passable by a passenger car, to barely suitable for a four-wheel drive vehicle. No regular maintenance is conducted by the National Park Service or San Bernardino County on these roads, although emergency repairs may be conducted.

Plan Actions

High-clearance and four-wheel-drive roads will not be routinely maintained by the Preserve or the County. However, emergency repairs or limited maintenance might be undertaken by the NPS or volunteer groups under cooperative agreements. Some private landowners that reside in the Preserve or organized groups may do limited maintenance on certain roads such as dragging the road or using a small tractor. Where these roads cross federal land, the NPS will require a permit for such routine maintenance. This permit is necessary to assure that no tortoise is harmed by the activity, and the maintenance is done in accordance with NPS standards. Backcountry users that encounter washed out roads

during their visit may make emergency repairs using hand tools, if required for them to exit an area.

Some pre-existing backcountry roads were included in wilderness areas by Congress and are no longer open to mechanized or motorized use. These routes are posted with carsonite or wooden signs and may not be used by mechanized or motorized vehicles of any kind, including bicycles, pursuant to the Wilderness Act.

Mojave Road

Background

The Mojave Road is a historic route that traverses the Preserve for about 60 miles from Ft. Piute to Zzyzx. The road was used from 1857–1883, abandoned, and not regularly used again until the early 1970s. A series of guidebooks authored by Dennis Casebier provide directions and interpretation of the cultural and natural history along the route. See the cultural resource section for a description of the road history. The existing alignment follows the historic road in some sections, while in others it parallels the old road section on a newer road. The section from old Ft. Piute through the canyon to the top of the ridge has not been used by vehicles in many years and retains much of its historic character. Most of the route is suitable only for high clearance or four-wheel drive vehicles. Maintenance over the years has been performed by user groups, such as the Friends of the Mojave Road.

Plan Actions

The Mojave Road will remain open for street legal vehicles, mountain bikes, equestrians, and hikers. Interpretive information will be available at visitor and information centers to enhance the public's understanding of features along the road. Opportunities to interpret significant features along the road will be considered. Information will stress proper low impact camping and travel techniques. The National Park Service will consider granting business permits for commercial guided tours of the road to provide visitors without the appropriate vehicle an opportunity to experience this resource.

Maintenance of the Mojave Road will be considered in a road management plan for the Preserve. Under that plan, general guidance will be given to allow the Mojave Road to develop its own character with minor maintenance action until the plan was completed. Maintenance generally will be limited to repairs needed to allow continued passage by vehicles currently using the road. The National Park Service will seek partnerships with volunteer groups to help with maintenance of the road and other features in the road corridor.

Large groups will be required to camp at designated areas and obtain a special use permit (see Groups and Organized Events section for details). Areas that will be considered for large group use are Grotto Hills, Willow Wash, Seventeen Mile Point, the southeastern edge of Soda Lake in the Cow Hole Mountains, and the area know as the Granites, which are southwest of Soda Lake. The number of large groups using the road will be managed through the special use permit system. The intent of this action will be to keep adverse impacts low and avoid conflicting demands for camping space. This proposal will be further addressed under a future backcountry or visitor use management plan.

Nomination forms are being prepared to nominate the historic Mojave Road to the National Register of Historic Places. The National Park Service will strive to maintain the experience of solitude, adventure, and a sense of exploration for visitors traveling the Mojave Road. NPS rangers will patrol the road to offer emergency assistance and protect cultural and natural resources. The National Park Service will work to educate unprepared visitors about the rough character of the road. The primary guides for route finding will be the traditional rock cairns, along with maps, guidebooks, or other media.

Camping along the Mojave Road will be subject to management decisions made for roadside camping. Baseline information will be collected to determine use trends, the physical condition of the road, and conditions of natural and cultural resources adjacent to the road and at associated camping areas. When high use levels or inappropriate visitor behavior caused unacceptable impacts on the road or resources or negatively affected the quality of the visitor's experience, management actions will be taken to correct these problems. Standards for visitor use and resource conditions will be established after baseline information was gathered and evaluated in the backcountry or visitor use management plan.

Sand and Gravel for Road Maintenance

Background

Building materials (sand, gravel, and cinders), geothermal resources, and oil and gas on federal lands in the Preserve are not available for extraction or sale. There are no existing sites in the Preserve that are currently used for obtaining sand and gravel for road maintenance. Some previously used sites

do exist and need to be evaluated for reclamation potential.

Plan Actions

Use of borrow materials for road maintenance must conform to existing NPS policy, which requires materials to be obtained from sources outside the Preserve unless economically infeasible. The Preserve will allow the collection and stockpiling of material that washes onto roads during flood events for emergency use in repairing damage. This collection may occur in the active wash within 100 feet of the road centerline for the maintained paved and dirt roads, but only after a survey of the area certifies that no desert tortoise burrows would be harmed. Material accumulated on the active road surface may be reused or stockpiled without a survey. Stockpiling of such material may only occur at specified locations identified in the cooperative agreement.

Trails

Background

Few surface water sources in the Preserve are suitable to support extensive backpacking, but there are many opportunities for day hiking. There are two developed trails, one between the Mid Hills and Hole-in-the-Wall campgrounds, which is 8 miles one way. The second trail leads to Teutonia Peak from Cima Road and is 2 miles one way. Piute Canyon trail is an undeveloped trail, although an evident footpath established by use exists partway up the canyon. Cross-country hiking is also a traditional way of using the desert. Existing roads that are now included within wilderness areas are closed to use by mechanized vehicles, but open for hiking and equestrian use, including use by wheelchairs in accordance with NPS policy. All nonwilderness roads are open to hiking, bicycles, horses and licensed motorized vehicles.

A recreational driving trail also traverses the Preserve in several locations. The Heritage Trail is a collection of 660 miles of existing roads (mostly outside the Preserve) for which a series of guidebooks has been published to provide a recreational driving experience in the backcountry of the desert. This trail is still open for those visitors who prefer a driving experience in the backcountry, although some segments were affected by wilderness designation.

Plan Actions

The backcountry/wilderness management plan will address trail use by hikers, equestrians, bicycles, and visitors with disabilities. The plan will identify the type and intensity of trail development, including the number of signs, trails, and trailheads, long distance trails extending into Bureau of Land Management or California State Parks and other jurisdictions, and anticipated maintenance levels for developed trails. The plan will be guided by the goal of increasing the diversity of recreational opportunities for the above activities in appropriate locations. Until completion of the plan, all trails will be open for use by hikers and equestrians, except where management problems were identified and restrictions needed to be established.

Previous roads that are now included within wilderness areas are closed to use by mechanized and motorized vehicles, but are open for other uses, including use by wheelchairs in accordance with NPS policy. During the trail planning effort, these roads will be evaluated for restoration or possible conversion to single track hiking trails.

Rights-of-way and Easements

Background

There are approximately 125 rights-of-way and/or easements within the Preserve. Some of these are entirely within the boundary, while others enter the Preserve and may terminate within or pass through the Preserve. Some of the existing rights-of-way and/or easements are listed below.

Plan Actions

Additional research and record checking over the next several years will be conducted in order to adequately document all the existing rights-of-way/easements and develop an administration plan. Mojave will convert existing rights-of-way to NPS standards and regulations wherever possible. If the right-of-way is no longer needed or its use is being converted to new technology, Mojave will seek to relocate the operation outside the Preserve. Abandoned rights-of-way will be restored by their holders. In addition, the NPS will develop a procedure to administer annual fee/rental collection. At present, the BLM collects and retains all annual fees/rentals associated with rights-of-ways/ easements in the Preserve. In some instances acquisition of the interest may be appropriate or warranted.

All proposed changes will be reviewed for impacts to the environment and all grantees of rights-of-way/easements will be educated regarding environmental concerns relevant to their authorized use. Agreements will be sought where necessary to protect Preserve resources.

Railroads

Background

The Union Pacific (UP) railroad line traverses the center of the Preserve for 91 miles, from Nipton, through Cima and Kelso, and to the southern edge of Soda Lake. This railroad right-of-way (ROW) is a 200-foot wide corridor that was granted by Congress in 1875. The railroad operates as a major regional freight corridor to southern California, servicing as many as 30 freight trains per day. UP also owns land in the Kelso Depot area and houses a small crew there in several mobile homes.

Passenger train service through the Preserve was discontinued by Amtrak in 1997. The line through the Preserve is currently a single set of tracks, with five sidings for passing located between Kelso and Cima. UP is currently pursuing permits to construct a second set of tracks parallel to the existing set, extending from Kelso Depot to Cima. This project would allow the return of passenger service from Los Angeles to Las Vegas, provided by Amtrak. Review of this double-tracking proposed is occurring under separate compliance.

Burlington Northern and Santa Fe railroad also operates a major railroad line that parallels the southern boundary of the Preserve in some locations. East of Goffs the railroad right-of-way forms the Preserve boundary, with the tracks outside the Preserve. This railroad does not enter the Preserve, but operations adjacent to the Preserve may impact park resources.

Plan Actions

If passenger train service resumes, the National Park Service will coordinate with Amtrak on the feasibility of placing NPS information and interpreters on trains and allowing passengers to stop at the Kelso Depot. The National Park Service will support the communities of Barstow, Nipton, and Primm in the establishing passenger train stops at these locations, with the anticipation of also establishing a stop at the Kelso Depot. Where feasible and appropriate, the National Park Service will also support the concept of using rail as an alternative form of transportation for visitors entering the Preserve.

The park will pursue cooperative agreements with both railroads to address issues such as spill response, emergency operations, permitting, maintenance of dikes that extend onto federal lands, use of pesticides and herbicides, and other relevant issues.

Roads

Most of the roads in the Preserve were constructed without rights-of-ways or easements being granted. The county of San Bernardino contends that all established roads in the Preserve are valid RS-2477 rights-of-ways. Revised Statute 2477 concerns rights-of-way established across public lands under the Mining Act of 1866. Although repealed by Congress in 1976 with enactment of the Federal Land Policy and Management Act, routes that existed prior to October 21, 1976 may "qualify" as an RS-2477 right-of-way. However, a right-of-way asserted under RS-2477 is not automatically assumed to be valid. Regardless of whether a party can successfully assert a valid claim to a right-of-way across national park land, the NPS retains the authority to regulate use of an RS-2477 right-of-way. *See U.S. v. Vogler*, 859 F.2d 638, 642 (9th Cir. 1988).

Wildlife Guzzlers

Background

Approximately 130 small game and six big game guzzlers were installed throughout the Preserve by agencies and interest groups over the last 60 years. The guzzlers were developed by the California Department of Fish and Game, the Bureau of Land Management, and volunteers before the area was designated a Preserve in 1994. The artificial waters were installed to enhance or replace natural waters for wildlife use.

A guzzler is a permanent self-filling water catchment. Most are similar to a cistern and are simple, low-maintenance devices that are essentially tanks filled by rain-collecting aprons (Giles 1971). Guzzlers are installed and used to provide water for hunted species in arid areas. Nongame species such as reptiles, songbirds, and insects also use these manufactured devices. Birds enter the covered tank through an opening and walk down a ramp to the



water. For bighorn sheep, piping extends from the storage tank to a drinking trough, which has a float valve to regulate the flow.

Plan Actions

The National Park Service will examine the use of and need for all big game and small game guzzlers. Guzzlers will be retained for native wildlife if they are found to be necessary to replace water lost due to actions taken by previous human activities. These developed water sites will be retained to allow native populations of plants and animals to return to or remain at a previously undisturbed population level. Simultaneously, with the retention of these developed water sites, the National Park Service will actively begin to restore natural water sources to be self-sustaining. When a water source becomes self-sustaining, the artificial facility will be removed. The National Park Service has no jurisdiction over developed water sites on private land. The park will modify existing water developments (mostly small game guzzlers) to prevent desert tortoise from gaining access and to ensure they are able to escape from them.

Motorized access to guzzlers in wilderness will be considered extraordinary and will not be routinely allowed unless unusual circumstances warrant it. These instances will be considered on a case-by-case basis. A minimum tool determination will be used prior to granting approval for motorized/mechanical equipment use within wilderness. Mojave National Preserve will follow the "Principles for Wilderness Management in the California Desert," the Wilderness Act, and the California Desert Protection act in the administration of the park's wilderness areas. Routine access for monitoring purposes will be by foot or horseback. Each water development in wilderness will also be examined in light of the restrictions in the Wilderness Act on structures and installations.



Ranching Developments

Background

Developments associated with ranching operations have been installed throughout the Preserve over the last 100 or more years. Hundreds of miles of barbed wire fences and water pipelines, as well as dozens of cattle guards, windmills, water tanks, troughs, corrals, earthen reservoirs, houses, barns, sheds and other structures exist to support the ranching operations. Maintenance of most of these facilities is the responsibility of the rancher who benefits from their use. Water is necessary for livestock grazing on NPS lands and these waters are controlled by the rancher to facilitate movement of livestock. Some fences, water tanks, pipelines and windmills are the responsibility of the NPS, the county or Caltrans (along I-15 and I-40) and are maintained by those entities. A partial inventory of these developments exists, but additional work remains to ensure the completeness and accuracy of the mapping and database.

Plan Actions

During the grazing management plan development, specific detailed lists and maps of the locations, ownership and maintenance responsibility of all these developments will be prepared.

If and when a grazing permit is purchased by a third part and donated to the NPS for retirement, most ranching developments will be removed following cultural resource inventory and analysis. Some of these developments may be retained as important features of the ranching history of the area. Others may be retained if necessary for other park resources management projects (i.e. burro removal or a park horse operation), park housing or administrative use.



Use of the Preserve

The National Park Service Organic Act directs the Service to preserve park resources "unimpaired," while providing for public enjoyment of those resources. Because public enjoyment cannot be sustained if park resources are damaged or compromised, resource protection must necessarily be the Service's paramount responsibility. Within that constraint, the Service recognizes its obligation to provide for a broad range of educational, healthful, enjoyable, and otherwise appropriate activities that foster a continuing public appreciation for park resources and values.



Carrying Capacity

Park managers are often faced with decisions about how much use of a particular area is appropriate, given the need to protect resources. Decisions regarding buildings, such as museums and historic structures, are usually dictated by law and the physical capacity of the space to contain people. Visitors face these limits everywhere they go and they are widely accepted. Similar decisions regarding natural spaces are not as easily derived, nor readily accepted. Most people understand that there is a need to limit the number of people that can float the Colorado River at the same time, in order to preserve the experience. However, determining how many people can use a particular area of the park without impacting resources or other visitors experience is often more difficult.

A widely accepted definition of carrying capacity is:

> *"the character of use that can be supported over a specific time by an area developed at a certain level without causing excessive damage to either the physical environment or the experience of the visitor."*

There are three principal components that relate to determining the carrying capacity for a national park:

The ecological or physical capabilities of the natural and cultural resources to sustain certain levels of visitor use without reaching unacceptable levels of damage. Each landscape may have varying abilities to absorb different kinds of and levels of visitor use before unacceptable levels of impacts occur.

The sociological carrying capacity is the ability of visitors to enjoy and appreciate these resources without interference by other visitors. Determining social carrying capacity can be one of the most difficult parts of the three components. Sheer numbers relating to visitation in an area are not a valid determinant of a quality visitor experience. Other factors such as visitor behavior, preconceived expectations and social norms of the dominant user group can affect visitor enjoyment.

The type and amount of NPS management that has been, or can be applied to the activity to mitigate unwanted impacts are also a factor. This component relates to the management of such things as roads, parking lots, buildings, trails, and visitor information. For example, providing interpretive services is an effective way to instill in the visitors an understanding and appreciation for the park resources. Such understanding helps implement carrying capacity for a particular area. Limiting parking in certain areas can effectively limit visitation.

General management plans provide NPS managers with management direction on a broad, prescriptive level. Management objectives for carrying capacity are thus written as narrative statements. These statements define the desired future visitor experience and resource conditions in qualitative terms such as "sense of seclusion," or "low degree of tolerance for resource degradation." These qualitative descriptors, which have been identified as "desired visitor experience and resource conditions," would be refined and translated into quantitative standards during future implementation planning. As previously mentioned indicators and standards of quality for both the physical and social environments would be developed within future implementation plans. These products would be quantifiable and measurable aspects of the carrying capacity process. Mojave would undertake data-gathering efforts, including visitor surveys, to help define the visitor experience and resource protection goals that should define the carrying capacity of the Preserve.

Existing Land Uses and Desired Future Conditions

Mojave National Preserve is a large expanse of natural Mojave Desert ecosystem. Managing the area to preserve this system as a self-sustaining environment where native species thrive is our overall management goal. Mixed throughout this environment are existing land uses, both historic and present day, as well as special management areas (wilderness, critical habitat, state park, etc.). Some of these land uses are important for providing visitor access (roads), help tell the story of human use and occupation, or protect sensitive resources such as desert tortoise critical habitat. Some existing land uses (pipelines, electric transmission lines, telephone relay sites, antennas, billboards, etc.) do not conform well with our preservation mission and management goals, but are authorized pre-existing uses. These are identified here to recognize their existence as non-conforming uses that dissect the park and at times may interfere with the visitor experience.

Desired future conditions for natural and cultural resources and the visitor experiences are described below. The descriptions are qualitative in nature and can be translated into quantitative standards over time during the implementation of this plan. Some descriptions could be applied to broad areas such as wilderness, while others apply to smaller areas such as road corridors and points of development. These descriptions serve as guides for managing the land and facilities to achieve desired carrying capacities.

Natural Environment

The vast majority of Mojave National Preserve is a natural Mojave Desert ecosystem. This desired future condition could be thought of as the primary land use or zone that underlies all the subsequent use descriptions that follow. Except for developed areas (roads, railroads, visitor centers, campgrounds, etc.) the desired future conditions for the natural environment are the ground floor conditions that all the other land classifications build upon. **Natural Areas, Wilderness, desert tortoise critical habitat and the Granite Mountains Natural Reserve are all components of the natural environment** where resource protection standards and visitor experience are altered by additional laws and management goals for these areas.

Natural Areas. Natural areas of the Preserve that occur outside of designated wilderness provide an informal, self-guided desert learning experience for visitors. People are encouraged to get out of their vehicles and walk to features. The pace is slow with low to moderate levels of noise. Visitors typically focus on specific resources with few visual intrusions. Visitors experience a sense of learning through onsite interpretation or other means.

The length of stay at each site is relatively short in comparison to the time visitors spend in the Preserve. There is a moderate amount of social crowding and moderate interaction at points of interest and along dead-end trails. Guided ranger walks are occasionally provided for visitors at some locations. Development is limited to items such as low interpretive panels, small directional signs, and hardened dirt paths. Fences are used as a last resort to protect resources if other management efforts do not work. The tolerance for resource degradation is low to moderate, depending on the sensitivity of the resource. The degree of onsite visitor and resource management is moderate and increases or decreases with visitation levels.

Wilderness. Wilderness as a desired future condition, is a subset of the natural environment, where protection of the natural values and resources is the primary management goal. Restrictions on use of these areas are imposed by law and policy in order to provide a primitive environment free from modern mechanization and motorized travel.

Visitors in this landscape experience a primitive environment largely untouched by people. Remnants of human occupation within wilderness areas that are either on or eligible for the National Register, will be identified, protected, and preserved as part of the desert landscape. However, for purposes of protection and because the desired future condition is maintaining the wilderness values (as required by the Act), little to no effort would be made to direct visitors to these historic resources. Within Mojave National Preserve's wilderness area the level of physical exertion required to hike or ride horseback into the area varies from an easy walk to a strenuous trek. A minimal number of hiking trails are present, often requiring a person to travel cross-country to get to a desired destination. Abandoned roads may also be used as routes of travel. Some restoration of pre-existing roads, mines, and dumps will likely occur as cultural and natural studies are completed. Opportunities for independence, closeness to nature, tranquility, and the application of outdoor skills are high. Opportunities for social interaction with other visitors are low, as is the probability of encountering NPS employees. Likewise, evidence of other visitors is minimal.

The landscape offers a high degree of challenge and adventure for visitors. The visual quality of the landscape contributes significantly to the visitor experience and needs to be protected. The tolerance for resource degradation is low, with the exception of designated trail corridors, where a slightly higher level of degradation is allowed within a few feet of the trail and at points where camping occurs. A minimal amount of resource and visitor management is present. Offsite visitor management (provision of information) is low to moderate.

Desert Tortoise Critical Habitat. Desert tortoise critical habitat was formally designated by the U.S. Fish and Wildlife Service in 1994 and identifies those areas of the Preserve known to contain the best quality tortoise habitat at that time. Desert tortoise critical habitat overlays both wilderness and natural areas, and is a subset of the natural environment, where protection of natural values and resources is primary. However, it is dissected by roads and utility corridors. These areas are managed for protection of the desert tortoise and their habitat.

Visitors in this landscape encounter the same general conditions and experiences as described above for the natural environment and wilderness, depending on the particular location. They may also encounter developed areas, roads, railroads, utility corridors or historic features. This subset of the natural area provides the best opportunities for observing and learning about desert tortoise habitat, life history and threats.

Granite Mountains Natural Reserve. The Granite Mountains Natural Reserve is a 9,000-acre area that overlays both wilderness and non-wilderness areas. Wilderness designation over the majority of the Reserve prevents the use of mechanized equipment and motorized vehicles. It is a natural environment where continuation of arid lands research and educational activities on desert ecosystems is assured by legislation. The area is co-managed by the National Park Service and the University of California under a cooperative agreement. The area is mostly undeveloped, with only a single trail access corridor along an old mining road. The university has a few administrative support buildings on their property.

Visitors to this area encounter the same general conditions and experiences as described above for natural environment and wilderness. Additional restrictions on recreational visitor use may be applied as necessary to ensure protection of long term research areas.

Developed Areas

Mixed throughout the natural environment are existing land uses, both historic and present day. Some of these land uses are important for providing visitor access (roads), help tell the story of human use and occupation or provide facilities for visitor enjoyment. Unlike non-conforming uses, these developments are considered an important part of the Preserve and are managed as such.

Historic Preservation Areas. Historic preservation areas offer visitors a chance to gain a sense of the past by using as many of their senses possible without compromising the integrity of the resource. Often there are opportunities to learn by vicariously experiencing the emotions and thoughts of those who lived in the past. The experience is often a visual one, with feelings gained by physical spaces, smells, and sounds adding to the whole experience. Interpretive information adds color and meaning to the experience.

The degree of tolerance for resource degradation is low for historic resources. The chance of seeing other visitors and having social interaction is potentially high, depending on the degree of public access and visitor interest. The opportunity for contact with NPS personnel is high where ranger-led tours are offered. Visitor behavior is managed to protect the character of each place. NPS onsite management is high at sites with high visitation and impact sensitivity. Paved walks, fences, and interpretive panels are used as needed to accommodate public access and interest in accordance with the Secretary of the Interior's Standards for Rehabilitation. If interest is high, improvements may be needed to allow visitors to experience these resources while protecting them from visitor use impacts. Improvements must not distract from the significance of each location. Some features are convenient and easily accessible with little need for visitors to exert themselves, apply outdoor skills, or make a long time commitment to see the area. Some features are at remote locations and would require more effort and skill to experience. Adventure is often a part of the visitor experience at these places. The way in which people currently gain access to these locations should remain unchanged since this experience contributes to resource protection and its appreciation. Changes in access should only be made if there is strong justification to do so. Remote locations should provide a primitive setting with opportunities for solitude, exploration, and learning with minimal amounts of human intervention such as signs or interpretive panels.

Visitor and Administrative Facilities. The visitor experience in these areas is heavily influenced by structures and other fabricated features, and they are part of the visitor experience. The pace is varied, with opportunities to walk and drive. The site often is noisy with vehicles and people nearby. Visitors have opportunities to hike, learn about resources, and receive many services from facilities. Visual distractions from other visitors and their vehicles are common and expected. Buildings and other facilities are predominant, but where exceptional natural elements or cultural elements are present, they are part of the visitor experience. The constructed features are coordinated by design to reduce the visual contrast with the natural or cultural setting. Although these are developed areas, they still offer a contrast from urban life and a chance to relax and enjoy the outdoors.

Most facilities are convenient and easily accessible by the public with little need for visitors to exert themselves, apply outdoor skills, or make a long-time commitment to see the area. Opportunities for adventure are relatively unimportant. Many areas provide a strong opportunity for social interaction. Encounters with NPS staff are frequent. The tolerance for social crowding is high but there are opportunities to learn and experience a change in pace from city life. Most facilities are accessible to visitors with disabilities. Resource impacts at visitor facilities are as low as possible, occurrences only when there is no practicable alternative. Visitors and facilities are intensively managed for resource protection, visitor management, and safety (that is, there are fences, law enforcement is intensive, and visitor activities are monitored or restricted).

Paved and Maintained Dirt Roads. Paved and maintained dirt roads are the dominant experience for most visitors. Visitors use these narrow corridors and roadside pullouts for touring, enjoying scenic overlooks, and gaining access to natural and cultural features. While traveling, visitors may read about and understand the features they are seeing. Bicycle travel is allowed, but motorized vehicles are more common. Viewing the scenery is very important, but the views are often of distant landscapes. Vistas are protected. First-time visitors may have a sense of exploration, but little physical exertion is needed, and outdoor skills are not necessary. Visitors may spend a long time in this zone. The probability of encountering other visitors is high, although chances for social interaction are low except at roadside pullouts. The opportunity for direct contact with NPS staff is low unless visitors seek out assistance at visitor centers or while engaged in a consumptive resource activity such as hunting and mining.

A moderate to high level of NPS management (highway signs, visitor protection) is needed to provide visitors with a safe and enjoyable experience. Because maintenance work and driving off roads can cause dirt roads to grow wider, it is necessary to specify maximum road widths and approved pullouts. Roads are limited to specified widths unless where strong justification exists. Resources can be modified for essential visitors and administrative operational needs. The tolerance for resource degradation in these corridors is moderate. Allowable impacts are restricted to a short distance from roads and pullouts.

Unmaintained Dirt and Four-Wheel Drive Roads. Unmaintained dirt roads provide a unique experience for drivers and other users such as mountain bike riders, equestrians, and hikers. The predominant use is by visitors in vehicles driving to enjoy the unique desert environment, or to go to historic mining sites, or to a specific feature. Some visitors experience a strong sense of exploration, challenge, and adventure. Travel speeds are slow to moderate, with the potential of frequent stops. Many of these roads offer a sense of backcountry travel and give visitors a sense of escape from urban life. The areas through which these roads pass are predominantly natural, but there is evidence of people having used the area in the past and present. Increased impacts from human use are prevented to protect the existing qualities of the landscape. Support features such as small directional signs or interpretive panels are present but infrequently seen and inconspicuous in character.

Visitors need to extend themselves, use outdoor skills, and make a large time commitment. Some roads with rough conditions require specific vehicles with 4x4 driving skills and more time to complete the route. Opportunities for challenge and adventure are available on some 2-wheel drive roads that require high clearance vehicles. Opportunities for social interaction are low, unless people are traveling in a group.

A moderate level of management is provided on heavily used roads to protect resources and visitors. Most people who use these roads do not want to see many other vehicles. Speed limits will be enforced using radar and other law enforcement techniques.

Resource modification is evident, but where possible, it harmonizes with the natural environment. The Preserve's tolerance for resource degradation in

this zone is low except that limited signs, road surfaces and shoulders, pullouts, and camping areas are permitted. It is recognized that some 4-wheel drive roads have a number of short sections that have been widened through natural occurrences such as washouts.

Non-Conforming Uses. Some existing land uses (pipelines, electric transmission lines, telephone relay sites, antennas, billboards, etc.) do not conform well with the NPS preservation mission and management goals, but are pre-existing uses. These are identified here to recognize their existence as non-conforming uses that dissect the park and at times may interfere with the visitor experience. The management philosophy towards these developments is to minimize their intrusion and manage towards their eventual elimination, either through technological improvements or acquisition. Many of these uses will likely remain intact throughout the life of this plan, but as opportunities arise to minimize or eliminate them, the park would work towards that end.

Recreational Activities

Background

Mojave National Preserve has long provided recreational opportunities for people from all over the world. Its nearness to major population centers such as Los Angeles and Las Vegas, combined with major interstate highways, gives residents the opportunity for relatively easy access to many parts of the desert. Most of the landscape is open, with broad vistas of relatively undeveloped land. The vastness of the landscape offers visitors an opportunity for seclusion and a sense of wilderness, even while in a vehicle. Early miners and ranchers developed roads that today offer visitors a chance to drive into many remote locations where informal camping has traditionally occurred. There are several major sand dune systems. Hikers play on and explore the Kelso Dunes. There are many cultural sites such as abandoned mining districts, which many people love to visit. The mountain ranges, such as the New York and Providence Mountains, offer a contrast to the dry hot valleys, attracting many people in summer with cooler temperatures and forested areas. Volcanic cinder cones, lava flows, rock outcrops, and unique wildlife and vegetation are other elements that attract people. The land has many extremes and contrasts that people come to experience, such as the high summer temperatures. Most visitors come to the desert simply to see the outstanding scenery of this diverse landscape.



Most visitation to the Preserve occurs between October and May. It is estimated that 72% of overnight visitation occurs at this time. In July 1996, 12,842 vehicles entered the Preserve, compared to 14,617 in March 1997. While the numbers are very close, relatively few people stay more than a few hours in the summer. Campground use statistics show a different picture of summer visitation. During July 1996 there were 35-user days, and during March 1997, there were 1,412. These numbers reflect use of all developed campgrounds. Campground use has increased over the years; the Bureau of Land Management recorded 960 user-days during April 1991; while the National Park Service recorded 1,252 in 1996 and 1,500 in 1997. These numbers may reflect having campground hosts and different BLM and NPS collection processes.

Visitation to the Preserve over the life of this plan could increase by 50–60 percent (assuming 3–4 percent increase per year), resulting in an annual visitor increase of perhaps 200,000 visitors by 2016. These projections are based on our local experience since 1994, and the trends reflected nationally at NPS units.

The 1997 visitor study revealed that 64% of the visitors were from California and 11% were from Nevada. Most people started from Las Vegas, Nevada or from Twentynine Palms or Barstow, California on the day of their visit to the Preserve. There may also be a large number of visitors who are taking a scenic route between Joshua Tree National Park and Death Valley. The most concentrated use periods are the first two or three weekends of the upland bird and deer seasons in October and November, and the Thanksgiving and Easter weekends. April had the highest visitation record of any month during 1996.

Many residents of adjacent communities such as Needles, Laughlin and Bullhead City come to the higher elevations in the Preserve during the summer

to escape the heat and enjoy a change of scenery. Most visitation to the Preserve occurs on weekends when residents of California, Arizona and Nevada arrive. Daytime recreational use is expected to continue to increase as the populations of Clark County and Laughlin, Nevada, Bullhead City and Kingman, Arizona, Barstow and Needles, California continue to grow.

Traffic counters and field observations indicate that many people are using roads in the Preserve as a route between Las Vegas and Twentynine Palms. Most use in the Preserve is sightseeing and driving for recreation, but the diverse landscape offers many other forms of recreation including activities such as hunting, nature study, rock-climbing, mountain biking, exploring by 4WD vehicle, and hiking.

Plan Actions

It is recognized that recreational trends continue to change and that specific, detailed directions on certain activities need to be placed under a guiding statement providing overall direction. NPS *Management Policies* provides guidance for determining the appropriateness of recreational activities in units of the national park system.

Unless the activity is mandated by statute, the National Park Service will not allow a recreational activity within a park if it will involve any of the following results:

- inconsistency with the park's enabling legislation or proclamation or derogation of the values or purposes for which the park was established
- unacceptable impacts on visitor enjoyment due to interference or conflict with other visitor use activities
- consumptive use of park resources (does not apply to certain traditional activities specifically authorized by NPS general regulations)
- unacceptable impacts on park resources or natural processes
- unacceptable levels of danger to the welfare or safety of the public, including participants

NPS *Management Policies* also states that each unit of the national park system is responsible for determining which recreational activities are appropriate or inappropriate, based upon the unit's purposes and values (see the purpose and significance statements for Mojave National Preserve).

Rock-Climbing

Background

There are potential or actual rock-climbing resources in the following areas: Clark Mountain, the Granite Mountains, the New York Mountains, Mid Hills, Teutonia Peak, and the Hole-in-the-Wall area. With the exception of Clark Mountain, these locations are lightly utilized for technical rock-climbing, and contain few fixed anchors (climbing bolts and other devices not removed after each climb). The climbing areas at Clark Mountain, Teutonia Peak and the New York Mountains are within designated wilderness. Climbing areas at Mid Hills and Granite Mountains are both within and outside wilderness, and potential climbing at Hole-in-the-Wall is outside wilderness.

Access to the climbing resources at the Granite Mountains, New York Mountains, Mid Hills, Teutonia Peak, and Hole-in-the-Wall requires a variety of two-wheel drive, high clearance, and four-wheel drive vehicles depending upon one's destination. In addition, accessing all these areas requires hiking. Hole-in-the-Wall is the most accessible resource, requiring only a two-wheel drive vehicle, and a short, easy hike. Climbing in the New York Mountains is likely the most remote, requiring a four-wheel drive vehicle and long, strenuous hiking to the mountain's upper elevations.

Mojave has a substantial, high-quality climbing resource at Clark Mountain. Visits by park staff, personal communications, and lay publications suggest that the Clark Mountain area provides numerous climbing routes at a high degree of difficulty. Most or all of these routes rely on bolts for protection. It is unknown if more routes have been developed. The use of a high-clearance, four-wheel drive vehicle is necessary to reach the Clark Mountain trailhead. Accessing the various climbing routes requires 30 to 90 minutes of strenuous hiking and rock scrambling. The climbing area on Clark Mountain also lies completely within designated wilderness.

Plan Actions

The management goal will be to allow climbers to enjoy their experience with a sense of challenge in a manner that will leave the environment relatively unchanged and not impacted, allowing future climbers an opportunity for a similar experience. Climbing will be managed for the following objectives:

- protecting cultural resources such as rock art and historic or prehistoric sites

- protecting natural resources, including threatened and endangered plants and animals
- protecting wilderness resources and values from visual and physical impacts
- protecting the outdoor recreational experiences of visitors not participating in rock-climbing
- developing an open communication line with the climbing community to promote a spirit of cooperation in achieving objectives and resolving problems
- promoting clean climbing methods and environmentally-friendly climbing equipment
- All wilderness areas within Mojave will be closed to any further placement of new bolts and other types of fixed anchors. Fixed anchors in wilderness will only be allowed if they currently exist (at the time of the signing of the general management plan), if they are placed as a rappel anchor at the top of a route, or if they are an in-kind replacement of an existing bolt or anchor for safety purposes.
- The area immediately behind and within sight (within 500 feet) of the Hole-in-the-Wall visitor center will be closed to technical rock-climbing, including the placement of permanent climbing anchors.
- Mojave will study climbing impacts on sheep, and if warranted, close climbing at Clark Mountain during sheep lambing season.

The National Park Service will seek ways to educate the public on proper climbing ethics and outdoor skills such as those promoted by the National Outdoor Leadership School's "Leave No Trace" program for climbing. Mojave will work with groups such as the Access Fund to educate the park's climbing community. Mojave will monitor rock-climbing use levels and related activities in the coming years to determine the effectiveness of current management in achieving the previously mentioned goals and objectives.

Power drills will be not be allowed in the Preserve at any time. Chipping of rock faces and gluing of holds onto the rock will be prohibited, as will intentional removal of vegetation from climbing routes. Climbing will not be permitted within 500 feet of any prehistoric or historic rock art site or other cultural resource.

Existing bolts and other fixed anchors that are deemed unsafe by climbers could be replaced on a piece-by-piece basis. Replacement of existing bolts will be accomplished in a manner that removes the old bolt with minimum damage to the rock. Whenever possible for the safe replacement of an existing bolt, the existing bolt hole will be utilized for the replacement bolt. If use of the existing hole is not possible, the old hole will be filled with a natural colored rock material blended with bonding agents to permanently fill the hole.

The NPS will require that all bolts and other fixed anchors, chalk, slings, quick draws, and any other piece of equipment that will be left on the rock for an extended period, be of an environmentally-friendly color. Leaving fixed ropes for extended periods for the purpose of ascending and descending (rappelling) rock walls is not allowed.

The Clark Mountains are also heavily used by desert bighorn sheep. Questions exist as to the potential for climbers to impact the Clark Mountain sheep population, especially during lambing season (February–June). Mojave will study climbing impacts to sheep, and if necessary, impose seasonal closures to Clark Mountain in order to protect the bighorn. The study itself could include a temporary closure on visitation to Clark Mountain to serve as a scientific control period.

Those lands in the Granite Mountains Natural Reserve that are owned by the University of California are dedicated to the purposes of scientific study and education. The university prohibits rock-climbing on their lands because they consider this use to be incompatible with their scientific mission and due to the potential for damage to long-term research plots.

The NPS will discourage multiple social trails and heavily impacted zones at the base of climbs, and will employ barriers, revegetation, and possible closures as a means to prevent these impacts. Mojave may close any area, rock feature, or climbing route to protect wildlife, natural or cultural resources, or wilderness experiences. NPS authority for closures is granted in 36 CFR 1.5.

Hunting, Fishing, and Trapping

Background

The California Desert Protection Act permits hunting, fishing, and trapping on lands and waters within the Preserve in accordance with applicable federal and state laws. However, the Secretary of the Interior may designate areas where, and establish periods when, no hunting, fishing, or trapping will be per-

mitted for reasons of public safety, administration, or compliance with provisions of applicable law. The National Park Service authority extends not only to federal lands, but to private inholdings and adjacent private land where activities carried out on those lands interfere with the designated use of the federal lands. The National Park Service consults with the California Department of Fish and Game prior to the NPS designation of closed seasons or areas.

Hunting on federal and all private lands within the Preserve is allowed and administered by California Department of Fish and Game and NPS regulations. Commonly hunted game species include mourning doves, quail, chukar, rabbits, bighorn sheep, and mule deer. Nongame species are also hunted within the Preserve. These game and nongame species are not uniformly distributed in the Mojave National Preserve. The bighorn sheep prefer steep, mountainous, open terrain; the Rocky Mountain mule deer's preference is high elevation Great Basin habitats; and the game birds' habitat of choice is near springs or guzzlers.

Mojave National Preserve is one of the few places in California where bighorn sheep hunting is allowed. Limited hunting of bighorns began in 1987 (BLM 1988). A limited number of permits to hunt bighorn sheep are issued each year through a lottery system. One other permit in addition to the permits issued by the lottery system is awarded each year to the highest bidder, allowing him/her to hunt one animal.

Chukar have been introduced throughout most of the Preserve. Rocky Mountain mule deer were introduced in the New York Mountains of the Preserve in the late 1940s (see "Introduced Species" section).

Plan Actions

Section 506(b) of the CDPA provides for hunting, fishing and trapping within Mojave National Preserve, in accordance with applicable Federal and State laws. Congress also clearly provided the NPS with a mandate in our 1916 Organic Act, to preserve wildlife, and other resources within park units. They also reiterated in the CDPA our mandate to preserve wildlife by affording the new Preserve full recognition and statutory protection to establish periods when, no hunting, fishing, or trapping will be permitted for reasons of public safety, administration, or compliance with provisions of applicable law.

Therefore, it is appropriate to recognize public safety and resource protection issues and to balance the mandate from the CDPA with the NPS resource preservation and visitor enjoyment mission. The goal is to provide better protection to desert tortoise and other park resources and to enhance visitor safety. It is also to strike a balance with the mission of the park, which is preservation of resources. The NPS goal is to provide opportunities for hunters to take game species during the fall and winter, while also providing a park experience with no hunting or shooting during the spring and summer.

Hunting will follow California Department of Fish and Game (CDF&G) regulations. The Preserve will seek the following special regulations:

- In accordance with the Desert Tortoise Recovery Plan hunting would be limited to upland game birds (mourning dove, quail, chukar), cottontails, jackrabbits, and big game (deer and bighorn sheep) during their designated CDF&G seasons. Cottontails and jackrabbits may be hunted only from September through January.
- The hunting season for the Preserve will be from September 1 to January 31 (except through the first Sunday in February for bighorn sheep). This is the same season as the Providence Mountains State Recreation Area (Section 260.1 California Hunting Regulations, 1999).
- Use of hunting dogs will be allowed in accordance with State hunting regulations, and to protect visitors and wildlife, dogs must be in the owner's control at all times.
- For public safety, shooting of rifles will not be allowed within one mile of Kelso Depot and Kelso Dunes.
- CDF&G regulations regarding shooting near public buildings and paved roads would apply.
- Target or random shooting (plinking) is not allowed anywhere in the Preserve.

Trapping within the Preserve will follow California's 1998 Proposition 4 to the extent that it does not conflict with federal wildlife management. In very limited circumstances the superintendent will allow trapping by designated individuals to remove (trap or shoot) animals that are a hazard to visitors or park resources under the authority provided by 16.U.S.C.3.

The collection of amphibians and reptiles with a fishing license will not be allowed in Mojave National Preserve since it is in conflict with administration of the area. Fishing will follow existing CDF&G fishing regulations, except the collection of nongame birds, reptiles, amphibians, and inverte-

brates will not be permitted without a valid NPS scientific collection permit issued under NPS regulations (CFR 36 2.2 b.4 & 2.5.a).

Hiking

Background

Many opportunities for day and overnight hiking exist. There are two developed trails: one between Mid Hills and Hole-in-the-Wall campgrounds, and the second a two-mile roundtrip to Teutonia Peak from Cima Road. There are other hiking opportunities — an abandoned road in Caruthers Canyon leads to an old gold mine, Kelso Dunes, and a trail in Piute Canyon leads along sections of the original Mojave Road and into the wash and eventually ends at Piute Gorge. Several former roads now in wilderness areas are closed to vehicle use; such roads may offer opportunities for hiking into Cow Cove, Castle Peaks, and other areas.

Plan Actions

Hiking is encouraged throughout the Preserve, both on developed trails and cross-country. Groups and organized events will need to obtain a permit. The backcountry/wilderness management plan will address trail use by hikers, equestrians, bicycles, and visitors with disabilities. The plan will be guided by the goal of increasing the diversity of recreational opportunities for the above activities in appropriate locations. Until completion of the plan, all trails will be open for use by hikers and equestrians, except where management problems were identified and restrictions needed to be established.

Equestrian Use

Background

Horseback riding occurs in the Preserve at several locations. A group called the East Mojave Scenic Area Trail Riders has defined routes out of the Hole-in-the-Wall area that lead into Round, Pinto, Gold and Lanfair Valleys. Watson and Woods washes also serve as routes to Caruthers and Black canyons. Trails often follow old roads or washes or go cross-country. These routes are not marked by signs, so the experience of using them is an informal adventure. The amount of use is unknown at this time.

Plan Actions

All trails will be open for use by hikers and equestrians, except where management problems were identified and restrictions needed to be established. Horses may also travel cross-country. Groups and organized events will need to obtain a permit. Large horse groups may be restricted to existing roads.

Bicycling

Background

Mountain bike use in the Preserve is unknown at this time. Bicyclists have recorded their names in the Mojave Road register, indicating their use of this route. Mountain biking is the third fastest growing equipment-related outdoor activity in the country, as of 1995. Offroad ridership has increased nationally by 20% every year since 1990. In 1995, an estimated 2.5 million to 3 million of those riders were classified as avid trail cyclists.

Plan Actions

Bicycles will be allowed on all open roads, but not on single-track trails, in wilderness, or off existing roads. The backcountry/wilderness management plan will consider the feasibility of designating dirt roads as bicycle routes. Groups and organized events will need to obtain a permit.

Motorcycles and ATVs

Background

Occasional illegal use occurs on the Kelso Dunes and the Soda Lake area, adjacent to the BLM's off highway vehicle area at Rasor. The Preserve has undertaken a number of activities to try and eliminate these illegal uses. Street legal motorcycles do utilize park roads regularly, including both pavement and backcountry dirt roads. Organized groups have been permitted to ride the Mojave Road.

Plan Actions

Street legal and licensed vehicles are permitted on roads in the Preserve, when operated by a licensed driver in accordance with State law and NPS regulations. All terrain vehicles are not permitted on any paved roads in the Preserve. Motorcycles must have mufflers that permit normal conversation when the engine is idling. Groups and organized events will need to obtain a permit.

Aircraft

Background

There are no designated airstrips in the Preserve on public lands.

Plan Actions

Landing of aircraft on roads, dry lakes, or other

areas of the Preserve is not allowed. Use of private aircraft must be in accordance with FAA regulations, which provide for a recommended minimum altitude over parks of 2,000 feet.

Backcountry Use and Roadside Vehicle Camping

Background

Camping out of a vehicle has always been permitted in the Mojave, and has continued since the National Park Service began administering the area in 1994. This activity has resulted in an unknown number of traditionally used backcountry roadside campsites scattered throughout the Preserve. Roadside vehicle camping is allowed at previously disturbed campsites outside of wilderness. No improvements (such as trash containers or metal fire rings) have been made to these sites, although several contain rock fire rings.

Several abandoned structures exist on public land in the backcountry of the park and some have traditionally been used by the public for overnight camping. A good example is the Winkler Cabin off of Wildhorse Canyon road. This small, one room shack is maintained and stocked with basic emergency materials by the users. The park has not inventoried all of these structures nor determined their historic significance and value.



Plan Actions

Roadside vehicle camping will continue to be allowed only in previously used areas along open routes of travel, outside of wilderness. Vehicles may not leave the road surface at any time or park on vegetation. There are many of these existing campsites along dirt roads.

Mojave will inventory previously used campsites and prepare a backcountry/wilderness management plan that may provide additional restrictions. Until the plan is completed, the Preserve will manage roadside camping with the following conditions:

- Roadside camping will be allowed in previously used sites outside the no camping areas.
- Campsites must be more than 200 yards from any natural or constructed water source.
- Groups and organized events will need to obtain a permit.
- Vehicles must remain in previously disturbed areas. The creation of new campsites will not be allowed. Driving off roads will not be permitted.
- Campfires will be allowed in existing fire rings, or in a fire pan. Visitors are not allowed to collect firewood in the Preserve.
- Backcountry structures on public lands will remain available to the public on a first come basis.

Backcountry campers may camp anywhere in the Preserve outside of designated day use only areas but must erect their tent out of sight of paved roads.

Camping in High Use Areas

Background

Although some information is available to identify potentially heavily used sites such as Caruthers Canyon, Cima Dome, Cinder Cones, Clark Mountain, Granite Pass (Kelbaker Road), and Grotto Hills, no systematic inventory of site conditions and use exists. Certainly some sites along the Mojave Road are routinely used because they have been used by organized groups for years, and/or are identified in the guidebook as good camping areas.

Plan Actions

It is proposed that designation and marking of specific campsites in locations that are consistently heavily used by individuals or groups be undertaken. Resource conditions and visitor use will be monitored to determine the need for designating sites such as Caruthers Canyon, Cima Dome, Cinder Cones, Clark Mountain, Granite Pass (Kelbaker Road), and Grotto Hills. Other locations could be identified as information on visitor use is gathered. Campsites will be marked for easy identification, but other improvements will be avoided unless they will help protect resources.

Camping in Desert Tortoise Critical Habitat

Background

An inventory of previously used roadside camping sites that exist in desert tortoise critical habitat has not been compiled.

Plan Actions

In sensitive areas designated as critical habitat for the desert tortoise, vehicle-based roadside camping will be confined to a limited number of designated campsites with metal fire rings or campsite markers to identify them for use. Previously used areas will be considered first for designation. The designation of campsites will come after an inventory of natural and cultural resource conditions and existing campsites to determine the best locations.

The primary issue with roadside vehicle camping is to ensure that visitors do not disturb tortoises they encounter and, to prevent tortoises from being crushed, ensure that campers inspect underneath their vehicles before moving them to ensure tortoises have not crawled under them for shade. The park literature on camping in the backcountry will be modified to include information about the desert tortoise and actions the public should take when camping in desert tortoise habitat.

No Camping Areas

Background

Certain areas are designated to prohibit roadside vehicle camping to protect the Preserve's natural and cultural resources, protect the viewsheds, and reduce conflicts in visitor activities or other management objectives.

Plan Actions

The following areas will be designated as no camping areas to avoid potential conflicts between recreational day visitors and overnight campers.

- All areas within ¼ mile of paved roads, unless formally designated as a camping area.
- The access road to the Kelso Dunes, the parking lot, and the area north of the road to the crest of the dunes, or a distance of 1 mile, and the area ¼ mile south of the road.
- All areas within ¼ mile of the access road to Zzyzx, including the visitor parking lot.
- All areas within ½ mile of Fort Piute.
- All areas within ½ mile of the Kelso Depot.

Groups and Organized Events

Background

Mojave National Preserve has permitted several group activities and organized events in the last few years, including Search and Rescue Training, mounted horse trail rides, Mojave Road historical driving tours, Boy Scout groups, and running/bike relay races.

Plan Actions

A permit is required for all organized events in the Preserve, and for group activities over a certain size. Organized events may include school groups, hiking clubs, jeep tour groups, bicycle rides, motorcycle clubs, hunting clubs, scouting groups, and other similar types of group gatherings. Organized events may be required by NPS regulations (36 CFR 2.50c) to: (1) post a bond covering the costs of the event, such as restoration, rehabilitation cleanup and other costs, and (2) provide liability insurance to protect the United States against liability arising from the event. Casual group activities (non-organized) may also require a permit depending on the number of vehicles (including motorcycles, bicycles and horses) and individuals involved in the activity.

The NPS requires a permit for group activities and organized events because of several issues and concerns that may arise when groups travel and/or camp together. The purpose of the permit is to provide information to the group regarding potential impacts of their activities on park resources, private property or other park visitors. The NPS is also responsible for reviewing the environmental impacts of the activity and ensuring protection of park resources, including threatened and endangered species. The permit serves as the means of requiring information needed for the environmental review, and to stipulate certain conditions to prevent impacts.

The following questions will be reviewed to determine whether a permit is needed:

1. *Is the group activity an "organized event"?* If yes, a special use permit is needed. If no, go to question 2.
2. *Are 15 or less individuals participating in the group activity?* If yes, go to question 4. If no, go to question 3.
3. *Are more than 25 individuals involved in the group activity?* If yes, a special use permit is needed. If no, go to question 4.
4. *Are more than seven vehicles being used by the group?* If yes, a special use permit is needed. If no, a permit is not needed.

If the group size or activity requires that a special use permit be issued (see questions above), then NPS regulations require a fee be charged. Fees for a special use permit are required by regulations to be sufficient to cover all administrative costs in processing them and vary depending on the nature and purpose of the activity and the complexity of the permitting process. Organized events and group activities where the permit process, environmental review and stipulations are fairly simple and no onsite monitoring by NPS staff is deemed necessary will be charged between $50–200. Organized events and group activities that require extensive stipulations, completion of an environmental assessment or impact statement, and/or require onsite NPS monitoring will be charged the full cost of permit processing and compliance, NPS monitoring costs and may be required to post a bond and show proof of liability insurance. Nonprofit events or group activities that provide education on natural and cultural resources of the desert may be eligible for a partial fee waiver.

Visitor Use Fees

Background

Fees and their use are determined in accordance with the criteria and procedures of the Land and Water Conservation Fund Act of 1965 (sec. 4, 16 U.S.C.A. 4601-6a (Supp., 1974) and section 3, Act of July 11, 1972, 86 Stat. 461), the Recreational Fee Demonstration Program (P.L. 104-134), and regulations in 36 CFR 71. No entrance fees are collected at Mojave. Campground fees of $12 per site per night are gathered. In addition, the park charges special use permit fees for groups and organized events, and for commercial filming. In April 2000, the National Park Service, in a partnership with the National Park Foundation, announced a new National Parks Pass. A parks pass provides entrance to all national parks for one year at a cost of $50. Parks selling the pass will be allowed to retain $35 for use on projects at that park. These passes are sold at all national parks and over the internet via several retail partners. Mojave sells this pass as a public service, even though an entrance fee is not required to enter the Preserve.

Plan Actions

The Preserve will continue to explore options for fee collection revenues consistent with congressional direction. An entrance fee study will be prepared in the future.

Mojave continues to sell a National Parks Pass as a public service, even though an entrance fee is not required to enter the Preserve. The only other visitor use fees collected in Mojave National Preserve are camping fees for developed campgrounds and the group area at Hole-in-the-Wall. Fees are also collected for special use permits (such as filming, organized group outings, etc.).

Research and Educational Activities

Research and education are core mission elements of the NPS national goals and of the Preserve's enabling legislation. Congress highlighted these issues in the CDPA with following passages:

> These desert wildlands display unique scenic, historical, archeological, environmental, ecological, wildlife, cultural, **scientific, educational** and recreational values used and enjoyed by millions of Americans for hiking and camping, **scientific study** and scenic appreciation. (emphasis added)
>
> Retain and enhance opportunities for scientific research in undisturbed ecosystems.

Education

Background

One of the missions of the NPS is to conduct educational outreach on natural and cultural resource preservation and management. These outreach efforts extend beyond the park boundary to include classrooms of local schools in and around the park unit. Reaching youth in the classroom and educating them on resource preservation and management serves to protect parks from impacts associated with uniformed visitors pursuing activities that may harm park resources. This effort can do more to protect parks through education than an equivalent number of staff simply enforcing regulations in the park.

Parks also serve as ideal classrooms for students to learn about the natural and cultural resource values of the desert. Setting foot on sand dunes, or a cinder cone, or hiking through the Joshua tree forest on Cima Dome, are experiences that cannot be duplicated with video, slides or other means. Mojave National Preserve is an ideal natural classroom for school groups anywhere to experience and study the Mojave Desert.

Plan Actions

Mojave will maintain an active presence in local classrooms throughout the high desert. Park staff in Needles, Baker and Barstow will be made available to make presentations on particular resource topics

or to teach natural or cultural resource sessions as part of a resource preservation curriculum.

To encourage school use, Mojave will provide staff to lead specific ranger walks and talks for school groups as requested. The park will also offer educational activities for school groups at the Kelso Depot visitor center when this facility is operational. Schools will also be encouraged to utilize the park for extended classroom work, such as week long classes over spring break, where schools may bring a class and conduct an entire field class focusing on desert resources.

The University of California through the Granite Mountains Natural Reserve, and California State universities through the Soda Springs Desert Study Center, already promote school educational activities and offer specific classes for students and the general public via cooperative agreements with the park. These efforts will be encouraged and supported by the park by offering staff to assist in conducting specific activities for school groups, providing ranger led walks and talks, and by seeking grants to assist in offering these activities, particularly for low economic areas where schools would normally not be able to afford field trips.

Research and Permits

Background

Mojave has long served as a scientific research area for scientists worldwide. Dozens of research studies have been conducted in the Preserve.

Plan Actions

In recognition of the legislative direction and the scientific value of parks as natural laboratories, researchers will be encouraged to use the parks for scientific studies, whenever such use is consistent with NPS policies and law. The Preserve will promote cooperative relationships with educational and scientific institutions and qualified individuals with specialized expertise that can provide significant assistance to the park. To the extent they are available, NPS facilities and staff assistance may be made available to qualified researchers and educational institutions conducting authorized studies or field classes. Mojave will cooperate with researchers and universities to identify methods and techniques that may be employed to ensure protection of research equipment and plots.

Non-NPS studies are not required to address specifically identified NPS management issues or information needs. However, these studies, including data and specimen collection, require an NPS research/collecting permit. The studies must conform to NPS policies and guidelines regarding publication of data, conduct of studies, wilderness restrictions, and park-specific requirements pursuant to the terms and conditions of the permit. Projects must be administered and conducted only by fully qualified personnel, and conform to current standards of scholarship. NPS research/collecting permits may include requirements that permittees provide for parks, within certain timeframes, the appropriate field notes, data, information about the data, progress reports, interim and final reports, and publications derived from the permitted activities.

The National Park Service will be responsible for the review and approval of all proposals for research on Preserve lands to ensure that they conform to the management policies and the provisions of 36 CFR 2.5. The superintendent will issue permits for all research and collection. Research that conflicts with current approved research, including long-term study plots that failed to meet NPS standards, would not be approved. All specimens collected from the park must be appropriately curated and have adequate documentation of the specimen, the locality, the geologic context, and other pertinent data. Published research results are required to be provided to the park as a condition of all permits and be made available for use by park staff and the public. In FY 2000 the park issued 28 research and collecting permits.

Natural Resource Collections

Background

Natural resource collections, including non-living and living specimens, and their associated field records, are managed as NPS museum collections. Guidance for collecting and managing specimens and associated field records is found in 36 CFR 2.5 and NPS guidance documents, including the museum handbook.

Plan Actions

Generally, collecting in Mojave would not be permitted if specimens could be obtained elsewhere. Living collections will be managed in accordance with the provisions of a park's resource management plan (when developed), the Federal Animal Welfare Act, and other appropriate requirements. With respect to paleontological resources, any rare or scientifically significant specimens would be collected, or stabilized and protected in situ. Associated scientific data, including geographic, geologic, and stratigraphic information, would be documented

with all fossil collecting activities. Paleontological specimens are also subject to the treatment policies for museum objects.

Commercial application of any specimens, including any components of specimens (natural organisms, enzymes, genetic materials or seeds) collected under an NPS collecting permit must be done in accordance with a cooperative research and development agreement (CRADA). Research results derived from collected specimens are to be used for scientific or educational purposes only and may not be used for commercial purposes unless the permittee has entered into a CRADA with the park. Any commercial products produced will be subject to a royalty of 10%. Sale of collected research specimens or other transfer to third parties is prohibited (Solicitor Memo date 11/3/98).

Commercial Activities

Mineral Development

Background

The Preserve was established by Congress with the provision that mining activities may occur on valid existing claims under all applicable laws and regulations administered by the National Park Service (sec. 508). The Mining in the Parks Act of 1976 (P.L. 94-429) prescribes that all activities resulting from the exercise of valid existing rights on patented and unpatented mining claims within any unit of the national park system shall be subject to regulations developed and administered by the National Park Service. The regulations governing mining on all patented and unpatented claims in park units are found at 36 CFR Part 9A, which requires operators to file a plan of operations with the National Park Service for all mineral related activities. Proposed mining operations must also meet the approval standards provided in the regulations and post a performance bond equivalent to the cost of reclamation before an operation may proceed.

Congress closed Mojave to all new mining claim location and all other forms of appropriation and disposal. Section 507 of the California Desert Protection Act withdrew the area from all forms of entry, appropriation or disposal under the public land laws; from location, entry and patent under the United States mining laws; and from disposition under all laws pertaining to mineral and geothermal leasing and the sale of mineral materials. This provision of the act is subject to valid existing rights.



The California Desert Protection Act also imposes a requirement that validity of unpatented claims be determined prior to approval of any operation (sec. 509). This section also requires an analysis of the environmental consequences of mineral extraction, a determination of the estimated acquisition costs, and the submission to Congress of recommendations on whether any valid or patented claims should be acquired. The park has certified mineral examiners and is reviewing all unpatented mining claims to determine their valid existing rights and, if necessary, to conduct a validity examination to determine if a valuable, economic discovery of mineral exists on the claims.

Currently, there are no active mining operations inside Mojave National Preserve. Two large-scale surface mining operations exist just outside the boundaries of the Preserve. The Molycorp mine, in Mountain Pass, between Clark Mountain and the Mescal Range, is a rare earths mine. Molycorp has operated since the 1950s and recently, issues with contaminated lands as a result of pipeline leakage and spills have surfaced. Molycorp is currently undergoing a revised mining plan environmental impact process, with the Bureau of Land Management as the lead agency.

Viceroy is the other large scale open pit surface mine adjacent to the park, just north of the Piute Range, in the Castle/Hart Mountain area. This very large scale, open pit and cyanide heap leaching gold mine is very visible from the Lanfair Valley area. Although the Bureau of Land Management approved a ten-year extension of the mine in 1998, recently Viceroy has indicated their intention to terminate mining within the next two years.

Plan Actions

The Preserve will manage mineral development activities under existing laws and regulations applicable to such activities.

During the evaluation of the mining proposal, a sensitive resource analysis based on an objective analysis of physical, biological, cultural and visitor use values relative to the project mining impacts would also be initiated. No specific mining is authorized by this general management plan. Each mining proposal is required to submit a detailed mining and reclamation plan and undergo separate environmental impact analysis. Consultation for listed species and cultural resources will occur at that time. When mining is authorized, full reclamation of the site is required upon cessation of mining activity.

The National Park Service also regulates mineral development on valid nonfederal oil and gas interests in accordance with 36 CFR Part 9B. This involves the review of plans, impact analysis, and permitting of the proposed extraction of oil or gas on property where the surface is held by the federal government, but the mineral rights were retained by the private party when the land was acquired. Whenever a proposed mineral development fails to meet the regulatory approval standards and no alternative development scenario is feasible, the National Park Service will seek funding to initiate acquisition of the mineral rights.

Cattle Grazing

Background

Cattle grazing has been a continuing activity in the Mojave Desert for well over a century. The NPS issued permits to the ranchers in 1995 to allow for continuation of grazing while the general management plan was being prepared. In FY 2001, cattle grazing on over 536,000 acres on portions of 6 previous BLM grazing allotments. Until a grazing management plan is developed, grazing is administered under an allotment management plan developed by the Bureau of Land Management. These plans integrate grazing management on the Preserve and on private and state of California parcels that are leased by the rancher. The plans establishes a grazing system for each allotment, determines the need for range developments (primarily for water), and describes a system for adjusting cattle numbers based on current range conditions. The grazing system is designed to allocate forage based on the amount and type of plant cover, moisture, and other range conditions and forage allocations for other wildlife and burros.

As of March 2001, the Crescent Peaks allotment (1,276 AUMs), the Granite Mountains allotment and permit (4,475 AUMs), the Lanfair Valley allotment



(11,560 AUMs), and the Kessler Springs allotment (7,615 AUMs) have been permanently retired, resulting in a reduction of grazing in the Preserve by 24,926 AUMs (65%) since the Preserve was established.

Four of the remaining grazing permits as of October 2001 in the Mojave National Preserve have adjoining BLM allotments that are managed by the Bureau of Land Management. These are Valley View, Valley Wells, Clark Mountain, and Piute Valley. In an amendment decision to their California Desert Conservation Area plan in late 1999, BLM agreed to retire the remnant portions of the Lanfair Valley and Piute Valley allotment if the permit is acquired and the adjoining NPS grazing permit is retired. The fate of potential remnants of the Valley View, Valley Wells, and Clark Mountain allotments are being evaluated by the BLM in a separate plan amendment EIS.

Plan Actions

Mojave's overall management goal is to achieve the permanent retirement of grazing. The California Desert Protection Act directs the Secretary of the Interior to make the acquisition of "base property" from willing sellers a priority above all other acquisitions in the Preserve. If ranchers notify the superintendent of their willingness to sell base property, the superintendent will immediately notify the Secretary of the Interior of the priority acquisition and request Land and Water Conservation Fund funding from Congress. The Preserve will also work with conservation organizations to purchase grazing permits and/or fee property from willing sellers. Once a grazing permit is purchased and the new owners (i.e. conservation organizations) requested retirement, it will be permanently retired. Cattle livestock grazing will no longer be an authorized use in retired areas for any reason.

When grazing permits are retired, ranching developments eventually be removed and site restoration undertaken, subject to environmental and cultural

compliance, including a determination of national register eligibility and section 106 compliance on all cultural features over 50 years old. The park will work with conservation organizations to ensure that willing seller grazing permits in desert tortoise critical habitat receive first consideration and that water rights are acquired with the permit.

The NPS portions of the Clark Mountain and Valley Wells grazing allotments will be acquired via third party conservation groups and retired. Cattle grazing will be removed from the area and the boundary of the Clark Mountain unit will be fenced. These permits are small pieces (about 20%) of larger BLM grazing allotments that mostly lie outside the Preserve. The Clark Mountain permit contains 371 AUMs and covers 17,500 acres. The Valley Wells permit contains 853 AUMs and covers 43,600 acres. Ranching developments would be removed and natural springs would be restored.

While acquisitions are being pursued, and for permit holders unwilling to sell, the privilege of grazing cattle on lands in the Preserve will otherwise continue to be exercised at no more than the current level (as of October 31, 1994). Grazing will be managed over the short-term under existing BLM allotment management plans, and subject to applicable NPS regulations and policies, relevant FWS Biological Opinions, and under the following conditions:

- Emphasis will be on the preservation and protection of resources and the reduction of impacts. Resource protection would be given priority over grazing activities. Grazing may be excluded from some areas if needed to protect sensitive species or habitat.
- Additional cattle grazing using an ephemeral preference above the perennial AUMs identified below for each permit will not be considered.
- Grazing will not be allowed where perennial plant utilization exceeds 30%. Grazing shall be curtailed to protect perennial plants during severe or prolonged drought.
- Grazing use will be restricted in desert tortoise critical habitat from March 15 to June 15, if adequate precipitation has not occurred to produce ephemeral plant production of 230 lbs. per acre (air dry weight). This number may be adjusted if additional research suggests a need to do so.
- Water developments will be turned off in desert tortoise critical habitat when not in use, or to move cattle off areas not having sufficient perennial or ephemeral forage. Modifications to discourage raven use may be required.
- In cooperation with the BLM, USGS and park research communities, annual precipitation amounts and timing would be monitored in recommended locations to determine if ephemeral plant production can reasonably be expected to produce forage sufficient to allow cattle grazing. If not, cattle will be removed from desert tortoise critical habitat by March 15 of each year. The Preserve will evaluate the effectiveness of using predictive models developed by USGS and other researchers.
- Supplemental feeding (using hay or other feed) will not be allowed in accordance with existing Biological Opinions for desert tortoise. Use of feeding supplements (protein and/or salt) will be considered on a case-by-case basis.
- Water developments on acquired permits will be assessed for removal and the area restored to natural conditions.
- Ranching developments on retired permits will be removed unless determined to have historical or other value, and do not otherwise impact native wildlife.
- Ranching developments in wilderness will be reviewed for their historical significance and current need. If developments are determined necessary for current grazing permits, access will normally be allowed only via foot or horseback. Motorized access will be determined on a case-by-case basis using the minimal tool analysis described under the wilderness section.
- Permittees will be required to maintain all ranching developments associated with their grazing permits, including corrals, fences, pipelines, windmills, cattle guards, tanks, etc. at their expense. Abandoned property must be removed from the Preserve by the permittee. If not removed within timeframe identified, the NPS may charge the permittee for removal costs. No new ranching developments will be permitted unless it was determined to be beneficial to the flora and fauna, and not result in an increase in grazing over the levels current as of October 31, 1994.
- Until the grazing management plan is finalized, grazing fees will be charged on a per AUM basis using the same formula as the BLM, which is subject to annual review. In addition, a fee will be assessed for NPS costs in reviewing and issuing of a special use permit in accordance with NPS policy. Fees collected as reimbursement for special use permit issuance may be used to off-

set costs related to park management of the special use permit. Fees collected based on AUMs will be used for any purpose reasonably related to management of the grazing program, with priority given desert tortoise conservation efforts.

- Grazing permits will be reissued annually for one-year terms.
- NPS will monitor range conditions and long term plant community changes using locations and methodology currently being evaluated. Cattle may be removed from an area for an extended period if monitoring indicates that type conversion of the plant community may be occurring.
- NPS will not increase AUMs when Catellus and State lands within the permit area are acquired. However, no fencing will be required to exclude existing authorized cattle from using the acquired parcels.

Any permit that is not retired will be managed pursuant to an NPS grazing management plan. This activity plan will tier from the overall management strategy presented herein and will address specific grazing management strategies, conditions, standards, resource protection criteria, range developments, monitoring, and other program needs. Separate environmental compliance will be prepared on this plan.

Filming

Background

Permits for commercial operations such as moviemaking and guided recreational tours have been applied for and granted within the Preserve. At this time, the number of permits applied for is relatively low. For instance, in FY99 only one filming permit was issued.

Plan Actions

Filming for commercial or educational purposes may be authorized, subject to NPS policies and regulations governing such activities, including wilderness restrictions. A special use permit is required for all filming activities and a fee will be assessed. Filming activities will be subject to the same rules and regulations as other activities, including no offroad driving. Filming may not be allowed in desert tortoise critical habitat during the active periods in the spring and fall, depending on the nature of the particular film shoot. All costs associated with desert tortoise surveys and onsite monitors during filming will be borne by the permittee.

Solid Waste Disposal

Background

Federal law and NPS regulations (36 CFR Part 6) prohibit solid waste disposal, including existing and new landfills, in all units of the national park system. The park hauls all solid waste generated by visitors and park operations to an approved site outside the Preserve. The Baker landfill was closed by state law in 1997. The site was recontoured and fenced (including tortoise proof fencing) and is being monitored by the county. Small private dumps and illegal dumping has occurred at a number of sites throughout the Preserve. Several of these have been cleaned up by the National Park Service and this process is ongoing as cultural clearance is completed.

Plan Actions

The park will continue to haul solid waste generated by visitors and park operations to an approved site outside the Preserve. Recycling opportunities will be fully explored and implemented wherever feasible. Mojave will work cooperatively with Baker and the county to find locations outside the Preserve to relocate the existing transfer site and sewage lagoons.

Visitor Services

Background

At this time, the Cima Store is the only facility-based commercial operation in the Preserve. The privately operated store on private land has a limited number of items and continues to serve customers traveling on the Kelso-Cima Road.

Special use permits are issued for commercial services such as guided tours and hunting guide services. Currently, the park issues permits annually to 2 licensed hunting guides to provide guiding service for bighorn sheep hunts.

Several commercial facilities outside the Preserve offer lodging, food, and other items. The town of Baker has several motels, gas stations, restaurants, fast-food services, and markets. Small facilities at Halloran Summit and the Cima Road exits off Interstate 15 offer various visitor services. Primm, Nevada, about 15 miles from the Preserve's north boundary, contains a major resort/casino. Nipton offers a small amount of lodging and a few camping spaces. Goffs has a small restaurant and Fenner has a gas station/market. Needles offers a broad range of services to visitors.

Plan Actions

A concession contract to operate a small food service facility in the Kelso Depot is being considered. As visitation increases, a facility may be desirable outside the Depot in another building that will offer limited emergency grocery items. No other food service facilities are being considered on park lands. The park will not develop lodging facilities for visitors on park lands, but will rely on gateway communities to provide these services.

Some level of commercial services may be sought in the Kelso Depot, Cima and Hole-in-the-Wall areas to provide compatible recreation services and equipment for visitors. Services might include backcountry jeep tours (including the Mojave Road) and horseback rides. Equipment rentals that could provide for enhanced visitor use might include bicycle and camping equipment rentals. Currently, the park issues permits annually to two licensed hunting guides who provide guiding service for bighorn sheep hunts. Commercial towing services that desire to provide service inside the park boundary will need to apply for a commercial use license and post a performance bond.

Military Activities

Background

The Preserve is within 100 miles of five U.S. Department of Defense facilities having air operations: National Training Center at Fort Irwin, China Lake Naval Air Weapons Station, Marine Corps Air-Ground Combat Center, and Air Force Bases at Edwards and Nellis. Military aircraft from these facilities occasionally use airspace over the Preserve.

Mojave is subject to irregular and occasional such use along specified training routes. A small area of the park near Baker is under FAA designated special use airspace, called the "Silver" military operations area (MOA). This special use airspace and IR (instrument) and VR (visual) routes and are created by the Federal Aviation Administration to warn other civil aviation pilots that high speed (over 250 knots), low level (down to 200 feet above ground level) aircraft may be encountered. Slower military aircraft, such as helicopters, may be encountered anywhere over the Preserve. The Desert Managers Group has established an interagency Overflight Working Group comprised of land managers and military staff to identify and attempt to resolve overflight issues.

Plan Actions

The California Desert Protection Act (CDPA) authorizes continued low-level overflights by military aircraft over new parks and wilderness areas. Section 802 provides:

> Nothing in this Act, the Wilderness Act, or other land management laws generally applicable to the new units of the National Park or Wilderness Preservation Systems (or any additions to existing units) designated by this Act, shall restrict or preclude low-level overflights of military aircraft over such units, including military overflights that can be seen or heard within such units.

Mojave will monitor military overflights and attempt to document where conflicts with visitor use or resource protection may exist. The park will seek to minimize such conflicts wherever possible, while recognizing the military's mission and authorized use. The park will work closely with the airspace manager and the Overflight Working Group to identify conflicts and implement solutions.



Partnerships and Other Relationships

The National Park Service recognizes that cooperation with other land managers, tribal governments, organized groups, universities and private landowners can serve to accomplish much greater ecosystem sustainability and achievement of park management goals than actions taken solely by park staff. Therefore, the park will pursue opportunities that will result in the development of cooperative agreements and partnership agreements with stakeholders interested in assisting with the protection of park resources and providing for visitor services.

One such example is the cooperative agreement the NPS developed with the Fund for Animals. This agreement provides for this organization to accept, for purposes of adoption, of up to 300 feral burros per year, during our removal efforts. This effort provides an additional avenue for captured burros to be relocated as soon as possible, and at minimum cost to taxpayers.

Education and Research Partnerships

Background

One of the missions of the National Park Service is to conduct educational outreach on natural and cultural resource preservation and management. These outreach efforts extend beyond the park boundary to include classrooms of local schools in and around the park unit. Reaching youth in the classroom and educating them on resource preservation and management serves to protect parks from impacts associated with uninformed visitors pursuing activities that may harm park resources. This effort can do more to protect parks through education than an equivalent number of staff simply enforcing regulations in the park. To fulfill this part of our mission, Mojave maintains an active presence in local classrooms, currently primarily in Needles and Baker.

Park staff also perform outreach through other activities such as local fairs, presentations to local clubs and groups and through the media.

Parks serve as ideal classrooms for students to learn about the natural and cultural resource values of the desert. Setting foot on sand dunes, or a cinder cone, or hiking through the Joshua Tree forest on Cima Dome, are experiences that cannot be duplicated with video, slides or other means. Mojave National Preserve is an ideal natural classroom for school groups anywhere to experience and study the Mojave Desert. To encourage school use, Mojave provides staff to lead specific ranger walks and talks for school groups as requested. Schools



are also be encouraged to utilize the park for extended classroom work, such as week long classes over spring break, where schools may bring a class and conduct an entire field class focusing on desert resources.

The University of California through the Granite Mountains Natural Reserve, and California State Universities through the Soda Springs Desert Studies Center, also promote school educational activities and offer specific classes for students and the general public via cooperative agreements with the park.

The University of California owns and maintains a series of reserves throughout California. The purpose of these reserves is to manage, protect and preserve sites that are undisturbed examples of California's extraordinary and diverse habitats for long term scientific research and for public education. On federal lands, this state purpose must be balanced with the park purpose and mission of protecting resources for visitor enjoyment. The National Park Service strongly supports and encourages the use of the Reserve for research and educational activities, consistent with applicable laws and regulations.

The Granite Mountains Natural Reserve is a 9,000-acre area in the southeast corner of the Preserve recognized by Congress in the CDPA. The University of California owns fee title to 2,200 acres of the Reserve, while most of the remainder is owned by the federal government and managed by the National Park Service. A 20-acre patented mining claim is also privately held inside the reserve.

The Soda Springs Desert Study Center operates from facilities and land at Zzyzx that are owned by the federal government and are under the management authority of the NPS by virtue of their inclusion within the Mojave National Preserve. Many historic structures are located at this desert oasis,

which has served as a desert research and educational facility for over twenty years. The NPS could benefit from a partnership with CSU to provide for continued maintenance and security of the facilities, offering of educational activities on desert resources for the public, and to attract scientific interests to pursue research in the Preserve.

Research and education are core mission elements of the NPS national goals and of the Preserve's enabling legislation. Congress highlighted these issues in the CDPA with following passages:

> These desert wildlands display unique scenic, historical, archeological, environmental, ecological, wildlife, cultural, **scientific, educational** and recreational values used and enjoyed by millions of Americans for hiking and camping, **scientific study** and scenic appreciation. (emphasis added)
>
> Retain and enhance opportunities for scientific research in undisturbed ecosystems.

Plan Actions

In recognition of the legislative direction and the scientific value of parks as natural laboratories, investigators will be encouraged to use the parks for scientific studies whenever such use is consistent with NPS policies and law. The Preserve will promote cooperative relationships with educational and scientific institutions and qualified individuals with specialized expertise that can provide significant assistance to the park. To the extent they are available, NPS facilities and staff assistance may be made available to qualified researchers and educational institutions conducting authorized studies or field classes.

The Preserve staff will continue to pursue partnerships with school teachers and university field offices at the Soda Springs Desert Study Center, the Granite Mountains Natural Reserve, and others to provide students and the public with current information on the cultural and natural elements of the Preserve. Where possible, field classes and seminars will be offered with assistance from California State consortium and University of California systems and other education providers. Educational programs will be expanded as staffing permits. Programs and information will be developed for visitors with little previous exposure to desert areas. Programs will seek to make resources and experiences more accessible to diverse audiences while retaining primitive conditions and protecting resources. A special educational outreach effort will be made to reach students that might otherwise not have an opportunity to visit national parks.

Soda Springs Desert Study Center. In accordance with CDPA (section 514), a cooperative management agreement will be developed between the National Park Service and California State University (CSU) to:

- provide for the management of the facilities at the Soda Springs Desert Study Center
- ensure the continuation of desert research and educational activities, consistent with laws applicable to NPS units.

A cooperative agreement will be used to define each entity's roles and responsibilities under the following guidance and framework:

- the NPS is ultimately responsible for the protection and management of all natural and cultural resources
- general public use and visitor access to the site will be supported, with opportunities for interpretation, self-guided trails and programs encouraged
- the Preserve will retain oversight and permitting responsibility for research and educational use
- the Preserve will retain authority and responsibility for law enforcement, interpretation and environmental education
- CSU will retain maintenance and security responsibility for most buildings and structures
- Modifications to existing structures or the addition of new structures may not occur without NPS permitting and compliance
- Mojave will have access to the facilities for public or agency functions
- a site management plan will be developed in cooperation with CSU
- a cooperative agreement with California Fish and Game, Fish and Wildlife Service, CSU and the NPS will be pursued to establish management goals, activities and responsibilities regarding the endangered Mohave tui chub population of fish

Granite Mountains Natural Reserve. In accordance with CDPA, section 513, a cooperative management agreement has been developed between the National Park Service and the University of California to:

- provide for the management of lands within the Granite Mountains Natural Reserve
- to ensure the continuation of arid lands

research and educational activities, consistent with laws applicable to NPS units.

The designated wilderness within the reserve will be managed for wilderness values. The discharge of weapons in the natural reserve will continue to be prohibited by San Bernardino county ordinance and the National Park Service.

The objectives of the cooperative management agreement are:

- To develop, coordinate and implement research, inventorying and monitoring, and public education programs and projects to protect, restore and explain the natural, cultural, recreational and wilderness resources of the park and the Mojave desert ecosystem.
- To develop scientific knowledge through research to guide management decisions concerning the conservation, preservation and restoration of natural, cultural and recreational resources of the park and the Mojave desert ecosystem.
- To ensure continuation of the University's arid lands research and educational activities.
- To develop, coordinate and implement, as may be jointly agreed to, a general program of education and public outreach related to the educational and research needs of the University and the resource management and interpretive needs of the park.
- To make available to each other, when mutually agreed to and in accordance with the provisions of this agreement, assistance and support, including but not limited to, funds, supplies, equipment, facilities, staff, etc. to carry out programs, projects and activities related to the objectives and purposes of the agreement.

The National Park Service recognizes the concern with protection of long term research plots, and will work with the research community to address issues and concerns associated with their research and educational activities in the Preserve and the natural reserve.

Cooperative Ecosystem Studies Units. The National Park Service has a long history of association with universities near parks to promote research and educational activities in parks. One such unit has been located on the campus of the University of Nevada at Las Vegas for over 25 years. These units were once staffed by NPS scientists. These scientists now work for the Biological Resources Division of the U.S. Geological Survey, and the mission has evolved to be broader in scope than just parks. The new concept of Cooperative Ecosystem Studies Units (CESU) is being pursued nationally, with the goal of four new units being established in FY 2000. One of these new units was recently established at the University of Arizona to serve the southwest desert area. Mojave supports the retention of the existing CESU at UNLV, and embraces the newer CESU concept, and will utilize them as one mechanism to provide research, inventory and monitoring capabilities to meet park objectives.

Gateway Communities

Background

Communities on the access routes to the Preserve provide the best opportunity for visitors to secure food, lodging, and other services prior to enjoying their park visit. The park currently operates information centers in Baker and Needles, with employees living in both locations.

Plan Actions

The park will encourage and support economic growth of gateway communities in ways that complement the Preserve's mission and management objectives. Some examples of partnership agreements that could be considered include:

- Cooperative ventures to provide visitor information and services
- Zoning or planning to protect solitude, natural quiet, pristine night sky, and prevent unsightly billboards
- Sharing of data and expertise

California Department of Parks and Recreation

Background

Within the boundary of Mojave National Preserve is the Providence Mountains State Recreation Area, managed and operated by the State of California. The prime attraction is Mitchell Caverns, where guided tours are offered. A developed campground with six campsites and RV camping is also available.

Plan Actions

The National Park Service has a statewide cooperative agreement with the Department of Parks and Recreation that addresses cooperative management

issues at several locations throughout California. The Preserve will also seek to develop a local partnership with the State to:

- share staff, expertise, facilities and other resources for cooperative resource management, interpretation, law enforcement and maintenance activities.
- share radio system repeater sites and equipment
- collaborate on signing on interstates and park roads
- collaborate on planning efforts for visitor service programs

Native American Interests and Relationships

Background

Tribal Relationships. For millennia, American Indian peoples have lived within the region of the present Preserve, using the resources and lands to sustain their lives and cultures. During the 1950s and 1960s, Federal Indian Lands Claims court cases involving Chemehuevi, Mohave, and Owens Valley Paiute tribes included documented occupation and use of many mountain ranges, valleys, and resources in the Mojave Desert region. Maps illustrating Chemehuevi use of the lands now in Mojave National Preserve were accepted by Mohave tribal officials as well. Individual members of the Mohave Tribe have family historical information on early 20th century land uses in or near Preserve lands. Today's tribal governments and communities historically associated with the region in which the Preserve is located include:

- The **Chemehuevi Indian Tribe Reservation** (30,600 acres) was established by presidential executive order in 1971. Federal recognition was received in 1970. Economic support derives from land leases, retail businesses, tourism and recreation services, and gaming. Tribal enrollment is about 500 persons, 300 of whom reside on or near the Havasu Lake, California, developed area.

- **Mohave Indian Tribe Reservation** lands lie in Arizona, California, and Nevada, but tribal offices and some residential areas are in Needles, California. In 1864 a reservation was established from a former military fort reserve and nearby traditional lands. Economic developments relating to gaming, tourism, recreation, and retail business with considerable agricultural land leases provide tribal and individual incomes. The tribe population numbers approximately 1,000, with some 500 people living on or near reservation lands.

- The **Las Vegas Piute Tribe** is composed of "Nuwuvi" people, called Paiute by others, who have inhabited present-day southern Nevada from pre-European time to the present. In 1911 a small parcel of trust land was established near the town of Las Vegas. Today, the tribe owns the original 16-acre area and a 3,800-acre area north of metropolitan Las Vegas. The tribe numbers about 100 people who obtain their economic support from tribal tourism enterprises, retail sales, and wage work.

- Located in San Bernardino County, California, the **San Manuel Tribal Community** is composed of historic Serrano peoples who occupied the mountainous areas in present-day Riverside and San Bernardino counties, with their related neighbors, the various Cahuilla communities. The 660-acre reservation was established by Congress in 1893. The tribe consists of about 85 persons residing on or near trust lands. Tribal enterprises include a casino and a curation facility.

The opportunity to consult with American Indians arises from the historic as well as current government-to-government relationship of the federal government with them and from the related federal trust responsibility to help conserve tribal resources. Tribal sovereignty is involved and supported by the government-to-government relationship. The government-to-government relationship stems from treaties, laws, and other legal entities, including presidential executive orders, proclamations, and memorandums; federal regulations; and agency management policies and directives. Examples are:

- The Native American Graves Protection and Repatriation Act of 1990 (Public Law 101-601);
- The National Historic Preservation Act of 1966 (Public Law 89-665, as amended by Public Law 102-575);
- The Indian Self-Determination Act and Education Assistance Act of 1975 (Public Law 93-638 and Public Laws 103-413, 103-435, and 103-437);
- The Presidential Memorandum entitled "Government-to-Government Relations With

Native American Tribal Governments" (April 29, 1994) and Executive Order 13007 "Indian Sacred Sites" (May 24, 1996).

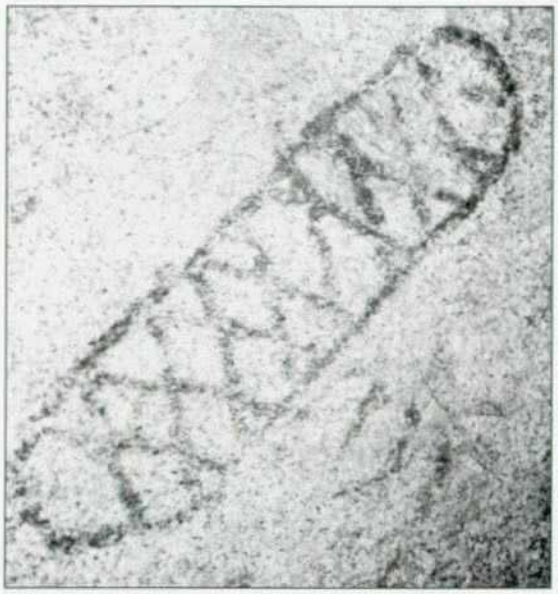
Traditional Cultural and Religious Activities. Section 705 of the California Desert Protection Act recognizes past uses of parks and wilderness areas by Indian people for traditional cultural and religious purposes, and ensures access for these uses. The Act also provides for temporary closures to the general public, upon request of an Indian tribe or Indian religious community, of one or more specific portions of the park or wilderness area in order to protect the privacy of such activities.

Sacred Sites. Executive Order 13007, entitled "Indian Sacred Sites," states that each federal government agency with responsibility for the management of federal lands "shall, to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions (1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners, and (2) avoid adversely affecting the physical integrity of such sacred sites."

Indian Trust Resources. The federal government is obligated to protect, conserve, and manage Indian trust lands, water and fishing interests, and traditional use areas and other trust resources. Secretarial Order 3175, "Departmental Responsibilities for Indian Trust Resources (August 17, 1994)," required each bureau and office in the Department of the Interior to identify potential effects of departmental activities upon Indian trust resources and mandated meaningful consultation with tribes where activities directly or indirectly affect these resources. Responding to this order, the National Park Service adopted a document, "Carrying Out the Government-to-Government Relationship with American Indians and Alaska Natives in the National Park Service" (October 12, 1995), committing the NPS to a policy of interacting directly with tribal governments regarding the potential impacts of proposed Service activities on Indian tribes and trust resources.

Plan Actions

Tribal Relationships. In the conduct of government-to-government relations, National Preserve managers aim for effective communication and the sharing of information and knowledge about mutual interests in Preserve planning and operations and in managing cultural and natural resources. Thus, the National Park Service will consult on a regular



basis with historically affiliated tribes to accomplish its programs in ways that respect their traditions, beliefs, practices, and other cultural values. NPS staff will continue to work with the tribes in ways such as the following:

- Consulting on any future National Preserve planning documents
- Consulting on National Preserve operations as they may affect any economic interests of the tribes
- Consulting on National Preserve operations as they may affect any joint law enforcement efforts or other intergovernmental concerns
- Consulting on resource management, especially cultural resource management such as identifying and protecting archeological and ethnographic sites
- Consulting on cultural matters, such as National Preserve interpretation of Indian history and heritage

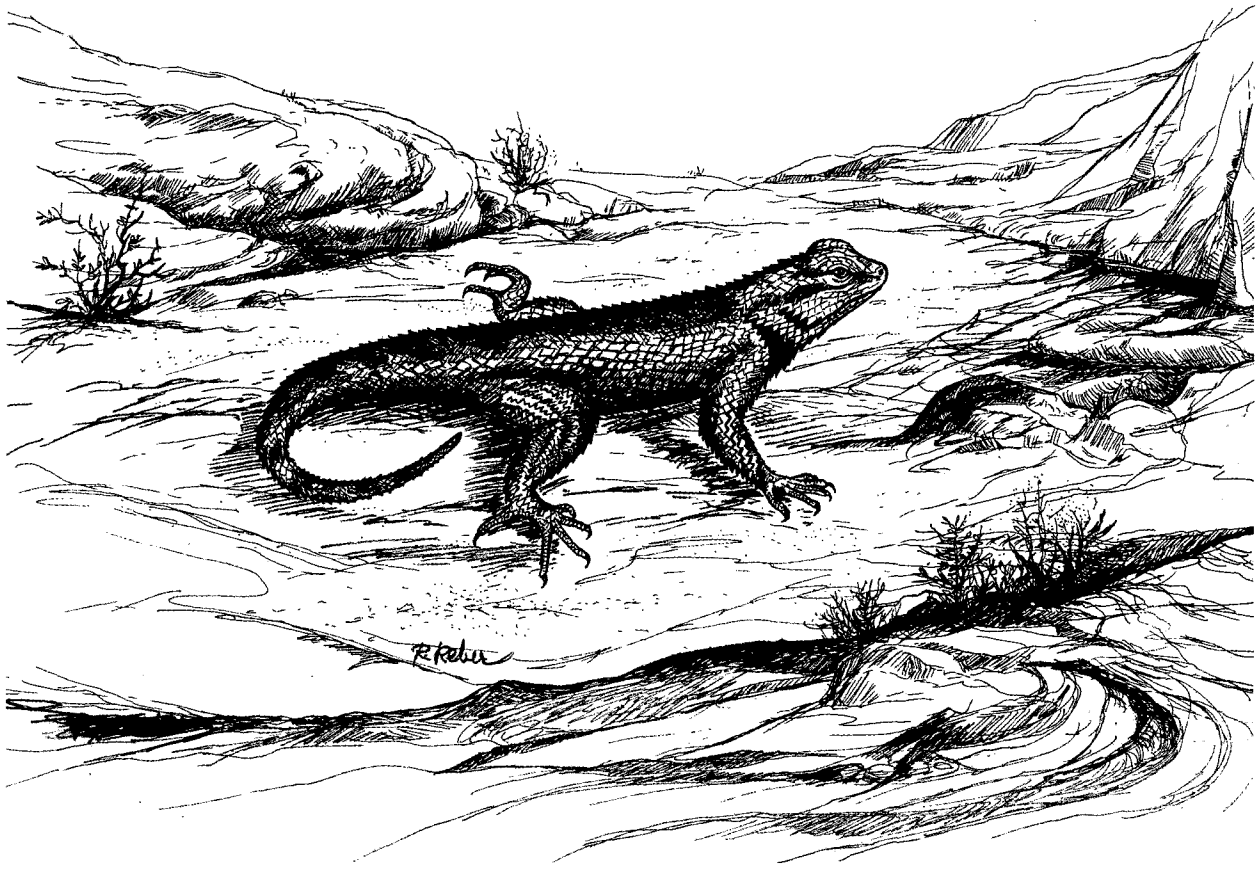
Any archeological, ethnographic, and historical collections of Mojave National Preserve would be managed in accordance with the *NPS Management Policies* (2001), its *Museum Handbook* (1998); and its *Cultural Resource Management Guidance* (Director's Order 28: 1998). Any human remains of Indian affiliation found within the National Preserve, now and in the future, would be treated under the regulations of the Native American Graves Protection and Repatriation Act of 1990, as would any artifacts of possible cultural patrimony. The Director's Order 71, *Relationships with American Indians and Alaska Natives* (1999), is also being developed and would provide overall guidance.

The National Park Service recognizes the importance of the cultural resources that are within the National Preserve boundaries to the local American Indian peoples. Accordingly, the National Park Service will continue to coordinate its management of these resources with the appropriate tribal officials and to consult with them on any matters that might affect their interests. The National Park Service also recognizes the economic impact that its management decisions could have on the tribes and will continue to work and consult with the tribes on a government-to-government basis to ensure that their interests in these areas are properly considered before any relevant NPS decisions are made.

Traditional Cultural and Religious Activities. Any closures are to be for the smallest area practicable and for the minimum necessary period. Access must be consistent with the purpose and intent of the American Indian Religious Freedom Act (Public Law 95-341; 42 U.S.C. 1996), and the Wilderness Act, if applicable.

Sacred Sites. As part of its ongoing dialogue with the tribal governments and communities historically associated with lands in and near the Preserve, the National Park Service will seek to identify, preserve, and manage sacred sites.

Indian Trust Resources. As part of its ongoing dialogue with the tribal governments and communities historically associated with lands in or near the Preserve, the National Park Service will seek to identify, preserve, and manage "Indian trust resources" as specified in the aforementioned departmental order and corresponding NPS policy document.



Plan Implementation

Staffing and Budget

A park superintendent provides overall management of the park. The park is organized into five teams: Management, Administration, Maintenance, Resources Management, Interpretation, and Visitor Protection. Staff will be supplemented and/or supported using special project funds, contracts, assistance or expertise of various other NPS parks and central offices, and/or other partners, or organizations. The park's base operating budget in fiscal year 2001 is $3,660,000, which funds a workforce of approximately 50 positions. This workforce will be supplemented by volunteers and special project and program funds distributed by the National Park Service Regional and Washington offices. Achieving our annual performance goal targets is critically dependent on our base funding and on additional project funds, volunteer assistance, partnerships and donations.

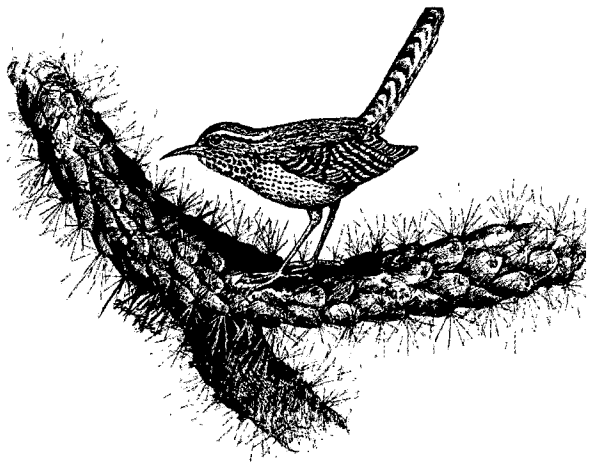
To fully implement the management plan over the 10-15 year life of the plan, assuming that the activities proposed will be undertaken and visitor use increases, an additional estimated 37 staff will be needed. This will require the addition of approximately $2.7 million per year for salaries, benefits, administrative expenses (space, utilities, vehicles, etc.) and project funds. The cost of funding all proposed facilities and activities identified will be an additional $14.9 million.

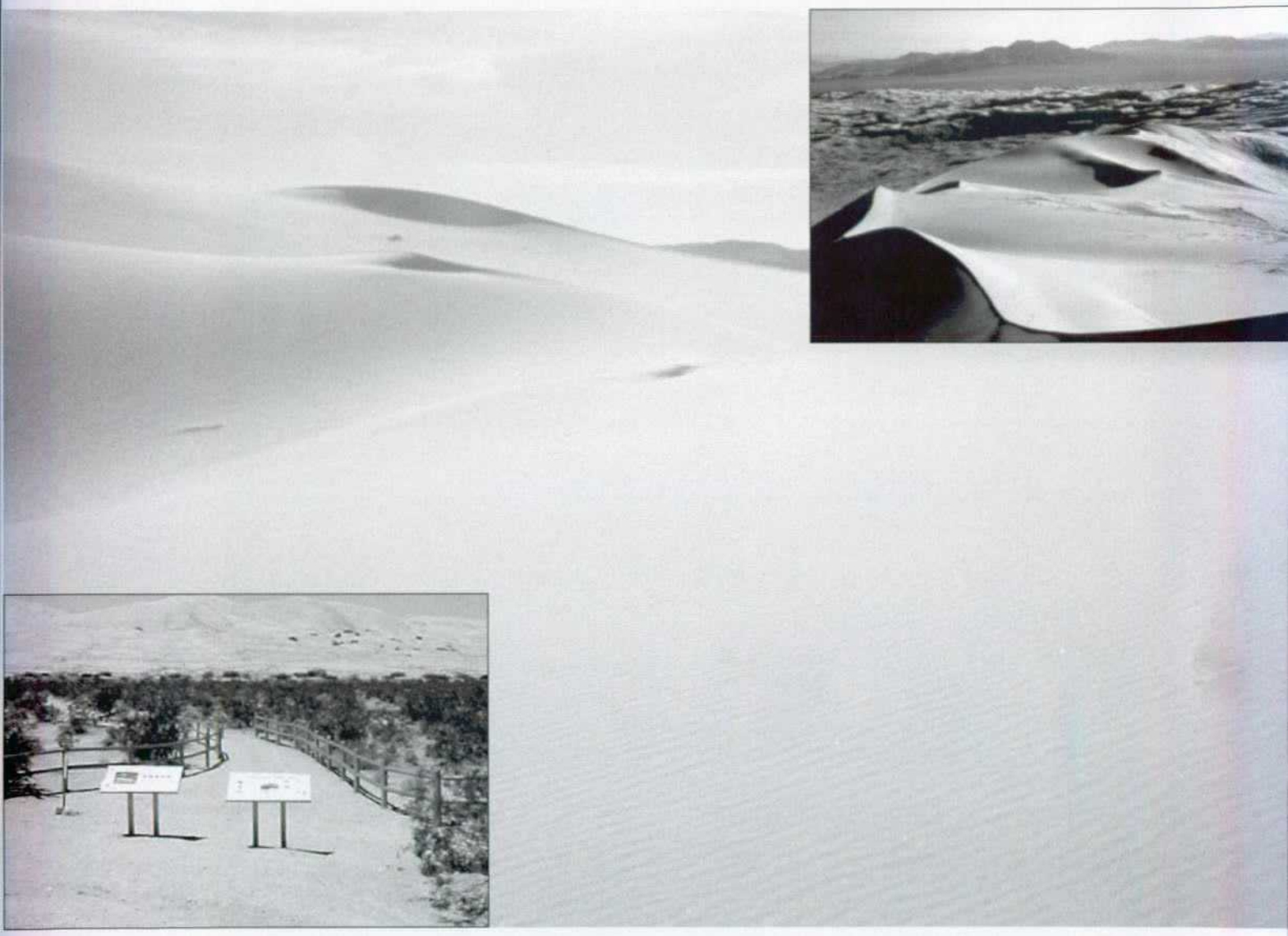
The majority of additional staff will be needed in resources management, visitor services and maintenance. However, such an increase will require an increase in administrative support as well. Approximately 14 positions are needed to fully maintain and operate the Kelso Depot seven days per week as an interpretive and visitor information facility. These positions will be interpretive rangers, visitor use assistants, protection rangers and maintenance positions. Specialized resource positions are also necessary to carryout the resource management programs proposed. Approximately 14 additional resource positions including wildlife biologists, hydrologists, historians and archeologists, restoration specialists and land resources specialists, are critical to the successful implementation of this plan. As visitation increases over the life of this plan, additional protection rangers and maintenance positions are also necessary, beyond those at Kelso Depot, to provide essential visitor and resource protection services. As overall staff size increases at the park, critical administrative support positions will have to be added to provide clerical, purchasing, contracting, budget, hiring and computer expertise.

Estimated Cost of Proposed Facility Development and Major Programs

The estimated costs associated with major new programs and proposed facility improvements, replacement, rehabilitation and new construction are provided in table 14. Construction and planning cost estimates are conceptual estimates only. These are costs of similar types of facilities and past NPS experience derived from contract data. The estimates include indirect costs added to cover such things as design services, contract supervision, and contingencies. They also take into account the cost of contracting for such services in a remote setting, seasonal constraints, labor availability, and wage rates. The costs are based on year 2000 values.

The estimated costs of acquiring private lands and mining claims are not yet available. No comprehensive evaluation of land acquisition costs has been undertaken in accordance with NPS policy and therefore cannot be estimated at this time. The cost of acquiring property involves title searches, appraisals, relocation costs, and fair market value of the property. These specific costs will be available only on a property by property basis and will need to be determined based on current market values. An approved cost estimate for land protection will be prepared at a later date by the Washington office.

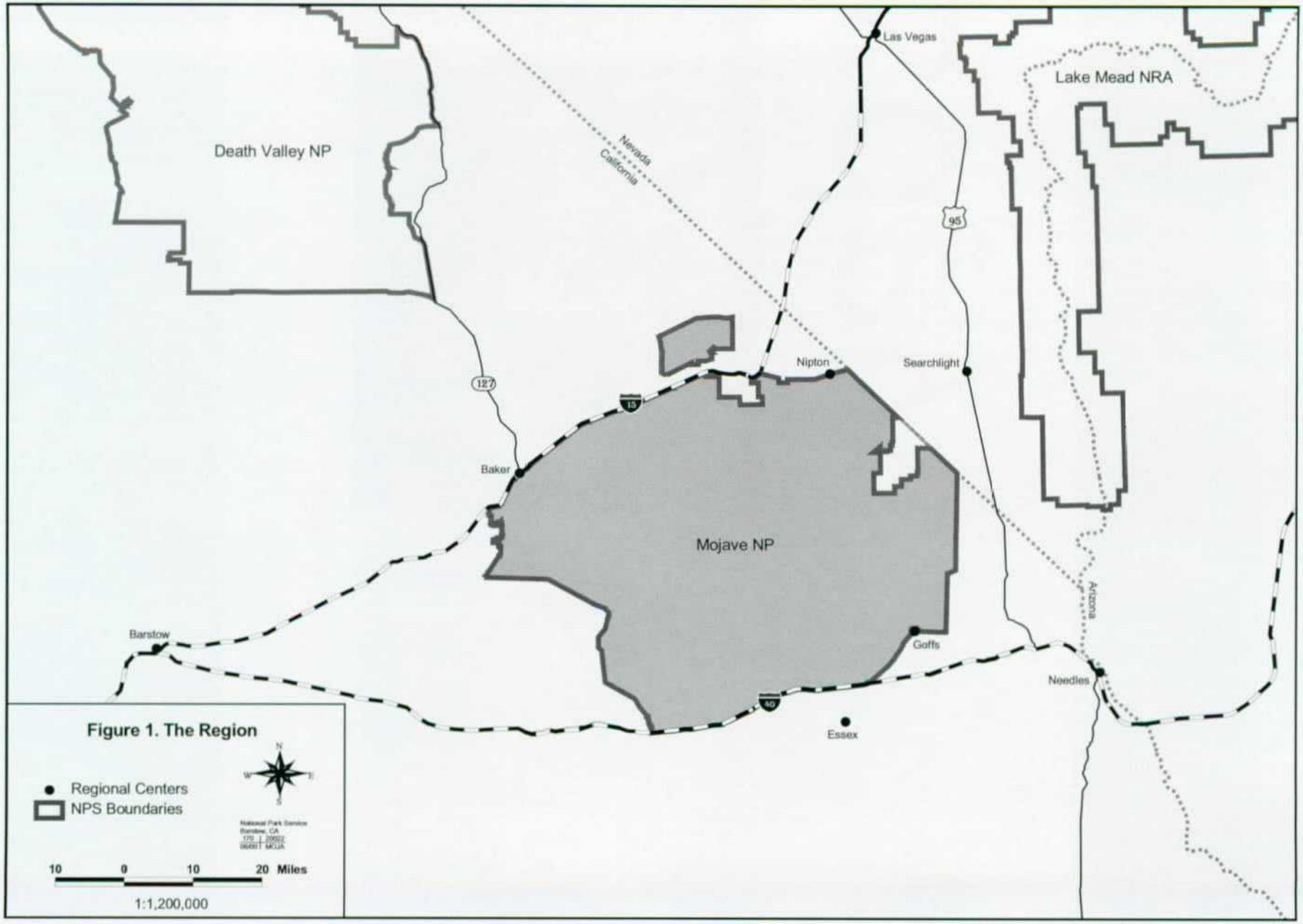


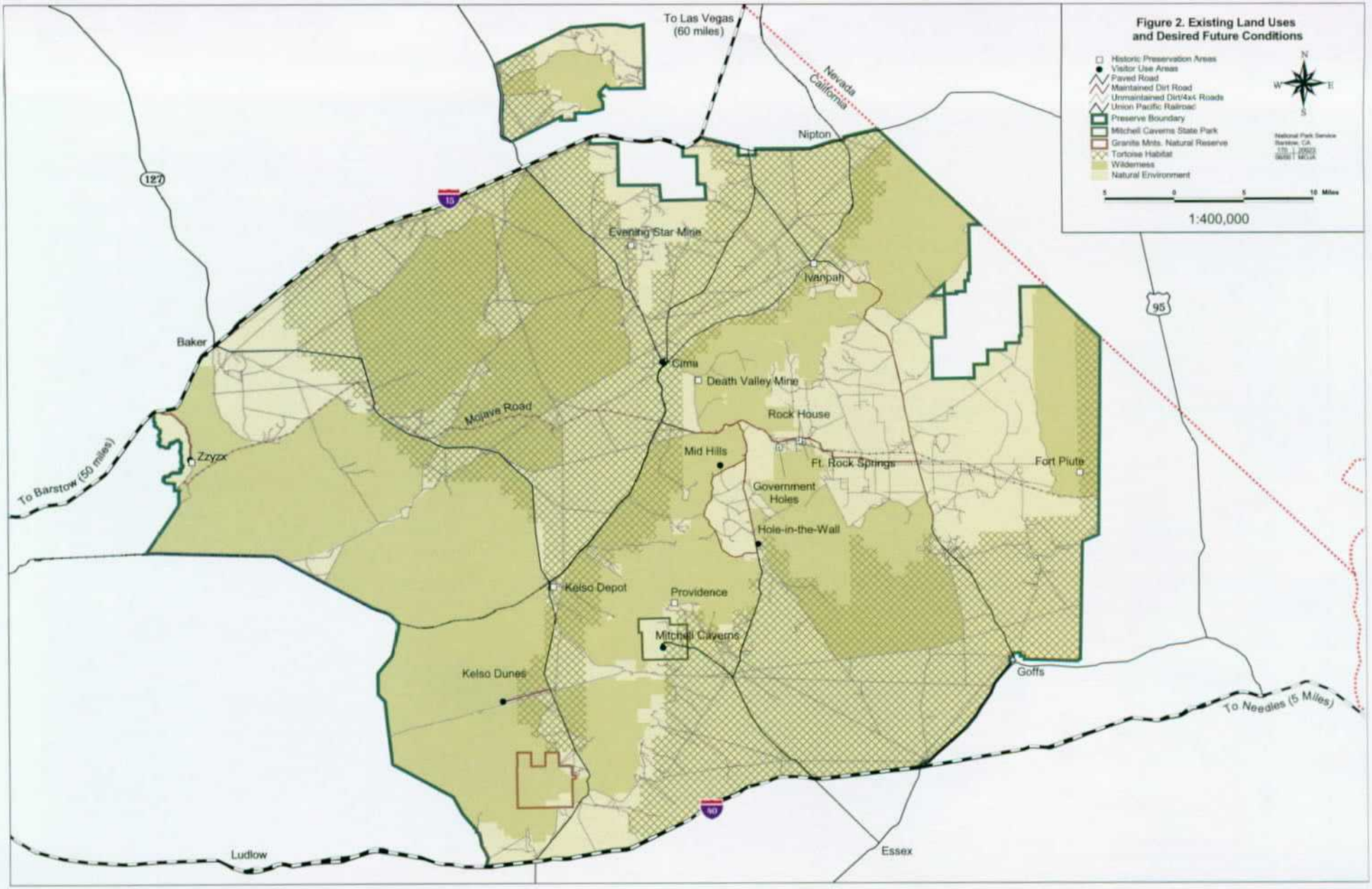


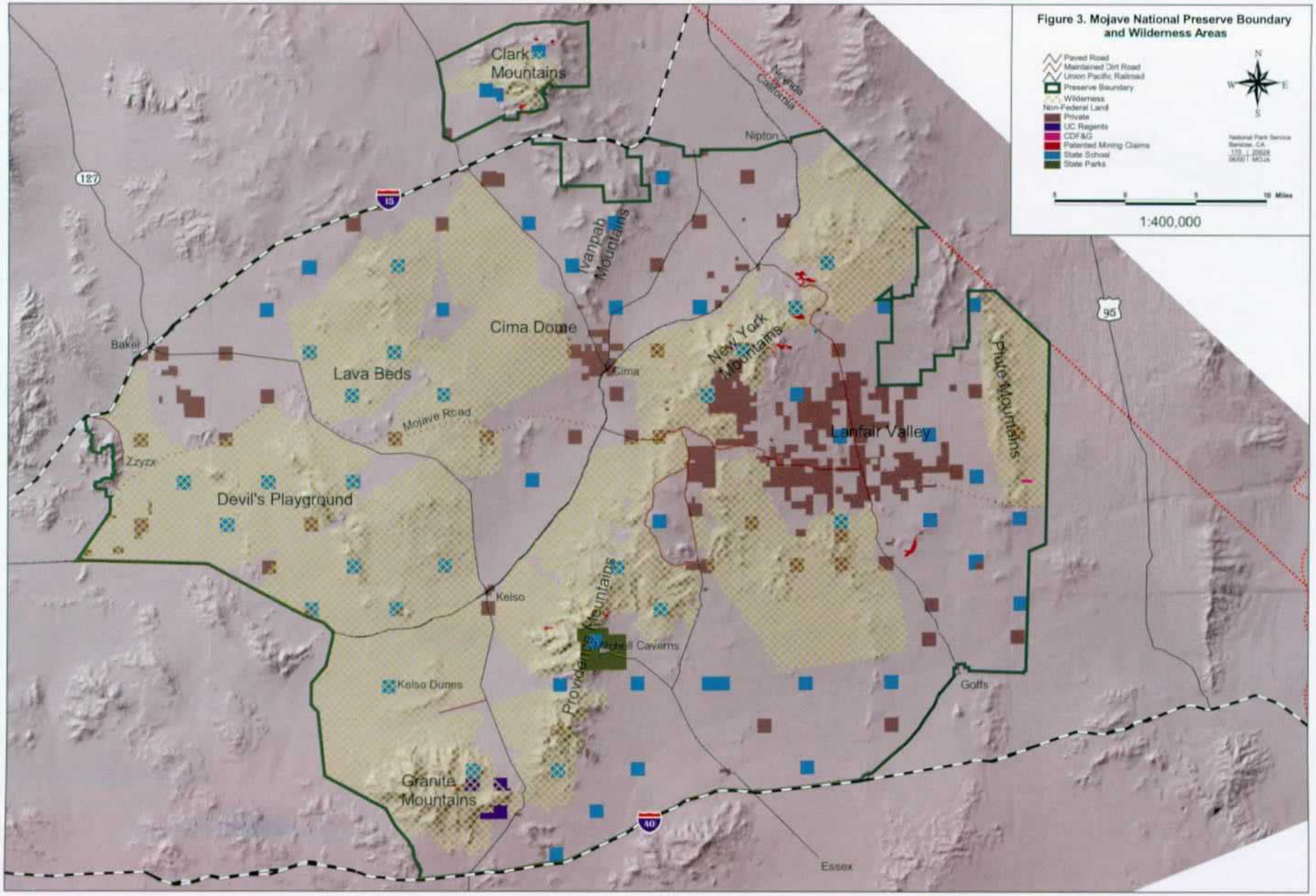
Maps

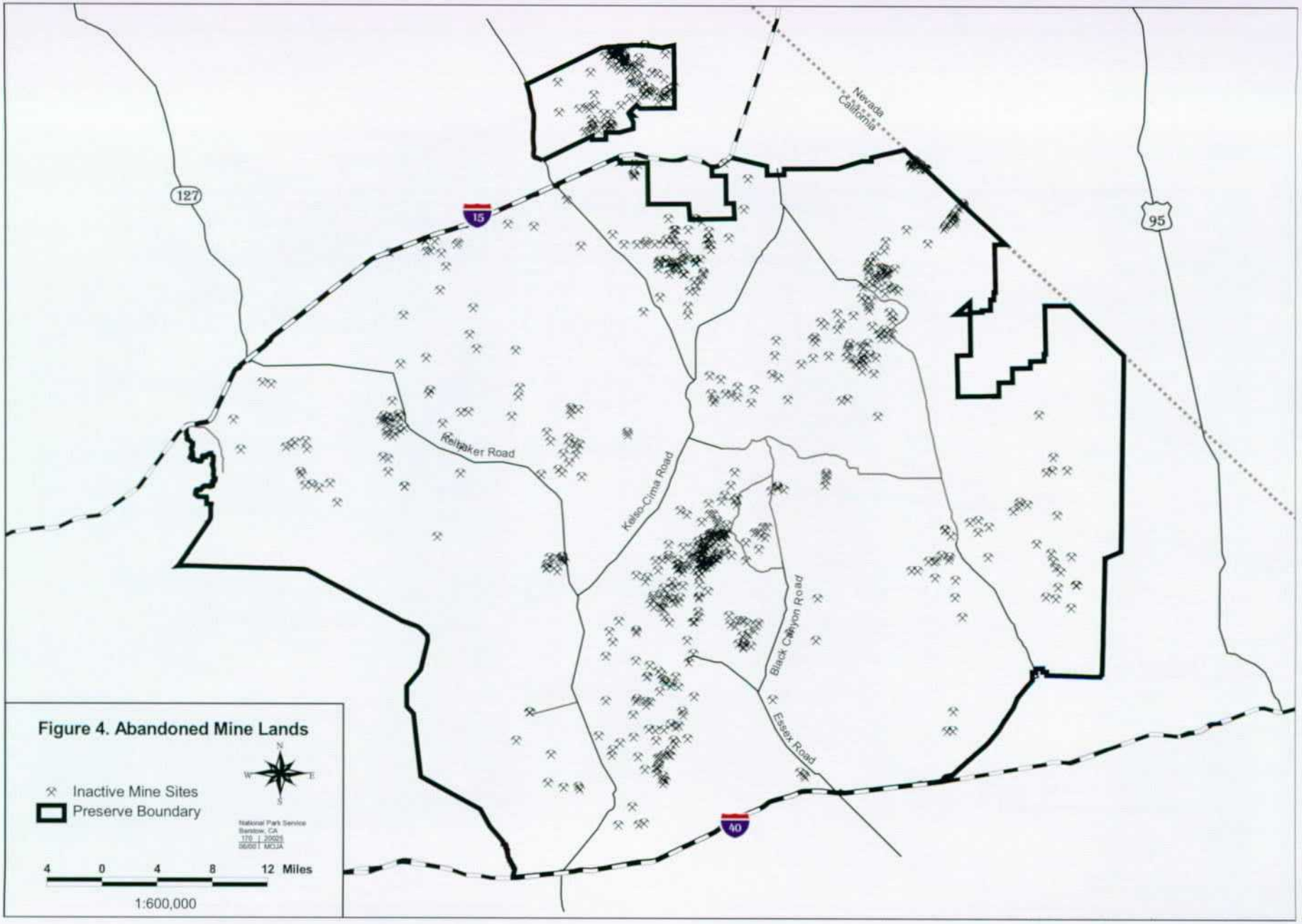
1. Region
2. Existing Land Uses and Desired Future Conditions
3. Mojave National Preserve Boundary and Wilderness Areas
4. Abandoned Mine Lands
5. Kelso Depot Site Plan
6. Soda Springs (Zzyzx) Developed Area
7. Hole-in-the-Wall Developed Area
8. Granite Mountains Natural Reserve
9. Major Rights-of-Way
10. No Shooting Areas
11. No Camping Areas
12. Mining Claims
13. Cattle Grazing Permits
14. Kelso Depot Existing Site Conditions

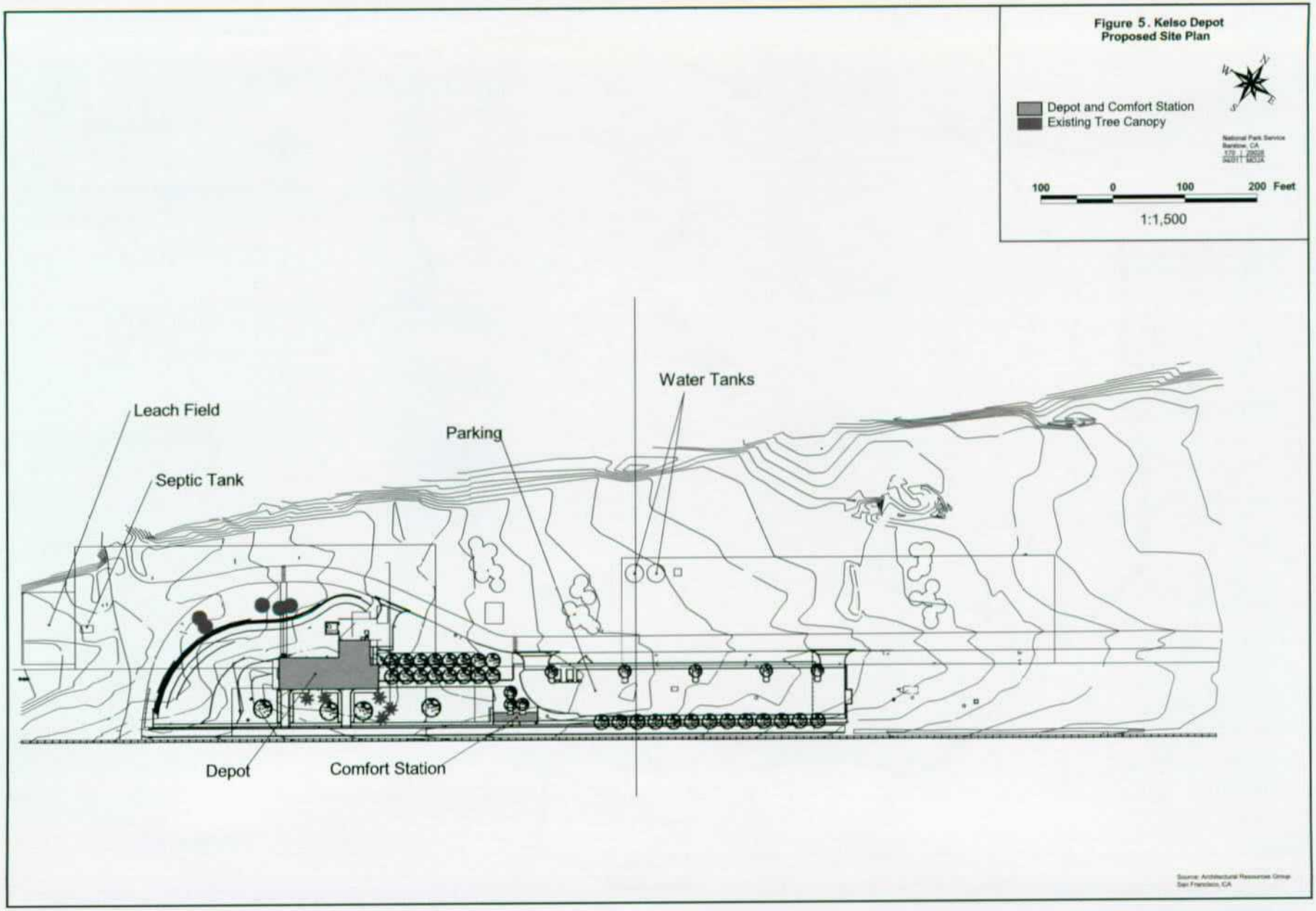



Las Vegas
Lake Mead NRA
Death Valley NP
Nevada
California
95
Nipton
Searchlight
127
15
Baker
Mojave NP
Arizona
Barstow
Goffs
Needles
40
Essex
Figure 1. The Region
Regional Centers
NPS Boundaries
10 0 10 20 Miles
1:1,200,000


Figure 2. Existing Land Uses and Desired Future Conditions
Historic Preservation Areas
Visitor Use Areas
Paved Road
Maintained Dirt Road
Unmaintained Dirt/4x4 Roads
Union Pacific Railroad
Preserve Boundary
Mitchell Caverns State Park
Granite Mnts. Natural Reserve
Tortoise Habitat
Wilderness
Natural Environment
N
W
E
S
5 0 5 10 Miles
1:400,000
To Las Vegas (60 miles)
Nevada
California
Nipton
127
15
Evening Star Mine
Ivanpah
95
Baker
Cima
Death Valley Mine
Mojave Road
Rock House
Zzyzx
Mid Hills
Ft. Rock Springs
Fort Piute
To Barstow (50 miles)
Government Holes
Hole-in-the-Wall
Kelso Depot
Providence
Mitchell Caverns
Kelso Dunes
Goffs
To Needles (5 Miles)
40
Ludlow
Essex


Figure 3. Mojave National Preserve Boundary and Wilderness Areas
Paved Road
Maintained Dirt Road
Union Pacific Railroad
Preserve Boundary
Wilderness
Non-Federal Land
Private
UC Regents
CDF&G
Patented Mining Claims
State School
State Parks
N
W
E
S
1:400,000
Clark Mountains
Nevada
California
Nipton
127
15
Ivanpah Mountains
Cima Dome
Baker
Lava Beds
Cima
New York Mountains
Mojave Road
Lanfair Valley
Piute Mountains
95
Zzyzx
Devil's Playground
Kelso
Providence Mountains
Mitchell Caverns
Kelso Dunes
Granite Mountains
Goffs
40
Essex


Nevada
California
127
15
95
40
Kelso-Cima Road
Black Canyon Road
Essex Road
Figure 4. Abandoned Mine Lands
Inactive Mine Sites
Preserve Boundary
National Park Service
Barstow, CA
170 | 20025
06/00T MOJA
4 0 4 8 12 Miles
1:600,000


Figure 5. Kelso Depot
Proposed Site Plan
Depot and Comfort Station
Existing Tree Canopy
National Park Service
Barstow, CA
100 0 100 200 Feet
1:1,500
Water Tanks
Leach Field
Parking
Septic Tank
Depot
Comfort Station

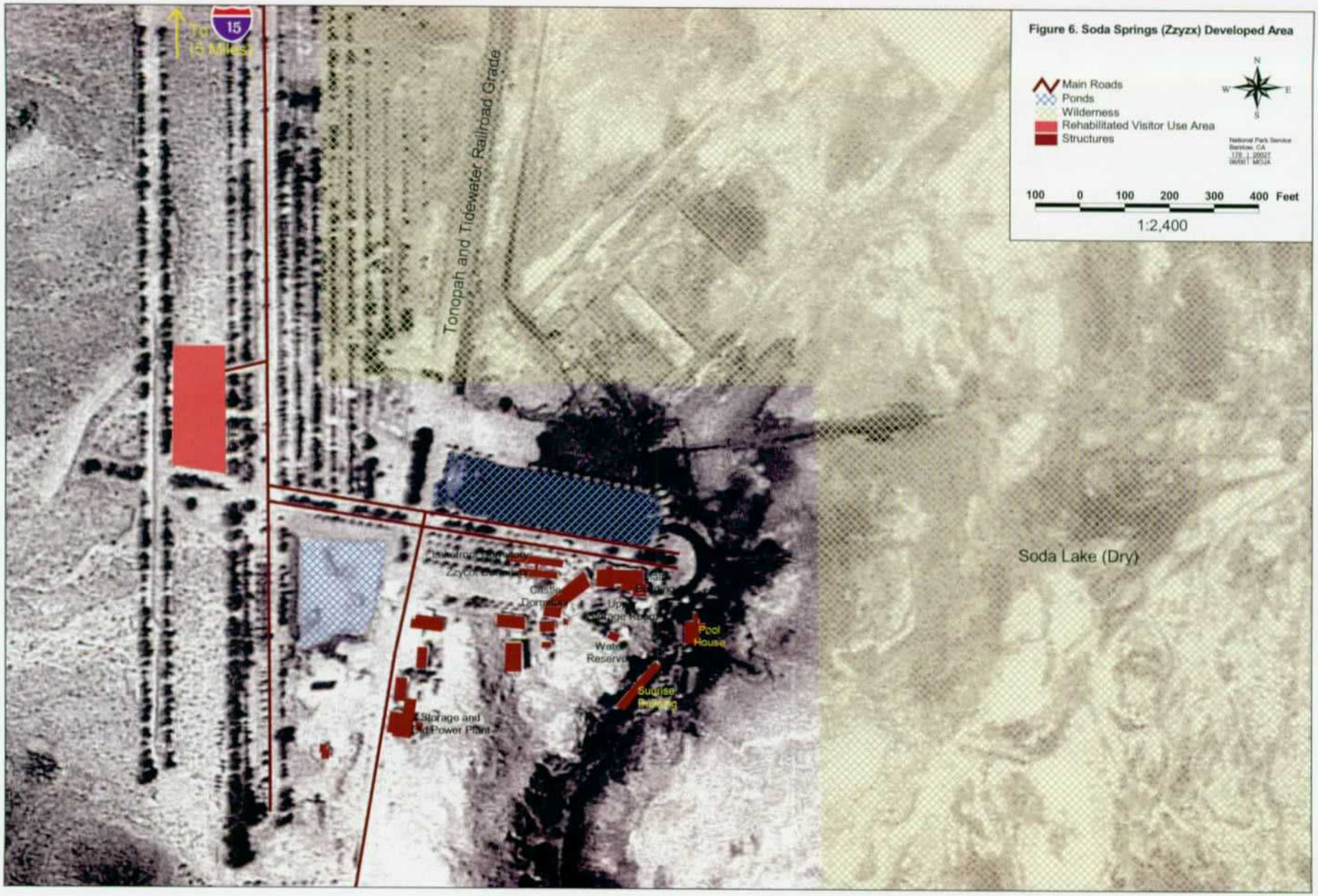


Figure 6. Soda Springs (Zzyzx) Developed Area

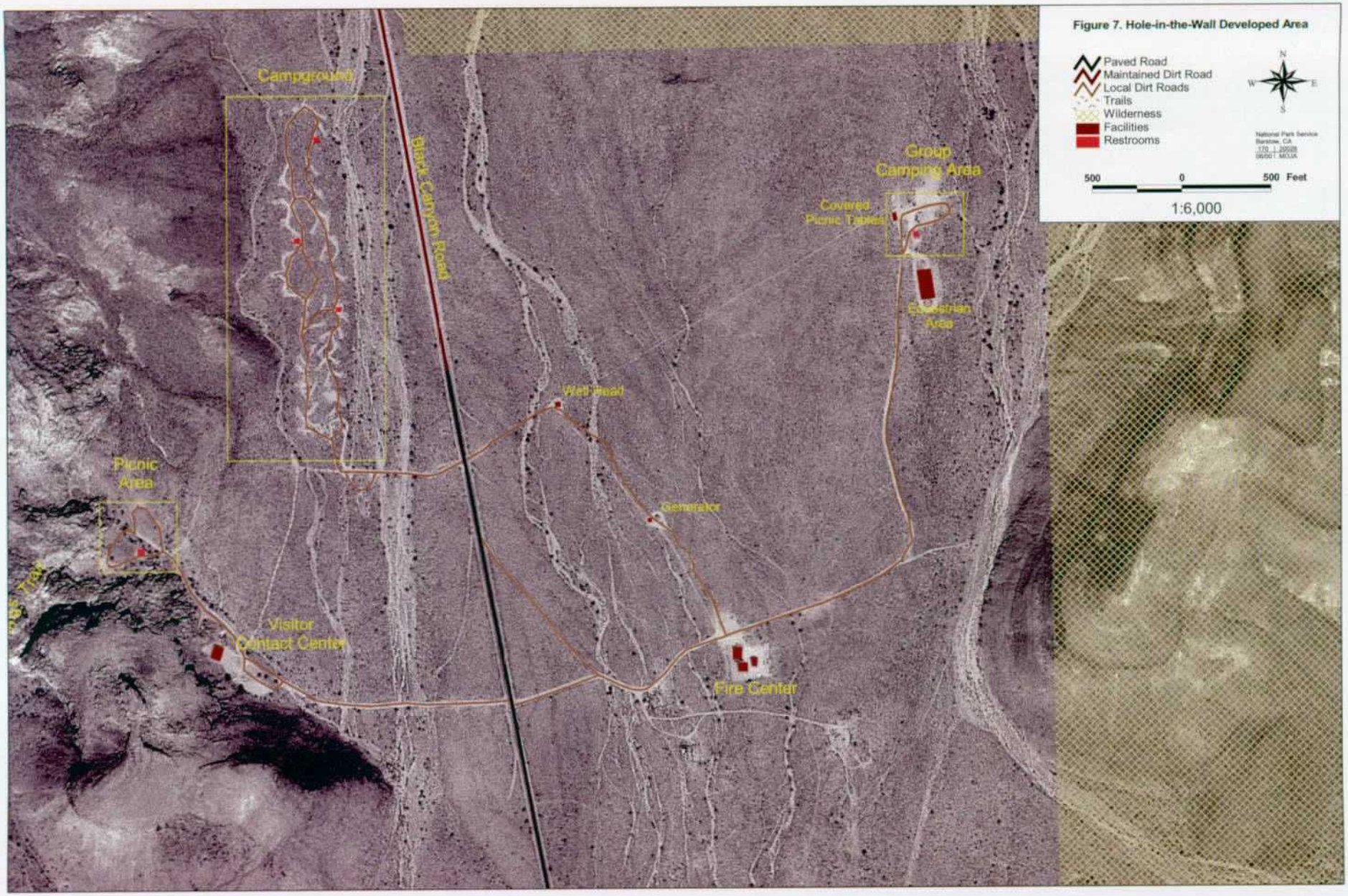
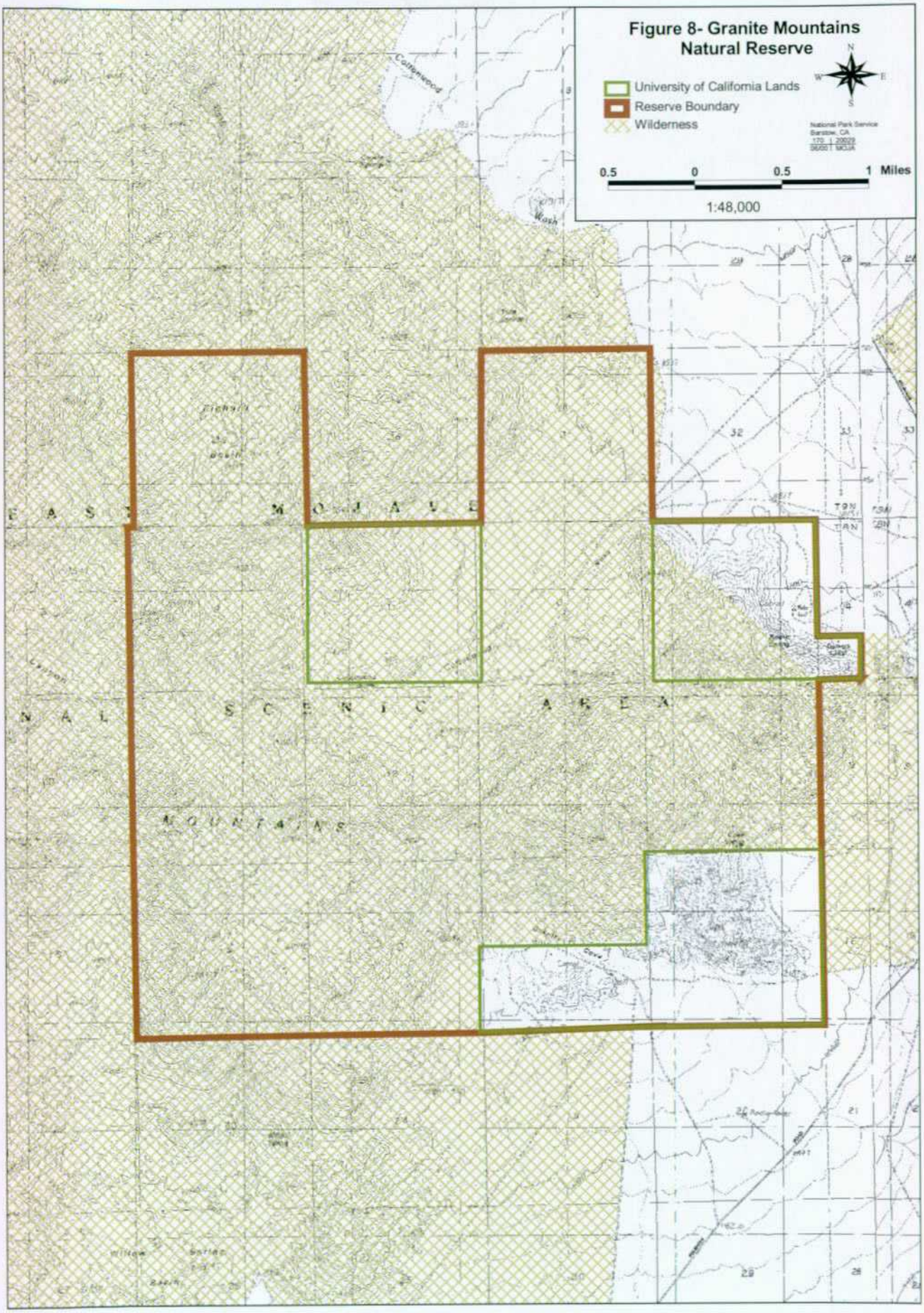
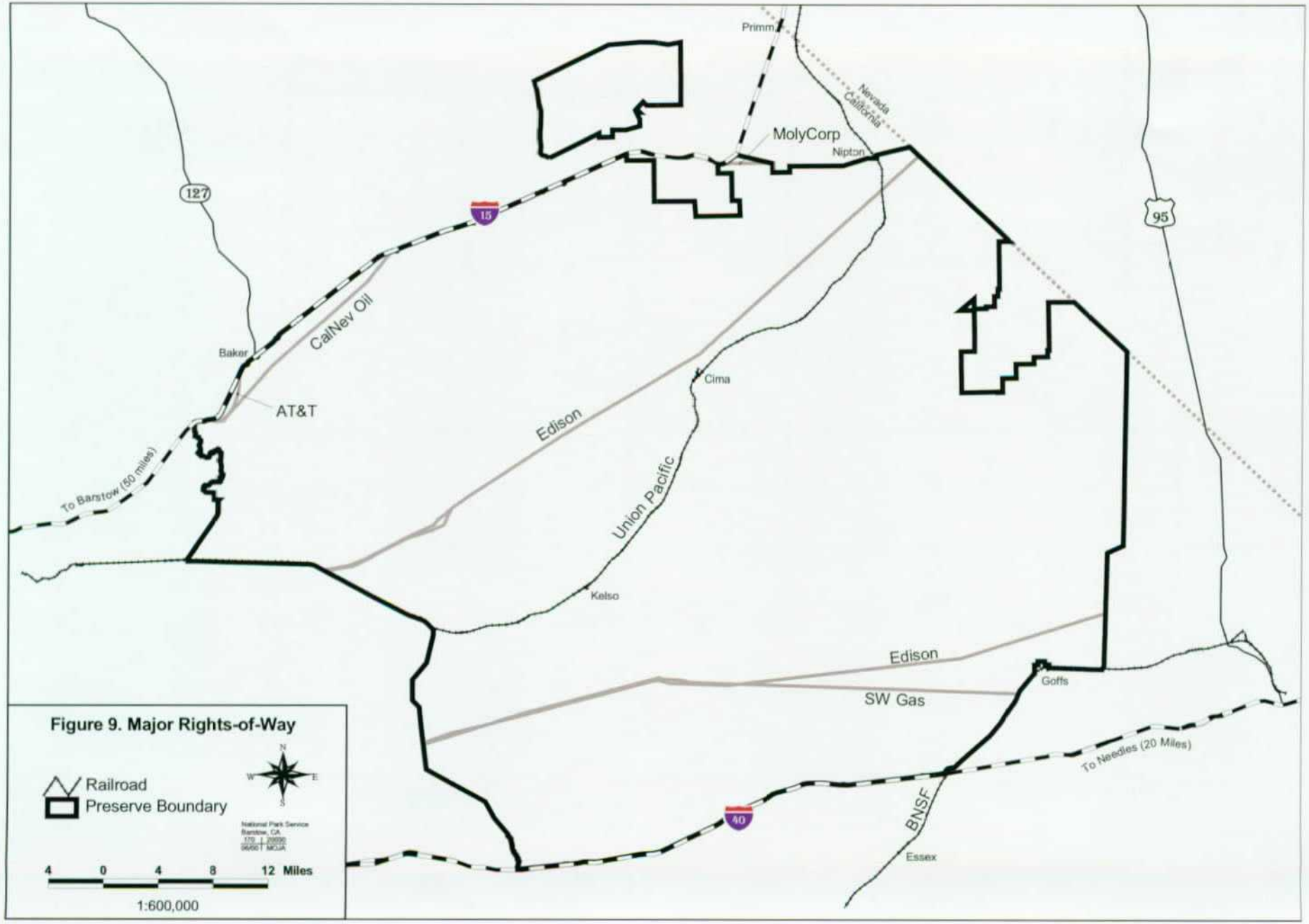
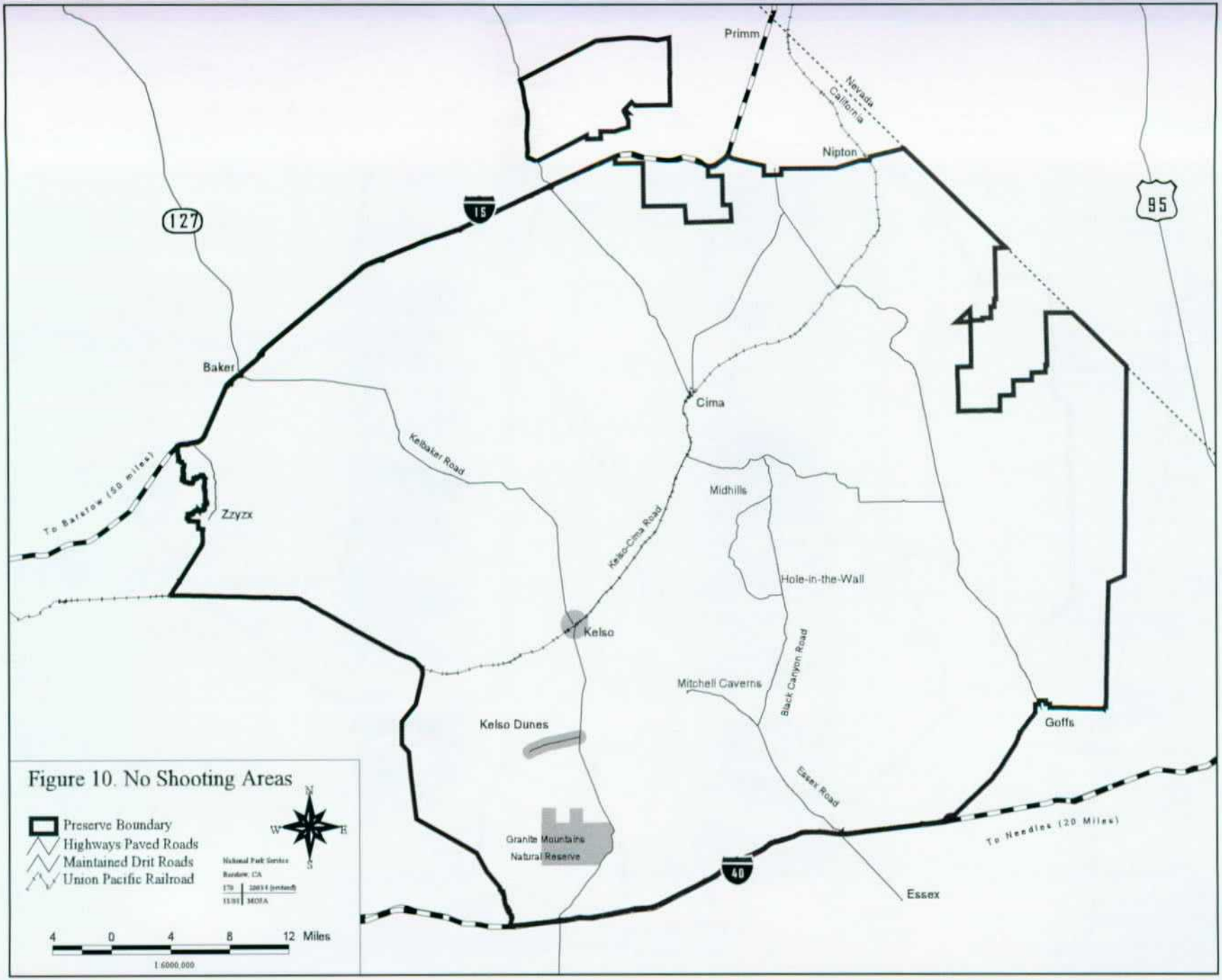
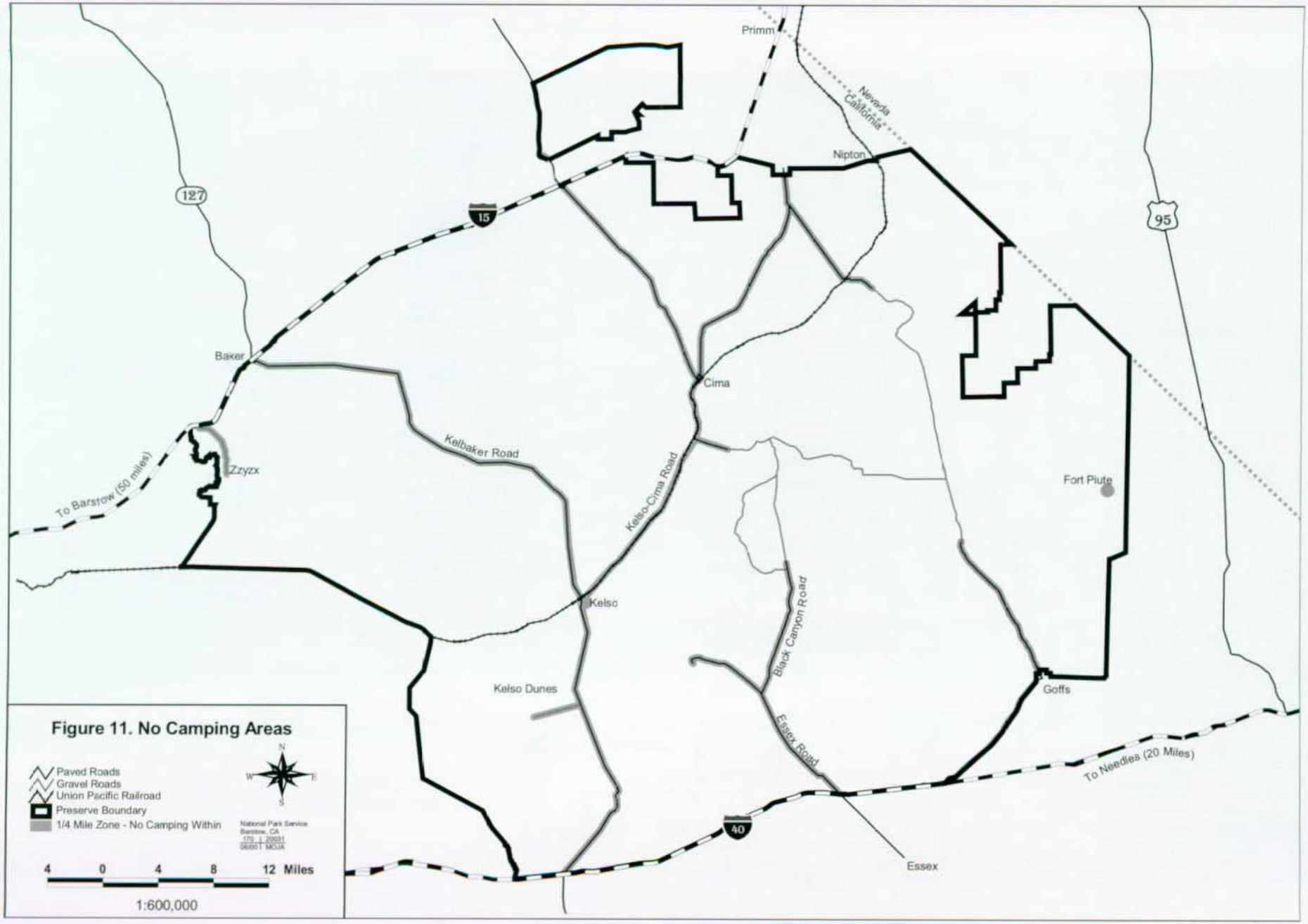


Figure 7. Hole-in-the-Wall Developed Area


Figure 8- Granite Mountains
Natural Reserve
University of California Lands
Reserve Boundary
Wilderness
N
W
E
S
National Park Service
Barstow, CA
170 | 20022
0500 | MOJA
0.5
0
0.5
1 Miles
1:48,000
Cottonwood
Wash
T9N
R7E
R8E
32
33
28
29
21
25
Lavic
Siding
Water
Tank
Spring
Cave
Gravel
Pit
Mine
Basin
Valley
Hills
Mountains
Scenic
Area


Primm
Nevada
California
MolyCorp
Nipton
127
15
95
CalNev Oil
Baker
AT&T
Edison
Cima
Union Pacific
To Barstow (50 miles)
Kelso
Edison
SW Gas
Goffs
To Needles (20 Miles)
40
BNSF
Essex
Figure 9. Major Rights-of-Way
Railroad
Preserve Boundary
N
W
E
S
National Park Service
Barstow, CA
4 0 4 8 12 Miles
1:600,000


Primm
Nevada
California
Nipton
15
127
95
Baker
Cima
Kelbaker Road
To Barstow (50 miles)
Zzyzx
Kelso-Cima Road
Midhills
Hole-in-the-Wall
Kelso
Mitchell Caverns
Black Canyon Road
Kelso Dunes
Goffs
Essex Road
Granite Mountains
Natural Reserve
To Needles (20 Miles)
40
Essex
Figure 10. No Shooting Areas
Preserve Boundary
Highways Paved Roads
Maintained Drit Roads
Union Pacific Railroad
N
W
E
S
4 0 4 8 12 Miles
1:600,000


Primm
Nevada
California
Nipton
127
15
95
Baker
Cima
Kelbaker Road
Kelso-Cima Road
Zzyzx
To Barstow (50 miles)
Fort Piute
Kelso
Black Canyon Road
Kelso Dunes
Goffs
Essex Road
To Needles (20 Miles)
40
Essex
Figure 11. No Camping Areas
Paved Roads
Gravel Roads
Union Pacific Railroad
Preserve Boundary
1/4 Mile Zone - No Camping Within
National Park Service
Barstow, CA
170 | 20031
08/00 T MCUA
4 0 4 8 12 Miles
1:600,000

Colosseum
Primm
Nevada
California
Nipton
127
15
95
Telegraph
Georgia Marble
Morningstar
Cima Cinder
Viceroy
Baker
Cima
Pleuss Staufer
Golden Quail
Gyron
Zzyzx
Kelbaker Road
Kelso-Cima Road
To Barstow (50 miles)
Barnett
Hole-in-the-Wall
Kelso
Black Canyon Road
Goffs
Essex Road
To Needles (20 Miles)
40
Essex
Figure 12. Mining Claims
Patented Mining Claims
Current Mining Claims
Paved Roads
Maintained Dirt Roads
Union Pacific Railroad
Preserve Boundary
N
W
E
S
National Park Service
Barstow, CA
4 0 4 8 12 Miles
1:600,000

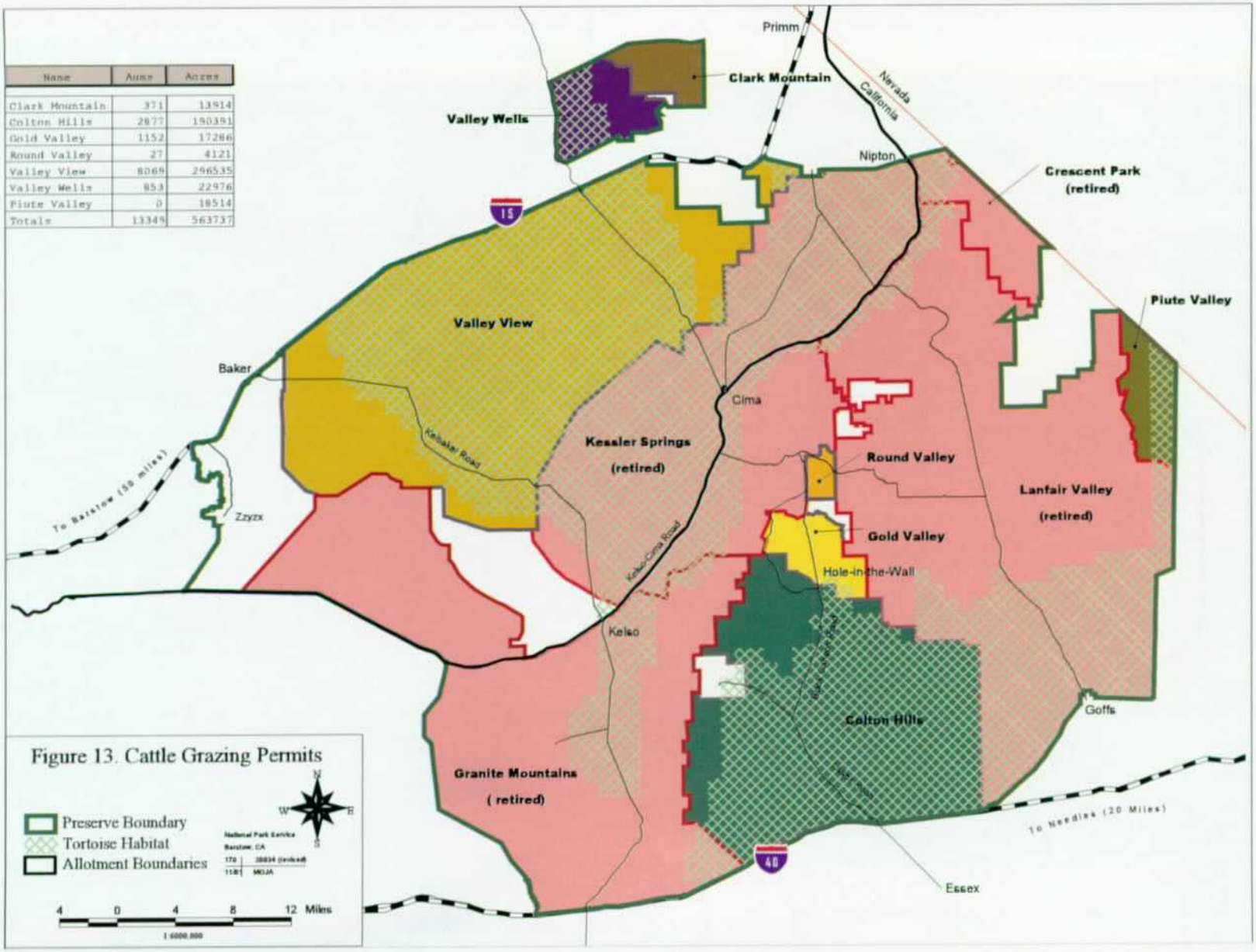
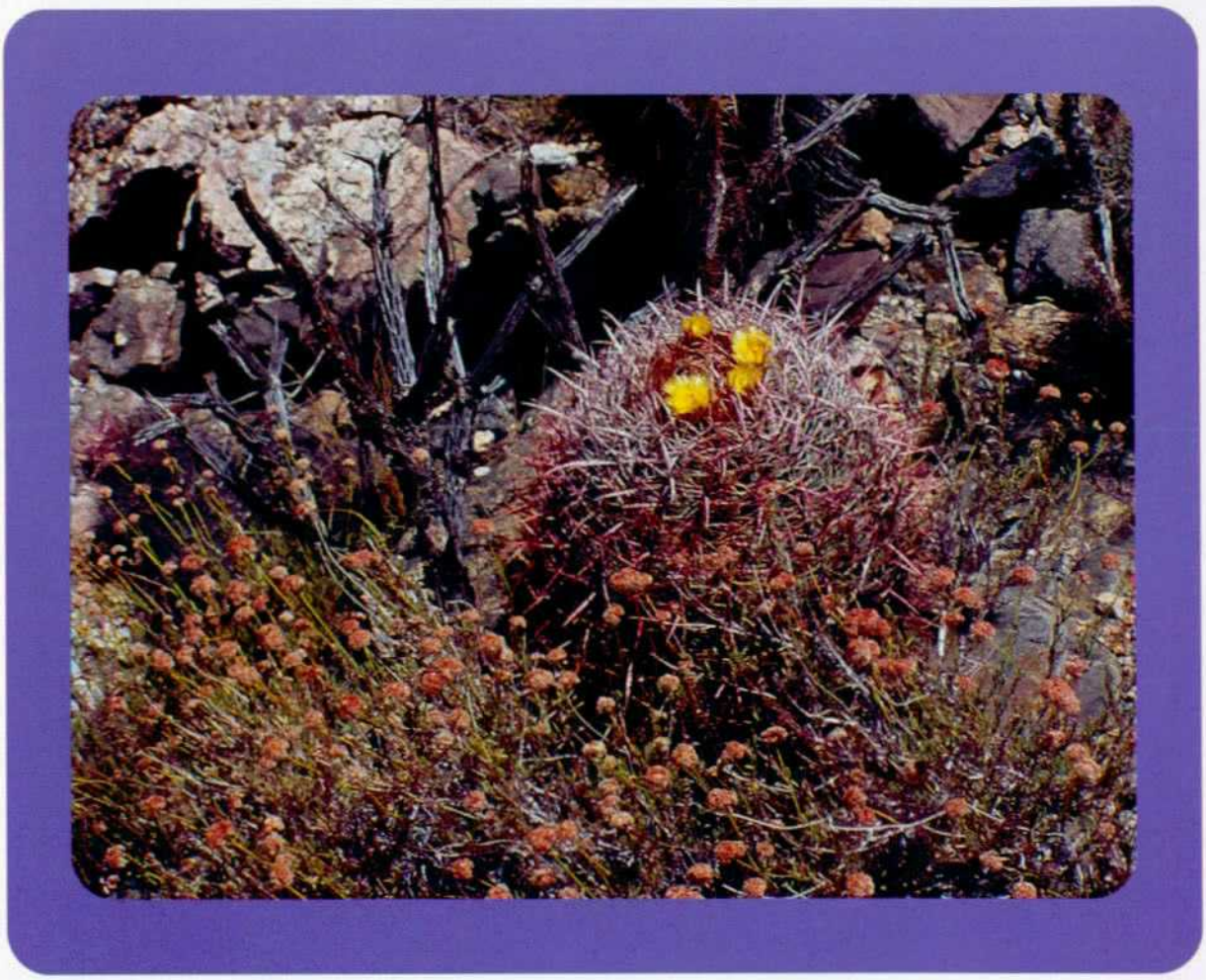

Name | Aums | Acres
Clark Mountain | 371 | 13914
Colton Hills | 2877 | 190391
Gold Valley | 1152 | 17286
Round Valley | 27 | 4121
Valley View | 8069 | 296535
Valley Wells | 853 | 22976
Piute Valley | 0 | 18514
Totals | 13349 | 563737
Primm
Clark Mountain
Nevada
California
Valley Wells
Nipton
Crescent Park
(retired)
15
Piute Valley
Valley View
Baker
Cima
Kessler Springs
(retired)
Kelbaker Road
Round Valley
Lanfair Valley
(retired)
To Barstow (50 miles)
Zzyzx
Gold Valley
Hole-in-the-Wall
Kelso-Cima Road
Kelso
Colton Hills
Goffs
Granite Mountains
(retired)
To Needles (20 Miles)
40
Essex
Figure 13. Cattle Grazing Permits
Preserve Boundary
Tortoise Habitat
Allotment Boundaries
National Park Service
Barstow, CA
170 | 39834 (exclosed)
1185 | MOJA
4 0 4 8 12 Miles
1:600,000


Figure 14. Kelso Depot
Existing Site Conditions
Paved Road
Union Pacific Railroad
Existing Tree Canopy near Depot
Present Facilities
Restrooms
N
W
S
100 0 100 200
1:1,500
Kelso-Cima Road
Flood Control Dike
Kelso (Ruins)
Portable Restrooms
Kelbaker Road
Brick Storage Container
Informal Parking Area
Depot
Informal Parking Area
Union Pacific Railroad Housing



Tables

1: Bighorn Sheep Populations in or Near Mojave National Preserve
2: Feral Burro Population Estimates
3: 1995 Average Daily Traffic Levels
4: 1999 - 2000 Traffic Count
5: Annual Visitation
6: Visitor Profile
7: Vlsitor Activities
8: Northeastern San Bernardino County Buck Kill Data
9: Hunting Statistics for San Bernardino County
10: Bighorn Sheep Harvest
11: Grazing Allotments/Permits in and Adjacent to Mojave National Preserve
12: Grazing Permits and Perennial AUMs
13: Rights-of-Way
14: Cost Summary Table



TABLE 1: BIGHORN SHEEP POPULATIONS IN OR NEAR MOJAVE NATIONAL PRESERVE

Metapopulation*	Population	Population Status**	Population Size Class
Central Mojave	Old Dad/Kelso/Marl	N	201–300
	Granite	N	<25
	Providence	N	25–50
	Wood/Hackberry	N	51–100
	New York	N	<25
	Castle/Hart/Piute	N	<25
Central North Mojave	Clark	N	101–150
	Soda	E	0
Population Range			**400–675**

From, Torres et al. 1994, "Status of Bighorn Sheep in California, 1993, 1994 Desert Bighorn Council Transactions, pp. 17-28

* Metapopulation = Population management areas
**N = Native R = Reintroduced E = Extirpated
++ From T. Egan, pers. comm., 1997

TABLE 2: FERAL BURRO POPULATION ESTIMATES FOR MOJAVE NATIONAL PRESERVE

Fiscal Year	Population Estimate Beginning of F.Y. (Oct. 1)	Growth Rate (25%)	Removals	Population Estimate End of F.Y. (Sept. 30)
1997	1,650	+ 413	- 600	1,463
1998	1,463	+ 366	- 520	1,309
1999	1,309	+ 327	- 721	915
2000	915	+ 229	- 513	631
2001	631	+158	-459	330

data as of 10/1/01

TABLE 3: 1995 AVERAGE DAILY TRAFFIC LEVELS

State Highway	Peak Hour*	Peak Month	Annual Average
I-15, Cima Road interchange	4,200	32,000	29,000
I-40, Kelbaker road interchange	1,200	12,400	11,000

*Peak hour is the hour during which the heaviest volume of traffic occurs on a roadway.

TABLE 4: 1999 - 2000 TRAFFIC COUNT

Highway	Average Daily Traffic
Kelbaker Road, southbound off I-15	100
Cima Road southbound off I-15	76
Ivanpah Road, southbound off Nipton Road	174
Kelbaker Road, northbound off I-40	183
Essex Road, northbound off I-40	31
Ivanpah Road, northbound off Goffs Road	21

*mix of 1999 and 2000 data

TABLE 5: ANNUAL VISITATION FOR MOJAVE NATIONAL PRESERVE

Year	Visitation
1985	60,000 (est.)
1993	250,000 (est.)
*May 1996 – Apr 1997	339,700
1997	378,977
1998	374,378
1999	391,694
2000	444,402

* Mojave NP traffic counters at six paved entrances began operating in May 1996.

TABLE 6: MOJAVE NATIONAL PRESERVE VISITOR PROFILE

Visitor Profile (1997 NPS Visitor Study)	Percentage/Age
First time visitors	46%
Repeat visitors	54%
International visitors	7%
Visitors from California	69%
Visitors from Nevada	12%
Average age	36-55 years
Stayed less than 1 day	61%
Stayed 3–4 days	29%
Stayed 7 or more days	4%
Of those who stayed less than a day, (stayed only 1 hour)	10%
Of those who stayed less than a day, (stayed 2–4 hours)	52%
Visited Kelso Depot	66%
Visited Kelso Dunes	57%
Visited Hole-in-the-Wall campground	35%
Visited Mid Hills campground	25%
Visited Mitchell Caverns	22%
Traveled on Wildhorse Canyon road	19%
Traveled on Mojave Road	16%
Visited Caruthers Canyon	8%
Visited Zzyzx	4%

TABLE 7: MOJAVE NATIONAL PRESERVE VISITOR ACTIVITIES

Visitor Activities (1997 NPS Visitor Study)	Participation levels
Auto-touring/sightseeing	61%
Nature study/hiking	49%
Offroad vehicle use	51%
Camping in developed campgrounds	22%
Day hike	41%
Visit ruins/historic sites	32%
Driving through only	28%
Dispersed camping	15%
Hunting*	Not available

*Hunting was not included in the initial survey but is a significant visitor activity during fall upland bird and deer hunts.

TABLE 8: NORTHEASTERN SAN BERNARDINO COUNTY BUCK KILL DATA.

Year	Number of Tags Returned	Year	Number of Tags Returned
1988	29	1995	33
1989	29	1996	18
1990	26	1997	25
1991	28	1998	34
1992	38	1999	42
1993	43	2000	67
1994	36		

Data from State of California Memoranda from Department of Fish and Game Desert Unit Manager to BLM, Needles (January 1991) and to Vern Bleich, CDF&G Eastern Units Supervisor (May 1996)

TABLE 9: HUNTING STATISTICS FOR SAN BERNARDINO COUNTY

ANIMAL	1992	1993	1994	1995
Chukar	37,873	15,001	5,007	5,063
Gambel's Quail	25,187	26,314	5,984	15,813
Dove	77,799	45,459	49,461	50,463
Jackrabbit	31,455	48,070	28,089	14,103
Cottontail	25,410	27,889	14,044	7,627
Coyote	3,769	4,144	2,280	1,841
Bobcat	-	-	81	99

From State of California memorandum, May 23, 1996

TABLE 10: BIGHORN SHEEP HARVEST

Year	Old Dad Unit	Clark Mountain Unit
1987	5	Not Open
1988	5	Not Open
1989	6	Not Open
1990	4	Not Open
1991	5	Not Open
1992	5	2
1993	4	2
1994	4	0
1995	3	0
1996	3	1
1997	3	1
1998	2	2
1999	3	1
2000	2	1

From personal communication with Vern Bleich, Eastern Units Supervisor, CDF&G

TABLE 11: GRAZING ALLOTMENTS/PERMITS IN AND ADJACENT TO MOJAVE NATIONAL PRESERVE

Grazing Allotment	Entire Allotment		Portion of Allotment in Mojave			Range Condition***
	Total Acreage	Total Perennial AUMs	Acreage in Mojave NP	Perennial AUMs (% of total)	Acres in Critical Habitat (%)	
Colton Hills	190,391	2,877	190,391	2,877 (100%)	151,532 (80%)	Good
Gold Valley	16,190	1,152	16,190	1,152 (100%)	1,407 (9%)	Good
Round Valley	653	27	653	27 (100%)	0	Poor
Clark Mountain	88,312	1,872	17,500	371 (20%)	0	Fair
Valley View	281,802	8,485	268,000	8,069 (95%)	225,486 (84%)	Good
Valley Wells	237,258	4,644	43,600	853 (18%)	8,000 (50%)	Fair
Piute Valley*	33,468	0	14,700	0 (0%)	0	Fair
Totals	**848,074**	**19,057**	**551,034**	**13,349**	**386,425**	

* = Ephemeral grazing only; no perennial authorization

** = An AUM is an animal unit month, defined as the amount of forage required by an adult cow and calf (or an equivalent combination of other animals) for one month (BLM, 1984).

*** = Evaluation of range conditions as determined by BLM prior to 1992.

TABLE 12: GRAZING PERMITS AND PERENNIAL AUMS

***as of April 2000**

Permit Area	AUMs
Clark Mountain	371
Colton Hills	2,877
Gold Valley	1,152
Round Valley	27
Piute Valley*	0
Valley View	8,069
Valley Wells	853
TOTAL	**13,349**

*Piute Valley is an ephemeral permit only. There is no perennial authorization.

TABLE 13: RIGHTS-OF-WAY

Right-of-Way/Easement	Purpose
AT&T	Underground communications cable
Southern California Edison*	Electric transmission line, aerial
Southern California Gas Co.*	Natural Gas pipeline
Cal-Nev	Oil pipeline
Molycorp*	Waste water pipeline
Pacific Bell	Communication site
U.S. Sprint	Telephone line
Union Pacific	Railroad
	Water pipeline
	Communication site and road
Kaiser Resources	Tram road
Southern California Gas Co.	Petroleum pumping station
Cal Trans	Material site (gravel pit)
U.S. Geological Survey	Seismic station

**Congress provided specific direction in section 511 of the California Desert Protection Act on these rights-of-way/easements.*

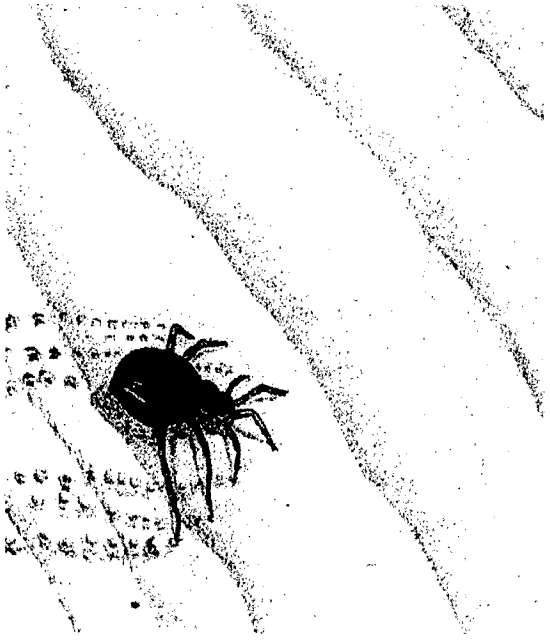


TABLE 14: COST SUMMARY

Proposed Activity	Gross Construction Costs	Pre-Design Costs & Supplemental Services	Design Costs	Total Project Costs	Phase
Desert tortoise recovery actions (research, monitoring, education, displays, patrols, 6 new positions)*	-	-	-	$490,000 annually	funded FY 01
Mojave tui chub recovery actions (pond dredging, aquatic plant control, monitoring)	-	-	-	$75,000 annually	funded FY 01
Remove feral burros (approx. 700 animals @ $800/burro); fence Clark Mountain boundary (36 miles)	-	-	-	$100,000 annually $1,500,000	funded FY 01
Enhance cultural resource program (inventory, monitoring, studies, nominations, protection, interpretation, 8 new positions)	-	-	-	$494,000 annually	I
Kelso Depot rehabilitation and partial restoration (including historic landscaping, water utilities, parking, comfort station)*	$5, 397,500	$321,546	$509,454	$6,228,500	funded FY 01
Kelso Depot interpretive exhibits (plan, produce, and install museum exhibits)	$560,000	$40,000	$150,000	$750,000	funded FY 02
Kelso Depot operation and maintenance (interpretive and visitor use staff, maintenance, protection, 14 new positions)	-	-	-	$500,000 annually	I
Soda Springs self-guided interpretive trail displays, and exhibits	$59,000	$3,500	$5,000	$67,500	II
Interpretive displays/ exhibits at five key roadside locations (including parking lots)	$118,000	$7,000	$10,000	$135,000	I
Mid Hills campground (improve accessibility to 10 campsites, add group site with vault toilet)	$77,000	$4,500	$6,500	$88,000	I
New 15-site semi-primitive campground with fire rings, picnic tables and pit toilet	$83,000	$5,000	$7,000	$95,000	II
Informational kiosks at three key entry points into Granite Mountains Natural Reserve	$17,500	$1,000	$1,500	$20,000	I
Headquarters space in Barstow (est. for GSA lease of 19,000 sq. ft., plus utilities and phones)	-	-	-	$400,000 annually	I
Field offices *in two locations to be determined through site specific plans*	$283,000	$17,000	22,000	$322,000	II
Central maintenance facility (co-located with new interagency fire center)	-	-	-	$55,000	funded FY 01
Interagency fire center (dormitory for 15, offices, storage space, 4 bay garage for trucks)*	$1,120,000	$67,000	$95,000	$1,282,000	funded FY 01
Replace existing mobile homes in Baker with 2 and 3 bedroom duplexes (5 units)	$384,000	$23,000	$33,000	$440,000	II
Renovate and upgrade acquired housing in Preserve for employee use (per NPS housing standards – 5 units)	$265,000	$16,000	$23,000	$304,000	I
Construct new housing at Kelso, Cima and Hole-in-the-Wall (four 2-bedroom duplexes; six 3-bedroom homes)	$1,225,000	$42,000	$100,000	$1,367,000	II
Enhance maintenance program (maintain new facilities, equipment and supplies, 6 positions)	-	-	-	$400,000 annually	
Carrying Capacity visitor surveys and data gathering on resource indicators, 3 positions	-	-	-	$100,000	II
Fire effects studies (research on removal of grazing impacts on tortoise, and fire history)				$100,000 for three years	I

Disturbed lands restoration (includes grazed areas, closed roads and abandoned mine lands), 1 position				$200,000 annually	I
Hazardous materials (identification, characterization, remediation and/or removal, management of park wastes)				$250,000	I
Establish lands program (coordinate with willing sellers, convert rights-of-way, review development proposals, manage databases), 2 positions				$150,00 annually	I
Inventorying and monitoring of natural and cultural resources, 4 positions				$200,000 annually	I
Education and outreach program (develop materials and programs, provide staff, assist schools), 2 positions				$150,000 annually	I
Sand and gravel for routine road maintenance				$100,000 annually	I
TOTAL NEEDS	**$9,689,000**	**$547,546**	**$962,454**	**$16,513,000**	
ALREADY FUNDED	**7,077,500**	**428,546**	**754,454**	**8,880,500**	
REMAINING NEEDS	**2,611,500**	**119,000**	**208,000**	**7,632,500***	

*Of the total remaining needs:
base increase $2,694,000
construction $4,938,500
PHASES: I - 1-5 years II - 6-10 years III - Spread evenly over 15 years



Appendixes



A. California Desert Protection Act
B. Record of Decision
C. Northern and Eastern Mojave Project Time Line

APPENDIX A: 1994 CALIFORNIA DESERT PROTECTION ACT (PUBLIC LAW 103-433)

(Sections Relevant to Mojave National Preserve)

One Hundred Third Congress

of the

United States of America

AT THE SECOND SESSION

Begun and held at the City of Washington on Tuesday,
the twenty-fifth day of January, one thousand nine hundred and ninety-four

An Act

To designate certain lands in the California Desert as wilderness, to establish the Death Valley and Joshua Tree National Parks, to establish the Mojave National Preserve, and for other purposes.

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

SECTION 1. SHORT TITLE.

Sections 1 and 2, and titles I through IX of this Act may be cited as the "California Desert Protection Act of 1994".

SEC. 2. FINDINGS AND POLICY.

(a) The Congress finds and declares that--

(1) the federally owned desert lands of southern California constitute a public wildland resource of extraordinary and inestimable value for this and future generations;

(2) these desert wildlands display unique scenic, historical, archeological, environmental, ecological, wildlife, cultural, scientific, educational, and recreational values used and enjoyed by millions of Americans for hiking and camping, scientific study and scenic appreciation;

(3) the public land resources of the California desert now face and are increasingly threatened by adverse pressures which would impair, dilute, and destroy their public and natural values;

(4) the California desert, embracing wilderness lands, units of the National Park System, other Federal lands, State parks and other State lands, and private lands, constitutes a cohesive unit posing unique and difficult resource protection and management challenges;

(5) through designation of national monuments by Presidential proclamation, through enactment of general public land statutes (including section 601 of the Federal Land Policy and Management Act of 1976, 90 Stat. 2743, 43 U.S.C. 1701 et seq.) and through interim administrative actions, the Federal Government has begun the process of appropriately providing for protection of the significant resources of the public lands in the California desert; and

(6) statutory land unit designations are needed to afford the full protection which the resources and public land values of the California desert merit.

(b) In order to secure for the American people of this and future generations an enduring heritage of wilderness, national parks, and public land values in the California desert, it is hereby declared to be the policy of the Congress that--

(1) appropriate public lands in the California desert shall be included within the National Park System and the National Wilderness Preservation System, in order to--

(A) preserve unrivaled scenic, geologic, and wildlife values associated with these unique natural landscapes;

(B) perpetuate in their natural state significant and diverse ecosystems of the California desert;

(C) protect and preserve historical and cultural values of the California desert

associated with ancient Indian cultures, patterns of western exploration and settlement, and sites exemplifying the mining, ranching and railroading history of the Old West;

(D) provide opportunities for compatible outdoor public recreation, protect and interpret ecological and geological features and historic, paleontological, and archeological sites, maintain wilderness resource values, and promote public understanding and appreciation of the California desert; and

(E) retain and enhance opportunities for scientific research in undisturbed ecosystems.

TITLE V--MOJAVE NATIONAL PRESERVE

SEC. 501. FINDINGS.

The Congress hereby finds that--

(1) Death Valley and Joshua Tree National Parks, as established by this Act, protect unique and superlative desert resources, but do not embrace the particular ecosystems and transitional desert type found in the Mojave Desert area lying between them on public lands now afforded only impermanent administrative designation as a national scenic area;

(2) the Mojave Desert area possesses outstanding natural, cultural, historical, and recreational values meriting statutory designation and recognition as a unit of the National Park System;

(3) the Mojave Desert area should be afforded full recognition and statutory protection as a national preserve;

(4) the wilderness within the Mojave Desert should receive maximum statutory protection by designation pursuant to the Wilderness Act; and

(5) the Mojave Desert area provides an outstanding opportunity to develop services, programs, accommodations and facilities to ensure the use and enjoyment of the area by individuals with disabilities, consistent with section 504 of the Rehabilitation Act of 1973, Public Law 101-336, the Americans With Disabilities Act of 1990 (42 U.S.C. 12101), and other appropriate laws and regulations.

SEC. 502. ESTABLISHMENT OF THE MOJAVE NATIONAL PRESERVE.

There is hereby established the Mojave National Preserve, comprising approximately one million four hundred nineteen thousand eight hundred acres, as generally depicted on a map entitled "Mojave National Park Boundary-Proposed", dated May 17, 1994, which shall be on file and available for inspection in the appropriate offices of the Director of the National Park Service, Department of the Interior.

SEC. 503. TRANSFER OF LANDS.

Upon enactment of this title, the Secretary shall transfer the lands under the jurisdiction of the Bureau of Land Management depicted on the maps described in section 502 of this title, without consideration, to the administrative jurisdiction of the Director of the National Park Service. The boundaries of the public lands shall be adjusted accordingly.

SEC. 504. MAPS AND LEGAL DESCRIPTION.

Within six months after the date of enactment of this title, the Secretary shall file maps and a legal description of the preserve designated under this title with the Committee on Energy and Natural Resources of the United States Senate and the Committee on Natural Resources of the United States House of Representatives. Such maps and legal description shall have the same force and effect as if included in this title, except that the Secretary may correct clerical and typographical errors in such legal description and in the maps referred to in section 502. The maps and legal description shall be on file and available for public inspection in the appropriate offices of the National Park Service, Department of the Interior.

SEC. 505. ABOLISHMENT OF SCENIC AREA.

The East Mojave National Scenic Area, designated on January 13, 1981 (46 FR 3994), and

modified on August 9, 1983 (48 FR 36210), is hereby abolished.

SEC. 506. ADMINISTRATION OF LANDS.

(a) The Secretary shall administer the preserve in accordance with this title and with the provisions of law generally applicable to units of the National Park System, including the Act entitled "An Act to establish a National Park Service, and for other purposes", approved August 25, 1916 (39 Stat. 535; 16 U.S.C. 1, 2-4).

(b) The Secretary shall permit hunting, fishing, and trapping on lands and waters within the preserve designated by this Act in accordance with applicable Federal and State laws except that the Secretary may designate areas where, and establish periods when, no hunting, fishing, or trapping will be permitted for reasons of public safety, administration, or compliance with provisions of applicable law. Except in emergencies, regulations closing areas to hunting, fishing, or trapping pursuant to this subsection shall be put into effect only after consultation with the appropriate State agency having responsibility for fish and wildlife. Nothing in this Act shall be construed as affecting the jurisdiction or responsibilities of the States with respect to fish and wildlife on Federal lands and waters covered by this title nor shall anything in this Act be construed as authorizing the Secretary concerned to require a Federal permit to hunt, fish, or trap on Federal lands and waters covered by this title.

SEC. 507. WITHDRAWAL.

Subject to valid existing rights, all Federal lands within the preserve are hereby withdrawn from all forms of entry, appropriation, or disposal under the public land laws; from location, entry, and patent under the United States mining laws; and from disposition under all laws pertaining to mineral and geothermal leasing, and mineral materials, and all amendments thereto.

SEC. 508. REGULATION OF MINING.

Subject to valid existing rights, all mining claims located within the preserve shall be subject to all applicable laws and regulations applicable to mining within units of the National Park System, including the Mining in the Parks Act (16 U.S.C. 1901 et seq.), and any patent issued after the date of enactment of this title shall convey title only to the minerals together with the right to use the surface of lands for mining purposes, subject to such laws and regulations.

SEC. 509. STUDY AS TO VALIDITY OF MINING CLAIMS.

(a) The Secretary shall not approve any plan of operation prior to determining the validity of the unpatented mining claims, mill sites, and tunnel sites affected by such plan within the preserve and shall submit to Congress recommendations as to whether any valid or patented claims should be acquired by the United States, including the estimated acquisition costs of such claims, and a discussion of the environmental consequences of the extraction of minerals from these lands.

(b)(1) Notwithstanding any other provision of law, the Secretary shall permit the holder or holders of mining claims identified on the records of the Bureau of Land Management as Volco #A CAMC 105446, Volco #B CAMC 105447, Volco 1 CAMC 80155, Volco 2 CAMC 80156, Volco 3 CAMC 170259, Volco 4 CAMC 170260, Volco 5 CAMC 78405, Volco 6 CAMC 78404, and Volco 7 CAMC 78403, Volco Placer 78332, to continue exploration and development activities on such claims for a period of two years after the date of enactment of this title, subject to the same regulations as applied to such activities on such claims on the day before such date of enactment.

(2) At the end of the period specified in paragraph (1), or sooner if so requested by the holder or holders of the claims specified in such paragraph, the Secretary shall determine whether there has been a discovery of valuable minerals on such claims and whether, if such discovery had been made on or before July 1, 1994, such claims would have been valid as of such date under the mining laws of the United States in effect on such date.

(3) If the Secretary, pursuant to paragraph (2), makes an affirmative determination concerning the claims specified in paragraph (1), the holder or holders of such claims shall be permitted to continue to operate such claims subject only to such regulations as applied on July 1, 1994 to the exercise of valid existing rights on patented mining claims within a unit of the National Park System.

SEC. 510. GRAZING.

(a) The privilege of grazing domestic livestock on lands within the preserve shall continue to be exercised at no more than the current level, subject to applicable laws and National Park Service regulations.

(b) If a person holding a grazing permit referred to in subsection (a) informs the Secretary that such permittee is willing to convey to the United States any base property with respect to which such permit was issued and to which such permittee holds title, the Secretary shall make the acquisition of such base property a priority as compared with the acquisition of other lands within the preserve, provided agreement can be reached concerning the terms and conditions of such acquisition. Any such base property which is located outside the preserve and acquired as a priority pursuant to this section shall be managed by the Federal agency responsible for the majority of the adjacent lands in accordance with the laws applicable to such adjacent lands.

SEC. 511. UTILITY RIGHTS OF WAY.

(a)(1) Nothing in this title shall have the effect of terminating any validly issued right-of-way or customary operation, maintenance, repair, and replacement activities in such right-of-way, issued, granted, or permitted to Southern California Edison Company, its successors or assigns, which is located on lands included in the Mojave National Preserve, but outside lands designated as wilderness under section 601(a)(3). Such activities shall be conducted in a manner which will minimize the impact on preserve resources.

(2) Nothing in this title shall have the effect of prohibiting the upgrading of an existing electrical transmission line for the purpose of increasing the capacity of such transmission line in the Southern California Edison Company validly issued Eldorado-Lugo Transmission Line right-of-way and Mojave-Lugo Transmission Line right-of-way, or in a right-of-way if issued, granted, or permitted by the Secretary adjacent to the existing Mojave-Lugo Transmission Line right-of-way (hereafter in this section referred to as "adjacent right-of-way"), including construction of a replacement transmission line: Provided, That--

(A) in the Eldorado-Lugo Transmission Line rights-of-way (hereafter in this section referred to as the "Eldorado rights-of-way") at no time shall there be more than three electrical transmission lines;

(B) in the Mojave-Lugo Transmission Line right-of-way (hereafter in this section referred to as the "Mojave right-of-way") and adjacent right-of-way, removal of the existing electrical transmission line and reclamation of the site shall be completed no later than three years after the date on which construction of the upgraded transmission line begins, after which time there may be only one electrical transmission line in the lands encompassed by Mojave right-of-way and adjacent right-of-way;

(C) if there are no more than two electrical transmission lines in the Eldorado rights-of-way, two electrical transmission lines in the lands encompassed by the Mojave right-of-way and adjacent right-of-way may be allowed;

(D) in the Eldorado rights-of-way and Mojave right-of-way no additional land shall be issued, granted, or permitted for such upgrade unless an addition would reduce the impacts to preserve resources;

(E) no more than 350 feet of additional land shall be issued, granted, or permitted for an adjacent right-of-way to the south of the Mojave right-of-way unless a greater addition would reduce the impacts to preserve resources; and

(F) such upgrade activities, including helicopter aided construction, shall be conducted in a manner which will minimize the impact on preserve resources.

(3) The Secretary shall prepare within one hundred and eighty days after the date of enactment of this title, in consultation with the Southern California Edison Company, plans for emergency access by the Southern California Edison Company to its rights-of-way.

(b)(1) Nothing in this title shall have the effect of terminating any validly issued right-of-way, or customary operation, maintenance, repair, and replacement activities in such right-of-way; prohibiting the upgrading of and construction on existing facilities in such right-of-way for the purpose of increasing the capacity of the existing pipeline; or prohibiting the renewal of such right-of-way issued, granted, or permitted to the Southern California Gas Company, its successors or assigns, which is located on lands included in the Mojave National Preserve, but outside lands designated as wilderness under section 601(a)(3). Such activities shall be conducted in a manner which will minimize the impact on preserve resources.

(2) The Secretary shall prepare within one hundred and eighty days after the date of

enactment of this title, in consultation with the Southern California Gas Company, plans for emergency access by the Southern California Gas Company to its rights-of-way.

(c) Nothing in this title shall have the effect of terminating any validly issued right-of-way or customary operation, maintenance, repair, and replacement activities of existing facilities issued, granted, or permitted for communications cables or lines, which are located on lands included in the Mojave National Preserve, but outside lands designated as wilderness under section 601(a)(3). Such activities shall be conducted in a manner which will minimize the impact on preserve resources.

(d) Nothing in this title shall have the effect of terminating any validly issued right-of-way or customary operation, maintenance, repair, and replacement activities of existing facilities issued, granted, or permitted to Molybdenum Corporation of America; Molycorp, Incorporated; or Union Oil Company of California (d/b/a Unocal Corporation); or its successors or assigns, or prohibiting renewal of such right-of-way, which is located on lands included in the Mojave National Preserve, but outside lands designated as wilderness under section 601(a)(3). Such activities shall be conducted in a manner which will minimize the impact on preserve resources.

SEC. 512. PREPARATION OF MANAGEMENT PLAN.

Within three years after the date of enactment of this title, the Secretary shall submit to the Committee on Energy and Natural Resources of the United States Senate and the Committee on Natural Resources of the United States House of Representatives a detailed and comprehensive management plan for the preserve. Such plan shall place emphasis on historical and cultural sites and ecological and wilderness values within the boundaries of the preserve. Such plan shall evaluate the feasibility of using the Kelso Depot and existing railroad corridor to provide public access to and a facility for special interpretive, educational, and scientific programs within the preserve. Such plan shall specifically address the needs of individuals with disabilities in the design of services, programs, accommodations and facilities consistent with section 504 of the Rehabilitation Act of 1973, Public Law 101-336, the Americans with Disabilities Act of 1990 (42 U.S.C. 12101), and other appropriate laws and regulations.

SEC. 513. GRANITE MOUNTAINS NATURAL RESERVE.

(a) ESTABLISHMENT- There is hereby designated the Granite Mountains Natural Reserve within the preserve comprising approximately nine thousand acres as generally depicted on a map entitled "Mojave National Park Boundary and Wilderness--Proposed 6", dated May 1991.

(b) COOPERATIVE MANAGEMENT AGREEMENT- Upon enactment of this title, the Secretary shall enter into a cooperative management agreement with the University of California for the purposes of managing the lands within the Granite Mountains Natural Reserve. Such cooperative agreement shall ensure continuation of arid lands research and educational activities of the University of California, consistent with the provisions of this title and laws generally applicable to units of the National Park System.

SEC. 514. SODA SPRINGS DESERT STUDY CENTER.

Upon enactment of this title, the Secretary shall enter into a cooperative management agreement with California State University for the purposes of managing facilities at the Soda Springs Desert Study Center. Such cooperative agreement shall ensure continuation of the desert research and educational activities of California State University, consistent with the provisions of this title and laws generally applicable to units of the National Park System.

SEC. 515. CONSTRUCTION OF VISITOR CENTER.

The Secretary is authorized to construct a visitor center in the preserve for the purpose of providing information through appropriate displays, printed material, and other interpretive programs, about the resources of the preserve.

SEC. 516. ACQUISITION OF LANDS.

The Secretary is authorized to acquire all lands and interest in lands within the boundary of the preserve by donation, purchase, or exchange, except that--

(1) any lands or interests therein within the boundary of the preserve which are

owned by the State of California, or any political subdivision thereof, may be acquired only by donation or exchange except for lands managed by the California State Lands Commission; and

(2) lands or interests therein within the boundary of the preserve which are not owned by the State of California or any political subdivision thereof may be acquired only with the consent of the owner thereof unless the Secretary determines, after written notice to the owner and after opportunity for comment, that the property is being developed, or proposed to be developed, in a manner which is detrimental to the integrity of the preserve or which is otherwise incompatible with the purposes of this title: Provided, however, That the construction, modification, repair, improvement, or replacement of a single-family residence shall not be determined to be detrimental to the integrity of the preserve or incompatible with the purposes of this title.

SEC. 517. ACQUIRED LANDS TO BE MADE PART OF MOJAVE NATIONAL PRESERVE.

Any lands acquired by the Secretary under this title shall become part of the Mojave National Preserve.

SEC. 518. MOJAVE NATIONAL PRESERVE ADVISORY COMMISSION.

(a) The Secretary shall establish an Advisory Commission of no more than fifteen members, to advise the Secretary concerning the development and implementation of a new or revised comprehensive management plan for the Mojave National Preserve.

(b)(1) The advisory commission shall include an elected official for each County within which any part of the preserve is located, a representative of the owners of private properties located within or immediately adjacent to the preserve, and other members representing persons actively engaged in grazing and range management, mineral exploration and development, and persons with expertise in relevant fields, including geology, biology, ecology, law enforcement, and the protection and management of National Park resources and values.

(2) Vacancies in the advisory commission shall be filled by the Secretary so as to maintain the full diversity of views required to be represented on the advisory commission.

(c) The Federal Advisory Committee Act shall apply to the procedures and activities of the advisory commission.

(d) The advisory commission shall cease to exist ten years after the date of its establishment.

SEC. 519. NO ADVERSE AFFECT ON LAND UNTIL ACQUIRED.

Unless and until acquired by the United States, no lands within the boundaries of wilderness areas or National Park System units designated or enlarged by this Act that are owned by any person or entity other than the United States shall be subject to any of the rules or regulations applicable solely to the Federal lands within such boundaries and may be used to the extent allowed by applicable law. Neither the location of such lands within such boundaries nor the possible acquisition of such lands by the United States shall constitute a bar to the otherwise lawful issuance of any Federal license or permit other than a license or permit related to activities governed by 16 U.S.C. 460l-22(c). Nothing in this section shall be construed as affecting the applicability of any provision of the Mining in the Parks Act (16 U.S.C. 1901 et seq.), the Clean Air Act (42 U.S.C. 7401 et seq.), or regulations applicable to oil and gas development as set forth in 36 CFR 9B.

TITLE VI--NATIONAL PARK SYSTEM WILDERNESS

SEC. 601. DESIGNATION OF WILDERNESS.

(a) In furtherance of the purposes of the Wilderness Act (78 Stat. 890; 16 U.S.C. 1311 et seq.), the following lands within the units of the National Park System designated by this Act are hereby designated as wilderness, and therefore, as components of the National Wilderness Preservation System:

(3) Mojave National Preserve Wilderness, comprising approximately six hundred ninety-five thousand two hundred acres, as generally depicted on ten maps entitled "Mojave National Park Boundary and Wilderness-Proposed", and numbered in the title one through ten, and dated March 1994 or prior, and seven maps entitled `Mojave National Park Wilderness--Proposed', numbered in the title one through seven, and dated March 1994 or prior, and which shall be known as the Mojave Wilderness.

SEC. 602. FILING OF MAPS AND DESCRIPTIONS.

Maps and a legal description of the boundaries of the areas designated in section 601 of this title shall be on file and available for public inspection in the appropriate offices of the National Park Service, Department of the Interior. As soon as practicable after the date of enactment of this title, maps and legal descriptions of the wilderness areas shall be filed with the Committee on Energy and Natural Resources of the United States Senate and the Committee on Natural Resources of the United States House of Representatives, and such maps and legal descriptions shall have the same force and effect as if included in this title, except that the Secretary may correct clerical and typographical errors in such maps and legal descriptions.

SEC. 603. ADMINISTRATION OF WILDERNESS AREAS.

The areas designated by section 601 of this title as wilderness shall be administered by the Secretary in accordance with the applicable provisions of the Wilderness Act governing areas designated by that title as wilderness, except that any reference in such provision to the effective date of the Wilderness Act shall be deemed to be a reference to the effective date of this title, and where appropriate, and reference to the Secretary of Agriculture shall be deemed to be a reference to the Secretary of the Interior.

TITLE VII--MISCELLANEOUS PROVISIONS

SEC. 702. LAND TENURE ADJUSTMENTS.

In preparing land tenure adjustment decisions with the California Desert Conservation Area, of the Bureau of Land Management, the Secretary shall give priority to consolidating Federal ownership within the national park units and wilderness areas designated by this Act.

SEC. 703. LAND DISPOSAL.

Except as provided in section 406 of this Act, none of the lands within the boundaries of the wilderness or park areas designated under this Act shall be granted to or otherwise made available for use by the Metropolitan Water District or any other agencies or persons pursuant to the Boulder Canyon Project Act (43 U.S.C. 617-619b) or any similar Acts.

SEC. 704. MANAGEMENT OF NEWLY ACQUIRED LANDS.

Any lands within the boundaries of a wilderness area designated under this Act which are acquired by the Federal Government, shall become part of the wilderness area within which they are located and shall be managed in accordance with all the provisions of this Act and other laws applicable to such wilderness area.

SEC. 705. NATIVE AMERICAN USES AND INTERESTS.

(a) ACCESS- In recognition of the past use of the National Park System units and wilderness areas designed under this Act by Indian people for traditional cultural and religious purposes, the Secretary shall ensure access to such park system units and wilderness areas by Indian people for such traditional cultural and religious purposes. In implementing this section, the Secretary, upon the request of an Indian tribe or Indian religious community, shall temporarily close to the general public use of one or more specific portions of the park system unit or wilderness area in order to protect the privacy of traditional cultural and religious activities in such areas by Indian people. Any such closure shall be made to affect the smallest practicable area for the minimum period necessary for such purposes. Such access shall be consistent with the purpose and intent of Public Law 95-341 (42 U.S.C. 1996) commonly referred to as the "American Indian Religious Freedom Act", and with respect to areas designated as wilderness, the Wilderness Act (78 Stat. 890; 16 U.S.C. 1131).

(b) STUDY- (1) The Secretary, in consultation with the Timbisha Shoshone Tribe and relevant Federal agencies, shall conduct a study, subject to the availability of appropriations, to identify lands suitable for a reservation for the Timbisha Shoshone Tribe that are located within the Tribe's aboriginal homeland area within and outside the boundaries of the Death Valley National Monument and the Death Valley National Park, as described in title III of this Act.

(2) Not later than 1 year after the date of enactment of this title, the Secretary shall submit a report to the Committee on Energy and Natural Resources and the Committee on Indian Affairs of the United States Senate, and the Committee on Natural Resources of the United States House of Representatives on the results of the study conducted under paragraph (1).

SEC. 706. FEDERAL RESERVED WATER RIGHTS.

(a) Except as otherwise provided in section 204 of this Act, with respect to each wilderness area designated by this Act, Congress hereby reserves a quantity of water sufficient to fulfill the purposes of this Act. The priority date of such reserved water rights shall be the date of enactment of this Act.

(b) The Secretary and all other officers of the United States shall take all steps necessary to protect the rights reserved by this section, including the filing by the Secretary of a claim for the quantification of such rights in any present or future appropriate stream adjudication in the courts of the State of California in which the United States is or may be joined in accordance with section 208 of the Act of July 10, 1952 (66 Stat. 560, 43 U.S.C. 666), commonly referred to as the McCarran Amendment.

(c) Nothing in this Act shall be construed as a relinquishment or reduction of any water rights reserved or appropriated by the United States in the State of California on or before the date of enactment of this Act.

(d) The Federal water rights reserved by this Act are specific to the wilderness area located in the State of California designated under this Act. Nothing in this Act related to the reserved Federal water rights shall be construed as establishing a precedent with regard to any future designations, nor shall it constitute an interpretation of any other Act or any designation made thereto.

SEC. 707. CALIFORNIA STATE SCHOOL LANDS.

(a) NEGOTIATIONS TO EXCHANGE- Upon request of the California State Lands Commission (hereinafter in this section referred to as the "Commission"), the Secretary shall enter into negotiations for an agreement to exchange Federal lands or interests therein on the list referred to in subsection (b)(2) for California State School lands or interests therein which are located within the boundaries of one or more of the wilderness areas or park system units designated by this Act (hereinafter in this section referred to as "State School lands."). The Secretary shall negotiate in good faith to reach a land exchange agreement consistent with the requirements of section 206 of the Federal Land Policy and Management Act of 1976.

(b) PREPARATION OF LIST- Within six months after the date of enactment of this Act, the Secretary shall send to the Commission and to the Committee on Energy and Natural Resources of the United States Senate and the Committee on Natural Resources of the United States House of Representatives a list of the following:

(1) State School lands or interests therein (including mineral interests) which are located within the boundaries of the wilderness areas or park system units designated by this Act.

(2) Lands within the State of California under the jurisdiction of the Secretary that the Secretary determines to be suitable for disposal for exchange, identified in the following priority--

(A) lands with mineral interests, including geothermal, which have the potential for commercial development but which are not currently under mineral lease or producing Federal mineral revenues;

(B) Federal claims in California managed by the Bureau of Reclamation that the Secretary determines are not needed for any Bureau of Reclamation project; and

(C) any public lands in California that the Secretary, pursuant to the Federal Land Policy and Management Act of 1976, has determined to be suitable for disposal through exchange.

(3) Any other Federal land, or interest therein, within the State of California, which is or becomes surplus to the needs of the Federal Government. The Secretary may exclude, in the Secretary's discretion, lands located within, or contiguous to, the exterior boundaries of lands held in trust for a federally recognized Indian tribe located in the State of California.

(4) The Secretary shall maintain such list and shall annually transmit such list to the Committee on Energy and Natural Resources of the United States Senate and the Committee on Natural Resources of the United States House of Representatives until all of the State School lands identified in paragraph (1) have been acquired.

(c) DISPOSAL OF SURPLUS FEDERAL PROPERTY- (1) Effective upon the date of enactment of

this title and until all State School lands identified in paragraph (b)(1) of this section are acquired, no Federal lands or interests therein within the State of California may be disposed of from Federal ownership unless--

(A) the Secretary is notified of the availability of such lands or interest therein;

(B) the Secretary has notified the Commission of the availability of such lands or interests therein for exchange; and

(C) the Commission has not notified the Secretary within six months that it wishes to consider entering into an exchange for such lands or interests therein.

(2) If the Commission notifies the Secretary that it wishes to consider an exchange for such lands or interests therein, the Secretary shall attempt to conclude such exchange in accordance with the provisions of this section as quickly as possible.

(3) If an agreement is reached and executed with the Commission, then upon notice to the head of the agency having administrative jurisdiction over such lands or interests therein, the Secretary shall be vested with administrative jurisdiction over such land or interests therein for the purpose of concluding such exchange.

(4) Upon the acquisition of all State School lands or upon notice by the Commission to the Secretary that it no longer has an interest in such lands or interests therein, such lands or interests shall be released to the agency that originally had jurisdiction over such lands or interests for disposal in accordance with the laws otherwise applicable to such lands or interests.

(d) NO EFFECT ON MILITARY BASE CLOSURES- The provisions of this section shall not apply to the disposal of property under title II of the Defense Authorization Amendments and Base Closure and Realignment Act (Public Law 100-526; 102 Stat. 2627; 10 U.S.C. 2687 note) or the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510; 104 Stat. 1808; 10 U.S.C. 2687 note).

SEC. 708. ACCESS TO PRIVATE PROPERTY.

The Secretary shall provide adequate access to nonfederally owned land or interests in land within the boundaries of the conservation units and wilderness areas designated by this Act which will provide the owner of such land or interest the reasonable use and enjoyment thereof.

SEC. 709. FEDERAL FACILITIES FEE EQUITY.

(a) POLICY STATEMENT- It is the intent of Congress that entrance, tourism or recreational use fees for use of Federal lands and facilities not discriminate against any State or any region of the country.

(b) FEE STUDY- The Secretary, in cooperation with other affected agencies, shall prepare and submit a report by May 1, 1996 to the Committee on Energy and Natural Resources of the United States Senate, the Committee on Natural Resources of the United States House of Representatives, and any other relevant committees, which shall--

(1) identify all Federal lands and facilities that provide recreational or tourism use; and

(2) analyze by State and region any fees charged for entrance, recreational or tourism use, if any, on Federal lands or facilities in a State or region, individually and collectively.

(c) RECOMMENDATIONS- Following completion of the report in subsection (b), the Secretary, in cooperation with other affected agencies, shall prepare and submit a report by May 1, 1997 to the Committee on Energy and Natural Resources of the United States Senate, the Committee on Natural Resources of the United States House of Representatives, and any other relevant committees, which shall contain recommendations which the Secretary deems appropriate for implementing the congressional intent outlined in subsection (a).

SEC. 710. LAND APPRAISAL.

Lands and interests in lands acquired pursuant to this Act shall be appraised without regard to the presence of a species listed as threatened or endangered pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.).

SEC. 711. DEFINITION.

Any reference to the term "this Act" in titles I through IX shall be deemed to be solely a reference to sections 1 and 2, and titles I through IX.

TITLE VIII--MILITARY LANDS AND OVERFLIGHTS

SEC. 801. SHORT TITLE AND FINDINGS.

(a) SHORT TITLE- This title may be cited as the "California Military Lands Withdrawal and Overflights Act of 1994".

(b) FINDINGS- The Congress finds that--

(1) military aircraft testing and training activities as well as demilitarization activities in California are an important part of the national defense system of the United States, and are essential in order to secure for the American people of this and future generations an enduring and viable national defense system;

(2) the National Park System units and wilderness areas designated by this Act lie within a region critical to providing training, research, and development for the Armed Forces of the United States and its allies;

(3) there is a lack of alternative sites available for these military training, testing, and research activities;

(4) continued use of the lands and airspace in the California desert region is essential for military purposes; and

(5) continuation of these military activities, under appropriate terms and conditions, is not incompatible with the protection and proper management of the natural, environmental, cultural, and other resources and values of the Federal lands in the California desert area.

SEC. 802. MILITARY OVERFLIGHTS.

(a) OVERFLIGHTS- Nothing in this Act, the Wilderness Act, or other land management laws generally applicable to the new units of the National Park or Wilderness Preservation Systems (or any additions to existing units) designated by this Act, shall restrict or preclude low-level overflights of military aircraft over such units, including military overflights that can be seen or heard within such units.

(b) SPECIAL AIRSPACE- Nothing in this Act, the Wilderness Act, or other land management laws generally applicable to the new units of the National Park or Wilderness Preservation Systems (or any additions to existing units) designated by this Act, shall restrict or preclude the designation of new units of special airspace or the use or establishment of military flight training routes over such new park system or wilderness units.

(c) NO EFFECT ON OTHER LAWS- Nothing in this section shall be construed to modify, expand, or diminish any authority under other Federal law.

TITLE IX--AUTHORIZATION OF APPROPRIATIONS

SEC. 901. AUTHORIZATION OF APPROPRIATIONS.

There is authorized to be appropriated to the National Park Service and to the Bureau of Land Management to carry out this Act an amount not to exceed $36,000,000 over and above that provided in fiscal year 1994 for additional administrative and construction costs over the fiscal year 1995-1999 period, and $300,000,000 for all land acquisition costs. No funds in excess of these amounts may be used for construction, administration, or land acquisition authorized under this Act without a specific authorization in an Act of Congress enacted after the date of enactment of this Act..

APPENDIX B: RECORD OF DECISION

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

RECORD OF DECISION

GENERAL MANAGEMENT PLAN
ABBREVIATED FINAL ENVIRONMENTAL IMPACT STATEMENT

Mojave National Preserve
California

The Department of the Interior, National Park Service has prepared this Record of Decision on the *Final General Management Plan/Abbreviated Final Environmental Impact Statement* for Mojave National Preserve. This Record of Decision includes a description of the background of the planning effort, a description of the decision made, synopses of other alternatives considered, the basis for the decision, findings on impairment of park resources and values, a description of the environmentally preferable alternative, a listing of measures to minimize environmental harm, and an overview of public and agency involvement in the decision-making process.

BACKGROUND OF THE PROJECT

The impetus for this planning effort was the passage of the California Desert Protection Act (CDPA) on October 31, 1994. This act transferred over 3 million acres of the California desert from the Bureau of Land Management (BLM) to the National Park Service (NPS) and designated nearly 8 million acres of wilderness on NPS and BLM lands. In addition, the CDPA created the Mojave National Preserve and redesignated Death Valley and Joshua Tree National Monuments as national parks. Changes in the management of the public lands in the California desert, including listing of the desert tortoise, increasing development, public use pressures, and passage of the California Desert Protection Act, caused NPS, BLM, and U.S. Fish and Wildlife Service (FWS) desert managers to address the anticipated changes in management of these federal lands through the development of updated or new management plans.

As a new unit of the national park system, Mojave National Preserve has no existing management plans in place. This first general management plan will serve as the overall management strategy for the next 10-15 years. The general management plan is the "blueprint" under which more detailed activity or implementation plans are prepared. A general management plan is general rather than specific in nature, and focuses on purposes of the unit, its significant attributes, its mission in relation to the overall mission of the agency, what activities are appropriate within these constraints, and resource protection strategies. It also provides guidelines for visitor use and development of facilities for visitor enjoyment and administration of the preserve. The goal of the general management plan is to determine how best to manage the new unit to meet the Congressional intent as expressed in the CDPA and the mission of the National Park Service. It was the stated intention of this planning effort to explore only alternatives that would result in an implementable management plan for the preserve. Alternatives that would require legislation before they could be implemented, are contrary to specific Congressional direction, do not comport with National Park Service regulations or policy, or would not be financially feasible would create unreasonable expectations on the part of the public and would not serve the need of creating an implementable management plan for this new unit. The purpose and need section of the plan also formed the basis for determining the range of alternatives that were evaluated.

The development of this general management plan began in 1995 with the selection of a planning team, which was stationed at Mojave National Preserve headquarters in Barstow. The Notice of Intent for this effort was published in the *Federal Register* on September 5, 1995 announcing the beginning of the planning process. The planning team conducted 20 public scoping meetings in September 1995 and April 1997 to gather public input on the management direction for the parks and BLM lands. In addition, a number of agency scoping meetings were also held. From this input and meet-

ings with interested parties (such as county departments, special interest groups, state agencies, Native American tribes, etc.) and discussions with NPS and BLM staff, proposed management plans were developed.

In September 1998 the first *Mojave National Preserve Draft Environmental Impact Statement / General Management Plan* (DEIS/GMP) was released for public review. Approximately 450 printed copies of the DEIS / GMP were distributed for review. In addition, about 100 CD-ROMs were also sent. The entire draft plan was also posted on the Internet with links from the park's homepage and the Northern and Eastern Mojave planning page. The notice of availability for the DEIS was published in the *Federal Register* by the Environmental Protection Agency on September 11, 1998 (FR 48727). Written comments were accepted from September 11, 1998 through January 15, 1999, a period of 127 days. Eleven public meetings were held in October 1998 throughout the planning region of southern California and southern Nevada. In addition, the planning team attended and participated in numerous meetings of the Mojave Advisory Commission to obtain their feedback, concerns, and direction regarding the development of the general management plan. Mojave received approximately 390 comment letters from government agencies, tribes, interest groups, and individuals. In addition, members of environmental groups (National Parks and Conservation Association, The Sierra Club, and The Wilderness Society) sent in approximately 1,800 identical postcards. Several additional letters and postcards were received after the closing date for public comments.

Due to the large number of substantial changes required as a result of public comment on the 1998 draft, the National Park Service decided to rewrite the draft document. In September 2000, a *Revised Draft Environmental Impact Statement / General Management Plan* was released for 92 days of public review. Responses to written public comments on the 1998 draft plan were addressed in a separately bound report. The Environmental Protection Agency published a notice of availability in the Federal Register on September 6, 2000 (FR 54064-54065). Eleven more public meetings on the revised draft plan were held in southern California and southern Nevada during October and November 2000. During the public comment period, a total of 202 written comments were received. All substantive comments on the 1998 DEIS were addressed in a separate document that was made available concurrent with the revised DEIS/GMP.

Upon review of public comments, no substantive issues were raised on the revised DEIS/GMP, therefore, the National Park Service decided to prepare an *Abbreviated Final Environmental Impact Statement / General Management Plan*, dated June 2001. The abbreviated format for the final environmental impact statement and general management plan has been used because the changes to the revised draft document are minor and confined primarily to factual corrections, which do not modify the analysis. Use of this format is in compliance with the 1969 National Environmental Policy Act regulations (40 CFR 1503.4[c]). This abbreviated format requires that the material in this document be integrated with the *Revised Draft Environmental Impact Statement / General Management Plan* to describe the final plan, its alternatives, all significant environmental impacts, and the public comments that have been received and evaluated.

DECISION (SELECTED ACTION)

The National Park Service will implement Alternative 1, the proposed general management plan, described in the *Revised Draft Environmental Impact Statement and General Management Plan*, dated July 2000, as amended by the *Abbreviated Final Environmental Impact Statement and General Management Plan*, dated June 2001. Some changes to the hunting proposal have been made as a result of concerns expressed during the no action period and in consultation with the California Department of Fish and Game and the U.S. Fish and Wildlife Service. Changes in the hunting regulations will require further regulatory action. Cottontails and jackrabbits would be added to the list of species that may be hunted, and the NPS would seek to adjust the seasons to allow hunting only from September through January, in keeping with the goals of the Desert Tortoise Recovery Plan. The one-mile safety zone around developed areas has been dropped (except for Kelso Depot and Kelso Dunes) in favor or existing State and County regulations of 150 yards. The language regarding safety zones will be modified to adopt State and County regulations. The hunting language utilized in the 2000 Revised DEIS/GMP on page 156 will be adopted instead of the proposed language changes in the FEIS/GMP, except as discussed above. The NPS would seek special regulations for Mojave National Preserve through the California Fish and Game Commission to implement the proposed hunting changes.
Other changes made based on public comments include: change in ownership of a water right for

Vontrigger Spring (S013430) listed on page 423 of the Revised DEIS/GMP as belonging to Gary Overson actually belongs to Bruce Strachan; correction to the legal description for the Preserve on page 413 of the Revised DEIS/GMP to show an 80 acre tract of private land under T11N, R17E, SBM (N1/2NE1/4 of Tract 41; citation on page 220 of Revised DEIS/GMP not included in references is (1999. Thomas, Tim. Plant List for Mojave National Preserve; list assembled from existing references).

Following the signing of this Record of Decision, the NPS will print the final General Management Plan as a stand-alone document, which will be used by park staff as a "blueprint" for managing the Preserve over the next 10-15 years. The selected alternative is the agency preferred alternative and the environmentally preferred alternative as documented in the *Abbreviated Final Environmental Impact Statement and General Management Plan*, dated June 2001.

This proposed plan represents the best mix of actions, policies and strategies for the management of the Mojave National Preserve, given the varying mandates and diverse public opinion. The proposed general management plan envisions Mojave National Preserve as a natural environment and a cultural landscape (an arid ecosystem overlain by many layers of human occupation and use from prehistoric, to historic, to the present time), where the protection of native desert ecosystems and processes is assured for future generations. The protection and perpetuation of native species in a self-sustaining environment is a primary long-term goal. The plan seeks to manage the preserve to perpetuate the sense of discovery and adventure that currently exists. This means minimizing new development inside the preserve, including the proliferation of directional signs, new campgrounds, and interpretive exhibits. The management plan envisions adjacent "gateway" communities as providing most support services (food, gas, and lodging) for visitors. The plan also seeks to retain current opportunities for roadside camping, backcountry camping and access to the backcountry via existing primitive roads, consistent with the NPS mission. The plan calls for the rehabilitation and partial restoration of the historic Kelso Depot and its use as a museum and interpretive facility. The plan also fulfills the NPS mission of resource preservation while achieving other mandates from Congress, such as maintaining grazing, hunting, and mining under NPS regulations and continuing the existence of major utility corridors. The proposal would retain the ability of landowners to develop their private property, provided that such development is not detrimental to the integrity of the Preserve of otherwise incompatible with the CDPA. The proposal states a goal of seeking funding to purchase property from willing sellers. Nearly 130,000 acres within the preserve are in nonfederal ownership.

OTHER ALTERNATIVES CONSIDERED

In addition to the proposal, other alternatives considered include existing management, and an optional management approach. The existing management alternative (**Alternative 2**) describes the continuation of current management strategies. It is commonly referred to as the **no-action or status quo** alternative. It provides a baseline from which to compare other alternatives, to evaluate the magnitude of proposed changes, and to measure the environmental effects of those changes. This no action concept follows the guidance of the Council on Environmental Quality, which describes the No Action Alternative as no change from the existing management direction or level of management intensity. These actions are typically referred to as the status quo, or the no-action alternative, since this is what would occur if the agency took no further action to adopt a general management plan. It does not mean that no agency management actions would be taken. Since Mojave is a relatively new unit of the national park system and no general management plan is in place, management of the Preserve is being done in accordance with applicable federal regulations, NPS servicewide management policies, and subject specific reference manuals and guidelines (see Policy and Planning section). The National Parks and Recreation Act of 1978 (P. L. 95-625) requires the National Park Service to prepare general management plans for each park unit. The act specifies that general management plans address measures for the preservation of the area's resources, the types and general intensities of development, visitor carrying capacities and potential boundary modifications.

Under the no action alternative, no comprehensive resource protection program for natural or cultural resources is in place. However, the Preserve has hired several key staff and management of some programs, such as minerals management and feral burro removal, have received funding. Existing staff are also now working on inventory and monitoring of natural resources in cooperation with neighboring desert parks. The park has also dedicated staff to participate in the Molycorp spill abatement, the Cadiz groundwater storage project and the AT&T cable removal project. Most of these resource actions are reactive to concerns that have arisen, rather than being a part of a comprehensive program that is planned and funded. Existing visitor and administrative support services and

facilities are being maintained in their current locations and several improvements to these facilities have been made (new water systems, new vault toilets, new picnic tables, etc.). There have been few improvements in existing structures and no change in road maintenance, although some roads have had minor improvements where funding became available. No significant changes in existing recreation use would occur under this alternative. No action is occurring to protect Kelso Depot from fire or earthquakes, although planning for rehabilitation and partial restoration is underway. The building is secured to prevent vandalism. Efforts would continue to obtain funding for acquisition of property from willing sellers and for properties where development is potentially detrimental to the integrity of the Preserve of otherwise incompatible with the CDPA.

The optional approach (**Alternative 3**) is similar to the proposed action, except as discussed below. This alternative identifies additional tortoise recovery measures, including fencing of 100 miles of paved roads with barrier fences to prevent tortoise from accessing roadways, designation of critical habitat in the Preserve as Desert Wildlife Management Areas (DWMA), not allowing dogs off leash for any purpose in DWMA's (including hunting), permanently reducing the speed limit on park paved roads to 45 mph, and immediate action to begin raven removals. Areas of designated desert tortoise critical habitat currently subject to cattle grazing would be converted to ephemeral pastures and perennial AUM's would be reduced to reflect this loss of grazing acreage. Cattle grazing would not be allowed on these pastures until ephemeral forage is at 230 lbs. per acre. In lieu of fencing the entire Clark Mountain unit boundary to exclude feral burros, this alternative proposes to fence springs and other water sources to limit the attraction of burros from adjacent BLM lands. Hunting of all species allowed under State law could occur from July to January. Power drill usage by rock climbers outside designated wilderness would be allowed, and new bolts could be installed in wilderness, using hand tools. Recreational rock climbing would not be restricted in the vicinity of the Hole-in-the-Wall visitor center, except for the placement of bolts.

Alternative 3 would not include restoration of the Kelso Depot. The Depot would be modified to provide improved protection from fire and earthquakes, and permanent comfort stations would be added. Exterior interpretive exhibits and panels would be utilized to inform the public about this historic structure. Existing information centers in Baker and Needles would be expanded in cooperation with other agencies. A visitor contact center would also be established in the Cima area in conjunction with the central field operations facility discussed below. The NPS would also seek to station an interpretive position at Soda Springs to provide ranger-guided tours of the area. Additional interpretive features and trails would also be added. Emphasis would also be placed on construction of several formal wayside exhibits and interpretive displays to inform the public on significant resources of the Preserve.

Alternative 3 provides significantly more infrastructure inside the Preserve than any other alternative by increasing the number of sites at the existing Midhills and Hole-in-the-Wall campgrounds, and by development of three new semi-primitive campgrounds (up to 15 sites each). These new campsites would generally be located west of the Providence and New York Mountains. This alternative also proposes the construction of a central field operations facility in the Cima area, to provide office space, shop and storage space, housing and fire engine garage space for all park functions. This alternative also provides for the construction of new employee housing throughout the Preserve to place employees closer to their work. Adding such infrastructure would be inconsistent with the goals of retaining the Mojave National Preserve visitor experience as it is now, which was espoused by the Advisory Commission and local communities and reflected in public comment. This alternative also envisions the NPS assuming maintenance of all park roads in the event that the county was unable or unwilling to continue this responsibility. On the Mojave Road, the NPS would not allow business permits for commercial guided tours and a permit system and annual vehicle limit would be imposed to maintain the current visitor experience. Finally, this alternative would provide increased formal hiking trails.

BASIS FOR DECISION

The proposed general management plan provides overall direction for the management of park resources, facilities and development, and use of the Preserve. This alternative presents a logical, systematic and proactive approach to management of the Preserve in compliance with NPS laws, regulations and policies.

The rationale for selection of alternative 1 over the no action (alternative 2) is based on the environ-

mental impacts that would be lessened by seeking funds and implementing activities identified in the proposed plan. Public comment was also considered in formulating the NPS preferred approach over alternative 3. In particular, the funding of the full removal of feral burros, the implementation of Desert Tortoise and Mojave Tui chub recovery actions, the establishment of a cultural resource protection program, and the development of visitor information centers and interpretive media to inform the public on desert ecosystems and protection measures. In addition, a strategy is outlined for the interim management of cattle grazing.

Protection and Enhancement of Natural and Cultural Resources

The proposed general management plan identifies proactive goals and strategies to inventory, document protect, where possible, the air quality, visibility, night sky and natural ambient sound. These resources are key elements of the desert environment that are critical to an enjoyable visit to Mojave. The plan also strives to protect water resources and water rights by seeking to restore damaged natural water sources and protection of groundwater. The plan also proposes to inventory, preserve and protect paleontological, geological, cave and soil resources. Research would be encouraged to learn means by which enhanced protection could be accomplished. These proactive strategies would also yield valuable interpretive and scientific data. The plan also provides an extensive description of the NPS responsibilities regarding cultural resource protection and management, and lays out a thorough program to meet each of these responsibilities.

Alternative 1 provides a more proactive approach to perpetuate native plant life (such as vascular plants, ferns, mosses, algae, fungi, and bacteria) as critical components of natural desert ecosystems. The plan also proposes to inventory all native plants and wildlife, and seeks to restore disturbed ecosystems, enhance habitat for sensitive species, eliminate exotic species where feasible and establish monitoring programs to serve as early warning systems for health of the system. Two key components of the natural resource protection strategy include the removal of exotic feral burros and the adoption of threatened desert tortoise and endangered Mojave tui chub recovery strategies. The key difference between the proposed action and the no action alternative for burro removal is the complete removal of all burros, versus the retention of 130 burros in alternative 2, no action. Since the burro is an exotic species and its presence is inconsistent with NPS management policies and the goal of a native, self-sustaining ecosystem, alternative 1 would result in fewer impacts to natural desert ecosystems. In alternative 3, the Clark Mountain area would continue to be subjected to trespass burros from adjacent BLM land, even though fencing of springs and other water sources would be undertaken to reduce this potential. Therefore, the complete removal of feral burros and the complete fencing of Clark Mountains in alternative 1 would result in the least impact to natural resources of Mojave from burros.

Alternative 1 proposes numerous activities, policies and strategies for implementing the desert tortoise recovery plan. This proactive approach adopts recommendations of the 1994 Recovery Plan where feasible and not inconsistent with the California Desert Protection Act. Alternative 3 proposes additional recovery actions. The labeling of critical habitat as Desert Wildlife Management Areas (DWMAs) under alternative 3 adds no additional land protection over and above its current designation as critical habitat and its protection as NPS lands. FWS concurred with this statement in their Biological Opinion where they conclude that the NPS would not need to create a new land classification because they already receive the highest possible protection as park and wilderness lands. In addition, the NPS is managing desert tortoise habitat within the recommendations of the Recovery Plan partnership with BLM in an identical manner as if the lands inside the Preserve were called DWMA's. Not allowing dogs off leash in proposed DWMAs under alternative 3 instead of just requiring that they be under control of the owner would provide a small increased level of protection over the proposed action. Dogs not on a leash could more easily harass tortoises when hunting for game 50-100 feet from their owner. A permanent reduction in speed limits on paved roads under alternative 3 could result in fewer tortoise kills because of the increased time to react when seeing a tortoise in the road. However, the state and county have limited resources to enforce the speed limit and posting new signs may not result in reduced speeds. Also, alternative 3 does not include the additional measures proposed in alternative 1 intended to reduce desert tortoise mortality along the roads. Alternative 1 takes an approach that is more focused on informing drivers about tortoise presence and implementing speed reductions for limited areas, or during spring rainy days when tortoises are more likely to be out on the roads. We believe that this approach would result in more compliance with speed reductions than would universal speed limits throughout the paved roads. Installing desert tortoise barrier fencing on 100 miles of paved roads under alternative 3, as recommended by

the Recovery Plan, may help to reduce tortoise mortality, but could fragment some habitat and may impede other species such as snakes and rabbits. The cost of such fencing may be as much as $3 million. Spending this amount of money on recovery actions that would affect less than 5% of the habitat may not be the highest priority use of such funding, if it were available. Seeking a permit from USFWS to begin immediate raven removals in DWMAs under alternative 3 may be useful for targeting "problem" birds. However, a coordinated interagency strategy that is implemented desert-wide, such as is called for in alternative 1, would result in greater consistency in dealing with raven populations throughout the area, potentially benefiting much more tortoise habitat. Finally, designation of critical habitat as ephemeral pastures and prohibiting grazing when ephemeral forage is less than 230 lbs. per acre under alternative 3 may not significantly improve desert tortoise habitat over the proposed action. Under alternative 1, cattle grazing could occur in critical habitat, except from March 15 to June 15, even in the absence of ephemeral forage, provided perennial utilization is below 30% (as determined through annual monitoring protocols). During this period desert tortoise are typically in their burrows.

Alternative 1 (and alternative 3) outline certain standards that must be followed by ranchers during the interim while a more detailed grazing management plan is being developed by the NPS. It also states the NPS preferred goal is to permanently retire grazing by working with third party conservation groups to acquire the permits from willing sellers and donate them back to the NPS. The strategy also limits cattle grazing in desert tortoise critical habitat whenever sufficient ephemeral and perennial forage is not present. The standards outlined in alternative 1 provide a greater level of resource protection than existing conditions under alternative 2. Alternative 1 provides the greatest level of protection for park resources consistent with varying conflicting mandates: to allow grazing (CDPA); to remove grazing from critical habitat (Desert Tortoise Recovery Plan recommendation); and the NPS Organic Act to "*...conserve the scenery and the natural and historic objects and the wildlife therein...unimpaired for the enjoyment of future generations.*"

Enhance Visitor Experience

Alternative 1 is most consistent with NPS management policies by providing for visitor use and enjoyment while encouraging opportunities for development in gateway communities. The public and advisory commission supported this direction rather than concentrating new visitor support facilities and ancillary infrastructure inside the park. Alternative 1 would retain existing facilities, and even improve them somewhat, but would limit any new development in lieu of relying on gateway communities for visitor facilities. Alternative 3 focuses on providing more visitor support facilities within the Preserve, envisioning larger existing campgrounds, adding three new semi-developed primitive campgrounds, and adding more trails and interpretive wayside exhibits. Alternative 1 responds to public comment that Mojave remain a primitive place of self-discovery with new facilities primarily in gateway communities. Alternative 1 is also more responsive to public concerns that the Kelso Depot should be restored and used as a visitor center and to the direction in the CDPA to consider such use of the depot. Alternative 3 would only stabilize the Depot and protect it from fire and further deterioration.

Alternative 1 supports continuation of recreational climbing activity while providing for resource protection by eliminating the use of power drills and limiting the replacement of anchors in wilderness areas. This alternative also reduces the visibility of climbing features by imposing restrictions on leaving of climbing support apparatus and blending of anchors. Alternative 1 also protects bighorn sheep during lambing by proposing to limit climbing on Clark Mountain at certain times of the year. These management actions would reduce impacts from climbing on park resources more than either the no action (under which none of these restrictions would occur) or optional approach (which would allow power drill use outside wilderness and would not limit replacement of existing bolts and other fixed anchors).

Alternative 1 most effectively reconciles diverse public concerns relating to hunting. Alternative 2 would continue existing conditions allowing the continuation of all hunting under State law. By contrast, Alternative 1 allows regulated hunting for upland game birds and big game during their established state seasons, and a limited season for small game (cottontails and jackrabbits only) consistent with desert tortoise recovery and the mission of the NPS to protect wildlife for future generations. Alternative 1 would therefore retain hunting throughout the Preserve of most game species under state law, while eliminating non-game and furbearer (predator) hunting. Alternative 3 would allow hunting of all legal game and non-game species under State law from September through January, thus satisfying some of the concerns expressed the hunting community. However, this alternative differs most from the recommendations of the Recovery Plan by allowing hunting of small game and

non-game species. Alternative 1 more fully achieves the intent of the Recovery Plan with regard to hunting in the Preserve. FWS has determined that small game hunting could be allowed, along with upland game birds and big game, without substantially altering the analysis of effects on the desert tortoise in the biological opinion.

Alternative 1 would enhance visitor enjoyment of the park by providing the potential use of commercial guided tours on the Mojave Road to expand the visitor experience opportunity to those without the appropriate vehicle. Under Alternative 3 the NPS would not allow business permits for commercial guided tours and a permit system and annual vehicle limit would be imposed to maintain the current visitor experience.

Provide Effective Operations

Alternative 1 emphasizes the maximum use of existing structures and provides for limited new construction of facilities inside the Preserve. This alternative also proposes to use existing and acquired structures, improving and upgrading them where appropriate. Housing obtained via grazing permit acquisitions would be utilized for employee housing and interpretive facilities in order to provide onsite maintenance and security of the facilities. This alternative would result in the least impacts to currently undisturbed desert habitat and cultural landscape of the park, while still providing needed administrative facilities.

Alternative 3 proposes the construction of a central field operations facility in the Cima area. This facility would provide office space, shop and storage space, housing and fire engine garage space for all park functions. This alternative also provides for the construction of new employee housing throughout the Preserve to place employees closer to their work. This alternative also envisions the NPS assuming maintenance of all park roads in the event that the county was unable or unwilling to continue this responsibility. This alternative is potentially the most efficient operationally for the Preserve, but this level of development inside the boundaries would not lead to a higher quality of visitor experience and is the least responsive to public input.

In summary, Alternative 1 includes the most actions that are beneficial to the cultural and natural resources of Mojave and to the enjoyment of the Preserve. It is also the most responsive alternative to public input received during scoping and alternative development. The one exception is on hunting. Hunters generally supported alternative 2, while a substantial number of other commenters wanted hunting eliminated completely, an option not represented in the DEIS because of the CDPA mandate.

FINDINGS ON IMPAIRMENT OF PARK RESOURCES AND VALUES

The National Park Service may not allow the impairment of park resources and values unless directly and specifically provided for by legislation or by the proclamation establishing the park. Impairment that is prohibited by the National Park Service Organic Act and the General Authorities Act is an impact that, in the professional judgement of the responsible National Park Service manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. (NPS Management Policies 2001).

In determining whether impairment may occur, park managers consider the duration, severity, and magnitude of the impact; the resources and values affected; and direct, indirect, and cumulative effects of the action. According to National Park Service Policy, "An impact would be more likely to constitute an impairment to the extent that it affects a resource or value whose conservation is: a) Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park; b) Key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or c) Identified as a goal in the park's general management plan or other relevant National Park Service planning documents." (NPS Management Policies, 2001).

This policy does not prohibit impacts to park resources and values. The National Park Service has the discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, so long as the impacts do not constitute impairment. Moreover, an impact is less likely to constitute impairment if it is an unavoidable result of an action necessary to preserve or restore the integrity of park resources or values.
Human activity and past development have resulted in the ongoing disruption of natural systems and

processes in Mojave National Preserve for generations. The No Action Alternative would result in future unplanned and uncoordinated actions that are merely reactive to immediate concerns. Furthermore, these actions would likely be responsive to immediate, short-term, adverse impacts that demand attention, but may result in long term impairment to park values and resources. Thus, the ability of the public to experience, understand, appreciate, and enjoy Mojave National Preserve could be impaired under the No Action alternative.

The National Park Service has determined that implementation of Alternative 1 will not constitute an impairment to Mojave National Preserve's resources and values. This conclusion is based on a thorough analysis of the environmental impacts described in the *Revised Draft EIS/GMP*, the *Abbreviated Final EIS/GMP*, the public comments received, relevant scientific studies, and the professional judgement of the decision-maker guided by the direction in NPS Management Policies, section 1.4. While the plan has some minor negative impacts, in all cases these adverse impacts are the result of proactive strategies intended to implement the NPS mission, policies and regulations in the management of Mojave National Preserve. None of the proposals would result in impacts that would impair the integrity of park resources or values, including opportunities that would otherwise be present for the enjoyment of those resources or values. Overall, the plan results in major benefits to park resources and values, opportunities for their enjoyment, and it does not result in their impairment.

The actions comprising Alternative 1 will achieve the goals of the CDPA and NPS management policies (which include protecting and enhancing the natural and cultural resources of Mojave and providing opportunities for high-quality, resource-based visitor experiences) in a comprehensive, integrated manner that takes into account the interplay between resource protection and visitor use. Actions implemented under Alternative 1 that would cause overall negligible adverse impacts, minor adverse impacts, short term impacts, and beneficial impacts to park resources and values, as described in the *Revised Draft EIS/GMP* and the *Abbreviated Final EIS/GMP*, will not constitute impairment. This is because these impacts have limited severity and/or duration and will not result in appreciable irreversible commitments of resources. Beneficial effects identified during the NEPA process include effects related to removal of exotic burros and protecting threatened park resources and values. Beneficial effects do not constitute impairment.

The collective actions discussed in alternative 1 are proposed as a means of managing Mojave National Preserve in a manner that would result in a protected native desert ecosystem that functions without interference from human activities, while allowing visitor use and Congressionally mandated resource consumptive activities. While some of these activities could result in impacts on resources that seem contrary to the NPS preservation mission (e.g. hunting, grazing, mining), Congress specifically provides for these activities in Mojave in the California Desert Protection Act. These activities may only be allowed subject to other applicable laws and regulations. This proposal outlines management strategies for these activities, and others, that would be implemented to minimize potential impacts from these activities to levels below the threshold of impairment. For example, all future mining operations would be required to undergo NPS review and impact analysis under 36 CFR Part 9, Subpart A. A grazing management plan would be developed to manage cattle grazing activities so that park resources are protected. Hunting of game species during the adjusted state seasons (or a limited season for small game) and the resulting elimination of firearm discharge during the desert tortoise active season implement recommendations of the Recovery Plan for the threatened desert tortoise. Other actions in the proposal to construct wayside exhibits, maintain existing developments, and rehabilitate Kelso Depot would create minor impacts on some resources locally, but would not result in impairment. In addition, construction of these facilities would help to minimize impacts by providing visitor education and information about desert ecosystems. Kelso Depot, which is nominated to the National Register of Historic Places, would be rehabilitated and partially restored, resulting in increased protection and greater public enjoyment of this important cultural resource. The proposed actions included in this alternative would establish an overall management approach that would allow activities to occur in the Preserve without impairing the integrity of park resources or values, including opportunities that would otherwise be present for the enjoyment of those resources or values.

In conclusion, the National Park Service has determined that the implementation of Alternative 1 will not constitute impairment of park resources and values in Mojave National Preserve.

ENVIRONMENTALLY PREFERABLE ALTERNATIVE

Environmentally preferable is defined as "the alternative that will promote the national environmental

policy as expressed in the National Environmental Policy Act's Section 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources" (Forty Most Asked Questions Concerning Council on Environmental Quality's National Environmental Policy Act Regulations, 1981).

The goals characterizing the environmentally preferable condition are described in Section 101 of the National Environmental Policy Act (NEPA). NEPA Section 101 states that "...it is the continuing responsibility of the Federal Government to ... (1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations; (2) assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings; (3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences; (4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice; (5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and (6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources." The environmentally preferable alternative for the *Mojave National Preserve General Management Plan* is based on these national environmental policy goals.

Alternative 1

This alternative will realize each of the provisions of the national environmental policy goals stated in NEPA Section 101. Alternative 1 will protect and enhance natural and cultural resources by laying out strategies, planning, inventorying and monitoring, and restoring disturbed ecosystems and historic resources. These actions will further the goals of NEPA Section 101 by attaining the widest range of beneficial uses of the environment without degradation, and by preserving important resources and maintaining a variety of individual choice for visitors to Mojave. Alternative 1 implements recovery measures for the threatened desert tortoise, fully removes exotic feral burros, presents strategies for management of grazing, mining and hunting, and provides for the rehabilitation and partial restoration of the nationally significant Kelso Depot. Alternative 1 also best reflects the expressed interests of the public in minimizing development in Mojave that would detract from the setting and sense of self-discovery and adventure that currently exists. In aggregate, the environmental restoration and alternative elements and features of Alternative 1 will most fully attain the goals outlined in NEPA Section 101.

Alternative 2

This alternative represents the current management direction with no dramatic or comprehensive changes taking place in the management of Mojave National Preserve. Although Alternative 2 would include the least change, it would not result in the same level of environmental protection and restoration for natural and cultural resources as the other alternatives. Management of the Preserve without an overall strategy as in the other alternatives would result in reactive management of natural and cultural resources, including highly valued sensitive and nationally significant resources. Failing to be proactive may result in Alternative 2 not fully achieving provisions 1, 3, 4, and 5 of Section 101 of NEPA. Compared to the action alternatives, the No Action alternative would be least effective in achieving the goals of NEPA, as described in Section 101, in that it would have the narrowest range of beneficial uses that would occur without degradation of natural and cultural resources in Mojave.

Alternative 3

This alternative would be nearly as effective as Alternative 1 in realizing the provisions of the national environmental policy goals in Section 101 of NEPA. The primary differences are in the desert tortoise recovery actions, Kelso Depot rehabilitation, hunting and facility development. This alternative would allow hunting of all legal species under State law from July through January. This action would negatively impact more native wildlife species and continue to affect the non-hunter visitor experience year-round. This alternative also places an emphasis on the development of more administrative and visitor facilities. While these facilities would likely improve the visitor experience, they would also impact park resources more than in alternative 1. Kelso Depot, a nationally significant cultural resource, would not be rehabilitated under this alternative. Instead, the building would be stabilized

and protected from earthquakes and fire. Alternative 1 would generate more beneficial impacts on the Depot by fully rehabilitating it and making it accessible to the public as a visitor center. Finally, a few recovery actions for the desert tortoise could potentially be more beneficial than alternative 1, but their implementation is questionable (see discussion under Basis for Decision). Overall, the negative impacts of selecting alternative 3 would be slightly higher those described under Alternative 1.

Summary

The National Park Service has determined that the environmentally preferable alternative is Alternative 1. While some specific actions under other alternatives may achieve similar or in some cases greater levels of protection for certain cultural resources, natural resources, and/or visitor experience than under Alternative 1, in aggregate, this alternative best achieves the six conditions prescribed under Section 101 of NEPA. While many of the actions in other alternatives may be similar to Alternative 1 in their effect and consequence, Alternative 1: (1) provides a high level of protection of natural and cultural resources while concurrently attaining the widest range of neutral and beneficial uses of the environment without degradation; (2) maintains an environment that supports diversity and variety of individual choice; and (3) integrates resource protection with opportunities for an appropriate range of visitor uses.

MEASURES TO MINIMIZE ENVIRONMENTAL HARM

The National Park Service has investigated all practical means to avoid or minimize environmental impacts that could result from implementation of the selected action. The measures have been incorporated into Alternative 1, and are presented in the *Revised Draft EIS/GMP and Abbreviated Final EIS/GMP.*

A consistent set of desert tortoise mitigation measures would be applied to actions that result from this plan (see Appendix E in Revised DEIS/GMP). Monitoring and enforcement programs will oversee the implementation of mitigation measures. These programs will assure compliance monitoring; biological and cultural resource protection; traffic management, noise, and dust abatement; noxious weed control; pollution prevention measures; visitor safety and education; and other mitigation measures.

Mitigation measures will also be applied to future actions that are guided by this plan. In addition, the National Park Service will prepare appropriate compliance reviews (i.e., National Environmental Policy Act, Endangered Species Act, National Historic Preservation Act, and other relevant legislation) for these future actions.

PUBLIC AND INTERAGENCY INVOLVEMENT

The Notice of Intent for this effort was published in the *Federal Register* (FR 46132) on September 5, 1995 announcing the beginning of the planning process. Throughout the planning process, the planning team gathered public input on issues, proposed actions, and alternatives. The scoping process included meetings, public workshops, Advisory Commission meetings, newsletters, and the development of a homepage. These were used to identify the issues, alternatives, and impact topics to be considered for planning and to keep the public informed and involved throughout the planning process.

Scoping

The planning team conducted 20 public scoping meetings in September 1995 and April 1997 to gather public input on the management direction for the parks and BLM lands. In addition, a number of agency scoping meetings were also held. From this input and meetings with interested parties (such as county departments, special interest groups, state agencies, Native American tribes, etc.) and discussions with NPS and BLM staff, proposed management plans were developed.

On August 31, 1995, a public notice describing the purpose of the planning effort was mailed to the public, media, agencies, and other organizations on the Bureau of Land Management California Desert District's mailing list (about 6,000 names). The schedule for the first round of public scoping meetings was included in the notice. The formal public scoping period for the planning effort began with the September 5, 1995 *Notice of Intent* to prepare an environmental impact statement. Public scoping workshops were held from September 21 through 27, 1995 at 10 locations throughout the planning area and in nearby areas where users live. These workshops were held in Pasadena, San

Bernardino, Barstow, Baker, Needles, Ridgecrest, Independence, Lone Pine, and Furnace Creek, California, and in Las Vegas, Nevada. About 250 people attended the workshops. These workshops were used to identify issues and concerns that the team should address in preparing a management plan for the area.

Newsletters and Website

The first newsletter in February 1996 was sent to about 6,000 names on the Bureau of Land Management mailing list for the California desert. It included a summary of planning issues identified at the public meetings and statements of purpose and significance for Death Valley National Park, Mojave National Preserve, and BLM-managed lands within the planning area. The original mailing list was subsequently replaced with a planning project mailing list developed from agency lists and scoping participation.

In late April 1997, a second newsletter was sent out to about 500 names on the Northern and Eastern Mojave Planning Effort mailing list to inform the public that there would be a second round of scoping workshops to discuss alternatives. It contained a planning update, a schedule of alternative scoping workshops, general descriptions of conceptual alternatives, and an outline of issues for which alternatives could be developed. The newsletter was also posted on the homepage. Both newsletters included a one-page mail-back form for receiving comments. A press release was mailed to local media in and near the planning area. Some local newspapers and radio stations informed the public about the workshops. The schedule for these workshops was included in this notice and on the Northern and Eastern Mojave Planning Effort homepage. Ten public workshops were held from April 14 through 24, 1997 at Las Vegas, Nevada, Needles, Furnace Creek, Bishop, Lone Pine, Barstow, Pasadena, San Bernardino, Baker, and Ridgecrest, California. Each workshop began with a 20-minute presentation about the planning effort given by Northern and Eastern Mojave Planning Effort team leader Dennis Schramm. After the presentation the team would set up three stations for natural resources, cultural resources, land use, and visitor experience. At these stations, the team gathered comments and alternatives and wrote them down on the flipcharts. About 330 people attended the workshops.

In February 1997, a website for the three California desert planning efforts (West Mojave, Northern and Eastern Colorado, and Northern and Eastern Mojave) went online on the BLM California server. It contained detailed information about each planning effort, background information about the Mojave Desert, and the desert tortoise, pertinent legislation and maps and photographs. In April 1998 the Northern and Eastern Mojave Planning Effort homepage was moved to the NPS server so that the planning team would have direct access. The link to this homepage is found in Mojave National Preserve's homepage (www.nps.gov/moja/planning/nemo.htm).

A third newsletter was sent out to the public in April 1998 to update readers on the planning effort. The newsletter explained that three separate draft environmental impact statements for each area (Mojave National Preserve, Death Valley National Park, and the BLM public lands within the Northern and Eastern Mojave planning area) would be produced instead of one comprehensive draft environmental impact statement. A revised planning schedule and comment form for receiving the documents were also provided in the newsletter. This newsletter also served as the initial announcement that a draft EIS/GMP would be released shortly and sought input from the list regarding preferences on receipt of the draft document. The document was available in printed form, at public libraries and agency offices, over the Internet or on CD-ROM.

In August 2000, the fourth planning newsletter was sent to the planning mailing list (about 3,500) announcing release of revised draft EIS/GMP. This newsletter provided a list of locations and dates for eleven scheduled public workshops and locations where the document could be viewed at public libraries and agency offices. It also announced the intended 90-day public review period. This initial review period was eventually extended to 127 days.

In June 2001, the fifth planning newsletter was sent to the planning mailing list (about 3,600) announcing release of an *Abbreviated Final EIS/GMP*. This newsletter provided some background data on the planning effort and other information about how to obtain copies of the document, or where to view it online or at public libraries and agency offices. It also explained the 30-day no action period.

Agency and Native American Consultation

An interagency meeting was held in Barstow, CA on August 23, 1995, to discuss the issues to be addressed in this planning effort. Forty-three staff attended the meeting from the National Park Service, the Bureau of Land Management, and the U.S. Fish and Wildlife Service.

The NPS sent a letter formally notified the California State Historic Preservation Officer in April 1996 of the planning effort. A response letter offering suggestions was received from the state historic preservation officer in May 1996. A planning team member met briefly with the state historic preservation officer in June 1996 and offered a briefing on the planning effort. Participation by the SHPO after that point was by comment letter. A final letter was sent to the SHPO on June 13, 2001 seeking their concurrence with the proposed action as expressed in the *Abbreviated Final Environmental Impact Statement/General Management Plan*.

Following public alternative scoping workshops in April 1997, a two-day interagency meeting was held in Barstow, California to discuss the alternatives and comments heard at the workshops. Twenty-eight staff members from the National Park Service, the Bureau of Land Management, the U.S. Fish and Wildlife Service, the California State Parks, and San Bernardino County attended the two-day meeting. Comments were gathered on the first day and alternatives were developed on the second day.

On April 23, 1996, Dennis Schramm and BLM archeologist Rolla Queen met with the chairmen and tribal members of the Chemehuevi tribe at their reservation on the Colorado River. A follow up meeting was held with the Chemehuevi on May 19, 1997 at their office. An initial meeting with the Ft. Mohave Indian Tribe chairperson also was held on May 19, 1997 at their offices in Needles. The purpose of these meetings was to initiate government-to-government relationships for the planning effort. The tribes were briefed on the scope and status of the planning effort and discussed issues.

An intertribal meeting of the Fort Mohave, Timbisha Shoshone, Chemehuevi, and San Manuel tribes was held on July 11, 1997 at the Fort Mohave Reservation's Avi Hotel and Casino in the Laughlin, Nevada area. The purpose of the meeting was to discuss Native American issues and alternatives. Invitation letters were sent to 13 tribal offices and to NPS and BLM staff. Seven representatives for the tribes and nine agency staff attended the meeting. Mr. William "Bill" Mungary (an intertribal leader) facilitated the meeting.

The Endangered Species Act of 1973, as amended (16 USC 1531 et seq.), requires all federal agencies to consult with the U.S. Fish and Wildlife Service (USFWS) to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitat. The National Park Service signed a Project Agreement at the beginning of the planning effort with the BLM and USFWS. USFWS initially provided a staff biologist to the planning team who prepared the list of species that may be potentially affected by the proposed action. On August 28, 1998, the NPS submitted a letter to the USFWS Ventura Field Office requesting initiation of consultation on the proposed action as identified in the 1998 draft EIS/GMP. The DEIS was submitted with the request in lieu of a biological assessment. In February 2000, the NPS notified the USFWS that it wanted to re-initiate its consultation and advised them that they were preparing a revised DEIS/GMP. The USFWS acknowledged our request to re-initiate consultation in a letter dated April 25, 2000. On July 6, 2001, the USFWS signed a Biological Opinion (1-8-00-F-36) on the Abbreviated Final EIS/GMP.

Executive Orders 11988 (Floodplain Management) and 11990 (Protection of Wetlands) direct federal agencies to enhance floodplain and wetland values, to avoid development in wetlands and floodplains whenever there is a practicable alternative, and to avoid impacts associated with the occupancy or modification of floodplains or wetlands to the extent possible. A Floodplain Statement of Findings for the Kelso Depot rehabilitation and partial restoration was prepared to provide a description of flood hazards, analyze comparative risks among alternatives, describe potential effects on floodplain values, and describe and evaluate mitigation measures. The Floodplain Statement of Findings was released for public and agency review as part of the 1998 *Draft EIS/GMP and the 2000 Revised Draft EIS/GMP*. The final signed copy is attached to this Record of Decision.

Public Workshops and Comment Opportunities

In September 1998 the first *Mojave National Preserve Draft Environmental Impact Statement /*

General Management Plan (DEIS/GMP) was released for public review and comment. Approximately 450 printed copies of the DEIS / GMP were distributed for review. In addition, about 100 CD-ROMs were also sent. The entire draft plan was also posted on the Internet with links from the park's homepage and the Northern and Eastern Mojave planning page. The notice of availability for the DEIS was published in the *Federal Register* by the Environmental Protection Agency on September 11, 1998 (FR 48727). Written comments were accepted from September 11, 1998 through January 15, 1999, a period of 127 days. Eleven public meetings were held in October 1998 throughout the planning region of southern California and southern Nevada. In addition, the planning team attended and participated in numerous meetings of the Mojave Advisory Commission to obtain their feedback, concerns, and direction regarding the development of the general management plan. Mojave received approximately 390 comment letters from government agencies, tribes, interest groups, and individuals. In addition, members of environmental groups (National Parks and Conservation Association, The Sierra Club, and The Wilderness Society) sent in approximately 1,800 identical postcards. Several additional letters and postcards were received after the closing date for public comments.

Due to the large number of substantial changes required as a result of public comment on the 1998 draft, the National Park Service decided to rewrite the draft document. In September 2000, a *Revised Draft Environmental Impact Statement / General Management Plan* was released for 92 days of public review. Responses to written public comments on the 1998 draft plan were addressed in a separately bound report. The Environmental Protection Agency published a notice of availability in the *Federal Register* on September 6, 2000 (FR 54064-54065). Eleven more public meetings on the revised draft plan were held in southern California and southern Nevada during October and November 2000. During the public comment period, a total of 202 written comments were received. All substantive comments were addressed in a separate document that was made available concurrent with the revised DEIS/GMP.

After consideration of public comments on the revised DEIS/GMP, the National Park Service decided to prepare an *Abbreviated Final Environmental Impact Statement / General Management Plan*, dated June 2001. The Environmental Protection Agency published a Notice of Availability announcing the release of this abbreviated FEIS in the Federal Register on June 22, 2001 (FR 33538). The abbreviated format was used because the changes to the revised draft document are minor and confined primarily to factual corrections, which do not modify the analysis. Use of this format is in compliance with the 1969 National Environmental Policy Act regulations (40 CFR 1503.4[c]). This abbreviated format requires that the material in this document be integrated with the *Revised Draft Environmental Impact Statement / General Management Plan* to describe the final plan, its alternatives, all significant environmental impacts, and the public comments that have been received and evaluated. All substantive comments received on the revised draft were addressed in the abbreviated final EIS/GMP.

During the No Action Period, which began on June 22, 2001, numerous written comments were received. About 25 letters (several identical) and copies of about 200 duplicate letters sent to Secretary Norton signed by different individuals were received opposing the hunting proposal. In addition, the NPS received copies of petitions supporting retention of hunting opportunities. The NPS also received a few letters and about 1,000 emails supporting the elimination of predator hunting. Two of the letters received were from Congressional offices and stressed the importance of meeting with California Fish and Game (CDF&G) regarding the hunting proposal before issuing a Record of Decision. As a result of these letters the superintendent met with the Deputy Director and Director of CDF&G on August 1, 2001. In addition, several park staff met with CDF&G staff from the Bishop office and USFWS staff from Barstow on August 2, 2001 to discuss the hunting proposal. During this meeting the NPS clarified its intent to allow hunting of upland game birds, primarily chukar, quail and mourning dove. The NPS also clarified its intent to exclude furbearers and non-game species (predators) from hunting.

The NPS sent a letter to the USFWS on September 7, 2001 asking that they amend the Biological Opinion to include small game hunting (cottontails and jackrabbits only) as a covered activity. On September 19, 2001, USFWS issued such an amendment. Therefore, the NPS decided to modify the hunting proposal to add some small game (cottontails and jackrabbits only) back on the list of species that may be hunted, and to seek an adjustment in the seasons to allow their hunting only from September through January. The NPS informed CDF&G that the NPS would seek special regulations for Mojave through the California Fish and Game Commission to implement the proposed hunting changes, as consistent with the Recovery Plan; and that the NPS might also seek to promulgate special regulations in 36 CFR. The NPS also decided to drop the proposed one mile safety zone around

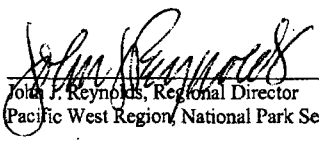
developed areas (except for Kelso and Kelso Dunes) based on CDF&G information that the 150 yard safety zone has proven effective.

The NPS also received several letters and about 1,400 identical emails criticizing the proposal for failing to comply with the Desert Tortoise Recovery Plan. No new information was provided in these letters and the signing of a Biological Opinion by the U.S. Fish and Wildlife Service on July 6, 2001 reflects that the proposal adequately implements the Recovery Plan. . No changes were made to the document as a result of these letters. One letter was received on the burro proposal reiterating previous comments made on both the draft EIS and the revised draft EIS. No new factual information was provided and therefore no changes were made. Two letters were received from a landowner in the Preserve providing factual information regarding mistakes in the Land Protection Plan dealing with their property and water rights. Appropriate corrections were made (see Decision - Selected Action) based on the evidence submitted. One letter was received from the California Department of Transportation, District 9, stating that they have no comments because there appears to be no significant impacts to safety or operation on State highways as a result of the proposal. One letter was received supporting the range monitoring proposal, but requested a series of specific ecological standards be developed and included in the GMP. Such specific standards are appropriately addressed in a grazing management plan and will be deferred to that planning effort. This letter also asked for a reference inadvertently omitted from the FEIS. The reference is provided in the Decision - Selected Action section of this record.

CONCLUSION

Alternative 1 provides the most comprehensive and proactive strategy among the alternatives considered for meeting the National Park Service's purposes, goals, and criteria for managing Mojave National Preserve in accordance with Congressional direction, federal laws and NPS management policies. The selection of Alternative 1, as reflected by the analysis contained in the environmental impact statement, would not result in the impairment of park resources and would allow the National Park Service to conserve park resources and provide for their enjoyment by visitors.

Approved:



9.21.01

John J. Reynolds, Regional Director
Pacific West Region, National Park Service

Date

MOJAVE NATIONAL PRESERVE
GENERAL MANAGEMENT PLAN
FLOODPLAIN STATEMENT OF FINDINGS

The National Park Service owns the historic Kelso Depot. The depot is one of the significant cultural resources within Mojave National Preserve. Construction on the building was completed in 1925 and served the Union Pacific Railroad by providing housing and meals to employees and meals to the public until it was closed and abandoned in 1985. The architectural integrity of this 2-story building remains relatively intact. The depot contains approximately 11,600 square feet. The depot sets within the town of Kelso that is located within the heart of the preserve. Kelso contains remnants of other historic structures and a few modern structures that house an estimated 30 residents. The depot property is located just south and east of the junction of the Kelbaker Road and Kelso-Cima roads and north of the Union Pacific railroad tracks.

The *Revised Draft Environmental Impact Statement / General Management Plan* for Mojave National Preserve is recommending that this building be restored to its period of historic significance and adaptively used as a major museum and interpretive facility for Mojave National Preserve. The National Park Service completed a historic structure report in 1998 for the Kelso Depot that provides an analysis of requirements for treatment of a historic resource for preservation and use.

JUSTIFICATION

Because of the historic significance of the Kelso Depot, the National Park Service has requested funding to stabilize and protect this building from further deterioration. Public comments and scoping meetings held during the general management planning process were overwhelmingly in support for restoration of and pubic use of the depot. The public interest and opportunities for interpreting this historic structure and cultural landscape are high. The San Bernardino County Board of Supervisors formally passed a resolution on February 24, 1998, recommending that the U.S. Department of the Interior fund the stabilization and restoration of the Kelso Depot.

The depot is at a prime location for visitor contact - next to a highway junction that receives visitor traffic from four out of the six major highway entrances. A visitor study conducted in April 1997, and traffic counter data from 1997, indicated that an estimated 90% of all visitors who enter Mojave National Preserve, pass through this highway junction. The depot is about 250 feet from the junction and very visible to travelers. The preserve has over 1.6 million acres with six primary highway entrances. Locating the visitor center next to the railroad could provide options for an alternative mode of transportation for visitors coming to the preserve.

Section 512 of the California Desert Protection Act of 1994, calls for the general management plan to "evaluate the feasibility of using the Kelso Depot and existing railroad corridor to provide public access to and a facility for special interpretive, educational, and scientific programs within the preserve." The planning effort has evaluated the feasibility of using the depot as a visitor contact center and museum. This proposal is justified by a strong need to restore, protect and interpret this historic structure. This need is driven by strong support from the general public and local county government. The depot is also an excellent location from which to contact visitors. We believe that the combination of these factors provides strong justification for creating a visitor facility within a floodplain, despite the potential threat of flooding. We also believe that the application of recommended mitigation measures can substantially reduce the threat to life or government property.

INVESTIGATION OF ALTERNATIVE SITES

Alternative locations for a visitor contact facilities within the preserve include: land south of Baker California along the Kelbaker Road, land south of the Nipton road junction on Ivanpah Road, and north of interstate highway 40 on Kelbaker Road. Each location would require construction on previously undisturbed ground and the extension of power and telephone lines for a least 1-mile to each site. This would create a visual intrusion on each open landscape that presently may only have visual intrusions such as the road, a barbed wire fence, or cattle corral to distract from the scenery. Each alternative location would only capture up to 33% of the total, current, traffic flow and require many visitors to drive for over 1 hour to reach the visitor center from the other entrances. There is the possibility of leasing a building within the town of Baker for use as a visitor contact facility. The advantages of this location include the potential for a high number of people that may be attracted off of

interstate 15 traffic. There are also easily available public utilities and lower impact on land than may occur at alternative sites. The disadvantages of a Baker site include the fact that it would be off the main flow of visitor traffic and many people may not make the effort to travel to Baker to get information on the preserve. In 1997 and 1998, visitation data indicate that the natural and cultural features within the preserve are stronger attractions to visitors than the existing visitor information center in Baker. This situation occurs, despite the fact that the center is frequently advertised on a local radio station.

DESCRIPTION OF SITE SPECIFIC FLOOD RISK

The National Park Service Water Resources Division conducted a floodplain study for the Kelso Depot during the spring of 1998. Results of the study indicate that the elevation of the 100-year flood is below the existing levee elevation. However, the existing levee does not provide adequate long-term protection due to its fine-grained, non-reinforced material, which will undoubtedly fail when subjected to prolonged flooding. With no levee protection, the basement of the depot could be expected to receive water on the average of about every five years. Furthermore, flooding of the first floor could be expected about every ten years. The 100-year flood could subject an unprotected depot to several feet of inundation with associated velocities in excess of 10 feet per second. This scenario should be considered very hazardous and appropriate mitigation should be implemented. If the levee were to partially fail upstream of the depot, flood waters could access the Kelso-Cima road, and discharge would be contained between the remaining portion of the levee and the railroad grade, putting the depot in the direct path of the flood. Modeling results indicate that during this scenario, it would require only about 10-20 percent of the 100-year flood to reach the foundation of the depot. Associated velocities would likely exceed 5 feet per second, and should be considered hazardous.

In summary, flood hazard at the site of the Kelso Depot ranges from fairly frequent nuisance water to infrequent, but potentially devastating floods. Consequently, occupation of this site will require appropriate mitigation.

MITIGATION OF POTENTIAL FLOOD HAZARDS

Flood protection would be provided for the property by reinforcing and repairing the existing levee to contain the 100-year flood. This levee would have a height at least 9.3 feet above the channel bottom. This configuration would contain the predicted 100-year flood elevations and provide an average of 2 feet of freeboard. In addition to the design height, the levee would be armored at critical points with material large enough to withstand velocities of 12-13 feet per second. Other sections would be repaired and thickened with local material to increase the level of protection. A levee maintenance program would be established.

A warning and evacuation plan would also be implemented to protect human life in the case of extreme floods. Flood warning would occur by developing communication with the National Weather Service in the area and requesting that they notify the park during extreme storm events. In the case of an extreme storm, park visitors and employees would evacuate the Kelso Depot via the Kelso-Cima road.

SUMMARY

There are several factors that contribute to the need to protect and use the Kelso Depot. The Kelso depot is one of the significant cultural resources found within Mojave National Preserve and needs to be protected from potential threats. The depot's location along an active railroad line and a primary highway make it an ideal location from which to provide the public with information and interpretive services. Despite the continued threat of flooding, it is believed that the depot and human life can be protected by implementing a combination of proposed and other mitigating actions. The levee would be rebuilt and protected at sections where water flows have significantly cut into the levee. Other sections of the levee would be repaired as needed with fill material to increase or maintain the desired thickness and height of the levee. The storm channel located adjacent to the north side of the levee, would be improved and maintained to reduce the potential for impact on the base of the levee from small flows. The levee would be inspected on an annual or more frequent basis, depending upon the intensity and frequency of storms to determine appropriate maintenance work needed to maintain the levee. Using available technology, a communication link would be established with the National Weather Service to establish provide an early warning system for staff and visitors at the depot.

It is recognized that a threat to live and property exists as a result of the location of the depot within a flood plain, but that the threat can be mitigated by taking appropriate actions. It is proposed that the depot be occupied and used for visitor and NPS administrative functions, and that initial and continuing mitigating efforts be taken to protect life and property.

Recommended:

Superintendent — Date 7-5-01

Concurred:

Acting Chief, Water Resources Division — Date 7-19-01

Concurred:

Safety Officer, Pacific West Region — Date 7/24/01

Approved:

Regional Director, Pacific West Region — Date 9.21.01

APPENDIX C. NORTHERN AND EASTERN MOJAVE PROJECT TIME LINE

October 31, 1994	California Desert Protection Act signed redesignating Death Valley and Joshua Tree National Monuments as National Parks and creating Mojave National Preserve.
September 5, 1995	Notice of Intent for planning effort published in Federal Register. Planning team stationed at Mojave headquarters.
September 21-27, 1995	Ten public scoping meetings to identify issues were held in southern California and in Nevada.
April 14-24, 1997	Ten public scoping meetings to identify alternatives were held in southern California and in Nevada.
September 11, 1998	Notice of Availability for Death Valley National Park and Mojave National Preserve Draft Environmental Impact Statements / General Management Plans. Plans released for 127-day public review, ending January 15, 1999.
October 1998	Eleven public meetings to comment on the draft plans were held in southern California and Nevada.
September 6, 2000	Revised Draft Environmental Impact Statements / General Management Plans released for 92-day public review due to substantial changes required as a result of public comment on the 1998 draft.
Oct. 27-Nov. 17, 2000	Eleven public meetings to comment on the revised draft plans were held in southern California and Nevada.
June 22, 2001	Abbreviated Final Environmental Impact Statements / General Management Plans released and notice published in Federal Register by EPA.
September 21, 2001	Record of Decision on Mojave's Final Environmental Impact Statement / General Management Plan signed.
April 10, 2002	Federal Register Notice of Record of Decision Approval published.

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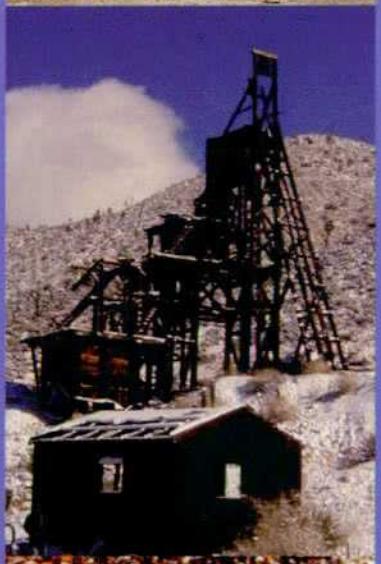
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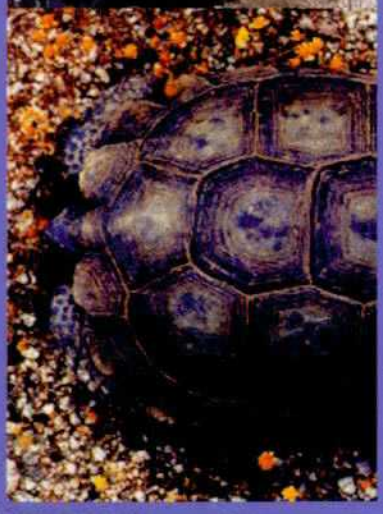
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