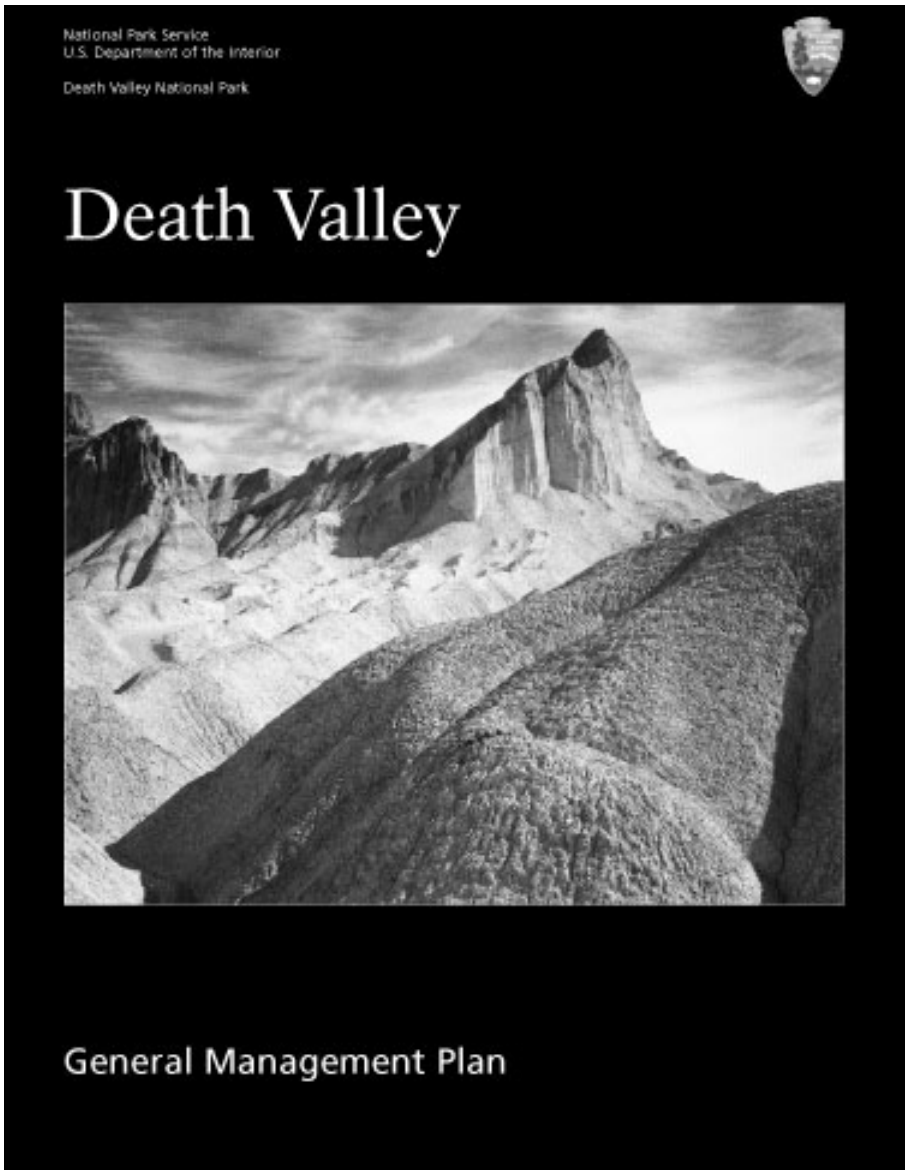
National Park Service
U.S. Department of the Interior

Death Valley National Park

Death Valley

General Management Plan



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April 2002
Death Valley National Park webpage

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Preparers

Death Valley National Park General Management Plan

Inyo and San Bernardino Counties, California and Esmeralda and Nye Counties, Nevada

April 2002

This General Management Plan is Death Valley National Park'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 27, 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

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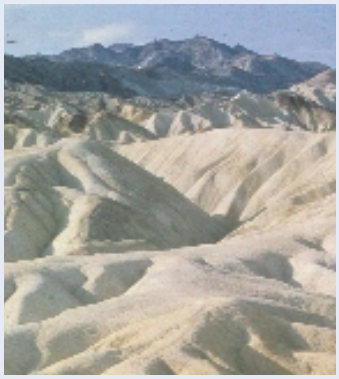
Introduction



Introduction

This *General Management Plan* is Death Valley National Park'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 agency, 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 Park. It serves as the overall umbrella guidance under which more detailed activity or implementation plans are prepared.

The previous *General Management Plan* was approved for the Death Valley National Monument lands in 1989. The establishment of wilderness and addition of over a million acres of new lands by the California Desert Protection Act in 1994 requires the development of a new general management plan.

This *General Management Plan* seeks to extend the existing management strategies that are in place for the previous Death Valley National Monument, and the National Park Service mission and policies, to the management of the resources within the new lands added to the unit in 1994 by the California Desert Protection Act. It also strives to incorporate the designation of 95% of the Park as wilderness into the management approach. This plan addresses the removal of feral burros and horses from the Park in order to achieve the National Park Service mission of managing the unit for native desert species. It also recognizes the need to work cooperatively with the Bureau of Land Management on adjacent land, where their mandate from Congress is to maintain viable herds of wild horses and burros. The plan addresses the establishment of a permanent Homeland for the Timbisha Shoshone Tribe.

This plan attempts to balance the preservation of resources mission with specific mandates from Congress at no more than the level occurring in 1994. In Death Valley, the California Desert Protection Act provides for the continuation of grazing on the new lands. This plan addresses grazing as a component of the management. This plan identifies a number of activity level plans needed to address site specific issues, such as the Saline Valley Warm Springs management and a wilderness/backcountry management plan. This plan seeks funding for acquisition of private property from willing sellers, and/or mineral interests where proposed uses conflict with the primary mission of preserving resources and providing for visitor enjoyment.

DESCRIPTION OF DEATH VALLEY NATIONAL PARK

Death Valley National Monument was established by presidential proclamation under the Antiquities Act of 1906, on February 11, 1933. The original monument contained approximately 1,601,800 acres. Supplementary proclamations in March 1937 and January 1952 increased the monument's acreage to 2,067,793 acres. The monument was subsequently enlarged and changed to Death Valley National Park by Congressional action on October 31, 1994, with the passage of the California Desert Protection Act. Approximately 1.3 million acres of new lands were added, bringing the total acreage of the new Park to about 3,396,192 acres. Nearly 95% of the Park was designated as wilderness by that same act. Death Valley National Park is the largest national park unit in the conterminous 48 states. The vast majority of its lands are located in the California counties of Inyo and San Bernardino, but a small portion of the Park is located in the Nevada counties of Nye and Esmeralda. California State Highway 190 crosses the Park east to west, and Highway 95 parallels the Park north to south on the Park's eastern boundary.

Death Valley National Park is the lowest point in the Western Hemisphere and one of the hottest places in the world. It is also a vast geological museum, containing examples of most of the earth's geologic eras. Here, plant and animal species, some of which occur nowhere else in the world, have adapted to the harsh desert environment. Humans have adjusted to these severe conditions, as evidenced by extensive archeological sites; historical sites related to successive waves of prospectors; miners, and homesteaders; present-day residences of Native Americans; and the current resort developments and active mines.

Perhaps the Park's greatest assets today are the clear air, vast open spaces that stretch toward distant horizons, and the overwhelming silence. Approximately 1.2 million people a year (1999 numbers) come to Death Valley to experience the stark and lonely vastness of the valley; the panorama of rugged canyons and mountains; the pleasures of the dry, moderate winter climate; the challenge of the hot, arid summer; the relief of the cooler mountains; and the reminders of frontier and Native American ways of life.

Death Valley National Park includes all of Death Valley, a 156-mile-long north/south-trending trough that formed between two major block-faulted mountain ranges: the Amargosa Range on the east and the Panamint Range on the west. Telescope Peak, the highest peak in the Park and in the Panamint Mountains, rises 11,049 feet above sea level and lies only 15 miles from the lowest point in the United States in the Badwater Basin salt pan, 282 feet below sea level. The California Desert Protection Act added most of the Saline, Eureka, northern Panamint, and Greenwater valleys to the Park.

The diversity of Death Valley's plant communities result partly from the region's location in the Mojave Desert, a zone of tension and overlap between the Great Basin Desert to the north and the Sonoran Desert to the south (Kearney and Peebles 1960). This location, combined with the great relief found within the Park, from 282 feet below sea level to 11,049 feet above sea level, supports vegetation typical of three biotic life zones: the lower Sonoran, the Canadian, and the Arctic/Alpine in portions of the Panamint Range (Jepson 1923; Storer and Usinger 1968). Based on Munz and Keck (1968) classifications, seven plant communities can be categorized within these life zones, each characterized by dominant vegetation and representative of three vegetation types: scrub, desert woodland, and coniferous forest. Microhabitats further subdivide some communities into zones, especially on the valley floor.

Death Valley National Park and the adjacent desert support a variety of wildlife species, including 51 species of native mammals, 307 species of birds, 36 species of reptiles, three species of amphibians, and five species and one subspecies of native fishes (Hansen 1972 and 1973; Landye 1973). Small mammals are more numerous than large mammals, such as desert bighorn, coyote, bobcat, mountain lion, and mule deer. Mule deer are present in the pinyon/juniper associations of the Grapevine, Cottonwood, and Panamint mountains.

Many historic properties exist within the Park. Most of those meeting the national register criteria for significance and integrity have been listed on the National Register of Historic Places. Most of the sites contain structures or other tangible remains of the activities that took place there. Death Valley National Park is unique because it displays a continuum of mining activities from at least the 1860s to the present day. Many historic mining resources are of particular significance either because similar resources are not found elsewhere within the national park system or because they are in a better state of preservation than examples found elsewhere.

PURPOSE AND MANAGEMENT

An essential part of the planning process is understanding the purpose and significance of the land for which the plan is being prepared. In the case of federal lands, Congress provides the purpose(s) of the unit and the mission of the agency charged with managing the area. Significance is usually determined by familiarity with the natural and cultural resources of the region, although some significant elements are often recognized in the enabling legislation.

MISSION

Death Valley National Park Mission: Death Valley National Park dedicates itself to protecting significant desert features that provide world class scenic, scientific, and educational opportunities for visitors and academics to explore and study.

NPS Mission: The National Park Service mission was clearly stated in its 1916 Organic Act:

> "…the fundamental purpose of the said parks, monuments, and reservations, which purpose 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 manner and by such means as will leave them unimpaired for the enjoyment of future generations."

PURPOSE

- Preserve the unrivaled scenic, geologic, and natural resources of these unique natural landscapes, while perpetuating significant and diverse ecosystems of the California desert in their natural state. Ensure the maximum protection of wilderness values provided by law.

- Preserve the cultural resources of the California desert associated with prehistoric, historic and contemporary Native American culture, patterns of western exploration, settlement and mining endeavors.

- Provide opportunities for compatible public outdoor recreation and promote the public's understanding and appreciation of the California desert by interpreting the natural and cultural resources.

- Retain and enhance opportunities for scientific research in undisturbed ecosystems.

SIGNIFICANCE

- Death Valley National Park contains the lowest point in North America at 282 feet below sea level. The valley floor receives the least precipitation in the United States (average 1.84 inches per year) and is the site of the nation's highest and the world's second highest recorded temperature (134 degrees Fahrenheit or 57 degrees Celsius).

- Death Valley National Park is world renowned for its exposed, complex and diverse geology and tectonics, and for its unusual geologic features, providing a natural geologic museum that represents a substantial portion of the earth's history.

- Death Valley has been the continuous home of Native Americans, from prehistoric cultures to the present day Timbisha Shoshone Tribe.

- The extremely colorful, complex, and highly visible geology and steep, rugged mountains and canyons provide some of the most dramatic visual landscapes in the United States.

- Death Valley National Park contains one of the nation's most diverse and significant fossil records and most continuous volcanic histories.

- Death Valley National Park contains five major sand dune systems representing all types of dune structures, making it one of the only places on earth where this variety of dune types occurs in such close proximity. It also contains the highest dunes in California — Eureka Sand Dunes.

- Death Valley National Park is one of the largest expanses of protected warm desert in the world. Ninety-five percent of the Park is designated wilderness, providing unique opportunities for quiet, solitude, and primitive adventure in an extreme desert ecosystem.

- Contrary to many visitors' first impression, Death Valley National Park's natural resources are extremely diverse, containing a large variety of plant species and community types. The area preserves large expanses of creosote bush valleys and other vegetation typical of the Mojave Desert. Extreme conditions and isolation provide habitat for an unusually high number of plant and animal species that are highly adapted to these conditions.

- Death Valley National Park has an extensive and well-preserved mining history representing over 100 years of mining technology.

- Death Valley National Park contains an unusually high number of well-preserved archeological sites, including rock art and alignments.

- Scotty's Castle, with its architectural style, quality, and priceless collection of antiques and art objects, built in a remote, isolated desert location in the early 1900s, is an icon that has immense public appeal.

PRIMARY 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 Park and will guide the development of interpretive materials (signs, brochures, walks, talks, etc.).

MANAGEMENT OBJECTIVES

NATURAL AND CULTURAL RESOURCES

- Maintain, preserve, interpret, and perpetuate the aesthetic setting, and the natural and cultural resources, of Death Valley National Park in such as manner as to:

- Protect the significant natural and cultural resources and values of the Park, including geologic features, and to foster an improved understanding of natural processes through monitoring efforts and scientific research.

- Perpetuate native plants and animal life for their essential roles in the natural ecosystem.

- Strive to reduce or eliminate alien species to ensure long-term survival of the native ecosystem.

- Ensure the perpetuation of rare and endangered plants and animals and those species endemic (specific) to Death Valley National Park.

- Perpetuate and increase water resource science and conservation.

- Perpetuate the Devils Hole pupfish in the detached Devils Hole section of the Park.

- Eliminate existing and prohibit new occurrences of all activities inconsistent with the protection of the natural ecosystem, except in the Park's developed areas, as noted in the Park's management plans.

- Restore to natural appearance, inasmuch as feasible, the land surfaces disturbed by man, recognizing that significant cultural values must be preserved.

- Prohibit or minimize the adverse effects of mining and mineral development that conflict with resource preservation and public appreciation of natural and cultural values.

- Provide for the reclamation of mining areas and the eventual completion or phaseout of mining.

- Maintain air quality monitoring to facilitate implementation of means to prevent deterioration of air quality and visibility.

- Continue to pursue redesignation of Death Valley National Park from a class II floor area to a class I air quality area.

- Prevent, eliminate, or reduce artificial lighting and noise in order to preserve the opportunity for visitors to experience the night sky and stillness of the desert.

- Perpetuate unimpaired the Park's cultural and archeological resources, protecting them from vandalism, unauthorized excavation, collection, or appropriation.

- Protect the Park's collections of natural and cultural objects from deterioration, natural disaster, misuse, and loss.

- Operate and manage Scotty's Castle, its grounds, and environs to recreate the atmosphere of the period of its construction and occupation by Walter Scott and Mr. and Mrs. Albert Johnson.

- Support research programs pertaining to natural and cultural resources and to social sciences, consistent with the Park's resource protection and visitor services mission.

Wilderness Values

- Manage and protect wilderness values and resources so as to ensure public understanding and appreciation of the vast wilderness assets of the Park.

- Strive to restore disturbed areas in wilderness.

Visitor Use

- Provide the visitor to Death Valley National Park with the opportunity to discover, explore, and understand the natural and cultural resources of the Park.

Interpretive Services

- Offer a variety of quality informational services that differ in format, media, and intensity of presentation, and that are sensitive to the special needs, interests, and cultural backgrounds of a diverse mix of visitors.

- Offer visitors an understanding of Park values and resources, and include as an integral part of interpretive materials major Park management and resource protection challenges.

- Enhance the visitor understanding of Native American cultures.

- Maximize opportunities for visitor enjoyment and appreciation of interpretive services, facilities, and resources, consistent with other Park management objectives.

- Provide information on the surrounding area, including appropriate safety awareness for visitor use of rugged, isolated Death Valley and its environs.

- Maintain a library and a study collection operation that is up-to-date and reflects current preservation policies.

- Maximize services (talks, facilities) for educational and other groups that enrich the Park's database and enhance their understanding and appreciation of Death Valley.

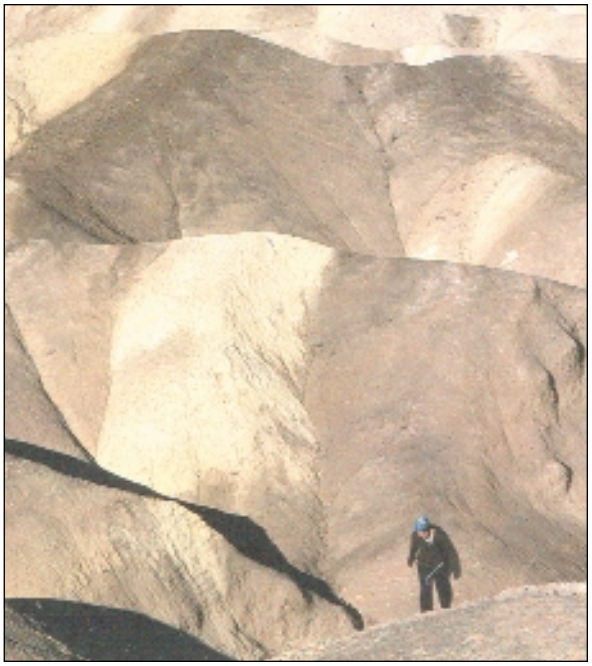
Recreational Activities

- Permit access to all areas of the Park, consistent with resource protection objectives and within optimum carrying capacities/use limits.

- Offer a variety of recreational opportunities that are sensitive to the range of visitor interests, physical capabilities, and time and financial limitations.

- Provide an opportunity for exploring the backcountry, experiencing the wildness of the high Panamint, Grapevine, Cottonwood, and Funeral ranges, as well as camping and sight-seeing in a setting of climatic relief from the valley floor; provide a wilderness experience for those who desire it, in balance with the limitation of the fragile resource.

- Provide access to points of interest within the Park by a variety of means, including automobiles, tour buses, four-wheel-drive vehicles, horses, hiking and facilities for private aircraft.



Commercial Services

- Maintain, preserve, and perpetuate an aesthetic setting for commercial services and community support services, with Furnace Creek being retained as the focal point, and provide secondary year-round commercial facilities and services at Scotty's Castle, Stovepipe Wells, and Panamint Springs.

- Perpetuate the use of historic structures and facilities for commercial purposes, in a manner consistent with their historical significance.

Facilities and Services

- Compatible with resource protection goals and carrying capacity limits, provide facilities and services to accommodate visitor needs.

- Maximize use of existing facilities and accommodate necessary expansion of visitor facilities and services; build new facilities or expand existing facilities only when a clearly demonstrated, continuing need exists, ensuring that environmental impacts are minimized.

- Provide for a variety of overnight visitor accommodations (including lodging and camping) and food services, while ensuring the preservation of natural and cultural resources.

- Encourage appropriate development of overnight facilities and related services by private inholdings and private enterprise outside the Park.

- Ensure that authorized commercial uses in Death Valley National Park are compatible with the preservation and safe enjoyment of the Park's resources.

- Improve water handling facilities to assure appropriate conservation.

- Ensure that the types and prices of commercial services provided will accommodate a range of Park visitors and needs.

- Through landscaping and design, screen concessioner and National Park Service operations and maintenance areas from visitor areas.

- Develop utilities and telephone service only as needed; investigate alternative energy systems, especially solar and water, to minimize energy consumption and environmental impacts.

- Provide seasonal levels of commercial services that are responsive to visitor use patterns.

Operations

- Maintain the public use and administrative support facilities and equipment in a manner that will provide visitors safe and enjoyable experiences and prolong the life of the equipment and facilities.

- Provide for visitor and employee safety through an ongoing safety program that recognizes the hazards of heat and flash floods, as well as the physical hazards of mine areas.

- Provide employees with a safe and healthy work environment and with training to work safely.

- Upgrade and replace directional/informational signs so as to better aid visitors, recognizing that signs should fit into a parklike environment.

- Manage the maintenance program in a cost-effective manner; supervise proper use of manpower, equipment, supplies, and money.

- Promote strategies for management efficiency through revenue enhancement (fee collection), private sector support, volunteerism, improved concessioner maintenance, and productivity enrichment (contracted services).

- Provide timely service to Park employees in personnel management, procurement, finance, word-processing, mail, and dispatch/telephone operations, thereby improving morale and allowing Park staff to better use their time in meeting visitor and resource needs.

- Provide for adequate housing, employee services, and recreational opportunities for employees.

Regional Planning and Cooperation

- Cooperate with other federal, state, and local agencies and private interests in the development of plans, facilities, and programs in order to provide more effective service to the public.

- Work with California (Inyo and San Bernardino counties) and Nevada (Nye and Esmeralda counties) to obtain concurrent jurisdiction status for the Park.

- Communicate to visitors and scientists the concept of the *Man and the Biosphere* program, and cooperate with Joshua Tree National Park, Anza-Borrego Desert State Park, and the University of California's Boyd Deep Canyon, which together with Death Valley comprise the Mojave and Colorado Deserts Biosphere Reserve.

- Encourage the use of Death Valley's resources as a center of scientific research interest, consistent with the perpetuation of native natural processes and the preservation of extant cultural resources.

- Work with the state of Nevada and various research institutions in the understanding and management of the Death Valley aquifer.

- Cooperate with the state of California to provide for road maintenance and patrol, with Inyo County for health, educational, library, and law enforcement services, and with the U.S. Postal Service; ensure that all these services benefit employees, their families, and visitors.

- Maintain coordination and cooperation with California Department of Fish and Game in relation to fish and wildlife issues.

- Encourage the perpetuation of Death Valley's Native American cultural heritage.

FUTURE PLANNING EFFORTS

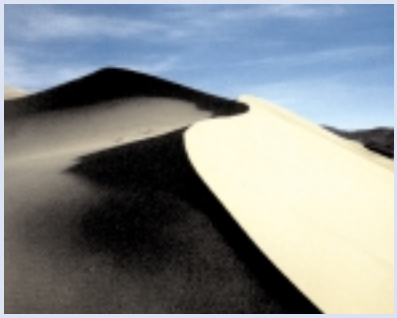
As a result of efforts made to date, additional NPS planning documents have been identified as being needed to supply detailed information for specific topics. Where appropriate, public involvement will be sought on all of these plans through the environmental assessment process. Additional planning efforts that may be undertaken over the next ten years include the following:

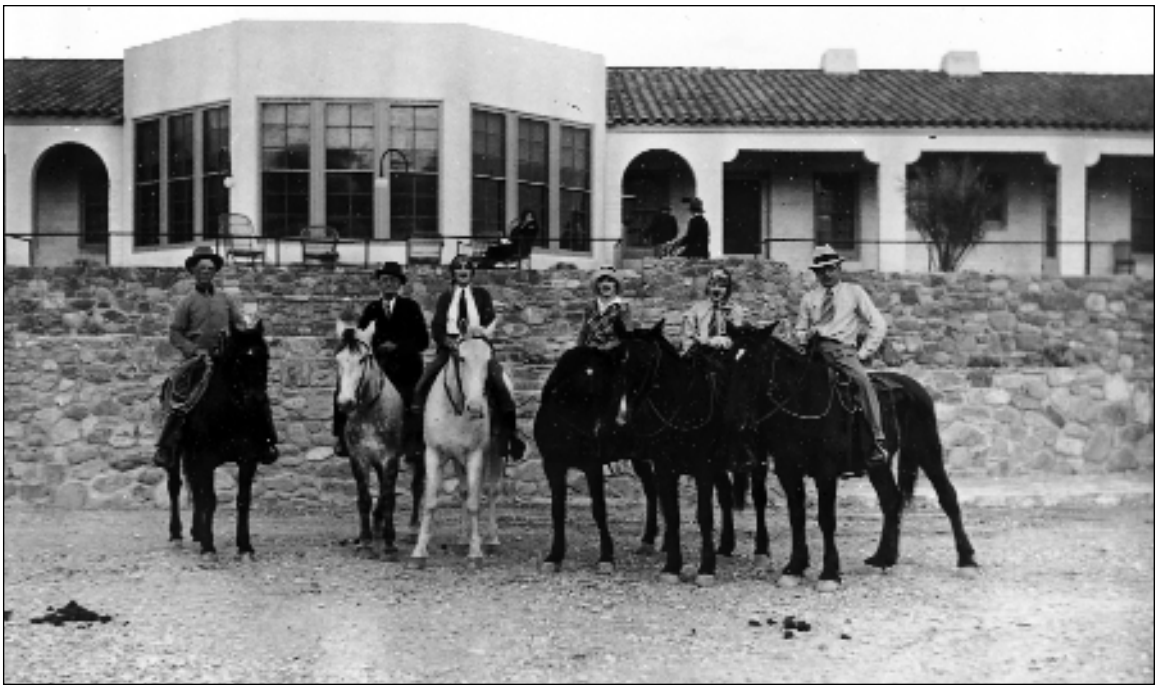
- **comprehensive interpretive plan**
- **wilderness/backcountry management plan**
- **fire management plan**
- road management plan
- **grazing management plan**
- site management plan for Saline Valley*
- development concept plan for Furnace Creek/Cow Creek*
- **development concept plan for Grapevine**
- **updated development concept plan for Stovepipe Wells**
- commercial services plan
- **historic resources study/development concept plan for Scotty's Castle**
- **sign plan**
- **wayside exhibit plan**
- **site management plan for Eureka Dunes**
- minerals management plan
- inventorying and monitoring plan*
- natural and cultural resource management plan updates*

  (This plan will cover the entire Park, rather than just the newly acquired areas).
- cooperative program plans with Timbisha Shoshone Tribe*
- Wildrose site plan
- **annual strategic plan**

Plans in **bold text** are either currently being prepared or already exist as of September 2001. Those with asterisks are considered the highest priority plans to initiate next.

The Plan





The Plan

Overview

The plan seeks to extend the existing Park management strategies and the NPS mission and policies to the management of the resources within the new lands added to the Park in 1994. It also strives to incorporate the designation of 95% of the Park as wilderness into the management approach. The Park will seek to protect resources commensurate with the visitor use mandate as the highest priority, with no derogation of Park values.

The plan addresses the removal of feral burros and horses from the Park in order to achieve the NPS mission of managing the unit for native desert species. It also recognizes the need to work cooperatively with the Bureau of Land Management (BLM) on adjacent land where that agency's mandate from Congress is to manage wild horses and burros so as to "achieve and maintain a thriving natural ecological balance on public lands" where Herd Management Areas were established in 1971 and are in existence today. Eliminating some or all burros from an area to achieve a "thriving natural ecological balance" is a BLM option.

The plan strives to balance the preservation of resources mission with specific mandates from Congress, while not allowing derogation of Park values. For example, grazing would continue at no more than current levels on the new lands, as per the California Desert Protection Act. Grazing is treated as a component of management. Of four total allotments, two allotments are eliminated and one is retired, leaving one allotment remaining within the Park.

The plan identifies a number of other activity level plans needed to address site specific issues, such as the Saline Valley Warm Springs management and a wilderness/ backcountry management plan.

The plan adopts a land acquisition strategy that seeks funding to allow acquisition of most private land from willing sellers based on priorities identified in the "Land Protection Plan."

Summary of Plan Actions

NATURAL RESOURCES

Air quality:

- Seek class I designation.
- Continue air monitoring program, participate national air quality network, and monitor ozone and particulate matter.

Viewsheds:

- Prepare guidelines for developed areas to create harmony between the built environment and the natural environment.
- Implement objectives for communications equipment proposals.

Night Sky:

- Cooperate with neighbors and local government agencies to minimize artificial light intrusion.
- 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.

Noise and Overflights:

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

Water Resources:

- Assertively compile water related baseline data.
- 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 the Park's use will be the amount necessary to achieve Park purposes.
- Strive to maintain the water levels at Devils Hole.
- Monitor wells and springs including Darwin Falls and in at least nine water delivery systems.
- Avoid occupancy and modification of floodplain and wetland areas.
- Defend federally reserved water rights through the state of California and Nevada administrative processes and, if necessary, seek judicial remedy in the appropriate courts.
- 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.
- Examine the use of and need for all guzzlers, livestock tanks, and troughs. Eliminate unneeded and/or unused facilities.
- Retain water developments for native plants and wildlife that are needed to mitigate for local water losses due to previous human activities.
- Restore natural water sources to be self-sustaining.

Paleontological Resources:

- Protect and preserve paleontological resources for public enjoyment, interpretation, and scientific research in accordance with Park management objectives and approved resource management plans.
- Seek to develop collaborative partnerships with government agencies, academic institutions, and public and private organizations with paleontological resource management or research capabilities/expertise.

Geological Resources:

- Protect geological features through random patrols of the backcountry as well as limited public closures to protect sensitive sites.
- USGS will map the park's exposed geology.

Cave Resources:

- Avoid development of caves and to perpetuate natural conditions, while seeking to protect the resource.

Species and Habitats of Special Consideration:

- Identify and promote the conservation of all federally listed or proposed threatened or endangered species and their critical habitats within Park boundaries in ways that were consistent with the purposes of the Endangered Species Act.
- Identify and map distribution of plant and animal species considered rare or unique to the Park.
- Continue to manage and protect the 40-acre area known as Devils Hole, its endangered pupfish and other sensitive aquatic and terrestrial plants and animals.
- The FWS prepared a biological opinion for the Devils Hole pupfish on August 14, 2001.
- Conduct Devils Hole pupfish counts on a biannual basis.
- A site management plan for the Eureka Dunes area addresses protection of sensitive species.

Introduced Species:

- Nonnative plants and animals will not be introduced except under the most unusual circumstances.

  Burros:

  - Adopt "no burro or wild horse" strategy that exists for the former monument lands and apply it to newly added Park lands.

- Removal of horses and burros from Park lands will be completed through a three phase removal program. Phase one consists of a Park-wide live capture program that will be in effect for a maximum of five years. Phase two consists of soliciting interested animal protection groups to begin removing the remaining few animals. An agreement will be signed with the group(s) to provide up to 2 years to remove the remaining burros and wild horses from the Park at their expense. In phase three, NPS staff will eliminate the remaining few animals in the most cost-effective and humane manner to achieve a zero population. Removal efforts could involve a variety of techniques including, but not limited to shooting, wrangler/helicopter roundups, and netting-removal with helicopters. Phase three will continue for an indefinite time.
- Develop a cooperative agreement that assures that the BLM will take steps to control herds adjacent to the Park and will remove trespass burros and wild horses.

Other Nonnative Species:

- Eradicate exotic species to the extent feasible.
- Control aquatic species, such as mosquito fish, goldfish, crayfish, and bullfrogs, to a level eliminating their adverse impacts, or extirpate altogether from Park habitats.
- Actively pursue removal of nonnative tamarisk.
- Continue limited programs to control Russian thistle and hornwort.

Disturbed Land Restoration:

- Seek to perpetuate native plant life as part of natural ecosystems.
- In natural areas landscape conditions 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.
- Rehabilitate abandoned mine sites.
- Cultural zones will be managed as historic landscapes.

Fire Management:

- Assess and document the state of existing fire effects research in desert ecosystems and formulate a desert fire management strategy.
- Suppression of wildfires, and implementation of all fire management actions using methods, equipment and tactics which cause the least impact to natural and cultural resources.
- Develop fire management strategies based on the best available science, field observations of fire effects and post-burn monitoring of selected sites.
- Periodically update the Park "Fire Management Plan."

Research:

- Procure the best science to meet resource protection and management requirements.
- Issue research permits or scientific collection permits to researchers from universities, museums or other agencies when their studies are compatible with park purposes and consistent with legislation.

Inventorying and Monitoring:

- Develop and implement a systematic, integrated program to identify, inventory, and monitor the Park's natural resources.
- Update *Natural and Cultural Resources Management Plan* to reflect the changes that are proposed in this *General Management Plan.*

CULTURAL RESOURCES

- Develop and implement a systematic, integrated program to identify, inventory, monitor, evaluate, and nominate archeological sites, historic properties, cultural landscapes, and ethnographic resources to the national register, and manage, protect, and preserve such listed properties in a way that will preserve their documented archeological, architectural, ethnographic, historic, or research values.
- Develop and implement a systematic applied cultural resource research program.
- Resource Management Plan will address the requirements, projects, and funding to implement the cultural resource program.

NATIVE AMERICAN INTERESTS

- 314 acres at Furnace Creek in Death Valley National Park encompassing the present Timbisha Village Site have been transferred to the Timbisha Shoshone Tribe.
- Other arrangements authorizing tribal access to and traditional uses of, certain designated areas which will remain in public ownership have been recommended.
- Development and resource use activities will be subject to NEPA and public review.

VISITOR USE, SERVICES, AND FACILITIES

Interpretation:

- Interpretive program will integrate the geological, cultural, and biological aspects of the Park.
- Improve the educational outreach program in surrounding communities and develop partnerships with local schools and similar groups.
- Develop comprehensive interpretive plan to replace the 1990 interpretive prospectus.
- Seek additional ways to improve the living history program or other methods of interpreting Scotty's Castle.
- Integrate interpretation of prehistoric and contemporary Native American cultures into park-wide interpretive themes, focusing on human adaptation to the desert environment.

Information/Orientation:

- Where possible provide interpretation and orientation information to visitors before they enter the Park.
- Provide interpretive services wherever NPS staff could effectively connect with the public to increase their understanding and appreciation of Park resources.
- Develop unstaffed orientation and information stations within the Park along the Park's five major entrance roads that receive relatively high levels of traffic.
- Post signs or exhibits at key road intersections leading to significant features.
- Upgrade interpretive wayside exhibits within the Park in accordance with a wayside exhibit plan.
- Cooperate with other agencies and organizations to make information available along approach routes to the Park.

Visitor Facilities:

- All improvements to visitor facilities will be subject to federal requirements to meet accessibility standards for people with disabilities.
- Entrance stations are planned for State Highway 190 on the east and west sides of the Park.
- Operate major visitor centers at Furnace Creek and Scotty's Castle.
- Prepare a comprehensive design plan to update and improve the Furnace Creek visitor center.
- Other structures at Scotty's Castle might be opened for public tours or adapted for other uses if these actions are compatible with recommendations from the historic resource study/historic structure report, the goals of restoring the resource's cultural landscape, and are operationally appropriate.
- Comprehensive design packages for visitor facilities will strive to balance resource protection with visitor access and safety, minimize impacts on sensitive resources, and improve the visual quality of the areas and overall visitor experience.
- Improve existing campgrounds by eliminating safety hazards, better defining and separating sites, improving restrooms, and adding amenities such as newer picnic tables.
- Redesign the Stovepipe Wells campground.
- Redesign Sunset, Texas Spring, and Furnace Creek campgrounds to accommodate average winter demand and improve camping conditions.

Recreational Activities:

- Support recreational activities compatible with management objectives and visitor needs.
- Additional day use areas may be established in the new additions to the Park.
- Small, primitive campsites may be established in some remote areas of the Park to offer alternative camping experiences.
- Complete backcountry/wilderness management plan which will address camping issues.
- Establish inventory and monitoring program to gather data on backcountry visitor use and related impacts associated with car and other types of camping.
- Management actions may include required camping at designated campsites and or closure of areas to camping.
- Prepare a survey and inventory of cabins.

Visitor Use in Saline Valley:

- Prepare a site specific management plan for the Saline Valley in consultation with interested public through the NEPA process.
- Limit soaking tubs/spas to the current level of improvements.
- Protect the Upper Springs from human improvements and use from burros.
- Maintain Saline Valley Road to its current surface condition by Inyo County.
- Make analysis of the Chicken Strip airstrip to determine whether to retain it under 36CFR or whether it should be closed due to safety and/or resource impact concerns.
- The proposed site plan will also consider options for the active restoration of the Upper Springs to a natural condition.

Visitor Use Fees:

- Explore options for fee collection revenues consistent with congressional direction, including collection by third parties.

- Collect entrance fees at the Furnace Creek visitor center, Beatty, the Grapevine Entrance Station, Stovepipe Wells, and Baker.
- Develop entrance stations on State Highway 190 near east and west Park boundaries.

Commercial Services:

- All commercial businesses that operate in the Park are required to obtain an incidental business permit.
- Continue commercial services at Stovepipe Wells and at Scotty's Castle.
- Work with the private commercial operations at Furnace Creek and Panamint Springs to achieve mutual objectives and resolve potential problems.
- Organized recreational activities, that originate from outside of the Park and for which a fee is charged (such as guided motor coach tours, guided horseback and hiking trips, photography workshops, nature seminars, etc.), are required to obtain an incidental business permit to conduct these activities.

GENERAL DEVELOPMENT CONCEPTS

Scotty's Castle:

- Prepare a development concept plan to establish various facility requirements, the appropriateness of relocating maintenance and curatorial functions, visitor circulation patterns, staffing levels, and the location of employee housing.

Furnace Creek and Cow Creek:

- Prepare a development concept plan for administrative and visitor facilities at Furnace Creek and administrative facilities at Cow Creek.

Grapevine:

- Complete a development concept plan to remove unsightly and inadequate NPS housing and maintenance facilities from a public use area, to consolidate certain functions, provide more adequate housing for Park and concession employees, assure appropriate visitor services, visitor information, safety, and resource protection.

Stovepipe Wells:

- Renovate Stovepipe Wells in accordance with a site management plan. The concessions program at Stovepipe Wells will be retained for the foreseeable future.

Wildrose:

- Develop a site plan for the Wildrose area to determine the future direction of the facilities and use of the area.

ROADS AND CIRCULATION

Roads:

- Produce a road management plan to determine such things as the status of duplicate road sections, road surface conditions, and the level of maintenance.
- New roads will unlikely be created in the future unless there is strong justification to do so.
- No routine maintenance on high clearance and four-wheel drive backcountry roads. Occasional or emergency maintenance will occur as appropriate.

Trails:

- Hiking allowed on open trails; equestrian use allowed in most areas.
- No new trails currently planned but will be considered in the wilderness/backcountry management plan.
- The wilderness/backcountry management plan will address specific trail use by hikers, equestrians, and people with disabilities. It will also address the need for a Panamint Crest trail.

Signs:

- Prepare a sign plan to ensure that the vision of signs as unobtrusive, minimal, and blend with the natural environment, is carried out.
- Signs will assist visitors with direction and location and will allow the backcountry roads to remain low key.

ADMINISTRATIVE OPERATIONS AND FACILITIES

Park Administration:

- Furnace Creek will continue to serve as the main administrative headquarters for the Park with a visitor center and an administrative office.
- Replace nonnative plants and landscapes with native plants and landscapes around administrative and visitor facilities where appropriate for interpretive, aesthetic, water conservation and other management purposes.
- Some traditional plantings may be retained.
- Locate some facilities outside the Park, consistent with the existing management direction and actions proposed in this plan. This will include, but will not be limited to, visitor facilities in Beatty, Baker, and Lone Pine, as well as possibly other communities. It also includes the potential establishment of a satellite office in or around areas east of the Park to provide office space for some employees, storage and possibly curation.

Employee Housing:

- A development concept plan underway for the Grapevine area will recommend providing housing and replacing the existing trailers for the northern district of the Park. Ongoing trailer replacement with permanent houses will continue until completed.
- Prior to constructing additional housing for employees, evaluate the location of the housing and make a determination about whether private housing elsewhere 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 Park.

Solid Waste Disposal:

- Haul solid waste disposal to approved landfills outside the Park.
- Expand recycling program.

LANDOWNERSHIP AND USE

Park Boundary and Authorized Acreage:

- No boundary changes proposed. Clerical or drafting corrections may be made to the maps and legal descriptions.

Wilderness:

- 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.
- Motorized access through wilderness to maintain grazing developments could be considered under section 708 of the CDPA.
- Use minimum tool determination prior to granting approval for motorized/mechanical equipment use within wilderness.
- The California Desert Protection Act modifies some provisions of the Wilderness Act.
- Continue process of determining and mapping wilderness boundaries.

Land Acquisition:

- A Land Protection Plan has been prepared.
- Seek funds to acquire private lands and interests in the Park based on 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.
- Exchange of state school sections in the new lands will continue to be actively exchanged pursuant to the California Desert Protection Act direction.

Mineral Development Activities

- Administer mineral development activities under existing laws and regulations applicable to such activities.
- Proposed mining operations must file a plan of operations and must meet the approval standards provided in the regulations and post a performance bond equivalent to the cost of reclamation before an operation will proceed.
- Section 305 of the California Desert Protection Act withdrew the Park 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.
- Seek funding to initiate acquisition of mineral rights whenever a proposed mineral development fails to meet the regulatory approval standards and no alternative development scenario is feasible.
- Undertake a sensitive resource analysis based on an objective analysis of physical, biological, cultural and visitor use values relative to projected mining impacts.

Abandoned Mines:

- Conduct a comprehensive inventory of all Abandoned Mineral Lands (AML) sites to serve as the basis for future planning and reclamation program implementation.

Sand and Gravel for Road Maintenance:

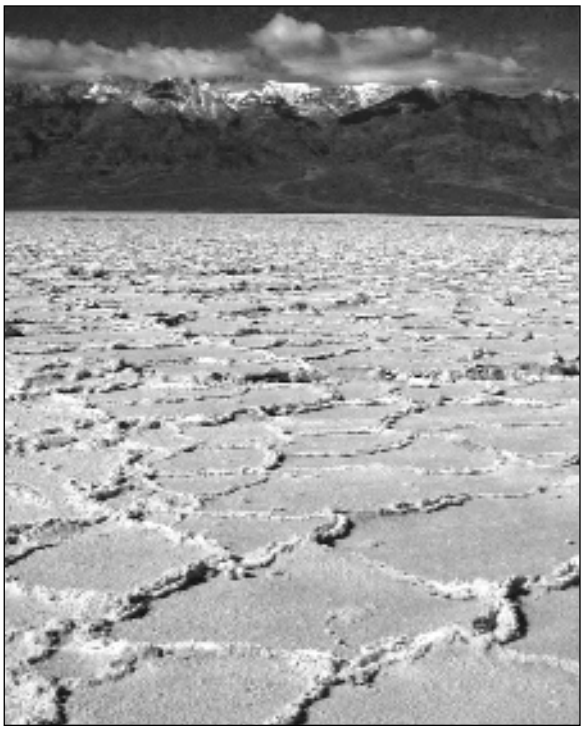
- Evaluate use of borrow sources for road maintenance during the preparation of the road management plan.

Grazing:

- No grazing is permitted on the former monument lands.
- As authorized by the California Desert Protection Act of 1994, the privilege of cattle grazing within the Park shall continue at no more than the October 31, 1994 level and is subject to applicable NPS regulations, policies, and Park management direction.
- No grazing will be permitted on the NPS portions of the Eureka Valley or Lacey-Cactus-McCloud BLM allotments. No permit has been issued on the Last Chance allotment since 1996 due to the lack of forage. The NPS considers this area of the Park to be permanently retired from grazing. Work with the permittee on the Hunter Mountain allotment to develop grazing practices and levels, not to exceed 1,105 AUMs through

development of a grazing management plan.

- Work to acquire base property from willing ranchers.
- A grazing management plan will include how many cattle and the time and place where these cattle will be allowed to graze, seasonal restrictions, the placement/movement of mineral blocks and water facilities as a tool to alter cattle use patterns, pasture rotation, etc.
- Fees will be based on BLM schedules and NPS Special Use Permit costs. Grazing fees will be used for Park resource management and restoration projects.
- Require permittee to access wilderness on foot or horseback, similar to other users.
- Use a minimum tool determination prior to granting approval for motorized/mechanical equipment use within wilderness.
- If livestock use including water use degrades wilderness values, the number of livestock will be reduced to appropriate levels.



Natural Resources

PHYSICAL ENVIRONMENT

Air Quality

Background

The management and enforcement of the Clean Air Act's air quality standards in the Death Valley National Park area is conducted by two entities, the Mojave Desert Air Quality Management District and the Great Basin Unified Air Pollution Control District. The Mojave Desert Air Quality Management District includes the desert portion of San Bernardino County (within the South East Desert Air Basin) and the Great Basin Unified Air Pollution Control District includes Inyo and Mono Counties (within the Great Basin Valley Air Basin).

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. Death Valley National Park 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}).

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 San Bernardino County portion of Death Valley National Park is in nonattainment for California's state ozone standards.

Federal PM_{10} nonattainment areas include the San Bernardino County desert area, Owens Valley, Mammoth Lakes, Mono Basin, and the Searles Valley planning area. Mono and the eastern portion of Inyo counties have not recorded PM_{10} emissions in excess of the national standards.

One nearby source of pollution is the Searles Valley (Trona) complex that produces soda ash, borax, potash, and other chemicals from Searles Dry Lake. Other nearby sources of emissions include Owens Lake, Owens Lake Soda Ash Company, U.S. Army's National Training Center at Fort Irwin, China Lake Naval Air Weapons Station, Briggs Mine, and Panamint Valley Limestone Quarry. Air quality monitoring activities occur at Death Valley National Park and at the Briggs Mine. The Briggs Mine has two real time PM_{10} monitors that collect data continuously. This data is reported to the Great Basin Unified Air Pollution Control District on a quarterly basis. This system is set up to allow the district to access the real time data via a modem.

Exposed lakebeds and farmlands lie in the Owens Valley and Mono Basin between mountain ranges. Wind-carried dust from these exposed lands in the valley adversely affect air quality over the area (U.S. Forest Service, 1988). Visibility has been affected to the extent that Department of Defense test flights over the Owens Valley are hampered or shut down 6 to 12 times each year (U.S. Forest Service, 1988). The county, the Great Basin Unified Air Pollution Control District, the city of Los Angeles, the Department of Defense, and the Inyo National Forest are making coordinated efforts to resolve this concern.

Local pollution sources in the desert consist primarily of particulate matter from offroad 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, occasionally causing particulate standards violations at some locations.

Death Valley National Park currently has an air quality monitoring program which monitors ozone (including meteorology) and particulates. Both are managed under the NPS national program contracts. The Park will soon be adding wet and dry acid deposition monitoring. All air quality monitoring occurs at a monitoring station at Cow Creek, 5 miles north of Furnace Creek.

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 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. The National Park Service will seek class I designation for the Park.

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

A more efficient and comprehensive approach for reducing regional haze that veils scenic vistas in parks was announced in April 1999 in a final rule. This rule builds upon existing air pollution control programs which are designed primarily to protect public health, and the first plans are due at the same time states submit plans for meeting new health-based air quality standards adopted by the Environmental Protection Agency (2005–2008). But, the rule requires steady and continuing emission reductions even after health goals are met and sets a target date of 2064 for achieving "natural" visibility conditions in national parks and wilderness areas. States will be required to submit 10-year plans, with measures needed to stay on track toward that target (at least a 10% improvement in visibility each decade). Irrespective of what other measures states may choose to adopt, the rule requires that the "best available retrofit technology" (BART) be installed at hundreds of power plants and industrial facilities that were built without pollution controls and have otherwise avoided installing modern technology. States will have the option of achieving BART-or-better emission reductions through economic incentives or market-based programs.

Plan Actions

The National Park Service will seek to perpetuate the best possible air quality in the Park 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 to promote and pursue measures to safeguard these values from the adverse impacts from air pollution. The National Park Service will strive to set the best example for others to follow in their development and management activities. When the impacts of existing or potential air pollution on Park resources are unclear, the National Park Service will err on the side of protecting air quality and related values for future generations. The Park's air monitoring program will continue. Death Valley National Park has a National Oceanographic & Atmospheric Administration weather station at Furnace Creek and will continue to be a participating member of a national air quality network and will monitor ozone and particulate matter.

Since the Park is located in a nonattainment area for one or more air pollutants, no actions taken will lead to violations of federal or state air pollution control laws or regulations nor will they increase emissions that will violate the state conformity requirements. Park staff will work with air pollution control officials to ensure compliance with those requirements.

Viewsheds

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).

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.

Plan Actions

The Park will prepare guidelines for the developed areas. These guidelines will be prepared 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 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 will be to protect and maintain the visual quality of the landscape and the built environment. The Park will implement the following objectives for communications equipment proposals:

- All above-ground communication equipment should not significantly distract from the visual quality of the scenery.
- Each new proposal for radio or cellular antennas or towers must demonstrate that the equipment will provide a critical service for visitors and NPS staff and is not duplicative.
- The installation of new equipment outside the Park or on existing communication towers or at defined sites should be considered before the construction of new sites in Park 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. 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.

Night Sky

Background

Within Death Valley National Park, the night sky toward the southeast is noticeably impacted by lights from Las Vegas, perhaps with some Pahrump, Nevada influence. This is especially apparent while heading south from Grapevine and Stovepipe toward Cow Creek and Furnace Creek. Other light sources are essentially limited to the Furnace Creek and Stovepipe Wells areas of Death Valley National Park, residential lighting from small communities such as Shoshone and Death Valley Junction, vehicles, and minor stationary lighting. Nighttime activities at Briggs Mine and Panamint Valley limestone quarry may be observed from Panamint Valley and portions of Death Valley National Park overlooking Panamint Valley. The Bureau of Land Management has required an approved lighting plan that seeks to minimize night sky pollution from the mine.

Plan Actions

The National Park Service will cooperate with neighbors and local government agencies to seek to minimize artificial light intrusion, recognizing that darkness and the night sky are part of the overall visitor 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 it is limited to basic safety requirements and is 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 for night use for monitoring changes over time.

Noise and Overflights

Background

A high level of traffic is observed along State Highway 127 between Baker, California and Death Valley Junction (Caltrans 1996). Vehicle noise is generally not an issue in the Park in spite of the many and heavily used roads including State Highways 127, 190, and 178, and NPS major paved roads. Because of the Park's size, most areas are well away from traffic and its noise.

Other areas where localized noise occurs are at the BLM-managed Dumont Dunes off-highway vehicle open area and at mining operations. Less localized is noise from military overflights. Frequent low-level military overflights are often seen in the Panamint and Saline Valleys. If the National Training Center's (Fort Irwin) expansion is approved, sporadic and significant localized noise would be generated in the southern boundary of Death Valley National Park (BLM 1996).

The Park is in the vicinity of several U.S. Department of Defense facilities: Fort Irwin Military Reservation, China Lake Naval Air Weapons Station, Edwards Air Force Base, and Nellis Air Force Base. Military aircraft from these facilities often use airspace in the Park. Although aircraft noise does not appear to affect wildlife, visitors to the area often react adversely to jet noise and sonic booms. In addition, some booms have caused damage to natural and cultural resources (NPS 1988).

Military overflights constitute the primary source of high-level noise incidents in the Park. Parts of the Park are within a joint service R-2508 special use airspace complex designated as a military operations area (MOA) (Saline, Panamint, and Shoshone MOAs) that permits aircraft to fly at speeds exceeding 250 knots and at altitudes 200 feet above ground level or higher (DOD 1995). The military operations area is used on a daily basis by Navy and Air Force aircraft. Low-level overflights of various military aircraft are common in the vicinity of the Park.

In 1976, the Joint Policy and Planning Board Commanders (NAVAIRWPNSTA China Lake, Edwards Air Force Base, Fort Irwin, and George Air Force Base) agreed to restrict overflights above the existing national monument boundaries to 3,000 feet above ground level within the R-2508 Complex. The successive creation of the Complex Memorandums of Agreement in 1977 excluded this airspace; however, the exclusion was not extended to the expanded areas under the designated areas below the 3,000-foot restriction. A process is in place for all complaints and reports of overflight restriction violations, forwarded by the National Park Service or the public, to be investigated and handled by the Complex management.

Title VIII of the California Desert Protection Act, 1994, provides that:

> 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.

Plan Actions

The National Park Service will strive to preserve the natural quiet and sounds associated with the physical and biological resources of the Park. Activities causing excessive or unnecessary sounds in or adjacent to the Park, including low-level aircraft overflights, will be monitored, and action will be taken to prevent or minimize unnatural sounds adversely affecting Park resources and values or visitor enjoyment. The National Park Service will collaborate with the Department of Defense to minimize impacts on visitors and resources from military overflights, as authorized by sec. 802 of the California Desert Protection Act.

Water Resources

Background

Groundwater. Groundwater is found throughout the Park and varies greatly in depth and quality. The Park's groundwater basins are recharged from surface and subsurface infiltration. Depletion of groundwater basins and a diminishing of water quality are some of the concerns that were expressed at public meetings. Groundwater is the Park's principal source for desert springs, seeps, and streams. The maintenance of groundwater quality and quantity is critical to the survival of desert surface waters and their associated plant and animal life.

The major concern is that Park water and water-related resources will be affected by up-gradient withdrawals and contamination. Death Valley National Park receives much of its water from the lower portion of the Death Valley groundwater flow system's flow from Nevada (Pal 1995). The Death Valley groundwater flow system is defined in general terms as the area where groundwater flow is toward Death Valley. Some groundwater inflow also occurs from areas in California that are adjacent to the Park. The Death Valley groundwater flow system is believed, by the National Park Service, to be fully, if not over, appropriated. Existing and future appropriations of limited water resources from the flow system may result in impacts to Park water resources. Additionally, potentially contaminated groundwater plumes from the Nevada Test Site or from cyanide runoff from the large mining operation near Bullfrog could contaminate the regional aquifer that drains into the Park (NPS 1988). The Bullfrog Mine is and will continue to conduct groundwater testing until 2005. That company reported that no ground water contamination has been detected (Barrick/Bullfrog Mine, January 14, 1999 letter to NPS regarding the DEIS).

Water Use

Another site where extensive groundwater is being used at rates that exceed normal groundwater recharge is the Briggs Mine adjacent to the Park. The Briggs Mine has an approved mining plan that calls for the groundwater withdrawal of about 640 acre-feet per year (BLM, 1995a). This increase in groundwater withdrawal is in addition to the existing groundwater withdrawal of 750 acre-feet per year from the Panamint Valley (BLM 1995a).

Surface Water. Known surface water sources in the Death Valley region include seeps, wells, springs, and ponds. The small springs and seeps in the Park offer isolated and limited water for plants, wildlife, domestic, or commercial purposes. Some springs produce potable water, but overall, water quality is poor because of high dissolved mineral concentrations (BLM 1996).

In 1972, some 330 water sources of varying dependability and quality were recorded within the monument's boundaries (FWS 1972). The majority of these water sources were found in the Cottonwood, Panamint, and Grapevine mountains. Discharges from these sources range from a minimal

seep to rates exceeding 200 gallons per minute. Death Valley's enlargement to a National Park in 1994 added an additional 1.3 million acres. These new lands include additional water sources such as Darwin Creek, Saline Warm Spring, and many springs in the Nelson Range and Whippoorwill Flat areas of the Inyo Mountains.

Death Valley's perennial streams include Salt Creek, Furnace Creek, Cottonwood Creek, and Darwin Creek. The Amargosa River is also perennial, but only for short stretches, with its length varying seasonally. Other streams flow seasonally from springs in some of the larger canyons on the west side of Death Valley, such as in Hanaupah and Johnson canyons (NPS 1988).

Perennial ponds are rare within the Park, and they fluctuate in size with the season. The largest ones (more than 6 acres) are immediately north of Saratoga Springs. Several artificial ponds and ditches supplied by the Travertine Springs are maintained by AMFAC, Inc., on its Furnace Creek properties (NPS 1988).

Cattle ranching, mining, and resort development in the desert required changes in the natural water flow, quality, and supply. Flows from springs and seeps were diverted or dammed, water was piped miles away from the source, wells were drilled, stock tanks were excavated, and other developments were needed such as wind mills and troughs. These changes brought with them changes to the natural environment. When the flows from the springs and seeps were diverted, the remaining aquatic/riparian flora and fauna were greatly reduced or eliminated. The water piped from the springs and seeps or taken from wells and piped to tanks and troughs is used by cattle, burros, and wildlife.

Water Rights. Initial research on outstanding water rights in the Park at the State Water Resources Control Board in Sacramento revealed that there are approximately 45 appropriated water rights claims on 41 water sources (springs, seeps, streams, wells) in the Park.

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 vested rights are valid 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.

Death Valley National Park was involved in a historic water rights decision, when the U. S. Supreme Court in 1976 determined that the NPS had a reserved water right to a certain level of groundwater at Devils Hole. This Supreme Court action is frequently referred to as *Cappaert v. United States*. The purpose of the reserved water right is to maintain the water level in Devils Hole to assure the survival of the Devils Hole pupfish, an endangered species.

Water Developments. 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.

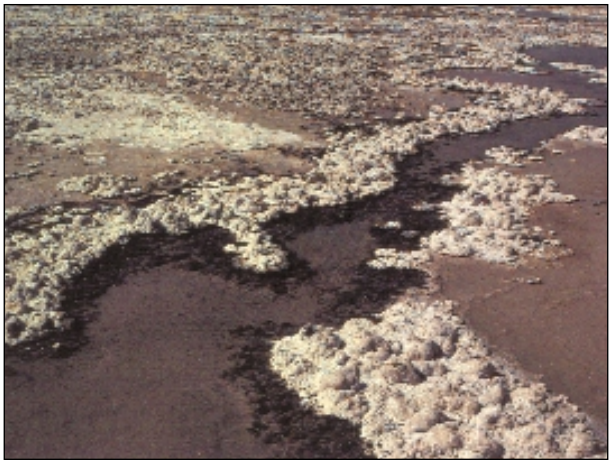
Death Valley National Park has five big game and two game bird (gallinaceous) guzzlers. The guzzlers

were developed by the California Department of Fish and Game, the Bureau of Land Management, and volunteers prior to the Park's expansion in 1994. A review of guzzler use by Park staff concluded that two of the big game guzzlers received little or no use.

Plan Actions

Water Use. Water will be used efficiently and frugally in the Park. 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 the Park's use will be the amount necessary to achieve Park purposes. All water withdrawn from the Park for domestic use will be returned to the Park watershed system once it has been treated to ensure that there will be no impairment of Park resources. Interbasin transfers would be avoided. 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 ongoing water-monitoring program will continue. Death Valley National Park will seek to restore, maintain, or enhance the quality of all surface and ground waters within the Park consistent with the Clean Water Act and other applicable federal, state, and local laws and regulations.

The Park will continue to maintain the water levels at Devils Hole, the home of the endangered Devils Hole pupfish. The Park will continue to actively monitor the pool's water elevation. The Park will continue to be involved in an interagency effort to monitor the water flow in the Death Valley Groundwater Flow System to help ensure that any major water extraction that might occur miles away from the Park do not adversely affect the Park's resources. Monitoring other wells and springs within the Park including Darwin Falls and in at least nine water delivery systems will also continue.



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", Executive Order 11990, "Protection of Wetlands," and the Rivers and Harbors Act, and section 404 of the Clean Water Act.

Water Rights. Since 1976 the NPS has been actively protecting the water right to the Devils Hole area. The NPS believes the continuation of this approach is vital to the long term viability and survival of the Devils Hole pupfish and other Park resources.

The NPS participates in California and Nevada administrative water rights proceedings to protect Federal reserved, riparian, and appropriative rights established for Death Valley National Park. The purpose of this participation is to protect Park water rights from injury by threats such as new appropriations for groundwater located upgradient of Park water sources.

NPS *Management Policies* (2001) state:

> *All rights to the use of water diverted to or used on federal lands within the national park system by the United States or its concessioners, lessors, or permittees will be perfected in the name of the United States.*

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
- 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
- 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
- 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
- vigorously defend water travelling to the Park in the Death Valley aquifer from Nevada
- work with holders of water rights to restore modified water sources to natural conditions while still allowing for valid existing uses

Water Developments. The National Park Service will examine the use of and need for all guzzlers, livestock tanks, and troughs (hereafter referred to as developed water sites). Water at developed water sites will be retained for native plants and wildlife if these facilities were needed to mitigate for local water losses due to previous human activities. 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 became self-sustaining, the artificial facility will be removed. Requests to use motorized access to guzzlers in wilderness areas (to maintain guzzlers or replenish water) will be reviewed individually. If livestock use, including water use, degrades wilderness values, the number of livestock would be reduced to the appropriate level.

Water is necessary for livestock grazing on NPS lands. The amount of water that will be diverted or used for livestock will be maintained for the animals' health. If and when animal unit months (AUMs) were reduced (no increase in AUMs is allowed under the California Desert Protection Act) a concurrent reduction in water for livestock purposes will be expected. The National Park Service will examine these developed water facilities and take action, where appropriate, to restore natural waters. If the National Park Service did not own the water rights, the agency will work with the owners to encourage them to consider the benefits of natural water restoration to restore modified water sources to natural conditions while still allowing for valid existing uses.

Paleontological Resources

Background

Death Valley National Park contains a rich and diverse, but fragile and irreplaceable paleontological record. The fossil record in the Park area is nearly as extensive and complicated as the geological record. Much of the area's geology is exceptionally well exposed. Soil development has been greatly retarded throughout much of the area, and the outstanding exposures of geological features support an equally notable exposure of fossil remains. These organisms have value as (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 Death Valley National Park region by Earth Sciences curator, Robert E. Reynolds, at San Bernardino County Museum in Redlands. The records and literature search identified a number of potentially sensitive fossiliferous areas within the Park area. Significant paleontological resources and records relating to paleobiostratigraphic events that occur within the Park include:

- 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 that mark the boundary of the Paleozoic Era, 550 million years of age.
- Significant occurrences of Paleozoic invertebrate fossils and the possibility of very old fossil fish in Death Valley National Park.
- Panamint Range localities that contain significant marine cephalopods and invertebrate fossils.
- The early record of the Oligocene Tertiary Era from north of the Mojave Desert is found in the Grapevine Mountains in Death Valley National Park; important fossils include rodent, canid, horse, helaletid, brontothere, rhinoceros, oredont, and leptomerycids.
- Extremely important Late Miocene trackways, associated with important vertebrate fossils, occur in the Black Mountains in Death Valley National Park and in the Avawatz Mountains south of the Park; the Black Mountains area includes a wide range of camel, horse, gompothere, and aquatic bird trackways associated with a shallow freshwater lakeshore.

Plan Actions

Some paleontological research has been initiated or funded by the National Park Service. Most is accomplished by outside institutions that request and receive NPS research permits. The institutions, in exchange for the opportunity to study NPS resources, agree to provide information that the National Park Service can use to develop strategies for resource protection, management, and interpretation.

Paleontological resources, including both organic and mineralized remains in body or trace form, will be protected and preserved for public enjoyment, interpretation, and scientific research in accordance with Park management objectives and approved resource management plans. Although paleontological research by the academic community will be encouraged and facilitated under research permits subject to NPS management criteria, the National Park Service will enhance its own knowledge of paleontological resources through comprehensive inventory and monitoring programs. To enhance the conservation and management of paleontological resources, the National Park Service will seek to develop collaborative partnerships with government agencies, academic institutions, and public and private organizations with paleontological resource management or research capabilities/expertise. Management actions will be taken to prevent illegal collecting. Actions also might be taken to prevent damage from natural processes such as erosion. Protection could include construction of shelters over specimens for interpretation in situ, stabilization in the field, or collecting, preparing, and placing of specimens in museum collections. The localities and geologic settings of specimens will be adequately documented when specimens were collected.

Geological Resources

Background

Death Valley National Park is, geologically speaking, a part of the larger Basin and Range Province. The Park's oldest rocks were formed about 1.8 billion years ago. The weathered sandstone and limestone rocks from the Funeral and Panamint Mountains are much younger, about 500 million years old, and indicate that this area was the site of a warm, shallow sea throughout most of the Paleozoic Era (570–250 million years ago).

About 3 million years ago, the dynamics of crustal movement changed, and Death Valley proper began to form. At this time, compressional forces were replaced by extensional forces. This "pulling apart" of the earth's crust allowed large blocks of land to slowly slide past one another along faults, forming alternating valleys and mountain ranges. Badwater Basin, the Death Valley salt pan, and the Panamint Mountain Range comprise one block that is rotating eastward as a structural unit. The valley floor has been steadily slipping downward, subsiding along the fault that lies at the base of the Black Mountains. Down-dropping continues today.

Concurrent with the subsidence has been slow but continuous erosion. Water carries rocks, sand, and gravel down from surrounding hills and deposits the pieces on the valley floor. Beneath Badwater lies over 9,000 feet of accumulated sediments and salts.

Recent signs of volcanic activity exist in the northern third of the Park at Ubehebe Crater. Caused by violent steam explosions, the craters formed several

thousand years ago when molten material came in contact with groundwater.

There are five dune areas within the Park. They are located near Saratoga Springs, Stovepipe Wells, Panamint Springs, Saline Valley, and Eureka Valley. "[The Eureka Valley Dunes are] the highest dunes in the Basin and Range Province and possibly in the United States. When observed at sunset from the west, against the backdrop of the Last Chance Range, its nearly vertical west facing slopes resemble a marvelous parfait-like melange of pink, white and numerous other tones of earth colored rocks" (BLM 1982).

Plan Actions

Park geological features will be protected. Certain fragile geological features, such as sand dunes and salt flats will be monitored to determine if measures were needed to prevent or stop human-caused damage. Mapping by U.S. Geological Survey will be conducted to map Death Valley National Park's renowned exposed geology. Resource protection will continue to consist of random patrols of the backcountry as well as limited public closures to protect sensitive sites.

Cave Resources

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. Caves are not common in Death Valley. The most significant cave is Devils Hole.

Plan Actions

NPS *Management Policies* (2001) provide that caves be managed to perpetuate their atmospheric, geological, biological, ecological, and cultural resources in accordance with approved cave management plans. Natural drainage patterns, air flows, and plant and animal communities are to be protected. In general, the NPS management direction is to avoid development of caves and to perpetuate natural conditions, while seeking to protect the resource. Devils Hole is closed to public use to protect the endangered pupfish.

BIOLOGICAL ENVIRONMENT

Background

Death Valley National Park and the adjacent desert support a variety of wildlife species. Within Death Valley and the surrounding desert there are 51 species of native mammals, two species of exotic mammals, over 346 species of birds, 36 species of reptiles, three species of amphibians, and six species of fishes (Hansen 1972 and 1973; Landye 1973). Small mammals are more numerous than large mammals, such as desert bighorn, bobcat, mountain lion and mule deer.

The Nelson bighorn *(Ovis canadensis nelsoni)* is the subspecies native to Death Valley. Bighorn occur in desert mountain ranges where the terrain includes rolling hills for feeding areas and nearby cliffs within steep canyons that can be used for escape. Their range does not correlate with any specific vegetative type. The present population is estimated to be between 500 and 1000 animals. Some researchers believe that the sheep population in the Park is declining in numbers. The cause of this possible decline has not been determined; however, several factors may be involved, including the introduction of diseases from livestock, poor range conditions, rapid increase in human activities (such as mining, road building, urbanization, and increased recreation), illegal hunting, and appropriation of water (Seymour 1972). Competition with other animals and drying of springs are additional factors resulting in loss of habitat. Alternatively, it may be possible that the Park herd is not declining, and the use of different census methods that have varying degrees of accuracy are responsible for "fluctuating" numbers of sheep. To reduce visitor impacts and prevent undue disturbance of wildlife, backcountry camping is not permitted within .25 mile of springs.

The diversity of Death Valley National Park's plant communities result partly from the region's location in the Mojave Desert, a zone of tension and overlap between the Great Basin Desert to the north and the Sonoran Desert to the south (Kearney and Peebles 1960). This location, combined with the great relief found within the Park — from 282 feet below sea level to 11,049 feet above sea level — supports vegetation typical of four biotic life zones: the lower Sonoran, the Canadian, and even the Arctic/Alpine in portions of the Panamint Range (Jepson 1923; Storer and Usinger 1968). Based on Munz and Keck (1968) classifications, seven plant communities can be categorized within these life zones, each characterized by dominant vegetation and representative of three vegetation types: scrub, desert woodland, and coniferous forest. Microhabitats further subdivide some communities into zones, especially on the valley floor.

Scrub or Desert. Scrub is the most extensive vegetation type in Death Valley. It dominates about

three-fourths of the Park landscape and includes the alkali sink, creosote bush scrub, shadscale scrub, and sagebrush scrub communities. The alkali sink or salt flat community occurs in the lower elevations of the Park.

Desert Woodland. Desert woodland is an open, well-spaced community ranging from elevations of about 7,000 feet up to about 9,500 feet. Much of the soil within this community is bare and surfaced with a hard, wind scoured layer similar to desert pavement. The community is dominated by single-leaf pinyon pine (*Pinus monophylla*) and scattered individuals of juniper (*Juniperus osteosperma*).

Coniferous Forest. Coniferous forest in Death Valley National Park includes subalpine forest and some bristlecone pine forests. Both communities occur in narrow belts at upper elevations. Dominants of subalpine forest, including limber pine *(Pinus flexilis),* occur in mosaic concentrations rather than uniformly throughout the area. The bristlecone pine forest community occurs chiefly above 10,000 feet in the Panamint Range, where spacing of individual bristlecones *(Pinus aristata)* and limber pine *(Pinus flexilis)* appear more as an open woodland rather than a forest.

Species and Habitats of Special Consideration

Within Death Valley National Park there are confirmed populations or habitats for 21 state or federally recognized species of concern.

Federally listed species in Death Valley include: desert tortoise (*Gopherus agassizii*), Devils Hole pupfish *(Cyprinodon diabolis)*, southwestern willow flycatcher *(Empidonax trailli extimus)*, least Bell's vireo *(Vireo bellii pusillus)*, Eureka Dunes evening primrose *(Oenothera californica* ssp*. eurekensis)*, Eureka Valley dunegrass *(Swallenia alexandrae),* and spring-loving centaury *(Centaurium namophilum)*.

Federally listed species for which final recovery plans exist are desert tortoise, Devils Hole pupfish, Eureka Dunes evening primrose, and Eureka Valley dunegrass. A draft recovery plan is in development for the least Bell's vireo.

California listed species, other than those also federally listed or proposed, are California (or western) yellow billed cuckoo (*Coccyzus americanus occidentalis*), willow flycatcher (*Empidonax trailli*), Cottonball Marsh pupfish (*Cyprinodon salinus milleri*), and Mohave ground squirrel (*Spermophilus mohavensis*).

California rare plant species, not otherwise federally listed or proposed, are July gold (*Dedeckera eurekensis*) and rock lady (*Maurandya petrophila*).

Desert Tortoise

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 (an administrative designation for animals living north and west of the Colorado River) is listed as a threatened species by the Federal government and the state of California. Critical habitat for this species was designated in 1994 (FWS 1994). There is no desert tortoise designated critical habitat within Death Valley National Park. The desert tortoise's range within Death Valley National Park extends to its southern half. Within the Park the current populations (and for at least the last 60 years) are not believed to be very numerous.

The Mojave population of the desert tortoise occurs primarily in valleys and on 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. 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 are active during the 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).

Species Addressed in the Ash Meadows Recovery Plan

Devils Hole is a small tract of land administered by Death Valley National Park while part of a larger spring complex in Nevada called Ash Meadows. Devils Hole falls within the boundaries of Ash Meadows National Wildlife Refuge. A limestone cave at Devils Hole, bearing the same name, is the only natural habitat of the Devils Hole pupfish *(Cyprinodon diabolis)*, listed as endangered by the federal government and state of Nevada. The underground aquifer determines the cave's water level, which has no surface outlet. Historic and

ongoing mining of groundwater in Ash Meadows has occasionally directly lowered the water level in Devils Hole, occasionally exposing a shallow limestone shelf on which the pupfish depend for food and spawning (Soltz and Naiman 1978; E.P. Pister, pers. comm., 1997).

Decline of the Devils Hole pupfish drove litigation resulting in a U.S. Supreme Court ruling upholding the maintenance of a minimum water level at the cave. From 1980 to at least 1990, the population status was upward but "persistently small and localized." The species is considered not delistable; criteria for its protection are the maintenance of water levels and water chemistry. Other species of special consideration located at the limestone cave or at springs within the 40 acres are: Devils Hole warm springs riffle beetle, Amargosa tryonia snail (*Tryonia variegata*), (FWS 1990). Water levels are currently monitored by the National Park Service. The combined records from water level monitoring by the National Park Service and the U.S. Geological Survey dating from the 1960s demonstrated a maximum level of recovery in 1989; thereafter, a downward trend has persisted.

The 1990 U.S. Fish and Wildlife Service Recovery Plan for listed species of Ash Meadows embraced goals of the 1980 recovery plan for the Devils Hole pupfish and addressed the following federally listed species located at Ash Meadows, Nevada, and on National Park Service or BLM-managed areas within adjacent lands in California:

spring-loving centaury (*Centaurium namophilum namophilum*) — FT, NVCE

Ash Meadows sunray (*Enceliopsis nudicaulis* var. *corrugata*) — FT, NVCE

Ash Meadows gumplant (*Grindelia fraxino-pratensis*) — FT, NV Watch List.

Also noted were Ash Meadows endemics.

Essential habitat for the Devils Hole pupfish includes 21,760 acres encompassing the area where groundwater removal most influences the water level in Devils Hole.

Amargosa pupfish and speckled dace, Amargosa niterwort, spring loving centaury, Ash Meadows sunray, Ash Meadows gumplant, alkali mariposa lily, Tecopa bird's beak, and white bear poppy range into California at locations along the Amargosa drainage and at various sites supporting stream, spring, salt marsh, moist alkaline soil, calcareous, or riparian habitats.

Riparian-Dependent Bird Species

southwestern willow flycatcher (*Empidonax trailli extimus*) — FE, sp. level CAE

least Bell's vireo (*Vireo bellii pusillus*) — FE

California/western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) — CAE

Small numbers of all three species have been confirmed along the Amargosa River and in Death Valley.

Federal recovery planning is underway for both the vireo and flycatcher. There is no critical habitat located within Death Valley National Park for either subspecies.

The western yellow-billed cuckoo, state endangered since 1988, generally requires a broader stand of riparian growth than the vireo or flycatcher, although loss of riparian habitat is the major common factor influencing the decline of all.

The cuckoo does not appear to be affected by brood parasitism by the brown-headed cowbird (*Molothrus ater*) which is a severe problem for the vireo and flycatcher. In this behavior, cowbirds introduce their offspring to the nest and care of a host bird species, competing directly with the success of the host's young and sometimes eating or ejecting the host's eggs. (Thelander 1994). If a cowbird problem is identified, Death Valley would work with the U.S. Fish and Wildlife Service to develop a solution to cowbird nest parasitism.

Species Addressed in the Eureka Valley Dunes Recovery Plan

Eureka Valley evening primrose (*Oenothera californica* ssp. *eurekensis*) — FE

Eureka Valley dunegrass (*Swallenia alexandrae*) — FE

shining milk-vetch (*Astragalus lentiginosus* var. *micans*) (*note: has been removed from FPT list)*

Sodaville milk-vetch (*Astragalus lentiginosus sesquimetralis*) — CAE, NVCE, (*note: has been removed from FPT list)*

Prior to the administrative transfer to the National Park Service in 1994, the Bureau of Land Management established the Eureka Valley area of critical environmental concern and in 1982, the U.S. Fish and Wildlife Service adopted the *Eureka Valley Dunes Recovery Plan*. Stemming from these, by draft agreement, a voluntary joint conservation strategy is being developed by the U.S. Fish and Wildlife Service and Death Valley National Park to

protect sites where there are two federally listed and two sensitive plants. The agreement targets actions over entire dune ecosystems to benefit these plants and other species of special consideration including endemic beetles. Two federally endangered species, Eureka Valley evening primrose (*Oenothera californica* ssp. *eurekensis*) and Eureka Valley dunegrass (*Swallenia alexandrae*), and a sensitive species, shining milk-vetch (*Astragalus lentiginosus* var. *micans*), are only found on dunes within Death Valley National Park. Additionally, the California population of another sensitive species, Sodaville milk-vetch (*Astragalus lentiginosus sesquimetralis*), is located at the Park (Diane Steeck, pers. comm., 1997).

The largest population of Eureka Valley dunegrass is found on high, unstable areas of Eureka Dunes, with remaining known stands located in smaller dunes on the west side of Eureka Valley. The major occurrence of Eureka Valley evening-primrose is at Eureka Dunes, but this species is also known from two smaller sites on the west side of Eureka Valley, growing on lower slopes and dune flats. Eureka Dunes and one site on the western Eureka Valley comprise the known range of shining milk-vetch, which grows on mid- and lower-dune slopes and some sandy flats. Sodaville milk-vetch has been found at Death Valley National Park and at two sites in Nevada; it relies on margins of alkaline wetlands, near cool springs (Diane Steeck, pers. comm., 1997).

Notable recolonization of shining milk-vetch has occurred in areas where motorized vehicle use is no longer authorized, but concerns remain with occasional motorcycle and other vehicle trespass, vandalism to barriers and signs and other human uses, including sandboarding/skiing and horseback riding. Possible encroachment and competition with the mid- and lower-dune endemics by the nonnative Russian thistle (Salsola sp.) is another concern. It is believed that the most persistent threat to the Sodaville milk-vetch population at Big Sand Spring has been habitat trampling and modification by burros and cattle (Diane Steeck, pers. comm., 1997). This area has been fenced by the Park to protect the plants.

Other Death Valley National Park Rare Plants

July gold (*Dedeckera eurekensis*) — CA Rare
rock lady (*Maurandya petrophila*) — CA Rare

The July gold (*Dedeckera eurekensis*) and rock lady (*Maurandya petrophila)* grow only in areas containing carbonate soils.

Cottonball Marsh pupfish

The Cottonball Marsh pupfish (*Cyprinodon salinus milleri*), a killifish subspecies, is found only in Death Valley, in "portions of Cottonball Marsh on the west side of the central valley floor approximately 5 miles south of Salt Creek" (*Death Valley National Monument Draft General Management Plan* 1988). The pupfish is a listed California Threatened species. Threats to its survival include direct and indirect habitat alteration from changes to water levels, quality, and/or chemistry. An overall concern with regional water diversion is not limited to this species, rather, it has the potential to affect a large number of sensitive aquatic species (including insects and snails) and riparian obligates.

Mohave ground squirrel

The only known occurrence of the Mohave ground squirrel (*Spermophilus mohavensis*) in Death Valley National Park is at Lee Flat. The ground squirrel is a listed as a California Threatened species. This represents the northernmost extension of the squirrel's range, which is limited to the northwestern Mojave Desert. No records exist of traditional or current presence of the squirrel in Panamint Valley nor Saline Valley (Leitner, pers. comm. 1997).

Although previously found in a variety of vegetation associations to 5,600 feet elevation, the species seems to "prefer large alluvial-filled valleys and deep, fine-to-medium textured soils vegetated with creosote bush scrub, shadscale scrub, or alkali sink scrub wherever desert pavement is absent" (FWS 1995a). Winterfat (*Krascheninnikovia lanata*) and spiny hopsage (*Grayia spinosa*) are important dietary components; the squirrel favors forbs in wet years and winterfat in dry years. The diets of domestic sheep more closely overlap that of the Mohave ground squirrel than do those of cattle or feral burros (Leitner, pers. comm. 1997).

The species' state threatened status is based on habitat loss due to agriculture, recreational, and military vehicle use. In 1995, the U.S. Fish and Wildlife Service (FWS) reviewed a petition to list the species as federally threatened. While the FWS continued monitoring for impacts due to habitat degradation/fragmentation and drought, determined a lack of sufficient information to warrant a status review (FWS 1995b; FWS 1995c). Substantial new information is still lacking about recent trends in squirrel populations, historic occupied range, current habitat, and vulnerability of key populations (Gustafson, pers. comm. 1997).

Other Sensitive Animals

Bighorn sheep are found in most of the Park's mountain ranges. Although there has been no recent surveys, Dr. Douglas who has conducted extensive research on bighorn sheep, believes that the sheep populations are stable (UNLV, pers. comm., 1999). Existing threats to this species include tamarisk invasion of springs and resource competition with feral burros.

The many abandoned mines within the Park provide excellent habitat for many bat species. Any mine reclamation and its potential disturbance would initial include an environmental assessment and implementation of mitigation for the bats.

Riparian habitats are valuable for other species as well. The "Partners in Flight" organization lists 14 birds species dependent on riparian habitats including the black-headed grosbeak, blue grosbeak, common yellowthroat, song sparrow, Swainson's thrush, warbling vireo, Wilson's warble, yellow-breasted chat, and yellow warbler.

Plan Actions

The National Park Service will develop guidance for management and conservation of biotic resources at the appropriate time. The National Park Service will identify and promote the conservation of all federally listed or proposed threatened or endangered species and their critical habitats within Park boundaries in ways that were 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.

The National Park Service has prepared a list of all known federal, state, and locally listed threatened, endangered, rare, declining, sensitive, or candidate species that are native to and present in the Park, as well as their critical habitats. Controlling access to critical habitats or conducting active management programs will be considered that will 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 the Park will be identified and their distribution will be mapped. All management actions for protection and perpetuation of special status species will be determined through the Park's updated natural and cultural resource management plan or site-specific planning efforts.

Death Valley National Park will continue to manage and protect the 40-acre area known as Devils Hole, its endangered pupfish and other sensitive aquatic and terrestrial plants and animals. This area is within the external boundaries of Ash Meadows Wildlife Refuge managed by the U.S. Fish and Wildlife Service. NPS activities at Devils Hole include biannual pupfish counts, servicing of water monitoring equipment, and intermittent inventory/research activities. Each of these activities is designed to monitor the long-term status of the pupfish or its habitat.

Devils Hole pupfish counts will be conducted on a biannual basis. These counts will be scheduled for the spring and fall of each calendar year. The spring count is typically conducted in March or April, and the fall count is conducted in September or October. During a given census day, a morning and an afternoon count will be made at Devils Hole.

The water level monitoring program utilizes different types of equipment that store digital and hard copy formats of information. Operation and maintenance of the facility consists of bi-monthly inspections, monthly data retrieval, and periodic/annual maintenance. The bi-monthly inspections provide assurance of the correct equipment alignment with the staff gauges, data acquisition, equipment operation, equipment damage or misalignment resulting from seismic induced water level surges, and evidence of any vandalism to the site. Hydrologic field technicians also inspect, service, and replace equipment at Devils Hole three to five times per year.

Because Devils Hole possesses unique geologic and hydrologic characteristics, Park staff expect that a variety of research and/or inventory projects will be proposed at Devils Hole over the next several years. Many of these projects will be designed to provide baseline and research documentation of the hydrologic aspects and physical components of the pool. These studies may include but not be limited to measurements that involve dissolved oxygen content and distribution, existence and physical parameters of convection currents, water chemistry parameters, dimensions of the subterranean extent of the cavern, etc. Some of the proposed studies may also relate to biological components in the aquatic system.

Park staff have recently initiated a three year in-depth ecology study of the Devils Hole ecosystem. The study will provide a comprehensive inventory of the biological components that are present in the aquatic habitat (fish, invertebrates, and algae). The study will also describe the inter-related nature of the different species that are present, so a long-term monitoring and protection program for the entire biological community can be developed.

A site management plan has been prepared for the Eureka Dunes area. This plan, in consultation with the U.S. Fish and Wildlife Service, addresses the protection of sensitive species. Actions considered in this plan include moving both parking areas to less sensitive sites, a step-up plan for limiting human activities, if necessary, controlling actions on exotic Russian thistle, converting a hodgepodge of roads to foot access, and continuing the main access road in a graded, dirt condition. These will further enhance the protection of sensitive species as a result of being within Death Valley National Park.

Introduced Species

Background

Exotic 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. Examples of exotic species in the Park include wildlife such as burros and chukar and plants like tamarisk and Russian thistle.

Plan Actions

Nonnative plants and animals will not be introduced except under the most unusual circumstances (i.e., historic landscape restoration at Scotty's Castle). The management of populations of exotic plant and animal species, up to and including eradication, will be undertaken wherever such species threaten Park resources or public health and when control is prudent and feasible.

Burros and Wild Horses

Background

From about 1920 to the 1960s, burro populations were kept at low levels by government agencies like the National Park Service and by the public. These efforts to reduce or eliminate feral burros from national park lands were park managers' response to the burros damaging park resources and changing the ecological composition at the expense of the park's native biotic communities.

In the 1950s the states of Arizona and California passed burro protection laws that limited the killing of these animals by private citizens. In the late 1960s, Grand Canyon National Park was prevented by public outcry from continuing the 40-year custom of shooting burros (NPS 1979). In 1971 the Federal Wild Free-Roaming Horse and Burro Act was passed. This act limited the killing of horses and burros on public lands administered by the Bureau of Land Management and the U.S. Forest Service. This law does not apply to NPS lands.

Before the passage of the California Desert Protection Act wild horse numbers were few to none within California desert national park units. Presently, the wild horse numbers within NPS units are low, about 10–20 animals. However, numbers are high in the four BLM herd management areas that are adjacent to Death Valley National Park. In these herd management areas, there are about 305 wild horses (BLM 1995b).

Before the passage of the California Desert Protection Act, the Bureau of Land Management managed 13 herd management areas in the California Desert District. Now the agency manages nine herd management areas, with four former herd management areas now within areas managed by the National Park Service. Of the Bureau of Land Management's remaining nine herd management areas, four are outside the Northern and Eastern Mojave planning area. The National Park Service agreed to manage new park lands to existing BLM authorized herd management levels until management plans were in place. These management levels are 334 burros and 9 wild horses for Death Valley. The existing burro population levels for the new lands added to Death Valley National Park greatly exceed the BLM herd management levels.

Nevada's BLM Las Vegas Field Office has two herd management areas adjacent to the Park, Amargosa and Ash Meadows herd management areas. Both are south of Amargosa Valley, Nevada, and both presently have zero animals and have management levels of zero animals. Other herd management areas within this resource area are at least 6 miles from the stateline. The Bureau of Land Managements policy is to remove all burros outside of their herd management areas.

Death Valley National Monument was established in 1933. In 1938 there were an estimated 1,500 burros in the monument, occurring in both the Panamint Range on the west and the Amargosa

Range on the east side of Death Valley. Burro reduction had started on a limited scale in 1939 and was carried on more extensively between 1958 and 1967. By 1967, 3,570 burros had been removed from the population: 1,790 by live trapping and removal, and 1,780 by direct reduction (shooting). In 1968, due to public sentiment, shooting was discontinued. Although all burros have been removed from the east side of the monument, by fall of 1970, there were an estimated 1,350 in the Panamint Range.

In 1973 the Park staff again began live trapping and shooting burros. About 400 burros were shot before discontinuing the practice in 1978.

Death Valley prepared an environmental impact statement in September 1977, which included 20 options for removal of burros. The Death Valley plan meshed with the interim management plans of the BLM's Bakersfield District, both of which supported NPS policies of removal of exotic species from units of the national park system. A cooperative agreement regarding burro management was drawn up among the Bureau of Land Management, the National Park Service, and China Lake Naval Weapons Center.

The approved plan was conducted in three phases:

> Phase one: Death Valley National Monument's capture and adoption — Remove all burros through live trapping over a three-year period, turning the burros over to animal protection groups to place in adoptions, live; and to construct 35 miles of fence in Nevada to exclude burros and cows. (In the Nevada triangle portion of the old monument cattle were as severe a problem as were burros).
>
> Phase two: animal protection groups remove stragglers over a one-year period.
>
> Phase three: zero population — go to direct reduction — shooting any remaining burros, to approach a zero population.

An agreement to conduct the roundups was made with the Bureau of Land Management and with the animal protection groups. The agreement was signed on July 2, 1982. The three-year roundup began in October 1983. Phase one ended in April 1986, removing alive nearly 6,000 burros. (The 1981 census was 2,501 burros). The government's cost was $1.7 million. Animal protection groups agreed to take all burros captured out for adoption, but took only 60%.

During phase two from fall 1986 to winter of 1987, 230 burros were removed by animal protection groups. Phase three began on July 1, 1987 and will continue as long as necessary within the old monument boundary.

On February 28, 1995, the Superintendent of Death Valley National Park agreed to an interim management policy for burros on lands formerly managed by the Bureau of Land Management (BLM) to maintain the BLM-approved management levels until a final decision was derived through the formal planning process. That level was 297 burros and 9 wild horses for Death Valley National Park.

The National Park Service estimates that at least 110 burros per year from Death Valley National Park need to be removed to reach the BLM-approved management levels. Under this interim policy all wild horses and burros removed will be captured and made available for adoption to the public.

In Death Valley National Park the estimated total wild horse and burro populations were about a dozen horses and 575 burros (December 1997 NPS data). The Park's Nevada triangle boundary and its southern boundary near Owlshead Mountains are its only areas where there is no adjacent BLM herd management area.

Death Valley National Park is still managing burros within its former monument boundary under a management strategy developed when it was a national monument. In 1995, a volunteer burro protection group began removing burros via live capture in lieu of the Park's removal policy. The Park has not abandoned its existing plans for burro removal within the old monument boundary, but has suspended its own removal plans while the volunteer group's efforts are underway. This group has removed about 20–30 burros per year. This volun-

teer operation has been at minimal cost to the federal government; however, it is questionable whether this removal level is helping to reduce the numbers toward zero.

Since many of the herd management areas are adjacent to National Park Service (NPS) lands, this plan will consider options, developed with Bureau of Land Management (BLM) and National Park Service interagency cooperation for wild horse and burro management within both NPS units and BLM lands.

The National Park Service initiated an aggressive removal program in 1999. Approximately 200 burros were rounded up using a combination of a volunteer group and BLM contract wranglers and helicopter. Approximately 190 additional burros were rounded up in 2000 by the same methods as 1999. It is estimated that about 300–350 burros remain in the Park.

Plan Actions

The National Park Service will adopt the "no burro or wild horse" strategy that exists for the former monument lands (NPS 1983) and will apply it to the newly added Park lands. Wild horses and burros, if encountered, will also be removed following the strategy described below. This plan updates the existing burro management component of the Park's *Natural and Cultural Resource Management Plan*. A cooperative agreement will be developed that assures that the Bureau of Land Management will take steps to control herds adjacent to the Park and will remove trespass burros and wild horses. The Bureau of Land Management has agreed to install boundary fences at critical points where herds are proposed adjacent to the Park, after consultation with the Park (Tim Salt, BLM District Manager, personal communication, 1998).

Removal of horses and burros from Park lands will be completed through a three phase removal program. Phase one consists of a Park-wide live capture program that will be in effect for a maximum of five years. Capture techniques during phase one will include three primary methods: 1) enticing burros and wild horses into corrals with water or food, 2) herding into corrals by using wranglers and possibly helicopters, and 3) netting and removal of burros with helicopters. This option will not be considered until corralling and herding methods become ineffective and remote terrain and cost-effectiveness become a consideration. All captured burros and wild horses will be adopted through existing BLM facilities or through direct or indirect adoption programs of the National Park Service, or adoption by the efforts of a third party. This phase began in 1999, and resulted in the live capture of 204 burros that were transferred to the Bureau of Land Management or a private burro advocacy group.

In phase two the National Park Service will actively solicit interested animal protection groups that will begin removing the remaining few animals. An agreement will be signed with the group(s) to provide up to 2 years to remove the remaining burros and wild horses from the Park at their expense. The National Park Service will provide oversight, and possibly some logistics support and use of some equipment and corrals. The duration of the phase two approach will be determined by effectiveness of the protection group capture efforts, i.e. if the groups could not demonstrate that they were capturing animals at a rate that was faster than the animal's reproductive rate, the time frame for phase two will be shorter than two years. It is anticipated that most of the burros and wild horses in the Park will likely be captured and removed through phases one and two. If no interested group is found within six months after the completion of phase one, the National Park Service will begin phase three.

In phase three NPS staff will eliminate the remaining few animals in the most cost-effective and humane manner to achieve a zero population. Removal efforts could involve a variety of techniques including, but not limited to shooting, wrangler/helicopter roundups, and netting-removal with helicopters. Phase three will continue for an indefinite time. Phase three could be suspended and phase two reinitiated if an animal protection group comes forward to conduct capture activities and provides clear evidence that their efforts are able to maintain herd levels at near zero levels. The Park will work expeditiously with groups that can demonstrate an effective ability to capture.

Phases can be run concurrently in different parts of the Park. For instance, the old monument lands have been in phase three for several years. This phase has been temporarily suspended while animal protection groups are actively working to capture burros there. The Park also maintains the option of returning to phase three in the old monument lands if live captures do not succeed in reducing the populations. As captures in the new Park lands proceed, a particular area of the Park, such as Saline Valley, could be placed in phase two or phase three separate from the rest of the Park.

The Park Service is aware of the burro's potential for rapid population growth (up to 20% per year). The above proposed removal strategy will result in a burro and wild horse population that approaches zero.

Concurrently with these control actions, when funding is made available, the National Park Service will work with the Bureau of Land Management and the California Department of Fish and Game on feasibility studies that involve boundary fences that are similar to the fence that has existed around the Nevada Triangle since 1988.

Other Nonnative Animals

Aquatics. Death Valley National Park has a number of aquatic exotic species. Mosquito fish, goldfish, crayfish, and bullfrogs are common in the Saline Valley. Mosquito fish are also found at Furnace Creek. The aquatic exotic species listed have all been documented to result in adverse impacts to native aquatic fauna (CDF&G 1/12/99 letter to NPS). Wherever and whenever possible these exotics will be controlled to a level eliminating their adverse impacts, or they will be extirpated altogether from Park habitats.

Chukar. The chukar (*Alectoris chukar*), an upland game bird, popular among hunters, was first introduced into California (from India) in 1932 (Mallette c. 1970). Between 1932 and 1955, over 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. Chukar are abundant in every valley and mountain range in Death Valley National Park.

Tamarisk

Background

The tamarisk (*Tamarix ramosissima*), or salt cedar, an introduced shrub or small tree, 5 to 20 feet tall, is an opportunistic invader of moist areas. There are many areas in the Park where this plant has choked out native vegetation. 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 relative, the athel (*T. Aphylla*), has been planted, typically as a windbreak or sand-break, in a number of locations in the Park (e.g. near Furnace Creek, Death Valley Junction, and Shoshone). Although not as invasive as tamarisk, the athel is also believed to be an invader of native habitats. Death Valley National Park is reducing the potential for reintroduction by encouraging the use of other types of shade trees, landscaping, and windbreak plantings in developed areas within and outside the Park.

Plan Actions

The Park will continue to actively pursue the removal of nonnative tamarisk. Tamarisk eradication efforts will continue to identify areas where *Tamarix ramosissima* was gaining a foothold.

Other Nonnative Plants

Russian thistle (commonly called tumbleweed) is common in many disturbed portions of the Park, including the Eureka Dunes area, approximately 300 acres near Harrisburg Flats at Skidoo, other old mining sites, and along roadsides.

Date and Washington palms have become established at several backcountry springs in Death Valley National Park. These palms may be removed if it is determined that they are not part of the historical scene.

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 used to be uncommon.

Hornwort, an aquatic annual plant with dense growth, is being removed from Saratoga Spring near the southeast boundary of the Park (NPS 1988).

Plan Actions

The Park will continue the limited programs to control Russian thistle and hornwort (an aquatic annual plant at Saratoga Springs). However, as resource monitoring efforts highlight other problems, or research provides solutions to known problems, funding will be sought for additional eradication programs.

Disturbed Land Restoration

Background

Disturbance of the native vegetation and soils in the Park has occurred as a result of many human activi-

ties, 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.

Plan Actions

The National Park Service will seek to perpetuate native plant life 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 historically appropriate for the period or event commemorated. Native species will be emphasized. The use of exotic species will conform to the NPS exotic species policy (NPS 1988). 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 landscape conditions 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 Scotty's Castle, trees, other plants, and landscape features will be managed to reflect the historic landscape or the historic scene associated with a significant historic theme or activity.

Death Valley National Park will continue rehabilitating abandoned mine sites. Rehabilitation efforts will continue to use techniques such as netting shafts and gating adits to eliminate safety hazards. Each site will be individually evaluated and action taken as appropriate to restore the area to as a natural conditional as possible, while considering other cultural and natural values. Consideration of bats and other wildlife, as well as cultural resources will be an integral part of the decision process.

FIRE MANAGEMENT

Background

Although the National Park Service recognizes the natural role of fire in ecosystem processes, the effects of fire on components of desert ecosystems are not well understood. The National Park Service is assessing and documenting the state of existing fire effects research in desert ecosystems and formulating a desert fire management strategy. Unit-specific fire management plans will be developed consistent with this policy. Over the short term (1–10 years) the fire management policy will be guided by the best available scientific knowledge of fire effects and by current NPS policy direction. A number of changes will be implemented with regard to agency-wide fire management policy.

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. In cooperation with other desert parks, other federal and state land managers, and the research staff in the agency or at universities, fire-related research needs will be identified and long-term studies initiated. Specific research topics might include postfire successional trends, or effective postfire rehabilitation strategies.

Plan Actions

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 an individual basis, factoring in additional variables such as current and predicted weather conditions, staffing levels, resource management objectives, terrain, and identified planning parameters. Research burns might be initiated within specific prescriptions, and burn sites will be monitored to assess changes over time.

Protection of life and property is first and foremost. All human caused wildfires will be suppressed, and all fire management actions will be implemented using methods, equipment and tactics which cause the least impact to natural resources. Heavy equipment, such as bulldozers, will not be used except in emergencies as determined by the Superintendent. All staff will receive training on appropriate strategy, tactics and precautions in sensitive species habitat.

Fire management strategies within wilderness areas will also be determined based on the criteria discussed above. Additionally, a "minimum requirement" process will be undertaken 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*). 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 or the protection of life or property. Such exceptions must be approved by the Superintendent or his/her designee.

Based on the results of fire management research, the Park will periodically revise its "Fire Management Plan."

RESEARCH

Background

Research and education are core mission elements of the NPS national goals and of the Park'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

High quality information is vital for the proper management of the Park and protection of Park resources. The Park uses a multi-faceted process to initiate the accumulation of scientific knowledge. Studies may be conducted with in-house expertise and funding, or with outside assistance (both money and people).

Park resource information needs are defined within the Park's *Natural and Cultural Resources Management Plan*. The *Natural and Cultural Resources Management Plan* is a document that lists Park research needs, threats to Park resources, projects that would mitigate the threats, and a ranking of these projects. Each year these lists are submitted for national ranking and possible funding. The *Natural and Cultural Resources Management Plan* is updated as needed to maintain a current listing of issues and threats. Funding for projects may be from the existing Park budget, receipt of funds from system-wide competition, or outside funding sources, such as grants.

Independent researchers often apply to the Park for research permits. Such research is encouraged. The information gained may have practical application for the protection of Park resources or for visitor enjoyment. More theoretical research may, in the long run, yield the basic knowledge necessary to protect Park resources. Information may be valuable to the field of science far beyond Park boundaries. Independent research supports the concept of "parks as classrooms" when students learn from the protected natural resources of the Park. The Park functions as a natural laboratory open for observation and scientific inquiry. The Park, through scientific research, provides information to outside areas about desert ecosystems, and provides the baseline by which the uses of those areas may be evaluated.

Research permits or scientific collection permits are issued to researchers from universities, museums or other agencies when their studies are consistent with legislation, especially the NPS Organic Act of 1916, the California Desert Protection Act of 1994, the Wilderness Act of 1964, and the National Parks Omnibus Management Act of 1998. Some research projects propose techniques that unacceptably impact Park resources. Preference is given to projects which have a high benefit to Park resource protection, visitor enjoyment or science, and a low impact on Park resources.

Congress reinforced the research objective of Death Valley in the California Desert Protection Act, and again in the 1998 National Parks Omnibus Management Act. Title II of that act contains the following:

- A mandate for research;
- Authority to enter into cooperative agreements with colleges and universities for the purpose of conducting multi-disciplinary research;
- Establishment of baseline information enabling the monitoring of long-term trends in the condition of national park system resources.
- An invitation for scientist to conduct approved research within units of the national park system.
- Measures to assure Park managers use research results in Park management.

Scientific research is not new to the Park. The Park will continue to procure the best science to meet its resource protection and management requirements.

Inventorying and Monitoring

Background

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

Plan Actions

The National Park Service will develop and implement a systematic, integrated program to identify, inventory, and monitor the Park's natural resources. The Park will work with academic institutions in retaining and enhancing opportunities for scientific research in undisturbed ecosystems such as the Park's wilderness areas. The Park will consult with people with expertise in the resource or in developing and implementing an inventorying and monitoring program. A comprehensive strategy will be developed and implemented to ensure that regional, local, or national trends are documented and appropriate actions undertaken.

The Park's existing *Natural and Cultural Resources Management Plan* will be updated to reflect the changes that are proposed in this *General Management Plan* for Death Valley National Park. The updated plan will present a detailed program for managing the Park's natural and cultural resources.

Cultural Resources

Archeological Resources

Historic Archeology

Historic archeological sites in the Park are largely associated with transportation corridors, water sources, and mining and ranching operations of the late 19th and early 20th centuries. The research and information potential of historical archeological sites is an important aspect of their National Register eligibility.

Status of Archeological Research

Although it is estimated that only about 6 percent of the lands within the boundaries of pre-1994 Death Valley National Monument (and an even smaller proportion of the lands added to the monument in 1994) have been surveyed for archeological resources, the overall cultural sequence is well documented. In particular, the archeological research and survey efforts of Alice Hunt and William Wallace, conducted primarily during the 1950s and 1960s, have formed the bulk of extant data about prehistoric native cultures. Over 2,000 archeological sites, covering some 10,000 years of human activity, have been identified. Archeological sites include house circles; habitation areas; complex sites; rockshelters; campsites; workshops; quarries and lithic scatters; hunting blinds; plant food processing stations; storage pits; cemetery and burial areas; rock art (petroglyphs/pictographs); rock alignments; and rock traps or caches. Areas of particular archeological significance within the Park boundaries include Butte Valley, Mesquite Flat, the floor of Death Valley, Grapevine Canyon, high elevation localities in the Panamint Mountains, alluvial fans on the west side of Death Valley, and springs.

More recent archeological survey has been driven by compliance actions and salvage operations related to Park development plans. These efforts, although more up-to-date in terms of professional scientific standards, have sometimes lacked a cohesive research design which would tie them to larger issues of a parkwide or desert-wide nature. As a result, past researchers have often been forced to treat individual sites in different portions of Death Valley as culturally distinct entities, resulting in sometimes confused cultural sequential chronologies.

At present, the National Park Service is completing a three-year systematic, parkwide archeological survey of at-risk areas under a cooperative agreement with the University of California, Riverside.

Landforms and Archeological Resources

While archeological sites are found on virtually every type of landform in the Park, the persistent association of certain features with archeological sites allows for fairly reliable estimates about the types of landforms that are likely to support sites. Proximity to fresh water and food resources are the primary variables influencing Native American site location. For example, a spring in or near a mesquite grove would be an optimal location for a site. An alluvial fan generally lacks resources and would not have been a primary occupation or food collecting and processing site, but may have been the location of food storage facilities or a temporary campsite, trail, burial site, or rock art site, all of which fall outside of the parameters of a model based solely on subsistence variables.

However, previous environmental conditions must also be considered. Ancient late Pleistocene Era/early Lake Mojave Period beach features associated with now-extinct lacustrine and riparian habitat were prime occupation or food collecting and processing sites over 6,000 years ago, in spite of what the present landscape may look like.

Euro-American sites, while generally more easily identified than prehistoric sites, are generally associated with transportation networks and resource procurement/exploitation features. In the Park, transportation routes, water sources, and mining operations are prime locations where such archeological sites may be found. The network of interconnecting roads is usually preserved and is easily discernible from aerial photographs and early maps.

National Register of Historic Places

No prehistoric archeological sites or districts within the Park boundaries are listed on or have been determined eligible for listing on the National Register of Historic Places.

Draft National Register nomination forms for archeological districts in the Park that have been prepared include: Butte Valley, Mesquite Spring, Racetrack-Goldbelt, Ubehebe Crater, Upper Emigrant, Upper Panamint, Death Valley Salt Pan, Furnace Creek, Mesquite Flat, Grapevine Canyon, Ibex Spring, Keane Wonder Mine, Saratoga Springs, and Lower Vine Ranch.

The National Park Service is planning to prepare national register nomination forms for archeological

districts such as Furnace Creek Wash, Saline Valley, and Eureka Valley.

Historic Resources

The Park has an impressive inventory of historical resources. The mountains and valleys contain sites associated with early Spanish and American exploration and survey of the vast Mojave Desert region, and the area is laced with remnants of prehistoric and protohistoric Native American trails as well as Euro-American trails, wagon roads, railroads, highways, and other early transportation arteries. The region contains numerous remnants of abandoned mining operations, sites of settlements long gone and nearly forgotten, railroad grades and railway structures. Fence lines, water tanks, and corrals testify to a continuing ranching-grazing industry and scattered remains of homesteads tell of a time when small farming operations were attempted in this arid land. There are significant reminders of early recreational and resort development associated with the advent of tourism to the region, as well as reminders of early federal government administration of portions of the area, including administration, maintenance, and residential buildings constructed by the Depression-era Civilian Conservation Corps.

Timbisha Shoshone Village

The Timbisha Shoshone people have lived in and around Death Valley since prehistoric times. During the late 1920s and early 1930s, members of the Tribe lived in four different locations in the Furnace Creek area. Finally in 1936 the Bureau of Indian Affairs and the National Park Service agreed on a site of approximately 40 acres for a permanent residential area south of Furnace Creek Ranch. This site became known as the Timbisha Shoshone Village.

In 1936, under NPS supervision, construction started on nine adobe residences, using materials provided by the Bureau of Indian Affairs. Adobe was one of the common construction materials of the day, also used in many NPS structures.

The following year two communal facilities—laundry and a trading post—were constructed by the Civilian Conservation Corps under NPS supervision. Up until the 1940s, the village adobe structures housed most of the Timbisha Shoshone families living in the Death Valley area. Some moved elsewhere during World War II because of the lack of employment opportunities in the area of the Park. In the 1950s the National Park Service removed five adobe structures that were perceived to be vacant or semi-occupied, leaving six structures.

During the early 1980s, the remaining structures were rehabilitated and additional housing was purchased and moved to the village. The village has maintained a population of approximately 40–50 persons through the 1980s and the 1990s.

Beginning in the 1930s, and for many years afterwards, the Tribe was issued a permit for use of the village site. In 1983 the Timbisha Shoshone Tribe was granted federal recognition by the Secretary of the Interior. No permitting procedure has been used for many years.

Warm Springs – Saline Valley

Three natural hot springs in Saline Valley, known collectively as the Warm Springs, have become a popular recreational spot during the post-World War II era. Although events surrounding the early recreational use of the Warm Springs are somewhat obscure, local Euro-Americans had begun visiting and soaking in the springs by the early 1940s. By 1947, a small concrete tub had been constructed at the Lower Warm Spring, presumably by a cattleman or a sheepherder, to catch the runoff.

As growing numbers of people began visiting Lower Warm Spring, the most accessible of the three springs, to camp and soak in the warm water, the area slowly became "trashed." Despite the gradual "trashing" of the Warm Springs vicinity, however, some visitors wrote accounts describing the natural beauty of the area. During the fall of 1964, visitors to the Warm Springs began cleaning up the area, and in 1965 a new and larger tub was constructed at the Lower Warm Spring that could accommodate as many as a dozen people for soaking.

Palm Spring, sometimes referred to as Middle Warm Spring, is located about one-half mile above Lower Warm Spring. Less protected from the wind and sun than Lower Warm Spring because it is not surrounded by mesquite trees, it nevertheless became increasingly attractive as an alternate soaking area, partly because of the panoramic view of the surrounding valley and mountains that it provided. Like Lower Warm Spring, Palm Spring has a source pool of its own. People soaked in the source pool until 1968 when a group of users built a small retaining wall around the pool, laid a buried pipe to it, and constructed the first soaking pool.

The isolated Upper Warm Spring, located some three miles above Palm Spring, has no man-made soaking facilities. During the early 1980s, however, the Bureau of Land Management constructed a

fence around the spring to prevent feral burros from having access to the water. Desert pupfish were introduced in the springs, but they did not long survive. Thereafter, Upper Warm Spring was used as a soaking site by those who wanted to get away from the more popularly-used springs below.

By the late 1960s the Warm Springs had become a mecca for "hippies" and those preferring hedonist lifestyles characteristic of the era. Since that time, the Warm Springs have been the focus of steadily increasing visitation as a result of word of mouth recommendations and listings in popular hot springs literature. Whereas one party a week was common during the early 1960s, visitors began to stay at the springs for longer periods of time. Often parties of two or more began to camp at the springs for weeks or months, particularly during the winter season, but the greatest use of the springs came from "regulars" who began to make short but frequent trips to the springs. To accommodate the growing numbers of visitors during the 1960s and 1970s, the users constructed various improvements at Lower Warm Spring, including several larger soaking pools, a deck, separate pools for washing dishes, and a fish pond. In addition, a lawn and palm trees were planted and two airstrips were laid out nearby.

During the past two decades, "regulars" to the Warm Springs, "consisting of an eclectic collection of bohemians, loners, individualists, tourists, and others who simply share a love for hot springs and a desire to escape from the complexities of modern life," have developed an informal self-policing community that maintains and cleans the springs and their vicinity. As a result of the increasing concern of springs' users that federal land management agencies would regulate activities at the Warm Springs, the users have formed an organization to protect their interests — the Saline Preservation Association (SPA).

Cultural Landscapes

Many cultural landscapes exist in the Park that are potentially eligible for listing on the National Register, but cultural landscape studies have not been undertaken to identify their character-defining elements. Landscapes reflecting mining, ranching, ethnographic, and administrative activities can be seen throughout the Park. Especially significant landscapes are found at Scotty's Castle, Lower Vine Ranch, and the salt tram in Saline Valley, and, in association with many of the CCC-era national monument administration structures. Other significant cultural landscapes include the: (a) contemporary Timbisha Shoshone Village; (b) Chloride Cliff and Keane Wonder mining sites; (c) Cow Creek CCC maintenance yard and administrative area; (d) Harmony Borax Works; (e) various large and small mining sites; (f) cultivated areas and orchards connected with ranching and agricultural activities; and (g) extensive layouts of gardens, groves, and recreational facilities related to tourist resorts.

National Register of Historic Places

Six historic period properties in Death Valley National Park are listed on the National Register of Historic Places:

- Skidoo — April 16, 1974
- Harmony Borax Works — December 31, 1974
- Eagle Borax Works — December 31, 1974
- Saline Valley Salt Tram Historic Structure — December 31, 1974
- Leadfield — June 10, 1975
- Death Valley Scotty Historic District — July 20, 1978

Five historic properties in the Park have been determined eligible for listing on the National Register of Historic Places:

- Residential, Administrative, Maintenance, and Visitor Use Facilities in Death Valley National Monument Built by the Civilian Conservation Corps — (Multiple Property Nomination) — May 10, 1989: Camp Wildrose Historic District, Cow Creek Historic District, Emigrant Junction Comfort Station (E-85), Park Village Comfort Station (PV-69), Texas Spring Campground Comfort Stations (TS-113, TS-114) and stone picnic tables
- Original Bullfrog–Bullfrog West Extension Mine — September 18, 1980
- Homestake-King and Gold Bar Mines and Mills — July 6, 1981
- Las Vegas and Tonopah Railroad Grade — July 8, 1981
- Lee Historic District — October 5, 1982

Seventeen draft national register nomination forms have been prepared for the following properties in the Park in connection with the aforementioned *Historic Resource Study: A History of Mining*. The forms have been submitted to the NPS Pacific-Great Basin Support Office, but no formal determinations of eligibility have been processed for them:

- Big Talc Mine
- Garibaldi Mine
- Gold Hill Mill
- Harrisburg Historic District

- Hungry Bill's Ranch Historic District
- Journigan's Mill
- Lemoigne Mine and Cabin
- Lost Burro Mine and Mill
- Panamint Treasure Mine
- Queen of Sheba Mine
- Wildrose Canyon Charcoal Kilns
- Chloride Cliff Historic District
- Echo Canyon Historic District
- Greenwater Historic District
- Keane Wonder Historic District
- Corduroy Road
- Furnace Creek Wash Historic District

Three draft national register nomination forms have been prepared for the following historic properties in the lands that were added to the national monument in 1994:

- Barker Ranch
- Panamint City
- Gem Mine and Mill

Four draft national register nomination forms were prepared by the Timbisha Shoshone Tribe through a NPS Historic Preservation Grant:

- Mushroom Rock
- Ubehebe Crater
- Navel Spring
- "Tumpisa" District (Furnace Creek area)

Museum Collection

Park staff are responsible for monitoring, documenting, and preserving a large, diverse museum collection that includes more than 177,000 cataloged objects and specimens, some stored in substandard conditions. An additional 23,000 archeological artifacts and records are at the NPS Western Archeological Center in Tucson, Arizona. Museum collections include historical objects and archival documents, archeological artifacts, ethnological materials, biological specimens, geological samples, and paleontological materials. Numbers of currently cataloged objects in the various disciplines range from an estimated 78,900 historical objects to approximately 280 ethnological items. There are potentially 1,600 objects associated with the Native American Graves Protection and Repatriation Act of 1990. Many of these objects may be returned to the Tribe as a result of this act.

In 2000, the National Park Service opened a new state-of-the-art curatorial facility at Cow Creek. The

museum collection constitutes an important part of the overall resources offered by the Park. In historic districts, the collection constitutes a primary resource that visitors view. A relatively large number of historic objects are on display in the national register–listed Death Valley Scotty Historic District. Diverse material types are exhibited in the historic house museum as well as on the grounds.

Plan Actions

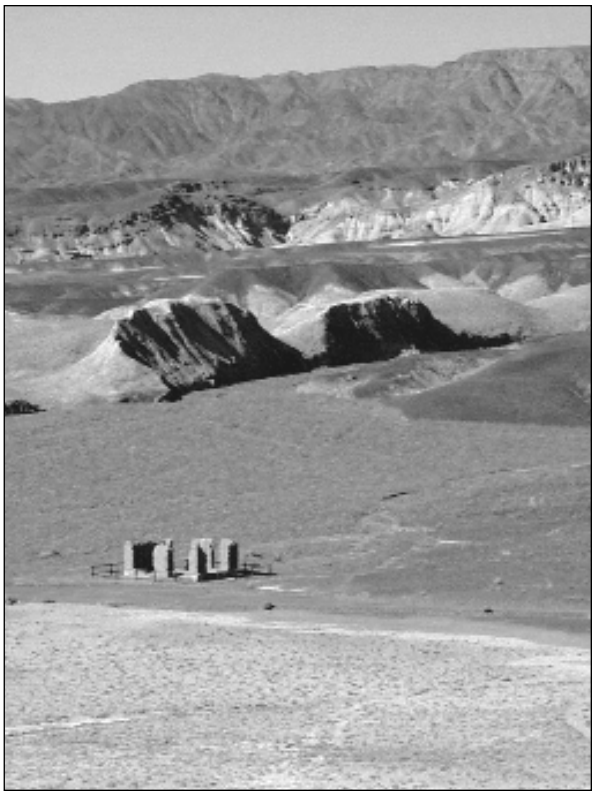
The National Park Service will develop and implement a systematic, integrated program to identify, inventory, monitor, evaluate, and nominate archeological sites, historic properties, cultural landscapes, and ethnographic resources to the national register and will manage, protect, and preserve such listed properties in a way that will preserve their documented archeological, architectural, ethnographic, historic, or research values. A collection management program will be further implemented to: (1) improve storage conditions to meet standards for all Park collections stored; (2) provide a more comprehensive preventive conservation program; (3) acquire museum objects/ specimens, including appropriate replacement furnishings for highly impacted objects targeted for exhibit; and (4) improve collection access and use, as appropriate. The collections management program will include cataloging the significant backlog of objects and collections at the Park and correcting the deficiencies identified in the "Checklist for Preservation and Protection of Museum Collections."

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 updated archeological overview and assessment, and completion of archeological identification and evaluation studies
- ethnographic studies, including a cultural sites inventory
- historical studies, including a cultural landscape inventory and cultural landscape report, historic structure reports, an administrative history, and an updated list of classified structures
- an updated scope of collections statement and collection management plan

The Park'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, tribes, and public and private organizations that have cultural resource management or research capabilities or expertise. These entities could include federal, state, and county agencies, academic institutions, local and regional cultural and historical organizations, and the Timbisha Shoshone Tribe or other Native American tribes having affiliation with lands in the national park. 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.



Native American Interests

Background

For millennia, American Indian peoples lived within the Death Valley area, using the resources and lands to sustain their lives and cultures. In the l950–1960s, Federal Indian Lands Claims cases involving Chemehuevi, Mojave, and Owens Valley Paiute tribes included documented occupation and use of many mountain ranges, valleys, and resources in the region. Today's tribal governments and communities historically associated with the study area are as follows:

- Lone Pine, Fort Independence, Big Pine, and Bishop Indian Reservations were originally established by presidential executive order in 1912. These Owens Valley reservations were altered by land exchanges in the late l930s for residential purposes for Owens Valley Paiute populations. Each reservation is several hundred acres but cannot support development of tribal enterprises. Wage work, some small-scale ranching and gardening, and some crafts provide income to tribal members. Each community is from 250 to 400 enrolled persons, including intermarried Shoshone and other individuals.

- Timbisha Shoshone tribal peoples include those known as Coso, Panamint and Death Valley Shoshone who ranged within a large area including most of Death Valley National Park and nearby Bureau of Land Management lands north of Ridgecrest, CA, and along the Nevada–California state line. The Timbisha Shoshone Tribe was federally recognized in 1983 and has approximately 300 enrolled members.

- The Las Vegas Piute Tribe is composed of "Nuwuvi" people, called Paiute by others, who inhabited present-day southern Nevada from pre-European time to 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 gain their economic support from tribal tourism enterprises, retail sales, and wage work.

- The Pahrump Paiute Colony is a nonfederally recognized community of Paiute families in the Pahrump, Nevada area. This organization has served the social and political purposes of the people for more than two decades. It has an informal council leadership and operates on traditional principles of consensus. Population is unknown.

Plan Actions

For thousands of years, the Timbisha Shoshone Tribe has lived in and around the area that is now Death Valley National Park. For many years, the Tribe sought to obtain trust land within its aboriginal homeland. In 1994, Congress enacted the California Desert Protection Act, P.L. 103- 433, including Section 705(b) which begins to address the need of the Tribe for a recognized land base. Section 705(b) directs the Secretary of the Interior to conduct a study to identify lands suitable for a reservation for the Timbisha Shoshone Tribe which has no land base at present.

The draft report, "The Timbisha Shoshone Tribal Homeland (1999)," contains the recommendations of the joint Federal-Tribal negotiating team responsible for carrying out the suitability study. The study was conducted on a government-to-government basis with officially designated representatives of the Timbisha Shoshone Tribe and the Department of the Interior. It resulted in a comprehensive integrated plan to establish a permanent Homeland for the Tribe based on an analysis of the suitability of various lands within the tribal ancestral homeland in relation to basic tribal needs and consistency with Federal land management and stewardship mandates.

Among the factors restricting the ability of the negotiating team to identify a single contiguous area suitable for the establishment of a reservation were: natural limitations, including climate, geology, and the availability of water; mining claims; special resource designations such as Wilderness and Area of Critical Environmental Concern; and the availability of infrastructure such as roads, power, and other services.

This draft report concludes that the transfer of several separate parcels of land is needed and recommends transfer of 7,500 acres in trust to the

Timbisha Shoshone Tribe. These parcels include 314 acres at Furnace Creek in Death Valley National Park encompassing the present Timbisha Village Site subject to jointly developed land use restrictions designed to ensure compatibility and consistency with tribal and Park values, needs and purposes. Based on the proposed land use restrictions and opportunities for future close collaboration with the Tribe, the National Park Service and the Tribe believe that the transference of Park land described above will enhance the cultural and historical interpretative opportunities available to the visiting public, but will not adversely impact Death Valley National Park. The report also seeks authorization to purchase two parcels of approximately 120 acres of former Indian allotted lands in the Saline Valley, California, at the edge of the Park, and the 2,430 acre Lida Ranch near Lida, Nevada from private owners.

This report also recommends a number of other arrangements authorizing tribal access to and traditional uses of, certain designated areas which will remain in public ownership. One example of the latter type of arrangement is the recommendation to seek designation of an area primarily in the western part of Death Valley National Park as the Timbisha Shoshone Natural and Cultural Preservation Area within which low impact, environmentally sustainable, tribal traditional uses, activities and practices will be authorized subject to existing law and a jointly established management plan agreed upon by the Tribe, the National Park Service and the Bureau of Land Management. The Tribe, the National Park Service, and the Bureau of Land Management see such a designation as a way of recognizing the common interests of the agencies and the Tribe in conserving and protecting this area. Examples of traditional tribal uses, practices and activities include seasonal camping, gathering pinyon nuts and other plants for medicinal purposes, but not the taking of wildlife within the Park.

The legislation affirms that the continued presence of the Tribe in the Park and in other parts of its ancestral homeland benefits the Park, the Tribe, and the American people. In October 2000, the President signed legislation (P.L. 106-423) implementing the recommendations of the report.

The potential impacts of the land transfer are analyzed in the *Final Legislative Environmental Impact Statement, Timbisha Shoshone Homeland* (2000). Any development or resource use activities will be part of future planning efforts and will be subject to appropriate National Environmental Policy Act compliance and public review.

Visitor Use, Services, and Facilities

Death Valley National Park 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. The many roadless areas offer hikers the experience to explore. There are many cultural sites such as abandoned mining districts that many people love to visit. The mountain ranges, such as the Panamint and others offer a contrast to the dry hot valleys, attracting many people in the summers with cooler temperatures and forested areas. Exposed geology and unique wildlife and vegetation are other elements that attract people. The land has many extremes and contrasts which people come to experience, such the high summer temperatures. Most visitors come to the desert simply to see the outstanding scenery of this diverse landscape.

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 principle 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 impact 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. Identifying numbers relating to visitation in an area is 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 also effect visitor enjoyment.

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

The implementation of recommendations as called for in this plan will increase the level of protection for fragile or sensitive resources. Until future implementation plans are developed, the National Park Service should manage visitor activities in a way that leans toward resource protection. Preservation of sensitive species and their habitats is a priority and

sensitive population resource degradation due to public use or other activities would not be allowed. Aggressive and appropriate action will be taken to protect these habitats until the degraded habitat has been restored and appropriate long term protection for the species has been put in place.

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." The qualitative descriptors that have been identified as "desired visitor experience and resource conditions" will 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 will be developed within future implementation plans. These products will be quantifiable and measurable aspects of the carrying capacity process.

Desired Future Conditions

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 Areas

An informal, self-guiding learning experience is provided for visitors in these areas. People are encouraged to get out of their vehicles and walk to features. The pace is slower 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 the visitor spends in the Park. There is a moderate amount of social crowding and moderate social 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 and boardwalks 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 upon the sensitivity of the resource to impacts by use. The degree of onsite visitor and resource management is moderate and increases or decreases with visitation levels.

Sensitive Resources and Habitat Types

The Park management will continue to protect, restore and enhance all habitat areas, especially those that are identified as sensitive or critical, per law and NPS policies. The level of detail regarding the biological function of habitat types and definition of desired future conditions will be developed within the framework of a parkwide resource management planning effort.

Wilderness

Visitors in this landscape experience a primeval environment largely untrammeled by humans, where the land retains its primeval character and influence, without permanent improvements or human habitation, but may contain features of scientific, educational, scenic or historic value. Elements of modern human occupation are not appropriate unless they meet the criteria of the Wilderness Act. Some sections of wilderness within the Park may have remnants of human occupation, but these features are considered a part of the history and scenery to be explored. A high degree of physical exertion may be required to hike or ride horseback to this area. A minimal amount of hiking trails may be present, often requiring a person to travel cross-country to get to a desired destination. Abandoned roads may be used as routes of travel. 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 visitor impacts 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.

Historic Preservation Areas

Historic preservation areas offer visitors a chance to gain a sense of the past 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, enhanced by smells, sounds, and a sense of physical space. 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. 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 located at remote locations and 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 remains 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 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 learn about Park 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 should be made part of the visitor experience. These constructed features are coordinated by design to reduce visual contrast with the natural or cultural setting. Although these are developed areas, they should 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. 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 and occur only when there is no practicable alternative. Visitors and facilities are intensively managed for resource protection, visitor management, and safety (that is, there may be fences, law enforcement may be more intensive, and visitor activities may be monitored or restricted).

Paved and Graded Roads

Paved and graded roads are the dominant experience for most Park 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 very little physical exertion is needed, outdoor skills are not necessary. Visitors may spend a long time in this zone. The probability of encountering other visitors is very high, although chances for social interaction are low except at roadside pullouts. The opportunity for direct contact with NPS staff is low unless emergency situations arise.

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 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 scenery, 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 give visitors a sense of escape from urban life. The areas through which these roads pass are predominantly natural, but there is some 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 may need to extend themselves, use outdoor skills, and make a long time commitment. Some roads within the Park have rough conditions that often require specific 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. Many people who use these roads do not wish to see many other vehicles.

Resource modification is evident, but where possible, should harmonize with the natural environment. The Park'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 by natural occurrences such as washouts.

INTERPRETATION

Background

An "Interpretive Prospectus" (NPS 1990) was completed for Death Valley National Monument in 1990. The prospectus identified interpretive planning and development details appropriate for the monument. The expansion of Death Valley and the designation of large tracts of wilderness have made this plan obsolete.

Plan Actions

The Park interpretive program will integrate in a balanced fashion the geological, cultural, and biological aspects of the Park. Through its primary interpretive themes, programs and interpretive information will concentrate on the harsh environment and the adaptations that all living things must make to survive. The three key subjects to be interpreted will include:

- geological processes and geographical relationships
- the cultural, historical, prehistoric, and Native American record
- desert ecosystems

The Park staff will continue to seek ways to improve the educational outreach program in surrounding communities and develop partnerships with local schools and similar groups. The intent of this program is to increase local community awareness of the Park purpose and resources, and continue to develop favorable partnerships and mutual support.

A comprehensive interpretive plan will be developed to replace the 1990 interpretive prospectus. This plan will reflect the additional Park lands, present individual site plans, and identify other appropriate support documents. It will also address the interpretive needs of Scotty's Castle and its related resources and will identify additional opportunities for visitors to learn more about the castle and its builders. Until the new comprehensive interpretive plan is developed for the entire Park, the current prospectus will direct the methods for interpreting the Park's varied resources.

Cultural resource sites that are easily accessible and historically important will be treated as significant interpretive stops. Access to other cultural resources will be improved only if the historical significance or resource integrity of a site made it worthy of a major interpretive effort and if its integrity is not threatened by an increase in visitation. The Park will increase efforts to inform the public, particularly in backcountry locations, that all historical and archeological objects are protected under federal law.

The Park will continue to seek additional ways to improve the living history program or other methods of interpreting Scotty's Castle.

The interpretation of prehistoric and contemporary Native American cultures will be integrated into parkwide interpretive themes, focusing on human adaptation to the desert environment. Programs, demonstrations, and guided walks will provide opportunities for visitors to understand these cultures. Tribal consultation will take place when planning interpretive opportunities pertaining to indigenous peoples.

To ensure the protection of especially fragile natural and cultural values, resource management specialists, interpretive planners, and designers will work together to develop ways for visitors to see the resources without causing unacceptable damage. The Salt Creek boardwalk is an example of this cooperative effort.

Many sites may contain fragile resources and safety hazards that must be considered when planning for access and interpretation. Measures will also be taken to mitigate any potential effects of increased visitor use. Wayside exhibits or brochures will be used to interpret these areas.

INFORMATION/ORIENTATION

Visitor Contact

Information and interpretive programs will focus on helping people learn about and enjoy the natural and cultural resources of the Park and giving them the opportunity to experience the intangible qualities that make the area unique — the quiet and isolation, the depth of colors, and the clear sky. Interpretative materials will reflect the different ecosystems represented in the Park's boundaries and will be developed at a level appropriate to a recognized need and location.

Providing interpretation and orientation information to visitors before they enter the Park will be emphasized. Visitors could also contact the Park by telephone, mail, internet, satellite information centers, and other means. The Park will continue to support the multiagency information center at Lone Pine, California, which serves visitors accessing Death Valley from the Owens Valley to the west, and the Mojave National Preserve's facility in Baker, California, which assists visitors approaching the Park from the I-15 corridor to the south. These points will provide additional locations for visitors to obtain orientation and interpretation information for the Park and the region prior to their arrival. The objective of supporting these offsite facilities will be to better prepare visitors for their visit to the Park.

Interpretive services will be provided wherever NPS staff could effectively connect with the public to increase their understanding and appreciation of Park resources. Staffed information/fee collection stations will continue to be located in Beatty, Nevada, and at Stovepipe Wells. Additional interpretive staffing and services will be placed at Stovepipe Wells to provide better year-round information to visitors.

Ranger stations at Grapevine, Wildrose, and Shoshone will also provide visitors with information and operate with volunteer staff as available. If visitation increases at these facilities, funding will be sought to increase NPS staff presence at these facilities to meet visitor demand for assistance.

Unstaffed orientation and information stations ("reception centers") will be developed within the Park along the Park's five major entrance roads that receive relatively high levels of traffic. These information stations will be proximal to fee collection stations, where applicable, so that visitors could receive additional information after paying entrance fees. Unstaffed information stations will function to help orient and inform visitors soon after they have crossed the Park boundary, rather than waiting to get information at the more distant developed areas in the Park interior.

Operations at Furnace Creek and Scotty's Castle will continue to provide visitor services such as a staffed visitor information desk, interpretive displays and exhibits, a large auditorium, and sales outlet of the Death Valley Natural History Association. Information on hiking, backcountry historical sites, and other day use activities will be made available at the visitor centers and the reception centers. The number of staffed interpretive programs will be expanded.

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

Visitor support services, such as site bulletins and information/interpretation wayside exhibits will be developed to complement the expanded Park boundaries. Wherever wayside exhibits are inappropriate and interpretation of resources is desired, brochures, or similar media, will be developed for specific themes or specific areas. They will be provided or offered for sale in appropriate locations.

Over 95% of the Park is designated wilderness and large portions of the Park are only accessible by four-wheel-drive vehicle, bicycle, or on foot. Visitors will explore these areas on their own. In these areas, onsite information/interpretive services will be minimal to non-existent and be restricted to threshold access points with few exceptions.

Waysides and Exhibits

Signs or exhibits will be posted at key road intersections leading to significant features. Distances, road conditions, and destinations or features along the way will be listed. This information will also help prevent people from mistakenly trying a road beyond their automobile's capability or their personal time limits. The Park will evaluate the need for trailhead information waysides that could serve visitors using trails. Design standards for these signs will be established in a Park sign plan.

Basic orientation information will also be made available on a 24-hour basis by using a variety of methods such as lighted exhibits, brochure dispensers, audio, permanent and portable information. Information and interpretive material would be available in other languages to meet the increasing demand. The use of international symbols and graphics will be used as much as possible to avoid multiple languages on displays.

The Park has many secondary entrances that receive moderate to light amounts of highway traffic. These points will be evaluated for the need to place information panels that will serve the same basic function as the information stations, but on a smaller scale. Each location will be evaluated to determine the appropriate information needed at each entrance.

Interpretive wayside exhibits within the Park will continue to be upgraded in accordance with a wayside exhibit plan. Additional wayside exhibits will be developed for key features along heavily traveled corridors in recently acquired lands and elsewhere in the Park if the need to interpret and or protect resources arises. Interpretive waysides will be kept to a minimal level (or number) on backcountry roads.

Partnerships

The National Park Service will continue to cooperate with other agencies and organizations to make information available along approach routes to the Park. Locations for displays and/or free publications outside of the Park will be considered to provide ways to serve people who want advanced information on the Park. Partnerships with communities, businesses and tourism associations may need to be developed to achieve this objective.

The Park will enter into partnerships with other land management units to provide the public with a variety of information on outdoor recreational opportunities within the region.

Partnerships will also be sought to fund various projects or projects within all management divisions in the Park.

Visitor Facilities

Background

The Park has visitor centers at Furnace Creek and Scotty's Castle. The largest complex, centrally located at Furnace Creek, includes a staffed visitor information desk, interpretive displays on the natural and cultural features of the Park, a large auditorium featuring both orientation film and slide programs, and a sales outlet of the Death Valley Natural History Association. This facility, completed in 1960, was planned when annual visitation was 250,000. Its interpretive mediums are dated and focus on the monument lands. The 49ers association has provided assistance to the development of the visitor center.

Scotty's Castle visitor center is located in one of the historic structures north of the castle. New displays, which will depict the history of the people, construction of the buildings, acquisition by the National Park Service, and the significance of the complex are now in place. The visitor center contains a sales outlet, and during the summer season, it serves as a general information and ticket sales counter. The guided tour of the castle involves employees dressed in period costumes that tell the story of how the castle came to be and of the individuals who lived there.

Staffed information / fee collection stations in Beatty and at Stovepipe Wells operate on a full schedule seven days a week year-round. Ranger stations at Grapevine, Wildrose, and Shoshone provide visitors with information and operate with available volunteers.

The Park supports a multiagency information center at Lone Pine serving visitors accessing Death Valley from the Owens Valley to the west. Mojave National Preserve's Baker facility assists visitors approaching the Park from the I-15 corridor to the south. These facilities provide information, orientation, and interpretation for the Park and the region.

Plan Actions

All improvements to visitor facilities will be subject to federal requirements to meet accessibility standards for people with disabilities. The Park staff will also consider creative ways to increase the recreational opportunities for visitors with disabilities.

Entrance/Information Facilities

Care will be taken to visually blend these entrance / information stations with their surroundings. Entrance stations are planned for State Highway 190 on the east and west sides of the Park. This will improve visitor information as well as increasing fee revenues. The existing Grapevine Ranger Station will continue as an information station that is staffed as staff and funding allows.

Interpretive Facilities

The Park will continue to operate major visitor centers at Furnace Creek and Scotty's Castle. The largest visitor services complex is centrally located at Furnace Creek and includes a staffed visitor information desk, interpretive displays, a large auditorium, and the Death Valley Natural History Association sales outlet. This facility was completed in 1960 and designed when annual visitation was 250,000. In 1999, visitation was about 1.2 million. Its interpretive media is dated and focuses on the old monument lands. Actions will be taken to update this facility and improve interpretive displays and to expand the number of displays to include information on recently acquired lands. A comprehensive design plan will be prepared to update and improve the Furnace Creek visitor center.

Other structures at Scotty's Castle might be opened for public tours or adapted for other uses if these actions are compatible with recommendations from the historic resource study/historic structure report and the goals of restoring the resource's cultural landscape. Such uses might include exhibit space, audiovisual presentations, or curatorial space. The Park will prepare a study to consider ways to reduce long waits for tours and parking on busy holiday weekends at the Castle. Options might include a reservation system.

Comprehensive design packages for visitor facilities will strive to balance resource protection with visitor access and safety, minimize impacts on sensitive resources, and improve the visual quality of the areas and overall visitor experience. Measures will be taken to mitigate any potential effects of increased visitor use. Locations for such improvements include key attractions such as Badwater or especially sensitive natural and/or cultural resources such as Eureka Dunes and Devils Hole.

Developed Campgrounds

Background

Death Valley National Park has nine developed campgrounds that offer a variety of camping experiences. Most campground use occurs primarily from November through April because of the cooler temperatures. Most visitor use is concentrated at Furnace Creek and Stovepipe Wells. The Sunset campground at Furnace Creek consists of an expansive open area, which is used by recreational vehicles and trailers. Many people stay overnight in recreational vehicles, but the number of such users appears to be declining. The Park recorded 231,902 overnight stays by recreational vehicles in 1979 compared to 165,253 in 1995, a 28% decrease in RV users. Campgrounds at Furnace Creek and the group site at Texas Springs are on a campsite reservation system. Furnace Creek, Stovepipe Wells, Sunset and Texas Springs campgrounds are wheel chair accessible. Mahogany Flat, Thorndike, and Wildrose, on the west side of the Panamint mountain range (4,100–8,200 feet elevation), are subject to seasonal closures due to snow and other weather.

Death Valley has over 600 developed campsites. The following is a list of the campgrounds and their campsite numbers:

- Emigrant — 10 sites
- Furnace Creek — 136 sites
- Mahogany Flat — 10 sites
- Mesquite Spring — 30 sites
- Stovepipe Wells — 200 sites
- Sunset — 1000 sites
- Texas Spring — 92 sites
- Thorndike — 10 sites
- Wildrose — 30 sites

In 1997 five campgrounds charged a fee, either $16.00 or $10.00. Emigrant, Mahogany Flat, Thorndike, and Wildrose campgrounds do not charge fees.

The entrance fee to the Park in 1997 was $10.00. Fees are collected at the Grapevine entrance station, Beatty ranger station, Stovepipe Wells ranger station, Furnace Creek visitor center, and Baker visitor center. This is paid on a voluntary basis at all locations except the entrance station. Since there are no entrance stations on State Highways 190 or 178, it is not known how many people traveling these roads actually pay the entrance fee.

Plan Actions

The Park's existing campgrounds will be improved by eliminating safety hazards, better defining and separating sites, improving restrooms, and adding amenities such as newer picnic tables. Camping facilities at higher elevations will be upgraded to

enhance summer camping activities. All recreational vehicles (RV) campgrounds will be designed to meet national fire codes, which require 900 square feet per RV site and allow a maximum of 30 recreational vehicles per acre. The Park staff will work to identify issues and concerns related with tent camping and find ways to accommodate all types of campers, including tents, in developed campgrounds, while striving to enhance the visitor experience.

The existing campground at Stovepipe campground will be redesigned.

The Sunset, Texas Spring, and Furnace Creek campgrounds will be extensively redesigned to accommodate average winter demand and improve camping conditions. The total number of campsites at Sunset will be reduced because the campground is rarely used to capacity. Demands for additional camping areas, such as during the '49er Encampment and spring holidays, will be handled at designated overflow areas, which will be closed at other times. The Furnace Creek area development concept plan will incorporate these changes.

Recreational Activities

Background

Most visitation to Death Valley National Park has historically occurred during the cooler months of fall, winter and spring, but recent visitation figures indicate that visitation during the summer months has increased significantly to the point that Park staff no longer consider summer the slow part of the year. The months with the highest visitation figures in past years had been November, March, and April. High visitation in November is associated with the 49ers encampment. Recent visitation figures show a close balance between visitation in cool and hot months.

Death Valley has attracted people for many reasons, but the prime reasons seem to be the scenic beauty, the opportunity to visit the lowest and hottest place in the Western Hemisphere, and the notoriety of the name "Death Valley." People are also drawn to the area because of the contrasts that the desert provides to their place of residence. The majority of all visitors spend their time on the paved roads sightseeing and going to major attractions such as Dantes View, Scotty's Castle, and Badwater. Currently, very few of the total number of visitors venture onto unpaved roads to visit the remote sections of the Park. These sections include such places as Eureka Dunes, Saline Valley and Hunter Mountain, but that number is expected to increase as a result of recent newspaper and magazine articles and the promotion efforts of local communities.

Visitor surveys were conducted in 1990, 1994, and 1996. The 1990 survey was conducted by contacting visitors in developed and remote areas of the Park. The 1994 survey focused on backcountry areas of the Park and the 1996 survey was conducted in developed areas and major visitor attractions. The 1994 survey included Saline Valley. The results of these surveys indicate that visitors participated in the following activities:

Other activities which reported less than 20% participation include: visiting Scotty's Castle, stargazing, driving backcountry roads, taking a tour of the castle, hiking more than two hours, golfing and a mixture of other miscellaneous activities.

- 72% of foreign visitors were from France, Germany and Switzerland.
- 21% of all visitors were from California.
- 72% of the visitors spent less than 1 day in the Park.

The 1994 backcountry (remote sections of the Park) survey asked people why they came. People gave the following reasons:

- 96% came to view desert scenery
- 82% came to enjoy the wilderness and open space
- 81% enjoyed recreation such as hiking, driving back roads and camping
- 78% came to experience solitude and quiet
- 57% were there to learn more about local history
- 56% came to view and study plants and animals
- 16% came for "other" reasons such as photography, riding bicycles, study geology and geography, enjoy the warm clean air, and visit family and friends

The backcountry of Death Valley has been primarily used by California residents who return to seek solitude and desert scenery. Most visitors took day hikes and visited cultural sites. The survey also sampled visitors in the recently acquired Eureka and Saline Valleys. The Saline Warm Springs area continues to attract many visitors. It is estimated that 14,000 people travel the Saline Valley road each year. Park rangers reported approximately 120 vehicles parked at the warm springs the day after the Thanksgiving holiday in 1996. Visitors on the ground on that weekend reported the number of vehicles at 76.

Visitation to the Eureka Dunes is unknown at this time, but recent observations indicate a steady flow of visitors during the cooler months. Visitation to the Greenwater Valley and Saratoga Springs is relatively light at this time but may increase in the future.

There is a growing number of people who are choosing to explore the land with a mountain bike. Bicyclists have traveled the Saline Valley road and the Steele Pass road, which connects Saline and Eureka Valleys. BLM rangers have reported an increase in mountain bike use in the Deep Springs Valley, which is north of Eureka Valley. A 1995 backcountry visitor survey for Death Valley indicated that 10% of the users had ridden bikes on dirt roads.

Death Valley is an internationally recognized destination. Commercial tour groups visit Death Valley, often as part of a loop tour, which includes Las Vegas, Grand Canyon and Yosemite. Overnight stays associated with tour buses have increased significantly from 342 buses in 1983 to 2,185 buses in 1995. Many Europeans come by rental car and Asian visitors often come in tour buses. International tourism continues to be strong as currency exchange rates continue to be favorable. Many Europeans come during the hottest part of the summer to experience the extreme temperatures of summer and a landscape that is often a drastic contrast to their homeland.

Plan Actions

The Park will support recreational activities that are compatible with management objectives and current visitor needs. It is recognized that recreational trends continue to change and that specific, detailed direction on certain activities needs to be placed under a guiding statement which provides overall direction. NPS Management Policy on Recreational Activities provides guidance for determining the appropriateness of recreational activities in national park units. NPS *Management Policies* (NPS 2001) also states that each unit of the National Park Service has the responsibility to determine which recreational activities are appropriate or inappropriate, based upon the unit's purposes and values (see the purpose and significance statements for Death Valley National Park).

Unless the activity is mandated by statute, the National Park Service will not allow a recreational activity within a Park if it would involve or result in the following:

- 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 (this does not apply to certain traditional activities specifically authorized by NPS general regulations or by law)
- unacceptable impacts on Park resources or natural processes
- unacceptable levels of danger to the welfare or safety of the public, including participants

Day Use Areas

The following areas will remain designated as day use recreation only with no overnight camping:

- All paved road areas to 2 miles from the road
- Titus Canyon Road
- West Side Road
- Wildrose Road
- Skidoo Road
- Cottonwood Canyon Road (first 8 miles)
- Racetrack Road (from Teakettle Junction to Homestake Dry Camp)
- Lost Burro Mine
- Ubehebe Lead Mine
- The main valley floor from Ashford Mill north to 2 miles north of Stovepipe Wells.

Additional day use areas may be established in the new additions to the Park.

Backcountry and Roadside Camping

Background

The backcountry is defined as any area located away from Park development such as campgrounds, visitor or administrative facilities; typically a place where development is out of view. Designated wilderness is included within backcountry areas.

Eureka Dunes and Saline Valley Warm Springs have informal campgrounds, which receive moderate to heavy use. The dunes are easily accessible by car while the springs can be accessed by car if the weather provides for good road conditions. The National Park Service traffic count figures indicate a monthly average of 200 cars that go to the dunes. The dunes are habitat to two endangered plants. One of the major threats to these plants is illegal offroad vehicle use. There are an estimated four or five informal campsites north of the dunes along dirt roads. Visitors may also camp along a spur road northeast of the dunes. A day use parking area with a vault toilet and two or three picnic tables is located on the northwest corner of the dunes.

Another day use parking lot is located on the north central end of the dunes. This parking area is large enough to handle an estimated fifteen to twenty cars, depending on how people use the space. A two-foot-high pipe fence frames part of the parking lot to contain vehicles and discourage any driving on the dunes. The parking lot provides direct access to the dunes for hikers and those wanting to play on the sand. To protect endangered plants, minimum impact activities are encouraged.

Saline Valley Warm Springs receives use throughout the year. Over several years, visitors to the springs have built concrete hot tubs, a water system for the tubs, dug pit toilets, maintained the short access road, planted palm trees and a lawn to make their time at the springs more comfortable. In 1997 the National Park Service initiated the 30-day limit on camping that exists in the old monument. Marking posts have been placed in the ground to define the wilderness boundary surrounding the area in an attempt to keep vehicles out of wilderness and designate the camping area.

Public use of the springs has a history that goes back many years, but use began to rise during the 1960s, with this use level being sustained through the 1970s, 1980s, and into the 1990s. The place developed a social culture of its own, highlighted by a spirit of independence and freedom from the norms of traditional society of the day. Before the National Park Service obtained this land, visitors to the springs had developed their own social order and developed and managed constructed pools, camping and other facilities relatively independent of government funding or oversight. Visitors to the springs continue to provide maintenance to the facilities they have constructed, with the Park Service evolving the use and management of the area as a national park.

Backcountry camping must be more than 200 yards from any water source but is allowed at previously disturbed campsites that are 2 miles beyond developed areas, maintained roads, or day use areas. Camping is not allowed near the Lost Burro Mine and the Ubehebe Lead Mine or off several "day use only" dirt roads such as Titus Canyon and Racetrack road.

Plan Actions

Small, primitive campsites may be established in some remote areas of the Park to offer alternative camping experiences including Hidden Valley, Butte Valley, Echo Canyon, the Nevada Triangle, Racetrack Valley, and Johnson Canyon.

If camping in wilderness areas resulted in trampled vegetation or compacted soils over widespread areas, specific campsites will be designated. The current backcountry voluntary permit system will be replaced by a mandatory permit system when and where better resource protection was needed or where visitor use had exceeded the desired future

conditions for backcountry visitor experiences and resource conditions. The Park has the authority to limit any activity that is causing resource damage. Where sensitive areas are noted as receiving or have the potential to receive adverse impacts, designated camping sites may be designated away from the area for that area's protection.

A wilderness/backcountry management plan is currently being prepared by the Park staff. This new plan is necessary because of the broad changes in the amount of area in the Park that is now designated as wilderness. Until the wilderness/backcountry management plan is completed, camping will continue to be directed under existing management. Currently there are over 350 miles of backcountry roads that are open to camping (unless designated closed) with an unknown number of informal campsites. However, use levels at most of these areas is quite light. The Park will evaluate camping in Dedecker Canyon to determine potential and direct impacts upon the local bighorn sheep population and rare plants from visitor activities in the canyon. Park staff will determine whether the canyon or sections of the canyon should be closed to camping to reduce impacts. The Park will also reconsider the issue of allowing limited campfires in the backcountry and wilderness areas during the planning process for the backcountry and wilderness management plans.

An inventory and monitoring program will be established to gather data on backcountry visitor use and related impacts associated with car and other types of camping. Small primitive campsites may be established for car campers and other camps in remote areas of the Park that receive above average use and associated threats to Park resources. The management objective will be to mitigate negative impacts to Park resources, protect human health and safety and provide an alternative camping experience. Improvements will be the minimal tool needed to solve the problem, such as defined tent pads and or anchored picnic tables. This proposal may be considered within the backcountry management plan. If camping in wilderness or other backcountry areas results in destroyed vegetation of other negative impacts to resources or the visitor experience, management actions will be taken to mitigate or eliminate impacts. Management actions may include required camping at designated campsites and or closure of areas to camping.

Backcountry and roadside camping is currently permitted under the following conditions:

- Backcountry camping is allowed 2 miles beyond any developed area, maintained road, or "day use only" area. Other areas may be closed to camping. Visitors should check at the visitor or information centers for current information.
- Vehicle campers shall use pre-existing campsites.
- No camping is allowed in some historic mining districts or on the valley floor from Ashford Mill to 2 miles north of Stovepipe Wells.
- Organized groups with 16 or more people and/or stock animals and 7 or more vehicles need a special use permit.
- The length of stay is limited to 30 cumulative days per year.
- Campfires are currently prohibited outside of designated campgrounds. The proposed backcountry/wilderness management plan will consider where such fires may be permitted under controlled conditions.
- Visitors are not allowed to collect firewood.
- The Park initiated a voluntary backcountry use registration system in 1998 (see "Saline Valley").

Backcountry Cabins. The current, interim management of backcountry cabins allows visitors to use cabins on a first-come, first-served basis. Visitors are directed to use the cabins in a way that preserves and protects cabins for future use. The length of stay is limited to 30 days. The Park is currently preparing a survey and inventory of cabins in the Park. Results of this survey will be used to prepare further management direction for these cabins based upon their historic significance, condition, and use levels. When the survey is completed, the results will be interpreted and placed within the wilderness/ backcountry management plan.

NPS *Management Policies* provide the overall guidance regarding backcountry cabin management:

> "…facilities located in wilderness will be limited to the types and minimum number essential to meet the minimum requirements for the administration of the wilderness area…"
>
> "The construction or reconstruction of shelters for public use generally will not be allowed, since wilderness users should be self-supporting in terms of shelter. An existing shelter may be maintained only if the facility is necessary to achieve wilderness management objectives or cultural resource protection objectives."

Visitor Use in Saline Valley. A site specific management plan will be prepared in consultation with interested public through the NEPA process. The

goal of the plan is to create a strategy for management of the area consistent with NPS mandates and policies. The plan will address protection of natural and cultural resources, exotic species, public health and safety, and environmental restoration, environmental and social carrying capacity of the land, and designation of the site as a backcountry campground and the appropriate number and development of sites. The following will limit the scope of the activities permitted at the springs:

- Soaking tubs/spas will be limited to the current level of improvements.
- The Upper Springs will continue to be protected from human improvements and use and from burros.
- The Saline Valley Road will be maintained to its current surface condition by Inyo County.
- An analysis will be made of the Chicken Strip airstrip to determine whether to retain it under 36CFR or whether it should be closed due to safety and/or resource impact concerns.
- The proposed site plan will also consider options for the active restoration of the upper springs to a natural condition.

Depending upon future use levels and priorities, the National Park Service could consider maintaining some of the facilities at the springs.

The National Park Service will work with groups associated with the springs, to manage this place in a manner where all members of the public feel welcome. The National Park Service will not actively promote expanded public use of the springs.

Visitor Use Fees

Background

Recreational 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. 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.

Plan Actions

The Park will continue to explore options for fee collection revenues consistent with congressional direction, including collection by third parties. In Death Valley National Park, entrance fees will continue to be collected at the Furnace Creek visitor center, Beatty, the Grapevine Entrance Station, Stovepipe Wells, and Baker. It is estimated that currently a significant amount of fees go uncollected. The construction of two entrance stations on Highway 190 is being actively planned to facilitate the collection of these fees and to improve visitor information at major entrances.

Nonrecreational fees will be collected for activities such as incidental business use permits, filming, and special park uses. Death Valley National Park has traditionally been an area where many companies come to film commercials and movies. The area receives a significant number of requests from automobile manufacturers to test vehicle-cooling systems. Filming and incidental business permits will continue to be granted on a case-by-case basis. Commercial tour buses are charged an entrance fee based on the seating capacity of the bus.

Commercial Services

Background

There are no commercial operation facilities located on federal lands recently acquired. Commercial use permits have been requested for filming and guided horse pack trips tours. More permits for other non-facility-based commercial operations will most likely be requested in the future. Park employees review compliance requests with Park regulations and approve appropriate uses.

Amfac Resorts operates a major visitor resort with lodging, food services, recreation, and employee housing. All of the commercial services are located on private land and are not under control by the National Park Service. Park management continues to work on a cooperative relationship with Amfac's local manager. The Furnace Creek Inn and Ranch are their two major operations, both located on 342 acres of private property. Amfac also manages the concessions operation at Stovepipe Wells, which has lodging, a restaurant, gas station, and swimming pool. They also manage a snack bar and gift shop at Scotty's Castle. Both operations at Stovepipe Wells and Scotty's Castle rest on NPS land and are subject to NPS controls on pricing and operations. The private operations at Furnace Creek provide visitors with 294 rooms, 2 swimming pools, an 18-hole golf

course, tennis courts, restaurants, gift shops, a service station, and general store. During the fall, winter, and spring, visitor accommodations are often sold out. Amfac now has 300–325 employees living at Furnace Creek; 89–90 live at Stovepipe Wells and 6 live at Scotty's Castle.

Panamint Springs Resort is on Highway 190 within the Park. This commercial operation is on private land and serves as a western gateway to the Park. The Park Service has no control over this operation but works in a cooperation with the owners. The resort has camping, lodging, a restaurant, and gas pumps.

Plan Actions

All commercial businesses that operate in the Park are required to obtain a commercial use permit. The National Park Service operates a concession contract providing lodging, a restaurant and bar, gift shops, general store, and gas service at Stovepipe Wells and food service, a gift shop, and gasoline at Scotty's Castle. It is NPS intent to continue these services. Private overnight lodging not overseen by the National Park Service exists at Furnace Creek and Panamint Springs. The National Park Service will continue to work with the private commercial operations at Furnace Creek and Panamint Springs to achieve mutual objectives and resolve potential problems. No duplicative concession services are planned; however, where additional visitor service needs arise, the Park will evaluate concessions as a means to provide such services.

Organized recreational activities, that originate from outside of the Park and for which a fee is charged (such as guided motor coach tours, guided horseback and hiking trips, photography workshops, nature seminars, etc.), are required to obtain an incidental business permit to conduct these activities. The permit is issued by Park staff and defines the terms under which the commercial activities can be conducted within the Park. The fee for this permit includes the direct and indirect costs of administering the permit. (There is currently a new law that shall require parks to issue Commercial Use Authorizations to replace the incidental business permit, but at present has not been instituted.) The Park will evaluate those commercial uses to ensure that the activities are compatible with Park purposes and that they don't detract or destroy the resources for which the Park was established. In some cases the Park may limit the number of commercial activities or operators if the Park Superintendent determines that Park values or resources are diminished or the Park visitor experience is compromised or intruded upon.

As the local and regional populations near Death Valley National Park increase, and if national and international visitation continue to increase throughout the year, the Park can expect more recreational activities to occur of a commercial nature or origin from outside of the Park. These activities may began to occur throughout the entire Park area and not just in the major tourist corridor of Highway 190 and the Furnace Creek area as currently exists. This may be especially true of the types of activities that originate from the Las Vegas, Nevada area as those visitors are looking for other recreational opportunities that exist beyond the city. The Park will be required to evaluate the types and numbers of these activities and shall issue no more commercial use authorizations "than are consistent with the preservation and proper management of Park resources and values."

General Development Concepts

A development concept plan is an intermediate plan between a general management plan and a specific design with construction drawings. These plans are applied to situations where there is a need to plan for visitor, or other administrative facilities. The process involves an analysis of human activities, natural systems, cultural features, and management objectives for a specific geographic area. Recommendations are then made on appropriate activities and the areas in which they should take place and on what facilities would be needed to support the desired end results. Development concept plans will be prepared for the following areas:

Scotty's Castle

A historic resources study, cultural landscape report, and historic structure reports will be prepared to help determine the appropriate uses of the historic structures and the appropriate manipulation of the environment. Upon completion of these reports, a development concept plan will be prepared to establish various facility requirements, the appropriateness of relocating maintenance and curatorial functions, visitor circulation patterns, staffing levels, and the location of employee housing. The concessions program at Scotty's Castle will be retained for the foreseeable future.

Furnace Creek and Cow Creek

A development concept plan will be prepared for administrative and visitor facilities at Furnace Creek and administrative facilities at Cow Creek. Presently the administrative facilities are inadequate. Planning for both areas will be guided by the desire to limit the growth of development and the related demand on Park resources such as water and land. This could be done by relocating some administrative activities that do not need to be within the Park to areas outside of the Park into adjacent communities or through conservation methods.

Grapevine

A development concept plan is underway. The purpose of this plan will be to remove unsightly and inadequate NPS housing and maintenance facilities from a public use area, to consolidate certain functions, provide more adequate housing for Park and concession employees, assure appropriate visitor services, visitor information, safety, and resource protection.

Employee trailer housing will be replaced and temporary facilities will be eliminated. Some National Park Service and concessioner employees now residing at Scotty's Castle might be relocated to Grapevine or another location. A small community building and recreation facilities may be provided. Some maintenance functions could be relocated from Scotty's Castle, and the museum-quality items now stored in various buildings at the castle might be moved into a climate-controlled structure at Grapevine or another location to ensure their appropriate storage (if appropriate space could not be found at the Castle or other locations).

Water and power may be limiting factors in the development of housing and maintenance areas at Grapevine. Further studies will determine if it would be feasible to utilize water in the area. All feasible alternatives will be explored in preparing the development concept plan. Some facilities may be relocated outside the Park.

Stovepipe Wells

Stovepipe Wells will be renovated in accordance with a site management plan. The concessions program at Stovepipe Wells will be retained for the foreseeable future.

- The existing campground will be redesigned.
- The ultimate number of RV hookup campsites at Stovepipe Wells will be determined as a part of the site plan.
- A paved section of the existing airstrip will be converted for helicopter use. The remainder of the airstrip will be converted to a gravel strip and not be used as an overflow camping area.
- Landscaping will utilize native species and will depend on water availability.

Wildrose

A site plan will be developed for the Wildrose area to determine the future direction of the facilities and use of the area. This may include appropriate use by the Timbisha Shoshone Tribe in accordance with a jointly developed memorandum of understanding between the Tribe and the Park.

Roads and Circulation

ROADS

Background

There are five state highway entrances to the Park and numerous unpaved entrances. Townes Pass and Furnace Creek, both on California Highway 190, are the principal entrance routes. Other access routes are Jubilee Pass, Daylight Pass, and Grapevine. Daylight Pass is more heavily used in the summer when people do not wish to take the linear route through the valley. Inyo County has indicated an intent to oil their section of the Big Pine road, which serves as an entrance into the northwest corner of the Park. Traffic on this entrance is lower than at other entrances; the average daily traffic from 1992 to 1995 is 10 vehicles per day. In 1996 the Park recorded 2,988 vehicles for an average of 8.2 cars per day. Use of the Eureka Sand Dunes may increase if Inyo County businesses continue to promote recreational visits to the dunes and if the County Road Department oils the remainder of the Big Pine road to the turn off to the dunes.

The Park has a vast network of roads, ranging from high-speed highways to unmaintained four-wheel drive roads. The Park staff maintains 696 miles of road. Of that, 243 miles are classified as standard vehicle roads, or paved or unpaved that require no more ground clearance than a standard sedan. High clearance or four-wheel drive roads constitute 442 miles, and about 10 miles are service spur roads. California State Highway 190, the main route through the Park, is maintained by the California Department of Transportation (Caltrans). In addition, there are many miles of roads maintained by the county or by mining companies. The Park encompasses hundreds of miles of unmaintained four-wheel drive routes. When the monument became a Park in 1994, it did not require responsibility for any additional paved roads. Most of the new NPS roads are unpaved four-wheel drive roads that provide access to remote locations such as the Saline Valley and Hunter Mountain. The Park has been approached by Caltrans to assume maintenance over about 10 miles of Highway 178 near Shoshone.

Plan Actions

The current road management plan for the Park will be reevaluated because of changes in visitor use patterns, the addition of more roads from Park expansion, and a need to readjust maintenance priorities in reaction to funding levels. The plan will determine such things as the status of duplicate road sections, road surface conditions, and the level of maintenance. An increasing number of buses are entering the Park, resulting in changing visitor use patterns on roads and elsewhere. The management philosophy will be to protect cultural and natural resources, enhance the visitor experience while providing for safe and efficient accommodation of Park visitors. It also will include the need to provide a road system that allows for a variety of driving experiences that are consistent with the purpose and significance statements of the Park. It is very unlikely that new roads will be created in the future unless there is strong justification to do so.

The practice of not performing routine maintenance on high clearance and four-wheel drive backcountry roads will continue. However, emergency repairs might be undertaken following flash floods. Vehicle use in the Park will be limited to street legal vehicles. No offroad driving will be permitted.

A review of the alignment of Highway 190 at Stovepipe Wells will be requested from Caltrans. The intent of this action is to decrease the potential for pedestrian/vehicle accidents near the gas station.

TRAILS

Background

The recently acquired lands contain an informal trail that leads up to Darwin Falls. This is a 2-mile round trip that winds its way up a narrow canyon through willows until the falls are reached. The trail needs some maintenance including pruning willows to allow hikers to pass through the thickets. The parking area for the trailhead has been pulled back out of the wash. There are informal trails in Saline Valley, where users of the warm springs have created trails to points of interest such as Rod Falls, the Seven Sisters Springs, and the Red Cinder Cone Trail. The Saline Valley road serves as access to trails located in the Inyo Mountains on BLM and USFS land. The Lonesome Miner trail head is accessed from off of the Saline Valley road up Hunter Canyon. This 49-mile trail which generally follows ridgelines extends from Hunter Canyon on the south to Reward Canyon on the north. Access to this trailhead is across NPS land.

There are many defined trails or identified hiking corridors within the old monument boundaries. Corridors are often defined by canyons, washes, or ridgelines. The lower elevation trails are frequently used during the cooler months of the year while the upper elevation trails get most of their use during the summer. Very few sources of drinking water exist along these trails or corridors, limiting the

duration of most hiking activities. Several trails or routes have been identified as day hikes, requiring less than a day to complete the whole route. Trail surfaces vary from paved, boardwalk to unmaintained soil conditions. The Park has identified approximately 16 miles of dirt trails, 1.5 miles of paved, 0.25 miles of boardwalk, and unlimited undefined hiking routes for day use.

Several routes and trails have also been identified for backcountry hikes, requiring more expenditure of time and effort by the hiker. The majority of backcountry hikes are defined as routes following canyons, ridges, abandoned roads or other land features. The Park has identified an unlimited number of miles and hiking routes or trails for visitors wishing to hike into remote sections of the Park. Some springs are present along routes, camping is allowed away from springs and voluntary backcountry permits are recommended. Telescope and Wildrose Peak trails are recommended as both day and backcountry hikes.

Very little trail maintenance has occurred over the years because of restricted staff and budgets. Telescope and Wildrose Peak trails are the only maintained, backcountry trails.

Plan Actions

At the present time, hiking is allowed on all open trails, while equestrian use is allowed in most areas. Single-track pedestrian walks or trails, such as Golden Canyon, will not be open to equestrian use. Bicycles will not be allowed on single-track trails or in wilderness. Cross-country foot or equestrian travel is allowed. No new trails are currently planned but will be considered in the wilderness/backcountry management plan.

The wilderness/backcountry management plan will address specific trail use by hikers, equestrians, and people with disabilities. The plan will also address the intensity of trail development, including the type and number of signs, trails, and trailheads, long distant trails extending into other jurisdictions, and the anticipated maintenance levels for developed trails. Abandoned roads in wilderness will continue to be closed to mechanized use (vehicles and bicycles) according to the Wilderness Act, but will be considered for use as trails in the wilderness plan. The 1989 *General Management Plan* called for a Panamint Crest Trail to be developed from Aguereberry Point south into Johnson or Warm Spring Canyon. The need for this is somewhat questionable given the open character of the area. This proposal will be re-examined by the Park in the wilderness/backcountry planning effort.

Trailhead orientation signs will be installed where appropriate to aid in visitor safety and resource protection.

SIGNS

Plan Actions

The Park's management direction on signs is for signs to be unobtrusive, minimal, and blend with the natural environment so that the undeveloped wild character and sense of exploration remains. A sign plan will be prepared by the National Park Service that will ensure this vision is carried out. The sign plan will provide for directional signs to major points of interest which are typically located on the major roads that receive most of the traffic. Secondary or backcountry roads will remain relatively free of directional signs. It is the intention of this management direction to keep visitors from becoming lost and allow the backcountry roads to remain lightly traveled. 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 Park. Because the desert can be unforgiving in the summer, consideration will be given in the sign plan for signs that could help protect the health and safety of visitors unfamiliar with the desert. Boundary signs will be maintained at all Park access points in the backcountry to inform people that all historical, archeological, and natural objects are protected under federal law. A variety of media will also be used to minimize the proliferation of signs.

Administrative Operations and Facilities

PARK ADMINISTRATION

Background

Furnace Creek/Cow Creek

Furnace Creek serves as the main administrative headquarters for the Park and has a visitor center and an administrative office. These buildings were built in the late 1950s and are not large enough for all central office staff. As a result, the maintenance, resource protection, and visitor use staff are located at Cow Creek, 3 miles north of headquarters. The original adobe buildings at Cow Creek, built during the CCC era, include the old administrative building and several maintenance buildings. These buildings have gained historic status. The Furnace Creek, Cow Creek area functions as a small town with an airstrip, gas station, store, school, emergency fire, police, medical, and maintenance services. Park management is reviewing possible office space outside the Park.

Scotty's Castle

Scotty's Castle is located 55 miles north of headquarters. NPS employees work in a modular building located on the upper edge of the grounds. The building was brought in after a fire destroyed a historic building that had served as office space. Other buildings are now used for storing various materials.

Maintenance Facilities

More than 70% of the maintenance staff are now located at Cow Creek and 23% are at Scotty's Castle. One maintenance worker and three rangers are located at Stovepipe Wells. Rangers at Wildrose also assist in light maintenance of the three adjacent campgrounds. The maintenance division is responsible for over 50 buildings, 9 campgrounds, 243 miles of standard vehicle paved road, 442 miles of high clearance or 4x4 and 10 miles of service road, 60 houses and 8 water systems. Travel distances and extreme heat are two major obstacles in performing daily operations. Because Death Valley is now the largest national park in the contiguous United States, there are some limitations on how much the Park can accomplish under the current conditions. Maintenance and other Park staff need three hours to travel from Grapevine to Eureka Dunes and an additional two to three hours to drive from there to the Saline Valley Warm Springs.

The Cow Creek maintenance facility takes care of most visitor and administrative facilities because of its nearness to Furnace Creek and other intense visitor and administrative use zones. Several buildings including the auto shop are contained inside historic structures with adobe walls, which limits renovations and expansions. At this time, there is no adequate space or facilities for the maintenance operation, and employees are looking to expand onto the abandoned Salt Pan housing area or the current storage yard to the east. California Department of Transportation also has a maintenance yard just south of the main NPS yard.

The maintenance operation at Scotty's Castle maintains the historic structures and grounds, which require special attention. They are also responsible for employee housing at Grapevine, the campground at Mesquite Spring, and facilities at Eureka Dunes.

Plan Actions

The Park will make an effort to replaced nonnative plants and landscapes with native plants and landscapes around administrative and visitor facilities where appropriate for interpretive, aesthetic, water conservation and other management purposes. Efforts will be made to reduce the number of exotic plants such as athel tamarisk, oleander, and palms.

Employee Housing

Background

The majority of the staff live at the Cow Creek housing area which has 60 housing units and 37 transient trailer/RV sites. Stovepipe Wells has seven units and six transient trailer/RV sites; Wildrose has three units; Grapevine has 16 units and two transient trailer sites; and Scotty's Castle has five units. Nine additional units are occupied by Caltrans, State Highway Patrol and Natural History Association employees. Grapevine has a severe shortage of housing, which has resulted in employees living at Cow Creek and commuting to Scotty's Castle, over a 60-minute commute. A housing development plan for Grapevine has been initiated by Park staff. Currently, the Park has 22 employment opportunities but no Park housing available. The contractor-conducted housing assessment completed in 1998 concluded that there was a need for an additional 19 housing units to meet current staffing needs. Park management believes there is a need for 76 additional units.

Park management is encouraging certain employees to seek housing outside the Park. Alternate work schedules have been initiated and telecommuting is being considered.

Plan Actions

The development concept plan underway for the Grapevine area will recommend providing housing and replacing the existing trailers for the northern district of the Park. Ongoing trailer replacement with permanent houses will continue.

Permanently placed trailers will never again be allowed at any NPS housing facility where they currently do not exist. Once the trailers at Grapevine are replaced, this policy will be extended to that location. Transient trailers and RVs are allowed in designated NPS areas, but not permanently placed trailers.

Prior to constructing additional housing for employees, the Park will evaluate the location of the housing and make a determination about whether private housing elsewhere 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 Park.

Solid Waste Disposal

The Park landfill near Furnace Creek has been closed to further use and current law and regulations prohibit landfills in parks. Solid waste disposal will continue to be hauled to approved landfills outside the Park.

Landownership and Use

Park Boundary and Authorized Acreage

No changes in the boundary of the Park are proposed. Clerical or drafting corrections may be made to the maps and legal descriptions. During the prolonged debate over the expansion of the Death Valley National Monument and the creation of the Park by the California Desert Protection Act, the boundaries were subjected to considerable scrutiny and public debate. The National Park Service believes a comprehensive examination of potential boundary modifications at this time is unwarranted. The boundary map submitted to Congress in August 1996 reflects an accurate total acreage of 3,396,172 acres for Death Valley National Park.

The National Park Service intends to locate some facilities outside the Park, consistent with the existing management direction and actions proposed in this plan. This will include, but will not be limited to, visitor facilities in Beatty, Baker, and Lone Pine, as well as possibly other communities. It also includes the potential establishment of a satellite office in or around areas east of the Park to provide office space for some employees.

Wilderness

Background

On October 31, 1994, Congress designated approximately 3,158,033 acres (95%) of Death Valley as wilderness. The California Desert Protection Act (sec. 601b) also provides for the potential automatic creation of another 6,840 acres of wilderness along a powerline corridor from Furnace Creek to Stovepipe Wells upon cessation of the powerline use.

In 1964 Congress enacted the Wilderness Act, which [sec.2.(c)] defined wilderness as:

> A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological or other features of scientific, educational, scenic, or historical value (16 U.S.C. 1131).

Plan Actions

In 1994, Congress enacted the California Desert Protection Act, which designated 3,158,038 acres of Death Valley National Park (95% of the Park) as wilderness.

The Wilderness Act (section 4(c)) specifically prohibits the following activities in wilderness: commercial enterprises, permanent roads, temporary roads, use of motor vehicles, use of motorized equipment, use of motorboats, landing of aircraft, mechanical transportation, and structures or installations. Wilderness designation does not mean that existing structures within those areas have to be removed. If consideration is given to removing them, that action is covered by the same policies, regulations, and guidelines, and is subject to the same review and compliance procedures, as are historical structures in non-wilderness areas.

The Wilderness Act (section 5(a) and (b)) provides a right of access to parties recognizably vested in lands within BLM or U.S. Forest Service wilderness boundaries (sections 5 (a) and (b), are not applicable to NPS wilderness) including private landowners, state-owned lands, and valid mining rights and occupancies. These sections provide those owners of nonfederal lands or interests in lands may have a right to traverse wilderness to access these lands. Ranchers (on NPS grazing allotments) will normally be required to access wilderness on foot or horseback, similar to other users. However, certain situations may exist where motorized access is necessary to maintain range developments. These types of access could be considered under section 708 of the California Desert Protection Act that provides for adequate access and reasonable use and enjoyment to owners of nonfederal lands or interests that lie in wilderness. A minimum tool determination will be used prior to granting approval for motorized/mechanical equipment use within wilderness.

Congressional action is needed for any boundary changes to designated wilderness areas.

The California Desert Protection Act modifies some provisions of the Wilderness Act. The following are the key provisions of the act related to wilderness:

- Native Americans may gain access to sacred sites in NPS or BLM wilderness, but such access must be consistent with the Wilderness Act [sec. 705.(a)].
- Federal reserved water rights are explicitly reserved for BLM and NPS wilderness [sec. 706(a)].
- Inholders have rights of adequate access for reasonable use and enjoyment in units of the national park system, including NPS wilderness and BLM wilderness [sec 708].

For each non-emergency entry, the grazing allottee may enter Park wilderness, under certain conditions, with a motorized/ mechanized vehicle or use motorized equipment with permission from the Superintendent. Emergency entry (imminent danger of loss of livestock, severe facility damage, an injured person requiring transport, or a life-threatening situation) with a motorized/mechanized vehicle and/or requiring the use of motorized equipment must be reported before or just after it occurs. Although over 95% of Death Valley is designated as wilderness, about 700 miles of roads (paved and dirt) remain open within this Park (Rothfuss 1996).

The National Park Service will 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 would 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 wilderness/ backcountry plan (in progress) will address specific management actions.

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 administer wilderness lands in the Park with the minimum disturbance to the area or its resources. 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 activities must occur in wilderness, only those actions that will have acceptable impacts will be acceptable.

The Park will use the "minimum tool" concept when proposing to control exotic vegetation within a wilderness area.

The process of delineating final wilderness boundaries for the Park is provided in title VI of the California Desert Protection Act. This process of determining and mapping the S-21 wilderness boundaries is still underway. The legal descriptions have not yet been prepared. 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 3,158,038 acres estimated in section 601 of the act.

The California Desert Protection Act (sec. 601b) provides for an additional 6,840 acres of the Park to become wilderness automatically upon cessation of all uses prohibited by the Wilderness Act and publication of such notice in the *Federal Register* by the Secretary of the Interior. This area is the powerline corridor from Furnace Creek to Stovepipe Wells as depicted in the *1989 General Management Plan*.

The NPS wilderness management policies are based on statutory provisions of the 1916 NPS Organic Act, the 1964 Wilderness Act and the California Desert Protection Act. In addition the Park uses the "Principles for Wilderness Management in the California Desert" for reference. These reference materials were developed in 1995 by the federal managers of the Mojave Desert for informational purposes. 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). The Park staff will work with surrounding agencies to provide the maximum consistency in desert wilderness management.

Land Acquisition

Background

Private lands (other than patented claims) occur in seven areas of the Park and cover about 4,200 acres.

The Statehood Act of 1850 granted to the state of California all unappropriated and surveyed sections 16 and 36. These sections (state school lands) in the Park are being considered for land exchanges with

other federal properties in the state. Most of the state land included in those grants within the old monument boundary has been acquired by the National Park Service through exchange. However, with the recent addition of lands to the Parks, the state of California still holds fee title to 82 parcels totaling 41,340 acres. The state also holds mineral rights on several parcels of land. The California State Lands Commission has requested from the Secretary of the Interior an exchange of state school lands for other surplus federal properties. The Secretary, as specified in section 707 of the California Desert Protection Act, has begun negotiations with the state to finalize the land exchange.

Plan Actions

The National Park Service is required by the USDI policy to prepare a land protection plan for every NPS unit that has nonfederal lands or interests in its authorized boundary. Detailed descriptions of the nonfederal lands and interests are also included. The National Park Service will seek funds to acquire the majority of private lands and interests in the Park based on priorities presented in the "Land Protection Plan." Private land at Furnace Creek and Panamint Springs will be acquired if requested by the owners. Private land in wilderness, habitat for threatened or endangered species, and riparian areas will be considered high priority for purchase. Donations and exchanges of real property from willing sellers will be a priority, and third party acquisitions from willing sellers will be encouraged. Exchange of state school sections in the new lands will continue to be actively exchanged pursuant to the California Desert Protection Act direction.

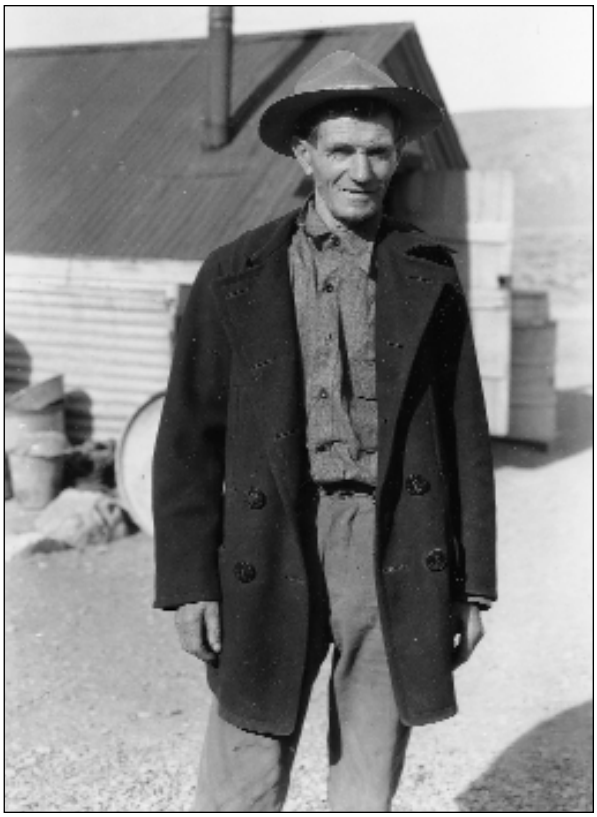
MINERAL DEVELOPMENT ACTIVITIES

Background

About 60% of private lands in Death Valley are patented mining claims. There are 19 patented mining claim groups totaling 6,444 acres. The Park also has approximately 125 unpatented mining claims covering about 2,262 acres. The National Park Service typically conducts a determination of validity on unpatented mining claims when a proposed plan of operation is received from an operator. This process may result in fewer unpatented mining claims in the Park as those that cannot support discovery of a valuable deposit are contested.

Plan Actions

The Park will administer mineral development activities under existing laws and regulations applicable to such activities. The Mining in the Parks Act of



1976 (P.L. 94-429) prescribed that all activities resulting from the exercise of valid existing rights on patented and unpatented mining claims within any area of the national park system shall be subject to regulations developed and administered by the National Park Service. The regulations governing mining activities on all patented and unpatented claims found at 36 CFR Part 9A require operators to file a plan of operations with the National Park Service for all mineral related activities. Proposed mining operations must meet the approval standards provided in the regulations and post a performance bond equivalent to the cost of reclamation before an operation will proceed.

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 would occur at that time. When mining is authorized, full reclamation of the site is required upon cessation of mining activity.

Congress also closed the Park to all new mining claim location and all other forms of appropriation and disposal. Section 305 of the California Desert Protection Act withdrew the Park 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 National Park Service also regulates mineral development on valid nonfederal oil and gas interests in accordance with 36 CFR Part 9B. This involves 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.

The Park will also undertake a sensitive resource analysis based on an objective analysis of physical, biological, cultural and visitor use values relative to projected mining impacts. This analysis will examine potential mineral development scenarios that will be likely to occur on each property based on the deposit, and assuming operator performance standards and specific mitigation will be applied to protect resources and values. The results of this analysis will be used to identify areas of the Park where mineral development will be inconsistent with the mission of the Park and likely mineral development will not be able to meet 36 CFR Part 9A or 9B approval standards. In these areas, acquisition of the mineral rights will be pursued.

Abandoned Mines

The legacy of past mining in the Park has left hundreds of abandoned mine sites with possibly thousands of mine openings and workings. Experience in the old monument lands and preliminary observations on the new lands indicate the problem is a significant land management issue. The 1992 Western Region Directive WR-085, Management of Abandoned Mineral Lands (AML) outlines the framework for a Park AML program. The National Park Service will conduct a comprehensive inventory of all AML sites in the Park to serve as the 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 Bureau of Land Management databases, as well as previous data collected by Park staff. The program goals will include elimination of 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.

Sand and Gravel for Road Maintenance

The use of borrow sources for road maintenance will be evaluated during the preparation of the road management plan. Such use will conform to NPS *Management Policies.*

Cattle Grazing

Background

Cattle have grazed in California's northern and eastern Mojave Desert for well over 100 years. With the signing of the California Desert Protection Act of 1994, Death Valley National Park acquired a portion of four BLM grazing allotments: Eureka Valley, Last Chance, Hunter Mountain, and Lacey-Cactus-McCloud. Eureka Valley and Lacey-Cactus-McCloud have small acreages with no substantial animal unit months. The portions of these allotments in Death Valley have been cancelled. The Last Chance allotment has not been issued a permit since 1996 due to the lack of forage. At the time of the passage of the CDPA, the NPS portion of this permit contained 1,628 AUMs. The Hunter Mountain allotment occurs on both NPS and BLM lands. The NPS portion covers about 86,400 acres and contains 1,105 AUMs.

Plan Actions

No grazing is permitted on the former monument lands. As authorized by the California Desert Protection Act of 1994, the privilege of cattle grazing within the Park shall continue at no more than the October 31, 1994 level and is subject to applicable NPS regulations, policies, and Park management direction.

The animal unit months (AUMs) for each grazing permit in Death Valley National Park at the time of the signing of the California Desert Protection Act (1994) were:

	AUMs
Hunter Mountain	1,105
Last Chance	1,628
Eureka Valley	0
Lacey-Cactus-McCloud	0

No grazing will be permitted on the NPS portions of the Eureka Valley or Lacey-Cactus-McCloud BLM allotments. No permit has been issued on the Last Chance allotment since 1996 due to the lack of forage. The NPS considers this area of the Park to be permanently retired from grazing. The NPS will work with the permittee on the Hunter Mountain allotment to develop grazing practices and levels, not to exceed 1,105 AUMs through development of a grazing management plan. This area has a defined season of use from November 20 to June 30.

The AUMs as of the date of the current planning effort (2000) within Death Valley National Park is:

	AUMs
Hunter Mountain	1,105
Last Chance	0
Eureka Valley	0
Lacey-Cactus-McCloud	0

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 Park. Death Valley's management goal is to achieve the permanent retirement of grazing. If ranchers notify the Superintendent of their willingness to sell base property, the Superintendent would immediately notify the Secretary of the Interior of the priority acquisition and request Land and Water Conservation funding from Congress. The Park will also work with conservation organizations to purchase grazing permits from willing sellers. Once a grazing permit was purchased and the new owners (i.e. conservation organizations) request retirement, it will be permanently retired. Also, if an allotment were placed in a nonuse status, after a period of five years, it will be permanently retired.

Where permits are acquired or retired, ranch developments could eventually be removed and site restoration undertaken.

The NPS grazing management plan will evaluate all significant resources in the permit area. Those resources include sensitive plants, habitats, other unusual plant assemblages, sensitive animals, and cultural resources. The plan will include how many cattle and the time and place where these cattle will be allowed to graze, seasonal restrictions, the placement/movement of mineral blocks and water facilities as a tool to alter cattle use patterns, pasture rotation, etc. The plan will also establish a monitoring protocol to allow frequent evaluations of the Park resources to evaluate efficacy of the management practices. Management changes will be made accordingly.

Fees will be based on BLM schedules and NPS Special Use Permit costs. Grazing fees will be used for Park resource management and restoration projects. Restrictions on grazing use will be based on resource conditions, visitor safety and wilderness values. The Superintendent has the discretion to lower grazing use levels, as necessary to respond to resource protection needs, visitor safety, or wilderness values. Use levels will be based, in the interim, on existing permit plans, and if changed, will be based on scientific data, and on water, forage, protection of threatened and endangered species, riparian areas, water availability, and soils.

In regard to access, ranchers will normally be required to access wilderness on foot or horseback, similar to other users. However, certain situations may exist where motorized access is necessary to maintain range developments. These types of access could be considered under section 708 of the California Desert Protection Act that provides for adequate access and reasonable use and enjoyment to owners of nonfederal lands or interests that lie in wilderness. A minimum tool determination will be used prior to granting approval for motorized/mechanical equipment use within wilderness. Death Valley National Park will follow the Wilderness Act and the California Desert Protection act in the administration of the Park's wilderness areas.

Permit area fences will be inspected to ensure they provide for movement of wildlife. In cases where movements may be impeded modifications would be required.

If the grazing permittee seek to acquire new water rights for the permit area, NPS *Management Policies* require that all rights to the use of water diverted to or used on federal lands within national parks will be perfected in the name of the United States.

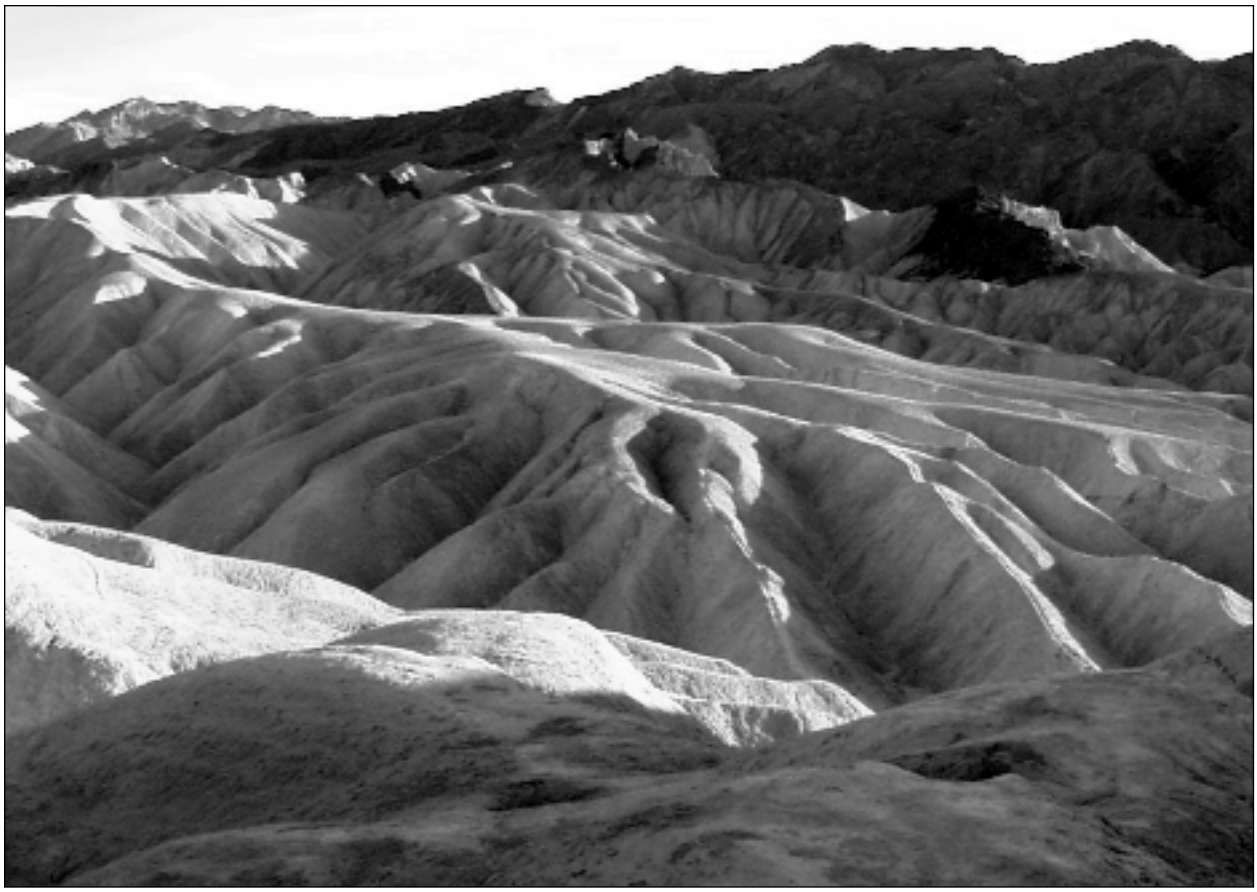
Under this plan three of four permits have been permanently retired. The National Park Service will allow cattle grazing of 1,105 animal unit months on the Hunter Mountain permit area and until such time as all grazing is retired, subject to the considerations indicated above.

OPERATIONAL COSTS

The existing Park operating base in FY 01 is $6.8 million and existing staffing is 118. In order to fully implement the proposed action over the 15-year life of the plan, and assuming that above proposed activities are undertaken and visitor use of the Park increases, an additional 37 staff will be needed. This will require approximately $1.7 million per year added to the Park's operating base to cover salaries, benefits, and administrative expenses (space, utilities, vehicles, etc.).

The estimated costs of acquiring private lands and mining claims under this alternative 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 the land protection alternative selected will be prepared at a later date by the Washington office.

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 Park setting, seasonal constraints, labor availability, and wage rates. The costs are based on 2000 values.



Maps

1. Region
2. Place Names
3. Park Boundary and Preliminary Wilderness
4. Saline Valley Warm Springs
5. Landownership
6. Mining Claims and Inactive Mines
7. Cattle Grazing Permit

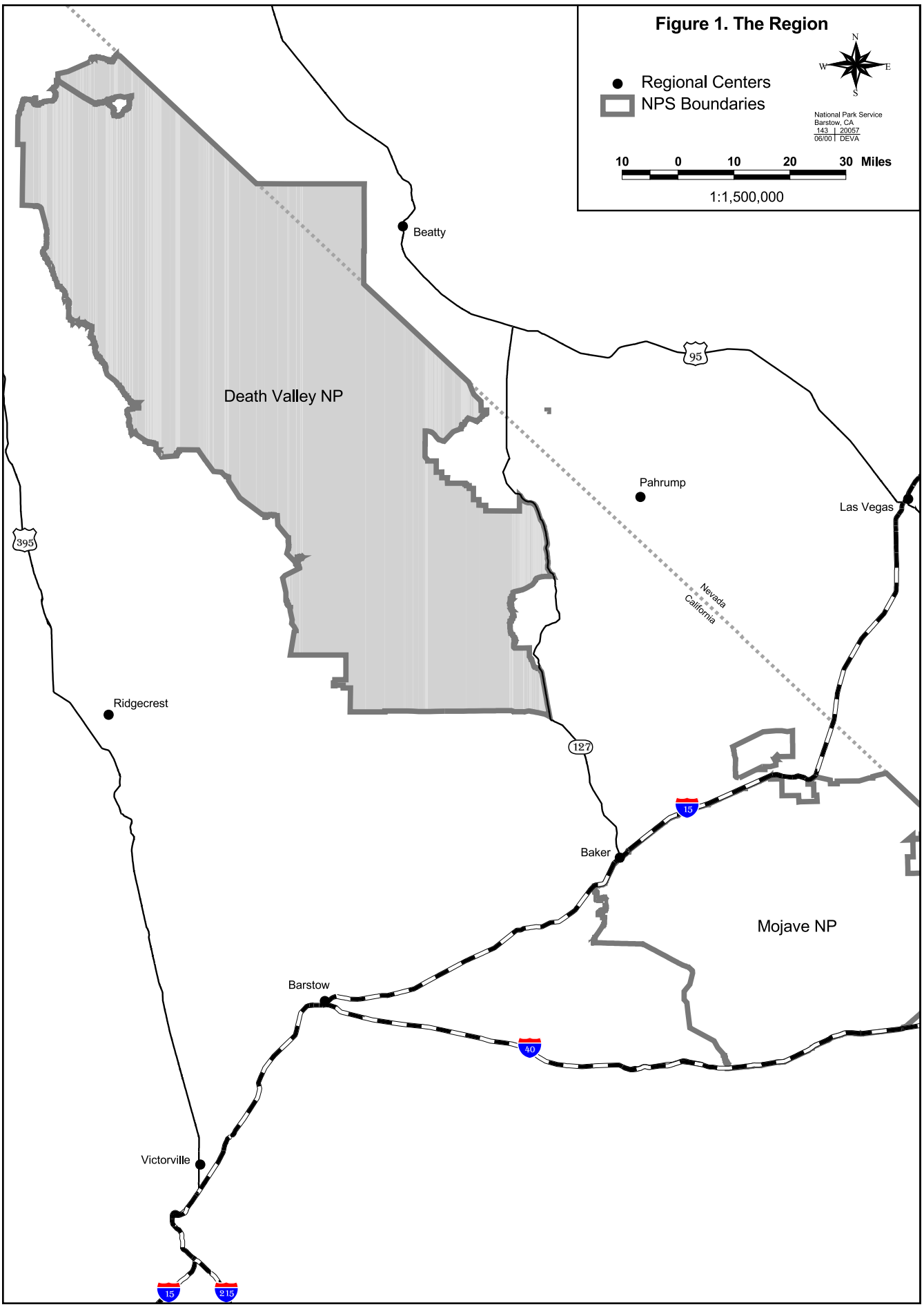


Figure 1. The Region
Regional Centers
NPS Boundaries
N
W
E
S
National Park Service
Barstow, CA
143 | 20057
06/00 | DEVA
10 0 10 20 30 Miles
1:1,500,000
Beatty
Death Valley NP
95
Pahrump
Las Vegas
395
Nevada
California
Ridgecrest
127
15
Baker
Mojave NP
Barstow
40
Victorville
15
215

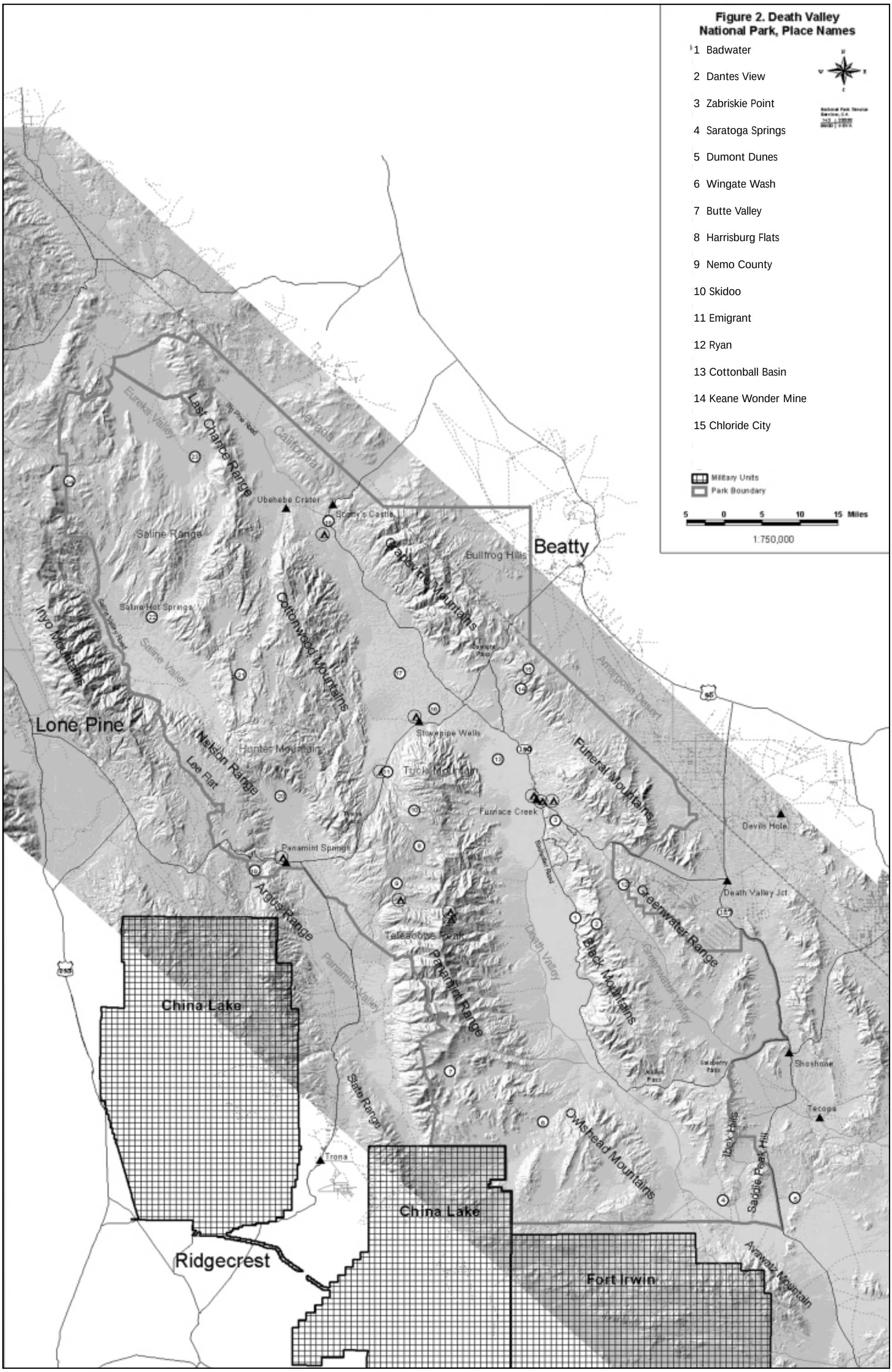


Figure 2. Death Valley National Park, Place Names
1 Badwater
2 Dantes View
3 Zabriskie Point
4 Saratoga Springs
5 Dumont Dunes
6 Wingate Wash
7 Butte Valley
8 Harrisburg Flats
9 Nemo County
10 Skidoo
11 Emigrant
12 Ryan
13 Cottonball Basin
14 Keane Wonder Mine
15 Chloride City
Military Units
Park Boundary
5 0 5 10 15 Miles
1:750,000
Beatty
Lone Pine
Ridgecrest
China Lake
Fort Irwin
Eureka Valley
Last Chance Range
Nevada
California
Ubehebe Crater
Scotty's Castle
Saline Range
Bullfrog Hills
Grapevine Mountains
Cottonwood Mountains
Inyo Mountains
Saline Hot Springs
Saline Valley
Nelson Range
Lee Flat
Hunter Mountain
Stovepipe Wells
Tucki Mountain
Funeral Mountains
Amargosa Desert
Furnace Creek
Devils Hole
Panamint Springs
Argus Range
Telescope Peak
Panamint Range
Death Valley
Black Mountains
Greenwater Range
Death Valley Jct
Shoshone
Tecopa
Owlshead Mountains
Ibex Hills
Saddle Peak Hill
Avawatz Mountain
Slate Range
Trona

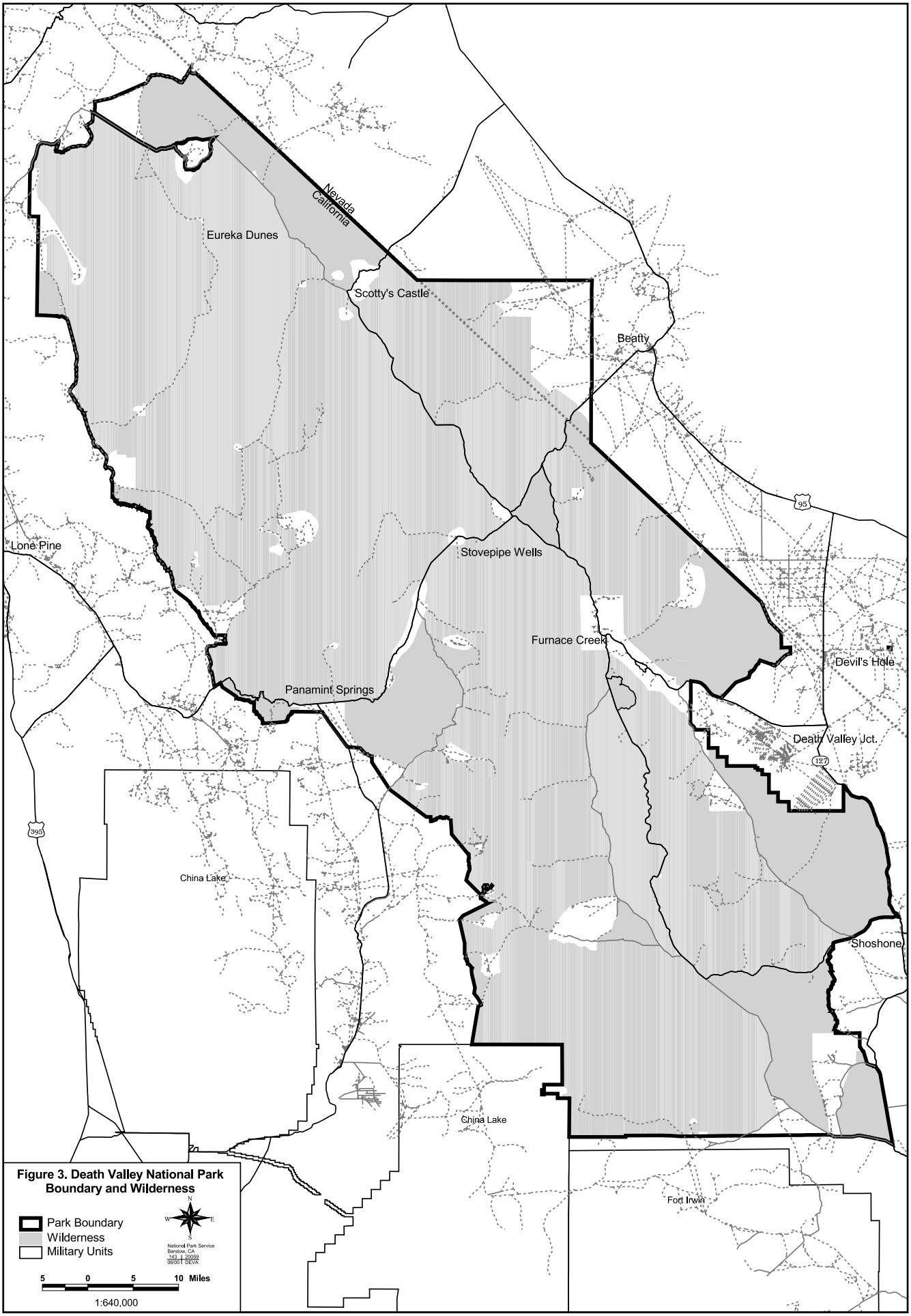


Figure 3. Death Valley National Park Boundary and Wilderness

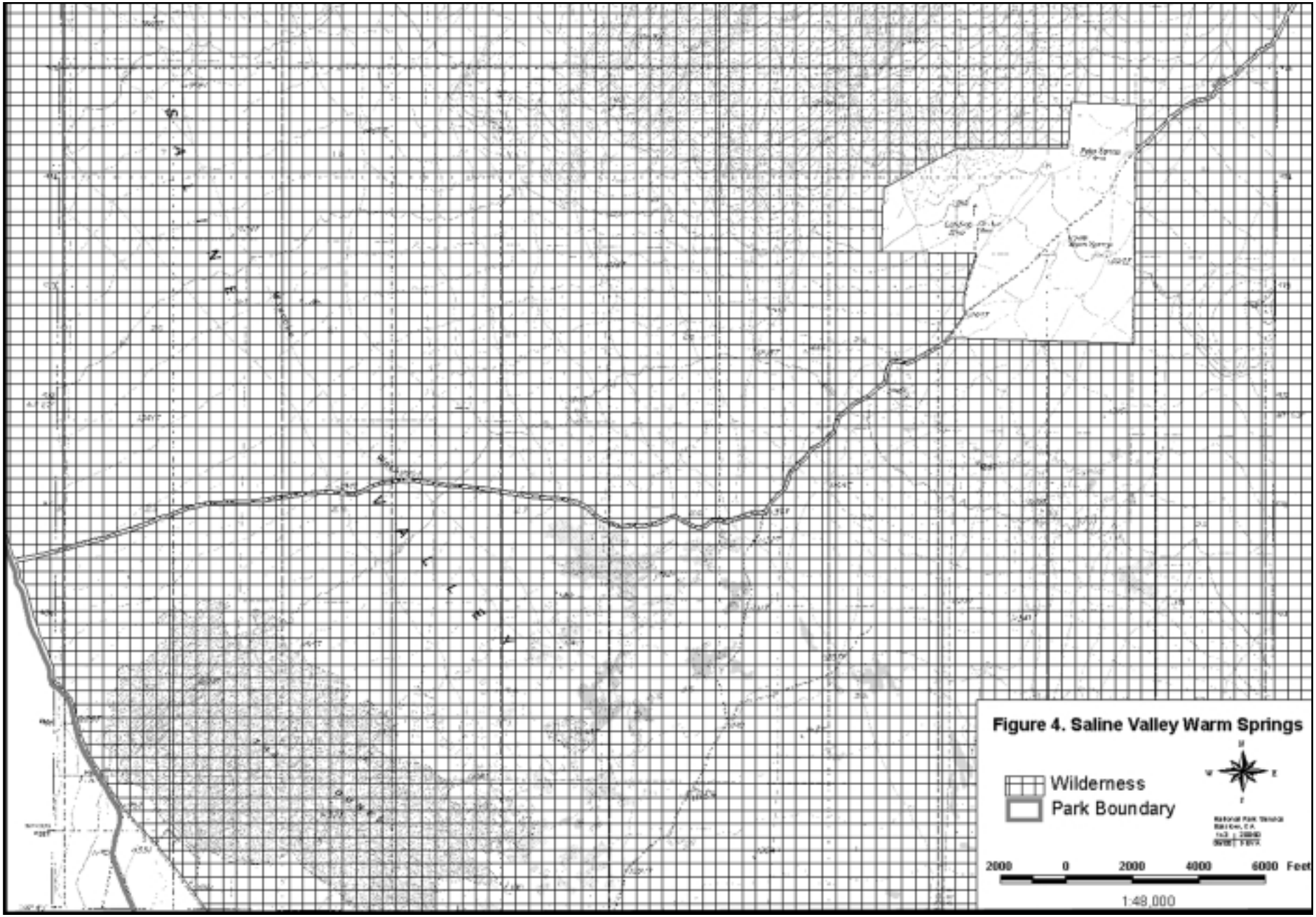
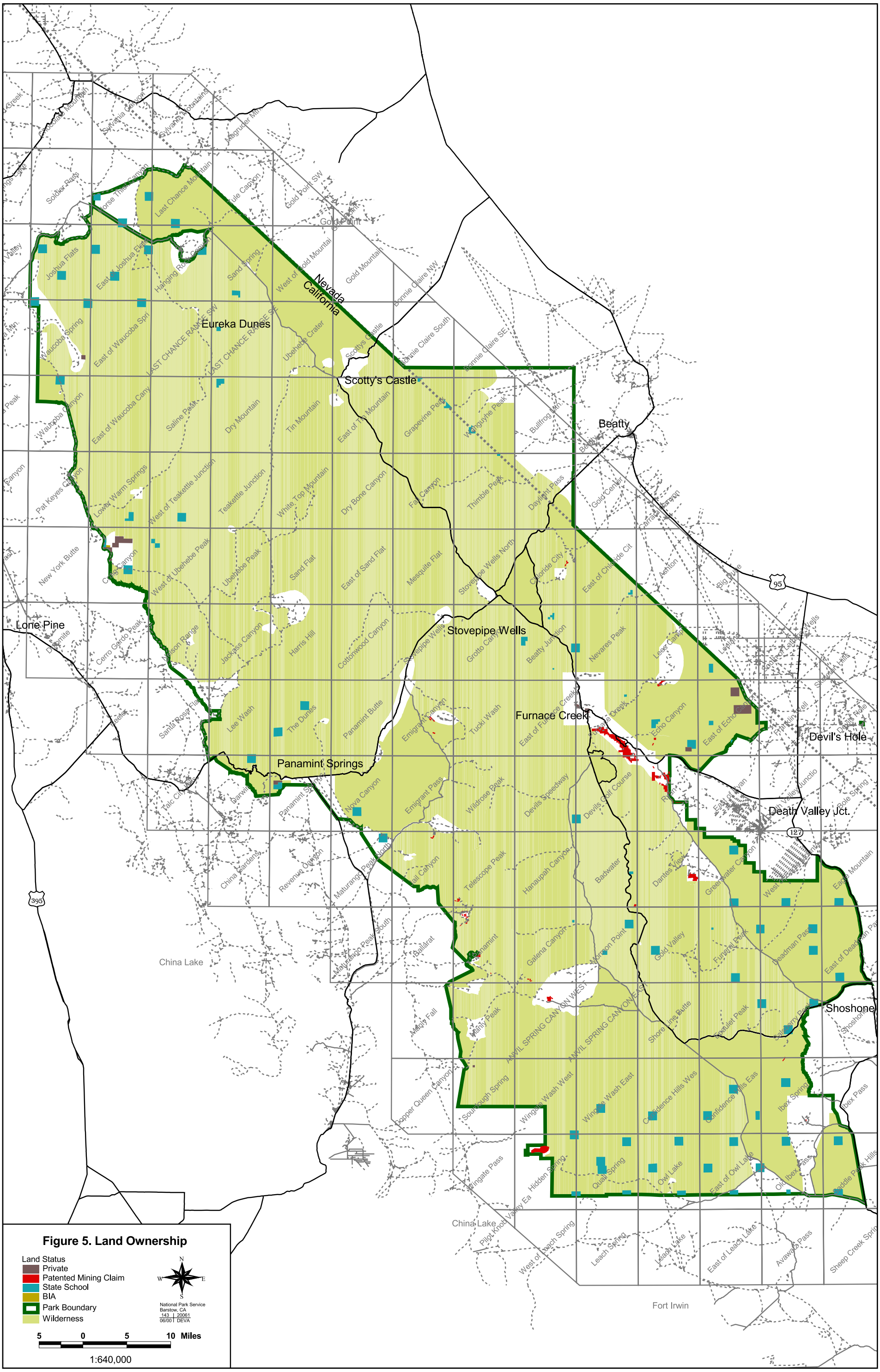


Figure 4. Saline Valley Warm Springs


Nevada
California
Eureka Dunes
Scotty's Castle
Beatty
Lone Pine
Stovepipe Wells
Furnace Creek
Devil's Hole
Panamint Springs
Death Valley Jct.
China Lake
Shoshone
Fort Irwin
Figure 5. Land Ownership
Land Status
Private
Patented Mining Claim
State School
BIA
Park Boundary
Wilderness
National Park Service
Barstow, CA
143 | 20061
06/01 | DEVA
5 0 5 10 Miles
1:640,000

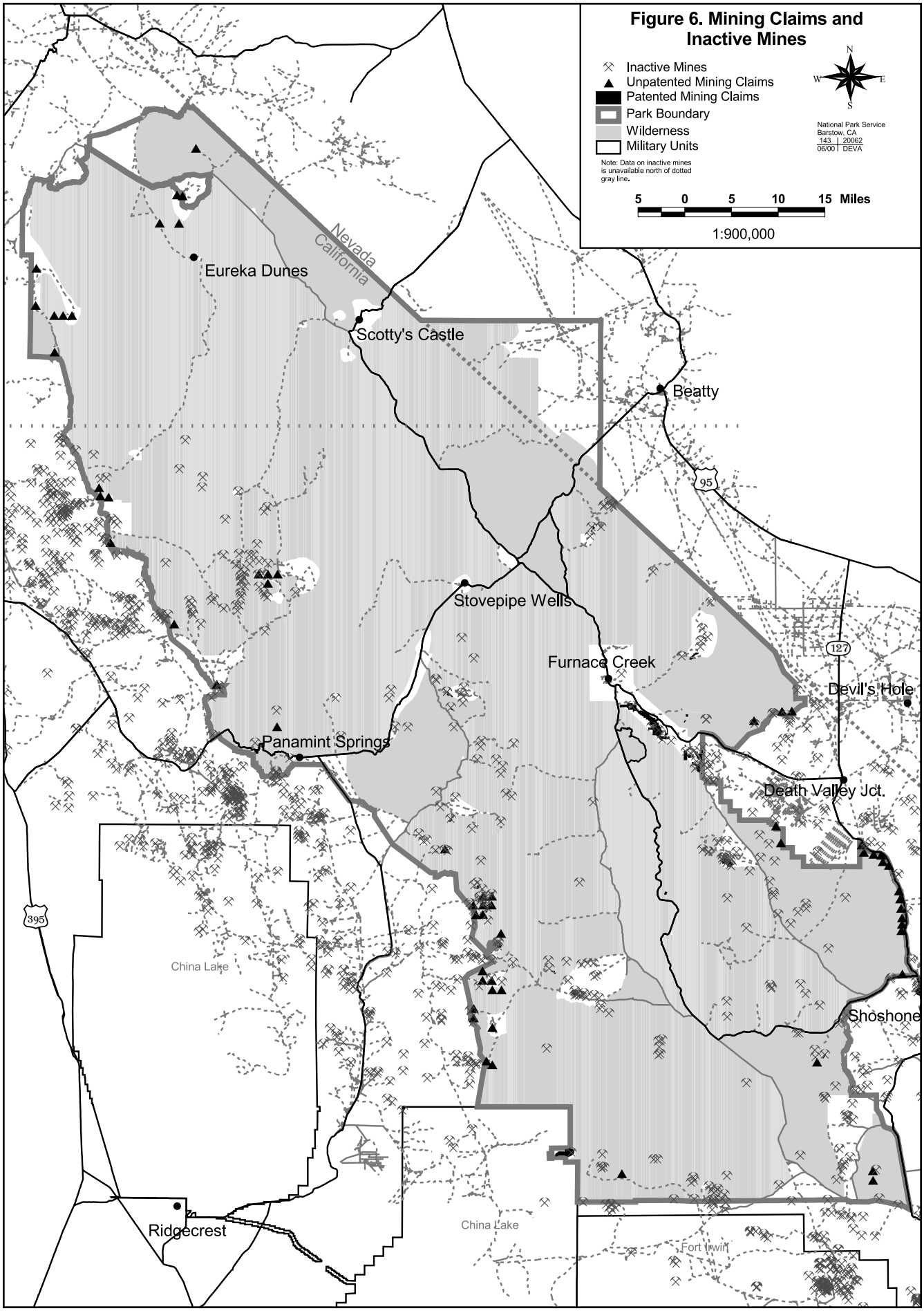


Figure 6. Mining Claims and Inactive Mines
Inactive Mines
Unpatented Mining Claims
Patented Mining Claims
Park Boundary
Wilderness
Military Units
Note: Data on inactive mines is unavailable north of dotted gray line.
N
W
E
S
National Park Service
Barstow, CA
143 | 20062
06/00 | DEVA
5 0 5 10 15 Miles
1:900,000
Nevada
California
Eureka Dunes
Scotty's Castle
Beatty
95
Stovepipe Wells
Furnace Creek
127
Devil's Hole
Panamint Springs
Death Valley Jct.
395
China Lake
Shoshone
Ridgecrest
China Lake
Fort Irwin

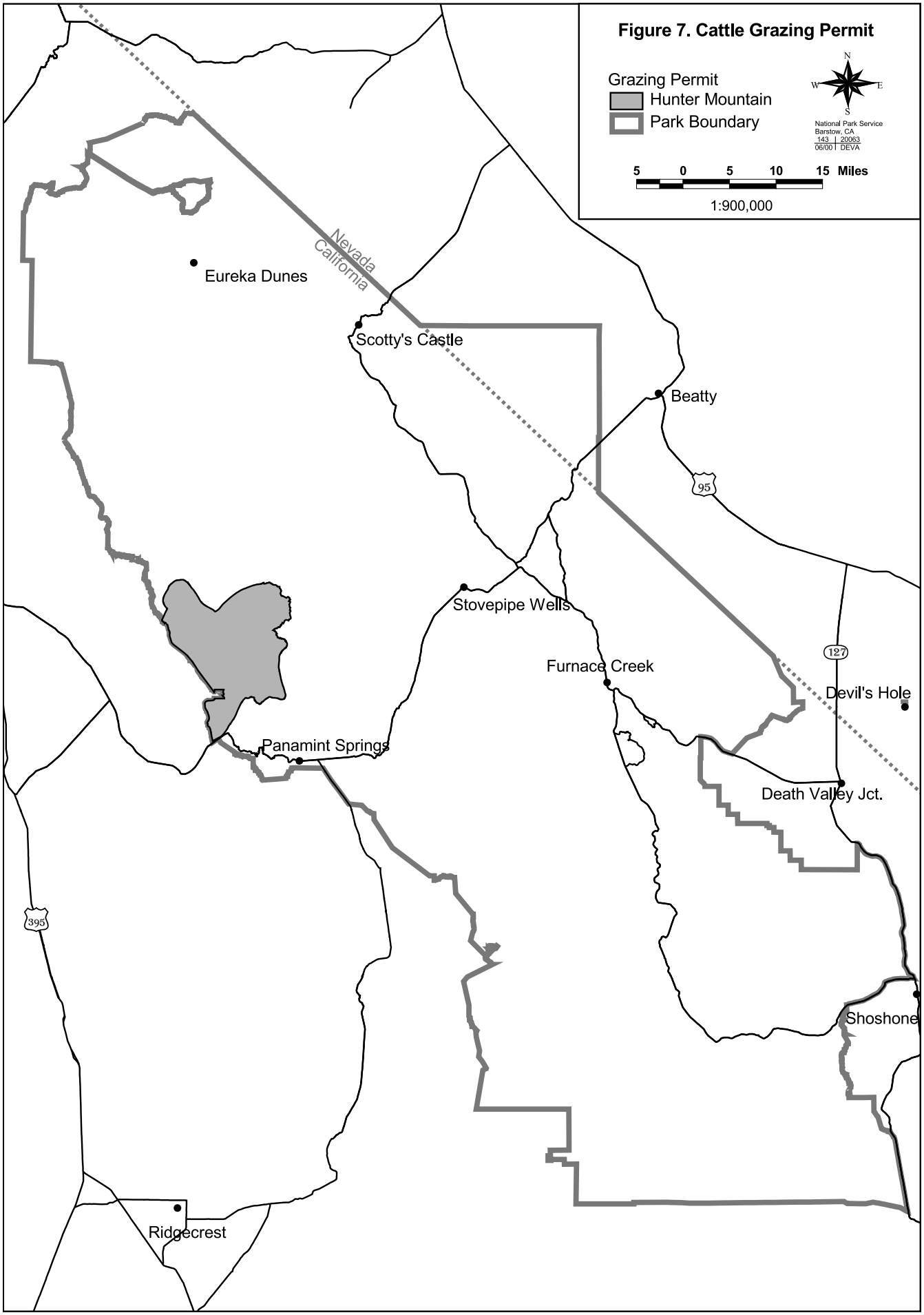


Figure 7. Cattle Grazing Permit
Grazing Permit
Hunter Mountain
Park Boundary
N
W
E
S
National Park Service
Barstow, CA
143 | 20063
06/00 | DEVA
5 0 5 10 15 Miles
1:900,000
Nevada
California
Eureka Dunes
Scotty's Castle
Beatty
95
Stovepipe Wells
Furnace Creek
127
Devil's Hole
Panamint Springs
Death Valley Jct.
395
Shoshone
Ridgecrest

Tables

Table 1: 1994 Water Use at Death Valley National Park
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Table 7: Average Daily Traffic Levels (1995)
Table 8: Proposed Action Cost Summary

TABLE 1: 1994 WATER USE AT DEATH VALLEY NATIONAL PARK.

Water System	Average Annual Use (Millions of Gallons)	Average Annual Use (acre feet)	Comments
Cow Creek	58.400	179.2	Unmetered
Furnace Creek	42.828	131.4	Meter broken in 1992
Wildrose	0.748	2.3	Unmetered
Stovepipe Wells	0.131	0.4	Meter removed 1993
Scotty's Castle	72.237	221.7	Sep 89- Apr 94 data
Grapevine	3.561	10.9	Unknown type and period
Mesquite Campground	1.041	3.2	Unmetered
AMFAC at Stovepipe Wells	1.280	3.9	Jan 90 – Mar 94
AMFAC at Furnace Creek	611.971	1,878	Sep 89 – Mar 94
Timbisha Village	12.572	38.6	Dec 91 – Mar 94
Totals	**804.768**	**2,470**	

(Source: Provisional data from NPS Files)

TABLE 2: BLM'S WILD HORSE AND BURRO HERD MANAGEMENT AREAS FOR HERDS ADJACENT TO DEATH VALLEY NATIONAL PARK

Herd Management Areas (HMA)	BLM's Herd Management Levels (revised*)	BLM's October 1996 Population Estimate**
Piper	82 burros and 17 horses	5 burros and 54 horses
Lee Flat	9 burros (70%)***	60 burros
Centennial	0 burros and 160 horses (5%)	116 burros and 280 horses
Chicago Valley	27 burros and 27 horses (5%)	6 burros and 9 horses
Total	118 burros and 204 horses	187 burros and 343 horses

* Herd numbers are adjusted to correspond with decrease in herd management area boundaries due to added lands to Death Valley National Park. For example, about 70 % of the Lee Flat HMA is now within Death Valley National Park; therefore 30% of the former herd size (30 animals) equals the revised BLM herd management level, nine animals in this case (.30 x 30 = 9).

** BLM estimates includes animals on BLM and on adjacent NPS lands.

*** Actual percentage of herd management area now within Death Valley National Park.

TABLE 3: BURRO AND WILD HORSE POPULATION DATA

	Horses	Burros
BLM's desertwide pre-California Desert Protection Act herd management levels	267	843
Post-CDPA herd management levels (does not include burros and horses on NPS land)	247	307
Actual estimated California desert population*	411	2,343

* BLM 1996 population estimates

TABLE 4: DEATH VALLEY NATIONAL PARK ANNUAL VISITATION

Year	1985	1990	1995	1997	1998	1999	2000
Visitation	576,400	691,000	1,109,400	1,222,762	1,222,848	1,273,830	1,222,980

TABLE 5: DEATH VALLEY NATIONAL PARK VISITOR ACTIVITIES

Activities	July 1990 Visitor Survey	March 1994 Backcountry Survey	September 1996 Visitor Survey
Viewing the scenery	96%	97%	96%
Took photographs	91%	NA	92%
Day hiked on trails		74%	
Day hiked cross-county	NA	33%	
Day Hiked <2 hours	32%		42%
Day Hiked >2 hours	5%		7%
Visits to mine or historic sites	37%	73%	37%
Toured Scotty's Castle			18%
Picnicked	NA	45%	
Went Shopping	50%	NA	
Car camped overnight		23%	
Drove on dirt road in non 4x4 vehicle		45%	26%
Drove on dirt road in 4x4 vehicle		44%	6%
Rode bike on dirt road		10%	

Blank cells indicate that no information was available on this topic for that particular survey.

TABLE 6: DEATH VALLEY NATIONAL PARK VISITOR PROFILE

Visitor Profile	July 1990 Visitor Survey	March 1994 Backcountry Survey	September 1996 Visitor Survey
California Resident	21%	59%	32%
Foreign Country	72%	9%	69%
Repeat visitor	19%	56%	18%
First time visitor	82%	44%	82%
Average age	41 years	43 years	43 years
Average length of stay	72% stayed less than 1 day	48% stayed 2–3 days	66% stayed less than 1 day

TABLE 7: AVERAGE DAILY TRAFFIC LEVELS (1995)

State Highway	Peak Hour *	Peak Month	Annual Average
Route 127, San Bernardino/Inyo County line	110	660	550
Route 178, between Junction 127 and Stateline	95	890	750
Route 190, junction of Route 136 east of Owens Lake	110	950	550
Route 190, Death Valley Junction	120	860	680

*Peak hour is the hour during which the heaviest volume of traffic occurs on a roadway.

TABLE 8: PROPOSED ACTION COST SUMMARY

Proposed Activity	Gross Construction Costs	Pre-Design Costs & Supplemental Services	Design Costs	Total Project Costs	Phase
Remove feral burros (approx. 400 animals @ $1000/burro); fencing approx. 50 miles; census every 3-5 years @ $40,000/census	N/A	N/A	N/A	$400,000; $1,800,000; $40,000	I
Site improvements at multiple sites to protect resources (fences, boardwalks, wayside exhibits, vault toilets)	$1,060,000	$60,000	$90,000	$1,210,000	I
New wayside exhibits (total project cost)	N/A	N/A	N/A	$200,000	I
Furnace Creek visitor center rehabilitation	$4,720,000	$280,000	$400,000	$5,400,000	I
Develop office space in Beatty for 15-30 employees	N/A	N/A	N/A	$100,000	I
New displays for information stations at Stovepipe/Beatty/Shoshone	$175,000	$10,000	$15,000	$200,000	I
Entrance stations & reception centers (displays, parking, kiosks, walkways) on east and west 190	$1,000,000	$200,000	$200,000	$1,400,000	I
Campground redesign and improvements (Sunset, Furnace Creek, Texas)	$1,600,000	$100,000	$100,000	$1,800,000	I
Saline Valley Site Management Plan (planning and compliance)	N/A	N/A	N/A	$200,000	I
Grapevine Development Concept Plan (housing, roads, community center, RV pads, maintenance and curation buildings, water/sewer system)	$5,900,000	$350,000	$500,000	$6,750,000	II
Scotty's Castle historic studies and landscape reports; development concept plan	N/A	N/A	N/A	$500,000	I
Stovepipe Development Concept Plan (convert paved airstrip to gravel, redesign old campground, landscape)	$472,000	$28,000	$40,000	$540,000	I
Wildrose Development Concept Plan (planning and compliance)	N/A	N/A	N/A	$250,000	I
Backcountry campsite improvements (fire rings, tables)	$130,000	$8,000	$11,000	$149,000	II
Restoration of abandoned mine sites (estimated 300 sites at $15,000 each)	$5,310,000	$315,000	$450,000	$6,075,000	III
TOTALS	**$20,367,000**	**$1,351,000**	**$1,806,000**	**$27,014,000**	

Appendixes

A. California Desert Protection Act
B. Timbisha Shoshone Homeland Act
C. Record of Decision
D. Northern and Eastern Mojave Project Time Line

APPENDIX A: CALIFORNIA DESERT PROTECTION ACT (PUBLIC LAW 103-433)

Sections Relevant to Death Valley National Park

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 III--DEATH VALLEY NATIONAL PARK

SEC. 301. FINDINGS.

The Congress hereby finds that-
(1) proclamations by Presidents Herbert Hoover in 1933 and Franklin Roosevelt in 1937 established and expanded the Death Valley National Monument for the preservation of the unusual features of scenic, scientific, and educational interest therein contained;
(2) Death Valley National Monument is today recognized as a major unit of the National Park System, having extraordinary values enjoyed by millions of visitors;
(3) the monument boundaries established in the 1930's exclude and thereby expose to incompatible development and inconsistent management, contiguous Federal lands of essential and superlative natural, ecological, geological, archeological, paleontological, cultural, historical ad wilderness values;
(4) Death Valley National Monument should be substantially enlarged by the addition of all contiguous Federal lands of national park caliber and afforded full recognition and statutory protection as a National Park; and
(5) the wilderness within Death Valley should receive maximum statutory protection by designation pursuant to the Wilderness Act.

SEC. 302. ESTABLISHMENT OF DEATH VALLEY NATIONAL PARK.

There is hereby established the Death Valley National Park (hereinafter in this title referred to as the "park") as generally depicted on twenty-three maps entitled "Death Valley National Park Boundary and Wilderness-Proposed", numbered in the title one through twenty-three, and dated July 1993 or prior, which shall be on file and available for public inspection in the offices of the Superintendent of the park and the Director of the National Park Service, Department of the Interior. The Death Valley National Monument is hereby abolished as such, the lands and interests therein are hereby incorporated within and made part of the new Death Valley National Park, and any funds available for purposes of the monument shall be available for purposes of the park.

SEC. 303. TRANSFER AND ADMINISTRATION OF LANDS.

Upon enactment of this title, the Secretary shall transfer the lands under the jurisdiction of the Bureau of Land Management depicted in the maps described in section 302 of this title, without consideration, to the administrative jurisdiction of the National Park Service for administration as part of the National Park System, and the boundary of the park shall be adjusted accordingly. The Secretary shall administer the areas added to the park by this title in accordance 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).

SEC. 304. MAPS AND LEGAL DESCRIPTION.

Within six months after the enactment of this title, the Secretary shall file maps and a legal description of the park 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 302. The maps and legal description shall be on file and available for public inspection in the offices of the Superintendent of the park and the Director of the National Park Service, Department of the Interior.

SEC. 305. WITHDRAWAL.

Subject to valid existing rights, all Federal lands within the park 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. 306. GRAZING.

(a) IN GENERAL- The privilege of grazing domestic livestock on lands within the park shall continue to be exercised at no more than the current level, subject to applicable laws and National Park Service regulations.

(b) SALE OF PROPERTY- 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 park, provided agreement can be reached concerning the terms and conditions of such acquisition. Any such base property which is located outside the park 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. 307. DEATH VALLEY NATIONAL PARK 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 Death Valley National Park.

(b)(1) The advisory commission shall include an elected official for each County within which any part of the park is located, a representative of the owners of private properties located within or immediately adjacent to the park, 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. 308. BOUNDARY ADJUSTMENT.

In preparing the maps and legal descriptions required by sections 304 and 602 of this Act, the Secretary shall adjust the boundaries of the Death Valley National Park and Death Valley National Park Wilderness so as to exclude from such National Park and Wilderness the lands generally depicted on the map entitled "Porter Mine (Panamint Range) Exclusion Area" dated June 1994.

TITLE V-MOJAVE NATIONAL PRESERVE

(*The following section included under Title V is applicable to all wilderness areas and park units designated or enlarged by the CDPA.)

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:

(1) Death Valley National Park Wilderness, comprising approximately three million one hundred fifty-eight thousand thirty-eight acres, as generally depicted on twenty-three maps entitled "Death Valley National Park Boundary and Wilderness", numbered in the title one through twenty-three, and dated October 1993 or prior, and three maps entitled "Death Valley National Park Wilderness", numbered in the title one through three, and dated July 1993 or prior, and which shall be known as the Death Valley Wilderness.

(2) Joshua Tree National Park Wilderness Additions, comprising approximately one hundred thirty-one thousand seven hundred and eighty acres, as generally depicted on four maps entitled "Joshua Tree National Park Boundary and Wilderness-Proposed", numbered in the title one through four, and dated October 1991 or prior, and which are hereby incorporated in, and which shall be deemed to be a part of the Joshua Tree Wilderness as designated by Public Law 94-567.

(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.

(b) POTENTIAL WILDERNESS- Upon cessation of all uses prohibited by the Wilderness Act and publication by the Secretary in the Federal Register of notice of such cessation, potential wilderness, comprising approximately six thousand eight hundred and forty acres, as described in "1988 Death Valley National Monument Draft General Management Plan Draft Environmental Impact Statement" (hereafter in this title referred to as "Draft Plan") and as generally depicted on map in the Draft Plan entitled "Wilderness Plan Death Valley National Monument", dated January 1988, and which shall be deemed to be a part of the Death Valley Wilderness as designated in paragraph (a)(1). Lands identified in the Draft Plan as potential wilderness shall be managed by the Secretary insofar as practicable as wilderness until such time as said lands are designated as 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.

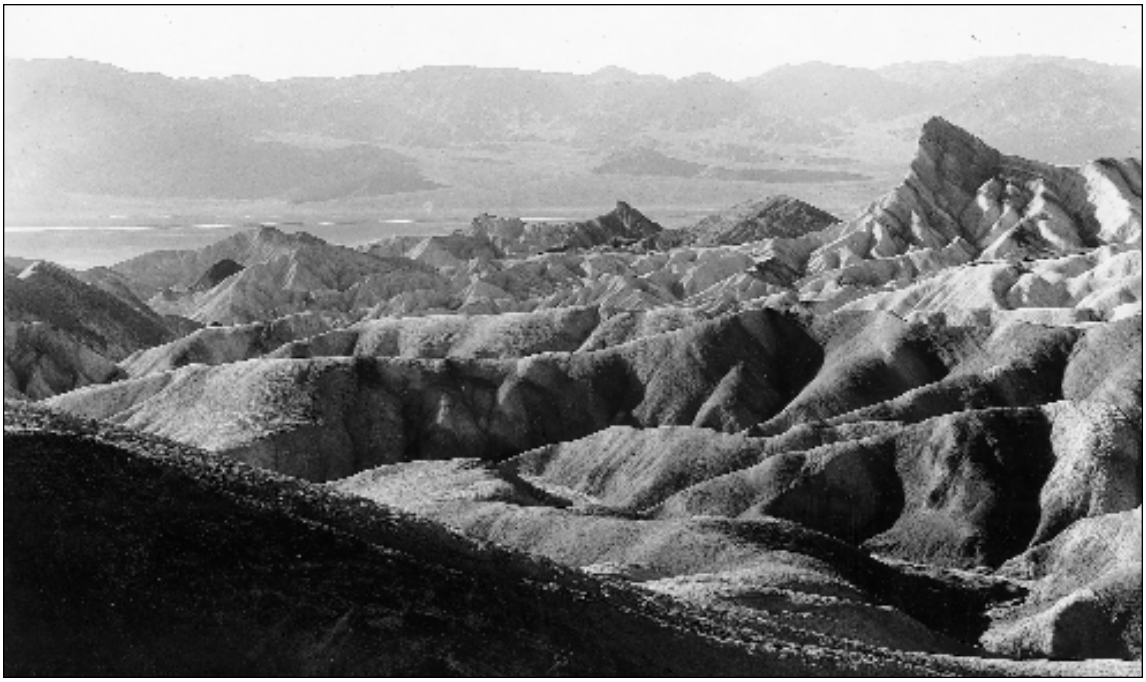
(b) SPECIAL AIRSPACE- Nothing in this Act, the Wilderness Act, or other land management laws generally applicable to the new units of the National Park or Wilderness Preservation Systems (or any additions to existing units) designated by this Act, shall restrict or preclude the designation of new units 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: TIMBISHA SHOSHONE HOMELAND ACT (P.L. 106-423)

One Hundred Sixth Congress

of the

United States of America

AT THE SECOND SESSION

Begun and held at the City of Washington on Monday, the twenty-fourth day of January, two thousand

An Act

To provide to the Timbisha Shoshone Tribe a permanent land base within its aboriginal homeland, 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.

This Act may be cited as the "Timbisha Shoshone Homeland Act".

SEC. 2. FINDINGS.

Congress finds the following:

(1) Since time immemorial, the Timbisha Shoshone Tribe has lived in portions of California and Nevada. The Tribe's ancestral homeland includes the area that now comprises Death Valley National Park and other areas of California and Nevada now administered by the Bureau of Land Management.

(2) Since 1936, the Tribe has lived and governed the affairs of the Tribe on approximately 40 acres of land near Furnace Creek in the Park.

(3) The Tribe achieved Federal recognition in 1983 but does not have a land base within the Tribe's ancestral homeland.

(4) Since the Tribe commenced use and occupancy of the Furnace Creek area, the Tribe's membership has grown. Tribal members have a desire and need for housing, government and administrative facilities, cultural facilities, and sustainable economic development to provide decent, safe, and healthy conditions for themselves and their families.

(5) The interests of both the Tribe and the National Park Service would be enhanced by recognizing their coexistence on the same land and by establishing partnerships for compatible land uses and for the interpretation of the Tribe's history and culture for visitors to the Park.

(6) The interests of both the Tribe and the United States would be enhanced by the establishment of a land base for the Tribe and by further delineation of the rights and obligations of each with respect to the Furnace Creek area and to the Park as a whole.

SEC. 3. PURPOSES.

Consistent with the recommendations of the report required by section 705(b) of the California

Desert Protection Act of 1994 (Public Law 103-433; 108 Stat. 4498), the purposes of this Act are--

(1) to provide in trust to the Tribe land on which the Tribe can live permanently and govern the Tribe's affairs in a modern community within the ancestral homeland of the Tribe outside and within the Park;

(2) to formally recognize the contributions by the Tribe to the history, culture, and ecology of the Park and surrounding area;

(3) to ensure that the resources within the Park are protected and enhanced by--

(A) cooperative activities within the Tribe's ancestral homeland; and

(B) partnerships between the Tribe and the National Park Service and partnerships involving the Bureau of Land Management;

(4) to ensure that such activities are not in derogation of the purposes and values for which the Park was established;

(5) to provide opportunities for a richer visitor experience at the Park through direct interactions between visitors and the Tribe including guided tours, interpretation, and the establishment of a tribal museum and cultural center;

(6) to provide appropriate opportunities for economically viable and ecologically sustainable visitor-related development, by the Tribe within the Park, that is not in derogation of the purposes and values for which the Park was established; and

(7) to provide trust lands for the Tribe in 4 separate parcels of land that is now managed by the Bureau of Land Management and authorize the purchase of 2 parcels now held in private ownership to be taken into trust for the Tribe.

SEC. 4. DEFINITIONS.

In this Act:

(1) PARK- The term "Park" means Death Valley National Park, including any additions to that Park.

(2) SECRETARY- The term "Secretary" means the Secretary of the Interior or the designee of the Secretary.

(3) TRIBAL- The term "tribal" means of or pertaining to the Tribe.

(4) TRIBE- The term "Tribe" means the Timbisha Shoshone Tribe, a tribe of American Indians recognized by the United States pursuant to part 83 of title 25, Code of Federal Regulations (or any corresponding similar regulation or ruling).

(5) TRUST LANDS- The term "trust lands" means those lands taken into trust pursuant to this Act.

SEC. 5. TRIBAL RIGHTS AND AUTHORITY ON THE TIMBISHA SHOSHONE HOMELAND.

(a) IN GENERAL- Subject to valid existing rights (existing on the date of enactment of this Act), all right, title, and interest of the United States in and to the lands, including improvements and appurtenances, described in subsection (b) are declared to be held in trust by the United States for the benefit of the Tribe. All maps referred to in subsection (b) shall be on file and available for public inspection in the appropriate offices of the National Park Service and the Bureau of Land Management.

(b) PARK LANDS AND BUREAU OF LAND MANAGEMENT LANDS DESCRIBED-

(1) IN GENERAL- The following lands and water shall be held in trust for the Tribe pursuant to subsection (a):

(A) Furnace Creek, Death Valley National Park, California, an area of 313.99 acres for community development, residential development, historic restoration, and visitor-related economic development, depicted as Tract 37 on the map of Township 27 North, Range 1 East, of the San Bernardino Meridian, California, numbered Map #1 and dated December 2, 1999, together with 92 acre feet per annum of surface and ground water for the purposes associated with the transfer of such lands. This area shall include a 25-acre, nondevelopment zone at the north end of the area and an Adobe Restoration zone containing several historic adobe homes, which shall be managed by the Tribe as a tribal historic district.

(B) Death Valley Junction, California, an area of approximately 1,000 acres, as generally depicted on the map entitled "Death Valley Junction, California", numbered Map #2 and dated April 12, 2000, together with 15.1 acre feet per annum of ground water for the purposes associated with the transfer of such lands.

(C)(i) Centennial, California, an area of approximately 640 acres, as generally depicted on the map entitled "Centennial, California", numbered Map #3 and dated April 12, 2000, together with an amount of ground water not to exceed 10 acre feet per annum for the purposes associated with the transfer of such lands.

(ii) If the Secretary determines that there is insufficient ground water available on the lands described in clause (i) to satisfy the Tribe's right to ground water to fulfill the purposes associated with the transfer of such lands, then the Tribe and the Secretary shall, within 2 years of such determination, identify approximately 640 acres of land that are administered by the Bureau of Land Management in that portion of Inyo County, California, to the north and east of the China Lake Naval Weapons Center, to be a mutually agreed upon substitute for the lands described in clause (i). If the Secretary determines that sufficient water is available to fulfill the purposes associated with the transfer of the lands described in the preceding sentence, then the Tribe shall request that the Secretary accept such lands into trust for the benefit of the Timbisha Shoshone Tribe, and the Secretary shall accept such lands, together with an amount of water not to exceed 10 acre feet per annum, into trust for the Tribe as a substitute for the lands described in clause (i).

(D) Scotty's Junction, Nevada, an area of approximately 2,800 acres, as generally depicted on the map entitled "Scotty's Junction, Nevada", numbered Map #4 and dated April 12, 2000, together with 375.5 acre feet per annum of ground water for the purposes associated with the transfer of such lands.

(E) Lida, Nevada, Community Parcel, an area of approximately 3,000 acres, as generally depicted on the map entitled "Lida, Nevada, Community Parcel", numbered Map #5 and dated April 12, 2000, together with 14.7 acre feet per annum of ground water for the purposes associated with the transfer of such lands.

(2) WATER RIGHTS- The priority date of the Federal water rights described in subparagraphs (A) through (E) of paragraph (1) shall be the date of enactment of this Act, and such Federal water rights shall be junior to Federal and State water rights existing on such date of enactment. Such Federal water rights shall not be subject to relinquishment, forfeiture or abandonment.

(3) LIMITATIONS ON FURNACE CREEK AREA DEVELOPMENT-

(A) DEVELOPMENT- Recognizing the mutual interests and responsibilities of the Tribe and the National Park Service in and for the conservation and protection of the resources in the area described in paragraph (1), development in the area shall be limited to--

(i) for purposes of community and residential development--

(I) a maximum of 50 single-family residences; and

(II) a tribal community center with space for tribal offices, recreation facilities, a

multipurpose room and kitchen, and senior and youth facilities;

(ii) for purposes of economic development--

(I) a small-to-moderate desert inn; and

(II) a tribal museum and cultural center with a gift shop; and

(iii) the infrastructure necessary to support the level of development described in clauses (i) and (ii).

(B) EXCEPTION- Notwithstanding the provisions of subparagraph (A)(ii), the National Park Service and the Tribe are authorized to negotiate mutually agreed upon, visitor-related economic development in lieu of the development set forth in that subparagraph if such alternative development will have no greater environmental impact than the development set forth in that subparagraph.

(C) RIGHT-OF-WAY- The Tribe shall have a right-of-way for ingress and egress on Highway 190 in California.

(4) LIMITATIONS ON IMPACT ON MINING CLAIMS- Nothing in this Act shall be construed as terminating any valid mining claim existing on the date of enactment of this Act on the land described in paragraph (1)(E). Any person with such an existing mining claim shall have all the rights incident to mining claims, including the rights of ingress and egress on the land described in paragraph (1)(E). Any person with such an existing mining claim shall have the right to occupy and use so much of the surface of the land as is required for all purposes reasonably necessary to mine and remove the minerals from the land, including the removal of timber for mining purposes. Such a mining claim shall terminate when the claim is determined to be invalid or is abandoned.

(c) LEGAL DESCRIPTIONS- Not later than 1 year after the date of enactment of this Act, the Secretary shall file a legal description of the areas described in subsection (b) with the Committee on Resources of the House of Representatives and with the Committee on Indian Affairs and the Committee on Energy and Natural Resources of the Senate. Such legal description shall have the same force and effect as if the information contained in the description were included in that subsection except that the Secretary may correct clerical and typographical errors in such legal description and in the maps referred to in the legal description. The legal description shall be on file and available for public inspection in the offices of the National Park Service and the Bureau of Land Management.

(d) ADDITIONAL TRUST RESOURCES- The Secretary may purchase from willing sellers the following parcels and appurtenant water rights, or the water rights separately, to be taken into trust for the Tribe:

(1) Indian Rancheria Site, California, an area of approximately 120 acres, as generally depicted on the map entitled "Indian Rancheria Site, California" numbered Map #6 and dated December 3, 1999.

(2) Lida Ranch, Nevada, an area of approximately 2,340 acres, as generally depicted on the map entitled "Lida Ranch" numbered Map #7 and dated April 6, 2000, or another parcel mutually agreed upon by the Secretary and the Tribe.

(e) SPECIAL USE AREAS-

(1) IN GENERAL- The areas described in this subsection shall be nonexclusive special use areas for the Tribe, subject to other Federal law. Members of the Tribe are authorized to use these areas for low impact, ecologically sustainable, traditional practices pursuant to a jointly established management plan mutually agreed upon by the Tribe, and by the National Park Service or the Bureau of Land Management, as appropriate. All maps referred to in paragraph (4) shall be on file and available for public inspection in the offices of the National Park Service and Bureau of Land Management.

(2) RECOGNITION OF THE HISTORY AND CULTURE OF THE TRIBE- In the special use areas, in recognition of the significant contributions the Tribe has made to the history, ecology, and culture of the Park and to ensure that the visitor experience in the Park will be enhanced by the increased and continued presence of the Tribe, the Secretary shall permit the Tribe's continued use of Park resources for traditional tribal purposes, practices, and activities.

(3) RESOURCE USE BY THE TRIBE- In the special use areas, any use of Park resources by the Tribe for traditional purposes, practices, and activities shall not include the taking of wildlife and shall not be in derogation of purposes and values for which the Park was established.

(4) SPECIFIC AREAS- The following areas are designated special use areas pursuant to paragraph (1):

(A) MESQUITE USE AREA- The area generally depicted on the map entitled "Mesquite Use Area" numbered Map #8 and dated April 12, 2000. The Tribe may use this area for processing mesquite using traditional plant management techniques such as thinning, pruning, harvesting, removing excess sand, and removing exotic species. The National Park Service may limit and condition, but not prohibit entirely, public use of this area or parts of this area, in consultation with the Tribe. This area shall be managed in accordance with the jointly established management plan referred to in paragraph (1).

(B) BUFFER AREA- An area of approximately 1,500 acres, as generally depicted on the map entitled "Buffer Area" numbered Map #8 and dated April 12, 2000. The National Park Service shall restrict visitor use of this area to protect the privacy of the Tribe and to provide an opportunity for the Tribe to conduct community affairs without undue disruption from the public.

(C) TIMBISHA SHOSHONE NATURAL AND CULTURAL PRESERVATION AREA- An area that primarily consists of Park lands and also a small portion of Bureau of Land Management land in California, as generally depicted on the map entitled "Timbisha Shoshone Natural and Cultural Preservation Area" numbered Map #9 and dated April 12, 2000.

(5) ADDITIONAL PROVISIONS- With respect to the Timbisha Shoshone Natural and Cultural Preservation Area designated in paragraph (4)(C)--

(A) the Tribe may establish and maintain a tribal resource management field office, garage, and storage area, all within the area of the existing ranger station at Wildrose (existing as of the date of enactment of this Act);

(B) the Tribe also may use traditional camps for tribal members at Wildrose and Hunter Mountain in accordance with the jointly established management plan referred to in paragraph (1);

(C) the area shall be depicted on maps of the Park and Bureau of Land Management that are provided for general visitor use;

(D) the National Park Service and the Bureau of Land Management shall accommodate access by the Tribe to and use by the Tribe of--

(i) the area (including portions described in subparagraph (E)) for traditional cultural and religious activities, in a manner consistent with the purpose and intent of Public Law 95-341 (commonly known as the "American Indian Religious Freedom Act") (42 U.S.C. 1996 et seq.); and

(ii) areas designated as wilderness (including portions described in subparagraph (E)), in a manner consistent with the purpose and intent of the Wilderness Act (16 U.S.C. 1131 et seq.); and

(E)(i) on the request of the Tribe, the National Park Service and the Bureau of Land Management shall temporarily close to the general public, 1 or more specific portions of the area in order to protect the privacy of tribal members engaging in traditional cultural

and religious activities in those portions; and

(ii) any such closure shall be made in a manner that affects the smallest practicable area for the minimum period necessary for the purposes described in clause (i).

(f) ACCESS AND USE- Members of the Tribe shall have the right to enter and use the Park without payment of any fee for admission into the Park.

(g) ADMINISTRATION- The trust lands shall constitute the Timbisha Shoshone Reservation and shall be administered pursuant to the laws and regulations applicable to other Indian trust lands, except as otherwise provided in this Act.

SEC. 6. IMPLEMENTATION PROCESS.

(a) GOVERNMENT-TO-GOVERNMENT AGREEMENTS- In order to fulfill the purposes of this Act and to establish cooperative partnerships for purposes of this Act, the National Park Service, the Bureau of Land Management, and the Tribe shall enter into government-to-government consultations and shall develop protocols to review planned development in the Park. The National Park Service and the Bureau of Land Management are authorized to enter into cooperative agreements with the Tribe for the purpose of providing training on the interpretation, management, protection, and preservation of the natural and cultural resources of the areas designated for special uses by the Tribe in section 5(e)(4).

(b) STANDARDS- The National Park Service and the Tribe shall develop mutually agreed upon standards for size, impact, and design for use in planning, resource protection, and development of the Furnace Creek area and for the facilities at Wildrose. The standards shall be based on standards for recognized best practices for environmental sustainability and shall not be less restrictive than the environmental standards applied within the National Park System at any given time. Development in the area shall be conducted in a manner consistent with the standards, which shall be reviewed periodically and revised as necessary.

Appendix C. Record of Decision

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

RECORD OF DECISION

GENERAL MANAGEMENT PLAN
ABBREVIATED FINAL ENVIRONMENTAL IMPACT STATEMENT

Death Valley National Park
California/Nevada

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 Death Valley National Park. 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 redesignated Death Valley and Joshua Tree National Monuments as national parks and created Mojave National Preserve. 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.

The significant expansion of Death Valley National Park (formerly Monument) with 1.3 million additional acres and the designation of over 95% of the park's lands as legal wilderness created a clear need for the development of a new general management plan (GMP) to update and replace a 1989 GMP written for the Monument. This 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, 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 park. The goal of the general management plan is to determine how best to manage the 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 park. Alternatives that would require legislation before they could be implemented, or are contrary to specific Congressional direction or National Park Service regulations or policy, or require vast sums of funding to implement, would create unreasonable expectations on the part of the public and would not serve the need of creating an implementable management plan for this unit. Therefore, only alternatives that explore the range of options for managing uses mandated by Congress 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, California. 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 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.

In September 1998 the first *Death Valley National Park 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 Death Valley Advisory Commission to obtain their feedback, concerns, and direction regarding the development of the general management plan. Death Valley received approximately 600 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. A notice of availability was published in the *Federal Register* by the Environmental Protection Agency on September 6, 2000 (FR 54062-54064). 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 47 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.

After consideration of substantive 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 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 action**, 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. 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 park 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 Death Valley National Park, given the varying mandates and diverse public opinion. The proposed general management plan envisions Death Valley National Park 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 park to perpetuate the sense of discovery and adventure that currently exists. This means limiting new development inside the park. The

management plan envisions adjacent "gateway" communities as providing increased 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 extending the current park management strategies and policies to the new park lands and putting in place the necessary planning and management components to adequately address the wilderness designation of 95% of the park lands. The plan also fulfills the NPS mission of resource preservation and provision of visitor services while achieving other mandates from Congress. The proposal also states a goal of seeking funding to purchase private property within the park from willing sellers.

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 new general management plan). It does not mean that no agency management actions would be taken. Death Valley National Park would continue managing the park according to policies and strategies identified in the 1989 General Management Plan. Other management practices would be accomplished according to applicable federal regulations, NPS servicewide management policies, and subject specific reference manuals and guidelines (see Policy and Planning section).

Under the No Action alternative, the park would follow the existing 1983 Proposed Natural and Cultural Resource Management Plan and Final EIS. Existing staff are now working on inventory and monitoring of natural and cultural resources in *all* park lands according to the existing plan and NPS policies. This work includes monitoring and inventorying cultural and natural resources, monitoring regional water rights, addressing historic mining hazards, removing feral burros, preparing an annual strategic plan, and monitoring air quality. Many of these resource actions in the new park lands are reactive to concerns that have arisen rather than part of an ongoing 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 (updated water systems, new vault toilets, new picnic tables, etc.). There have been numerous infrastructure repairs and stabilizations to existing structures. Maintenance of the park roads in the new park lands has added a significant burden to the maintenance and visitor protection staff with little or no additional park funding. No significant changes in existing recreation use would occur under this alternative. 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 park or otherwise incompatible with the CDPA.

The optional approach (**Alternative 3**) is similar to the proposed action, except as discussed below. This alternative identifies the closing and restoration to a natural condition of the Chicken Strip airstrip at Saline Valley. This action would adversely affect those people who visit the area by airplane. This alternative also proposes closing the historic Emigrant campground because of potential flood hazards. All areas within the Eureka-Saline wilderness road corridor would be open for roadside camping. Designated car camping sites would be established in the area of the Saline Valley warm springs.

BASIS FOR DECISION

The proposed general management plan provides overall direction for the management of park resources, facilities and development, and use of the Park. Alternative 1 presents a logical, systematic and proactive approach to management of the Park in compliance with NPS laws, regulations and policies.

The rationale for selection of this alternative over the no action (Alternative 2) is based on the environmental impacts that would be lessened by seeking funds and implementing activities identified in the proposed plan. Public opinion also helped formulate the NPS preferred approach over Alternative 3. In particular, preserving the natural quiet and sounds associated with the physical and biological resources of the park, management of wilderness for maximum statutory protection as afforded by the California

Desert Protection Act, the funding of the full removal of feral burros and interpretive information to educate the public on desert ecosystems and protection measures were identified as key issues for the park to address.

Protection and Enhancement of Natural and Cultural Resources

The proposed general management plan identifies proactive goals and strategies to inventory, document and, where possible, protect 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 Death Valley. The plan also strives to protect water resources and water rights by seeking to restore damaged natural water sources and protect 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 recovery strategies for the Devils Hole pupfish and endangered and threatened species associated with the Eureka Dunes system.

Enhance Visitor Experience

Alternative 1 provides for enhanced interpretation of key subjects in Death Valley including geological processes and geographical relationships; the historical, prehistoric, and Native American record; and desert ecosystems. Certain cultural resource sites that are easily accessible and historically important would be treated as significant interpretive stops for the visiting public. The park would continue to seek additional ways to improve the living history program or other methods of interpreting Scottys Castle. Working with the Timbisha tribe, the interpretation of prehistoric and contemporary Native American cultures would be integrated into parkwide interpretive themes, focusing on human adaptation to the desert environment. To ensure the protection of especially fragile natural and cultural values, resource management specialists, interpretive planners, and designers would work together to develop ways for visitors to see the resources without causing unacceptable damage.

Alternative 1 would emphasize providing interpretative and orientation information to visitors prior to their arrival in the park through a variety of methods including informational kiosks and entrance stations at key locations on the park's boundaries. The park would also emphasize contacts through the internet and the park's website, brochures, satellite information centers, and other emerging technology.

The park will seek out and foster partnerships with local communities and interest groups to develop support for the park and its mission. These partnerships should further outreach and education for the park, lend support to resource initiatives, and generate funding for park needs such as renovation of the outdated park visitor center.

Provide Effective Operations

Alternative 1 would support moving some administrative, resource management, and visitor services out of the park to neighboring communities. This would not impact the limited resources and infrastructure within the park such as water, sewage, and other infrastructure already in place. Alternative 1 also supports the removal of trailers from the park and there would be no replacement of permanent trailers for park housing within the park. The Northern Death Valley Implementation Plan would deal with replacement of housing currently situated at Grapevine to an area outside of the park. This alternative supports the mission of the park and service rather than Alternative 2 which would continue to locate administrative and operational functions within the park with associated development and impact to park resources and lands.

In summary, Alternative 1 includes the most actions that are major and beneficial to the natural

resources of Death Valley more beneficial to cultural resources than other alternatives. This alternative additionally provides the greatest opportunities for visitor enjoyment, appreciation, and learning opportunities regarding park resources. It is also the most responsive alternative to public input received during scoping and alternative development.

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 Death Valley National Park 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 Death Valley National Park 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 Death Valley National Park'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 Death Valley National Park. 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 and opportunities for their enjoyment; 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 Death Valley 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 Death Valley National Park 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 may seem contrary to the NPS preservation mission (e.g. grazing, mining), Congress specifically provides for these activities (under NPS regulation) in Death Valley 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 the one remaining cattle grazing permit so that park resources are protected. The proposed actions included in this alternative would establish an overall management approach that would allow activities to occur in the park 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 Death Valley National Park.

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 *Death Valley National Park 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 Death Valley. Alternative 1 implements recovery measures for the threatened Devils Hole pupfish, protection and recovery measures for the Eureka Dunes system and associated critical habitat, the protection of the desert tortoise, fully removes exotic feral burros, and presents strategies for management of grazing and mining. Alternative 1 also best reflects the expressed interests of the public in limiting development in Death Valley 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 Death Valley National Park. Alternative 2 would not result in the same level of environmental protection and restoration for natural and cultural resources as the other alternatives. Management of the park 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 Death Valley.

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 removal and restoration of the Chicken Strip airstrip in Saline Valley, the designation of campsites at Saline Valley, and allowing roadside camping along the Eureka-Saline wilderness road corridor. These actions could result in adverse impacts on archeological and ethnographic resources. 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. In aggregate, Alternative 1 best achieves the six conditions prescribed under Section 101 of NEPA. While some of the actions in other alternatives may be similar to Alternative 1 in their effect and consequence, Alternative 1: (1) provides the highest level of protection of natural and cultural resources while concurrently attaining the widest range of 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 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 and Amargosa Valley, 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, and in 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 and 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 posted on the internet at 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 (Death Valley National Park, Mojave National Preserve, 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 the 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, California 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 notifying the California and Nevada State Historic Preservation Officers (SHPO) 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 21, 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 March 7, 1996, Team Leader Dennis Schramm, Death Valley National Park Superintendent Dick Martin, and Cultural Resources Specialist Linda Greene met with representatives of the Timbisha Shoshone Tribe at Death Valley. A follow-up meeting with tribal leaders was held at their offices in Death Valley on April 28, 1997. The purpose of these meetings was to initiate government-to-government relationships for the planning effort. The tribe was briefed on the scope and status of the planning effort and discussed issues.

Extensive government-to-government consultations have been conducted with the Timbisha Shoshone Tribe regarding land use matters. These consultations have resulted in the "Timbisha Shoshone Homeland" draft report (1999), the *Draft Legislative Environmental Impact Statement, Timbisha Shoshone Homeland* (2000) and a *Final Legislative Environmental Impact Statement - Timbisha Shoshone Homeland* (November 2000). On November 1, 2000, the Timbisha Shoshone Homeland Act was established with the signing of Public Law 106-423.

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 might be potentially affected by the proposed action. On August 28, 1998, the NPS submitted a letter to the USFWS Ventura, California Field Office and on June 15, 1999, the NPS submitted a letter to the USFWS Reno, Nevada 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. On January 31, 2001 the park notified USFWS in Ventura it wanted to amend its earlier request to initiate consultation. In this letter the park advised USFWS of its conclusion in the revised DEIS of a "may effect, but not adversely effect" for any listed species, and asked for their concurrence. The USFWS notified the park in July 2001 that they could not concur with this conclusion, and that they would

instead issue a biological opinion. The USFWS - Ventura, California and USFWS - Reno, Nevada acknowledged our request to re-initiate consultation in a letter dated **April 25, 2000**. On July 24, 2001, the USFWS, Ventura, California signed a Biological Opinion (1-8-00-F-326) regarding the federally threatened desert tortoise (*Gopherus agassizii*) and the endangered southwestern willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (*Vireo bellii pusillus*), Eureka Valley evening-primrose (*Oenothera californica* spp. *Eurekensis*), and Eureka Valley dune grass (*Swallenia alexandrae*). On August 14, 2001, the USFWS, Reno, Nevada signed a Biological Opinion (1-5-99-F-455) regarding the endangered Devils Hole pupfish (*Cyprinodon diabolis*) on the *Abbreviated Final EIS/GMP*.

Public Workshops and Comment Opportunities

In September 1998 the first *Death Valley National Park 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 Death Valley Advisory Commission to obtain their feedback, concerns, and direction regarding the development of the general management plan. Death Valley received approximately 600 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. A notice of availability was published in the *Federal Register* by the Environmental Protection Agency 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 substantive public comments on the revised DEIS/GMP, the National Park Service decided to prepare an *Abbreviated Final Environmental Impact Statement / General Management Plan* (FEIS/GMP), dated June 2001. A Notice of Availability announcing the release of this document was published in the *Federal Register* by the Environmental Protection Agency 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.

The park received five comment letters during the 30-day no-action period following the release of the *FEIS/GMP*. The comments expressed opinions and have already been addressed in the abbreviated *FEIS/GMP*. The park will respond to the following comments that were of substantive nature but will not change the language and content of the *FEIS/GMP*. The park received a comment that states: close the Titus Canyon road during the summer due to the proximity of the road to some spring areas and associated sheep habitat. The park responds that there has been no conclusive research or evidence that indicates that by keeping the road open during the summer months there have been any negative impacts on the Desert Bighorn Sheep populations associated with this area of the park. The park has hired a wildlife biologist and plans to develop short and long range monitoring programs of the park's Desert Bighorn Sheep populations. The park will continue to provide the opportunity for park visitors to experience this extraordinary area of the park throughout the year until scientific investigation proves it is detrimental to the sheep population.

Another comment letter focused on grazing activities in the park. Relative to grazing levels or use of an allotment and the associated water developments, one commentator stated that "livestock tanks and troughs are an integral part of a grazing allotment and should remain if utilization by livestock continues" (with no removal of tanks and troughs if use is decreased or moved). The park responds that given the provisions of the California Desert Protection Act, which provides that grazing allotments shall continue to be exercised at "no more than the current level" established prior to the Act, and subject to reasonable regulations, policies and practices. *Current* range facilities will remain in place unless identifiable negative impacts occur in the short term. Any impacts to resources will be considered in a grazing management plan that is being developed by the park, along with an assessment of impacts to park resources and recommendations addressing those impacts.

It should be noted that three out of the four grazing allotments that existed prior to the establishment of Death Valley National Park have been retired and that the park will work to restore those retired allotments to natural conditions. The commentator also noted that the Bureau of Land Management (BLM) had developed an Allotment Management Plan (AMP) for the Hunter permit within the boundaries of Death Valley National Park, but the plan was never fully implemented. The park responds that while we agree that a BLM AMP had been developed prior to the park's establishment, it was never implemented. The park will develop a grazing management plan that adequately assesses all park resources that may be impacted by grazing activities.

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 Death Valley National Park 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:

Signed: Patricia L. Neubacher **Dated:** 9/27/01

Appendix D. 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.
April 1999	"Timbisha Shoshone Homeland" draft report released for review.
April 2000	Draft Legislative Environmental Impact Statement, Timbisha Shoshone Homeland released for review.
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.
November 2000	Final Legislative Environmental Impact Statement, Timbisha Shoshone Homeland released for review.
November 1, 2000	Timbisha Shoshone Homeland Act signed. Three hundred acres in Death Valley National Park are transferred to the Tribe.
June 22, 2001	Abbreviated Final Environmental Impact Statements / General Management Plans released and notice published in Federal Register by EPA.
September 27, 2001	Record of Decision on Death Valley's Final Environmental Impact Statement/ General Management Plan signed.
March 26, 2002	Federal Register Notice of Record of Decision Approval published.

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Acronyms

AML = Abandoned Mineral Lands

ASMIS = Archeological Sites Management Inventory System

AUM = Animal Unit Month

BIA = Bureau of Indian Affairs

BLM = Bureau of Land Management

Caltrans = California Department of Transportation

CCC = Civilian Conservation Corps

CDF&G = California Department of Fish and Game

CDPA = California Desert Protection Act

CFR = Code of Federal Regulations

CNPS = California Native Plant Society

DOD = Department of Defense

EIS = Environmental Impact Statement

FWS = Fish and Wildlife Service

GMP = General Management Plan

HMA = Herd Management Area

HML = Herd Management Level

LPP = Land Protection Plan

MOA = Military Operations Area

NEMO = Northern and Eastern Mojave

NEPA = National Environmental Policy Act

NPS = National Park Service

ROD = Record of Decision

ROW = Right-of-Way

USDI = U.S. Department of the Interior

USGS = U.S. Geological Survey

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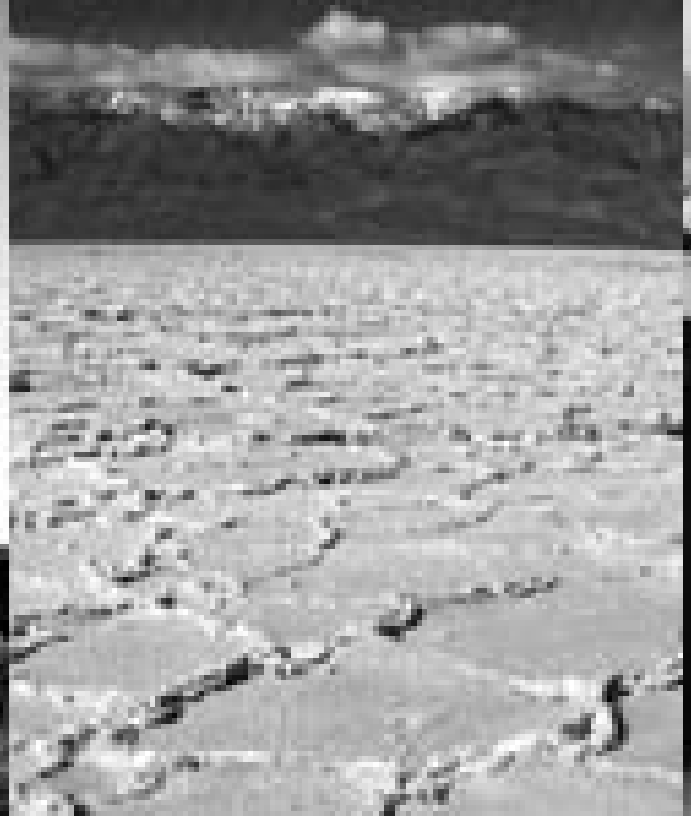
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