

United States Department of the Interior
National Park Service

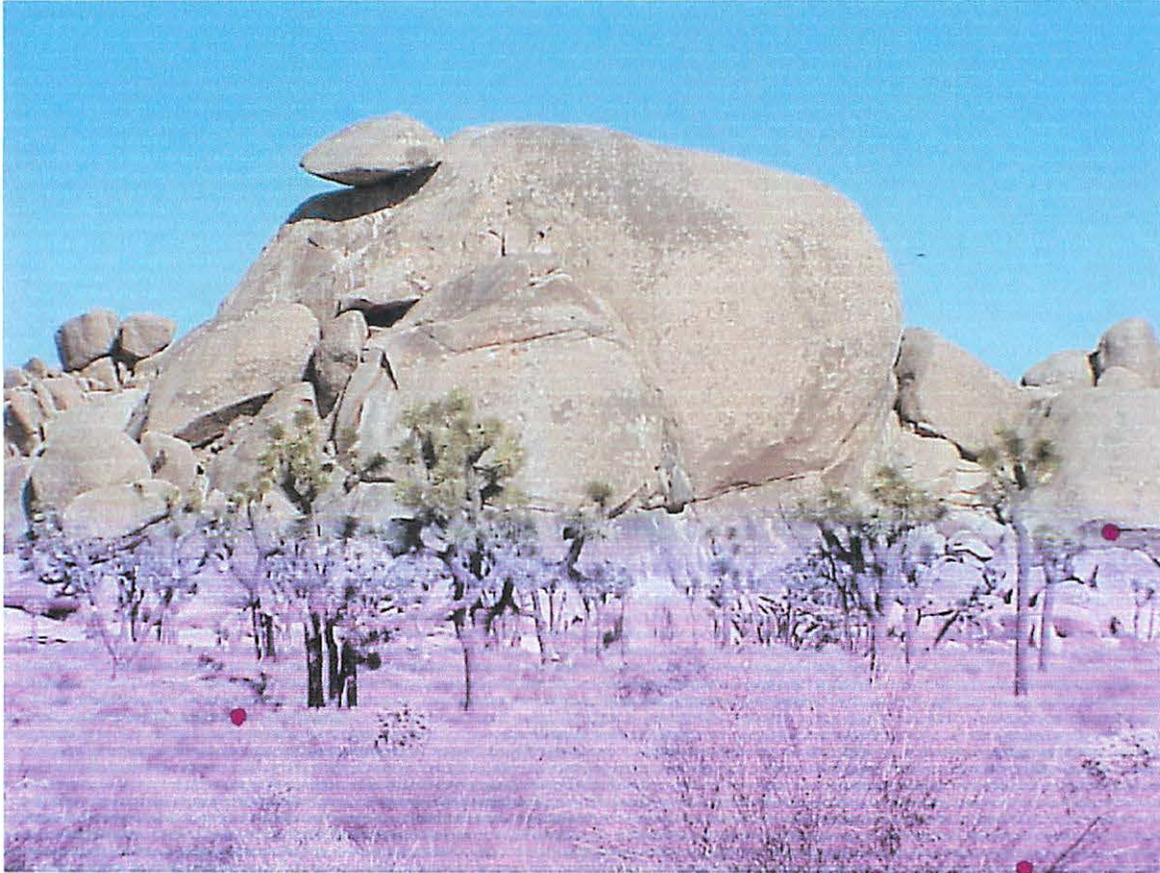


**SUPERINTENDENT'S ANNUAL REPORT
2001**

JOSHUA TREE NATIONAL PARK

Ernest Quintana

Mission Statement



The National Park Service at Joshua Tree National Park preserves and protects a representative area of the Colorado and Mojave deserts and the natural and cultural resources for the benefit and enjoyment of present and future generations.

The park includes rich biological and geological diversity, cultural history, recreational resources, and outstanding opportunities for scientific study.

SUPERINTENDENT'S OFFICE

Backcountry and Wilderness Management Plan

The record of decision approving the Joshua Tree National Park Backcountry and Wilderness Management Plan was signed in January of 2000. Since that time the park has been busy implementing plan recommendations utilizing a park inter-divisional Wilderness Steering Committee. Fee Demonstration dollars have made it possible for the Steering Committee to plan and fund projects. One of the major plan initiatives for 2001 was the work by the Climbing Committee to develop a permit system for bolting in park wilderness and non-wilderness areas. Bolting continues to be controversial, however, the climbing committee is making progress in establishing a process for evaluating and permitting placement of new bolts. Work by the park trail crew to implement the trail component of the plan continues. The BWMP postponed addressing adding new trails in the Indian Cove region of the park until an assessment of access along the park boundary could be resolved. This past year the park initiated an Environmental Assessment to review options for placement of a new equestrian trail within Indian Cove. This assessment will continue into 2002.

Eagle Mountain Landfill

Mine Reclamation Corporation, in partnership with Kaiser Ventures, Inc., proposes to establish a mega dump adjacent to Joshua Tree National Park. The dump at optimum operations would receive 20,000 tons of garbage a day for the next 115 years. The long-term consequences of the dump on the surrounding ecosystem would be devastating on biological communities, air quality, and wilderness values. In 2001 MRC sold the rights to the dump to the Los Angeles County Sanitation

District for a reported sum of 41 million. Legal challenges to stop the landfill have been filed in federal district court. One by the National Parks and Conservation Association against the Bureau of Land Management citing the impropriety of the land exchange, and one by a coalition of private individuals against the Bureau of Land Management and the National Park Service citing the impropriety of the land exchange and failure of the park service to protect the park. Until the legal challenges are settled by the courts no action to proceed with the dump will occur. Both legal issues will most likely be heard in 2002.

Desert Managers Group

The park continues to be an active participant in the regional Desert Managers Group, a collaborative effort by the various Federal and State land management agencies and Department of Defense installations to achieve consistency in management of the California Desert and to address common issues. A primary focus of the DMG this past year was in the inventory and monitoring of the Threatened Desert Tortoise. The DMG was instrumental in hiring a Coordinator to serve as the point person for tortoise monitoring throughout the range of the Tortoise. This past year the DMG spent considerable amount of time in re-evaluating its role as a management tool for member agencies. The DMG continues to be an important forum for communication and information sharing among state and federal agencies and departments. The future of the DMG is solid and will continue into the future.

Adjacent Land Use

Development adjacent to the park boundary continues to be a concern for the park. The encroachment along the parks southern and

northern boundaries continues at a steady pace. Land speculators for development along the parks southwest boundary are actively seeking county approval to permit high-density resort communities. Corporations are actively seeking approval to build power-generating plants. The park provides comment and input to all development proposal thorough the NEPA and CEQA process.



South Entrance – location of proposed comprehensive development

Joshua Tree National Park Advisory Commission

The California Desert Protection Act of 1994, established a 15 member commission to advise the Secretary about the development and implementation of a new or revised management plan for the park. The Commission met once during the year. Complications arose this year in that ratification of the Commission Charter and Commissioners has not been done by the new administration. The Park Advisory Commission is on hold pending ratification.

Oasis of Mara Visitor Center

In 1996 Joshua Tree National Park released a final General Management Plan. The GMP recognized the need for new facilities dedicated to providing information and public services. Upgrading of the existing Oasis of Mara Visitor Center was a priority.

In 1996 the park convened a design charette using the services of Denver Service Center to review options for upgrading the park Visitor Center. The park settled on a design that provided for the establishment of a new Visitor Center located in an undeveloped area just north of the Oasis. The existing visitor center would then be converted to needed office/administrative space. In order to move forward with this initiative a benefactor will need to be found to purchase the undeveloped area north of the Oasis for eventual donation to the park. The park, with the support of the City of Twentynine Palms, continues to work on this new visitor center initiative.

Reduction of the Park Deferred Maintenance Backlog

The Fee Demonstration Program has permitted Joshua Tree National Park to systematically address the deferred maintenance backlog. Fee Demonstration funds have proved valuable for funding improvements to park facilities, signing, wayside exhibits, visitor center exhibits, entrance stations, park roads, making safe abandoned mine sites, campground amenities (restrooms, recycling stations, picnic tables, fire grates, etc.) and trails improvement.

Federal Highway Construction

The park completed construction of Road Project #291 (road re-construction from Quail Springs Picnic Area to the Cap Rock intersection and from Hidden Valley Day Use to Barker Dam Parking area). Roadwork was completed on schedule and within the allotted budget. Planning for phase II, re-construction of park roads from Cap Rock Intersection to Geology Tour Road Intersection was initiated this year. Construction for phase II is anticipated to being in 2002.

Alternative Energy

Joshua Tree National Park continues to a showcase for application of alternative energy use and sustainability practices. Plans for establishment of a solar collection system at park headquarters are underway. This solar system will generate energy for delivery back to the commercial power grid. The intent is to reduce energy dependency on commercial supplied power and to expand the parks use of solar energy systems.

Division of Administrative Services

During 2001, the Division of Administrative Services continued to provide support for the park in the areas of finance, budget and programming, purchasing and contracting, property management, human resource management, housing, and computer operations. All of these functions supported the total park operation and required a close working relationship with other divisions and management.

In FY 2001, Joshua Tree National Park received \$4,288,000 base funds and 81 FTE based on the green book. The initial budget plan for Joshua Tree National Park was prepared to include full costs with all positions filled. The remainder of the funds was allocated on a priority basis for other costs. A portion of the base budget, \$170,000, was a one-year increase earmarked for storm damage repairs.

Personnel and fiscal resources are distributed across five broad categories to address the mission, long-term, and annual goals. These categories include natural resources, cultural resources, visitor satisfaction, visitor safety, and visitor understanding.

Many of the park's accomplishments in recent years were made possible because of funds from sources other than the park's base budget. In 2001, the park received approximately \$2,943,000 from other sources, such as other National Park Service monies (repair/rehabilitation, cyclic maintenance), fee demonstration, Federal Lands Highway Program (FLHP), National Interagency Fire Center, and special grants.

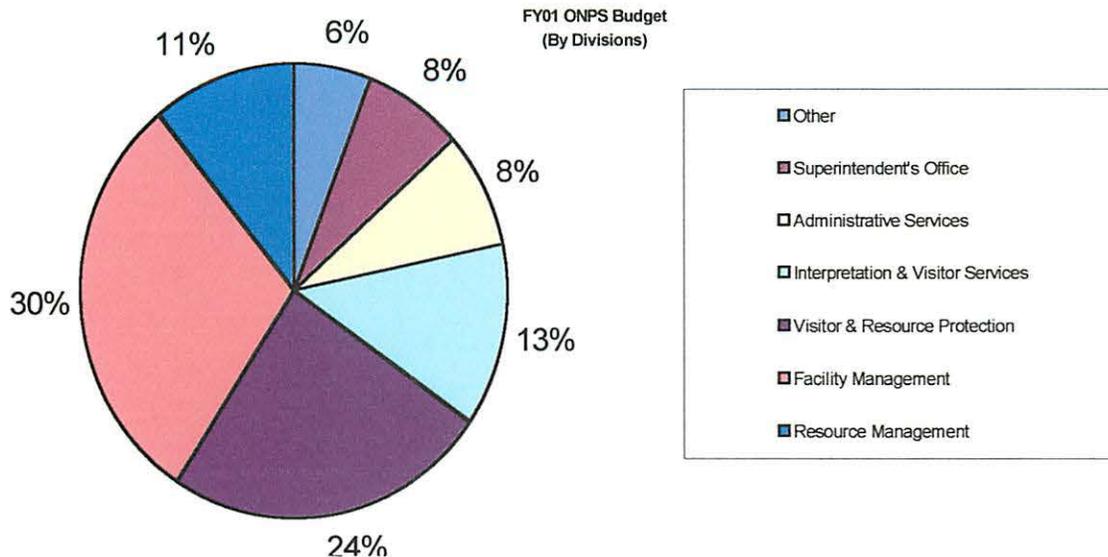
The fee demonstration program funded projects for \$1,071,115. Highlights included purchase of a compressed natural gas van for the park education program; installation of a traffic information system, rehab of restrooms at Black Rock canyon; desert tortoise monitoring; planning of wayside exhibits, and tours at Keys Ranch. \$22,675 from the Youth Conservation Corps and \$38,000 from the California Conservation Corps funded youth programs.

Other National Park Service funding provided more than \$1 million to essential park programs. Some of these included air quality monitoring, rehab of road shoulders and trails, replacing picnic tables, vegetation mapping.

Highlights of the park's budget included:

Approximately \$592,128 were related to park projects for resource preservation and management, such as the restoration of park lands disturbed by prior human activity; containment of targeted invasive plant species, and research activities associated with the Federally-threatened desert tortoise and other species of concern. Monitoring air and water quality, ensuring compliance with NPS mining regulations, and preserving archeological sites, the museum collection, and structures on the List of Classified Structures also fall under this category.

Approximately \$1,400,000 provided for maintaining park roads, utility systems, trails, grounds, and facilities. A continuing \$6 million Federal Lands Highway Program project will reconstruct 6.5 miles of road in the interior of the park.



In addition, approximately \$2,000,000 provided for visitor services, such as interpretive programs for park visitors, production of park interpretive information, and an education outreach program for region schools. It also included conducting search and rescue activities and emergency medical services, responding to requests for visitor assistance, and providing visitor contacts in campgrounds, entrance station and visitor centers.

Approximately \$323,000 provided for park management, the Advisory Commission, and administrative support for park management.

Integrated/Interfaced Data Systems

Joshua Tree Local Area Network (LAN) has expanded to the more remote sections of the park. Electronic mail service has been extended to the North and West fee collection booths and Indian Cove campground reservation desk. With the increase of access to the park LAN came the need for a stronger virus protection program and Norton AntiVirus software has been implemented on all desktops and mobile computer systems.

The replacement of the primary network connection from the park server to the

Visitor Center quietly increased the connectivity from a sometimes bottlenecked 10Mbps to a blazing 100Mbps speed. Plans for video security via the LAN and the upgrade of the park phone cabling system are part of the "makeover of the future".

Performance Standards

All employees have performance standards linked to strategic and annual goals.

Workforce Diversity

As of September 30, 2001, the number of encumbered permanent positions in the targeted occupational series is 25 (down from 26 positions in FY2000). Of those 25 positions, as of September 30, 2001, 12 (48%) met the definition of diverse employees.

Targeted Occupations: 0025, 0193, 0301, 0401, 1010, 1015, 1640.

Employee Housing

The annual housing income in FY2001 was just under \$30,000. One housing unit at Cottonwood was upgraded from Fair to Excellent for interior condition. The park maintained the condition of all other housing

units.

Employee Safety

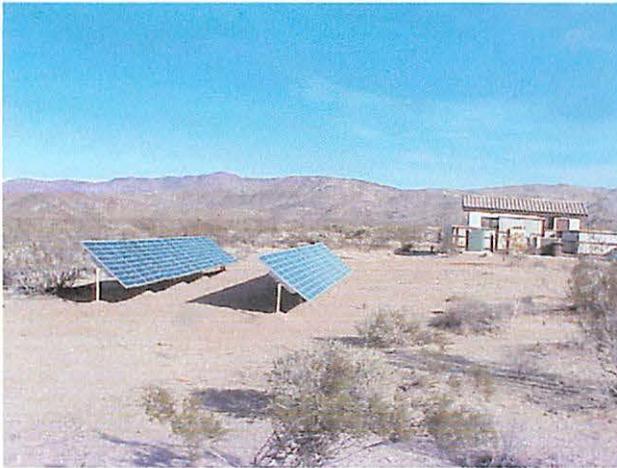
All components of the annual work plan were completed. Through the efforts of the Safety Committee, the park established a Safety Recognition Program. The park Management Team attended "Managing the Safety Performance Process" seminar. Park records indicated that during FY01, there were four lost-time accidents. To determine the rate, we used the formula of 88.51 FTE divided by 100; multiplied by 4 for a 3.54 lost-time injury rate. The park had 270 hours of continuation of pay.

Accountable Property

The park continued to work on bringing all park property into compliance with applicable rules and regulations. It finally had the necessary personnel to initiate program updates, inventory corrections and excess property, which it continues to do. As radios are no longer considered formal, accountable property, they were given the new informal property tags. Informal property processes are being identified and will be initiated this next fiscal year.

Division of Facility Management

The ***Division of Facility Management*** Continued to plan, program, and coordinate the overall maintenance and operation of park facilities and special projects. The Division constructed, maintained, or improved physical facilities (roads, trails, buildings, utilities, vehicles) and served as the professional representative in matters concerning alternative energy use, engineering, planning, design, construction, and operation. The Division has established a close relationship with central offices and other government agencies, such as the Federal Highway Administration, to assure that the maintenance and development programs are carried out in accordance with the Service-wide goals and objectives.



North Entrance PV Grid Off-set Power Array

The park's nine campgrounds range in elevation from the 65-site Cottonwood Campground at 3,000 feet to the 4,500-foot Sheep Pass Campground that contains 6 group sites. These campgrounds provide for a relatively primitive camping experience as only Black Rock and Cottonwood have water, dump stations, and flush toilets; the others have pit toilets. Combined, the campgrounds provide 491 individual sites that accommodate up to six people each and 22 group sites that vary from 10 to 70 people. Neither showers nor hookups for recreational vehicles are provided. Water is

available at the Oasis Visitor Center, Indian Cove Ranger Station, West Entrance, and the Black Rock and Cottonwood Campgrounds.

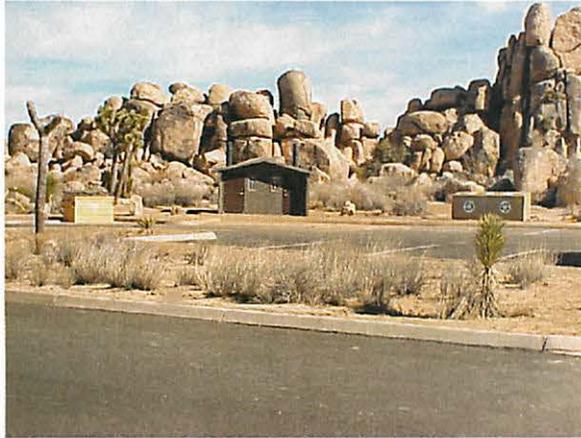
Park headquarters, administrative facilities, and the primary visitor center are located in Twenty-nine Palms. The visitor center provides information, interpretive displays, and an interpretive materials sales outlet. The complex also houses park headquarters, satellite offices, and storage. Maintenance facilities are concentrated at Pinto Wye, which is approximately five miles inside the park's north boundary.

The other administrative center is located in the south end of the park at Cottonwood. Here the campground, visitor center, limited employee housing, maintenance facilities, and offices service this remote section of the park. Commercial utilities do not service Cottonwood. The National Park Service converted from a diesel generator to a photovoltaic system to provide power in 1998. We have yet to find a viable method of providing telephone service to the area. Elsewhere in the park, a single residence is provided both at Indian Cove and Black Rock for required occupancy protection personnel.

The Black Rock Nature Center, located in the Black Rock Campground, functions as a center for environmental education activities. The park's *General Management Plan* calls for it to also serve as a visitor contact station with exhibits and audiovisual programs. Currently, a fee collection building and restroom facilities are found at the park's west entrance, but the *General Management Plan* prescribes the development of another visitor center. This center would provide for orientation, trip planning, and interpretation of a broad spectrum of themes.

The park contains more than 100 miles of

paved road and 120 miles of unpaved roads as access for use, enjoyment, and protection of the park. A major road improvement 6.6-mile road project by the U.S. Federal Highway Administration was completed in 2001. An additional thirteen parking lots and twenty pullouts were associated with this project providing the much-needed visitor parking along park route twelve.



FLHP 173 Project: Quail Springs parking lot with concrete vault toilet and recycling center.

Visitor Satisfaction - Based upon the Visitor Survey Cards, which were distributed to park visitors in April, the park exceeded its performance target, and 97percent of park visitors expressed their satisfaction with their park experience.

The Division of Facility Management maintained 3 visitor centers, 9 campgrounds, 75 miles of trails, 32 buildings, and many other types of constructed assets. The Division maintained these assets so that they could safely and cost effectively provides services to employees and the public. The park-wide recycling program partnership with VFW Post 9431 in Yucca Valley expanded from 12 stations to 25 recycling stations parkwide.

The park hosted a 15-enrollee Youth Conservation Corps (YCC) camp and partnered with Great Basin National Park and Devils Postpile National Monument on projects. The crew reconstructed the Cap Rock Nature Trail with sustainable products to meet ADA standards. In addition, they constructed two miles of connector trail at Great Basin. At Devils Postpile, they constructed a new building foundation for a backcountry cabin and reconstructed 37 trail steps at the Rainbow Falls overlook as well as performed maintenance on 3.3 miles of trails.

The park continued its partnership program with the California Conservation Corps. This internship program targets young people between 18 to 23 years old from the Morongo Basin. Upon the completion of a one-year appointment, participants receive a \$2,000 scholarship. If the participants complete a second year, they receive another \$2,000 scholarship. The program provides a diverse experience across the three branches of the maintenance division.



Youth Conservation Corps members at Cap Rock Nature Trail

Fee demonstration revenue provided the funding for two rehabilitated restroom facilities in Black Rock Campground.

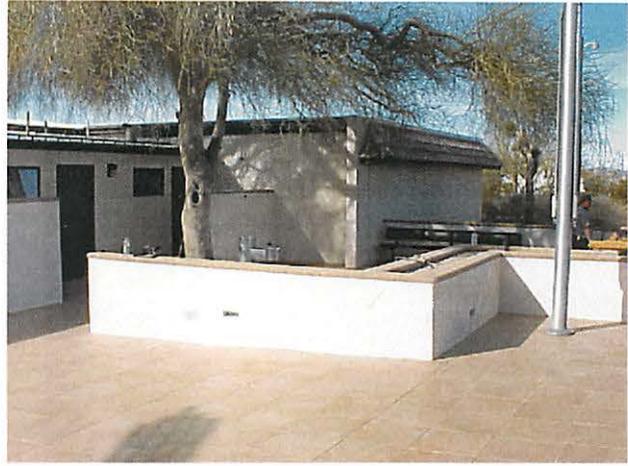
Other National Park Service funding rehabilitated the Black Rock parking lot and campgrounds. New fire grates and concrete picnic tables were placed in Ryan and White Tank Campgrounds.



Oasis of Mara Visitor Center Entrance

Work was initiated to give the Oasis of Mara Visitor Center exterior a facelift. The project is replacing the walkways and patio areas, covering the building with sustainable concrete stucco finish, landscape barriers replaced with colored concrete curbing and replace all exterior support wood beams. An ADA water fountain and benches fill the new patio area adjacent to the restrooms providing an area for visitors to plan their visit to the park.

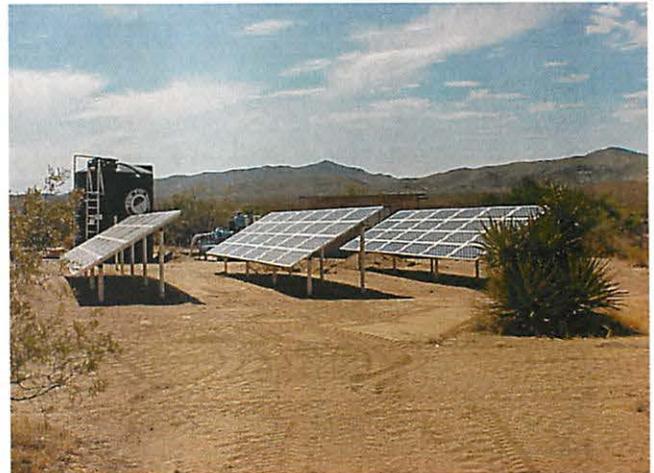
Visitor Safety - The Division of Facility Management maintained 3 water systems, 75 miles of trails, and more than 100 miles of paved and 120 miles of unpaved roads,



Oasis of Mara Visitor Center Visitor Courtyard

and other constructed assets. Their work ensured that the facilities safely and cost effectively provided services to employees and the public. In addition to the routine operational activities, the Division was involved in many special projects and emphases.

A two-year repair rehabilitation project was completed. This project drilled a new well and placed water lines throughout the Cottonwood complex. In addition, the diesel power generator was replaced with a 10 kW Photovoltaic electrical generating system.



Cottonwood Well and Photovoltaic Pump

Division of Resources Management

The Division of Resources Management manages all natural resource programs, such as environmental compliance, wildlife management, vegetation management, mining management, exotic plant control, threatened and endangered species, Integrated Pest Management, air and water quality monitoring, and the Geographic Information System (GIS). It also manages the cultural resource programs, including historic preservation, archeological projects, Section 106 compliance, Native American consultation, the collection's facility, and a research library. The division administers the park's science program, including reviewing and issuing scientific collecting permits for all research in the park.

The Vegetation Branch of the Resources Management Division performed a wide variety of works through the year.

Disturbed Lands

Continuing with the Federal Highway Project (JOTR 173), the park continued salvage work from January through March. Total material salvaged was over 2,000 plants. The Sheep's Pass Borrow Pit was converted to a satellite nursery holding facility, with an extensive irrigation system in place with drip lines for approximately 1,100 plants. Plants in containers were staged in this area and material monitored and watered throughout the hot summer months. This facility will also serve the JOTR 291 project. Between May and October, 610 direct-planted yuccas and Joshua trees were watered on a rotating basis along Park Route 12 and Barker Dam Road. Between October and December, a revegetation crew of 6 Student Conservation Associate Interns (SCA) was brought aboard to supplement the existing crew of one technician and one work leader. The crew successfully replanted all of the salvaged plant material and nursery grown

material in the rehabilitation areas created by JOTR 173. Horizon Tree Transplanting replanted 300 30-inch/36-inch/42-inch boxed acacias, yuccas, and Joshua trees. A total of approximately 2,728 plants have been planted for this project. Plants relocated along the construction area were watered throughout the summer with a survival rate of 100%. Over 200 volunteer hours have contributed to this project.

Work at Rockhouse, a former off-road hill climb, continued with the planting of an additional 125 plants into side roads to deter off-road bicycling. Plants were maintained throughout the summer, with an overall survival rate of 75%.

During 2001, the park inventoried 145 closed roads in the park using GIS information and a small crew composed of three SCA interns. This information provides data needed to prioritize road restoration projects and prescribes treatment for closed roads within the park. This information will be extremely useful with implementing the Backcountry Wilderness Management Plan and long term restoration goals.

The Center for Arid Lands Restoration nursery facility continued to work with Fort Irwin NTC to propagate 4350 plants and maintain 1800 plants for arid lands projects on the army base. Park staff delivered over 4000 plants to Fort Irwin during the year. The park maintained 1400 creosote plants grown in FY99 for Mojave National Preserve; we assisted with the final delivery of these plants in the spring of 2001. In addition, approximately 300 plants of mixed species were grown for Death Valley National Park for landscaping and restoration purposes. The nursery continues to have several dedicated volunteers that come on a weekly basis to assist with these projects.

Exotic Species

The exotic tree species *Tamarix* continues to receive attention throughout the park. Sixteen sites (approximately 500 acres) were monitored for this exotic plant. Several stems were treated at Buzzard Spring, Bolster Canyon, and Rattlesnake Canyon. Field inspections at Hayfield Summit and the top of Long Canyon showed the areas clean of weeds. *Tamarix* found was mapped, eradicated, and logged in to the database. The park continues to have resprouts and new seedlings, requiring annual monitoring and treatment. This program is primarily supported through the efforts of volunteers H. W. Baczkowski and G. Garrett.

Fountain grass (*Pennisetum setaceum*) was treated in the Fortynine Palms Canyon area by the Lake Mead NRA Exotic Plant Eradication Team in early summer of 2001. An additional area was treated in the vicinity of Panorama Heights adjacent to the Doolittle property. These two sites must be checked annually for resprouts. Approximately 100 acres were treated.

The park continues to coordinate with the California Exotic Pest Plant Council (CalEPPC), the San Bernardino County Weed Management Area, and other parks to develop strategies to address Moroccan mustard (*Brassica tournefortii*) and eradicating it in priority areas (notably the Pinto Dunes and Pinto Wash). After summer and winter rainfall in 2000-01, the Pinto Basin and areas north to the park entrance were heavily infested. The revegetation crew removed over 15,000 plants with the help of Americorps volunteers.

Species of Concern

The cooperative project with the California Native Plant Society to inventory and assess *Monardella robisonii* (Robison's Rock Pennyroyal) proved fruitful. Of the

nine historic occurrences, eight were relocated and an additional 80 previously unknown occurrences discovered in the northwestern portion of the park as well as a unique occurrence in the northern Coxcomb Mountains. Forty-four California Native Diversity Database (CNDDDB) forms were filed with the California Dept. of Fish and Game per regulations on rare plants. These will constitute the only new additions made to the database in twenty years, and will increase the number of total occurrences in the state from nine to 53. In 1999, the park was awarded a \$9000 National Fish & Wildlife Foundation Native Plants Conservation Initiative (RPF) grant to map the distribution of this rare mint, provide preliminary assessments for plant health, and further investigate its taxonomic treatment. This grant is a collaborative effort with the California Native Plant Society (CNPS). Specimens collected for herbarium analysis are currently at the UC Riverside Herbarium where specialists are conducting their analyses. Volunteers have contributed 400 hours to *Monardella* survey efforts. Final report due out in spring of 2002.

In FY01, the park collected second year data on the effects of fire on the Joshua tree (*Yucca brevifolia*). This charismatic species, the namesake of the park, may be seriously effected by new fire regimes. Fire effects information is critical to understanding how these ecosystems may be changing as a result of exotic plant invasion and new fire cycles. In April and May, 1256 Joshua trees were re-sampled for long-term effects from fire scorch and fire rehabilitation efforts. These trees will be monitored over the next few years for survivability and growth with the assistance of the USGS Biological Resources Division (Todd Esque, BRD Ecologist). Two years of data indicate a mortality rate of 13% in year one, and 56% in year two. Data to be published in 2002. Concurrent with this project, park staff are working with the USGS and UC Riverside to conduct experimental research fires and create a complete fire history for the park. The fire history should be available in FY02;

research burns are scheduled to begin in 2002.

Integrated Pest Management

Africanized Bees continue to be a high priority pest problem in the park. Hives were treated in the Hidden Valley area by San Bernardino County Vector Control. Bee incidents continue to be monitored on an ad hoc basis, but a comprehensive IPM Plan needs to be developed. A bee suit was purchased in 2001 for use by park staff.

Other

Field surveys were completed for the park vegetation mapping project. Over 500 sites were sampled to obtain vegetation data. This data will provide for completion of the photo interpretation component of the program.

Dr. Richard Minnich completed a photo-interpretation project delineating historic wildfires from park archive and current aerial photographs.

Desert Tortoise Mitigation and Management

The resources staff worked with contractors on the new federal highways project to protect and mitigate construction impacts to the threatened desert tortoise. The park had completed all of the USFWS clearance surveys and Section 7 consultation. Joshua Tree National Park staff and the USFWS worked together to develop the proper mitigation measures to be taken once the construction began. Park staff prepared for the upcoming road project by purchasing equipment and undergoing the proper training. Two on-site tortoise monitoring personnel were present during construction. Contract employees were given "sensitivity" training on the importance of tortoise as

a national resources and the laws protecting them. and were trained what to watch out for and do in regard to protecting the tortoises. Daily areas of construction were surveysed for tortoises before start up. Areas of concern adjacent to the road project were monitored for desert tortoise activity and areas such as the sheep pass barrow pit area were fenced to exclude tortoises.

The park worked in cooperation with the U.S. Fish and Wildlife Service Desert Tortoise coordinator to conduct distance sampling surveys in the park. The park provided funding to the USFWS so that they could conduct the integrated surveys. Over 131 miles of distance sampling transects were conducted in the park. These long-term surveys will provide data on tortoise population status for the entire Mojave Desert.

Eagle Mountain Landfill

Eagle Mountain landfill continues to be a potential threat to the park. A court case has delayed the plans for this site. The park's strategy to address the potential impacts of the Eagle Mountain landfill has been in a constant state of change due to fiscal constraints and the almost month by month changes in information relating to whether or not the landfill will be constructed.

The park has baseline information about 3 out of 16 of the resources potentially impacted by the proposed Eagle Mountain landfill. The University of Nevada at Las Vegas completed an inventory of the bighorn sheep in the Eagle Mountain area in 1999 and in 2000 two preliminary baseline studies for insects and ravens related to the Eagle Mountain landfill were also completed.

In 1998, \$39,500 was provided to the park from regional contingency funds to support

Eagle Mountain research. It was anticipated that these funds would support a program management position to assist the park staff on the Eagle Mountain monitoring. It was found, however, that a full-time position could not be maintained in the long-term. Thus, a decision was made to, at a minimum, organize a consortium of experts in their fields to develop a more detailed impacts monitoring plan and to evaluate certain key resource issues. This funding was transferred to the U.S. Geological Survey Biological Resources Division at the University of California, Riverside for them to develop the monitoring plan.

In the fall of 1999, a consortium of experts in the field of environmental monitoring was assembled for the park to develop a monitoring plan and evaluate key resources issues. Strategies obtained from this meeting were collated into the Eagle Mountain Landfill Impact Monitoring Plan, which was completed in the fall of 2000.

Cultural Resources

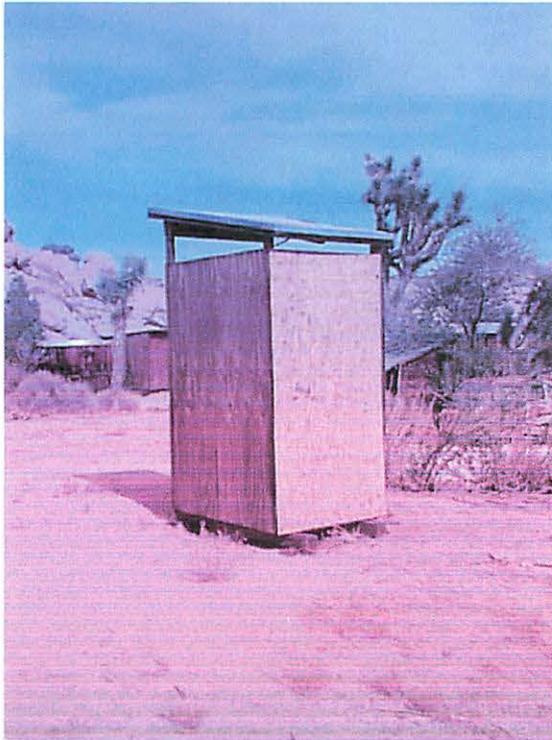
List of Classified Structures – The park now has 88 structures (up from 83) on the LCS. We currently maintain 11 of these historic structures in good condition. The following listed structures are now in good condition as reflected in the LCS database:

- IDLCS 56330, Keys Ranch Cave Shelter
- IDLCS 05591, Keys Ranch Windmill
- IDLCS 05579, Keys Ranch Men’s Outhouse (FY 2001)
- IDLCS 05577, Keys Ranch Shed
- IDLCS 05581, Keys Ranch Disney Shed (FY 2001)
- IDLCS 05583, Keys Ranch Guest House
- IDLCS 05592, Keys Ranch South House
- IDLCS 09467, Barker Dam Watering Trough (FY 2001)
- IDLCS 55032, Wall Street Mill boundary markers
- IDLCS 05602, Wall Street Mill Well
- IDLCS 08218, Lost Horse Mine; Office Ruin, Southeast Cabin Ruin, Cabin # 1 Ruin (1 of 3 in FY 2001)

During FY01 the park received \$48,000 in cultural cyclic maintenance funding for Keys Ranch stabilization and \$50,000 for Lost Horse Mine. Six structures at Lost Horse Mill, twelve at the Keys Desert Queen Ranch, and one at Barker Dam were stabilized in FY01. The condition of four of the structures stabilized in FY01 is now listed as “good”. The stabilization of the Lost Horse Mill also helped to improve safety at the site although much more remains to be completed.



IDLCS 05577 Keys Ranch Shed (FY 2001)



IDLCS 05579 Keys Ranch Men's Outhouse (FY 2001)

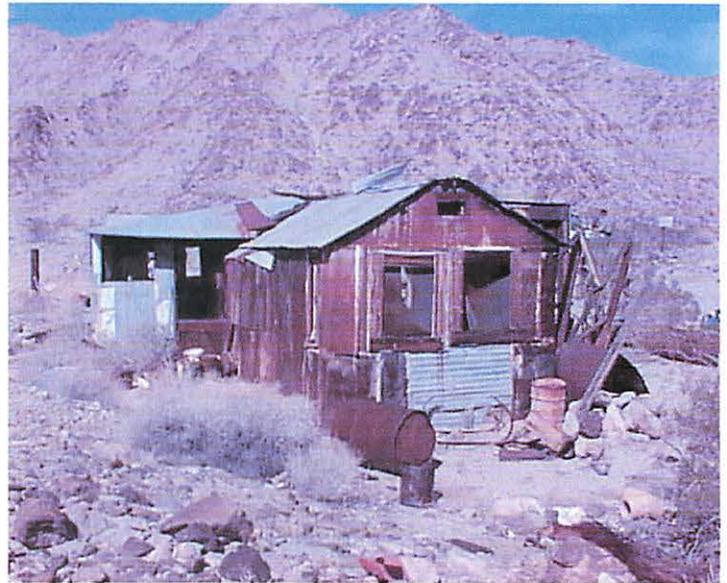


CA-RIV-6638H, Gold Mill at El Sid Mine

Archeological Sites -

The following 16 archeological sites were recorded in FY 01:

Site Name	Date	Recorded Condition
CA-SBR-10,609	4/01	Good
CA-SBR-10,610	3/01	Fair
CA-SBR-10,611	3/01	Fair
CA-SBR-10,612H	3/01	Good
CA-SBR-10,613H	3/01	Fair
JOTR-2001 C-1	3/01	Good
JOTR-2001 C-2	3/01	Fair
JOTR-2001 B-1	5/01	Good
Lawton Homestead	4/01	Fair
Covington Camp	4/01	Good
El Sid Junction House	2/01	Fair
LHV-3	3/01	Good
LHV-5	3/01	Good
LHV-6	3/01	Good
LHV-8	3/01	Good
CA-RIV-6638H	1/01	Fair



El Sid Junction House

Archeological Projects

Two archeological test excavation projects were conducted at the park by WACC

personnel in FY01. One testing project funded by CRPP monies was for Phase 1 of 5. Testing took place at CA-RIV-6496/H Split Rock Cave, CA-RIV-349 near Ryan Ranch, CA-RIV-213 and JOTR 2001 B-1 near Hidden Valley Picnic area, and CA-RIV-935 at Stirrup Tank. All are likely eligible for the National Register under criterion D with the exception of Split Rock Cave.

The second project surveyed and tested was for the Federal Highway Package Number 291. There were six sites within the Area of Potential Effect four of which are potentially significant for the National Register under Criterion D. These four sites were tested and results have not been fully analyzed.

Museum Collection

Of the 186 applicable standards on the Checklist for Preservation and Protection of Museum Collections the park was able to meet 161 (86.55 %).

23 linear feet of administrative archives were cataloged through a project with the archive's branch of the Western Archeological and Conservation Center and funded by the Backlog Catalog program. Two archeological excavation projects produced 4, 500 objects which were cataloged into the electronic cataloging system.

A contract was let to an architectural firm for the production of plans and drawings for additional museum storage. The plans are to be completed FY2002.

A 100% inventory was completed of objects housed in the museum storage area and any necessary changes were made to the electronic catalog record. Routine maintenance of the collections included cataloging of uncataloged objects, archival rehousing of collection items, and maintenance on the storage building as needed. Draft pest management and

preservation maintenance plans were written along with the submission of required annual reports.

Cultural Landscapes

Research for a CLI for the Oasis of Mara was conducted in FY 2001. This research determined that there were no significant cultural landscape components remaining in this location. Therefore, a Level I inventory is being written, completing the inventory process for this landscape.

Ethnography

The final version of the Native American Ethnography and Ethnohistory of Joshua Tree National Park, by Sylvia Brakke Vane and Lowell John Bean, is now available. Funding is in place for Phase II to be started in FY02.

GIS

During 2001, the park continued to build and refine the GIS databases as information became available. The GIS lab provided valuable support to park management by creating a variety of maps to be used in important planning and environmental compliance documents. These maps addressed complex issues and provided readers a clearer concept of the park's preferred alternatives through their graphics.

Continuing projects that the GIS lab worked on included the generation of maps of mine sites, shafts, and adits and then site-specific maps for planning and compliance documents associated with the abandoned mineral lands program. The GIS lab provided support to implement the Backcountry and Wilderness Management Plan. Maps were produced for roads and for the climbing and the trails components of the plan.

The GIS lab was also actively involved during the year in the Federal Lands Highway Program project in the park. Maps were produced for the tortoise monitoring and vegetation transplant and salvage operations.

Considerable time was devoted to assisting park staff in technical GIS support and training including vegetation, closed roads, wildlife, tortoise distance sampling and fire planning . Other program support included assisting resources staff in developing five posters for presentations at professional symposia. Digital mapping of Dr. Richard Minnich's historic fire/vegetation maps was initiated also this year.

New data was developed and included digitized revised park boundary, digitized desert bighorn distribution, digitized tortoise distribution, digitized closed roads and digitized land ownership maps. Special work was done on developing a digitized overlay system to identify priority lands for acquisition. The conversation from UNIX to NT was continued, as was the upgrade to ArcInfo 8. GIS computers and the network connection were upgraded and maintained.

Disturbed Lands (AML)

In this the third year of a five year AML program staff evaluated 32 Abandoned Mine Land (AML) sites for historic resources, hazards, wildlife habitat and wilderness value.

Five AML sites were treated and 10 hazardous mine openings were closed. A helicopter was used to transport material and equipment to three otherwise inaccessible sites: The My Mine received two polyurethane foam plugs, and its interpretive value was preserved. The Sullivan mine received a foam plug in the upper shaft. The Gold Coin mine had a foam plug fitted into the upper shaft, while rock walls were built in two lower adits to keep visitors out. Pack mules transported equipment and materials to two remote

sites: The Sunrise mine had a bat gate and foam plug installed. The Monstead Tunnels were fitted with bat compatible gates to keep people out, while preserving the mines for bat habitat.



Three cases of explosives were discovered at the El Sid mine during bat habitat surveys. The explosives were neutralized through detonation by the regional blaster's representative. A structure at the mine site was stabilized and protected by maintenance staff during the operation.

Conservation planning (EA) for bat gate installation at the Desert Queen Mine was finalized and the underground workings were fully mapped by NPS and Bat Conservation International (BCI) Staff. NPS and BCI staff also made bat habitat evaluations at mine sites #19, #78, Golden Bell, #271Rich Gold, Sunrise, Snow Cloud, Hexahedron, #95 and El Sid.

20 mill sites were characterized for hazardous materials, and a sampling and monitoring strategy was devised. This is the first phase of a three phase project which will evaluate the mill sites for hazardous material.

Air Quality

Division of Resources Management managed and maintained the continuous ozone and meteorology station at the Black Rock Campground, three existing passive ozone monitors, and three new passive ozone monitors. The park also maintained Cast-Net PM-10 monitoring at Black Rock. The park maintained and managed the data for the site and assured its accuracy and validity. The park installed IMPROVE and wet deposition monitoring. The data was transmitted to the Air Resources Division for analysis.

The park participated in the California Desert Air Working Group (CDAWG), a consortium of California air resource regulators and industry representatives. We also participated in the Desert Clean Air Partnership (DCAP), Federal land managers dedicated to clean air.

The wilderness area of Joshua Tree National Park was designated as a Class I airshed by the Clean Air Act amendments (CAA) of 1977 Under the CAA amendments

of 1990, any addition to a Class I wilderness is also made part of the Class I area. This classification allows the least incremental increases in particulate and sulfur dioxide pollutants. The CAA also imposes an affirmative responsibility to protect the air quality related values (including visibility) of Class I areas.

Several years of data indicate that the park should be an ozone non-attainment area. In spring of 2000, the National Park Service petitioned the California Air Resources Board (CARB) to classify the entire park as "nonattainment," which would require managing air districts to ensure that pollution sources negatively affecting the park be regulated and remedied. Scientific research indicates that additional reductions in air pollution will be necessary to truly protect Class I areas. At their March meeting, the CARB

Joshua Tree National Park lost its status as the National Park Service unit with the most highly polluted air, in calendar 2000. The park had 50 episodes of one hour ozone concentrations above 100 parts per billion, and only one episode of one hour ozone concentration above 124 parts per billion. Therefore there were only one exceedence of the National Air Quality Standard for ozone in calendar 2000. Based on the second highest one hour average of ozone concentration in atmosphere tested, Joshua Tree NP is now the second most polluted park, behind Cape Cod National Seashore.

Staff defended the park from resource impairment associated with a proposed power plant, planned for construction seven miles up wind of the park. The permit was withdrawn after substantive argument from park staff triggered a deeper level of review by the permitting agency.

Water Quality

Water quality and quantity was monitored at 25 springs wells and tanks within the park. This is the second phase of an Inventory and Monitoring program for water resources. Water quality has not degraded measurably since the initial monitoring of resources in 1996.



Mining Management

The last of the parks 69 unpatented mining claims, gained through the California Desert Protection Act (1994), was extinguished through administrative processes. There remain 11 patented mining claims in the park.



Division of Resource and Visitor Protection

The Division of Visitor and Resource Protection continued to manage the park's law enforcement, physical security, drug interdiction, physical fitness, and critical incident stress programs. It provided emergency medical services and other emergency operations, such as search and rescue. The division also managed wildland fire management, backcountry use management, and resource monitoring. It coordinated entrance and campground fee collection, special park uses, and campground operations. The Division also continued to work closely with other law enforcement agencies and coordinated the prosecution of cases with the Assistant U.S. Attorney's Office, the U.S. Magistrate Judge, and JAG.

Disturbed Lands

In 2001, the ranger division expanded Horse patrol operations during peak season. Operations were continued past the peak season, and the patrol horse was utilized year round for the first time. The availability of the horse allowed park staff to monitor and identify issues in remote portions of the boundary throughout the summer months. The increased availability of the horse provided monitoring of over 50 miles of boundary, and yielded over 25 cases of trespass, which were documented and re-habilitated. The ranger division investigated and cited 78 incidents of resource damage from off road vehicle use. The Ranger division initiated an ambitious program to check, re-enforce, and mark the park boundary in heavily impacted areas of the northwest side of the park. Rangers spent over 1000 hours closing vehicle trespass points, placing boundary posts, and repairing fence line. Over 30 miles of boundary was secured. The ranger division led two park clean up events, one on the boundary with the town of Twentynine Palms, and one in a remote section of the south boundary. Over 488,197 lbs. of trash

and debris was removed from the park. The ranger division coordinated the closure and clean up of a 4 wheel drive trails through Rockhouse and Thermal Canyon, as called for by the Backcountry and Wilderness Management Plan. Rangers spent over 60 hours in coordination; all park divisions participated in the clean up.

Threatened Species

Visitor protection monitored critical desert tortoise habitat, and conducted specialized patrol operations targeting wildlife violations. The ranger division investigated 2 incidents of criminal interaction with desert Tortoise; both are still under investigation. The ranger division, in conjunction with the Department of Fish and Game and the Bureau of Land Management, conducted specialized patrols during summer months, targeting reptile poaching. A review of the educational permitting process for handling reptiles was initiated in conjunction with resource managers and interpretation.

Archeological Sites

Rangers spent over 8 hours weekly conducting backcountry patrols, monitoring and observing archaeological sites. Two incidents of potential damage to rock art sites from recreational climbing were mitigated. Hundreds of known archaeological sites were monitored. 21 incidents of damage to archaeological resources were documented.

Visitor Satisfaction

The division of Resource and Visitor Protection provided high visibility patrols in all park campgrounds, picnic areas, and public areas daily, addressing all disturbances, complaints, and visitor conflicts. Patrols were provided in campground areas well into the evening and early morning hours on every weekend, and

during the week during months of traditionally high visitation. Additionally, Protection rangers responded after hours to assistance calls initiated from the Hidden Valley Emergency Phone, or from the county dispatch center. An additional emergency phone was installed at the Indian Cove Ranger station in 2001. The new emergency phone was utilized in an actual emergency less than a month later. The additional phone greatly reduced the Response time for emergency services, and provided for a more efficient mobilization of resources. Rangers responded to approximately 700 incidents in 2001. In 2001, the Resource and Visitor Protection Division continued to foster relationships with the climbing community, promoting stewardship and the "leave no trace" outdoor ethic in one of the parks most prevalent user groups. The park's climbing ranger attended and spoke at weekly interpretive programs and coordinated partnership programs with local climbing advocacy groups. The division worked closely with the Climbing committee of the park advisory board to come up with strategies to promote stewardship and safety within the climbing community, and to generate support for the implementation of the Backcountry Management Plan.

Staff administered the park's special use program, issuing and monitoring over 70 Incidental Business Permits, 45 commercial filming permits, and 42 special Use permits, including permits for scientific research, weddings and special events. A draft of the new Special Park Use Guidelines was completed, which includes the park's first application and administrative cost recovery worksheet. This will increase the efficiency and accountability of the Special Use Cost Recovery by examining where the NPS incurs costs, and by allocating recovered costs to appropriate aspects of the program.

The Special Use program implemented the enhanced NEPA requirements as outlined in DO-12, to ensure all special use permits comply with the NEPA process.

Staff continued to chair the Wilderness Steering Committee, and continued implementation of the Backcountry Management Plan. The committee includes members from all park divisions, and met twice monthly to ensure park wide coordination of wilderness projects. The committee provided funding through fee demo for interpretive programs covering wilderness values and the park plan, youth organizations outreach education and packet development, leave no trace materials for park programs, and a sign machine. The Steering committee also sponsored a climbing insert for the park newspaper, and development of a climbing brochure and associated web based material.

The park fee collection program administered and staffed Joshua Tree's campgrounds on the NPS service-wide reservation system, and staffed all entrance stations. All park entrance stations were manned during the peak season, and during peak hours on the off season. Visitor Use Assistants have provided much in the line of safety information in 2001. Federal Highways Road Project updates were distributed to all visitors during peak periods of construction. Entrance stations distributed educational material on wildlife management concerns, and public safety campaigns such as the *Buckle up for Safety* program.

The Visitor Use Assistants in the Protection division conducted the visitor satisfaction study as part of the reporting criteria for goal lia1.

The Visitor Protection division initiated an Environmental Assessment for a program to issue permits to place fixed anchors in wilderness areas, in accordance with the backcountry management plan. The initial phase of the baseline survey to determine levels of fixed anchors in wilderness was completed in 2001.

Visitor Safety

In 2001, fire apparatus were maintained so a minimal amount of out-of-service time was experienced. Wildland fire engines were staffed 7 days a week during the busy season. Wildland fires within the park were quickly extinguished. No significant acreage was lost to fire in Joshua Tree National Park in 2001. The park provided support to national and regional fire fighting efforts in 2001, supplying fire engines as needed, overhead personnel, and technical support. Park firefighters responded to 23 wildland fire incidents in 2001. Three wildland fire temporary positions were replaced with career seasonal positions, to provide continuity and professionalism of the wildland fire operations. Three seasonal fire fighters were also employed. Two older patrol vehicles were rotated out and new ones were outfitted for emergency response. All case reports were entered in the CIRS case incident reporting system.

The ranger division participated in an experimental public safety program that provides a satellite link between field rangers and park dispatch. Two field rangers were outfitted with equipment this year, and are testing it for field applications. *The program will likely The accident/incident rate for 2001 is 3.157. In 2001, the criteria for reportable incidents were further clarified and criteria were narrowed. The 2001 number is not comparable to numbers generated in previous years. No baseline data has yet been determined using amended criteria. The Ranger division will continue to monitor incident rate based on revised criteria, and will continue working on generating a comparable baseline.*

Rangers cultivated relationships with the U.S. Attorney's office, the California Highway Patrol, the San Bernardino County Coroner's office, the United States Marine Corp, and the Riverside and San Bernardino County Sheriff's offices. Many incidents were worked cooperatively based on improved relationships with surrounding

agencies. The ranger division managed the initial phase of a search on behalf of San Bernardino County.

Rangers maintained high profile road patrols, conducting traffic enforcement aimed at reducing the number of motor vehicle accidents. Rangers issued 149 traffic citations, and investigated over 40 motor vehicle accidents in 2001. Rangers responded to over 48 requests for emergency medical services, and over 13 requests for rescues. The park incurred one fatality on 2001, no change from the previous year.

The division staff continued to build relationships with University Medical Center of Las Vegas, Nevada, which serves as the park's base station hospital, and with the Emergency Physicians Medical Group of Southern Nevada, which serves as medical director for the park. Several in park training opportunities were provided. Joshua Tree Rangers assisted Death Valley National Park in financing, and sponsoring an EMT refresher, drawing participants from 7 different parks, and the BLM. Sufficient additional training was provided to allow all ranger EMT's to maintain their certifications, and CPR was taught to over 32 employees and volunteers in all park divisions and over 20 people were trained in basic first aid. Three division personnel were upgraded and re-certified to instruct CPR, First aid, and use of the automated external defibrillators. Two automated external defibrillators (AEDs) were added to the EMS equipment inventories, as part of national efforts to ensure AEDs are available in all federal facilities.

The Park Wide Emergency Medical Services (EMS) Coordination attended the national EMS coordinator's conference in 2001, and coordinated with local EMS providers to ensure consistent standards of medical care were preserved throughout the local communities.

Rangers served as part of a national task force in drafting a service-wide reference manual for Search and Rescue. The Resource and Visitor Protection sponsored technical rescue training monthly for all employees. The park received 13 requests for technical rescue response in 2001. All were completed successfully.

One ranger was sent to FLETC to become a defensive tactics instructor. Defensive tactics courses were taught twice during the year. Two rangers attended advanced traffic accident investigation training. Tactical training using non-lethal training ammunition was provided to most of the law enforcement staff. All rangers maintained proficiency and were tested in use of duty weapons. Joshua Tree personnel provided firearms training and qualification opportunities to Mojave National Preserve. Park personnel sponsored and participated in an advanced intra-disciplinary resource protection class, taught in San Luis Obispo, CA.

High profile patrols were continued in areas where criminal activity traditionally occurs. The Rangers documented and prosecuted 22 incidents of criminal damage and vandalism, over 14 drug related incidents, and over 22 alcohol related violations.

Substantial improvements were made on the park's radio system as part of continued efforts to comply with digital and narrow banding technology mandates. 67 new portable radios were distributed to field units that are in compliance with narrow banding mandates. The park maintained 5 hill top communications relay sites in remote locations, supporting daily maintenance, installation of new equipment, and solar power support hardware. The park continued to support the interagency all-risk dispatch in San Bernardino, CA, with operational funding and equipment replacement.

Division staff began to coordinate the park-wide safety program in 2001. A safety officer from the park was appointed from the division ranks. A new park wide safety plan re-write was initiated. Safety training for all employees was provided in confined space, defensive driving, and hazard communications. Organizational training was provided for members of the safety committee. The park safety officer coordinated the removal of a large amount of asbestos found on parklands. A safety recognition award program was established in 2001.

Visitor Understanding

High profile patrols were regularly conducted in areas with traditionally high visitor use. Educational contacts were increased in climbing areas with the addition of a short term climbing ranger in peak months of March and April. Protection rangers attended weekly interpretive programs aimed at the climbing community to clarify park climbing management policies. The staff worked to increase the activity of the volunteer equestrian patrol unit to increase contacts with the area's large equestrian community. The park increased visitor contacts in backcountry areas by increasing the months that equestrian patrols were available. Initiated two educational publications, one targeting equestrian use in the Black Rock and West Entrance areas of the park, and one on climbing ethics and climbing management, in association with the Division of Interpretation. Training for park fee collectors included training on park issues and resources, this information was provided at all park entrance stations.

Employee Safety

The staff continued to implement service-wide medical standards testing in accordance with DO-57. All protection staff had completed the medical standards testing process by the end of FY2001. All Ranger Division employees in identified

arduous positions participated in a physical fitness program, including commissioned employees and fire fighters. All commissioned employees participated in physical fitness testing, using the FLETC standard test of the PEB. Over 70% of the staff increased their fitness score over preceding years.

Visitor Use Statistics

In 2001, the park welcomed 1, 285,699 visitors. The fee demo program collected \$1,836,025.00.

Division of Interpretation and Education

The Division of Interpretation and Education provides personal and non-personal interpretation of the area's natural and cultural resources to the public. It coordinates the cooperating association's activities and the environmental education, special emphasis, Volunteers-in-Parks, and Student Conservation Association programs. The division manages information services through formal interpretive programs and the operation of two visitor centers. It coordinates projects and activities in a variety of non-personal services media such as exhibits, publications, and web sites.

In FY01, the Interpretation and Education program conducted a broad range of programs and activities designed to assist the public understand the park's purpose and significance. Ranger-conducted programs offered visitors an opportunity to learn about park resources and resource issues in an in-depth setting through first-hand experience.

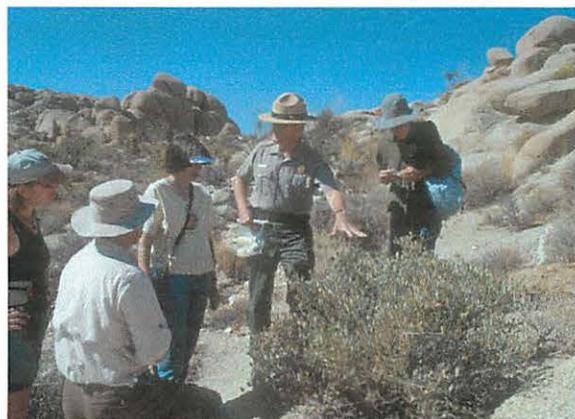
The park's Education Program continued to reach significant numbers of area students with curriculum-based classroom services. The *Parks as Classrooms* programs and services use the park as an outdoor classroom. The program highlighted park resource issues in ways that supported classroom learning objectives. In FY01, 512 education programs were offered to 14,393 students.

The park purchased a CNG van that will be used as a traveling classroom/museum in support of the education program. The van will be custom-painted with scenes from the park and will call attention not only to the park as a whole but to our efforts to reduce pollution by using alternative fuel vehicles.

The Education Program also received an Environmental Leadership Grant of \$24,000 to develop a family activity workbook titled

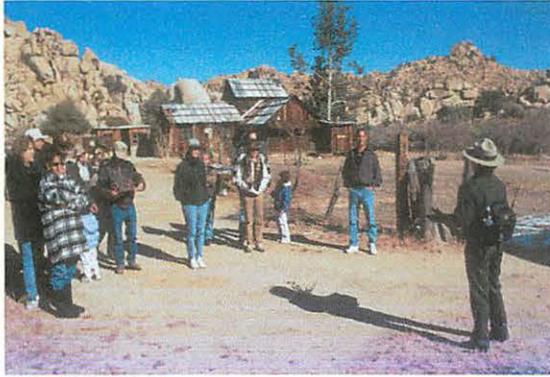
"Do Your Part- Be Desert Smart." The activity book will help families learn ways to be better environmental citizens by recycling and by conserving water and energy. The program involves a partnership with Mojave National Preserve and is targeted at California desert residents from the Coachella Valley to the Barstow area. Work on this project will proceed through FY02 with production and implementation scheduled for early FY03.

The three visitor centers provided orientation and interpretive information to 192,773 visitors. Formal interpretive programs reached 14,618 people through 938 different programs, and informal interpretation reached 9,988 people. Community outreach and media programs reach large audiences with specific messages related to the role the park plays in the preservation of the nation's natural and cultural heritage. The staff conducted 54 community programs and special events reaching 14,216 people.



Ranger Dar Spearing talks desert plants on a guided walk.

The Keys Ranch Fee Tour Operation was initiated in fiscal year 1999 and continued this past year. In FY01, we were able to offer 450 programs with 3,504 people attending.

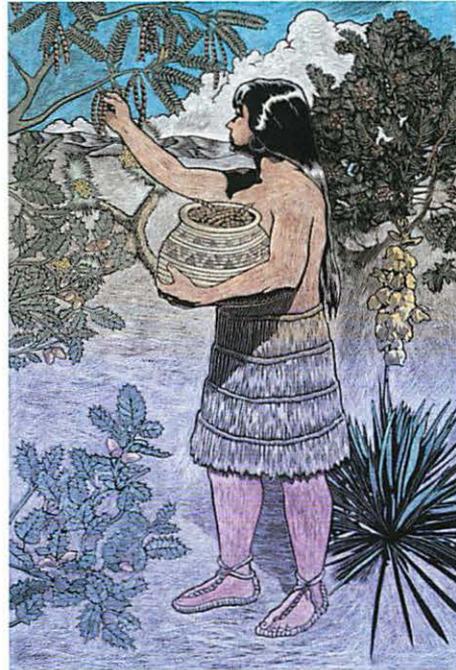


Keys Ranch tour

The Interpretive Division developed a number of programs and initiatives in support of the park's Wilderness and Backcountry Management Plan. A seasonal interpreter was hired to concentrate primarily on wilderness programs including outreach activities with rock climbers. The Education Program staff undertook the development of a wilderness kit targeted at youth and community groups. The multi-faceted program is designed to foster a stronger stewardship ethic among organized youth groups that use the park on a regular basis. Planning, design, and activity development occurred in FY01 with kit production scheduled for FY02.

Non-personal services, such as museum exhibits, waysides, trail signs, publications, the park Web site, and information handouts communicated the purpose and significance of the park to the public.

Work on Phase II of the Oasis Visitor Center is 95 percent complete. Discovery of a dermestid beetle infestation in the Visitor Center delayed completion of the project and final exhibit installation. A contract has been prepared for replacement of taxidermic mounts with inorganic animal models. Delivery is scheduled for late FY02. A rehabilitation of the Black Rock Visitor Center exhibits was begun in fiscal year 2000. Exhibit production and installation were completed late in FY01.



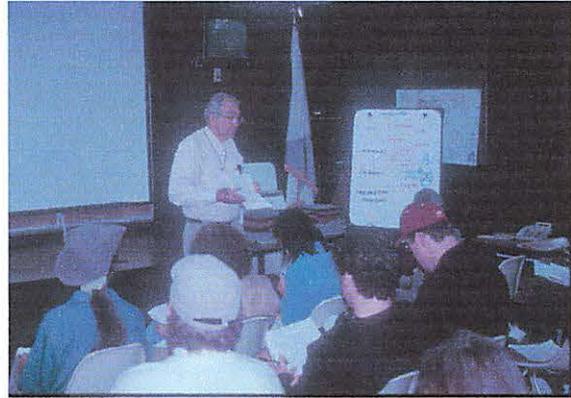
Detail from new Black Rock exhibits

The park signed a Project Agreement with Harpers Ferry Center for the preparation and production of a complete park wayside package. A detailed Wayside Exhibit Plan is scheduled for delivery in FY02 with the first phase of production planned for late in 2002 or early in FY03. Considerable effort in FY01 was put into preparation of resource and graphics package for the wayside exhibit planners at HFC.

As evidence of its commitment to environmental leadership activities, the Division of Interpretation agreed to take on editorial responsibilities for the Pacific West Region's *Green Voice* newsletter. With the assistance and support of the PWR Sustainable Practices workgroup and other contributors, two issues of the *Green Voice* were prepared, printed, and distributed in FY01.

The Division coordinated the park's Volunteers in Parks Program. During 2001, 377 volunteers contributed 18,774 volunteer hours to Joshua Tree National Park.

FY01 was a very successful year for the Joshua Tree National Park Association. Gross sales topped \$500,000 for the first time. The Association donated more than \$103,000 to the National Park Service. A significant portion of the aid (\$26,000) was the value of a modular building that JTNPA purchased and donated to the park. The Association also funded a part-time librarian position to provide regular library hours for park employees as well as to catch up on backlog cataloging of library materials. The Association continued to support the Annual Park Research Grant program. The Association increased its support of the park's seasonal training program. All this was accomplished in a year when traffic at park visitors was the lowest since 1994.



Students listen during a Desert Institute geology course

The Joshua Tree National Park Association-operated Desert Institute completed its second full year of operation in FY01. College level courses were offered during weekends in partnership with the University of California-Riverside. In FY01, the Desert Institute offered a total of 30 courses that were attended by 272 students.