

United States Department of the Interior  
National Park Service



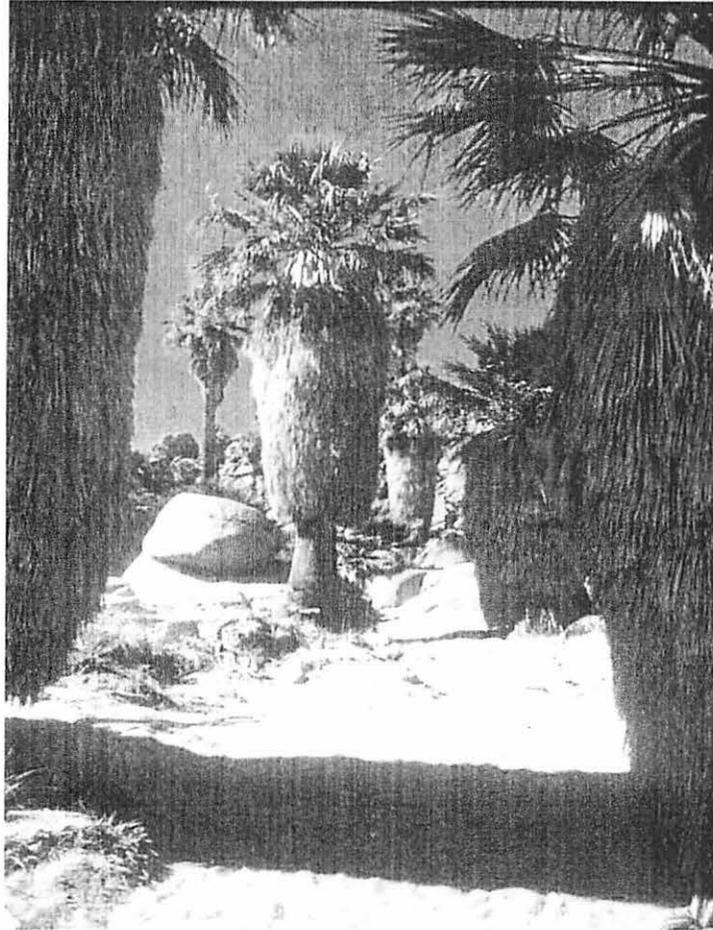
SUPERINTENDENT'S ANNUAL REPORT  
2003

**JOSHUA TREE NATIONAL PARK**

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Curt Sauer

# ***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 park continues to implement 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. Studies on climbing impacts to vegetation, soils and archeological sites continued. The climbing committee continued to provide a valuable forum to discuss climbing issues with stakeholders. Work by the park trail crew to implement the trail component of the plan continues. The process for assessing an equestrian trail was reviewed by the superintendent and determined to not meet professional standards. This issue will be placed on the 04 or 05 work plan, as other priorities are taking precedent.

## **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. As mentioned in the 2002 report, 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. The cases were not ruled on in 2003.

## **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. Actions were also taken to clean up 5 dumps. The DMG continues to be an important forum for communication and information sharing among state and federal agencies and departments, especially as new agency administrators for 30 percent of the membership came on board.

## **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. A consortium of concerned groups and city governments attempted to purchase the Joshua Hills area on the southwestern boundary of the park. This attempt fell through at the last moment due to State concerns over the appraised valuation. Negotiations are continuing. Land values in the Morongo Basin escalated at unprecedented rates this past year. The average closing prices in 29 Palms rose by 229 percent and rose in the Joshua Tree unincorporated area by 117 percent. Four housing developments of greater than 120

homes each have been proposed in the Joshua tree, Yucca Valley and 29 Palms areas.

### **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 Park Advisory Commission continued to be inactive for lack of a quorum. It sunsets in October of 2004.

### **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. The park, with the support of the City of Twentynine Palms, continued 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**

Reconstruction of park roads from Cap Rock Intersection to Geology Tour Road Intersection was initiated this year. Refer to the Facility Management section for additional details.

### **Superintendency**

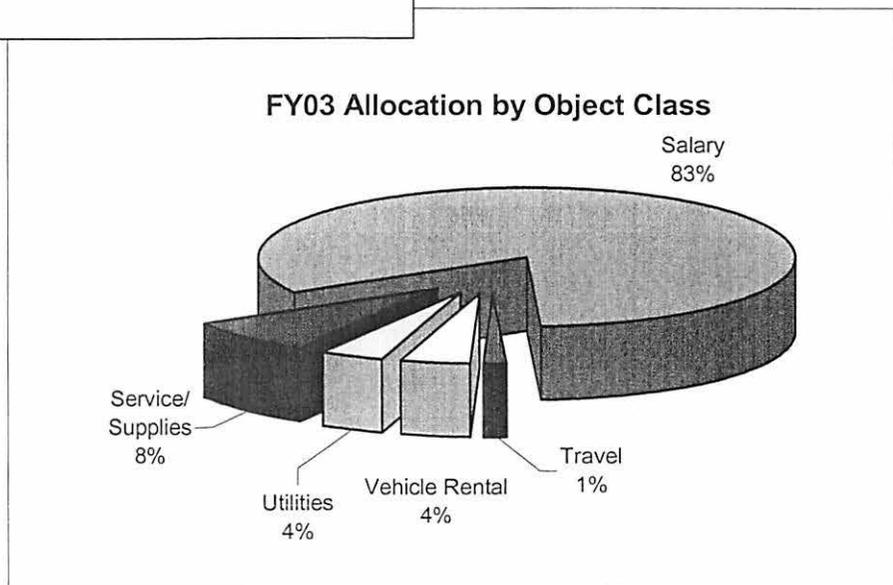
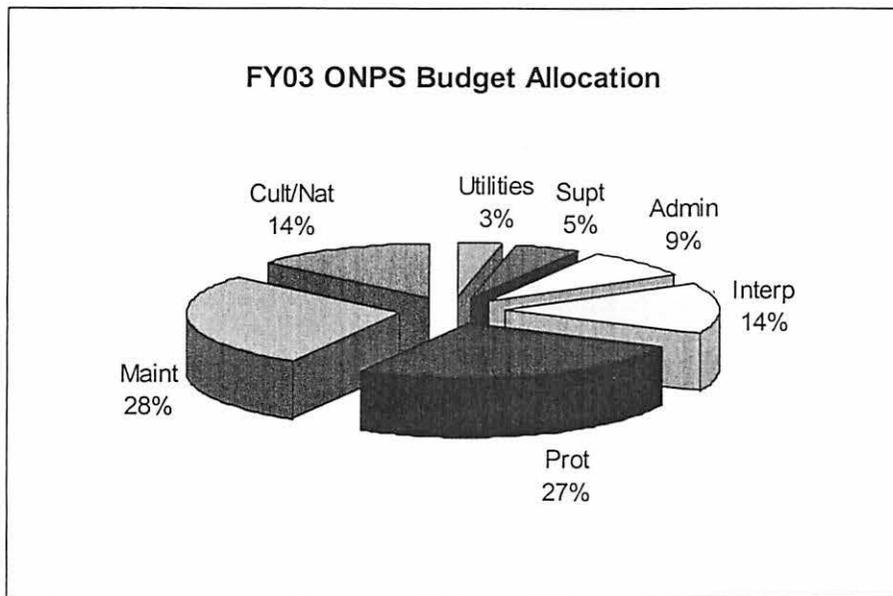
Superintendent Ernest Quintana was promoted to Regional Director of the Midwest Region. Curt Sauer, from Olympic National Park, was selected as the new superintendent in November.

## Division of Administrative Services

During 2003, the Division of Administration continued to provide support for the park in the areas of finance and budget, purchasing and contracting, property management, human resource management, housing and IT operations. All of these functions supported the total park operation and required a close working relationship with other divisions and management.

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 2003, the park received approximately \$2.7 million 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. This figure was down approximately \$2.0 million from FY2002.

In FY2003, Joshua Tree National Park received \$4,201,000 base funds (reduction of \$2,000 from FY2002).



## **Integrated/Interfaced Data Systems**

Working with the park radio coordinator, a satellite telephone was purchased with cellular/satellite capabilities to solve the communication problem within remote areas of the park. This new equipment proved priceless months later when a park visitor became lost in an area of the park with no cellular communication and limited radio contact. These handheld devices allowed search and rescue staff to coordinate information and logistics during the critical early stages of the rescue effort.

The telecommunication upgrade is still ongoing. Over 500 feet of 25-pair line has been installed to eventually replace the lines for the Protection and Resources Management offices of the park. In an effort to reduce telephone costs, the Black Rock area received funding to purchase and install a new telephone system that, when completed in FY04 will join with the main park telephone system. This action will eliminate monthly charges and streamline the maintenance of the Black Rock telephone system.

Equipment replacement funds allowed for the purchase of a new copier for the park. In an effort to reduce reproduction costs, the copier was purchased with network capability to allow users to print directly to this machine which reduces print volume to higher cost printers.

Joshua Tree is in preparatory stages for the conversion to Windows 2000 Active Directory.

## **Performance Standards**

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

## **Workforce Diversity**

As of September 30, 2003, the number of encumbered permanent positions in the targeted occupational series is 21. Of those 21 positions, 10 (48%) met the definition of diverse employees.

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

## **Employee Housing**

The annual housing income in FY2003 was just under \$28,000. The Housing Management Plan (HMP) was completed in March of 2003. Due to the completed HMP, the park was able to receive housing initiative funds for repair work on two housing units in Cottonwood. Work will be accomplished in FY04.

## **Employee Safety**

Park records indicated that during FY03, there were eleven recordable employee injuries with six being lost-time injuries resulting in a total cost of approximately \$50,000. The park also recorded five employee motor vehicle accidents. The visitor accident/incident rate was 4.23 for FY03. The park has an active Executive Safety Committee and Park Safety Committee to assist in reaching our safety goals.

## **Accountable Property**

The park accomplished very little in the realm of property management. With a vacant Procurement Agent (responsible for the parkwide property function, minimal work was accomplished to bring all park property into compliance with applicable rules and regulations.

## 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. Fully implemented the MAXIMO FMSS program at Joshua Tree. 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.

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.



**64 kW Grid-Tied Photovoltaic Electrical System.**

The park placed on line a 64 kW grid-tied solar electrical generation system in December. The system is the direct result of a grant secured from Bonneville Power Association in 2001. The system consists of 432 Sanyo 16 Watt high efficiency solar modules with an annual estimated output of 125,000 kW. This system meets over 60% of present electrical power demands for the Twentynine Palms Headquarters Complex.

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. Emergency repairs were made to 4.5 miles of road shoulders on route 12 recently constructed by Federal Highways Administration in 2001 damaged in a series of summer rainfall events. Work included excavating a 2-foot by 3-inch section of road along both outside edges and placing 515 Tons of cold mix asphalt.



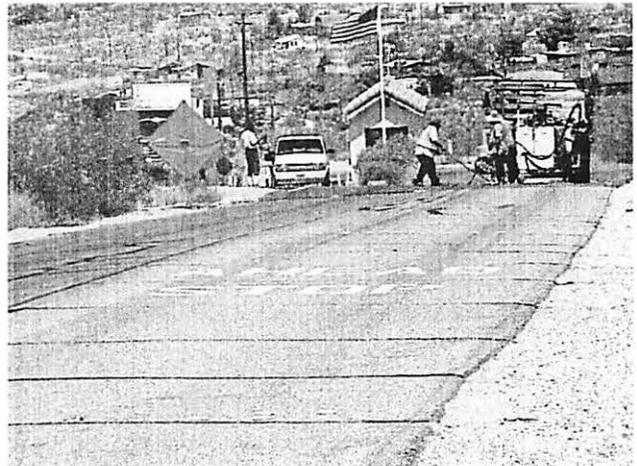
*Asphalt strip along damaged section of road edge*

Emergency repairs were made to 3 miles of park route 11 in the Pinto Basin severely damaged in the same summer storms. A 300-foot section of roadway wash washed



*Asphalt roadway washout along route 11.*

away and had to be reconstructed closing traffic down in the Basin for two weeks. The park striped 46.5 miles of park routes 11 and 12. The contracts laid down 519,028 lineal feet of highly visible traffic markings in 2003 at Joshua Tree.



*Striping at the park's West Entrance*

### **Visitor Satisfaction -**

The Division of Facility Management maintained 3 visitor centers, 9 campgrounds, 175 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 hosted 18 enrollees in the Youth Conservation Corps (YCC) program and partnered with both Great Basin National Park and Pinnacles National Monument on trail restoration projects. The crew rehabilitated the Oasis of Mara Nature trail located at park headquarters. They trimmed encroaching vegetation from 5000 linear feet of trail corridor and groomed the entire 4 acres of surrounding trees, shrubs and grounds. The trimmings were then mulched and spread over denuded areas of the Oasis. They demolished and removed 6 tons of degraded concrete slabs and constructed 220 square feet of stone retaining wall. The crew then transported and placed 20 tons of boulders in and around eroded waterway and culvert drainage areas to stabilize the native soils. They reconstructed a 12' x 8' foot man made pond with environmentally friendly liner to provide for visitor experience and enjoyment of the Oasis area.



*YCC crew members "Team" working a desert rock.*

At Pinnacles National Monument, the group constructed 600 linear feet of new trail and 160 square feet of stone work in the form of retaining walls and check-dams. They also de-compacted 400 linear feet of abandoned trail segments and placed vertical mulch and grass seed along the areas to stimulate re-growth of native vegetation. At Great Basin National Park, the crew redefined 20,000 linear feet of trail tread and corridor and constructed 30 waterbars along the South Fork /Big Wash trail.

The Park continued with its partnership with the California Conservation Corps and employed 6 young adults during the 2003 season. This internship targets young men and women between 18 and 23 years old who reside in the Morongo Basin. Upon the completion of the one-year appointment, participants receive a \$2,000 scholarship. The program provides a diverse experience across the four branches of the maintenance division.

Thirty four trails totaling 72 miles were worked at Joshua Tree resulting in: 430 sq. ft. of retaining wall, 156 stone steps/checkdams, 224,000 linear feet of tread and corridor maintenance, 210 waterbars, closed or rehabilitated 2000 linear feet of social trails, the installation of 9 new benches and 48 new trail signs.

The park sign shop designed and produced 60 trail signs, 450 new campsite marker placards, 67 road signs for visitor information, safety, and regulations, and numerous other safety and administrative related decals and placards.

Repair Rehabilitation funding was utilized for the removal of 20 fiberglass toilets and the installation of 10 concrete vault toilets in the Jumbo Rocks campground conforming to ADA standards. Seven campsites were converted to ADA standards with hardened surfaces, fire grills and concrete picnic tables. Parkwide a total of 40 concrete picnic tables, 18 ADA compliant concrete vault toilets with landscaping, and 340 new campsite markers were installed.

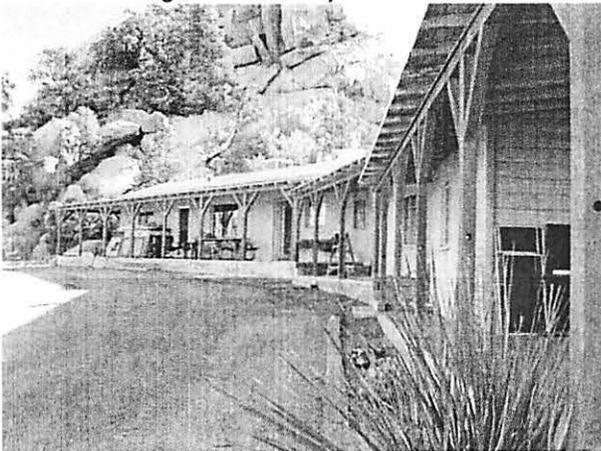
Fiberglass toilet replacement in Joshua Tree National Park is complete, over an eight-year period, 186 fiberglass toilets have been replaced with 75 concrete ADA units.



*ADA concrete vault toilet.*

The Fee Demo project to rehabilitate Lost Horse Ranger Station was completed. This 1930's structure was given a major facelift with a new roof structure complete with ad fire suppression system, interior/exterior remodel, and the installation of a 1500-watt photovoltaic system. A new 1200-gallon potable water system will be incorporated to insure a sustainable water supply all year. The completed complex will serve as a District Ranger operation center as well as host VIP facility for park sponsored Artist in the Park participants, interns and other special emphasis program personnel.

*Lost Horse Ranger Station Complex*



**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,

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.

## **Division of Resource 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.

## **Disturbed Lands**

The vegetation crew continued restoration efforts on three Federal Highway Projects, JOTR 173, 291, and 292. Between June and August, park staff worked with a contractor, Horizon Tree Planting, to directly transplant 123 plants, box 161 plants, and pot 462 plants for Federal Highways project JOTR 291. Three hundred plants are being grown at the Center for Arid Land Restoration for outplanting in April 2003 for JOTR 291 and 400 plants for JOTR 292 in Spring of 2005. The Sheep's Pass Borrow Pit continues to act as a satellite nursery holding facility, with an extensive irrigation system in place and drip lines for approximately 1,100 plants. The area was cleared in January and is ready for the next road construction phase (JOTR 292). Between December 2003 and May 2004, a revegetation crew of 5 Student Conservation Associate Interns (SCA) was brought aboard to supplement the existing crew of 3 technicians and one lead biologist. The crew successfully replanted all of the salvaged plant material in the rehabilitation areas salvaged in JOTR 291. Plants relocated along the construction area were watered throughout the summer with survival rates ranging from 98%

(*Hymenoclea salsola* and *Chilopsis linearis*) to 8% for *Lycium* spp. In addition, the SCA crew has been assessing and rehabilitating closed roads throughout the Park.

Maintenance of restoration sites, continued with the watering of 70 live (out of 202 planted) plants at Rock house and 2,728 plants within JOTR 173. Cages and rebar were removed from dead plants (majority) and the live plants only watered in May. The watering of Rock house throughout the summer was not continued due to time constraints and damage to vehicles from the dirt road.

The Center for Arid Lands Restoration nursery facility continued to work with Fort Irwin National Training Center to propagate 4,231 plants for arid lands projects on the army base. Park staff delivered over 3600 plants to Fort Irwin during the year. Bureau of Land Management (BLM) offices requested 50 plants for the El Centro Resource Area and 1950 plants for the Ridgecrest Resource Area. The nursery staff also propagated 250 plants for Federal Highways Project JOTR 291. The nursery continues to host educational tours for local elementary schools, community groups and local community colleges. Several dedicated volunteers come on a weekly basis to assist with nursery projects. In addition to other facility improvements, e.g. pouring a concrete slab in the new greenhouse, park staff installed a new irrigation system in the nursery.

## **Exotic Species**

Several exotic plant species, including Tamarisk, Sahara Mustard, Russian Thistle, London Rocket, Tumble Mustard, and Fountain Grass continue to receive attention in the park. Eradication efforts have largely been in conjunction with volunteer groups and park staff. For example, on July 22<sup>nd</sup>, 2003, park staff and volunteers spent a few hours pulling Russian thistle near the Barker Dam parking lot in celebration of "Harmful Nonnative Weeds Awareness

Week". In addition, the vegetation branch visited 49 Palms Canyon to remove over 200 clumps Fountain Grass. New localities for all exotic species continue to be reported by staff and volunteers.

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 the rapid encroachment of Saharan mustard (*Brassica tournefortii*). This species is now showing up along all corridors and campgrounds within and near JOTR. This spread is most likely due to an outstanding rainfall year in combination with the new road projects in the park. A research proposal was submitted in cooperation with Matt Brooks, a USGS Researcher, to address biological concerns and eradication methods for the Saharan mustard.

### **Inventory and Rare Plant Management**

The rare plant list was updated to include 44 species based on California Native Plant Society's "Inventory of Rare and Endangered Plants of California" database. The rare plant program at Joshua Tree National Park will continue to search for new populations of rare species and monitor known populations. The plant species inventory has been updated and is currently in the process of being certified through NPSpecies. Inventory work in the park continues to improve our knowledge of species in the park with voucher specimens. A synoptic collection of species in the park has been started.

### **Other Resources Programs**

A park-wide vegetation map continues to be developed. In FY 2003, additional funding was provided by the I & M Washington office to complete this important work. Photo interpretation of 1000 aerial photos was completed, including delineation and

labeling of over 50 vegetation mapping units, alliances, and associations. The vegetation map contractor performed quality control for this phase. Field verification was conducted of each ecological region with the help of State Plant Ecologist Todd Keller-Wolf. Final automation and a park quality assessment are now underway.

Dr. Richard Minnich of the University of California, Riverside completed additional photo-interpretation work by providing base maps delineating historic wildfires from park archive and current aerial photographs. He also provided a report upon his findings and ecological implications.

### **Eagle Mountain Landfill**

Eagle Mountain landfill continues to be a potential threat to the park. Several court cases have 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.

## Research

The park continues to support scientific research by providing logistical or technical assistance to researchers. Park staff provided field tours, locality information, and field assistance for several studies this year. Several university researcher teams have started or continued scientific studies this year on a variety of topics, including, but not limited to, phylogenetics of ferns, population genetics of Locoweed, effects of nitrogen deposition, and the use of woody legumes and rhizobia in arid land restoration. In addition, USGS researchers continue to use JOTR as their laboratory for several studies including fire ecology of Joshua Trees, rodent herbivory on Joshua Trees, and effects of exotic plant species.

## Cultural Resources

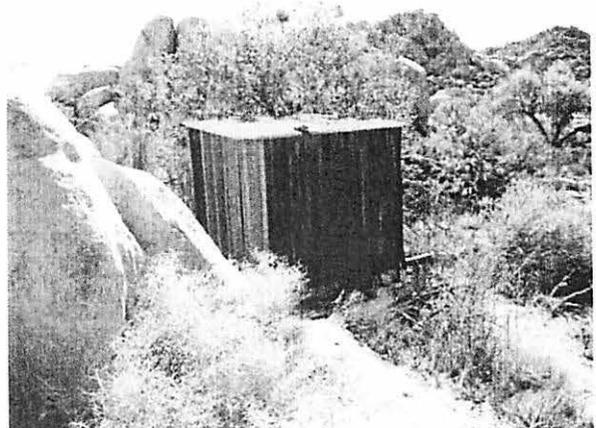
### Historic Structures

An updated List of Classified Structures (LCS), with current condition assessments, was completed in FY03 by Regional staff employees Elaine Jackson-Retondo and Michael Scott. They added 11 structures to the list and deleted three changing the total from 88 to 96. Twenty-one LCS structures

are currently listed as being in "good" condition, 61 in "fair" condition, and 14 in "poor" condition.

Five structural stabilization projects were accomplished in FY03 and the condition of seven structures was improved. Work was done at Keys Ranch, Wall Street Mill, Hexahedron Mine Cabin, Ryan Ranch, and Pinto Wye Arrastra. Dana Kuffer from HAVO conducted work at Keys Ranch and historic preservation staff did the other four projects from Intermountain region. Treatment reports are available for all five projects.

Work at Keys Ranch focused on the North House Double Outhouse whose condition was improved from "poor" to "good". Soil was cleared away; floor beams, some siding and battens, and roof boards were replaced; 5/8" plywood was added as a shear panel and new roll roofing was installed. Also, the McHaney Cabin was raised and set on pressure treated blocks and the ridge beam braced. A chicken pen, rodent hutch, and part of the historic complex fence were stabilized. The screen door for the main house was stabilized and re-hung. Minor repairs were also made to several other structures.



Keys Ranch North House Double Outhouse after stabilization

The park's first funded Vanishing Treasures project was conducted at Wall Street Mill and addressed issues relative to water

runoff and erosion. Work consisted of regarding and constructing shallow drainage swales on the south, west, and east sides of the mill to channel water north and northeast to existing adjacent drainage ditches. Repairs to existing stone retaining walls and stabilization of the stone wall under the west side of the structure were accomplished.



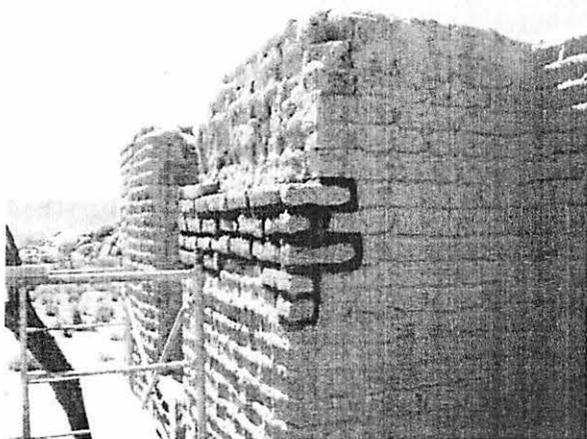
Wall Street Mill rock wall on west side after stabilization

The Hexahedron Mine Cabin, a masonry structure, was also stabilized in FY03. Work began with transportation of supplies and tools to the site by helicopter. Preservation activities began with cleanup of the rubble and debris from collapsed construction inside of the building, as well as surrounding it. Materials were sorted and stockpiled for re-use. Sources of earth, to be used in the mortar, were located, processed, and stockpiled. Portions of the walls, which were unstable, collapsed, or otherwise in need of repair or rebuilding (such as areas where the stones had obviously been re-stacked by visitors), were carefully removed back to solid construction. The bulk of the work consisted of rebuilding, repairing, and re-pointing the stone walls, which included resetting loose or missing stones, filling voids in the walls, and re-pointing the walls using earthen mortar. Finally, the tops of the walls were capped with an amended earthen mortar mixture to prevent rainwater from further eroding the mortar.



Hexahedron Cabin after stabilization.

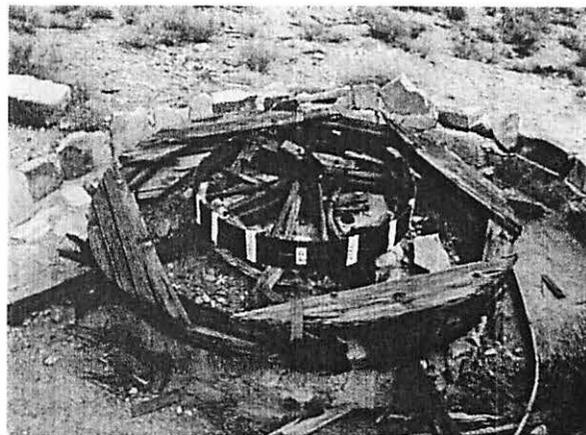
Three adobe structures at Ryan Ranch were stabilized in FY03, the main house the bunk house, and the adobe barn ruin, with the majority of work being on the main ranch house. Excess adobe material was shoveled from in, and around, the structures and stockpiled to be used to make replacement adobe bricks to stabilize eroded sections; approximately 200 adobe bricks were made. Several areas of the house were rebuilt using the new bricks. Foundation stones of the main house were exposed and mud mortar made for re-pointing the joints. A corner of a cement step was reconstructed and an interior stone step was reset. The following work was done on the interior lime plaster of the house: consolidating and disaggregating raw plaster edges; grouting voids between the plaster and adobe substrate; filling of cracks and holes in the plaster fragments, and installing plaster edging around the fragments. The adobe bunkhouse was re-pointed. The tops of walls and windowsills at both structures were capped to prevent further erosion from rain water. Stone foundation walls of the adobe barn ruins were exposed.



Stabilization work on main house in progress

The final stabilization project done in FY03 took place at Pinto Wye Arrastra, identified as one of only two wagon wheel arrastras in the NPS system. It consists of a wagon wheel that served as the central pivot mechanism, four extant wood timbers that were rotated by the wheel, the original drag stones, a 12' diameter rock wall surrounding the milling pit, and a concrete settling pond.

The Phase 1 portion of the project was completed in FY03. The wagon wheel was marked at 22.5-degree intervals. A high contrast color string was also stretched across the center of the arrastra delineating the north/south and east-west directions. Numerous photographs were taken and detailed drawings made prior to removal. The arrastra components were packaged, labeled, and transported to Intermountain Region Office. Stabilization work will be continued in FY04.



Pinto Wye Arrastra during documentation phase.

### Archeological Sites

There were several large archeological projects done in FY03. The Western Archeological & Conservation Center (WACC) in Tucson, Arizona completed a road survey for the realignment of Keys View Road. WACC also conducted Phase 2 of a three year test excavation project designed to gather baseline data for at-risk sites and to determine National Register of Historic Places (National Register) eligibility. In a separate project, WACC tested two sites near Rattlesnake Day Use Area to facilitate picnic area improvements.

Major projects completed in house, mostly by archeological technician Sarah Hinton, were four surveys for trail maintenance and construction and eight surveys for the replacement of fiberglass outhouses with SSTs (Sweet Smelling Toilets). A large backcountry and wilderness project was conducted and 120 closed roads targeted for restoration were surveyed resulting in 12 sites and 16 isolates being identified and documented.

In FY03 year end funds were received from WASO for updating the NPS Archeological Sites Management Information System database. Hinton added about 50 records and updated about 175 records.

## **Historic Studies**

An historic overview for the park's added lands are currently underway. Dr. Donald Hardesty, from University of Nevada, Reno, was hired to conduct the project through the Cooperative Ecosystems Studies Unit cooperative agreement. Dr. Hardesty and two graduate students, Jessica Smith and Morgan Blanchard, accomplished much of the literature research in FY03 and are planning on conducting fieldwork in FY04. The resulting report will present research on historic mines, roads, water sources, homesteads, WWII training areas, the Colorado River Aqueduct, and other relevant topics. Fieldwork will be focused on potentially National Register eligible historic sites; site records and determinations of eligibility will be completed.

## **Ethnography**

A traditional use study regarding "rock art", conducted by contractor Dr. Douglas Deur, represents an effort by the park to initiate discussions with park-associated tribes regarding places of cultural importance within the park. As the public has become increasingly aware of the richness of American Indian "rock art" and there has been growing pressure to interpret these sites, the park has recognized that this growing attention raises a number of issues (what is the cultural and historical significance; are the sites suitable for public viewing or interpretation; increased potential for vandalism). Tribal participants will be interviewed regarding their knowledge of, and concerns about, rock art within the park. It is expected that the content of the report will provide valuable guidance to the park in the years ahead as this agency determines how to best interpret and manage the sites. It is hoped, too, that this study will initiate a dialogue between park staff and park-associated tribes regarding many issues of mutual interest, which will continue long after this ethnographic study is complete.

## **Paleontological Resources**

In early 2003, paleontologists from the Division of Geological Sciences, San Bernardino County Museum visited the park to survey for, and collect, fossils. The field reconnaissance produced at least 87 discrete vertebrate fossils from various localities. Global Positioning System location data from the survey was recorded for each locality. The museum has prepared, preserved, and identified fossils recovered during the reconnaissance; however, the specimens will reside permanently at the park's collections facility. Fossils represented conform with previously published faunal lists for the area, although new taxa were also identified (probable wolf and elephant). Pleistocene age for the fauna is clearly indicated.

## **Museum Collections**

As a result of a conservation survey of the park's museum collections, 146 objects identified as needing immediate preservation treatments were packaged and removed to the conservation facility at WACC. The group of objects included ceramic pots, mining claims, basketry, and ethnographic dolls. The conservation staff at WACC are currently conducting pretreatment documentation, treatment proposals, and developing an aggressive condition monitoring program in cooperation with the Harpers Ferry conservation scientist.

The park loaned approximately 200 prehistoric obsidian projectile points, most of them from the Campbell Collection, to Nellis Air Force Base to supplement a wide scale, non-destructive, material sourcing project. The study, when complete, will provide a cohesive analysis of trade routes and technology changes across the Great Basin.

Four wagons, which are on display in the yard adjacent to the Desert Queen Ranch,

were treated and stabilized by conservators from Harpers Ferry Center and San Francisco Maritime NHP. The wagons were determined to be heavily damaged by exposure, pests, corrosion, and loosening and failure of structural components. All wooden and metal parts were cleaned, consolidated and sealed with appropriate solutions.



Keys Ranch Wagons being treated

Cataloging and storage of backlogged objects continues as an ongoing project. Objects cataloged for FY03 total 11,586, bringing the cataloged collections total to 199,459 museum objects. The museum collections provided research materials for 23 staff initiated and 26 outside researcher information requests.

### **Disturbed Lands (AML)**

This year the park resumed its AML program, with the completion of the AML Safety Plan/Confined Space Entry Plan, and Job Hazard Analysis for mine safing. In October two existing enclosures, that had been compromised, were replaced with Bat Conservation International (BCI) compliant gates. In spring 2004, Mine 19, Golden Bell Mine and additional openings at the Desert Queen mines will be closed to human entry, utilizing BCI compliant gates. Adits that have been deemed safe for tortoise entry will include a tortoise gate at the bottom. All vertical shafts will include a tortoise fence

preventing tortoise entry near dangerous openings.



In April 2003, Joshua Tree National Park received a final report identifying 14 mill sites that contain hazardous materials. The Physical Sciences branch of Resource Management is working with Pacific West Region environmental engineers to mitigate the risk to visitors and employees.

### **Air Quality**

Division of Resources Management managed and maintained the continuous ozone and meteorology station at the Black Rock Campground. The park also maintained the Cast-Net dry deposition, Improve PM-10, and NADP wet deposition monitoring at Black Rock. The weekly maintenance of the air station assures the accuracy and validity of data. The data was transmitted/uploaded to the Air Resources Division for analysis and presentation on our air quality "Current Conditions at Joshua Tree National Park" website:  
<http://www2.nature.nps.gov/air/webcams/parks/jotrcam/jotrcam.htm>

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, a federal land managers group 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 is an ozone non-attainment area for Class 1 air shed. However, the easterly portion of the park is currently unclassified. In spring of 2000, the National Park Service petitioned the California Air Resources Board (CARB) to classify the entire park as "non-attainment," which would require managing air districts to ensure that pollution sources negatively affecting the park be regulated and remedied. Joshua Tree National Park is currently working with community leaders, the Coachella Valley Association of Governments and the Air Quality Management Districts on air quality issues. One of our highest priorities in Fiscal year 2004 is the construction of a second air quality station in the Riverside County/South Coast Air Quality District. The proposed station will provide ozone values, PM 10 (particulate matter < 10 microns) and PM2.5 that will serve both Joshua Tree National Park and the Coachella Valley.

In Fiscal year 2003 the park had 39 episodes that exceeded the maximum 8-hr ozone standard of 85 parts per billion (ppb). The highest maximum 8-hr and 4<sup>th</sup> highest maximum 8-hr exceedance was 119 (ppb) and 111 (ppb) respectively.

### **Water Quality/Quantity**

In Fiscal year 2003 the Physical Science branch of Resource Management submitted a project proposal to develop a comprehensive ground water survey and monitoring program. The proposed project

will delineate groundwater resources in the park and setup a long term monitoring program for quality and quantity. In addition to identifying and monitoring groundwater aquifers, stable isotope geochemical signature methods will be employed to help fingerprint the park's groundwater resources. The isotopic signatures will be used for provenance studies and will help determine/monitor groundwater depletion from possible inter-connecting aquifer beyond the park boundaries.

During Fiscal year 2003 the Oasis of Mara was monitored on a monthly basis

### **Mining Management**

Eleven patented mining claims remain in the park. Park staff continues to work on examining claims for validity and working with patents on a case by case basis.

### **GIS**

During 2003, 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. Support was also provided to the effort to acquire private lands inside and outside the park.

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 management and fire planning. Other program support included assisting resources staff in developing posters for presentations at professional symposia. Support of Dr. Richard Minnich's historic fire/vegetation maps was also continued this year.

New data was developed and included digitized location of rail lines to the proposed Eagle Mountain landfill, proposed landfill phases, existing and proposed land disturbance at the proposed site adjacent to the park. Digital closed roads and land ownership maps were updated. Special work was done on developing a digitized overlay for the archeological survey of park headquarters. Maps were produced to support the ongoing wayside exhibit project. The conversion from UNIX to NT was completed, and the upgrade to ArcInfo 8 continued. GIS computers and the network connection were upgraded and maintained.

## **Desert Tortoise Mitigation and Management**

### **Management**

The resources staff continued to work with contractors on the second phase of the 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. Two on-site tortoise

monitoring personnel were present during construction. Contract employees were given "sensitivity" training on the importance of tortoises as a natural resource and on the laws that protect them as a threatened species.

Construction workers were trained to watch out for tortoises and on what to do when tortoises were encountered in the vicinity of road construction. Daily areas of construction and concern were monitored for desert tortoise activity. Construction staging areas such as the Sheep Pass and Barrow Pit were fenced to exclude tortoises.

Additional Section 7 tortoise compliance clearance surveys were also conducted for other projects occurring in or near desert tortoise habitat; these projects included historic structure rehabilitation, proposed prescribed burn experiments of *Coleogyne*, establishment of new equestrian trails, and future road rehabilitation projects.

In consultation with USFWS, a desert tortoise monitoring plan will be developed to specifically document the adequacy of mitigation measures implemented from road construction on the movement, behavior, and survival of desert tortoises. This plan will also assess how the tortoise habitat impacted by construction affects the quality of the surrounding desert tortoise habitat (i.e. establishment of invasive annuals).

The park continued to work 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 128 kilometers 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.

## **Other Wildlife Projects**

The ten desert bighorn sheep which were radiocollared in the Queen Mountain/Wonderland of Rocks area in 2002 are still being monitored by the Biological Resources Division of the U.S.G.S. Over 4000 radiolocations have been recorded. The study should provide data on the population, key use areas and the impacts of visitor use upon them.

Bighorn guzzlers, which were an issue between wilderness advocates and state wildlife managers, are being evaluated in cooperation with the California State Fish and Game Department. Joint NPS/State field trips have been conducted to determine which guzzlers are so worn out that they can be removed. Others are being photomonitoring to determine whether or not any significant bighorn use is occurring.

The park is cooperating with a multi-agency desert-wide raven management initiative. Raven populations have increased over 20 times historic numbers apparently due to urban expansion and available garbage. Ravens are known to prey upon juvenile tortoises and may be causing population stress upon this threatened species. Studies and evaluation will provide answers for management direction.

Monitoring has been initiated on the impact of visitor use on the California tree frog in key spring and pool areas. Populations have been showing serious declines.

## 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 websites.

In FY03, 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 offer visitors an opportunity to learn about park resources and resource issues in an in-depth setting through first-hand experience. Formal interpretive programs reached 21,080 people through 901 different programs, and informal interpretation reached 8,703 people.

Visitor centers and contact stations serve the needs of the public for information and orientation to the park. As a primary point of contact, these sites give the visitor a chance to learn about the park at many different levels. Here the visitor can engage a ranger in a conversation about a burning question, find a book, brochure, or keepsake of their visit, view exhibits, or perhaps attend a ranger-conducted talk. The three park visitor centers served 193,169 visitors in FY03.

Community outreach and media programs reach large audiences with messages about the role of the park in preserving our nation's natural and cultural heritage. The Riverside County Date Festival continues to be a major regional attraction. The park

once again operated a booth and display at the Date Festival for ten days in February. A new park traveling exhibit developed with Fee Demonstration funds now highlights the park in a much more attractive manner. The staff conducted 15 community programs and special events reaching 6,229 people.



*Kids love the NPS booth at the Date Festival.*

The Keys Ranch Fee Tour Operation began in fiscal year 1999 and continued this past year. In FY03, we were able to offer 372 programs with 3,359 people attending.

The park's Education Program continued to reach significant numbers of area students with curriculum-based classroom services. The *Parks as Classrooms* schools use the park as an outdoor classroom where students study park resource issues in ways that supported their classroom learning objectives. In FY03, 564 education programs were offered to a record number of 16,995 students.

The Education Program completed work on an Environmental Leadership Grant to develop a family activity workbook titled *Do Your Part- Be Desert Smart*. The book was printed in fall, 2003 and 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 desert residents from the Coachella Valley to the Barstow area.



*Illustration from Desert Smart activity booklet*

The park Education Program was invited to help the Desert Sands Unified School District in the Coachella Valley create environmental education magnet schools in the community of Palm Desert. The park was assigned to work with Gerald Ford Elementary and Palm Desert Middle School, and park education staff developed curriculum for the schools in conjunction with the project. The School District received a four-year grant for the project which commenced in April, 2003.

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

The park continued to work with the Harpers Ferry Center on the preparation and production of a complete park wayside package. A draft Wayside Exhibit Plan was delivered in fall, 2002. Contracting for the first phase of production is planned for 2004. Work under this project is being funded through the Recreation Fee Demonstration Program.

Plant identifier signs in the park's demonstration gardens were redesigned and replaced in FY03. Some 75 3" x 7" signs were produced in a heavy aluminum material that will better resist ultraviolet light degradation and vandalism. New bulletin board displays were developed for the front of the Oasis Visitor Center using 'messaging project' graphics guidelines. An exhibit panel on wilderness was produced for display at the park's Black Rock Visitor

Center. Black Rock is the start of many hiking, equestrian, and other wilderness trips.

A collection of nearly 2,000 original color slides of Joshua Tree was donated to the park by Leonard and Barbara McCulloh. This valuable contribution to the park's audiovisual collections is still being organized and cataloged.

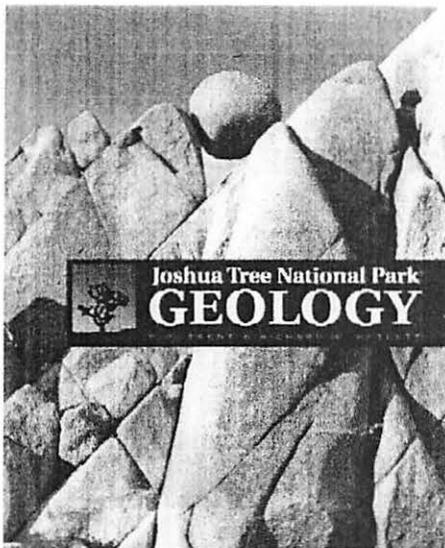
In support of the Desert Managers Group (DMG) interagency partnership, Joshua Tree staff spear-headed the creation of a desert-wide Desert Tortoise Outreach Plan. Other DMG members participating in the plan's development included Mojave National Preserve, Death Valley National Park, the Bureau of Land Management, U.S. Fish & Wildlife Service, Edwards Air Force Base, and the California Department of Fish & Game. Private citizens and stakeholders also took part in the plan's development. A draft plan was approved by the DMG in October, 2003. Joshua Tree also worked with the Natural Resource Information Division (NRID) to pursue Fee Demonstration funding for the tortoise initiative.

A map and exhibit panel of the California Desert and surrounding national forests was produced in FY03 for the DMG. This panel will be used at many public lands information facilities throughout the desert regions.

The Division of Interpretation continued to fulfill editorial responsibilities for the Pacific West Region's *Green Voice* newsletter. Park Ranger Elize Van Zandt serves as feature editor and Visual Information Specialist Sandra Kaye is the designer for the *Green Voice*. With the assistance and support of the PWR Sustainable Practices Workgroup and other contributors, one issue of the *Green Voice* was prepared, printed, and distributed in FY03.

The Division coordinated the park's Volunteers in Parks Program. During 2003, 114 volunteers contributed 16,879 volunteer hours to Joshua Tree National Park.

FY03 marked another successful year for the Joshua Tree National Park Association. Gross sales reached \$631,233, a new sales record. Total FY02 Aid to the National Park Service reached \$112,294, also a record.



*A new geology book for Joshua Tree!*

The Association published its new park geology book- the *Geology of Joshua Tree National Park*, and the book debuted to strong sales. The highly readable text is supported by an outstanding design and appealing graphics. A revised edition of the out-of-print *Desert Reflections* by noted author Stephen Trimble neared completion and should be published in 2004. Chief of Interpretation Joe Zarki contributed a series of essays to help bring this park classic up-to-date.

The Association again 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. JTNPA also purchased new sales fixtures for the Cottonwood Visitor Center.

In cooperation with the park, the Association inaugurated the Joshua Tree National Park

Competitive Science Grant. The \$12,000 annual grant is funded largely through a donation from the Lee Family Foundation. The first grant was awarded to Dr. Andrew Barth of Indiana University-Purdue University at Indianapolis for the creation of a GIS-based park geology map.

The Joshua Tree National Park Association-operated Desert Institute completed its fourth full year of operation in FY03. College level courses were offered during weekends in partnership with the University of California-Riverside. The Desert Institute also offered The Old School House Lecture Series in partnership with the Twentynine Palms Historical Society. In FY03, the Desert Institute offered a total of 39 courses that were attended by 356 students. The lecture series was conducted 9 times for a total of 200 people.

Finally, the Association adopted a new logo. Created by Nevada artist Sharon Schaffer, the logo gives JTNPA a new look that is both new and 'retro,' a look that will tie in with the growth and new direction that JTNPA has experienced in recent years.



*A new image for JTNPA!*

## **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**

The Ranger Division continued to represent the park on the Desert Managers Group Hazardous Materials Working Group which coordinates the cleanup of illegal dumpsites in the California Desert. The Ranger Division investigated and/or cited 88 incidents of resource damage from off road vehicle use. A law enforcement backcountry ranger was hired to post park boundaries and coordinate illegal dumpsite cleanups. 7.5 miles of park boundary were posted and barriers were placed to prevent off-road travel.

### **Threatened Species**

Visitor protection monitored critical desert tortoise habitat, and conducted specialized patrol operations targeting wildlife violations.

The Ranger Division, in conjunction with the California Department of Fish and Game and the U.S. Fish and Wildlife Service continued conducting specialized patrols during the spring and summer months for reptile poaching. The Ranger Division participated in two saturation patrols during

the year with Riverside County Sheriff Dept., California Highway Patrol, Riverside Code Enforcement, Bureau of Land Management, California Division of Forestry for environmental crime violations along the Coachella Valley park boundary. The Ranger Division was represented at the annual Interstate Reptile Poaching workgroup. Four investigations were conducted during the year for reptile poaching and two citations were issued of illegally killing reptiles.

### **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. 17 incidents of damage to archaeological resources were documented. Additionally, the park's criminal investigator assisted other park areas and other land management agencies on several other violations of the Archaeological Resource Protection Act.

### **Visitor Satisfaction**

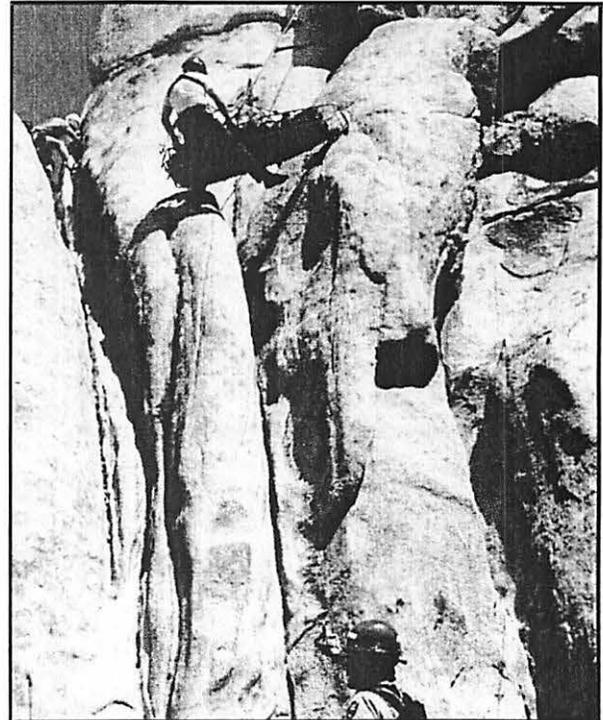
The Division of Resource and Visitor Protection provided high visibility patrols in all park campgrounds, picnic areas, and public areas daily, addressing all disturbances, complaints, and visitor conflicts. Patrols were provided in campground areas well into the evening and early morning hours on every 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 or the Indian Cove emergency phone. Rangers responded to approximately 719 incidents in 2003. In

2003, 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. This has resulted in a advertising campaign that promotes low impact bouldering. This recreational use has become very popular and resulting impacts are a concern. 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 foster continued support for the implementation of the Backcountry Management Plan.

In 2003, the ranger division's physical science technician continued the study of climbing use in the park, and to evaluate the potential impacts of climbing on natural resources. Preliminary results for this study are being used to plan for future management of impacts such as social trailing.

The protection staff administered the park's special use program, issuing and monitoring over 64 Incidental Business Permits, 36 commercial filming permits, and 60 special Use permits, including permits for scientific research, weddings and special events. The park monitored 60 days of filming within the park. The IBP and Special use program both slowed in comparison to previous years, in part due to the effects of the 9/11 incidents on tourism and the film industry. The new draft of the new Special Park Use Guidelines was presented to the park NEPA compliance team and the initial steps in completing the Environmental Assessment for the Special use program were completed. The Special Use program collected over \$26,000 through the cost recovery program.

The Special Use program continued to work within the new NEPA guidelines as outlined in DO-12, to ensure all special use permits comply with the NEPA process. All 60 permits were cleared through 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, charged with park wide coordination of wilderness projects. Two Minimum Tool Analysis were approved. Interpretation installed three wilderness education panels at Black Rock and 49 Palms. They instructed two "Leave No Trace" workshops and sponsored Leave No Trace Traveling Trainers for 3 days in the park, contacting 240 park visitors at trailheads and programs. They distributed Leave No Trace publications at 7 Climber Coffee programs totaling 123 visitors contacted. The park completed the map for a public climbing brochure. Cultural Resources completed a field survey of 139 closed roads and recorded 29 new archeological sites. This survey paves the

way for the park nursery to revegetate the abandoned road beds. The Wildlife Branch submitted to the Park Superintendent the final report on their management recommendations for 10 wildlife guzzlers. Four guzzlers were recommended for removal and restoration of the area back to "pristine" wilderness. Two guzzlers were recommended for further study to assess amount of type of animal use. Two guzzlers were assessed as being "important" to sheep and unless guzzlers are deemed inappropriate in wilderness at a later date, they should be maintained. The remaining two guzzlers require no action. Finally, trail crews continued their work on the hiking and equestrian trails. The staff assisted the Carhart Wilderness Group in putting on their "Wilderness Management" course in Palm Springs. The Wilderness Steering Committee members attended the class.

During 2003, the park fee collection program staffed Joshua Tree's entrance stations and campgrounds throughout the year. Stations were staffed during traditional peak traffic times. This past year Halloween, New Year's and the Leonid Meteor shower events were added as peak visitation times.

Staff administered the NPS camping reservation system and addressed concerns toward the upcoming reservation system change in 2004. Park fee collection staff supplied comments over the year towards the revision of the NPS 22 fee guidelines being modified to RM 22. The Visitor Use Assistants conducted the visitor satisfaction survey as part of the reporting criteria for GPRA goal IIa1.

Educational materials were distributed from the stations, including park safety information, rules and regulations and general guides and brochures. Updates for Federal Highway Road Projects were given to all visitors entering the park. Following severe storms, Visitor Use Assistants

outlined road damage and campground closures as well.

Staff continued to work on the implementation of the new campground fees for the five historically free campgrounds of Hidden Valley, Ryan, Jumbo Rocks, Belle and White Tank. New campground fee collection envelopes were designed and procured. The new system is an honor system based on iron rangers, which were ordered. Arrangements were made for the procurement of new signs, handicapped accessible pads and locking mechanisms required to accompany the placement of the iron rangers. A new vehicle for the program was ordered and received. Public information about the new fees was designed in the form of a handout, article in the park newspaper, Public Service Announcements, Press Releases and public meetings.

The fee program was brought to full staff, including the attention of two new Visitor Use Assistants to run the new campground fee program. Fee staff has been instrumental in establishing a registration program for the campgrounds in advance of charging fees and disseminating information about the new fees to both visitors and other park staff.

## **VISITOR SAFETY**

Rangers cultivated relationships with the U.S. Attorney's office, the California Highway Patrol, San Bernardino Coroner's Office, San Bernardino and Riverside County Sheriff's Department and the U.S. Marine Corps. Many incidents were worked cooperatively based on improved relationships with surrounding agencies. The Ranger Division sponsored cooperative training with the Naval Criminal Investigative Service, U.S. Border Patrol, U.S. Forest Service, Federal Protective Service, DMV Investigations, California Highway Patrol, and California Bureau of Narcotics Enforcement. In addition to park radios at Twentynine Palms Fire Department, radios

were installed at the San Bernardino County Sheriff's Department

The Visitor Protection division continued with the Environmental Assessment for a program to issue permits to place fixed anchors in wilderness areas, in accordance with the backcountry management plan. The park contracted with the University of Nevada, Las Vegas to assist with the EA process, through an C.E.S.U. agreement. The EA process is in progress at this time.

### **Visitor Safety**

In 2003, the fire apparatus was maintained so a minimal amount of out-of-service time was experienced. Wildland fires within the park were quickly extinguished. No significant acreage was lost to fire in Joshua Tree National Park in 2003. The park provided support to national and regional fire fighting efforts in 2003. The engine responded to the SoCal fire-storm and played a key role in saving the lives of a news reporter and cameraman when the fires overran their position. The park provided fire engines, overhead personnel, and technical support during this critical incident. The fire crew also provided support during the local flash flooding which occurred during August. They responded by assisting local fire and police departments in evacuating people from hazardous areas.

For the first time the NPS has participated in the Apprentice program. The park hired one of the fire fighter position through the apprentice program.

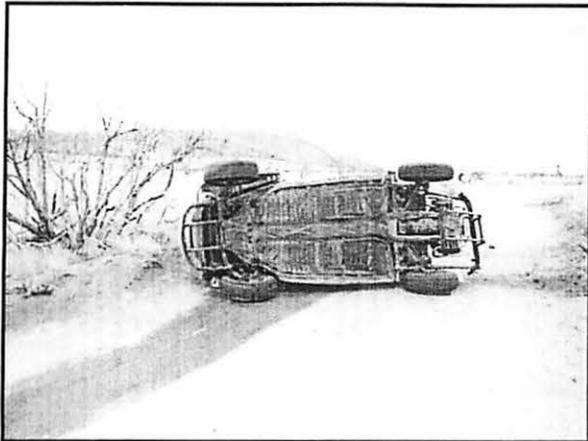
The park's Fire Management Officer and Fire Program Assistant transferred to BLM mid-way through the year. The park has been notified that these positions will no longer be funded. This has resulted in an increase workload on the Chief Ranger and the Engine Captain. Work on the Park's Fire Management plan has been delayed with the loss of these positions.

The park sponsored the 32-hour Basic Firefighter and (2) 16-hour annual Fire Refresher courses. 30 firefighters completed the training. Personnel from the Black Rock fire center actively provided instruction during the DOI Fire Engine Academy. The park fire crew provided overhead and engine support to BLM's "Operation Imperial Dunes" during Presidents Day weekend and Easter Week.

The park fire program received "above average" overall rating during the Fire Readiness Review. The FMO participated on the Northern CA inspection team and produced a compact disk which depicts how the Annual Fire Readiness Review is conducted in CA. Copies were distributed by the BLM CA State Office to all the Northern California Field Offices and the National Interagency Fire Center.

Three 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 continued with the experimental public safety program that provides a satellite link between field rangers and park dispatch. Joshua Tree's evaluation of the unit was critical in determining the final direction the program would take. Twelve field rangers were outfitted with equipment in 2003. The park is set to fully implement the program on all patrol vehicles in 2004, since the reconfiguring of the field test will be available in 2004.



The accident/incident rate for 2003 increased from 3.076 in 2002 to 4.23. The Ranger Division continues to monitor incident for safety trends and has established a baseline for the last three years.

Rangers maintained high profile road patrols, conducting traffic enforcement aimed at reducing the number of motor vehicle accidents. Rangers responded to over 23 requests for emergency medical services, and over 21 requests for rescues. The park incurred 5 fatalities in 2003. The staff managed a major SAR this year that involved 5 days of land search and included two county sheriff's departments and 100 SAR volunteers. The search was for a lost hiker and was successful.

Rangers responded to 5 days of flash flooding in the park and local communities. This involved supporting staff during a tornado and extremely hazardous weather. The staff conducted daily checks of the earthen dams within the park to insure the safety of the public.



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. Sufficient additional training was provided to allow all ranger EMT's to maintain their certifications, and CPR was taught to employees and volunteers in all park divisions and training in basic first aid was provided to staff. The park began implementation of the EMS White Card system.

The Volunteer Search and Rescue team provided over 2000 hours of support to the park's search and rescue program. Interest in the team remains extremely high in the surrounding communities. Rangers provided training for the volunteers monthly, and provided organization and supervision to the unit. The park received 21 requests for technical rescue response in 2003. All were completed successfully.

The Ranger division supported Homeland security details by sending 3 staff members for detail assignments. Rangers have remained ready for mobilization. WMD protective equipment was distributed to the staff for response.

The park filled 5 vacant ranger positions, including one District Ranger position. 1 Ranger attended the Federal Law

Enforcement Training Center and successfully completed the program.

The park's Special Agent was included in a national reorganization, and is now supervised in Region by a Supervisory Special Agent.

High profile patrols were continued in areas where criminal activity traditionally occurs. The Rangers documented and prosecuted 47 incidents of criminal damage and vandalism, over 18 drug related incidents, and over 43 alcohol related violations.

The ranger division continued to improve the park's radio system, in accordance with the project 25 digital radio mandate. The Ranger division continued to support all of the mountain top repeater sites. The Park Radio Coordinator supported several other parks with technical support.

### **Visitor Understanding**

High profile patrols were regularly conducted in areas with traditionally high visitor use. The park climbing ranger position was converted to permanent full-time from subject-to-furlough. Educational contacts will continued to be a priority in climbing areas. Protection rangers attended weekly interpretive programs aimed at the climbing community to clarify park climbing management policies. The staff worked to increased the activity of the volunteer equestrian patrol unit to increase contacts with the area's large equestrian community. 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.

Ranger Division employees in identified arduous positions participated in a physical fitness program, including commissioned employees and fire fighters. 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.

The Ranger Division continued to administer the park safety program. One of the ranger staff serves as the park safety officer. 1,017 pounds and 177 gallons of hazardous waste generated by the park over several years was transported to recyclers. The park initiated a revision of its safety plan, 7 chapters of 40 were updated and re-written. A safety professional was hired to evaluate program and assisted the management team with establishing safety goals. A regional hazmat audit was accomplished and findings corrected. We increased our safety training courses being offered. An Executive Safety Committee was established and the members trained. The park presented a park safety presentation to approx. 300 US Marines from the nearby base. Safety equipment was purchased for confined space entry.

### **Visitor Use Statistics**

In FY 2002, the park welcomed 1,287,985 visitors. There were 5,384 Backcountry overnight stays and a total of 235,565 campground stays.