

Joshua Tree

National Park Service
U.S. Department of the Interior

Joshua Tree National Park



Superintendent's Annual Report *A summary of park operations during 2009*





Superintendent's Office

A major focus of the year has been planning and strategizing about the protection of lands along the north park boundary. The Morongo Basin Open Space Group continues to work towards understanding Basin agencies' missions, finding common goals, preserving open space, determining locations that might best be served by development, and communicating with all vested agencies and organizations.

A number of alternative-energy projects are being "fast tracked" north and east of the park.

Lands

The park continues to partner with NPS Land Resources staff, the Mojave Desert Land Trust, (MDLT) Douthit Consulting, and the Community Affairs office of the Marine Corps Air Ground Combat Center, (MCAGCC).

The park worked with MCAGCC and the MDLT to assist with the application for Readiness and Environmental Protection Initiative (REPI) funding to acquire 955 acres outside of the park. MCAGCC's goal is to protect the flight zones used regularly for USMC missions. The MDLT has the support of the US Fish and Wildlife Service to protect this land, since it is pristine desert tortoise habitat. The park is interested in seeing this area protected, as the Quail Mountain Ecosystem extends beyond the park boundary. MCAGCC submitted the application for REPI funding. MDLT is the partner for this current proposal; orientation tours were held with The Nature Conservancy as a potential future partner.

A number of alternative energy projects are being "fast tracked" north and east of the park. Communications regarding these proposals are being coordinated with NPS Regional Lands Resources Office and with the Chief of Planning, Evaluation and Permits Branch of the Geologic Resources Division in the Natural Resource Program Center in Denver. Joshua Tree continues to communicate our concerns with regard to land use, cumulative environment impacts such as water use & hydrology issues, fugitive dust & air quality, and wildlife mobility & degradation of habitat.

The Metropolitan Water District (MWD) owns land within the eastern and southern areas of the park. A written request was sent to the MWD via a third party requesting that MWD transfer or sell any unused parcels to the NPS. MWD declined our request. We have not determined whether or not we will appeal this decision.

The Los Angeles Sanitation District's proposal to develop Eagle Mountain Landfill has still not been approved. One lawsuit is still pending.

On Kaiser lands outside of the park, there has been a project proposal known as the Eagle Crest HydroPump Storage Facility. With the hiring of a new chief of resources, the park has been very proactive in communicating our concerns about this project, including fugitive dust and air quality, fragmentation of habitat for a number of species, and night sky and view degradation.

Along the southern edge of the park, the Paradise Valley development has continued on track. Staff members from the Glorious Land Company continue to keep the superintendent apprised of its status.

The Los Angeles Department of Water and Power has proposed expanding an existing utility corridor to run 500KV power lines from the I-10 corridor north through the Big Morongo Preserve. The California Desert Coalition continues their fight to protect the Preserve by hosting fundraisers and offering educational workshops. The National Park and Conservation Association has started to lobby for the Preserve to be added to Joshua Tree National Park to prevent utility corridors being designated.

With the housing market slump continuing through 2009, there have not been new developments proposed that could threaten park resources. The Century Vintage Homes development that called for 1600 homes on 476 acres two miles from the park boundary has had all of their environmental studies expire. There has not been any activity regarding the Sky Harbor Ranch development, a community of 428 homes on 640 acres contiguous to the park boundary.

During 2009, there has not been any news on the Katz development, an entire section of land at the western boundary of the village of Joshua Tree.

The proposed NuWu Casino in Twentynine Palms is currently inactive. It has been suggested that the Tribe seek an alternate location within the city limits for this facility.

In 2009, the management assistant and the superintendent participated in the quarterly Land Resources meetings. The management assistant continues to be active in the Morongo Basin Open Space Group, and the Conservation Land Acquisition Work Group.

Cover: Archeologist Caitlan Mars screening soil for a test excavation.

Left: Helicopter support for the closure of the Desert Queen Mine

Administration

The administrative officer spent a rewarding three-month detail in the regional office working with line item funding requests. The park prepared for the retirement of its budget analyst. Functional areas continued to work within their network groups: Mediterranean and Mojave (M&M) Network Information Technology (IT) work group, M&M SHRO for Servicing Human Resource Office and the MABO for Major Acquisition Buying Office.

Business Center

The business center has now been in place for a full year. Work has been assigned to individuals familiar with working for a specific division as this has been found to work best. Overlap of skills has been stressed for backup coverage. The reception functions for the superintendent were also absorbed into the business center. Regular meetings have allowed us to resolve issues and disseminate information among members.

Housing

The Housing Management Plan was approved on July 24. The number of required occupants in park housing was reduced to the two law enforcement positions at Cottonwood. Excess park housing was utilized for centennial hires, eliminating the need for commercial rentals to house seasonal staff. Housing revenue for the year was \$25,800. A staff member was given training in housing then assigned as backup for the housing program.

Human Resources

Many processes were in transition within the HR function in 2009.

- The Human Resources Operations Center (HROC) was up and running on July 1. Phase 1 included classification, employee notices, and length of service awards.
- USA Staffing licenses have been purchased and training is underway.
- QuickTime was implemented for payroll processing.
- Seasonal Recruitment Operations Center (SROC) began advertising summer seasonal positions for a limited number of series. Additional series and fall and winter seasonal recruitment will be added.
- The M&M Servicing Human Resource Office (SHRO) charter was signed. Work continues to consolidate all Servicing Personnel Offices (SPO) in the M&M Network under one SHRO. Meetings and processes to implement our new organization continue.

- JOTR HR staff will adjudicate all SACs, NACIs and ANACI background investigations for the M&M Network, which consists of 10 parks. This is in addition to the service-wide adjudication of all money handler SACs and ANACIs.

Property & Procurement

Sixty-five items of excess IT and electronic property were disposed of through the UNICOR Federal Prison Industries recycling program. The park property report was updated and verified.

The Contracting Officer obtained the Federal Acquisition Certification in Contracting Program (FAC-C) and Level II Certificate of Appointment. Assistance was provided to the regional contracting office to support other parks with their end of fiscal year procurement needs.

Budget and Finance

Base funding for FY09 was \$5,504,042. An increase of \$498,000, focused on resource management, was reduced to \$356,000 due to the delayed implementation of the ONPS appropriation. With the talented administrative staff and energized program assistants front and center through the close out, the park ONPS closed, again, at \$0.00 (only ten of the 66 parks in Pacific West Region managed to do so).

The American Recovery and Reinvestment Act of 2009 brought the park \$3.8M; 3.2M will be used to chip seal roads.

Credit card transactions were not downloaded to the park until late in the 2nd quarter. This led to an inaccurate status of funds prior to that time period. Continuing the tumble, staff held back on purchases resulting in 46% of non-personal services being expended in the 4th quarter.

Budget operations were streamlined: third-party checks can now be computer generated, fee revenue is deposited in a clearing account, and newly acquired coin counting machines expedite donation box counting.

GovTrip was used for 297 travel authorizations, including two work details for the YCC (which equates to 38 travel authorizations for documentation purposes only with no claims).

Information Technology

The park invested 30k in equipment in preparation for the Voice over IP transition and three servers. Conduit and fiber was installed at Cottonwood to expand internet and radio service and at Indian Cove to expand the alarm system.

The number of required occupants in park housing was reduced to the two law enforcement positions at Cottonwood.

Facility Management

The primary focus of the facility manager was the design for the Oasis of Mara VC, so much of the standard O&M of the park was entrusted to the branch supervisors and maintenance administration team. The chief of maintenance performed a 70-day detail in the WASO budget office as well as a number of shadowing assignments associated with participation in the USDA Graduate School Executive Potential Program, allowing for a myriad of developmental opportunities for a number of staff.

Maintenance Administration

- Condition assessment work orders were generated in the Facility Management Software System (FMSS) for 456 assets.
- \$24,000 in cyclic condition assessment funding was spent on support costs.
- Vic Scott came on board in January to assist with payroll and budget, working with AFS3, QuickTime, FFS, IDEAS, and Maximo 6.2. She worked with the foremen to set up numerous spreadsheets for managing expenditures, and took over much of the budget tracking in Excel.
- Desert ARC volunteers continued to collect the park's recyclables. The recycling program will meet the goal of sustainable operations as outlined in the Integrated Solid Waste Alternatives Program.

Buildings and Utilities

Operations and Maintenance

- Remodeled Indian Cove residence with new carpeting, replaced vinyl flooring in the kitchen, dining room, laundry room, and both bathrooms with ceramic floor tile. Removed 1970's paneling and wall paper, floated out walls and repainted the interior.
- Remodeled both bathrooms in Cottonwood residence 204. Removed the shower enclosure and rebuilt the walls and installed ceramic tile. Installed new floor tile and vanities.
- Installed a new composition shingled roof and painted the exterior of the Black Rock education building and restroom 302.
- Painted the exterior of the Black Rock Maintenance building and the surrounding block wall and railing.
- Installed a new composition shingled roof on Black Rock residence 308.
- Installed a 7kw grid tied PV system on the roof of the Black Rock Maintenance building.
- Installed 350 feet of 6-inch water pipe in the upper complex at headquarters.

Cyclic Maintenance

- The available funding was concentrated on

“Night Sky” friendly exterior fixtures. 122 fixtures were retrofitted and over 200 incandescent bulbs were replaced with energy efficient CFL's at 30 locations.

- The interiors of the Indian Cove carport, Administration building, Artifact Storage, and Pinto Wye Maintenance office were painted.
- Eight assets received pumps, evaporative pads, bearings, motors, and temperature controls. One new condenser was installed along with three hi efficiency evaporative coolers. Three systems were recharged and coils cleaned. Two inefficient electric heat pumps were retrofitted to natural/propane gas units.

Repair/Rehab

- Over 1200 LF of metal gas pipe was replaced with polyethylene (PE) in Cottonwood. The single tank supplying the visitor center, which was routed through a wash, was relocated and a new tank was installed for the Interpretation office. Twelve gas meters and regulators were installed and the existing tanks were inspected and valves replaced. The above-ground gas line for the photovoltaic system was replaced underground according to building code.

FLREA Projects

- Two 7.2 kW grid tied photovoltaic systems were installed on the Resource Management building. Systems were purchased from Sunwize Technologies and installed by park staff.
- Contracted for the replacement of the electric power line to the Cottonwood Visitor Center. Park personnel performed compliance, resource monitoring, repair of utilities that were unknown, landscaping after trenching and back fill, and final electrical hook up.
- Replaced 11 doors and retrofitted with accessible hardware along with 27 compliant locksets at Lost Horse Ranger Station, Indian Cove Ranger Station, West Entrance restroom-office, and the Administration office.
- Compliance and monitoring of the initial exploratory excavation has been achieved in order to replace waterlines at Cottonwood. All valves and necessary piping have been purchased to complete the project.
- Demolished & replaced the Cottonwood group/picnic area restroom, including demolishing the wooden fabric of the restroom and gutting of the interior down to bare block wall, framing a wood upper structure and roof system, installing concrete “S” tile roofing, installing new plumbing, tile floors, partitions, and doors which



Placing curb and sidewalks in the upper complex at park headquarters.

NPS staff work with the California Conservation Corps to pressure wash campground dumpsters.





Installing low-water crossing to improve water drainage.

Youth conservation corps lining the trail with rock at Keys View.



meet ADA requirements.

- Continued the construction of retaining walls and the three-part stucco process on the upper level at headquarters. Elevations were determined for the walks and an architectural team designed the upper area walk-way.

Campgrounds

- Partnered with Alaska Region to recruit disabled persons. Hired Ameet Amir and Jerrad Carrell under the special hire, using Centennial Initiative funds.
- Employees hired in partnership with Desert Arc do custodial work at headquarters, cleaning the visitor center, five office buildings, and 11 comfort stations. The custodial personnel have also assisted with cleaning seasonal housing, the Lost Horse residence, and restrooms in the Black Rock fire dorm. This has enabled campground personnel, to have more time to keep the 92 vault toilets in compliance with health and safety standards.
- Removed ashes, cleaned grills and groomed campsites; assisted with the pumping of 67 vault toilets and seven septic tanks.
- Outdoor Creation Inc. donated a one piece ADA concrete picnic table. The table was installed at Indian Cove Campground site 36 to test its longevity.
- Line-X West applied graffiti protective coating on the exterior and interior of the recycling and a fire retardant protective coating on the walls, ceiling and floors in vault toilet two in Hidden Valley Campground. The coating saves hours of cleaning labor, uses less water, and it will not need to be repainted.

Trails

- Hired three WG-05 term employees and one WG-07 Permanent STF
- Increased number of YCC enrollees from by 35%.
- Facilitated 15 hours of tailgate safety meetings at five minutes per day.
- Completed 12 BAER signs
- Facilitated construction and installation of 112 directional and information trail signs
- Established backcountry trails in Black Rock Canyon
- Installed 30 climber access signs
- Supervised up to 30 employees with no lost-time accidents and documented 1,312 VIP hours.
- Responded to Big Thicket on Saw crew detail in support of Hurricane Ike
- Entire crew trained and certified in wilderness first aid
- COTR certification

- Initiated task agreements and contracts for youth partnerships
- Partnered with the City of 29 Palms regarding proposed trails within city limits.
- Recruited disability/diverse hires for JTNP and Alaska region.
- Mojave National Preserve: Assisted with the design and construction of an interpretive trail at the “rock cabin” site. The crew assisted the American Hiking Association volunteers with one mile of new trail.
- Devils Postpile National Monument: Removed 10 down trees on six miles of trail; removed two down trees from the campground and made the trunks into bump stops for parking lots.
- Pinnacles National Monument: NPS and YCC crew traveled to PINN using ARRA funds to brush fence line and helispots for new fence construction.
- Urban School of San Francisco: Worked with over 75 volunteers from the high school to perform repairs to the lower section of the Ryan Mountain trail and Sheep Pass Connector trail. Constructed a stone retaining wall around a vault toilet to enable future construction of an ADA accessible path.
- Big Morongo Canyon Preserve: The NPS trail crew and the YCC crew traveled to the preserve to provide trail maintenance on Mesquite trail and West Canyon trail.
- Channel Islands National Park: The NPS and YCC crew traveled to Santa Cruz Island to complete trail work, road clearance, and trash pickup along beaches.

Roads

- Contracted for \$3.2 million of ARRA funded pavement preservation (Chip and Slurry Seal) all paved surfaces in JOTR.
- Assisted vegetation crew in the development of their weed management program.
- Cleared snow and ice from 84 miles of paved and non-paved surface.
- Graded 96 miles of paved and 109 miles of unpaved surfaces. Re-stripped crosswalks, stop bars, stop symbols and parking stalls; repaired and replaced signage park wide, removed litter from roadsides, campgrounds and parking lots; fabricated and repaired access gates park wide; worked with protection to cleanup dump sites.
- Under the Equipment Replacement Program (ERP) purchased a 15-yard dump truck one year earlier than anticipated.
- Utilizing FLREA funding, rehabilitated sections of Indian Cove Road, five miles of Pinto Basin Road, five miles of route 11
- Utilizing cyclic funding, re-aligned and

replaced delineation boulders throughout Jumbo Rocks Campground; repaired and replaced eight park gates and barricades; performed curb, gutter and drainage maintenance on two miles of route 12.

- Worked with San Bernardino County and Yucca Valley City planners on the Black Rock entrance-road ownership determination and concept design; conducted site visit Black Rock entrance-road drainage and design concepts with Pat Flynn (Central Lands FLHP) and Scott Hogan Lead Hydraulic Engineer Central Federal Lands Highway Division.
- Assisted Mojave National Preserve with the relocation of stock pile material to make room for a 54KW solar array; assisted with the repair of 12 miles of Coliseum Mine Road (Yates Well Road) damaged by flash flooding.

Resource and Visitor Protection

Ranger Trouper Snow was recognized as Morongo Basin Law Enforcement Officer of the Year and Firefighter Aaron Collins as Fire Fighter of the Year.

Protection staff continued to provide support to the park mission, park staff and park visitors through law enforcement patrols and investigations, emergency medical care, search and rescue response, wildland fire suppression, backcountry and wilderness management, cultural resource monitoring, campground management and fee collection, special park use permits, public outreach projects, and safety awareness. The division maintained program compliance through the completion of PEB testing, firearms qualifications, mandatory training, medical review exams, background investigations, and internal audits. The staff participated in career development training including Fundamentals, FLETC, detail assignments, committee and project participation, and supervisory skills.

Law Enforcement

The 2009 Superintendent's Compendium and Jurisdictional Inventory were completed.

The law enforcement program documented 774 case incidents, including:

- 6 ARPA incidents
- 41 Burglary (unlawful entry)
- 23 Disorderly conduct
- 6 Driving While Intoxicated
- 10 Drunkenness
- 36 Liquor Law Violation
- 6 Molesting/Bothering/Possessing Wildlife
- 36 MVA reported
- 32 Natural Resource/ Feature violations
- 2 Poaching
- 275 Traffic Incidents
- 58 Vandalism
- 13 Weapons possession

Emergency Services

There were 35 Search and Rescue incidents involving one fatality and 16 ill or injured visitors. The program cost \$12,834.

Staff provided emergency medical care during 29 incidents coordinating with local ambulance, helicopter, and fire departments. The EMS program provided training in CPR/AED to a third of the park staff as well as First Aid and First Responder training.

Critical Incident Stress Management training was conducted for ranger and fire staff. A Critical Incident Debriefing supported several Black Rock engine crew members who had experienced their first response to a motor vehicle accident with fatalities.

The PWR aviation program manager reviewed the park's aviation program and helped the us acquire three new sets of flight gear.

Radio equipment was inventoried and the information provided to the Sequoia radio shop in preparation for replacement of outdated narrowband equipment. A request for cyclic funds to replace 90% of the park's radio equipment was completed. All repeaters were evaluated and serviced. Twenty new portable radios were programmed.

Wilderness

The wilderness steering committee processed two minimal tool analyses for wilderness activities.

A field trip that included three closed mines was conducted for a Carhart Wilderness Stewardship class.

Protection staff worked with the Army Corps of Engineers to remove military ordnance from park wilderness. The Corps tested the soil in an area that was used by the military as a target range in the 1940s. The impacted site totals 640 acres of desert ecosystem.

Two hundred tons of asphalt were removed from the ranger borrow pit and 300 pounds of litter from Berdoo Canyon. Staff repaired vandalized fence and signs along the northwest park boundary. Several off-road vehicle incidents occurred in the new section of the park known as Nolina Peak. Staff repaired and maintained the gate and fencing in this area and patrolled the area to reduce impacts.

Fee Collection

- Visitor-use assistants provided information to the public while collecting and securing funds from five collection sites and nine campgrounds.
- Standard operating procedures and a park-specific fee operations manual were instituted. Along with Director's Order and Reference Manual # 22, the fee operation now has written direction for all aspects of the program.
- The supervisory park ranger GS-07 position was re-authorized to provide first-line supervision and additional fee collection positions were added to support operations.
- The remit office was moved from west entrance to park headquarters for increased security.

Special Use

- One hundred commercial-use authorizations were issued.
- Only 34 commercial filming and photography permits were issued, a large decrease

- due to changes in the film community.
- There were 41 special-use permits including weddings, ceremonies, and fundraisers. The program collected \$41,877 in cost and location fees.
- The program manager, Don Roberts, was once again selected as one of the three finalists by the California Film Commission for California's Federal Lands Locations.

Wildland Fire

Although investigated as a man caused, no suspects were identified for the Lost Horse Fire. The engine crew responded to multiple incidents in August during extreme conditions in the Los Angeles and San Bernardino area. During the fall, the crew provided support on the Lost Horse Mine BAER project, as well as hazard fuel reduction (weed abatement) around historic structures and in areas where fire could be carried.

Partnership and Outreach

A Memorandum of Understanding (MOU) was completed between the park and the non-profit group, Friends of Joshua Tree. This partnership facilitates fund raising by the friends group for the park's search and rescue program. Friends of Joshua Tree also contributes valuable volunteer hours to support resource management projects such as social trail rehab, micro trash pickup around climbing routes, and disseminating public information about the park's climbing program.

Division employees designed an exhibit booth and participated in the Inland Empire Scout Jamboree in San Bernardino, presenting information on the park and promoting the National Park Service Scouting program. Scout troops within commuting distance of the park were contacted and several have expressed interest in volunteering at the park.

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The number of visitors attending a ranger program increased as the result of a new design for program schedules that has proven popular with park visitors.

Interpretation & Education

Change was a major theme across the nation in 2009 and that process was mirrored in Interpretation as a variety of shifts, both gradual and sudden, shaped the division. Developments in facility planning, education, outreach, interpretive services, and cooperating association activities led to a busy, and sometimes surprising year. There were a number of personnel changes. The year was also marked by a major increase of activity within the park volunteer program, largely due to the positive impact of having a full-time volunteer coordinator. Record numbers of volunteers and volunteer hours were reached in 2009.

The interpretive program once again benefited from the Centennial Initiative: 12 seasonal rangers were hired providing visitors greater access to uniformed interpretive staff at our visitor centers, on trails, and through ranger programs. Curriculum-based education programs and community outreach services also benefit from the added staff.

A significant event for the year was the preparation and roll-out of the Ken Burns documentary, America's Best Idea. The six-part, 12-hour documentary aired in September on public broadcast networks across the nation. Joshua Tree participated in a major promotional event for the documentary at Santa Monica Mountains NRA in March. Staff hosted three local events about the film and supported an America's Best Idea film rollout event at Las Vegas.

Visitor Services

The number of visitors attending a ranger program increased as the result of a new design for program schedules that has proven popular with park visitors. This despite slightly fewer programs offered.

While the number of community outreach programs increased significantly, overall attendance declined substantially, perhaps indicating a need for improved promotion of these programs. The number of education programs and children reached increased slightly. This is significant as schools in California are in crisis, and the park has had to further extend its efforts to provide educational services that schools can utilize in the face of crippling budget cuts and ever-increasing testing mandates.

Visitor center attendance also dropped from 2008 levels. This was perhaps to be expected as the weather station at Twentynine Palms recording only 1.28 inches of rain for the entire year. A below average spring wildflower display this led to less media promotion for the desert

as a whole. The partner-owned Joshua Tree Visitor Center once again regained the top spot as the park's busiest visitor center with an increase of nearly 7% to 104,525.

Education and Youth Outreach

The education program at Joshua Tree National Park continued its excellent service to regional schools and took on a number of additional initiatives and responsibilities in 2009. Education rangers spoke to 21,777 students in 741 programs. Of that, only 156 programs comprising 4,918 students were conducted in the park. These numbers illustrate a long-term and rather unfortunate trend. In the mid-1990s, roughly half of all students attending a park education program did so on field trips to Joshua Tree. In recent years, the ratio of in-park versus off-site programs slipped to 1:2. In 2009, the ratio for the first time dropped to 1:4. Funding pressures facing California schools have led to cutbacks in many extra-curricular programs including field trips to national parks. On the positive side, teachers remain very pleased with the quality of programs they receive and give the park's education staff high marks.

Mirroring a Service-wide emphasis on youth outreach, Joshua Tree has seen an increase in participation in its Junior Ranger program with 2,855 junior rangers participating in the public program and 373 in the school program. A special slate of youth-targeted activities was offered on National Junior Ranger Day, April 25.

Over the summer, the education staff also worked on updating the exhibits for education venues like California Science Teachers Association (CSTA) and a general park exhibit. The new education exhibit was showcased at the CSTA conference in October with lots of positive comments on the display. The park was able to produce two copies of the exhibit, one for use by southern California parks and one for the northern California NPS sites.

Education Ranger Caryn Davidson took on a significant collateral duty as the park's Artist-in-Residence (AIR) Program Coordinator. In 2009, Joshua Tree hosted six resident artists who pursued a variety of creative endeavors including painting, photography, music, and film. The first art exhibit for a park AIR participant was hosted at the Joshua Tree Visitor Center late in the fiscal year with more planned for 2010. Caryn worked with the Riverside Art Museum and the Morongo Basin Cultural Arts Council. The program also received assistance from volunteer Michelle Stoops who assists with artist orientation to the park and logistics for visiting AIR participants.

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Education Specialist
Lorna Lange was awarded the Pacific West Region's Excellence in Interpretation Award for 2009

Education Specialist Lorna Lange was awarded the Pacific West Region's 2009 Excellence in Interpretation Award for publication of the children's story *A Tree Named Lily*, the revision of the Joshua Tree Junior Ranger program, a series of Ken Burns American's Best Idea outreach events, and outstanding leadership and support for the PWR Parks As Classrooms Educators workgroup.

Interpretive Planning & Media

Joshua Tree received funding to develop architectural plans and interpretive themes for a LEED Platinum building to rehab the Oasis Visitor Center. An Interpretive Charette was held in December by contract interpretive planner Krister Olmon, of Los Angeles. Several multi-day workshops in connection with the project were held at the park, San Diego, and Los Angeles. Marcella Wells, a NPS IDIQ contractor conducted four public focus groups in March and April to solicit community input.

Local wildlife photographer David McChesney brought his *Miles of Wonder* exhibit to JTVC to considerable public acclaim. The exhibit featured over 200 images of desert wildlife, flora, and scenery; many of the images depicted rarely observed interactions and behavior of park wildlife. The exhibit was viewed by more

than 37,000 visitors during its run at JTVC and was featured on the Palm Springs television show *Eye on the Desert*.

The landscape paintings by Artist-in-Residence Jessica Dunne were featured in August.

An ongoing project to digitize the interpretive slide file was completed. The digital library contains over 6,000 high resolution color images with searchable metadata.

With the increase FMSS-workload for interpretive media, plus the approval of a number of new interpretive media projects, a decision was made near the end of the fiscal year to re-establish the exhibit specialist position to coordinate the development of FMSS-covered interpretive media such as interpretive trail signs, waysides, and museum exhibits.

Volunteer Program

VIP program development with an emphasis on safety was a priority in 2009. Laureen Lentz was hired as Joshua Tree's full-time volunteer coordinator near the end of FY08. Able to dedicate about 80% of her time to volunteer program activities, Laureen set an ambitious goal: 39,000 volunteer hours in 2009. She came close with 1,068 volunteers contributing 31,644 hours. In addition, more than 3,000 hours of volunteer training were accomplished during the year. The value of these contributed hours (using an approved rate of \$20.25/hour) comes to \$640,791. The time equates to 15.2 FTE, a substantial augmentation of the paid park staff.

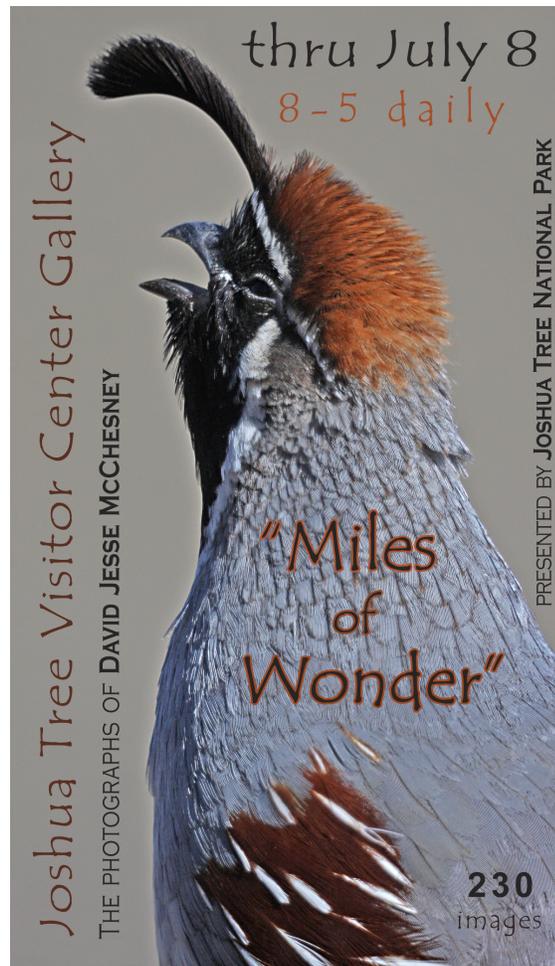
The campground and trail roving volunteer team signed up 12 recruits, completed an operations manual, and acquired two radios to improve rover's safety.

On National Public Lands Day, 103 volunteers turned out and donated 463 hours doing trash cleanup with a specific goal of finding released balloons that are harmful to wildlife.

A volunteer appreciation dinner with an international theme was held in March.

Desert Tortoise Outreach

Fiscal year 2009 marked the fourth year that Interpretation at Joshua Tree coordinated an interagency education and outreach program about the threatened desert tortoise on behalf of the Desert Managers Group. The program works as an adjunct to the U.S. Fish & Wildlife Service's Desert Tortoise Recovery Plan by developing and communicating to a wide audience in southern California specific messages designed to increase awareness about desert tortoises and improve human actions in ways that promote tortoise conservation efforts.



A formal partnership with The Living Desert in Palm Desert, California, to host a tortoise called California's Mojave Max that is the focal point of the Mojave Max Emergence Contest was finalized. TLD also hosts an annual event called the California Desert Nature Festival where Mojave Max and tortoise conservation are featured. This year's Mojave Max contest attracted 852 entrants from eight southern California counties. About 2,500 contacts were made at the 2009 California Desert Nature Festival. At the end of 2009, it was learned that the funding through the California Off-Highway Vehicle Grant program would not be available in 2010 so plans were made to shift operational leadership of the program to TLD with support from the remaining tortoise grants.

Time Warner Cable Company was contracted to air 10 videos on MTV, Speed Channel, Sci Fi, Toon Network Animal Planet and Versus. The target market areas include Los Angeles, Riverside, Hesperia Adelanto, Victorville, Apple Valley, Barstow, Palm Springs, El Centro, and Yuma, Arizona. One message, Mojave Max Dancing in the Desert was posted to YouTube.

Staff Changes

For quite a few years, Joshua Tree has enjoyed a high degree of stability in its year-round interpretive staff. This changed dramatically in 2009 with several significant departures and the arrival of a number of new faces. Some organizational changes will continue to influence operations in years to come:

- Park Ranger Pat Pilcher arrived in November with considerable interpretive coaching skills and completed Registered Local Coach training during the summer.
- David Denslow who moved over from Administration to augment the park's visitor center operations, interpretive programs, and community outreach capabilities. He is also a skilled sign language interpreter.
- Lesley Gaunt brought her experience with the living history program at Death Valley to the park in April.
- In late September, Dave Carney arrived to assume the Interpretive Operations Supervisor position.
- After four years as the desert tortoise outreach coordinator, Anne Staley moved over to fill the re-established position of exhibit specialist. Anne will manage a variety of media projects while implementing an expanded partnership with The Living Desert for continued operation of the DMG's tortoise outreach initiative.

Cooperating Association

Association sales were \$713,129, a drop of almost \$207,000 from FY08. While many southern California travelers are still visiting Joshua Tree, they have reduced discretionary purchases while in the area.

To address the Association's financial situation, assistance was sought from the Association of Partners for Public Lands, and a detailed financial and management review was con-

Mojave Max dances in the desert.



ducted in February. APPL's report provided a blueprint for restoring the Association to long-term health. The park set up a lease agreement for exhibit space in the new visitor center that provided an important revenue stream back to JTNPA. The board was able to renegotiate its mortgage resulting in a significant monthly savings. JTNPA's office manager took on some duties of the executive director, the inventory specialist assumed some of the duties of the vacant purchasing specialist. Institute Director Karina White assumed some added duties for fundraising, membership development, and the Association's web site. With creativity, considerable belt tightening, and a determination by all parties, the Association ended the year with a small positive balance.

The Association's fundraising program, the Legacy Project, received \$50,000 to support restoration of the historic McHaney Cabin at the Keys Ranch.

The Minerva Hoyt California Desert Conservation Award was presented to Senator Dianne Feinstein for her long record of legislative achievements protecting California's desert parks and wilderness areas.

The annual Art Festival was held over the first week of "spring break" and artists' combined sales were greater than \$20,000, the highest ever.

The Desert Institute

Sixty-two classes were offered to 555 students. Revenue declined to \$31,595 from \$33,660 the year before. Six custom programs for groups and families, perhaps pointing to a new market, were offered.

Six lecture series were sponsored with various partners, and several individual lectures were held at additional locations, with an attendance of 1,492 people. The series at Black Rock was funded through a \$1,000 grant from Wal-Mart. Evening lectures were held in Twentynine Palms, Yucca Valley, Palms Springs, Rancho Mirage, La Quinta, and Palm Desert. Institute volunteers staffed roughly half of the field classes and one-third of the lectures for a total of 918 hours contributed.

Resource Management



Wildlife

Staff completed the fourth year of tortoise monitoring and data collection. Three additional tortoises were added bringing the number monitored to 15. The tortoises are located in six areas: Cottonwood, Black Eagle Road, North Entrance, Lost Horse Valley, West Entrance, and Indian Cove.

The average tortoise home range among monitored tortoises

The average tortoise home range among monitored tortoises in Joshua Tree National Park is approximately 73.8 acres with one notable outlier, a female tortoise who has covered 190.1 acres during the three years we have monitored her.

in Joshua Tree National Park is approximately 73.8 acres with one notable outlier, a female tortoise who has covered 190.1 acres during the three years we have monitored her. Without this tortoise factored in, there is a clear difference between the size of the average male and female home range. Males average 81.83 acres and females average (51.2 acres).

Lost Horse Fire

Over Memorial Day weekend, a 450-acre fire broke out near the Lost Horse Mine. Wildlife Biological Technician Kristen Lalumiere responded as the lead resource advisor. Two tortoise mortalities were reported by fire crews, though only one was confirmed, an adult female burned over in a burrow. The second tortoise, which was a small juvenile according to the fire crews' pictures, was most likely carried off by an animal. The burned area was assessed for damage from suppression tactics. Suggestions for the rehabilitation effort were made for the Burned Area Emergency Report.

Guzzlers

A motion-trigger camera was installed in the 49 Palms Oasis and another at a natural tank located upstream from that oasis. The objective is to determine if bighorn sheep drink the lower quality water in the tank rather than water in the oasis because of visitors present at the oasis.

Bat Gates

Twenty-three mine openings were assessed for the presence of bats; 13 had signs of bat use and bats were observed in Old Swede and Eagle Cliff mines. Bat-compatible gates were constructed to keep visitors out while ensuring that bats, owls, and small mammals can still use the mine as habitat.

Surveys conducted from 1999 to 2002 by contracted biologists indicated that, Lucky Turkey Mine is a known maternity site for California leaf-nosed bats (*Macrotus californicus*), a federal species of concern.

Other Highlights

- Data from wildlife observation cards provided by visitors and staff over the years are being digitized. Over 12,000 were processed; 4,000 still need to be entered into the database.
- A pair of red-tailed hawks, *Buteo jamaicensis*, was observed nesting in the Towers of Uncertainty. The area was closed to climbing for the rest of the season to minimize disturbance to the nest, which allowed the young to fledge successfully.
- Over 50 contracted construction crew members and surveyors were trained to protect tortoises at the work site and how to mitigate for disturbance to tortoises in their project areas this year.
- SCAs Stephanie Root, Aric Devens and Charlie Truettner have become an integral part of the wildlife branch.

Vegetation

Restoration of Disturbed Lands:

- Planted natives at Geology Tour Road, Keys View Road, Squaw Tank, and Indian Cove picnic area.
- Salvaged native plants at a trench dug along the roadside between the visitor center and maintenance area at Cottonwood.
- Monitored and maintained restoration sites at Whispering Pines, Geology Tour Road, Squaw Tank, Indian Cove picnic area, Keys View Road, and Indian Cove borrow pit.
- Delineated the most direct social trails and restored others at Echo Rock, Cyclops Rock, Hall of Horrors, and Hemingway Rock.
- Set up 35 plots to monitor plant cover, vegetation diversity, and soil stability on boulders.

Climbers Coffee

On Saturday and Sunday mornings from mid-October to mid-May, free coffee was provided, climbing and resource related posters and educational materials were displayed, and relevant issues discussed. Friends of Joshua Tree provided the coffee.

Prior to peak climbing season, Climbers Coffee went on the road to the Pine Mountain Pull-down, a bouldering competition, in Ojai, CA and to Yosemite to help with Facelift, a week-long trash pick-up event.

One hundred sixty pounds of food scraps from employee lunches were composted.

Center for Arid Lands Restoration

- Electricity was made available to the upper compound and the soil mixer was moved up there.
- One hundred sixty pounds of food scraps from employee lunches were composted. One batch of compost has been finished since the program began in April.
- Plants propagated for Ft Irwin, Federal Highways, and the park: 6,776
- Plants provided for restoration and specimen gardens: 681
- Plants delivered to Ft Irwin: 1,272
- No seed was collected this year due to lack of rain

Rare Plants

Four species were targeted for extensive monitoring: *Astragalus tricarinatus*, *Erigeron parishii*, *Linanthus maculatus*, and *Penstemon thurberi*. Surveys for *A. tricarinatus* were performed in steep, rocky terrain in the Little San Bernardino Mountains and yielded a new population. This species was not discovered in the park until 2007 and we still do not know the extent of its range or how many populations exist. Fifty-two individuals of *E. parishii* and 50 individuals of *P. thurberi* were identified, measured and tagged for monitoring. Potential pollinators of both species were collected for identification. The data was added to the park's rare plant database and geo-referenced.

Herbarium

More than 275 vouchers were processed and additional specimens were collected during flowering periods to further our goal of a complete, synoptic collection of the park's flora. Herbarium data was uploaded to the NPS museum database.

Invasive Species

Sixty-one miles of road and 6,408 acres were surveyed and treated for invasive species by 263 people. In addition to physically pulling the plants, 120 oz of 2% Habitat and 118.25 gallons of Veteran 720 were used for treatment and removal.

The exotic plant management team from Lake Mead assisted Joshua Tree for a week in controlling *Brassica tournefortii*. Six days were spent spraying Veteran 720 at a 2% concentration along route 11 and 15 feet into the interior. One day was spent treating soil piles and mapping the infestation at the rifle range where the road crew stores soil from Pinto Basin.

Vegetation Mapping

Results of activities included refinement of vegetation associations, 112 "rapid assessment" plots recorded in 15 problematic vegetation as-

sociations, an assessment database, geo-tagged photographs for each of the rapid assessment plot, changes to the park's vegetation classification and map.

Physical Science

Air Quality

Air quality monitoring continued year-round at the Black Rock & Cottonwood air stations and from May thru October at the Pinto Wells air station. The air quality monitoring program underwent audits from both the California Air Resources Board and the Environmental Protection Agency.

Abandoned Mine Lands

Four mine-sites with eight openings: the Desert Queen, Golden Bee, Stonehouse Road Mine (LAME) and Thousand Palms Mine Shaft were closed. Of the eight openings, four belonged to the State of California as inholdings, one for the State of California just outside the southern boundary of the park, and one site for Lake Mead National Recreation Area.

Staff was kept busy with tight timelines and itineraries for responding to requests for information by the region's ARRA coordinator. Network specialists developed protocols for AML projects.

Fabrication of subassemblies continued at the Pinto Wye machine shop. Enough parts were fabricated to close 10 adits and 10 copulas.

Groundwater

Twenty-four monitoring wells were surveyed and recorded, including those at the Oasis of Mara in this third year of data collection.

Physical Scientist Luke Sabala, was an active member of an interdisciplinary team of that have been responding to the development of the Eagle Mountain Hydro-pumped Storage Facility that is within 2.5 miles of the park. Joshua Tree National Park is concerned about the contamination of groundwater and the withdrawal from Pinto Basin Aquifer, which is in communication with Chuckwalla Aquifer, the water source for the project.

Night Sky

Five sites were surveyed as permanent stations for night sky data collection. In June a new set of images collected from Pinto Wells were photo-stitched to depict the light pollution from major cities around the park. Light pollution on the eastern side of the park is minimal but development of the Eagle Mountain Hydro-pumped Storage Facility, Eagle Mountain Landfill Project, or Paradise Valley land development could degrade the pristine nature of night-sky viewing there.

Sixty-one miles of road and 6,408 acres were surveyed and treated for invasive species by 263 people.

Geologic Research

Working with USGS, Joshua Tree received a new seismic monitoring station that is 100% solar powered.

Community Outreach

Physical Scientist Luke Sabala was a speaker at the California Science Teachers Association conference. The topic, "Climate Change in the California Desert," was well received by a diverse audience of educational professionals. Sabala discussed the interaction between greenhouse gasses and air pollution with students visiting the Black Rock air station, and spoke at the Joshua Tree Public Library about encroachment, light pollution, groundwater, and other impacts at Joshua Tree National Park.

Archeology

The impact of ongoing road grading on two known archeological sites that are bisected by Geology Tour Road was assessed. Testing determined the depth and integrity of cultural deposits in and adjacent to the roadbed to inform future management decisions regarding the two sites. Based on the results of 14 test pits, it was determined that CA-RIV-88 does not contain any significant cultural deposits in the road and therefore is not currently being impacted by grading activities. RIV-8074/H, however, was found to contain significant deposits below the present elevation of the road cut. Prior to further road grading, data recovery should be conducted at this site.

Condition Assessments Backcountry sites with outdated condition assessments were targeted this year. Three archeologists and one contractor assessed 159 sites. GPS locations were documented and site overview photographs taken. Data was entered into the NPS archeological sites database.

Site Maintenance Small-scale treatments were conducted by a Centennial-funded archeologist. Two site stewards were recruited to help with cleanups. Prior to treatments any human-caused disturbance was reported to law enforcement and Case Incident Reports (CIRs) completed as appropriate. Fire rings, charcoal, and/or charred wood were removed from sites; minor vegetation trimming and documented relocation of piles of collected artifacts took place as well. Treatment reports were completed and data entered into the NPS archeological sites database.

Post-treatment monitoring indicates that for the most part they have remained undisturbed. Removing the visual cue at disturbed archeology sites, and by inference the message that park staff are concerned, is making a positive

impact on the appearance and condition of the treated sites.

Bouldering Inventories A comparison was made between bouldering locations and recorded and known-but-unrecorded archeological sites. The survey consisted of a visual examination of the established bouldering route as well as the ground surface in a 10m to 50m swath around the route. By summer, 221 bouldering areas and their approaches had been inventoried with 41 remaining. Thirty-five of the 221 are within 50 meters of known archeological sites, and threaten 23 recorded archeological sites. Additionally six climbing areas were found in close association to five unrecorded sites.

Cultural Landscapes

Fieldwork on the Northern Pinyon Historic Mining District was conducted by PWR staff and a draft report including the contributing sites of Wall Street Mill, Desert Queen Well, Louise Mine, Desert Queen Mine, and Eagle Cliff Mine as well as connecting roads and trails, has been submitted for internal review.

Historic Structures Stabilization

Grubstake Cabin In May, a Vanishing Treasures historical architect assessed the condition of the masonry Grubstake Cabin. He noted the northwest wall was leaning into the interior of the room approximately six inches. Staff constructed a ¾-inch plywood form on either side of the leaning wall. The interior and exterior parts of the form were tied together using threaded rods that were fed through existing voids in the wall. The form was lined with a tarp and sand and water were poured into the top filling the void between the form and the masonry wall. Two diagonal 2x4s were secured to the two sides of the form and mounted to a piece of plywood secured to the interior floor of the structure. At the base of each of these was mounted a hydraulic bottle jack. Over the course of several months, the jacks were advanced gradually to bring the wall back to its proper alignment. Eroded mortar joints in the other three walls were repointed and on the northwest wall after it had been returned to a vertical position.

Silver Bell Mine The two ore bins are in good condition but the horizontal basal timbers supporting the structures were found to be rotted and unstable. About 420 cubic feet of soil was removed from below the two bins. The timbers were left exposed to prevent future water damage. Wood hand railings once existed on both bins and the serviceable ones were collected and replaced on one bin. Funding is being sought to replace the timbers and railings with treated wood.

Removing the visual cue at disturbed archeology sites, and by inference the message that park staff are concerned, is making a positive impact on the appearance and condition of the treated sites.

These older sediments contain what may be one of the oldest records of *Thomomys* (pocket gopher) in North America.

Piñon Well The three cyanide tanks at Pinon Well were stabilized. The most significant masonry deterioration was occurring on the middle tank. Stones were gathered from the local area, including some which had spilled off of the structure itself. These were built up from the ground surface and tied into the existing masonry. Repair of the vertical cracks was somewhat more problematic as these cracks are forming because the ground on which the tanks were built was unconsolidated fill. As this ground has settled over time, some parts of the tanks have subsided more than others. This is a problem which cannot be corrected without addressing the underpinnings of the foundations. A temporary solution was to repoint the existing cracks in hopes of excluding moisture which would continue to crack the concrete in freeze-thaw cycles. Vegetation was removed from the immediate area around each of the structures to minimize root damage and improve the overall appearance of the site. Vegetation was left alone in the areas not adjacent to structures to facilitate erosion control in light of the damage from the 2006 Pushawalla Fire.

Keys Ranch Cyclic maintenance included replacing water pipes for watering the orchard; replacing the siding at the Disney Shed with 3/8" plywood, cleaning the structure and re-hanging the dark room door; replacing a failing 2x4" support beam at the Machine Shed with a 4x4" beam; replacing several panes of glass with restoration glass at the North Cabin; replacing the canvas window covering at the chicken coop and removing a dead tree and brush; replacing corrugated metal roofing the girl's outhouse; turning the wheels on the historic wagons in the yard, which had been previously placed on blocks to attenuate decomposition; and removing a 1970s-era portable toilet..

A donation was received from the Parfet family that will fund future renovation of the McHaney Cabin.

Historic Studies

The Sonoma State University, Anthropological Studies Center, was contracted to edit and format the historic resources study for the added lands. Work on the park administrative history continues with geographer/historian Dr. Lary Dilsaver conducting the research as a volunteer.

Museum Collections

Archives Cataloging With help for several months from DEVA archival staff, 9.3 linear-feet of backlogged archives covering the development of the General Management Plan/Backcountry Wilderness Plan, multi year bighorn sheep research, water source information, and the Environmental Assessment of

VR-1257 (military over-flight agreement) were processed.

Archives Treatments Forty-one original documents associated with park-wide mining claims were selected and sent for preservation treatment to the Northeast Document Conservation Center. The documents all suffer from desiccation and embrittlement. The project resulted in clear documentation of several mine sites. Remaining funds were used to stabilize three photo albums from the museum collections.

Ceramic Treatments Three ollas, two of which were actively being damaged by salt migration, were transported to WACC for conservation treatments.

Collections Storage A museum collections storage plan was completed. Additional archival storage was provided by the installation of a compressed storage unit.

Paleontology

San Bernardino County Museum staff continued their investigations in the Pinto Basin. The research is focused on further recovery of significant paleontologic resources, including micro fossils, and more detailed documentation of the geologic and stratigraphic context of geologic formation exposed in the region. More than 261 accessioned specimens (2,271 objects, including portions and fragments) have been recovered to date. The majority of fossils recovered date to the Pleistocene Epoch; recent discoveries of fossils of Bison (bison) suggest that these remains are late Pleistocene. New discoveries of vertebrate fossil remains in sediments below Tertiary basalts in the eastern Eagle Mountains represent a previously-unrecognized, substantially older faunal component. These older sediments contain what may be one of the oldest records of *Thomomys* (pocket gopher) in North America.



Preparing to close an abandoned mine site.

Correcting the lean of the northeast wall of the historic Grubstake Cabin.





Delineated access trail to Heminway Buttress.

"Cages" protect plants at the Whispering Pines revegetation site.

