

Joshua Tree National Park



Superintendent's Annual Report

FY2011



JOSHUA TREE
NATIONAL PARK

SUPERINTENDENT'S OFFICE

The park's newest Superintendent arrived on duty the week of February 14th, 2011. Mark Butler transferred to the park after a 34 year career at Yosemite National Park.

Fiscal Year 2011 was primarily focused on the park's 75th Anniversary. Karin Messaros and Joe Zarki were the primary coordinators of the partnerships, the events and new products were developed and created with the assistance of the Joshua Tree National Park Association. A GS-9 employee was hired to assist with all the events throughout the year. Mr. George Land did an exceptional job of coming to the park without any prior National Park Service experience and hit the ground running.

Alternative Energy proposals and developing relationships continues to consume much time from within the Superintendent's office. The Eagle Mountain Landfill continues to go through changes, however, the project may still occur. First Solar and correspondence with the Eagle Mountain Hydro –Electric Pumped Storage Project proponents took up much time and energy, particularly from the Resource staff, with much oversight from the Superintendent. Preparing responses to alternative energy proposals is taking an enormous amount of staff time.

Geographic Information Services Office

The park's GIS Specialist, Sean Murphy continues to work with a number of partners to help analyze land use issues, and assists the creation of modeling scenarios for many of the park's resource issues. During FY2011, the Superintendent established the Project Services Group of which Sean quickly became the lead. His ability to analyze what was needed to establish criteria and a rating process to set project proposal priorities was utilized with the assistance of Vic Scott and Bob Clyde. Sean also continued his excellent partnerships with the University of Redlands, other network GIS staff and working with the Morongo Basin Open Space Group.

Human Resources

The Human Resources Office at Joshua Tree National Park is provided by the Mojave and Mediterranean Human Resource Office (M&M SHRO) which encompasses a complex Human Resource operation. The work accomplished by this team is staggering in quantity and complexity as workload continues to increase rather than decrease as anticipated with the transition to the Human Resources Operation Center (HROC).

Human Resource staff on-site continues to provide park employees and managers with classification of positions, position management, employee relations, staffing and placement, initiation of personnel actions, pay administration, ethics, etc.

During calendar year 2011, the Human Resource operation was supervised by the Assistant Superintendent. During this time, the network recruited for a lead HR Specialist to be located in Boulder City at Lake Mead.

The Human Resources Specialist at Joshua Tree served as the Acting Human Resources Officer for the network for nearly four months.

The HR Specialist at Joshua Tree directly supervises three full time employees and one part time employee.

The HR staff completed in excess of 492 personnel actions, coordinated 36 vacancy announcements for Joshua Tree, purged and scanned hundreds of Employee Performance Appraisal Files (EPAP's) for the SHRO, and handled numerous employee relation cases.

In addition to the work completed for the SHRO, and Joshua Tree employees, the HR Specialist provides program management and supervision for 1.5 FTE. employees. As part of the WASO program, the personnel security and suitability adjudication program for all NPS positions that handle government money and worked with WASO staff to develop, write and review bulletins and policies related to human resources and suitability issues. This past year, this office handled in excess of 2500 background investigations for the National Park Service.

Lands

Participation in lands meetings with the regional office continued, with excellent and active working relationships with the Mojave Desert Land Trust, the Conservation Land Acquisition Work Group which is a subcommittee of the Desert Managers Group, and the Morongo Basin Open Space Group. The Mojave Desert Land Trust continues to work with Douthit Consulting in the process of acquiring parcels as they become available.

Legislation

Legislation that affected the park includes two bills including Senator Feinstein's California Desert Protection Act of 2011, and an NPS sponsored California Desert Lands Bill. Time was spent on coordinating language, maps, definitions and recommendations for both bills. As of the close of FY11, neither bill has moved forward.

Partnerships

Joshua Tree National Park continues to work in a number of formal and informal partnerships for the major goals of networking, regional problem solving, and effective land use planning and resource and knowledge sharing.

ACCESS Fund

Basinwide Foundation

Coachella Valley Mountains Conservancy

Copper Mountain College

DesertARC

Desert Managers Group – the park continues to participate in quarterly managers meetings.

Desert Regional Tourism Association – the park continues to attend regular meetings.

Friends of Joshua Tree

Joshua Tree National Park Association

Joshua Tree Search and Rescue

Mojave Desert Land Trust

Morongo Basin Conservation Association

Morongo Basin Open Space Group

Morongo Basin Regional Economic Development Consortium

National Parks Conservation Association

National Park Foundation

Riverside Art Museum

Service First Agreement with other Federal Agencies, BLM & USFS

University of Redlands – GIS Program

Participated in community meetings with the Town, City and County-wide Councils, Planning Commissions, local and regional water districts and regional and local tourism organizations much more frequently, due to the cooperative spirit to engage the communities in the celebration of the park's 75th Anniversary.

Planning

The park's GMP planning process slowed down to some extent due to budget cuts and modifications to the planning processes as determined at the WASO level. The primary planning efforts that came out of the Superintendent's office were in response to the 75th Anniversary events.

Renewable Energy Projects

First Solar Desert Sunlight Project

The NPS continued to work with the BLM and the project proponent on the development and permitting for this project. In FY2011, this included reviewing, compiling comments for, and replying to the Final Environmental Impact Statement and the Record of Decision to permit the project. The NPS requested and was granted Cooperating Agency Status on this project. A new practice was developed and implemented through the establishment of a Cooperative Agreement, which allows for First Solar to reimburse the NPS at a minimal rate for expenses incurred as a result of the monitoring of the potential impacts for this project. Cooperatively, the NPS will continue to carry the majority of the costs associated with reviewing documents and communications.

enXco Desert Harvest Project

NPS initiated project planning for this endeavor through some initial meetings with the BLM and the project proponent. The Notice of Intent was filed for this project at the end of the fiscal year. The NPS has submitted a request for Cooperating Agency Status on this project. Bureau of Land Management Solar Programmatic Environmental Impact Statement – The BLM continued in the development of the 6-state Solar PEIS. As coordinated through the WASO office, JOTR staff worked on site specific comments for the Riverside East Solar Energy Zone and the Iron Mountain Solar Energy Zone, which are respectively adjacent to and in proximity to the park. Comments were provided on the Draft EIS and internal revisions prior to the release of the Targeted Supplemental Draft Solar PEIS which is anticipated at the end of October 2011. This included region-wide and nation-wide coordination to develop resource impact assessments that could occur as a result of extensive development within these zones.

California Desert Renewable Energy Conservation Plan

The NPS (both local and regional) continued to participate in the development of this California-wide desert plan for all renewable energy projects. In FY2011, this and the BLM's PEIS began to integrate more to present a united plan, although the BLM plan will continue to focus only on solar projects. This is most noticeably reflected in the decision to release a joint Environmental Impact Report/Environmental Impact Statement. Comments were provided on preliminary strategic planning documents. A draft Preliminary Conservation Strategy is anticipated at the end of October 2011.

Mojave Network Renewable Energy Team

The Mojave Network has developed a Renewable Energy Team to develop effective replies and coordinated approaches for potential projects adjacent to national park units.

Eagle Crest Energy Pumped Storage Project – The NPS continues to provide comments and feedback on this project, which has become re-invigorated with the solar projects in proximity. These project is being promoted in tandem with the solar projects for its “battery” capacity at high energy use times when the solar fields might not otherwise be providing power. In October 2010, the NPS provided comments on the Draft Environmental Impact Report. In February, the NPS joined the others in the Department of the Interior in the filing of a Motion to Intervene with the Federal Energy Regulatory Commission.

Eagle Mountain Landfill

The Eagle Mountain Landfill continues to be presented as a viable option for the Eagle Mountain lands within the heart of the park. NPS continued to work with Regional and WASO staff on viable alternatives to this proposal.

Safety

Luke Sabala continued his tenure as the park’s Safety Officer. Katy Matthews continues to Chair the Safety Committee. Other members include:

- Katy Matthews (Chair)
- Dave Henley (Training Coordinator)
- Vic Scott (Budget; ended term in Aug)
- Annie Bertheaud (Publicist; ended term in Feb)
- Pam Tripp (Notetaker; ended term in Aug)
- Lynda Murphy (Ended term in Aug)
- Stacy Manson (Publicist)
- Chris Cusumano
- Pat Pilcher (Notetaker; replaced Pam)
- Cruz Jimenz (Budget; replaced Vic)

Training Opportunities Provided by the Safety Committee

- Lockout/Tagout Training (11/17/10)
- Bloodborn Pathogens Training (12/14/10)
- Hazard Communications Training (12/14/10)
- OSHA Training (December 2010)
- Ergonomics Seminar and Workstation Assessments (1/11/11)
- Fire Extinguisher Training (January 2011)
- Stress Training (3/30/11)
- Operational Leadership Training (5/11 & 12/11; Luke Sabala and Josh Hoines)
- 1st Aid/CPR Instructor Training (6/20 & 21/11; Red Cross)
- 4WD Training (Summer 2011)
- Worker's Compensation Training (08/25/11)

Events Coordinated

- Great California Shakeout Earthquake Drill (10/20/10 at 10:20 AM; missing employee and volunteers scenario, Jon Klak of the ranger division was the Incident Commander for the scenario and coordinated the after action review)
- Wellness Day (5/19/11 from 11-3 at Knott’s Sky Park; Hearing Test Van, Blood Pressure Booth, Presidential Challenge, Safety Trivia)
- All Employee Meeting (Safety talk from Mark Butler)

- Distributed Safety Certificates at the annual Volunteer in Parks dinner

Inspections

- Performed safety inspections of JOTR facilities (December 2010 as part of OSHA training)
- Performed safety inspections of JOTR facilities (February 2011)
 - Discrepancies were written up in an Excel spreadsheet for Division Chiefs to access
 - Discrepancies posted on SharePoint site for Division Chiefs
 - Division Chiefs assigned their employees to perform corrective actions for all discrepancies found by the Safety Committee
- Performed safety inspections of JOTR facilities (July 2011)
 - Discrepancies written up in an Excel spreadsheet for Division Chiefs to access and take appropriate actions.

Miscellaneous

- Stacy Manson created and continues to maintain the JOTR Safety Page on the SharePoint Site
- Safety Newsletters produced on a bi-monthly basis (Jan/Feb, Mar/Apr, May/Jun, Jul/Aug, and Sept/Oct)
- Revamped Safety Rewards Program (Quarterly Safety Recognition awards given based on nomination by peers)
- Fire Extinguishers were serviced and inspected
- Created 3 Measureable Goals for the Safety Committee
 - Started to create a Mission Statement for the Safety Committee
 - Created Safety Binders for each division to keep track of tailgate safety sessions and JHAs used
 - Created a Monthly Safety Checklist to be performed by each Division to try and eliminate repeat safety inspection discrepancies

ADMINISTRATION

The Administrative team provided a number of operational support services for Joshua Tree National Park. Fiscal year 2011 brought about many changes in how JOTR performed administrative functions. All divisions of the park have been involved in the transformation and are working toward a more functional and supportive administrative group.

At the beginning of FY11, the vacant Administrative Officer position was filled with Pat Greer, who came to JOTR from Assateague Island National Seashore. The Superintendent's position was also vacant, and the park had two acting superintendent assignments, before the newly appointed superintendent, Mark Butler entered on duty in mid February. During FY11, the administrative team had two members who moved onto different interests. Cheri Vocelka officially moved from a program assistant position and applied for, and earned the Superintendent's Secretary position. Melissa Moe, who was working within a STEP appointment resigned to enjoy her increasing family. One position was already vacant. The resulting three vacant positions seriously impacted the ability of the administrative group to provide timely services. The administrative team worked together to devise methods of supporting the park. The park saw workloads shift, new skills learned and a work team pull together to complete necessary processes.

The routine administrative functions of travel, payroll, time keeping, office support, mail, shipping & receiving, budget planning, formulation, tracking and fiscal year closing, internal control audits, charge card program management, IDEAS support, closing of third party draft program, and others were completed by very committed staff.

Budget and Finance

With a new AO and a new Superintendent, the budgeting process was modified. The administrative staff and other key employees worked to successfully close the 2011 park operational budget with \$.06 remaining of a park allocation of \$6,128,700. The leadership team worked on a zero based budget exercise and proactively worked toward a solid working 2012 budget in anticipation of the coming fiscal year.

The park met the 35% carry over level in the FLREA program. This was largely due to the creation of the Project Services Group of interdisciplinary staff to work with administration to review the overall program and the responsibilities of project managers. PSG wrote criteria, held many facilitated meetings to reach a point where the park now has a developed five year plan and an annual work plan to continue to meet the required 35% or less carry over amount. Administration dedicated an employee to the PSG team. This again caused additional workload shift on the smaller administrative team.

Housing

A new draft housing addendum for the Black Rock Interagency Fire Center Dorm was written. The remaining housing addendum for JOTR quarters is also in draft. New furniture was purchased for one duplex. Swamp coolers were upgraded.

Information Technology

The Information Technology Specialist maintained services to JOTR and Mediterranean & Mojave Network equipment. Daily security reviews of systems were completed, and system backups and off-site storage was maintained. JOTR did not succumb to any virus attacks throughout the year. Recovery of lost data was completed for maintenance and resources management employees. Approximately 510 requests for assistance tickets were closed for JOTR. Weekly phone support was provided for all help desk requests. Cruz participated in the monthly regional conference calls to gain information, resolve network and park support issues. Worked with PWR on the VoIP preliminary work, installation was postponed due to PWR office move and resulting workload.

The Administrative Officer provided technical, regulatory and policy information to the leadership team. Supervision, training, and mentoring were supplied to the administrative team and other park staff as requested. Pat supported the park with budget and fiscal expertise and worked with administrative staff to complete the fiscal year close. New quantifiable EPAPs were written for administrative staff with input and review by subordinate staff. Training was provided to park staff in AFS3 and project management expectations. A daily safety minute session was instituted. Administrative staff took the initiative to create monthly vehicle check logs, office/building safety check lists and is continuing the monthly training for vehicle maintenance inspections, and office inspections.

Procurement

Joshua Tree is fortunate to have a MABO contracting officer (C.O.) duty stationed at headquarters. The C.O. completed certification/warrant training for construction contracting. She was mentored by the supervisory lead C.O. for the LAKE MABO in construction contracting and received additional onsite support for training purposes. Contracting services were provided to JOTR and four other parks within the LAKE MABO. The C.O. attended MABO conferences, received continuing education through mentoring by the MABO lead in all areas of contracting. She completed a MABO contracting file audit. She worked with the LAKE property training and on-going support as property is transferred to administrative staff correcting a conflict in duties for the C.O.

Property

During property training provided by LAKE, administrative staff located and identified vehicles that had been reported missing for many years. Excess property was identified and documentation prepared for recycling at UNICOR. JOTR had a successful property sale reducing the park inventory of excess vehicles/equipment. Administration worked toward a 100 personal property inventory. Lost and found was one of the programs that was negatively affected by the decrease in staff. However, many items were returned to visitors, serviceable unclaimed winter jackets were donated to the JOTR education program for school children attending programs in the park.

Staff Training

The administrative team had multiple training opportunities during 2011. The administrative assistants, (Vic Scott, & Jeannie Campbell) budget analyst, (Deb Gaunt), information management specialist (Cruz Jimenez), and contracting officer, (Michelle Harrison), all received training, mentoring and support from within JOTR and many other sources to enhance their skill

sets. Some of the training received was in AFS3, Appropriations Law, QMIS, Cisco systems, IT conference, MABO conference/training, FAR Immersion, construction contract mentoring, fire time keeping, HROC/SHRO updates, OWCP, OSHA, Fundamentals V, Operational leadership, PMIS on-line training, Project Management, Property Management, fire training refresher, mandatory agency training (IT security, whistleblower, EEO, etc), fire extinguisher and first aid training. Within the division, cross training continues to ensure the available administrative staff can provide a multitude of services.

FACILITY MANAGEMENT

FY11 was another dynamic year in the Facility Management division at JOTR. Facility Manager John Slaughter accepted another job, which was a promotion to his first Superintendent's position. Roads Foreman Kirk Diamond served in an acting capacity for four months and then Mr. Doug Crossen arrived in an acting capacity for 3 months.

Facility Management Administration

During Fiscal Year 2011, Marilyn Lutz, Lynda Murphy, and Jeannie Campbell provided Maintenance Management support.

Budget

The ONPS budget was tracked, including housing and Centennial Initiative funding, and soft money accounts, including four ARRA, 7 cyclic accounts, one 2 FY10-11 repair/rehab accounts, three FY11-12 repair/rehab accounts, an equipment replacement account, about 25 on-going fee accounts and other monies including two YCC accounts, and several other special accounts.

FMSS

Marilyn provided park-wide support for the Facility Management Software System (FMSS), by entering information on park assets and deferred maintenance. Comprehensive condition assessment work orders were created for all park locations. Work orders for projects and project components were generated and entered in the Project Management Information System (PMIS) through the Project Scoping Tool (PST) for facility projects, park-wide. Deferred and corrective maintenance work orders were generated and costed as needed. Work was documented in FMSS for park operations and maintenance projects. We improved our park FMSS completeness and accuracy scorecard from 78% to 99%.

Operations

Lynda, Jeannie and Marilyn handled administrative tasks for the Maintenance Division, including budget programming, payroll, purchasing, and travel. Marilyn coordinated GSA Motorpool for the park fleet of 53 vehicles. Lynda took a job promotion with BOR in August and left Joshua Tree for Hoover Dam. Jeannie Campbell filled in behind Lynda, in a lateral transfer from Theodore Roosevelt NP. Marilyn and Jeannie participated in the business center and assisted with year-end closing.

Safety

Lynda was a member of the safety committee. Marilyn promoted office safety, GSA motor vehicle safety, and implemented the Maintenance Safe Driver of the Month program.

Sustainability

Lynda and Jeannie tracked the DesertArc recycling program. FY11 totals for volunteer hours, pounds of recyclable materials, and dollars redeemed and returned to the DesertArc program are pending receipt of the crew's monthly reports. Marilyn compiled data on photovoltaic power generation, propane usage and other facility information for the annual energy report.

Buildings & Utilities

Cyclic Maintenance

- **Performed Cyclic Maintenance on Building Exteriors** consisted of installing a three part stucco process to the exterior of the Black Rock Maintenance building. Nine windows were upgraded to dual pane and 2 exterior doors were replaced with metal jambs and fire rated doors.
- **Interior Painting** consisted of cyclic interior painting on 4 assets in the park. Total square footage was approximately 30,000 SF. The Pinto Wye Maintenance Office, North Entrance Fee Office, HQ Protection Office, and the Cottonwood Visitor Center received low VOC latex coating.
- **Perform Cyclic Lighting Maintenance** consisted of retrofitting light fixtures, switches and timers to the HQ Administration Building, HQ Office/Storage complex, and the West Entrance Fee Station. Motion and lighting sensors were installed on the exterior and interior of buildings. Solar night sky friendly walkway lights were also installed in the HQ area of the park.
- **Grounds and Associated Amenities** consisted of cyclic upgrades to the grounds of the Indian Cove Ranger Station. A new flag pole, two picnic tables, trash receptacles, recycling receptacles, landscaping, and 320 LF of fencing was replaced.
- **Perform Cyclic Maintenance on Irrigation System at Headquarters** consisted of the repair of degraded PVC and galvanized pipe sections and connections. Repair of sprinkler and fountain heads, pressure fittings, unions, and controls. Maintaining public drinking water fountains and dedicated potable lines to ensure visitor health and safety. 28 solar timers were installed throughout the entire system as well as new valves to the public drinking fountains. Two backflow preventers were installed to ensure potable drinking water is protected from contamination. 1,100 LF of drip system and sprinkler heads were replaced.
- **Perform Comfort Station Amenities Maintenance** consisted of upgrading restroom facilities with ADA compliant toilets, sinks, railings, and partitions to the Black Rock Nature Center and HQ Visitor Center. Also included was repainting of the interior walls and installation of sustainable tile flooring.

Repair/Rehab

- **Repair Piping and Circulation Systems to Cottonwood and Black Rock Water Tanks**, consisted of purchasing and installing mixing and chemical injection apparatus and also installing dedicated drain pipes to the water tanks. The first phase of the project is nearing completion in FY11. The mixing apparatus is installed and the chemical injection system is being installed. Planned completion is FY12.

Operations

- Retrofitted the existing worn out evaporative cooler at the Black Rock Education Building with a more efficient unit.
- Installed switch gear at the Cottonwood Maintenance shop for the PV system.
- Installed two new HVAC condensers for the Administration building.
- Assisted with a small remodel in the Association building.
- Moved the Education division to the Black Rock Nature Center which required upgrades to the offices to accommodate operations.
- Assisted with the 75th Anniversary events including building a portable stage for a concert and assisting with the preparation of a parade float.

DesertArc Partnership Program

Joshua Tree National Park has partnered with DesertArc: the mission of DesertArc is to enhance the quality of life for people with developmental disabilities. Services include supported employment, on-site vocational training and employment, respite, supported living services, and partnerships with many organizations and businesses throughout the Coachella Valley and Morongo Basin.

DesertArc offers community employment services to persons with developmental disabilities regardless of the type of disability. The Supported Employment Department assumes that all people, regardless of disability, are capable of productive, meaningful work in any setting if they are given the necessary support, which they feel is the key to job success.

Our maintenance division continues work with 5 individuals as back-up to accomplish custodial work at the headquarters area, cleaning 1 Visitor Center, 5 office buildings and 11 comfort stations. The custodial personnel have also assisted in other projects. .

DesertArc Recycle Partnership Program

The park has partnered with DesertArc volunteers for collection of the park's recycling materials. The Desertarc Recycle Partnership Program will meet the commitment of the Park's sustainable park operations as outlined in the Integrated Solid Waste Alternatives Program

Roads

Roads Operational Projects

Our Operational projects include hauling water to all of the park's non potable water storage tanks twice a month covering approximately 80 miles in a single day using over 2000 gallons each time we filled the tanks. That equates to 160 miles round trip and 4000 gallons of water delivered per month.

Other operational needs that were met in fiscal year 2011 were grading and maintaining 96 miles of paved and 109 miles of unpaved surfaces. We re-striped crosswalks, stop bars, stop symbols and parking stalls, repaired and replaced signs park wide, removed litter from roadsides, campgrounds and parking lots. The road crew fabricated and repaired access gates park wide. In addition we assisted the Protection division with the cleanup of some park boundary dump sites.

On the morning of September 13, 2011 a major storm system occurred at Joshua Tree National Park in the Pinto Basin and Cottonwood areas. A second storm system came through during the evening of September 13, 2011 affecting the same areas. The heavy rainfall resulted in flash flooding causing damage to paved and unpaved roads, shoulders, low water crossings, erosion control devices, campgrounds, trails, parking areas, historic properties and other facilities. 14.36 miles of paved, 23.5 miles of unpaved and 65,297 square feet of parking areas, 8 miles of Trails, 65 campsites and facilities were affected.

During the clean up process, our crews removed and replaced approximately 3335 square feet of damaged road and road edge from mile post 24 to 25 and mile post 29.5 on Route #11, saw cut damaged sections of pavement, removed asphalt and placed approximately 200 tons of class II road base to provide a stable base for asphalt patches and shoulders. We removed and relocated native soils deposited on roadway from flash flood, placed in obliterated shoulders, compacted and finished grading 13 miles of road shoulders.

Equipment Replacement Program

- Replaced one 1986 Case 3 ton compaction roller with a new Caterpillar compaction machine.

Road Projects Funded by Fees

- **Repair, Rehabilitation and Reconstruction of Drainage and Erosion Control in Black Rock Campground to Reduce Storm Runoff Impacts**
Work continues on this long term project; Denver Service Center Staff continue to assist with project planning and processes.
- **Delineate, rehabilitate and restore 13 of 15 non-designated parking pullouts on Route #12.** Three to four foot boulders were placed to delineate the impacted sites and help eliminate the potential for further disturbance. Parking areas that were removed completely were restored using vertical mulch, fencing and native plants grown in the park's nursery.
- **Schematic designs were completed** for the Planning and Design Work for the Visitor Overflow Parking Route 900A

Repair Rehab Projects

- **Repair and Rehabilitate Asphalt Road Edges on Park Route # 11.**
Armored the unstable shoulders and widened the existing asphalt surface on Route # 11 from mile marker 21 to 25. This was accomplished by removing the sandy soil from road edge at a depth of 2 feet and replaced that soil with class 2 rip rap rock. Upon completion of the asphalt edging, it was resurfaced and with Slurry Seal.

Trails - Projects and Accomplishments

Safety

- Facilitated daily tailgate safety meetings.
- Supervised up to 27 employees with no lost time accidents in FY11.

Administrative Accomplishments

- Input 4 new projects during the Service-wide Comprehensive Call through the Project Scoping Tool and into PMIS
- Participated in planning meetings with resource management to mitigate social trail concerns
- Completed 12 Job Hazard Analyses
- Provided NPS Fundamentals 3 & 4, Agreements and Contracting Officers Training, Risk Management training, ARC View GPS training, Sign/Leadership training for employees
- Contributed to the Joshua Tree National Park General Management Plan planning processes
- Recruited disability/diverse hires for JTNP and Alaska region.
- Completed 3 new volunteer position descriptions
- Supervised VIP Greg Mendoza in trail condition assessments for 110 VIP Hours
- Supervised VIP's performing trail work 1100 documented hours.
- Completed Leadership/Teambuilding for Youth Conservation Corps

In Park Projects

- Conducted successful Youth Conservation Corps program with 23 YCC enrollees
- Facilitated construction and installation of 112 directional and information trail signs
- Assisted in creating a design and cost estimate for the replacement of outdated entrance signs in JOTR
- Rehabilitated the 2-mile Long Split Rock Loop Trail
- Removed graffiti at Jumbo Rock Campground and Cap Rock Picnic Area Parking
- Replaced damaged trail signs throughout the park.
- Facilitated installation of resource protection fencing and social trail mitigation at Key's View Parking Area
- Rehabilitated the California Riding and Hiking Trail by completing 15,840 linear feet of trail tread work by clearing and brushing, and, cleaned out approximately 20 water bars and installed two new water bars.
- Rehabilitated the Lost Horse Loop by constructing 10 linear feet of stone steps. Trimmed 15,840 linear feet of trail. Constructed and installed 2 directional signs and 1 trail head sign. Trimmed 200 linear feet of dirt road leading to Lost Horse trail. Installed 15 interpretive signs on Indian Cove Nature Trail. Installed 15 interpretive signs on the trail system in cottonwood.
- Assisted in the planting of 200 desert plants at Center for Arid Lands Restoration
- Installed and designed 10 climber access signs
- Replacement of 27 deteriorated road signs
- Surveyed, using GPS technology, 18 miles of designated trail and 14 miles of proposed trail for park archives and databases

Partnership projects:

- **Mojave National Park-** The crew assisted the maintenance of a hiking connector trail. The crew assisted the American Hiking Association volunteers with maintaining 3 miles of trail. The crew completed 17,200 linear ft. of trail delineation. The crew also installed a retaining wall for 16 sq. feet of rock work.

- **Urban School of San Francisco-** The crew worked with over 75 volunteers from the San Francisco based high school to perform repairs to Split Rock Trail. The crew and the volunteers delineated tread on 2500 linear feet of trail and repaired 12 waterbars along the route.
- **Devil's Postpile National Monument-**The NPS trail crew and the JTNP YCC crew traveled to the Monument to provide trail maintenance assistance on Devil's Postpile Accessible Trail, King Creek Trail, and the John Muir trail. Completed 4520 linear ft. of brush trimming on the John Muir Trail. They installed 4 yards of soil stabilizer on tread surface of Devil's Postpile Accessible trail. Installed 9 wooden steps on Rainbow Falls Trail. Installed a stone rip rap section for 130 sq. ft of rock work on King Creek Trail
- **Great Smoky Mountains National Park -** Responded to a Tornado Damaged trail on Little Bottoms trail. Removed 125 downed trees on 5 miles of trail.

INTERPRETIVE AND EDUCATION DIVISION

For Interpretation, FY2011 was a year marked by milestones, history, and transition. The park dedicated much time and energy to the celebration of its 75th birthday during 2011, and the Anniversary became the focal point of many Division activities. It was a year of partnering, planning, and presenting as the park hosted a wide variety of special events during our year-long anniversary celebration. Working with 75th Anniversary Coordinator George Land, Division staff was directly involved with coordinating or supporting many of the year's Anniversary activities.

Partnerships

Many individuals and organizations helped with activities connected to the Anniversary celebration. Venice, California design firm R&W Creative provided design, marketing, promotion, and branding services for the entire year. R&W developed the Anniversary logo created Anniversary business cards, stationery, posters, event materials, ads, product designs, and concepts. R&W recruited numerous corporate partners who contributed to some of the year's most memorable activities including a 75th birthday dinner with food provided by the Green Truck of Los Angeles. R&W also created the design for a 75th Anniversary commemorative guitar and enlisted corporate partner Fender Musical Instruments to develop and donate three of the custom-design guitars to the park. One of the Anniversary guitars was placed in the park's museum collection, while the other two were raffled off as a fundraiser in conjunction with the Joshua Tree National Park Association.

A citizen's advisory committee collaborated with the park in the planning of various anniversary activities. Jim Harvey of Homestead Valley created a 75th Anniversary website and donated web-hosting services for the year. Art Miller donated space in Yucca Valley for an anniversary billboard using a design developed by R&W Creative. Others wrote articles, hosted events, and attended many others throughout the year.

In an effort to recognize the contribution of the park to southern California's cultural history, Grammy-award winning album art director Gary Burden of Malibu created and donated an entire exhibit to the park to commemorate albums by famous California musicians that depicted scenes from Joshua Tree National Park. The exhibit featured photographs by Henry Diltz and album photos of musical acts America, the Eagles, and Mama Cass Elliot. The exhibit was hosted at the

Joshua Tree Visitor Center from August 10 to December 16 and was viewed by more than 30,000 people.

Two commemorative 75th Anniversary issues were developed by local publishers, the Hi-Desert Star and the *SunRunner*. Kelly O'Sullivan worked with park staff on a special Anniversary Edition of the *Basinwide Spirit* in the spring, and Steve Brown and staff published an Anniversary issue of the *SunRunner* in mid-summer. The *SunRunner* featured the 75th Anniversary logo on the cover of every issue during 2011.

75th Anniversary Special Events and Activities

In late January, an Anniversary kick-off event was held on the campus of Copper Mountain College in the community of Joshua Tree. The event was attended by Pacific West Regional Director Chris Lehnertz and Assoc. Reg. Director Martha Lee, and Mark Butler made his first public appearance as Joshua Tree's new Park Superintendent. California public television personality Huell Howser was the Master of Ceremonies, and over 300 local residents attended.

A special 8-page commemorative 75th Anniversary supplement to the Joshua Tree Guide was produced in February. Written by park staff and numerous guest authors, designed by R&W Creative, and produced by Visual Information Specialist Sandra Kaye, the Anniversary newspaper included a timeline of park history that was extended all the way out to the National Park Service Centennial in 2016.

In April, National Park Week and National Junior Ranger Day were given 75th Anniversary themes and a special Anniversary edition of the Junior Ranger booklet was prepared and more than 12,000 were distributed to children in 2011. In late April a Biodiversity Hunt was held at the Oasis Visitor Center in Twentynine Palms, and over 500 species were found on the 58-acre parcel of land comprising park headquarters.

On Memorial Day weekend, the park was honored at the Yucca Valley Grubstakes Day celebration and Superintendent Butler was the Grand Marshal at the event's annual community parade.

Cultural arts were an important theme for the Anniversary in 2011. A special 15-year retrospective exhibit of the park's Artist-in-Residence (AIR) program was developed and displayed at the Joshua Tree Visitor Center. Over 82,000 people viewed this exhibit and other park AIR exhibits in 2011.

In June a special anniversary concert featuring recording artist Rita Coolidge and local musician Tim Easton was held at the Indian Cove Campground Amphitheater and was attended by more than 150 people.

On the park's actual birthday, August 10, a day-long series of events was held starting at 8 a.m. with a commemoration ceremony at park headquarters and lasting until almost midnight with a special night sky presentation in the park by Tyler Nordgren, author of "Stars Above, Earth Below."

More than 700 people attended August 10 celebration events.

Other Anniversary events coordinated by others: Cahuilla Bird Singers (August 10), Climb Smart Event (October), Joshua Tree Roots Festival (October), Joshua Tree Employees Reunion (November), Crossroads Conference and Mini-Series Economic Speakers Forum (December).

Non-Anniversary Interpretation Division Activity

Interpretive Operations

The statistical breakdown and two-year comparison for Division interpretive operations is as follows:

	2010	2011
Visitor Center Traffic	318,457	311,081
Ranger-led Programs	20,457	22,283
Roving	21,253	17,946
Education Programs	22,886	18,063
Junior Ranger Programs	4,252	4,495
Special Events/ Community Programs	8,151	9,986
Materials Distributed	381,000	519,500
Web-site Use	Not available	Not available
Total Visitor Services	776,546	903,354

In 2011, special events and community programs were up over 2010 as the park committee staff resources to 75th Anniversary events in local communities. By contrast, roving numbers were down in 2011 for much the same reason— staff were committed to external activities.

Dave Denslow took over the role as Division Liaison to the local Marine base when Pam Tripp assumed her new position as Cottonwood Area Interpreter in September. Dave now plans and presents the Welcome Aboard program to new base recruits and their families. Marine personnel have become an important source of volunteers for the park in recent years.

Interpretive Rangers Dave Carney, Pat Pilcher, and Sue Spearing worked with the Cultural Resource Management staff on the integration of the newly restored McHaney Cabin at Keys Ranch. The cabin was restored with the help of a donation from the Ray T. Jr. and Martha Parfet Fund of Hickory Corners, Michigan. Other Keys Ranch activity in 2011 included the development of a podcast about visiting the Ranch, continued expansion of the living history component of the program, and the development of a new evening tour service for visitors.

Interpretive Media

Non-Anniversary activities in 2011 included the installation of new trail exhibits for the Indian Cove and Cottonwood Nature Trails. Work was initiated on a variety of other interpretive media projects including replacement of the exhibits at the Black Rock Visitor Center and minor renovation of the Oasis Visitor Center exhibits.

Exhibit Specialist Anne Staley provided significant support for several Anniversary exhibits including the Gary Burden album cover exhibit in August and the 75th Anniversary photo exhibit in December.

Through the efforts of Sandra Kaye, the park launched its first official Facebook site in 2011 and continued to develop and grow its Twitter presence. The public responded to our Facebook posts and photos with 23,272 views, 138 comments, and 355 likes. The park Twitter site grew to 146 tweets, 1473 followers, and was included on 152 lists.

Education and Youth Outreach

The Education Branch oversaw several Recreation Fee projects designed to bring underserved school populations to the park. Sixty buses brought 3,429 students to Joshua Tree through these projects. Education rangers also developed a special summer program called Kaleidoscope for local Gifted and Talented Education (GATE) students. The program was well received, and there are hopes to expand it in 2012.

Junior Ranger numbers were up as the park produced a 75th Anniversary supplement to the Junior Ranger activity book and produced a 75th Anniversary Junior Ranger patch. More than 12,000 Junior Ranger booklets were distributed in 2011.

Artist-in-Residence Program (AIR)

Artists participating in the FY2011 Joshua Tree Artist-in-Residence program included:

Eric Russell Martin, a sculptor from Oakland, California,
 Naida Osline, a photographer from Riverside, California,
 Shayna Keller, a choreographer from Studio City, California,
 Carrie Millner, a writer from San Francisco, California
 Michael Kenny, a photographer from San Francisco, California

Exhibits, performances, and cultural events hosted for the public by visiting AIR participants were attended by 82,727 park visitors in 2011. Park Ranger Caryn Davidson serves as the park's Artist-in-Residence Coordinator.

Volunteer Program

The park volunteer program recorded 44,315 hours in 2011, the highest total ever. The breakdown by program area is shown below:

Administration:	108 hours
Campground Host:	2,339 hours
Cultural resources management:	1,632 hours
Interpretation:	13,694 hours

Maintenance:	2,721 hours
Natural resources management:	11,405 hours
Protection/Fees/Emergency Services:	5,227 hours
Training:	7,189 hours

Long-time park volunteer coordinator Lauren Lentz retired in July. Joshua Tree Exhibit Specialist Anne Staley stepped in as Interim Volunteer Coordinator in mid-September and quickly organized the park's National Public Lands Day event on September 24.

The park recognized in 2011 a number of Master Volunteers who have made ongoing contributions to the park:

Jerry Seaburg, Roving/Keys Ranch Site Steward, Interpretation
 Dave Pylman, JOSAR, Protection
 Phil Spinelli, JOSAR, Protection
 Trevor Allen, Recycling Program, Maintenance
 Vincent Fulman, Recycling Program, Maintenance
 Taney Spencer, Recycling Program, Maintenance
 Greg Mendoza, Backcountry Rover & Site Steward, Resource Management

Staff Changes

Cottonwood Interpretive Ranger Lesley Gaunt transferred to Scottsbluff National Monument in July and was replaced by Pam Tripp.

Cooperating Association Activities, 2011

The Joshua Tree National Park Association provided partnership services to the park through the year as it coordinated a 3-way agreement between the Association, the park, and R&W Creative for carrying out many of the Anniversary year's activities. The Association produced a wide array of 75th Anniversary commemorative items, staffed special events, and oversaw several public Anniversary activities.

On January 29, the Association presented the annual Minerva Hoyt California Desert Conservation Award to Mark Bagley and the Owens Valley Committee for the Committee's years of work in seeking to restore water to the Owens River valley ecosystem. The award was presented to the Owens Valley Committee by Board President Mark Wheeler at the park's 75th Anniversary Kick-Off event.

In April, the Association, working with R&W Creative, launched the 75th Anniversary Photo Contest. More than 80 photographers entered over 500 images of the park. Photos were entered in the contest and initial public voting was done through Facebook. The winning entry by Tom Parash was announced at the August 10 celebration ceremony at the Oasis Visitor Center.

In mid-June, the Association presented the Rita Coolidge concert at the Indian Cove Amphitheater. The concert, *An Evening with Rita Coolidge*, was conducted as a fundraising activity and raised over \$7,000.

On August 10, the Association hosted an eco-friendly “Dinner in the Desert” at the Sacred Sands Bed & Breakfast in collaboration with R&W Creative and the Green Truck of Los Angeles. More than 125 park friends were served a delicious eco-friendly dinner at the culmination of a day-long birthday celebration.

Also on August 10, the Association launched the 75th Anniversary Guitar Raffle. This very special fundraiser helped JTNPA to add \$2,381 to the Legacy Project balance and served as a highly visible and creative way of spreading the message about the park’s cultural past. In conjunction with the raffle, the Association sponsored attendance by the park at the Los Angeles World Guitar Show in Pomona, California where more than 140 people including many guitar dealers and collectors saw and played the Anniversary guitar. This unique instrument served as a magnet for public engagement wherever it was shown throughout the year. The guitar raffle involved a partnership with the Fender Music Foundation who assisted with the promotion of the guitar raffle. On December 3, two winners of the Anniversary guitars were chosen, Martha Lee of San Rafael, California and Don Magub of Pioneertown, California.

Fundraising

Apart from 75th Anniversary activities, other fundraising events (the annual Art Festival and two new events in the community) and membership appeals generated over \$9,500 in donated funds for the Legacy Project.

Visitor Center operations

Visitor center traffic was 311,081 people in FY11. Sales increased in FY 2011 at all four visitor center locations, contributing to another year of record revenues for the Association: over \$1,396,000.

Desert Institute

The Desert Institute enjoyed a year of strong enrollment, offering weekend adult education programs to over 550 participants, and reaching over 1,200 attendees through lecture series with community partners throughout the park’s gateway communities.

DIVISION OF RESOURCES CULTURAL

Archeology

Boundary Inventory: Year 2 of 3

In FY11, Phase 2 of 3 of a park boundary inventory was conducted in the Morongo Basin near developed areas. The FY11 inventory covered 401 hectares (991 acres). This phase of the project focused on surveying portions of the park boundary in the foothill area of Twentynine Palms, 49 Palms Canyon, Panorama Heights, and the park's west and north entrances. Eight new archeological sites and 439 isolated artifacts were field recorded. When the records are completed they will be sent to the Eastern Information Center and information will be added to the park's ASMIS and GIS databases and cultural resource files. The addition of this information

provides baseline data that will allow the park to better understand site types, distribution, and potential impacts to cultural resources. Thus far, the project has illustrated that cultural resources along the park boundary and urban interface are indeed threatened by the effects of encroaching development. The addition of this baseline data will allow us to better understand the scope of these impacts when they occur. A partial draft report was begun for this phase and some GIS entry was also started.

Conducted field inventory of Developed Areas

In FY11, the in-house archeology crew, with the assistance of volunteers, continued conducting inventory and site recordings in park developed areas with the intent of promoting interpretation of cultural resources. To date, Geology Tour Road, Desert Queen Mine Road, and Stirrup Tank Road have been surveyed. The survey resulted in five new recorded archeological sites and one major site record update. The Geology Tour Road inventory was done first to help with editing of the self guided tour brochure, which is to be reprinted soon. Prehistoric milling slicks have been found that can be interpreted at the intersection of Stirrup Tank Road, and a potential area near the Pleasant Valley Loop. Also, a portion of Cottonwood Campground was resurveyed to more precisely map the boundaries of site recorded there and to identify interpretive opportunities; however, in September 2011 a flood destroyed the majority of the site. The survey of a portion of Indian Cove Campground was also conducted. A large area of Indian Cove Campground was long ago recorded as a site, apparently remotely from an office, based on very vague notes from the 1930s. The JOTR crew continued with a survey in that area to help determine accurate site boundaries. Among these were milling features that can be interpreted to the public. The draft site record for CA-SBR-2054 still needs to be finalized.

Inventory and Test Excavations at Hidden Valley Campground

In 2010 a Task Agreement (TA) to conduct inventory and archeological test excavations in the Hidden Valley Campground area was put in place with Sonoma State University (SSU). As specified in the TA the park's archeology staff will assist in all aspects of the work. In FY11 a detailed Research Design was completed as was consultation with the 14 affiliated tribes. The fieldwork in an 88 acre area in and around the campground was conducted in late August 2011 to limit disruption to park visitors. A Native American monitor was involved during all of the fieldwork. After initial review of the GIS information gathered during the field project, twelve archeological sites boundaries have been identified, including previously known sites (some of which have now been merged into single site boundaries) and three newly documented sites.

Intended outcomes of this project will include a final archeological report detailing this newly acquired information, new and revised site records, analyzed and cataloged artifacts available for display, and a district determination of eligibility to the National Register of Historic Places. SSU will continue analyzing field data and writing up reports in FY12 and FY13. This detailed information will aid in making a variety of critical management decisions concerning the campground, foremost of which will be interpretive/educational. This project will be followed with a separate PMIS facilities project for the creation and installation of interpretive waysides in the campground.

Inventory and test excavations at Barker Dam Loop Trail

In 2010, a TA to conduct inventory and archeological test excavations in the Barker Dam Loop Trail area was put in place with SSU. As specified in the TA the park's archeology staff will assist in all aspects of the work. A detailed Research Design was completed in FY11, as was consultation with the 14 affiliated tribes. It is expected that the field portion of the project will occur in winter of 2012. Intended outcomes of this project will include a final archeological report detailing this newly acquired information, new and revised site records, analyzed and cataloged artifacts available for display, and a district determination of eligibility to the National Register of Historic Places. This detailed information will aid in making a variety of critical management decisions concerning the trail, foremost of which will be interpretive/educational. This project will be followed with a separate PMIS project for the creation and installation of interpretive waysides along the trail and possibly a brochure.

Database entry

During FY11, the park's archeological GIS information was updated to reflect more accurate information, correct inconsistencies in data, and digitize previously reported archeological isolates that had not yet been processed in GIS. The park's archeological site point data was fairly accurate; however, polygon data showing actual site boundaries was not accurately reflected on GIS and had either not been plotted or in some case did not line up with point data. A Student Conservation Association archeological technician intern assisted the park's archeological staff with these crucial updates. Using archeological site records, topographic maps, and aerial imagery over 270 site boundaries were added, updated, or corrected for better accuracy. The park's miscellaneous isolate file cabinet was also re-organized and when applicable processed in GIS. In addition, one new site record was added to the park's ASMIS database and 58 site records were updated.

Contracted rock art conservation work

In FY11, a project was funded to conduct conservation work on rock art. This work was contracted to Harris Environmental Group with conservator Dr. Constance Silver to conduct the project. There are seven sites that are the focus of this work. Damage includes climbing chalk, charcoal, paint, and other unknown substances. Consultation with the California State Historic Preservation Officer and the 14 affiliated tribes was conducted by park staff. Work will begin in FY12 and will consist of an initial visit by the conservator, subsequent laboratory work, and a return visit to conduct the actual conservation. Another component of this contract consists of training interested NPS staff and local tribes so they can properly remove chalk and charcoal from non-archeological areas.

Bouldering project

In October of 2010, Archeological Technician Caitlyn Marrs represented Joshua Tree National Park at the National Climbing Management Summit held in Las Vegas by the Access Fund. At the summit Marrs gave a presentation entitled "Cultural Resources in Joshua Tree National Park & Climbing Management". The presentation touched on the current challenges faced at the park, especially as they pertain to cultural resources and balancing protection with recreational climbing. The presentation also summed up initial field results of the ongoing bouldering project.

Progress on the bouldering project was stalled in FY11 due to unforeseen circumstances, delaying the completion of the final report and map book until FY12. However, in FY11 one

new archeological site was recorded for the Bouldering Project, three bouldering areas were proposed for permanent closure due to impacts to sensitive cultural resources, and the new climbing/bouldering brochure was reviewed for final edits. Work will be completed in FY13.

Outreach

Several outreach efforts were initiated by cultural resource staff. A cultural resource awareness flyer was created and disseminated to Desert Institute and the park's Commercial Use Authorization permitting office. The intent of this flyer is to provide an outreach document to park staff, partners, instructors, volunteers, and commercial user guides on possible visitor-caused impacts to archeological resources – how to prevent damage, better protect/preserve, proper archeological site etiquette, and reporting cultural resources and archeological site damage.

Also in an effort to provide park staff and visitors with more educational material for cultural resources a draft brochure was created. The brochure highlights the “dos” and “don'ts” when visiting archeological sites, understanding why these sites are important, how to properly report cultural resources found in the park, and provides additional resources on learning more and getting involved. The brochure draft has been completed but has not yet been approved outside the cultural resources branch.

A newsletter was also written to inform park staff about some of the activities being conducted by cultural resources branch.

Created a Site Treatment Guide for Cultural Resources reporting site damage to Law Enforcement.

Increased site monitoring by cultural resources staff and volunteers, and greater cultural resources awareness of general park staff, has increased the number of reports of damage and threats to the park's cultural resources. In cooperation with the protection division, a draft for a guide to treatment procedures was developed. This has improved and standardized the treatment methods of certain types of damage to cultural resources and streamlined the reporting procedures to the protection division. The draft treatment guide should be finalized prior to the end of FY12.

Volunteer program

At the beginning of FY11 the park's archeology staff in, cooperation with the park's volunteer coordinator, worked to build a professional team of available archeological volunteers. In January 2011 the park hosted for the first time, a California Archeology Site Stewardship Program (CASSP) volunteer training, organized by the cultural resources branch in cooperation with other park divisions. Western Regional Director, Christine Lehnertz, addressed the 20 students, CASSP instructors, and park staff concerning their efforts to encourage volunteer training for the protection of the park's cultural resources, and thanked those who volunteer their time and effort to the park.

As a result of the training, Joshua Tree National Park now includes 18 volunteers, up from seven prior to the training. The various volunteers assist the cultural resources branch with front and

backcountry site monitoring, field surveys, site treatments, site recording, condition assessments, training, oral history, and the library. Several volunteers have specialized cultural resource skills and abilities and assist other divisions with projects and tasks. Many of these volunteers are active year-round, and all have made significant contributions to site protection, the park's archeological inventory, and oral history transcription. Cultural resources branch volunteers have contributed well over 1000+ hours to the park in FY11 alone.

Cultural Landscapes

In FY11 the park received a signed and final copy of the Northern Piñon Mining District Level II Cultural Landscape Inventory (CLI). The Desert Queen Mine, Eagle Cliff (Black Eagle) Mine, Louise Mine, and the Wall Street Mill are located within the 3,767 acre district. Also located in this district, are a road system and number of wells. Significant at the local level, the Northern Piñon Mining District was determined eligible for the National Register of Historic Places under Criterion A for its association with events that have contributed to the broad patterns of American history. The period of significance for the district begins in 1894 when mining operations began at the Desert Queen Mine and continued until 1942 when Limitation Order L-208 was implemented, which banned gold mining as the nation entered World War II. As a result of the Northern Piñon Mining District Cultural Landscape Inventory an additional 20 structures will be added to the List of Classified Structures database.

The Ryan Ranch cultural landscape study was conducted in FY11. It was decided by the region CLI team that the ranch landscape should actually be part of the Lost Horse cultural landscape, which was begun in FY10. The draft for the Lost Horse Mining Historic District Level II Cultural Landscapes Inventory is expected to be completed in early 2012.

Environmental compliance

In FY11, cultural resources facilitated compliance on all submitted projects and research permits. This involved the review and completion of over 26 park projects for National Historic Preservation Act (NHPA) compliance, and the review of 35 research permits.

The cultural resources branch also created two documents to both de-mystify and help facilitate cultural compliance for park project managers. The two documents pertained specifically to complying with section 106 of the NHPA (Checklist for Cultural Compliance, and Compliance Flow Chart for Projects with Ground Disturbance). Wanda Raschkow and Caitlyn Marrs also conducted section 106 training for the park's resources division where both of these documents were presented.

Additionally the cultural resources staff responded to the mid-September 2011 Cottonwood flood to assess resource damage and assist with initial response and emergency compliance efforts.

Historic Structures

Mastodon Mine Stabilization

The Mastodon Mine ore bin stabilization project was established through the Colorado Plateau/Cooperative Ecosystems Studies Unit under a TA with the heritage conservation branch of the Drachman Institute at the University of Arizona in FY10. In FY11, a documentation and assessment trip was performed by the cooperative project team. As a result of this trip, and a trip from the previous fiscal year, two reports were filed in FY11 by the cooperator: "Documentation

and Stabilization of Mastodon Mine Structures: Background Report and Preliminary Analysis,” and “Documentation and Stabilization of Mastodon Mine Structures: Stabilization Plan.” The stabilization work is planned for early FY12.

Completed planning and reconstruction of McHaney Cabin at Keys Ranch

In FY09, a generous donation was made to the Joshua Tree National Park Association by the Parfet family for reconstruction of the Keys Ranch McHaney Cabin. This donation was to honor a member of the family who had a deep appreciation for Keys Ranch. A long process began to develop plans for the reconstruction of the cabin and to conduct necessary compliance. In FY11 the actual reconstruction was finally completed. The park cultural resources staff and staff from the Western Center for Historic Preservation (WCHP) headquartered in Grand Teton National Park worked together on the project. The final Project Proposal and Safety Plan were submitted by the WCHP in FY11 and work was completed during four weeks in April and May 2011. WCHP staff was assisted in the field by not only cultural resources staff and volunteers but also members of the park’s interpretive and resources divisions. The historic roof, flooring, and some hardware were reused in the final structure.

Completed repair of retaining wall at Keys Ranch after flood event

A series of major rain events caused flash flooding that undermined a portion of stacked stone retaining wall at Key’s Ranch near the main house and orchard. In house, cultural resource staff and volunteers performed an emergency stabilization that prevented an imminent collapse. Later, with assistance from the WCHP specialists, in house staff and volunteers performed a ground-up reconstruction of the affected portions of the wall and drainage bank in tandem with the McHaney Cabin restoration. The wall has successfully withstood subsequent rain events with no signs of additional damage. The wall is being monitored by cultural resources volunteers and staff.

Exhibit Specialist for historic structures preservation

The park’s first exhibit specialist position specifically for historic structures preservation was classified and announced in FY11. The position was filled by Morgan Baird late in the fiscal year. This is a permanent base-funded position and will greatly enhance the oversight of this cultural resources program. The responsibility for cultural landscapes will also transition over to the exhibit specialist.

Section 106 Compliance

Mine recording compliance completed

Archeological site records were finalized and an accomplishment report was written for 22 mines that were recorded in FY10. These mines were scheduled to have unsafe openings closed by a bat gate, cupola, or polyurethane foam. Work was accomplished under a Programmatic Agreement (PA) between the National Park Service and the California State Historic Preservation Officer (SHPO) regarding mitigation of physical safety hazards within National Parks in California. Before closures could be done the area of potential effect had to be determined, which meant that the sites needed to first be recorded and mapped. The report is being tracked and sums up the work completed the year before as well as documenting the conditions of the sites after they were sealed. Results of the archeological work were sent to SHPO as required annually by the PA. In FY11 archeological compliance was completed at one

opening that was subsequently closed at the Anaconda Mine; the report and SHPO letter are pending.

Mill sites recorded prior to sampling efforts

This year 14 historic mill sites were reviewed under section 106 of the National Historic Preservation Act (NHPA) for Environmental Cost Management, Inc. to collect hazardous material samples at these locations as a part of CERCLA. The review revealed that nine out of the 14 mill sites warranted additional field documentation prior to sampling. There were four mill sites recorded for the first time during this project; two sites re-recorded with substantial boundary changes; and three sites had continuation forms produced with updated feature descriptions, sketch maps, and photographs. Six of these nine historic mill sites also contained prehistoric components. Pre-field research began on June 6, 2011. A consultation letter was sent to SHPO on September 8, 2011 and a letter was sent to the 14 affiliated tribes on September 2, 2011. There had been 1280 person hours put into this project by cultural resources staff at the end of FY11.

Additional work will be required in FY12 to complete this project. The draft site records need to be finalized and site record information entered into the ASMIS, ArcGIS, and LCS databases. Six of the 14 sites proposed for testing have prehistoric components and will also require an archeological site monitor. A final report still needs to be written for the project as a whole.

History and Ethnography

Oral History and Ethnography

Sixty-three sets of oral history interviews conducted in the 1970s on topics covering the early human history from the early 1900s, were professionally converted from the original reel-to-reel and cassette formats to CDs with electronic backups. Transcription of those interviews, which had not been previously processed, was started by the historian and a dedicated program volunteer.

An updated finding aid for the collection was drafted.

Working with local area ethnographic experts, the park historian/ethnographer began the literature review and ethnographic field visits for two Traditional Cultural Property studies. Fourteen new interviews were conducted for the Oasis of Mara and the Queen Mountain Traditional Cultural Properties, as well as the oral history project.

Park Administrative History

The multi-year Administrative History of the park was converted from a Volunteer-in-Parks project to a Task Agreement, under a Cooperative Agreement with the University of South Alabama. Under the agreement, additional research was conducted in regional archives and a draft of the report was begun.

Historic Furnishings Report

Work on the Keys Ranch Historic Furnishings Report, funded thru the FLERA program, moved into review and final editing. The project, conducted by a contractor through Harpers Ferry Center, is expected to be completed by spring of 2012.

Museum Collections

The ongoing management and cataloging of both backlog and new natural history and cultural objects continued at Joshua Tree National Park with 5,000+ objects added to the park museum collections. Seventy-eight research requests were processed ranging from quick information requests or general tours of the storage facility to multi-day scientific studies.

The park museum curator continued to assist Mojave National Preserve as curator of record.

RESOURCES

NATURAL RESOURCES

Citizen Science Program and Research Coordination

Research Coordination

Joshua Tree National Park, in partnership with the JTNP Association, announced winners of the 2011 Robert Lee Graduate Student Research Grant Program. Each of the four grant awardees were outstanding in demonstrating how their research can be applied to land management issues as well as increase our understanding of park resources and their conditions. The funded research topics include: studying techniques to restore post-fire burned lands, examining effects of air pollution on plants, seed production, insect survival, and desert ecosystems, understanding interactions between settlers and tribal communities during 1850-1960, and exploring perceptions that recreational visitors have of resources impacts in the Park. Over the next two years, each of the awardees will be working collaborating with both resources and interpretive staff while implementing their research studies in the Park.

Since 1991, there have over 300 research permits issued representing 177 separate research studies conducted within Joshua Tree National Park. Overall, the research permit topics include: 47% vegetation communities and their ecology, 30% wildlife, 18% geology, 4% cultural and historical, and 1% other. This FY2011, there were 34 research permits issued that will provide important scientific information for the Park such as climate change effects, effectiveness of desert restoration techniques, golden eagle surveys, biological species inventories in riparian habitats, flora and lichen inventories, desert tortoises population and abundance, geological mapping, paleontology investigations, and many others.

Citizen Science Program Coordination

This FY2011, the Citizen Science Program coordinated and participated in 20 science-based volunteer projects associated with natural resources, resulting in over 3000 hours of work by about 400 citizen volunteers. The number of visitors contacted, citizen science and resource services projects conducted, total number of volunteer work hours performed in the Park, and quality of visitor experience, understanding, and involved in resources preservation and stewardship activities has continually increased since inception of the Citizen Science Program.

Projects include social trails restoration, invasive species mapping, weed pulling, native plant revegetation/ restoration, plant growth monitoring projects, boundary closure projects (w/ Ranger LE), biodiversity inventory projects, seed collection and propagation studies, joshua tree demography measurements, phenology data collection, and climate change data collection. Most citizen volunteers are members of the local community, park visitors including recreational climbers & hikers, local advocacy groups, Marine Corps, university groups (students on spring break), and Coachella/Morongo high school students. Through the Citizen Science Program, our collaborations/partnerships with university researchers who conduct research in the Park is increasing; we recruit them to they help us in designing scientific studies, developing monitoring protocols, working with our citizen science volunteers, and identifying resource management concerns and to implement recommended mitigations in the field.

One of the highlights of the Citizen Science Program was the first Biodiversity Hunt held on April 29-30, 2011, in the Oasis of Mara. Beginning at 10:00am on Fri, 4/29, more than 30 taxa specialists from a variety of research institutions and agencies (e.g. Rancho Santa Ana Botanic Garden, UC Riverside Entomology, ESRI Conservation GIS, Cal Academy of Sciences, LA County Museum, Riverside-Smithsonian Museum), amateur naturalists from the local community, and park staff (from resources and interpretation) rallied together for 30 hours to attempt to inventory all the species that live in the 58 acres of the Oasis of Mara. As part scientific discovery, part educational outreach, and part celebration of biodiversity, it was a very successful public event!

The total # species inventoried at the Oasis of Mara was 674 species (subdivided by taxa grps below). Of the vertebrates that were surveyed, taxa specialists observed 33 individual bird species, 10 herp species, and 11 different mammal species. Of the wild plants surveyed, botanists identified 74 separate plant species including two uncommon cacti and an additional occurrence of the rare plant, *Wislizenia refracta*. Entomologists collected and identified 546 different invertebrate species (81% of total species found) which will contribute about the least studied taxa groups in the Park. Of the invertebrate species found, there are 206 bee/wasp/ant (Hymenoptera), 109 true flies (Diptera), 65 true bugs (Hemiptera), 50 beetles (Coleoptera), 67 moths/butterflies (Lepidoptera), 21 spiders (Araneae), and many other groups.

NEPA Compliance

Reviewed resources impacts and issued NEPA CEs for >30 Park projects this fiscal year (coordinated w/ project leaders, IDT members, & cultural staff, facilitate compliance meetings, PEPC database, issue/organize NEPA docs and administrative record).

Physical Sciences

Abandoned Mine Land Program (AML)

- The physical science branch brought in 1.1 million dollars in ARRA funding to close 41 abandoned mine in the park. During 2011, oversight for the contracted portion of the AML closures was provided by physical science staff.
- Under the ARRA program, physical science branch contracted bat surveys for 10 abandoned mine sites. Work was scheduled and surveys were coordinated with the wildlife branch.

- Physical science branch in coordination with the wildlife and cultural branches closed the Anaconda Mine. The previous closure technique was considered inadequate for visitor safety and was responsible for the death of two raptors.
- Physical science branch, Dr. Robert Bryson AML ARRA Coordinator, (MOJA) and the State of California have entered into an agreement to inventory and ground truth the abandoned mine inventory at Joshua Tree National Park.
- Physical Science branch and the State of California Abandoned Mine Land Unit have negotiated a partnership to continue support for mine closures. In previous years the State of California has paid for 50% of mine closures in Joshua Tree National Park.

Alternative Energy Development

- Branch Chief, Luke Sabala was one of the contributing team members providing comments attending meetings and public scoping sessions for the environmental documents relating to Desert Sunlight/First Solar, Solar PEIS, Desert Harvest and the Eagle Mountain Hydro-pumped Storage facility
- Luke Sabala developed cost reimbursement estimates and is the agreements technical representative for the monitoring/mitigation during construction of Desert Sunlight/First Solar site
- The physical science operation collected baseline data for soundscape and night-sky imagery that will be used as a monitoring basis during construction of the desert Sunlight/First Solar project.

Air Quality

- Continuous monitoring at Black Rock air station with minimal down time.
- Upgraded the Black Rock site to include the NADP/Ammonia Monitoring Network.
- Passes California Air Resource Board audit/station challenge.
- Continuous monitoring at Cottonwood air station with minimal down time.
- Upgraded Cottonwood air monitoring with a DustTrack PM 10.
- Continuous (full year) monitoring at the Pinto Wells in anticipation for the proposed alternative energy and landfill projects.
- Negotiated support/funding with the Inventory and Monitoring Program to continue operations at the Cottonwood air station.
- Negotiated with NOAA, a location in the park for a climate change monitoring station near the Blackrock air station. The station will be part of a network of stations funded by NOAA and serviced by the NPS staff for long-term monitoring climate change.
- Ozonesond study conducted by NOAA and park staff in 2010, was published in the *Journal of Geophysical Research - Atmospheres*.

Geologic/Groundwater Research

- Even in the absence of funding, the physical science branch collected potentiometric surface in all the known wells in the park.
- Luke Sabala attended two USGS meetings associated with groundwater basins around the park. The information provided by the USGS is vital for supporting park comments relating to future developments around the park
- Luke Sabala will be presenting his research relating to tectonic uplift of the Little San Bernardino (Long Canyon) in Joshua Tree National Park at the American Geophysical Union Annual Meeting in December 2011.

Night Sky Program

- Luke Sabala is an active member of the Morongo Basin Dark Skies Alliance representing the park's issues with light pollution. Working directly with San Bernardino County Supervisor Neil Derry's representative Alan Rasmussen, representatives from the Marine Corps Air Ground Combat Center, and other entities to enforce county ordinance and educate the public regarding light pollution.
- Physical science technician, Stacy Manson presented an overview of night sky issues to the general public at the Perseid Meteor Event hosted by Mojave Desert Land Trust.

Soundscape Program

- The physical science branch hosted a training session for the development of the Natural Soundscape Program at Joshua Tree National Park.
- The soundscape program continues to develop baseline data that will be used to assess natural ambient sound violations resulting from external development adjacent the park boundary.

Support for Other Divisions/Groups

- Luke Sabala provides support to the Desert Institute by hosting a field trip for group of satellite imagery specialists in March of 2011. The group of image specialists ground truthed images seen from space and used the information to help DOD and other government agencies identify surface features as seen from space. The two specific destinations of interest to the group were abandoned mines and springs.
- Luke Sabala presented research relating to the tectonic uplift of the little San Bernardino Mountains at Joshua Tree National Park to 35 of USGS geophysicists.

Resource Advisor Activities

The Resource Advisor (READ) team now has eight members. The Team meets on a regular basis year-round discuss issues, topics, and information that would be needed in the case of wildfire or major emergency incident. Although there were no fire incidents this year, the READs were ready throughout the entire fire season.

JOTR is committed to developing a successful and proactive READ program. Over the past few years, guidance documents on park resource and safety concerns have been disseminated to fire crews working on incidents in the park. Team members continue to refine these documents as both the National and JOTR READ programs evolve and grow.

The READ team conducted their first internal training for new recruits and to refresh existing members. Presentations given by National READ trainers were modified and adapted by JOTR READs to address concerns, issues and topics in JOTR and the desert region. The Team is also conducting field trainings around a variety of resource concerns to share knowledge and experience and to increase team cohesion across disciplines.

READs are also responding to incidents that may require natural and cultural mitigation and assessment. READ member Caitlyn Marrs responded to assess resource damage as a result of the September 2011 Cottonwood flood. She noted significant cultural resource damage as well as directed clean-up crews & rehabilitation efforts using best mitigation practices concerning natural and cultural issues.

Vegetation Branch Activities

Vegetation Management – Basic Operational Overview

The vegetation branch of Joshua Tree National Park is divided into five program areas each of which contributes to the overall mission and management of the Park. The vegetation branch programs include: restoration, climbing and bouldering, native plant nursery operations, invasive species, and rare plant/botany. Together these programs have been called the Center for Arid Lands Restoration. These programs are highly integrated and function together to produce lasting meaningful results.

- The Vegetation Branch with other members of the Desert Managers Group organized a Restoration Workshop in Barstow, California on July 13 and 14, 2011
- Joshua Tree National Park hosted the California Phenology Training from March 30 to April 02, 2011.

Center for Arid Lands Restoration

- Total volunteer hours: 707.25, a value of \$16,564*
- Total number of plants propagated: 10,113

Seed collection

- Made 12 seed collection trips from the end of April to the end of July
- Collected from 23 species of shrubs and grasses in 12 different locations

Facilities

- Demolition of old, unsafe greenhouse and installation of new greenhouse; January to March
- New shade cloth installed over upper compound
- Additional drip lines were installed in the upper compound
- Replaced battery-operated timer that controls drip line solenoid valves with solar-powered system

Restoration Program

- 1056 plants outplanted throughout the park
- 715 volunteer hours logged, value of \$16,752*

Restoration in Burned Areas

- Lost Horse Mine Fire 2009 (Burned Area Restoration)
 - Revegetation with 192 native plants
 - Maintenance and monitoring of restored sites every two months with restoration staff and volunteer groups
 - Restoration effectiveness monitoring implemented in spring 2011
 - 60 acres monitored for new introductions of invasive plant species
- Keys View Incident Fire 2010 (Burned Area Restoration)
 - Seed collecting in fall 2010 and summer 2011
 - 1017 plants propagated for this project during spring 2011
 - Herbicide treatment study: 60 acres monitored for new introductions of invasive plant species
- West Complex Fire 2006 (Burned Area Restoration)
 - Monitoring and watering every two months
 - Plant cages removed in all sites in November 2011

- Central Complex Fire 2006 (Burned Area Restoration)
 - Monitoring and watering every two months
 - Cages removed in 75% of the plants

Campgrounds Enhancement Project

- 1256 plants were propagated for this project
- 78 plants were outplanted in Belle Campground
- During the National Public Lands Day on September 19, 2011, volunteers and vegetation crew members planted approximately 60 plants in Ryan Campground
- 310 more plants were outplanted in Ryan Campground from September 26th, through September 29th, 2011.

Cultural sites rehabilitation

- Maintenance and monitoring continued in restoration sites at Squaw Tank Campground, Indian Cove Picnic Area, Barker Dam area and Crystal Cave.

Route 12 Pull outs restoration with native plants and vertical mulch

- 213 plants were outplanted at ten non-designated pull-outs
- Vertical mulch planted at four non-designated pull-outs

Social Trails

- Vegetation crew members and 48 volunteers outplanted 152 plants in the Real Hidden Valley Nature Trailhead during the Real Hidden Valley and Houser Buttress Nestle Waters Event
- 51 plants were outplanted in Echo Cove during the annual Climb Smart Event
- Continued maintenance and monitoring in the social trails rehabilitation sites at the Hidden Valley trailhead and the following climbing routes: Echo Cove and Left Hand of Darkness

Oasis of Mara

- In March 2011; 20 volunteers (250 hours), 3 SCA interns (91 hours) and 4 park staff (85 hours) worked a total of 402 man-hours to remove more than 150 cubic yards of palm frond waste and other wooden debris around the nature trail in the Oasis of Mara

Invasive Plant Program

- 2,900 acres surveyed throughout the park
- 452 volunteer hours logged, value of \$10,585*

Sahara mustard (*Brassica tournefortii*)

- 150 acres treated in Pinto Basin and Pleasant Valley

Shortpod mustard (*Hirschfeldia incana*)

- 6 acres treated at Black Rock Campground

Fountain Grass (*Pennisetum setaceum*)

- 3.1 acres treated along northern boundary (Fortynine Palms oasis and other canyons)

Tamarisk (*Tamarix spp.*)

- 2.6 acres treated at park assets and springs

Lost Horse Fire

- 60 acres monitored for new introductions of invasive plant species

Key's View Fire

- 45 acres monitored for new introductions of invasive plant species
- Grass-specific herbicides applied to 6 study plots; cover of native and invasive plant species measured before and after application. Preliminary results show that at least one herbicide results in 50% reduction in cover and density of red brome with no significant decrease in cover and density of native plants

Botany/ Rare Plant Program

- Over 300 volunteer hours were banked, a value of \$7,260*
- 25 botanical surveys of under surveyed, or never-been surveyed areas of the park were completed
- Species lists from botanical surveys of past years, and all of 2011 surveys, have been digitized and are available on the share drive.
- 594 new herbarium specimens were collected and filed into the Joshua Tree National Park Herbarium.
- In anticipation of publishing a complete annotated checklist of the vascular plants of the park, the existing plant list has been thoroughly reviewed, and refined. During intense visits to the Wesley Niles Herbarium at University of Nevada Las Vegas, and Rancho Santa Ana Botanic Garden's Herbarium in Claremont, CA, over 135 specimens (collected from Joshua Tree National Park) were reviewed for accuracy and up-to-date taxonomy. As a result, about 30 species were successfully identified as being misrepresented on the park's list.
- Approx. 10 newly-documented species were recorded this year. These species were not previously reported in the park. Of these "new to the list" species, 4 are currently on the CNPS rare and sensitive species list.
- 30 undocumented occurrences of CNPS listed rare or sensitive species were discovered, recorded, and added to the park's "All Rare Shapefile".
- All known populations of the park's two federally protected plant species, *Erigeron parishii* and *Astragalus tricarinatus*, were revisited to collect leaf matter and seed. The leaf material will be used in a population-based genetic analysis, and the seed was sent to Ranch Santa Ana Botanic Gardens for germination studies and preservation. The information gained will be utilized for the development of species' status reports for both plants, in FY2012.
- Another large population of the federally endangered, *Astragalus tricarinatus* was discovered, which may turn out to be the largest documented occurrence to date
- Photos for over half of the entries on the species list have been compiled, organized, and are being reviewed, for use in the annotated checklist website to be added to the park's main web site later this year.
- Kerry Knudsen has added 120 species of lichen and lichenicolous fungi to our park's species list. He has made over 1,000 collections throughout the park which include 4 species new to California, 1 species new to North America, and 5 possibly new to science. Joshua Tree will likely be the most well documented National Park for lichen diversity once these findings are published.
- 26 high school students across 5 districts learned about, observed, and recorded data on lichen abundance and diversity at Black Rock Campground.

- The Vegetation Classification shapefile for Joshua Tree National Park was completed and is available through the park's GIS drive. The final report is expected in 2012.
- A new Botany sharepoint site has been developed and can be accessed at <http://inppwrosharept:36961/PWR/JOTR/resources/veg/botany/default.aspx>
- Development and implementation of the California Phenology Project pilot sites throughout the park have yielded successful results and much feedback for the statewide University of California Natural Reserve System.

Climbers Coffee and Social Trails

- 564 volunteer hours logged, value of \$13,209*
- 4560 Cups of Coffee / Visitor Contacts

Social Trail Related Volunteer Projects at Climbing Routes

- Real Hidden Valley and Houser Buttress Nestle Waters Event
152 plants outplanted and approximately 150 volunteer hours logged
- Echo Cove/Climb Smart Event
51 plants outplanted and approximately 80 volunteer hours logged
- Dihedral Rock/partnership with Friends of Joshua Tree
18 volunteer hours logged

Update on 2010 Projects

- Climbing Routes Left Hand of Darkness and Echo Cove: watering continues as scheduled (restored March 2010)

Proposed Social Trail Restoration Projects

- Climbing Route Old Road – NEPA Compliance, 200 plants growing in Center for Arid Lands Restoration
- Climbing Route Peewee Rock – NEPA Compliance, 50 plants growing in Center for Arid Lands Restoration

Special Events

- Outdoor Outreach (www.outdooroutreach.org): A large guided group's climbing weekend was rained out, and this evolved into a training event. Approximately 30 participants
- Contra Costa Search And Rescue (SAR): Six members of the Contra Costa SAR team came to JOTR for desert survival training. 6 Participants
- Climb Smart: 30 volunteers, 120 hours
- Prescott College: Students from Prescott College asked for a presentation about, "How to be a Climbing Ranger" and other opportunities for jobs in the Park Service
- Graffiti Removal_(1/16/2011): Approximately 15 volunteers from the American Alpine Club, helped to scrub graffiti off of the Patagonia Pile near Hidden Valley Campground. They logged over 76 volunteer hours

- REI Event: 40 REI employees conjugated in JOTR for a ‘Learn How to Climb’ weekend, 40 participants
- Threshold Climbing Gym (www.climbth.com)
- Chalk Cleanup: 40 volunteers, 120 volunteer hours
- Junior Ranger Day (4/23/2011): About 20 kids came out and learned about gear, knots, and safety while climbing. The Climbers Coffee posters were displayed and about 10 adult climbers wondered over from the crag to read them, ask questions, and drink coffee. 20 participants

Social Trails Inventory Project

- The mapping of social trails around climbing and bouldering areas was completed. There are a grand total of 123.7 km of social trails near climbing areas
- A complete History of Social Trails was developed and placed into the park's intranet system.
- A GIS layer ‘*proposed restoration sites*’ was added to the social trails map (Master_Social_Trail.gdb)
- Social Trails Inventory master map was updated and streamlined and now includes metadata

*Value of volunteer time = \$23.42/hour (http://independentsector.org/volunteer_time)

Wildlife

Bats

Park biologists worked with the Physical Science team and American Recovery and Reinvestment Act (ARRA) funded bat researchers to survey ten abandoned mine land (AML) sites where bat gates were installed this past year. Each site was surveyed in the spring, winter and spring for assessment of presence/absence pre- and post- gate installation, use (*ie.* night roost, maternity colony or hibernacula site), species and population numbers.

Wildlife staff attended US Forest Service Mine Safety course in Idaho in May. The week long course was to inform and educate people of the dangers, hazards and safety issues associated with active and abandoned mine sites.

Wildlife and Physical Science personnel worked together to remove cable netting (an outdated method of closing mine openings) from the Anaconda mine and replaced it with a bat/wildlife friendly gate. Within one month of installation, wildlife staff observed barn owls using the mine shaft. The gate allows for safer ingress and egress of wildlife as well as to make the site safer for Park visitors.

Wildlife Staff continues to work with other biologists, NPS parks, federal and state agencies on a response plan regarding bats and white-nosed syndrome (WNS). The fungus *Geomyces destructans*, which surfaced in 2006 in New York state, has decimated bat populations in the US and Canada. It is now documented in 19 states and four provinces and is spreading westward. Scientists know very little about this fungus, but have discovered that it thrives in cold temperatures. Due to this, the impact it will have on bats in the southwest is unknown.

Kristen Lalumiere, Wildlife Bio Tech, presented at the Western Section of the Wildlife Society conference in February on the history of bat surveys, evolution of AML closures and gate installations in JOTR. She also discussed the steps JOTR is taking in preparing for the arrival of WNS in the southwest.

California Treefrogs

In response to declining local populations of California treefrogs (*Pseudacris cadaverina*) in the park, wildlife staff proposed to collect tadpoles from desiccating pools in Rattlesnake canyon and relocate them areas where they were historically present. Prior to the translocation, adults from the source population were tested for Chytrid fungus (*Batrachochytrium dendrobatidis*) to avoid the spread of the deadly disease to new locations. Lab results returned as negative for the presence of Chytrid, and staff reintroduced thirteen tadpoles to Smithwater canyon, where this species was historically recorded but have been absent for some time. Staff plans to continue reintroductions to Smithwater canyon again next spring.

Desert Tortoise

Wildlife staff completed the sixth year of the radio telemetry monitoring study assessing the effects of roads on desert tortoise movement and survival. There were two new additions to the study, bringing the number of transmittered tortoises to seventeen. One tortoise in the Lost Horse area moved over two miles from her normal range for the summer and returning in the fall, repeating her behavior from 2005. Analysis of data from previous years shows tortoises on low-vehicle traffic roads are crossing more frequently than those near high traffic roads, who may only cross a few times a year. Staff continues to track and monitor the tortoises to increase our understanding of these charismatic desert creatures.

Road construction pre-surveys were completed for the planned Wilson Canyon-Pinto Basin Federal Highway reconstruction project. During the surveys, two live tortoises (one adult, one juvenile), one juvenile carcass, thirteen burrows, and three bone fragments positively identified as desert tortoise were found. The one live adult tortoise was transmittered and is now a part of our radio telemetry study. Survey results were submitted in a report to the US Fish & Wildlife Service (USFWS) and their conservation recommendations are based on these findings were written into a Biological Opinion for this project.

Tortoise surveys were also completed in Black Rock campground to get an idea of potential impacts to the species with the proposed redesign. The survey resulted in finding five tortoise burrows and two pieces of tortoise scat in the proposed action area. Also noted in the report were the many past sightings reported by visitors and staff in the area.

The park funded USFWS tortoise population surveys again in 2011. The wildlife staff assisted with the effort by providing data for a detectability index calculated from tracking our transmittered tortoises.

USFWS mandated tortoise awareness trainings, provided by wildlife staff to new employees and contractors, were conducted throughout the year to ensure that everyone working in the park are aware of threats to tortoises and that no tortoises are harmed during project activities.

Honeybees

Wildlife Staff developed a response plan to address safety concerns regarding Africanized Honeybees. The comprehensive plan involves recording honeybee observations and incidents into a database, delegation of responsibilities among divisions, preventative measures, assessment of honeybee aggressiveness, and various treatment methods.

Raptors

Wildlife staff continued our spring surveys of breeding raptors nesting in areas on or near established climbing routes. Staff observed the breeding of red-tailed hawks and American kestrels around the climbing area called the “Towers of Uncertainty”. The area was closed to the public from 10 March to 21 June to encourage undisturbed nesting. An 800 meter spatial buffer was implemented (the recommendation for red-tailed hawk) around the climbing area to ensure adult birds would not abandon the nest due to human disturbance. The buffer also satisfied the recommendation for the kestrel. During a reconnaissance trip in June, a juvenile red-tailed hawk was seen in the area indicating successful nesting. Annual plants were found growing on the trail to the site which meant that visitors generally adhered to the closure.

Thrashers

This past winter, staff began an informal survey for various sensitive thrasher species in the park. The objective was to increase sightings in our observation database and eventually have enough data to model suitable habitat for these species in the park. Surveys resulted in six Le Conte’s thrashers (*Toxostoma lecontei*) and one sage thrasher (*Oreoscoptes montanus*) sighting. Due to the low number of observations for this survey, this study will have to continue into next year.

Biodiversity Hunt

Wildlife staff participated in the “Bio-blitz” this year held at the Oasis of Mara. With the help of volunteers, small mammal traps were set up the night prior to the event. The next morning, staff found six different species of rodents in the traps, including a black rat (*Rattus rattus*), a species that hasn’t been documented in the park previously. In addition, wildlife staff gave presentations on: tortoise telemetry (along with a demonstration), raptor surveys, and lead talks on the various reptiles, birds, and mammals found in the park.

Guzzlers

Motion detection cameras continue to be used as part of an on-going wildlife study at the parks guzzlers. New cameras were installed at our more remote locations in hopes of acquiring more data on wildlife use.

Wildlife Observation Cards

The backlog of cards has finally been entered, and new cards are entered as they come into the wildlife office. The total number of entries into our database is over 15,000! These records are extremely helpful in our efforts of mapping bighorn sheep sightings, reports on tortoise survey findings and also help us document the presence of rare and unique wildlife.

DIVISION OF RESOURCE AND VISITOR PROTECTION

During FY11, the division supported the 75th Anniversary activities by providing security additional EMS support and logistical support within the added activities. Four seasonal and three permanent Law Enforcement Rangers were hired in 2011. Chief Ranger Judy Bartzatt retired after eighteen years of service at Joshua Tree National Park. A sister park agreement was initiated with Ecuador's Galapagos National Park. An Employee reunion was coordinated as well. Five employees attended Fundamentals II this year and came back with a greater understanding of how the National Park Service operates.

Law Enforcement Activities

Visitor and resource protection staff worked 801 misdemeanor criminal investigations and 23 felony investigation during FY2011. Five U.S. Magistrate Court sessions were hosted at the Black Rock Visitor Center; where Federal Officers from the Morongo Basin, including the Morongo Basin Air Ground Combat Center (MCB 29 Palms) presented their cases. Of significance this year was the conviction of three male subjects for timber theft. They had cut down and removed wood from Juniper and other trees from "Section 23". Two other individuals were convicted for migratory bird treaty violations. One park employee was convicted of theft of government property. Rangers assisted the County Coroner with the collection of five modern cremation sites.

Joshua Tree National Park hosted the law enforcement refresher for the Mojave Network parks. Rangers from Death Valley and Mojave attended. The 2011 version of the Superintendent's Compendium was revised and completed.

Rangers performed ten documented backcountry patrols, which covered approximately 90 miles. Park Rangers and volunteers posted and signed approximately ten miles of park boundary, to help prevent encroachment and off-road travel. "Section 23" was barricaded with "t" posts and signed, in order to stop encroachment by Off Highway Vehicles. There had been ten years of unrestricted traffic. Locals continue to violate the closure and remove the barriers. 180 pounds of litter were removed from "Section 23" and Covington Wash in association with the closure. The mouth of 49 Palms Canyon has been closed and signed to OHV traffic, again. Division staff worked with the Resource Management division and the Mojave Desert Land Trust Volunteers to close off an illegal access road into the park that was being used for off road vehicle travel.

Search and Rescue Activities

The park's Search and Rescue program continued to grow this year. A park partner, Friends of Joshua Tree was able to replace our old SAR vehicle and replace it with a Ford F350 Four Wheel Drive pickup with utility bed. With the utility bed, the SAR team will be able to stow and pack equipment in a more organized manner. The vehicle was well used this past year.

Four new staff members and 10 volunteers were trained in High Angle and Search Skills. These skills were put to good use as Staff and Volunteers responded to 24 Search and Rescue operations throughout the year. The Lost Horse District Ranger attended the annual Search and Rescue/Emergency Medical Conference that was held in Tulsa Oklahoma. Input was given to the Search and Rescue fields in the new IMARS reporting system that is scheduled for implementation in 2012.

Emergency Medical Response Activities

There were 30 injury and non –injury motor vehicle accident investigations. Park EMTs responded to 45 visitor illnesses or injuries resulting in 31 visitors being taken to local hospitals. There were also four visitor fatalities. Four staff Emergency Medical Technicians attended a semiannual refresher to maintain their National Registry certification. The parks EMS coordinator initiated contact with Hi-Desert Medical Center to have EMTs attend free training at the center to gain Continuing Education hours to maintain EMT Certification. Due to employee transfers, additional CPR instructors were needed. Three members of the staff attended CPR instructor training and have been putting on classes for all park staff. Two Critical Incident Stress debriefings were provided to staff through the EAP program for incidents with which they were involved.

The park's radio coordinator worked with Sequoia Kings Canyon radio shop on the 10 year cyclic replacement of the park's repeater system. Hand held and vehicle radios will be replaced under this cyclic program in the future. A Right of Way was completed with Riverside County to install a new county radio repeater system to provide greater coverage in the park for county fire and law enforcement coverage in the park. An updated Service First Agreement was developed with the Federal Interagency Communication Center for dispatch service for the park. It will be signed in 2012.

Fee Collection Operations

Fee collection had a busy year. Fees hired eight seasonal employees in addition to the 6 permanent staff. They staffed six locations throughout the park and have been assisting at the California Welcome Center in Yucca Valley on Saturdays and Sundays. Campgrounds were consistently occupied throughout the year and served 281,544 campers from January to December 2011. The Cottonwood area was closed on September 13, 2011 due to flooding. The visitor center reopened on November 1, with the campgrounds staying closed for the remainder of 2011.

Dunbar Armored Car Service was contracted for one year to pick up money from the entrance stations, visitor centers, and Indian Cove and Black Rock Campgrounds. For FY 11 \$3,029,614.21 was collected in entrance fees, pass sales, and campground sales. This revenue included sales of 12,000 Interagency Annual Passes, 6,600 Senior Passes, 5,000 Joshua Tree Annual Passes, 401 commercial vehicles (which can seat 26 or more people), 45 commercial vehicles (which can seat 16 to 25 people), 247 commercial vehicles (which can seat 7 to 15 people), 29 commercial vehicles (which can seat 1 to 6 people), and 79 commercial individual fees collected. The Park continued its agreement with the Joshua Tree National Park Association

to sell Interagency Annual Passes at the Joshua Tree Visitor Center, with revenue totaling nearly \$40k for the year.

Special Park Uses

Special Park Uses issued 28 film and photo permits, 34 special event permits, (weddings, military trainings, memorials, etc.) 44 road-based (transportation only) commercial use permits, and 48 commercial and recurring special use permits for rock climbing, hiking, and outdoor education.

Fire Management

The fire management program at Joshua tree continued to develop in FY11. The program continued to work on resuming the interagency program. There were 7 funded NPS positions (Engine Module Leader, Fire Engine Operator, Assistant Fire Engine operator and 4 firefighters) and 5 funded BLM firefighter positions. One vacant position included the Engine Module leader. The Fire Engine Operator was filled.

Fire Operations at Black Rock had a slower than average fire season. With only two fires in the Park and both being contained less than 1.0 acre, the fire and support staff maintained a state of readiness by contributing their efforts to fires located within the larger zone of the California Desert District and throughout the state of California. The fire crew had three off park fire assignments, and numerous assists at Mojave National Park and areas within the California Desert District of the BLM.

The BLM Palm Springs Field Office fire engine number 3636 moved back into the Black Rock Interagency Fire Center. One single resource was ordered for Yosemite on fire support.

The Fire Management Plan five year review will occur this winter, with the assistance of the Resource Division.

Mutual Aid agreements are in the process of being initiated one with San Bernardino County Fire Department and the Marine Corp Air Ground Combat Center fire department.

Training completed:

Annual Firefighter refresher
 S-211 Power Saws
 S-131/190 Basic firefighter
 S-230 Single Resource Boss/Crew Boss
 S-231 Single Resource /Engine Boss