



**United States Department of the Interior**  
NATIONAL PARK SERVICE  
MONTEZUMA CASTLE & TUZIGOOT NATIONAL MONUMENTS  
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A2621

August 17, 2009

Memorandum

To: Director, Intermountain Region

From: Superintendent, Montezuma Castle and Tuzigoot National Monuments

Subject: Annual Report FY2008 for Montezuma Castle and Tuzigoot National Monuments

Following is the annual narrative report of FY2008 for the monuments:

**Superintendent's Office and Management**

**Operations and Partnering**

The GPRA response was completed on time. We exceeded nine goals, met eight goals, and did not meet one goal.

We continue developing relations with the eight affiliated tribes having more interaction with tribes each year. Most interaction was meeting individually with the Hopi, Yavapai-Apache, and Yavapai-Prescott. We met less often with the Four Southern Tribes, i.e., Gila River Pima-Maricopa, Salt River Pima-Maricopa, Ak Chin, and Tohono O'odham. With the Zuni Tribe, our contact was primarily by letter or phone as that tribe has asked the Hopi Tribe to represent its interests. Following discussions with the Hopi in 2004, we collectively drafted an MOU to facilitate compliance, cultural demonstrations, and other activities. The Yavapai-Apache signed the MOU, while the Hopi continue to review and edit the document, which has been to the tribal council once. The Yavapai-Prescott chose not to have a MOU. We continue to communicate with the other tribes about their interest in the MOU and other topics. Most communications have been around projects such as improving exhibits for Tuzigoot museum, restoring Tavasci Marsh and Well pasture, constructing an operations building at Montezuma Well, and ruins preservation activities.

The general management plan (GMP) continued to go through various draft, be reviewed by IMR and WASO, then circle back around to include new format or information required by WASO. The plan met requirements when started, but with each edit, more is asked for by WASO planning. Park staff completed a review and the DSC team edited the GMP for IMR and WASO review in 2008. It still will not be completed in FY2009

Relations with Western National Parks Association (WNPA) are excellent. Sales in the monuments continued to increase and in 2008, Montezuma Castle was among the top three parks for revenue. By

adding a full time WNPA person to Tuzigoot for five days per week, sales and variety of items have increased significantly. We continued to keep the local field manager and WNPA offices informed about the delays for renovating the Tuzigoot exhibits.

Some work was done on accessibility to improve conditions and meet standards. The “storefront,” windows at the Castle visitor center were funded for replacement. The design was completed in 2008 and work will be done in 2009. Safety glass will be used and the doors will be easier to open. More projects were written to address safety and accessibility for the January 2008 SCC call.

All report and training requirements for law enforcement, fees, and interpretation were met. We were major partners in the annual Verde River Days, Verde Birding and Nature Festival, Sliderock Apple Fest, March Archeological Awareness Month, and Flagstaff Festival of Science. Activities were staff presentations, exhibits, and donations through WNPA funds. Additional activities included National Parks Week, Junior Ranger Day, Public Lands Day, and Montezuma Castle 10K run. Interpretation and education activities continued to grow maintaining a high number of programs and roves. Special programs were given, such as night sky, riparian walks, and bird watching walks. Yearlong events gave us outstanding opportunity to connect with affiliated tribes through cultural demonstrations. Visitors were pleased with the events, which drew many local residents to the monuments.

A major change for the maintenance division was selection of a facility manager in August 2008. The position had been vacant for almost three years with detailers filling in. We were current with reports and requirements for FMSS, FCA, API, and asset management. FMSS was integrated into the PMIS process, which help significantly for the spring 2008 PAMP. Housing repair and rehabilitation work continued. The administration officer, facility manager, and others did the annual housing inspection. The housing management plan is reviewed and updated annually.

The chief of resources management was also VT staff (historical architect) who helped 45 other VT parks. A significant change was base funding for a natural resources position, which became the division chief, allowing the historical architect to devote his time to VT. The new chief arrived in August 2008. The resource management division continued to provide compliance, proposal writing, research and management, I&M, and projects. Funding was received from Arizona Water Protection Fund for the restoration of Montezuma Well pasture. We worked on a proposal to AWPF for Tavasci Marsh restoration. We continued the GIS partnership with Flagstaff area parks and Tonto. The Tuzigoot administrative history work continued. SODN inventory and monitoring network completed the inventory phase and initiated some monitoring, especially of birds and water resources.

The superintendent continued as a liaison to the Camp Verde Chamber of Commerce. She continued participating in events organized by this chamber and others for Jerome, Cottonwood, Clarkdale, and Sedona. The Verde Valley wide FAM tour included the monuments.

### **Partnerships**

We have been extending relationships with the Verde Valley communities by getting involved with local events and conducting more outreach, advertising events, and adding creative interpretative programs, such as night skies and moonlit walks. Our focus has been in Verde Valley, yet we seek opportunities to have partnerships elsewhere in Arizona and beyond. In 2008 the partnerships included, but were not limited to, Cottonwood Chamber of Commerce and Dead Horse Ranch State Park for Verde River Days and Verde Birding and Nature Festival, Saguaro National Park for FMO and wildland fire services, Camp Verde Chamber of Commerce for tourism enhancement, Camp Verde Parks and Recreation Department for 10K Montezuma Castle run, Friends of the Well for issues of mutual concern, Yavapai County Public Health Service for mosquito risk abatement, and Freeport McMoran Inc., for mine tailing reclamation, interpretation, Peck’s Lake outflow, access, and more. We were a partnering gift for a funding raising

event, i.e., Phoenix Zoo Lights, and for the Clarkdale employees' annual recognition awards. The PARK WATCH program for Montezuma Well connects us with neighbors. The superintendent has participated in meeting for the adjacent Lake Montezuma Property Owners Association.

The superintendent was requested to participate as the NPS representative on an interagency, national team for Fire Program Analysis as a member of the Management Advisory Team. The purpose was to provide feedback and represent line, staff, and field during the development and transitioning to FPA budgeting process.

Formal partnerships include WNPA cooperating association for sales, Lions Club and Sedona Recycles for recycling, Volunteers of Outdoor Arizona for projects, Arizona State Museum MOU for exhibit design, Flagstaff Area parks, Tonto, and Montezuma Castle/Tuzigoot for GIS development, and Verde River Basin Partnership for watershed protection. Other partners include the Coconino and Prescott National Forests and Arizona Game and Fish for joint planning, archeology, and common interests, especially with the local districts. The acquisition of Tavasci Marsh will lead to even more partnering. We have an MOU with the Yavapai Apache Nation MOU for cultural activities and compliance. The Hopi Tribe, which initiated tribal MOU with us in 2004, has discussed the draft document several times, yet has not approved tribal participation. We have had the Teacher Ranger Teacher program for three years.

### **Personnel, Staffing, and Position Management**

Numerous personnel actions were completed by administration to hire permanent, temporary, and seasonal ranger, maintenance, administration, and resources staff. The most significant changes were the 1) hired a facility manager, which filled a three-year vacancy, 2) hired a chief of resources, which was a base increase that allowed full time attention to resources, 3) moved the previous chief of resources back to the historical architect position so he could devote full time to VT program, 4) refilled the archeologist position, 5) refilled the lead interpreter position, 6) filled the administrative assistant position, which was vacant for 18 months, 7) fill the visitor use assistant for fees as a permanent subject-to-furlough from term position. While we have five subject- to-furlough term positions for park guide ranger positions, we have not been able to keep them filled, so there was consistent turnover. Nevertheless, these term positions rather than seasonal jobs, were more efficient and fair to employees. Background investigations were done within deadlines. Four Centennial seasonal positions were hired with two in maintenance and two in interpretation. A variety of seasonal staff was hired for maintenance, interpretation, archeology, and biology.

All performance plans were in place by the deadline. Evaluations were completed on schedule. All supervisors met the required supervision training. The superintendent and division chiefs had coaching throughout 2008. The Arizona SHRO was the servicing personnel office.

### **Safety**

The safety program continued to grow with an organized structure of a collateral duty safety officer and committee, composed of the leadership team and employee representatives. Regular meetings were held and safety messages distributed. The committee took the STOP training conducted by Barry Clark, Grand Canyon assistant safety officer. Several job hazard analyses were prepared.

### **Recreation Fee --FLREA**

The comprehensive plan was completed as a planning tool and later drawn on as a deferred maintenance target. The fee demo deferred maintenance goals were accomplished for Montezuma Castle and for Tuzigoot. There were 21 projects ongoing with some completed in 2008. Most were multi-year projects, which covered work for deferred maintenance, interpretation, and archeological and natural resource preservation.

With completion of the fourth version of the comprehensive plan, we continued to have more projects than anticipated funds for the five-year plan. Staff prepared and prioritized quality PMIS statements for maintenance, safety, interpretation, and resource management. For contrast in 2003 there was no current list of projects, fewer projects than funds, no interpretation or resource projects, inadequate narrative and cost details in statements, no prioritized list, and no strategy to implement the recreation fee program.

In 2008, we were scheduled for a fee increase along with several other fee parks. The last one was February 2006. We talked to the IMR fee staff to give our reasons for not increasing fees. Simply put it was too much to charge. In the annual Visitor Survey, the fee amount has been the only low score for the monuments. Surrounding state parks in the Verde Valley charge two to four dollars for entrance. During the year, Director Mary Bomar stopped increases so our fees were not raised to \$7/person, rather remained at \$5 per person, age 16 and older, with a combined admission to both monuments for \$8/person.

### **Lands and Water**

The water rights process continued by WASO Water Resources Branch (WRB) hydrologists with support from park staff. Gauges were installed and field measurements continued to be taken to assess and monitor water usage. The WRB has funded several studies on water budget, hydrogeology, groundwater, wells, etc, many of which are finished documents. The WRB also provided staff to advice on Tavaschi Marsh restoration, which included a site visit.

### **Administration**

#### **Personnel, Staffing, and Position Management**

Numerous personnel actions were done by administration to hire rangers, maintenance staff, and cultural and natural resources positions. The administrative assistant position was filled after several months being vacant. Some permanent jobs were announced merit promotion and all sources, one was a return rights selection, and another was a special hiring authority. We continued to recruit employees using the student employment program hiring authority with the local colleges. A variety of seasonal and term employees were hired for maintenance, interpretation, archeology, and biology jobs.

All performance plans were in place by the deadline. Mid-year reviews were completed as required. Evaluations were completed on schedule.

All supervisors met the required supervision training. The superintendent and division chiefs had coaching throughout 2008.

#### **Fiscal**

The park operating base adjusted budget was \$1,428,000.00. These funds were supplemented by a variety of other funding sources including fee demonstration, volunteer in parks, donations, water resources, and Western National Parks Association. The fiscal year budget was closed within the required amount.

#### **Personnel**

Two permanent division chief positions were filled at the end of FY2008. Facility manager and chief of resources, two positions that had been permanent were filled with subject-to-furlough positions, archeologist and park ranger- interpretation. The FY2008 park staff consisted of eleven permanent full-time, four permanent subject-to-furlough employees, one SCEP employee was converted to permanent subject-to-furlough position, thirteen seasonal employees, four STEP employees, and six term employees. Both of the student programs have used one local university and three local community colleges.

## **Housing**

Housing inspections were performed and work was accomplished in priority order to assure that all housing was listed in good condition. The housing plan is current.

## **Tribal Relationships**

Tribal relations continue to be advanced with the Yavapai Apache Unity Group (high school and college youth group) and the Yavapai Community College

## **Training**

We have increased Telnet training being provided to park employees on subjects such as Safety, Interpretation, and Law Enforcement skills.

## **Visitor Services and Resource Protection**

### **Staffing**

Staffing in the division continued its normal fluctuations. The lead interpreter transferred to Glacier NP in August. However, we were able to refill the position almost immediately in September through a special hiring authority for handicapped individuals, with seasonal ranger from Organ Pipe Cactus NM, who is very talented and comes with a multitude of skills and experiences. The visitor use assistant, who had been in a SCEP position since 2007, was hired into a permanent subject-to-furlough position by Grand Canyon NP. Three of our four term park guides moved on to other opportunities, two of them moving into permanent federal jobs. Twelve park guides cycled through the various seasonal and STEP positions during the year. We chose not to have an SCA this year. The rest of the staff was unchanging, with no changes in the other four permanent positions.

### **Interpretation**

Staff at Montezuma Castle, Montezuma Well, and Tuzigoot contacted 842,185 visitors during all personal services activities offered (per GPRA, includes contacts at the front desk, both formal and informal interpretive programs, and off-site activities). Interpretive programs consisted of walks, talks, outreach, demonstrations, exhibits, and the Junior Ranger program. The results of the 2008 Visitor Survey Cards indicated that 99% of monument visitors were satisfied overall with appropriate facilities, services, and recreational opportunities. Additionally, the survey indicated that 83% of monument visitors understood the significance of the sites.

The visitor guide newspaper, Echoes, was refreshed and updated with new articles, pictures, and maps. The four site bulletins created in FY2004 by the interpretive staff continued to be well received by visitors and were reprinted. Our expanded park website was updated, offering a virtual tour of Montezuma Castle along with more photographs, information, multi-media, and links to commonly requested forms and maps.

The division continued to emphasize its interpretive programs. The knowledge and skills in interpretive training of our lead interpreter have allowed us to move forward towards a more professional program. A three-day interpretive training program was offered to all park guides, rangers, VIPs, and neighboring federal and state parks and US Forest Service staff, emphasizing thematically based interpretation. Formal interpretive programs included the cultural and natural history of the monuments, the history of the Verde Valley, and hands-on activities demonstrating Native American skills.

On National Junior Ranger Day, held the last Saturday of National Park Week in April, the public was given free entrance to the monuments and invited to come as a family. Several stations, with activities designed particularly for children, were staffed by rangers and VIPs. These activities included corn

grinding with a mano and matate, yucca fiber weaving, pottery making, and a sandbox “archeological dig”.

In the chart below, past interpretative services are shown from FY2005 through FY2008. In FY2007, the statistical accounting changed, due to changes in the national Servicewide Interpretive Reporting System (SIRS) program and Montezuma Castle and Montezuma Well statistics were combined. In FY2008, Montezuma Castle and Tuzigoot were combined into one report. Roves/informal interpretation were documented by “total visitors contacted,” rather than the number of roves. Schools are now “Education” and include both the number of programs and the total number of people contacted. Outreach was eliminated and absorbed into other categories, depending on the activity. Special Events include unusual activities or programs such as the Full Moon Walk at the Well, The Castle after Dark, David Wolfs Robe and his flute, and other after-hours programs. Demonstrations and Performing Arts include activities such as Archeology Month programs, National Junior Ranger Day, special speakers at the Interpretive Circle, etc.

	FY2005	FY2006	FY2007	FY2008
Talks (Formal) #/attendees	MOCA 431 MOWE 94 TUZI 222	MOCA 507 MOWE 85 TUZI 117	MOCA/MOWE 460/13,503 TUZI 64/950	Combined 839/24,264
Roves (Informal)	MOCA 1694 MOWE 631 TUZI 580	MOCA 1968 MOWE 726 TUZI 468	MOCA/MOWE 29,016 TUZI 1346	Combined 107,289
Schools (Education)	MOCA 12 MOWE 22 TUZI 29	MOCA 51 MOWE n/a TUZI 16	MOCA/MOWE 27/1,447 TUZI 1/32	Combined 9/376
Outreach	MOCA 15 MOWE n/a TUZI 10	MOCA 6 MOWE n/a TUZI 4	(no longer used)	(no longer used)
Demonstrations and Performing Arts	n/a	n/a	MOCA/MOWE 11/129 TUZI 0/0	Combined 13/660
Special Events	n/a	n/a	MOCA/MOWE 11/1079 TUZI 1/36	Combined 4/216

Monument staff participated in six special community-wide events: Verde Valley Birding and Nature Festival, Verde River Days, March Archeological Awareness Month, the Applefest held at Sliderock State Park twice, and the Flagstaff Festival of Science. Our Interpreter also participated in a local school career day program, providing information about the benefits of a career with the National Park Service.

The Comprehensive Interpretive Plan for Montezuma Castle and Tuzigoot National Monuments, started in 2006, was nearly complete, needing only some minor editing before it will be officially completed and approved by the Superintendent, IMR, and WASO, in FY09.

The Tuzigoot Museum Renovation project, initiated in FY2004, was originally expected to be obligated this fiscal year. However, changes required to the actual infrastructure of the museum to accommodate the new exhibits, and the associated planning, caused the project’s progress to slow down and delay the actual work in the museum for at least one more year. Additionally the A&E firm did not deliver timely products, in fact was months late. The main emphasis of the project, though, remains unchanged. The project, funded through FLREA, focuses on refreshing and updating the museum exhibits. A term exhibit

specialist has guided the project since late 2005. Personnel from the Arizona State Museum (ASM), which the NPS has contracted with for the fabrication and installation of the exhibits, have made numerous trips to consult with monument staff. The creative design and ingenuity of ASM personnel will allow for the reuse of the historic display cabinets and result in the improved display and preservation of the artifacts. The large ollas, historically displayed beneath the exhibits, which were moved to WACC for repair and restoration, have been returned and are in temporary storage awaiting their return to Tuzigoot, where they will again be displayed in the open as part of the new exhibits.

Plans continued to update the wayside exhibits on the Tuzigoot Ruins Trail, the Montezuma Well Trail, and the Montezuma Castle Trail. Another project that progressed was repair and replacement of some of the exhibits in the Montezuma Castle Visitor Center museum. Although the Visitor Center exhibits are relatively new, having been installed in 2003, they are showing signs of premature wear due to an unexpected incompatibility of materials used in the displays. In addition, several of the exhibits were found to be culturally and/or factually incorrect. These projects will continue to be worked on in FY2009 as time permits.

During the summer of 2008, two Teacher-Ranger-Teachers (TRT) were at Montezuma Castle and Tuzigoot. One was a librarian from Wisconsin and the other was a science teacher from West Virginia. The emphasis on their summer was to update our Educator packets and make contacts with the local schools. Both worked out extremely well, and completed a very successful summer.

The division again put on special activities during the statewide March Archeological and Heritage Awareness Month. Montezuma Well was opened for a special night under the full moon. The staff also organized a full day of demonstrations, which included visitor participation, of aboriginal skills performed by many local volunteers and Native American artisans. These included pottery making, atlatl throwing, food preparation, and fire starting.

**Public Use and Fee Collection**

In 2004 a re-survey of visitation patterns at both monuments was completed. The persons-per-vehicle (PPV) survey validated the 2.7 PPV at Tuzigoot and reflected a change in PPV from 3.57 to 2.8 for Montezuma Castle. The new PPV of 2.8 for Montezuma Castle became effective January 2005. Visitation totals have since reflected a decrease in overall visitation. (Montezuma Well visitation numbers are included in the Montezuma Castle NM figures.)

Visitation figures for each management unit since FY2004 were:

	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
Montezuma Castle NM	656,409	622,912	590,720	608,635	601,129
Tuzigoot NM	115,321	108,830	114,020	108,910	103,280

Entrance fees were collected from all visitors to the Montezuma Castle and Tuzigoot areas on a per person entry system. In February 2006 admission fees to the monuments increased to \$5 per person, age 16/older, with a combined admission to both monuments for \$8/person. Montezuma Well continued to be free.

A comparison of fees collected since FY2004 showed the following:

	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
Montezuma Castle	\$781,811	\$902,599	\$1,240,686	\$1,364,140	\$1,384,416
Tuzigoot	<u>\$142,017</u>	<u>\$142,264</u>	<u>\$ 161,588</u>	<u>\$ 169,614</u>	<u>\$ 161,776</u>
Total	\$923,828	1,044,863	\$1,402,274	\$1,533,754	\$1,546,192

## **Law Enforcement**

Protection workload consisted of parking, closure, and recreation fee violations, vandalism, fire alarms, boundary patrols, archeological resource protection, motor vehicle accidents, and visitor injuries.

The Montezuma Well ranger continued the PARKWATCH program with neighbors. On several occasions, monument neighbors, utilizing the PARKWATCH program, notified the Montezuma Well ranger of incidents occurring within the monument, such as trespassing on foot or with ATVs.

The three commissioned Law Enforcement rangers all completed their required 40-hour Annual Law Enforcement Refresher hours and qualified with their firearms two times during the calendar year, as required by RM-9.

The chief ranger received his commission again, after attending a two-week law enforcement “bridge course” at FLETC in July. His commission had been inactive since 2004, when he first retired, and then was delayed in the re-commissioning process due to health issues.

Two new GSA vehicles, a Ford extended cab pickup and a Dodge sedan, were received, replacing two older Dodge pickups.

## **Cooperating Associations**

Montezuma Castle and Tuzigoot NMs are affiliated with the Western National Parks Association. There are two stores operated by the Association. Employees of the Association include a manager, a second full time employee, and four part-time sales clerks. The manager in cooperation with the monuments superintendent, continued to increase the variety of sales items, adding several new books and other items of interest to the visiting public. In FY08, WNPA increased their presence at the Tuzigoot Museum, staffing the store five days per week. The increased staffing and continuity greatly increased sales there. The total sales for these monuments were number 1 amongst WNPA’s 65 areas. Gross sales for each outlet in FY2008 were:

Montezuma Castle NM	\$ 607,200.12
Tuzigoot	<u>\$ 104,013.04</u>
Total	\$ 711,213.16

Many park projects and services were completed through the Interpretative Support Account funds. They included the visitor guide newspaper, volunteer support and appreciation, contributions to community events (Verde Valley Birding and Nature Festival, and Verde River Days), Educator’s Guide, Junior Ranger program, site bulletins, upgrade of website information, hands-on exhibits, research, staff training, and more.

## **Volunteer In Parks**

The Volunteer in Parks program at Montezuma Castle and Tuzigoot National Monuments provided much needed help to monument staff, totaling nearly 3,000 hours of volunteer assistance. The expertise of our many volunteers was crucial to providing assistance to the monuments’ projects and needs. The monuments continued to encourage and recruit additional volunteers to move the program to further heights. Volunteers of Outdoor Arizona returned for the fourth time in five years and contributed 440+ hours of work at Montezuma Well, clearing and cleaning the historic ditch. In May, volunteers and NPS personnel worked to create a traditional Hopi garden at Montezuma Well, planting Hopi corn, beans, squash, and watermelon. Seeds were hand-picked from the Hopi’s ancient seed stock, and a Hopi Elder from Third Mesa supervised the planting. The garden, a 50’ x 150’ plot, has provided an interpretive display for the visiting public and connected the Hopi to their ancestral lands in the Verde Valley. Other

groups that volunteered their services over the year included boy scouts, school kids, and juvenile offenders.

Montezuma Castle and Tuzigoot National Monuments had 19 active volunteers who donated 2,250+ hours of time and participated in a wide range of activities, including interpretation, fee collection, administration support, maintenance work, computer support and programming services, water resources monitoring, seed collection, telephone line repair, and safety inspections at all three sites.

In support of the Visitor Services and Resource Protection Division, these volunteers conducted 123 formal interpretive programs on the resources of the monuments, directly contacting 6,605 visitors. In addition, another 51,839 visitor contacts were made while doing informal interpretation along the trails. The VIPs provided special programs for tour groups, school groups of all ages, and other special visitors, operated the Visitor Centers during staff meetings, opened Montezuma Well when staff shortages occurred, greatly supported the Junior Ranger Program, and made patrols of the trails and “backcountry”.

This year, we again recognized our volunteers with both a summer picnic at Montezuma Well and our annual Volunteer Appreciation Christmas Dinner in December.

## **Maintenance**

### **All Three Monuments**

1. On a daily basis custodial duties were performed.
2. All trails, roads, and parking lots were kept at a maintainable level.
3. Stayed in compliance with ADEQ on water quality.
4. Upgrade radio system batteries and chargers.

### **Montezuma Well**

1. Maintained irrigation ditch by removing debris. This included removal of fallen trees, dead branches, weeds, and trash.
2. Picnic area was mowed and weeded on a regular basis.
3. The well inlet and outlet were maintained to allow flow of water out of the well to those with water rights.
4. The sewer septic tank and leach field were maintained and kept operational and in compliance. Septic tank was pumped as well, and vault toilets were put on a pumping schedule.
5. Hazardous trees and limbs were identified and many have been removed or slated for removal.
6. Paint exterior of all Well houses.

### **Montezuma Castle**

1. The wastewater lagoons and lift station were maintained and kept operational and in compliance.
2. Cleanup and mitigation were accomplished after a particularly severe flood event.
3. Paint exterior of Castle VC.
4. Hazardous trees and limbs were identified and many have been removed or slated for removal.
5. Build new donation box for VC.

### **Tuzigoot**

1. Repairs were done to the drain on the visitor center A/C unit.
2. The sewer septic tank and leach field were maintained and kept operational and in compliance.
3. Trail railing was repaired.
4. Management trails were maintained in the Tavasci Marsh area.
5. Fire hydrants were tested and maintained, with cooperation from Clarkdale FD.
6. Pest exclusionary treatments were maintained and replaced as needed.

7. Hazardous trees and limbs were identified and many have been removed or slated for removal.

### **FLREA Projects**

1. Castle lift station installation was completed.
2. A large shade structure was constructed over the Montezuma Castle Trail Interpretive Circle, utilizing contracted materials and in house staff.
3. Planning for the rehabilitation of Tuzigoot Visitor Center continued.

### **Housing**

Repair, preventative, and recurring maintenance were performed as described below:

#### Montezuma Castle Residence # 5

1. Blow roof, leaves, branches, and resealing roof.
2. Serviced swamp cooler.

#### Montezuma Castle Apartments

1. Grounds were maintained.
2. Custodial was performed prior to new residents moving in.
3. Rehab Castle apartment C with new flooring and carpet, cabinets, paint and lighting and plumbing fixtures.

#### Tuzigoot Residence # 5

1. Grounds were maintained.
2. Remove leaking skylights.
3. Remove wood stove.

#### Tuzigoot Residence # 7

1. Grounds were maintained.
2. Rehab bathroom due to mold issues.
3. Remove leaking skylights.

#### Montezuma Well Residence # 12

1. Grounds were maintained.
2. Custodial was performed prior to new residents moving in.
3. Replace roof with new metal roof including gutters.

#### Montezuma Well Residence # 17

1. Grounds were maintained.
2. Custodial was performed prior to new residents moving in.
3. Replace roof with new metal roof including gutters.

### **Safety**

1. Monthly safety meeting held.
2. Purchased personal protective equipment such as vests, back braces, hard hats, latex and leather gloves, safety shoes, and prescription eyewear.
3. Replaced/refilled all first aid kits in all areas.
4. Conducted tailgate safety meetings for maintenance staff.
5. Verified incident information under the SMIS program.

### **Training/Meetings**

1. The Facility Manager, Facility Maintenance Assistant, and Superintendent attended the Regional Facility Management maintenance meeting.

## **FMSS**

1. FMSS requirements were met.
2. PAMP was submitted to WASO for review and approved.
3. One employee assisted four other parks with the development of their PAMP.

## **Reports**

1. The fleet report was compiled and submitted to the fleet program coordinator.
2. The energy report was compiled and submitted to the energy coordinator.
3. HAZMAT report on soil at Tuzigoot, where oil tanks were located was completed

## **Administration**

1. Positions: The Facility Manager position was filled and arrived in September.
1. Entered data into AFS.
2. Procured materials, supplies, and tools.
3. Kept track of all purchases made.

## **PEPC**

1. Entered projects information into the system.

## **Support**

1. Provided support to other divisions and WNPA.

## **Equipment/Vehicles**

1. Maintained all vehicles and equipment.
2. Took monthly mileage readings on division vehicles.
3. Turned in gas receipts in a timely manner.

## **Resources Management**

### **Staffing**

The resource management division was created in October 2005 in accordance with a recommendation made in a 2004 management assistance review. The division was funded through base increases in 1999 and 2004 that Montezuma Castle and Tuzigoot received through the Vanishing Treasures (VT) program and through Fee Demo/FLREA projects. The base increases were designed to fund three historic preservation specialists: two masons and a historical architect. In FY 2005 one of the mason positions was converted to an archeologist. The historical architect was stationed at Tuzigoot but served all 45 Vanishing Treasures parks in the program.

The historical architect served as the chief of the resource management division until September 2008. At that time, an FY 2008 natural resource base increase funded a full-time, permanent natural resource manager, who assumed the duties of the chief of resources for the three units, covering both natural and cultural resources. The Park Archeologist served as compliance coordinator, including §106 and NEPA, , but left the park in May 2008. This position was not refilled until late August 2008 when a new archeologist was selected. The term mason continued in his existing position focusing primarily on Tuzigoot ruins stabilization. A varying number of STEP archaeological technicians were hired through FLREA funded projects.

The term biologist covered natural resources throughout the year with support from a STEP biological technician. This biologist has managed all of our natural resource projects, with some assistance from the Southern Arizona office, from October 2005 through September 2008.

## **General Programs**

Throughout FY 2008, the resource management team continued to move aggressively to fill many longstanding gaps in the area of resource management including:

1. **Compliance:** The archaeologist continued to serve as compliance coordinator. Several new projects were entered into PEPC assuring full compliance with SHPO, tribal, and NEPA requirements. Additionally, the cultural resource division continued to consult with affiliated tribal governments and local stakeholders to ensure that the surrounding community was aware of all the park's management activities. After the departure of the archeologist and with the arrival of the new chief of resources management, the chief became responsible for compliance.
2. **Collection Management:** Collections management responsibilities were handled primarily through an agreement with the Western Archeological and Conservation Center in Tucson. In FY2008 a collection management plan was completed for Montezuma Castle and Tuzigoot identifying several management issues. The park will continue to address these issues using FLREA funded projects.
3. **GPRA:** The division continues to meet or exceed FY2008 GPRA goals.

## **Tribal Relationships – Cultural Resources**

Progress continued to be made in strengthening relationships with the tribes who claim cultural affiliation to the three monuments. These are Hopi, Salt River Pima-Maricopa, Gila River Pima-Maricopa, Ak Chin, Tohono O'odham, Zuni, Yavapai Prescott, and Yavapai Apache.

Montezuma Castle and Tuzigoot continued to consult with our affiliated tribes regarding projects with the potential to impact cultural, natural and ethnographic resources important to the tribes. This consultation has culminated in project specific site visits from several affiliated tribes. Continued and consistent consultation as well as personal interaction and site visits continued to build trust and foster positive relationships between park staff and affiliated tribes.

Montezuma Castle and Tuzigoot staff has worked to build relationships with several tribal governments and organizations. These relationships have led to opportunities for Tribal representatives to participate in cultural demonstrations and presentations at all three parks.

## **Vanishing Treasures and Other Cultural Resources Projects**

The creation of the Resource Management Division along with the presence of the VT historical architect and staff archaeologist (both Vanishing Treasures funded positions), has allowed us to focus our efforts on our Vanishing Treasures resources. Resource related FLREA projects continued to be funded in FY2008 with other projects continuing from previous years. This year, FLREA funds have allowed us to hire one STEP archeological technician to assist with cultural resource projects. FLREA funding has also allowed us to retain a term mason for preservation work primarily at the Tuzigoot Pueblo.

The ongoing project at Tuzigoot continued to document and record the condition and preservation histories of reconstructed and heavily stabilized rooms within the pueblo. This included recording existing mortar types and identifying areas with basal erosion, voids, and animal related damage. The project has also focused on the identification of prehistoric mortar and historic stabilization materials. FY2008 condition assessment work has identified several areas in need of future stabilization.

In association with this ongoing documentation, our VT mason continued to remove incompatible portland cement mortar and replace it with a soil, sand, and cement mixture. This mixture more closely

matches the original appearance of the ruins and will not accelerate the deterioration of existing wall sections. Additionally, continued stabilization was strengthening wall sections and eliminating rodent damage, thus improving the overall safety of the ruin for visitors and staff members.

One FLREA funded documentation project that was finished in late FY2008 documented and treated prehistoric architecture located in cavates west of Montezuma Castle. Surface artifacts collected during this project were sent to the Center for Desert Archaeology (CDA) for further analysis. The analysis was completed through a CESU agreement with CDA; project results are due December 2009.

An additional FLREA funded project created to extensively document Montezuma Castle with LiDAR technology was also completed in FY 2008. Deliverables from this project included a digitally constructed model of Montezuma Castle and maps documenting the location of standing architecture and artifacts. The collection of LiDAR data and the creation of maps was an extremely important management tool for understanding the current condition of standing architecture at the Montezuma Castle.

The Tuzigoot administrative history project continued with a professor from the Arizona State University Public History Program as the principle investigator.

#### **Monitoring – Natural Resources**

Monthly water measurements were taken at Montezuma Well measuring discharge on Wet Beaver Creek and Montezuma Well gauges. At much less regular intervals throughout the year, measurements were taken at the Tavasci Marsh outlet ditch, with occasional staff readings taken both at Peck's weir and the Arizona Game and Fish water control structure. A Washington Office Water Rights Branch employee came to service and resurvey the Montezuma Well station, the Wet Beaver Creek station, and the Tavasci Marsh outlet ditch in May and October.

Sonoran Desert Inventory and Monitoring Network conducted land bird monitoring protocols in all three monuments. Fieldwork occurred from May through July. In April, the Audubon Society conducted a secretive marsh bird survey at Tavasci Marsh and provided a report to park staff.

#### **Integrated Pest Management**

Mosquito trap service using Mosquito Magnets continued from summer 2007 into November. During this season, an approximate total of 792,000 mosquitoes were captured. The 2008 mosquito season started in April and continued through November. Unlike the 2007 mosquito season, no West Nile Virus-positive mosquitoes were documented in Yavapai County in 2008.

#### **Vegetation/Restoration-related**

In December 2007, the Petrified Forest NP Exotic Plant Management Team (PEFO EPMT) treated riparian invasives at Montezuma Well, Montezuma Castle, and Tuzigoot focusing on the creeks and Verde River. They spent a week at the parks with a 3-person crew, assisted by the park biologist, and treated approximately three river miles of invasives. In March 2008, the PEFO EPMT returned to treat the Well pasture focusing on Malta starthistle. In May 2008 additional invasive plant and fuels management plant work in the Well pasture was conducted to prepare for the future activities of the pasture restoration project. The PEFO EPMT also treated lands at Tuzigoot focusing on riparian invasive trees such as Russian olive and tamarisk.

In January 2008 the Saguaro Fire Use Module came to conduct pile burns of the woody debris cleared from the historic ditch at Montezuma Well in March 2007. The burns were completed in a single day without incident.

Seed collection for the Montezuma Well pasture restoration project occurred primarily in fall 2007 and summer 2008. A minor portion of the seed collection efforts also occurred at Tavaschi Marsh. The biologist renewed his annual pesticide applicator license.

In FY 2008, the park began discussing desired strategies for the management of Tavaschi Marsh. In January 2008, the first Tavaschi Marsh management team meeting occurred with park employees and volunteers discussing issues, management concerns, and management strategies. The following month, an all-employees meeting focused on Tavaschi Marsh to explain issues and get additional internal scoping for management. In August 2008, the first public scoping meeting for Tavaschi Marsh was held with the Verde Water Association. In April, the monument biologist, superintendent, and Southern Arizona Office ecologist Michele Girard with assistance from the Verde Watershed Association conducted public scoping for the Tavaschi Marsh Restoration and Management Plan with posters and questionnaires. Later that month the biologist had more posters and questionnaires at the Verde Valley Birding and Nature Festival and solicited public input.

Natural Channel Design (NCD) received a 5-year grant from the Arizona Water Protection Fund totaling \$296,000 to restore approximately 40 acres of Montezuma Well Pasture. Park staff and NCD discussed invasive plant management strategies, irrigation ditch improvements, and timing for FY 2009 activities. Park staff and Natural Channel Design also began discussing Tavaschi Marsh restoration concepts and applied for the Arizona Water Protection Fund grant cycle (which was awarded in fall 2008).

The park entered into an informal agreement with Arizona State Parks Verde River Greenway to collaborate on invasive plant removals along the Verde River (the documents were not finalized). Infestations of tamarisks were mapped by the biologist and a STEP biological technician along the Verde Greenway adjacent to Tuzigoot. This culminated in a three-week SCA/EPMT invasive plant treatment funded by the Southern Arizona Office targeting the Verde Greenway and all three of the monuments.

The U.S. Forest Service entomologist from Flagstaff, Mary Lou Fairweather, surveyed Montezuma Well for hazard trees to assist us in prioritizing trees for removal or trimming. Her report was received and will be put into use in FY 2009.

### **Research**

In November 2007, contractor hydrologist John Ward, park biologist, and the Sonoran Desert Inventory & Monitoring Network installed a weather station and staff plates for a water budget experiment at Tavaschi Marsh. In December, the water budget experiment was conducted to estimate the discharge from Shea Springs complex. Funding came from the Water Rights Branch.

Mountain lion fieldwork occurred with University of Arizona graduate student Zoe Hackl, (a student of Melanie Culver) funded by the Desert CESU. She searched for scat and tracks, and also monitored with remote wildlife cameras. Evidence of lions was clearly found at both Montezuma Well and Montezuma Castle. Photos were taken at both locations, with the possibility of at least two different lions. The project was terminated prematurely in spring due to personnel issues and the remaining money was reallocated to Saguaro National Park for their bobcat project. As a result, the park did not receive any reports or DNA information from the scat.

U.S. Geological Survey conducted a Montezuma Well source flow study with Raymond Johnson as the principle investigator that greatly increased the scientific knowledge of the unusual Well system. He sampled water from the Montezuma Well, Soda Springs, and other nearby springs, as well as commercial and private pumping wells in the area to determine water chemistry and water sources. The park has received an oral presentation, a draft report and maps, but as of this writing has not received the final report since the manuscript is in the USGS queue for publication.

From April through September, Jeff Lovich of the U.S. Geological Survey worked in conjunction with park staff to remove invasive pond slider turtles from Montezuma Well. The invasive pond slider turtle, which has different subspecies including the red-eared and yellow-bellied slider, is a direct competitive threat to the native Sonoran mud turtle that is found in the Well. A total of four red-eared slider turtles, one yellow-bellied slider turtles, and one Western pond turtle was captured over the season using a variety of methods including baited hoop traps, basking traps, and drift fences with funnel traps. The baited hoop traps were the most successful, followed by the basking traps. A total of 13 slider turtles (red-eared and yellow-bellied) have been captured over the course of the entire project.

The park initiated meetings with ADEQ and principle investigator Tom Meixner from University of Arizona to begin the process for nominating Montezuma Well as an Outstanding Arizona Water.

Other research projects included Gary Wellborn from the University of Oklahoma conducting amphipod fieldwork at Montezuma Well in March, and Shannon Fehlberg from Kansas State University who studied phlox species distribution at the Well as part larger study to understand regional Phlox species distribution in May.

### **Outreach**

In October 2007, we started the FLREA-funded Schoolhouse Wash/Beaver Creek School field project in which more than 20 schoolchildren participated in channel and fluvial geomorphologic measurements led by an education contractor. Two field trips occurred in April and May of 2008 to compare fall versus spring measurements. Both field and classroom work were part of this project giving the participants an understanding of both channel morphology changes and field methodologies.

### **Permanent Monument Staff**

Superintendent – Kathy Davis

Administrative Officer – Sherry Wood

Administrative Assistant – Brab Brutvan

Chief Ranger – Ed Cummins

Supervisory Ranger and Castle Ranger – Karen Hughes

Well Ranger – Rex Vanderford

Tuzigoot Ranger – John Reid

Lead Interpreter before August 2008 – Paul Ollig

Lead Interpreter from September 2008 – Josua Boles

Visitor Use Assistant Fee Collection – Richele Richey

Facility Manager selected in August 2008 – Bill Osterhaus

Facility Management Assistant – Matt Henderson

Maintenance Worker – Leonard Ontiveros

Maintenance Worker – Scott Frisch

Chief of Resources Management before September 2008 – Randy Skeirik

Chief of Resources Management from September 2008 – Sharon Kim

Biologist – Dennis Casper

Archeologist before May 2008 – John Schroeder

Archeologist from August 2008 – Matt Guebard

Historical Architect – Randy Skeirik