

# Vanishing Treasures

National Park Service  
U.S. Department of the Interior

Vanishing Treasures Program



## Cultural Connections Issue

Fiscal Year 2009 Year-End Report  
and  
Funded Projects for 2010



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*Cover Photo: Mesa Verde Archeologists Joel Gamache and Neal Morris documenting ledge rooms at Spruce Tree House, Mesa Verde National Park*  
*Photo: Courtesy Mesa Verde National Park*

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## Message from the Vanishing Treasures Program Manager

The inspiration for the theme for this year's Vanishing Treasures Annual Report came as a result of a conversation with then Pacific West Regional Director Jonathan Jarvis. While recognizing the contributions the Program makes in preserving ancestral sites, Regional Director Jarvis also noted that a unique aspect of the Program was its efforts to maintain ties with culturally related communities, their architecture, and places of their heritage. In doing this, the VT Program seeks participation from experts within these communities who possess knowledge of traditional building skills, and we consult with cultural experts on culturally sensitive sites to avoid. Regional Director Jarvis recognized that the VT Program strives to preserve more than just architecture: efforts are made to encourage the continuation of traditional knowledge within these communities and to maintain the essential intrinsic values of their ancestral sites. At the same time, the Program incorporates new technologies that enhance the physical preservation of cultural sites.



The Vanishing Treasures Program is focused on resources located in the arid Southwest, and Regional Director Jarvis, recognizing that there are parks in other areas that provide heritage connections to communities, asked me to recommend the next logical location for developing a similar preservation program. The place that came to mind immediately was Hawaii. The National Parks on the Hawaiian Islands preserve and interpret places that are of significance to the descendants of the early Hawaiians. The concept of a "Hawaiian Legacy Program" had been discussed for a number of years, but seed money provided last year brought focus and strengthened commitment to the development of this Program. The HL Program strives to perpetuate Native Hawaiian activities and culture, ensure the preservation of knowledge of traditional skills in traditional construction methods, and provide future employment opportunities for skilled craftsmen in traditional construction technology. The feature article submitted by the Hawaiian Legacy Program (see page 6) illustrates how the program's goals are similar to those of VT. Vanishing Treasures will continue to work with the Hawaiian Legacy Program, sharing lessons learned and guidance documents, and supporting the Program as they continue to refine their activities.

Closer to home, the Vanishing Treasures Program acknowledges the commitment and cultural responsibilities of Puebloan communities to their ancestral sites. In the article *Cultural Connections, Preserving Traditional Knowledge* (see page 9), National Park Service Mason Calvin Chimoni expresses his strong connections to ancestral sites that are expressed in the oral tradition that has been passed on from previous generations. Beyond just a job, he holds a sense of responsibility to ensure that the knowledge of traditional construction techniques is passed on to future generations, along with the appropriate respect for the ancestors as part of daily work. Calvin also recognizes that there is a challenge in reconciling the different perspectives of preservation between the Secretary of the Interior's *Standards for the Treatment of Historic Properties* and traditional cultural sensitivity. His commitment to his heritage ensures that he will continue to find ways to address both.

Recently I became aware of the Southwest Conservation Corps-Ancestral Lands Tribal Preservation Program under the direction of former NPS preservation Mason Cornell Torivio. This program was envisioned as a way to train American Indian youth in both contemporary and traditional preservation skills. Through this effort, a cadre of trained preservation crafts people will be made available for potential future employment with the National Park Service, other federal agencies, and with preservation efforts within the community. Cornell's article, *Protecting Our Future by Preserving Our Past*, illustrates the deep connection traditional communities have to the preservation of sites of cultural importance. It also recognizes the value of these sites to the Country as a whole. Working with tribal youth will allow them to appreciate the fact that structures built long ago stand as reminder of their past. At the same time, providing them with a connection to their ancestral sites helps to instill a sense of pride in their heritage. The Southwest Conservation Corps recently completed a project in Petrified Forest Nation Park, and the VT Program looks forward to future cooperative efforts in training and projects that will further the goals of both of our programs.

The final feature article, *Heritage and Community, Keys to the Future of Maintaining Cultural Connections* submitted by Cornerstones Community Partnerships (page 12) articulates similar goals of strengthening community cultural values through the preservation of traditional architecture. Cornerstones recognizes the challenge of maintaining the cohesion of traditional communities in the face of modern culture and the pressure placed on young people to separate from their communities. In response, their efforts focus on the preservation of cultural traditions by encouraging community elders to serve as mentors. By passing on traditional construction skills and heritage values, the younger generation can learn to value their heritage and develop skills that can lead to future employment opportunities.

Each of this year's feature articles recognizes traditional cultural connections as a fragile, but essential element of historic preservation that must be fostered in order to ensure that not just the physical embodiments, but also the intrinsic cultural values of historic sites will endure into the future. The Vanishing Treasure Program is proud to be contributing to these efforts.

*Virginia Salazar-Halfmoon*

## At-Large VT Program Staff

### Preston Fisher, Structural Engineer

Although I am stationed at Mesa Verde, 80% of my time is intended to be spent serving the needs of the other 44 parks in the VT Program.

I provided assistance to a number of VT parks, including:

In FY 2009 I provided assistance to:

- Big Bend National Park – Assessed damages to Alvino House, Hot Springs Historic Site from flooding along the Rio Grande. Made recommendations to mitigate the damage and future monitoring. Reviewed plans for stabilization of Luna Jacal structure.
- Colorado National Monument - Evaluated and made recommendations for erosion concerns at Rim Drive Overlooks, the Book Cliffs Shelter and trail and the CCC rest room.
- Attended VT Leadership meeting in Rio Rico, Arizona
- Petrified Forest National Park – Assessed damages to Stage Stop structure and made emergency long term stabilization recommendations.
- Attended reburial of archeological sites (backfilling) discussions at Flagstaff Area monuments in February.
- Death Valley National Park – Assisted with evaluation of



Keene Wonder Mine Tram Towers.

- Attended Agreements Technical Representative certification/training in Flagstaff.
- Tonto National Monument – Evaluated potential areas of concern with repointing/stabilization measures slated for the upper retaining wall at the Lower Dwelling. Assisted multidisciplinary team with evaluation of USFS Sierra Ancha Cliff Dwellings.
- Reviewed structural evaluation and stabilization recommendations for Santa Clara Church at Santa Clara Pueblo.
- Aztec Ruins National Monument – Assisted with recording and interpreting data from monitor points throughout the monument. Helped develop protective roof design for new protective roofs over rooms in the East Ruin.
- Glen Canyon National Recreation Area – Assessed conditions at Three Roof Ruin providing stabilization recommendations.
- Natural Bridges National Monument – Evaluated conditions and made preservation and stabilization recommendations for Bare Ladder Ruin.
- Attended FMSS and Maintained Archeological Sites meeting in Flagstaff in August.
- Mesa Verde National Park – Assisted with UPENN wall capping/moisture thesis project at Far View Ruin. Prepared documents to initiate a contract to replace site shelter panels at Site Shelter on the Mesa Top Loop and Wetherill Mesa.

### Jake Barrow, Exhibit Specialist

FY 2009 was an active year with hardly a moment to reflect. This short piece offers an opportunity to take a larger view of the year after some months have passed. My time in the office was focused on preparing a history of ruins treatment for the *Preservation and Management Guidelines for Vanishing Treasures Resources*. While this work has been rewarding in many ways, it doesn't compete with the field activities generated from the technical assistance requests. It was a banner year.

Serving either as agreements technical representative or as consultant to the CESU process (University partnerships) had me involved at Death Valley, Fort Davis, and El Morro. The Death Valley projects, executed by the University of Vermont (UVM) Heritage Program in Engineering, are focused on two very important challenges, both addressing issues of wood deterioration and preservation.

The first, at Keane Wonder Mine, will sort out complex engineering issues of the deteriorating timber tramway and result in a field school of applied stabilization. The second, at Scotty's Castle, is conducting primary research to find wood preservatives that will deal both with UV deterioration and water repellency while respecting the patina of age.

At Fort Davis, a summer field school (also with UVM) occurred for the fourth year in a row to preserve the Post Hospital. A two day adobe and plaster workshop open to the public was held. Overwhelming public interest resulted in an overflow crowd.

The hospital project (supported by a Save America's Treasures grant) is nearly concluded with just a few punch-out items re-



maining. This project preserves the original fabric and augments interpretation of that fabric with the re-introduction of floors and stabilizing compensating plasters which draw attention to original 19th fabric. While it pushes the definition of ruins stabilization, the hospital project fits, since the primary focus has been preserving the original highly authentic resources. Fort Davis has some of the richest examples of authenticity to be found in a frontier fort.

A personal highlight of the year was stabilization work at Fort Bottom Cabin in Canyonlands. Noreen Fritz organized a project focused on needed log preservation at this cabin in the back country. After planning, a team put together by the park convened at the cabin for a workshop in sill replacement, dutchman splicing, corner stabilization, pinning of posts and lintels, and Boracare treatment. Access to the site was by boat and we all camped out on the beach of the Green River. Since there was no going down to Home Depot to pick up a missing tool or supply, we all made do with what we had. It worked. What really impressed me was the "can do" attitude on the part of all there. We had some assistance from the trail crew which proved absolutely invaluable. Nothing deters that trail crew.

The University of Pennsylvania (UPenn) started a summer field school at El Morro, in which I briefly participated. This represents the 18th year of field work by the Architectural Conservation Laboratory at UPenn in the Southwest and it is always a learning experience to be associated with them. UPenn has for many years now focused on the conservation of earthen surfaces at sites within Mesa Verde. This challenging work is sure to provide beneficial results.

Other requests took me to Organ Pipe, San Antonio, Bandelier, Salinas Pueblo Missions, Aztec, Gila, Casa Grande, Pecos, Big Bend, Fort Craig for BLM, and Columbus, NM for the Landmarks Program. In addition, I managed the out-placement of the Santa Fe Conservation Lab to the State of New Mexico in a partnering venture and also oversaw a regional Volunteers in Parks program.

### Randy Skeirik, Historical Architect

It is hard to believe that as I write this I find myself in my sixth year as the Vanishing Treasures Historical Architect. All the same, after that much time I feel that I am just beginning to hit my stride in the position. I came on at a time of significant change for the program, and it took some time for that dust to settle. At the same time, I had to learn the “ins and outs” of the federal bureaucracy, and familiarize myself with desert southwest architecture and archeology, new building materials, and the personnel and resources in 45 parks. To date, in my professional capacity I have still visited only 17 of the 45 VT parks.



I was fortunate to begin FY 2009 with the opportunity to participate in the 2008 TICRAT (Taller Internacional de Conservación y Restauración de Arquitectura de Tierra) Arizona | Sonora, an international workshop on the conservation and restoration of earthen architecture. We spent two days in southern Arizona and two more at the mission churches in Caborca and Pitiquito, Sonora, Mexico. It was an amazing opportunity to learn from some of the best adobe “maestros” in North America.

That was followed in December 2008 by the annual VT Leadership meeting in Rio Rico, Arizona and then a trip to Santa Fe where I assisted Jake Barrow with the design and layout of the *Preservation and Management Guidelines for Vanishing Treasures Resources*. That trip was combined with a technical assistance visit to Pecos where I attempted to assist the park with the development of an electronic form to collect condition information on the church and convento.

Calendar year 2009 began with a site visit to Organ Pipe to meet with archeologist and Cultural Resource Manager Connie Gibson and Resource Chief Mark Sturm, both new to the park. We visited a number of historic sites and discussed preservation strategies. Two weeks later, February started with a trip to Guadalupe Mountains to attend a cultural resource program review with their new Cultural Resource Chief Patricia Gibson. A week later I was back in Santa Fe to help finalize the *Guidelines*. The month ended with a southern Arizona cultural resource managers meeting in Phoenix and a backfill discussion at Wupatki.

March began with a trip to Denver where I represented cultural resource programs on the line-item project SEPAS (special emphasis program allocation system) panel and in April I spent a week at Death Valley, participating in the first of two cooperative ecosystem study unit field schools at the Keane Wonder Mine tramway. Run by Doug Porter from the University of Vermont School of Engineering, this field school assembled a group including a preservation-oriented structural engineer and a wood scientist along with students and NPS personnel to assess the condition of the tramway’s upper and lower terminals, 11 remaining towers and the break-over. The assessment will result in treatment recommendations that will be executed in FY 2010 field school.

Almost immediately after returning from Death Valley, I participated in agreements technical representative (ATR) training in Flagstaff, knowledge that is serving me well as I am already acting as ATR for four projects in three different parks. I closed out the month of April with another trip to Santa Fe to assist with VT Program administrative tasks and to wish Jake farewell upon his retirement from the National Park Service. From Santa Fe I headed straight to Joshua Tree where I accompanied archeologist John Schroeder on 3 days of site visits to various cultural sites within the park. I subsequently prepared treatment recommendations for three mine-related sites and two ranches.

In June I was back to Denver to make a presentation on the Vanishing Treasures Program to the American Indian Council of Architects and Engineers. On my way home, I stopped at Hubbell Trading Post to provide some guidance on preservation issues there.

Amidst all this travel I was also collecting submissions, editing text, and laying out the FY 2008 VT Annual Report which, despite my best efforts, failed to meet the springtime deadline for publication. A travel hiatus in the summer months provided the opportunity to put this task to bed and to catch up on report writing and other desk-bound tasks.

The end of July found me back on the road, this time to Fort Davis accompanied by archeological technician Josh Kleinman and a total station. Our goal was to create a map of the First Fort at the park, something that had not previously been done. Josh’s expertise with the total station allowed us to map every identifiable component of the fort along with the visitor trail and the general topography in only three days of field work. Later in the month I was back in Flagstaff for a meeting to discuss the implications of entering maintained archeological sites into the facilities management software system.

I closed out the year with one more trip, this one personal. I fulfilled a lifelong ambition to visit Machu Picchu and the wealth of other cultural sites that are found in Peru. It turned out to be even more amazing than I expected, and the best part was that I didn’t need to prepare a trip report or treatment recommendations when I got back.

As always, Preston, Lauren, and I are all available, at no cost, to Vanishing Treasures parks to provide specialized technical assistance for Vanishing Treasures Resources. I can assist with the identification, research, planning, treatment, and preservation maintenance of historic and prehistoric structures. I can also help to document existing conditions, define treatment actions, and prepare historic structure reports, and I can assist parks that lack staff experienced in the preparation of VT SEPAS proposals to develop competitive project proposals. As a newly certified ATR I may also be available to help develop cooperative agreements for projects on VT resources and to serve as the ATR for those projects.

I continue to look forward to expanding my role in both the overall management of the program and the preservation of individual VT resources.



## Temporal Anomalies

Sometimes, important events don't always fit neatly into arbitrary time frames. Such is the case as we prepare to send the FY 2009 *Annual Report* to the printer. In the early part of FY 2010 two events transpired that merit announcement here.

The first is that the vacancy created by the retirement of Jake Barrow (read Jake's parting comments on page 2) has been filled. We are pleased to announce that Lauren Meyer, formerly the Vanishing Treasures Exhibit Specialist (Conservator) at Bandelier National Monument has been hired to fill the position.

Lauren brings a knowledge of materials science to the program that will complement the architectural and engineering skills of Randy and Preston and should prove invaluable to the preservation of VT resources. You can read more about Lauren in her introductory statement below and on page 61 under the entry for Bandelier National Monument. Lauren will be available through the regular FY 2011 technical assistance request process to assist VT parks.

The second event is the creation of a Vanishing Treasures Sharepoint Web Site. Sharepoint is an interactive web format that allows users to post and share information, announcements, calendar events, and web links. Everyone who is in a Vanishing Treasures funded position, plus the superintendents of the 45 VT parks, currently have permission to contribute to the site, although anyone logged on the NPS intranet can access and view the site.

The main site contains a library of VT related publications, links to relevant sites, a directory of the VT Leadership, contact information for all Vanishing Treasures employees, and a number of announcements. In addition, tabs across the top of the page provide access to a number of sub-sites including two VT workgroups (Documentation Standards and Tech Notes) and the Employment Exchange.

The employment exchange is a central place where those seeking work can make their availability known, and where parks that are looking for skilled preservationists can advertise their vacancies. In addition, we will be creating a library of position descriptions for job types commonly used in VT parks. The site currently has links to a standard PD library and to the Resource Careers PD library.

The VT Sharepoint site can be found at: <http://inpniscsmoss:3000/sites/NPS2/VT/default.aspx>

For more information about this web site, or to request rights to contribute, please contact Randy Skeirik (928.821.2992 or [Randall\\_Skeirik@nps.gov](mailto:Randall_Skeirik@nps.gov))



Home page for the new Vanishing Treasures Sharepoint Web Site.



### Lauren Meyer, Exhibit Specialist

Although I didn't come to the Vanishing Treasures Program until FY 2010, I am being allowed to 'violate the temporal rules' and introduce myself in the 2009 Report. As you will see in a later section of this report (see page 61), I come to the Program office from Bandelier National Monument, where I served as the Vanishing Treasures Program Manager from 2007 through April of this year. While in that position, as in other positions that I have held with the VT Program at Bandelier (I was with the program at the park from 2002 through 2010), I had the opportunity to work with an amazing array of people and resources, and foster programs that were of interest and benefit to the park, community stakeholders, and cultural resource professionals. My time at Bandelier was split between the development and implementation of field-based conservation programs that were founded on an understanding of site materials, and influenced by the variety of cultural issues surrounding the complex and unique resources within the park, the development and oversight of research programs related to the park's archeological resources, the organization and management of archival materials and data, and the general administration of the VT Program.

I have been fortunate in that I have spent most of my career as a conservator working from within the Vanishing Treasures Program. I have had the opportunity to learn from an elite group of conservators, archeologists, cultural and natural resource professionals, academics, and craftspeople working within the program, and with partner organizations. Although it was difficult to leave Bandelier as there is still so much to learn about the variety of resources in the park, and evermore to do in order to preserve them, I am hopeful that my experience from my time there will be of benefit to those dealing with the constant threat of deterioration and loss of their significant resources.

As with Preston and Randy, I am available to provide assistance for issues related to Vanishing Treasures resources in the parks. My focus over the last 8 years has been the development and implementation of documentation and treatment projects for archeological resources comprised of stone masonry, earthen mortars and earth and lime-based plasters, but I am interested in broadening my expertise to other materials. I have experience in project development (from the preparation of SEPAS proposals for funding through development of specific project methodologies and implementation strategies), data management, site mapping and documentation (including digital recording of sites through laser-scanning), field-based site assessment, development of focused treatment programs, site monitoring, and preparation of detailed project reports. I look forward to bringing my experience to the Vanishing Treasures parks, and to the continuation of my education in the preservation and protection of cultural resources from those of you that I will no doubt encounter in my time here.

## Feature Articles



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## The Hawaiian Legacy Program Laying the Foundation

Adam Johnson, Pu'uhonua o Hōnaunau NHP  
Tyler Paikuli-Campbell, Kaloko-Honokohau NHP  
Shane Rumsey, Pu'uhonua o Hōnaunau NHP  
Sara Dolan, Pu'uhonua o Hōnaunau NHP  
Laura C. Schuster, Hawaii Volcanoes National Park  
Walter Wong, Pu'ukohola Heiau National Historic Site and  
Mary-Jane Wright, Pu'ukohola Heiau National Historic Site  
Pu'ukohola Heiau National Historic Site (PUHE), Kaloko-Honokōhau National Historical Park (KAHO), Pu'uhonua o Hōnaunau National Historical Park (PUHO), and the Ala Kahakai National Historic Trail (ALKA), the four National Park Service Units located on the West Coast of the Island of Hawaii, share many historic preservation needs and goals. Most notable is the need to maintain and care for (malama) the archeological resources located in each park unit. In addition, Kaloko-Honokōhau is mandated to perpetuate Native Hawaiian activities and culture. Although KAHO is the only park unit to have a legislative mandate to perpetuate Native Hawaiian activities and culture, all units are involved in this effort

Much of the history of these parks is facilitated by on-site traditional Hawaiian trades activities such as stone setting, house construction, and canoe and wood image carving that have been demonstrated to park visitors by Native Hawaiians or others skilled in a specific trade. Many of these individuals are employed at the parks as interpreters, maintenance workers, and trade demonstrators. They all contribute to care for, malama, each park's unique resources in a traditional manner. However, the shared concern among our parks is the need to continue transferring traditional knowledge and skills to the next generation and actively train individuals in these trades. With the continual retirement of employees who also have skilled traditional trade knowledge, the parks face the challenge of perpetuating this rapidly shrinking knowledge base.

At KAHO, the park benefited from the expertise of Peter Keka. Peter, from the area of Kaloko, is skilled in the art of uhu humu pohaku or traditional Hawaiian dry-set masonry. This type of masonry involves the laying and setting of stones without the use of mortar or cement, each set stone interlocking with the next. Mon-

umental architecture in Hawaii built using this technique has stood for centuries. For the past 12 years Peter has led the masonry crew in carrying out the reconstruction of the Kaloko Fishpond, an eleven-acre constructed feature and one of the park's primary cultural resources (Figure 1). He has shared his knowledge and experience of the area with those who have worked with him for the last 12 years; the next generation continues to work with the park to finish the effort started by the park.

Peter's knowledge (ʻike) has also been sought for stabilization and repair of structures located at other park units and on other islands. He has assisted in guiding masons in their efforts to preserve the past. He often took the lead of these projects and always shared his knowledge of uhu humu pohaku with staff from the Resources Management and Maintenance Divisions of the various parks and beyond. Although now retired, Peter remains as a respected elder or kupuna.

The traditional trades these parks perpetuate are not limited to dry-set stone masonry. At PUHO the skill of carving traditional Hawaiian images or statues (ki'i akua) continues to be demonstrated to park visitors by employees of the park and the Hawaii Natural History Association. Several of these images stand in front of the Hale o Keawe temple, a primary interpretive resource of PUHO. To date, park employees have carved three sets of ki'i akua. As a new set of idols images are needed, the knowledge and skills of carving was passed on from one generation to the next. However, retirement of park staff skilled in these techniques has posed a problem in securing the next carvers to continue that legacy.

In addition to carving, PUHO employees hold knowledge in the building of Hawaiian houses (hale and halau) for specific activities using traditional materials and techniques. The park currently maintains a reconstruction of the Hale o Keawe, originally used as the mausoleum for the remains of chiefs, and several smaller thatched structures, each for different uses. PUHO's maintenance supervisor, Jack Casuga, is a master hale builder and plans to retire in the coming years. Jack is the only individual in the West Hawaii Parks with the knowledge to build and maintain these traditional structures. (Figure 2)

The recent retirement of Peter Keka, and the impending retirement of other master tradesmen, serve as a reminder of the need for park units to recruit and retain tradesmen skilled in traditional



Figure 1: Peter Keka in front of the nine-acre Kaloko Fishpond. Peter is skilled in the traditional art of uhu humu pohaku. Photo: Courtesy Kaloko-Honokohau National Historical Park



Figure 2: Jack Casuga assisting another NPS employee during the Hale o Keawe restoration project in 2004. Photo: Courtesy Pu'uhonua o Hōnaunau National Historical Park

Hawaiian trades. Who will be the next generation of individuals interested in learning these trades? Staff members of the West Hawaii Parks are working to develop a program to serve as a means for the perpetuation of traditional Hawaiian trades and knowledge; it is the Hawaiian Legacy Program (HLP).

Presently, the HLP is composed of a group of historic preservation specialists, primarily archeologists and stone masons, whose goal is to establish within the Hawaii Parks a program that will promote and foster the perpetuation of knowledge about traditional Hawaiian trades, including uhaulumu pohaku. Our mission statement is:

We are a team of National Park Service preservation specialists who practice traditional Hawaiian skills and trades to perpetuate cultural knowledge and environmental understanding passed on by our Kupuna (ancestors) and to malama (to care for) the unique resources found in Hawaii.

The program builds on a long tradition of managing and rehabilitating archeological sites within the National Park units in Hawaii. Our hope is that the HLP will guarantee the opportunity and responsibility (kuleana) for the transfer of traditional knowledge from trade masters to the next generation of individuals with a desire to learn traditional trades. One way we work to do this is through a primary goal of our program: local community involvement in NPS projects.

Currently, community involvement consists of volunteers assisting with on-going projects, although we are working towards the ability to provide future employment opportunities. Community involvement alongside NPS historic preservation specialists will allow further perpetuation of the trades practiced through dissemination into the larger Hawaiian community.



*Figure 3: Volunteers work with Park staff to repair a damaged section of Mailekini Heiau at Pu'ukohola Heiau NHS.*

*Photo: Courtesy Pu'ukohola Heiau National Historic Site*

Recent natural disasters provided a catalyst for the development of the HLP. On October 15, 2006 two earthquakes, magnitude 6.0 and 6.7, caused damage to resources in all of the West Hawaii parks. In response to these natural disasters, three out of the four West Hawaii parks (PUHE, KAHO, and PUHO) initiated projects to repair the damage to park cultural resources caused by the earthquakes. These projects provided an avenue for the parks to educate and involve local community members and the public about traditional knowledge of Hawaiian trades, specifically dry stone-set masonry.

The earthquake repair project at PUHE provides a prime example of community involvement and public education and outreach.



*Figure 4: Kaloko-Honokohau NHP Masons working on the Kaloko Fishpond Wall.*

*Photo: Courtesy Kaloko-Honokohau National Historical Park*

As a result of the 2006 earthquakes, four of the park's primary resources, including its namesake Pu'ukohola Heiau, were significantly damaged. The park has employed a strategy of community involvement, recruiting committed park partners and Native Hawaiian Cultural practitioners from the local community to work alongside master stone masons and park staff (masons and archeologists) to accomplish the repair of the park's two primary historic structures: Mailekini Heiau and Pu'ukohola Heiau. (Figure 3) PUHE sponsors bi-monthly workshops, typically involving 30 or more volunteers from across the islands, which focus both on learning and practicing traditional dry-set masonry techniques and an adherence to the cultural protocols that honor these sacred sites. These workshops have been very successful. As a result of this strategy, members of the Hawaiian and local community and National Park Service employees have completed the repair of Mailekini Heiau and are making significant progress towards the repair of Pu'ukohola Heiau. The park anticipates that repair of the collapsed sections of Pu'ukohola Heiau will be completed by August 2010.

Earthquake repair projects at Kaloko-Honokōhau NHP and Pu'uhonua o Hōnauanu NHP and the rehabilitation of the Kaloko Fishpond Wall (Figure 4) continue to provide the opportunity to pass on traditional knowledge to current park staff. As a part of these projects, work crews from KAHO, PUHO, and PUHE had the opportunity to learn dry-set masonry techniques from Peter Keka, often under challenging environmental conditions. At PUHO, these projects included the successful stabilization of the Great Wall and Ka'akapua Heiau located in the historic fishing village of Ki'ilae. (Figure 5) Implementation of large-scale stabilization projects such as these has not occurred in PUHO for over 40 years. The invaluable knowledge of uhaū humu pohaku passed on to the PUHO employees, many of whom are descendants of the area, gave the staff the much needed hands-on experience to continue implementing these traditional techniques.

The need for the Hawaiian Legacy Program is not only evident at PUHE, KAHO, and PUHO, but also along the Ala Kahakai National Historic Trail--an approximately 175-mile trail extending from near the northeastern tip of Hawaii Island along the west coast around the south point of the Island to Hawaii Volcanoes National Park. At various locations along the trail route, ALKA is working with local communities to help nourish their connection to the lands and the traditions of those lands.

Additionally, the program has begun to take root at parks located on other Hawaiian Islands, specifically at Kalaupapa National His-



Figure 5: Peter Keka supervising stabilization efforts of Ka'akapua Heiau at PUHO.

Photo: Courtesy Pu'uhonua o Hōnauanu National Historical Park



Figure 6: PUHE earthquake project crew members and Kalaupapa residents working on the repair of the walls surrounding Saint Francis Catholic Church.

Photo: Courtesy Kalaupapa National Historical Park

torical Park (KALA) on the Island of Molokai. During the summer of 2009 stone masons and an archeologist from Pu'ukohola Heiau National Historic Site spent two weeks at Kalaupapa National Historical Park. The team from PUHE worked closely with the Kalaupapa community of patients, friends, and family (including from "top side" Moloka'i), in addition to state and federal employees, to repair the walls surrounding Saint Francis Catholic Church, the Bishop Home for Girls, and Saint Philomena Church. (Figure 6) The exchange of information about Kalaupapa by residents and information about traditional Hawaiian dry-set stone masonry and National Park Service Historic Preservation requirements was a great success. Additional work at KALA involving masons and archeologists associated with the Hawaiian Legacy Program is currently being planned to occur this coming summer.

The devastation of the 2006 earthquakes provided a catalyst and opportunity to act on what has been a voiced concern for the four Parks as well as local communities on the island of Hawaii. Due to the damage caused by the earthquakes, the Hawaiian Legacy Program has focused its energy towards traditional dry-set masonry projects. The implementation and completion of these projects illustrate the success of the program. We plan to continue the development of the program, to incorporate other traditional Hawaiian trades, and to continue the NPS commitment towards preservation and perpetuation of Native Hawaiian lifeways and culture. The energy, drive, and overall commitment of the individuals who are a part of it remains strong as the Hawaiian Legacy Program begins to take root and grow. The recent retirement of Peter Keka and overall retirement and passing of former park employees skilled in these trades serve as a reminder of the immediate need for the recruitment and retention of tradesmen able to pass their knowledge of traditional Hawaiian trades to the next generation.

We are also hopeful that this program and the impetus to preserve the traditional knowledge amongst the NPS staff and interested partners from our surrounding communities may broaden in the near future to include our other sister parks in Hawaii and the Pacific.

## Cultural Connections: Preserving Traditional Knowledge

Calvin Chimoni, El Malpais National Monument

Ko' don Lakyadikyanap'kya? [Greetings] – How have you passed this day? My name is Calvin Chimoni. I am a tribal member from the Pueblo of Zuni. I was born and raised on the Zuni Reservation or Shiwin'-a' (place of A:shiwi People). Our present-day village of Halon'a: Itiwana-a' (Middle-Ant Hill Village or Central Place) is located near the Zuni River; and our reservation borders both Arizona and New Mexico. My tribe has occupied the Zuni Valley for more than 1,500 years. It is here, at Shiwin'-a', where my roots lie. It is here, where my ancestors decided to settle since our "beginning" from the lower depths of the world. My ancestors journeyed and settled in many areas of the Southwest's "four-corners" region, which includes Utah, Arizona, Colorado, and New Mexico. Today, those very places include places within the National Park Service such as the Grand Canyon, Petrified Forest, Mesa Verde, Bandelier, Chaco Canyon, El Morro and El Malpais.

As an indigenous person and a fluent speaker of the Zuni language, mentorship has been central to our traditional and religious lifestyles. Without it, I could not imagine proper instruction to the "basics" of survival and understanding how our tribe has continued to follow the means to pass instruction to following generations. It is such that traditional education often comes by immersing oneself into the natural environment or place; and complementing it with words of elders and knowledge keepers.

From my earliest childhood memories and discovering the ability to venture and the confidence to walk to nearby farming areas and the local foot-hills and mesas (and sometimes without my parents knowledge – but that is another story), I was amazed by the surrounding landscape – especially, the dirt and rocks contained within it. The large sandstone along the mesas stood like monuments; and the cliff-sides held different sized stone; and below it, the talus were dotted with the broken and smaller sandstone. The foot-hills also contained a range of sandstone; and some even projected out from the ground waiting to be discovered. Nearby, the arroyo walls which, in some places, revealed its many colorful layers of sediments and clay. At the base of the arroyo – sand, which was deposited during annual rainfalls – was (for us children) a great place for recreation and for the rough and tumble games that we played. Although, half of the time was not for fun and relaxation. Since we now knew of these local places and what they contained, we traveled with our grandfathers to certain locations to load dirt, clay, and sandstone material. For generations, these locations served the purpose to meet the need for material supply and the many families who also conducted the very same duties to re-furbish earthen homes annually. However, the "favorite" places for gathering materials were also left to replenish and to recover for several years.

For much of the village elders and my grandparents, working with earth and mixing it came second-nature to them. I believe it came from years of studying and practicing the art of working with it. However, it was a matter of mixing specific recipes by noticing the

consistency at which the materials resulted. The elders would often name and describe specific plaster and mortar consistencies and the type of material specific for a job. However, the real test came once material sources changed. But, my elders would often simply adapt or change the mixtures and get near to the original material. It was very important with finding that "right" mixture of earthen material. Because specific jobs such as plastering a wall, laying stone and adobe block with mortar, making adobes, and preparation of interior plaster walls – it was necessary to have the ability to adapt and adjust the materials at hand.

I was fortunate to learn from my elders and the methods I learned by watching and by seeking their assistance. I was often told by my grandparents that "knowledge is sought and that by waiting, no one would recognize your needs." I can only imagine what my ancestors had experienced and often remember all the histories that have been recited from my elders. I truly believe that the very methods and persistence that they had - have been handed down to me. By taking the same approach, and by working with the next generation, I can instill that same instruction. In this way, I believe that I can reconnect those who follow a similar path.

My perspectives on preservation work come from both my traditional upbringing and years of experience with working on ancestral homes (or archeological sites); and I share them with great respects to my many elders, mentors, and colleagues. However, there are many challenges that I often have to balance while conducting preservation work. It includes understanding the NPS's approach for conducting preservation work on ancestral architecture and, personally, understanding my Zuni traditional beliefs. While some preservation efforts or methods in the past have been destructive and have increased the amount of erosion, Zuni philosophy also states that most all things return to the earth naturally. This statement is so profound that I feel ever responsible to care for and find solutions that both uphold the NPS's efforts and save the past for our children's experience. I have often questioned many elders, and several have stated that it is important for the preservation work to continue to provide the younger generation the opportunity to

experience 'their' ancestors accounts.

For those who have had the opportunity to work on preserving historic architecture, I believe there is no other greater feeling than maintaining our unique histories. I am fortunate to personally reconnect to the many places which I have often heard throughout my childhood. I am so honored to be a part of a group which continues to care for and keep these places alive through preservation work.

Elah'kwa (Thank you)

*Calvin Chimoni is a masonry worker at El Malpais and El Morro National Monuments. In addition to on-site visitor contacts and lectures during preservation projects he also hosts annual visits with students from local Zuni Pueblo elementary schools teaching lessons on Zuni Histories and Life at Atsinna Pueblo and the Local Areas.*

*You can read more about Calvin's work this year on page 67 of this report.*



*Calvin Chimoni resetting loose stones at Atsinna Pueblo.  
Photo: Courtesy El Morro National Monument*

## Southwest Conservation Corps – Ancestral Lands Tribal Preservation Program

### *Protecting Our Future by Preserving Our Past*

Cornell Torivio, Southwest Conservation Corps – Ancestral Lands

My name is Cornell Torivio. I am from the Pueblo of Acoma and serve as the Program Development Coordinator at the Ancestral Lands Office of the Southwest Conservation Corps (SCC). I have two passions in my professional life: preservation work and working with youth. Through SCC I have been able to join these passions into a Tribal Preservation Program that engages young people in historic and prehistoric tribal preservation programs.

My ten-plus years of experience in preservation work include working on the preservation crew restoring the San Esteban del Rey Mission at Acoma Pueblo and working with National Park Service preservation crews at Aztec Ruins and El Malpais National Monuments. Being from Acoma Pueblo, earthen mortars, sandstone, and adobe have always been a big part of my life. I have taken great pride in my preservation work and feel a deep connection with restoring sites of great historical and cultural importance to my people and our country.

I have also had a passion for working with young people and in 2006 I took a break from preservation work to serve as a Crew Leader with an SCC crew that was building a new trail at Camp Assayi Recreational Area for the Navajo Nation. SCC was founded in 1998 to continue the legacy of the 1930s Civilian Conservation Corps. SCC engages a diverse group of young adults in paid service and completes important conservation projects on public lands. It is a non-profit organization headquartered in Durango, CO with year-round offices in Salida, CO and Tucson, AZ and – now (!) – Acoma Pueblo, NM. SCC's projects are sponsored primarily by land management agencies and municipalities throughout the southwest. In 2009, SCC completed more than 150,000 hours of service on public lands and employed more than 600 young people in various age groups, with variety of abilities and skill levels. Participants, from middle school students to people with graduate degrees, receive a weekly living allowance, an AmeriCorps Education Award, and on-the-job training. SCC operates a variety of programs based on a step-ladder model that “empower[s] individuals to positively impact their lives, their

communities and the environment.”

Following my stint as a Crew Leader, I returned to preservation work and I joined SCC's Board of Directors, rising to the level of Vice-Chair. Native American youth (primarily Navajo, Zuni, and Hopi) have historically comprised approximately one-quarter of the corps-members enrolled at SCC's Durango office. Unfortunately, many more apply each year than SCC can accommodate. I began advocating for SCC to develop a Conservation Corps program at Acoma Pueblo as a way to increase the number of youth who have the opportunity to participate in the program. As a result, SCC, in partnership with Acoma Pueblo, applied for and received funding from the New Mexico Youth Conservation Corps to operate three summer crews in 2008. These three crews engaged 36 local young people.

I left the Board and rejoined the SCC staff in order to manage the Acoma program and we were funded again in 2009 and 2010. Under this arrangement, SCC serves as the fiscal agent and program operator while Acoma Pueblo identifies the projects, contributes matching funds, and provides program oversight. All program staff members are Acoma and I report regularly to Tribal Council and the Acoma Governor.

The program has been highly successful and has become a model for engaging Native American youth, providing jobs for local young adults and investing resources back into the local community. US Senators Jeff Bingaman and Tom Udall introduced the Public Lands Service Corps Act of 2009 which includes a subsection creating an “Indian Youth Service Corps” partly modeled after SCC's Acoma program. Despite this success, I felt something was missing and that we could do more. I had always thought about the need for preservation workers within the National Park Service noting that there was always a need for masonry workers within park preservation departments across the southwest.

Using the knowledge that I had gained through my preservation work, I started training young people at Acoma Pueblo in the



*A Southwest Conservation Corps worker repoints a stage stop wall.  
Photo: Courtesy Southwest Conservation Corps*



*Southwest Conservation Corps workers repoint a stage stop wall.  
Photo: Courtesy Southwest Conservation Corps*



*A Southwest Conservation Corps worker installs safety bracing.  
Photo: Courtesy Southwest Conservation Corps*

techniques used to do preservation, restoration, and conservation work on historic and prehistoric sites. I found young individuals who were interested in doing this type of work and had them volunteer their time and efforts to learn these techniques.

Once I had a number of interested people, I contacted archeologist and heritage preservation Chief Jim Kendrick and Superintendent Kayci Cook Collins at El Malpais and El Morro National Monuments (ELMA/ELMO). I wanted to not only train young people in the field of preservation but to complete meaningful preservation projects and build the next generation of preservation workers for the NPS and other federal agencies. This cooperative program would teach basic preservation skills and provide an understanding of NPS policies, park history and culture, and basic interpretation. I felt strongly that preservation workers should be prepared to tell a visitor about the history of the site as well as explain what he or she is doing to better protect it.

Jim and Kayci saw the value of such a program and identified funding to allow our first Tribal Preservation Crew to complete stabilization work on the depot tank stage station at Petrified Forest National Park (PEFO). A three-person SCC-Ancestral Lands Tribal Preservation Crew, comprised of Native American young people, began work on the project on April 12, 2010 – our first Preservation Crew! (*Figures 1 and 2*) In addition to Jim Kendrick and Kayci Cook Collins, other key NPS staff involved in the project included Heritage Preservation Division Mason Calvin Chimoni (ELMO), Archeologist Steve Baumann (ELMA), Superintendent Clifford “Cliff” Spencer (PEFO), and Archeologist Jason Theuer (PEFO).

In the coming months and years, we plan to expand the Tribal Preservation Program to operate multiple crews in all of the Vanishing Treasures parks, building the next generation of preservation workers while accomplishing important preservation work on our nation’s national parks. Key skills that program participants will learn include the following:

- How to document and photograph all work as it is being accomplished at the site,
- How to implement “leave no trace” methods in the daily work routine to cause the least amount of impact to the area, and
- How to identify the different types of mortars, stones, and adobe used at historic and prehistoric sites;



*A Southwest Conservation Corps worker repoints a stage stop wall.  
Photo: Courtesy Southwest Conservation Corps*

- The history of the NPS and its policies and procedures that identify what can and cannot be done to historic and prehistoric structures;
- The history of the individual parks where they work so that they can interpret their site and work that is being completed to visitors; and, of course,
- Professional preservation trade skills, career development, and life skills development.

Throughout the program, I will assist participants in developing professional relationships within the preservation field and understanding the subtle differences between preservation methods employed at different sites. As with the first Preservation Program crew, we will recruit young adults from the general areas where we are completing the project work. I will carefully train the crew leaders, who in many cases will come up through the ranks from our most skilled program graduates.

Providing youth with the knowledge of what they are protecting can only help improve how they care for their future. Some of the program graduates will likely fill the ranks of retiring NPS and other professional preservation workers. Other graduates will move on to other careers but will carry with them the knowledge of preservation and a sense of ownership and caring for our country’s historic treasures. I feel strongly that we should give all of our youth the chance now to learn how to protect their history and natural resources; this can only improve the lives of those who grow up behind them in the form of sisters and brothers and sons and daughters. We look forward to a strong partnership with the National Park Service and the Vanishing Treasures program.



For more information on the Southwest Conservation Corps see <http://www.sccorps.org/>.

## Heritage and Community

### Keys to the Future of Maintaining Cultural Connections

Robin Jones, Cornerstones Community Partnerships

*In the 1930s concrete and cement plaster became the materials of choice to preserve the unique style of adobe buildings and prevent further deterioration. As economic opportunities encouraged emigration of the younger generation from New Mexican villages, the older population was left behind to care for their homes and churches. Because adobe structures needed regular and frequent care, the elders in these communities were quick to adopt seemingly more durable materials like cement plaster in order to extend the maintenance cycle demanded by traditional mud plasters. Though done in good faith, the application of impervious cement was disastrous for many structures. It forced adobe walls to retain any moisture that penetrated behind the surface. Unable to "breathe" they accumulated moisture until structural stability was lost.*

*Recently the young people who moved away in the 1940s, 50s, and 60s began returning to their native towns and villages. They found churches and homes that were in severe disrepair or already collapsed or demolished. In 1986, Cornerstones Community Partnerships, an organization initiated by the New Mexico Community Foundation and known initially as Churches: Symbols of Community, began to survey and document the historic churches of New Mexico. This investigation led to Cornerstones beginning to assist communities in the restoration and conservation of their historic churches, and now, of other historic buildings.*

*Luis Fernando Guerrero Baca*

The blue sky of Santa Fe is the backdrop for a community-based project focused on an historic adobe chapel. People are stripping away old stucco, mixing mud for adobe bricks, handing out water bottles, and listening to old timers share their stories. Someone starts a song and a group joins in, "Y cuando en Sión por siglos mil, Brillando esté cual sol, Yo cantaré por siempre allí Su amor que me salvó." ("When we've been there ten thousand years, Bright shining as the sun, We've no less days to sing God's praise, Then when we'd first begun."). On the other side of the chapel, young people are singing too; it sounds more like Lady Gaga or Beyonce, but the two groups seem in harmony. Tourists walking by stop to watch and listen, and workers share the history of the San Miguel Chapel. The Chapel's preservation is fueled by the hopes and dreams of the community, who work tirelessly to preserve it.

#### INTRODUCTION

Cornerstones Community Partnerships works with communities to strengthen their cultural values through the preservation of such traditional architecture as adobe churches, stone school houses, Works Progress Administration (WPA) projects and more. Through the preservation process we are able to introduce the people who inhabit and use the traditional landscapes and buildings of New Mexico and the southwest to their tangible history. In addition, Cornerstones has earned a reputation worldwide for our work with earthen structures and for invigorating the connection people can have with their heritage.

The Year 2009 was a transitional year for us, with a sharp focus on core values, fiscal restraint reflecting today's economy, and new community-based projects, along with systemic changes such as a revitalized Board, a new Program Director, and a new Executive

Director. Through all of this, we have come to the realization that our greatest challenge is, and will continue to be, the maintenance of traditional community closeness in the face of the isolation and separatism that modern technology sometimes brings into our lives.

Cornerstones began with a focus on the preservation of community churches, which are still vibrant and intense with connection. We have since expanded this core program to other building types, realizing that communities often consist of ever larger circles, reaching out to others from wider geographic horizons. The places with which we now work are those that people are using, or have used, to come together in mutually beneficial activities. They include churches, schools, hospitals, community centers, and ranches. We want to help get people back in touch with their past - not just their personal past, but a shared technological and cultural past.

Because the younger generation is crucial to preserving the cultural traditions of a community, we have developed special programs to teach young people traditional building skills. Community elders serve as mentors helping youth gain a greater appreciation of their cultural heritage and values, while also teaching the technical and leadership skills that can lead to future employment.

An example of this was seen in 1994 on a project at Zuni Pueblo in New Mexico. During the course of this project eight youth trainees, under the guidance of older mentors, extracted 17 tons of raw stone from the Zuni quarry. This was the first material to be quarried in Zuni in over twenty years and it was removed using traditional techniques. The stones extracted for this project, along with over 200 tons more quarried during two seasons of work, were used for the construction of the Zuni Memorial Park, built to honor local firefighters, law-enforcers, and soldiers.

The Zuni mentors, who had worked in these quarries in their youth, showed the trainees how to read the grain of the stone and to follow it in order to extract usable material. The stone was then dressed and laid in mud mortar in order to construct the memorial. All the while, the youth participants received first-hand training from their tribal mentors in the traditional, religious, and spiritual rituals and offerings that are a vital part of preserving the unique relationship of Zuni culture to the natural environment. The process helped the trainees to realize their connection to the earlier generations of Zuni people who built the Pueblos and refined their practices. It helped to redefine their identity as Zuni people. The role of Cornerstones in this project was that of a facilitator. We helped them to make the connection.

By encouraging traditional building practices and aiding in the development of skills and leadership among the younger generation, Cornerstones has helped plan and implement more than 320 community-based preservation projects in over 300 communities. We work primarily in New Mexico, but also throughout the greater southwest, providing organizational and technical assistance and hands-on training.





Figure 1: Undated historic view of San Miguel Chapel showing the original mud plaster.

Photo: Library of Congress, Washington, DC

Here's a sampling of what we teach in our workshops:

- Condition assessment of buildings;
- Determination of the causes of structural deterioration;
- Documentation;
- Emergency shoring of walls;
- Moisture testing in adobe walls;
- Adobe material selection, mixing and testing;
- Making adobe bricks;
- Removing cement plaster;
- Repairing and restoring adobe walls;
- Basal repairs and stabilization of architectural features;
- Repairing structural cracks in adobe walls;
- Lintel repair, replacement and installation;
- Mud and lime plastering;
- Repairing, removing, and installing wood floors;
- Installing earthen floors;
- Inspecting and repairing vigas and corbels;
- Inspecting and repairing earthen and metal roofs; and
- Drainage assessment and repair.

## CURRENT PROJECTS

San Miguel Chapel – Santa Fe, New Mexico

Our first major home-town project started off with a bang in 2009. We were the recipients of a \$200,000 grant from the Save America's Treasures Program, sponsored by the Department of the Interior and the National Park Service (NPS). Through this program, 9.5 million dollars were awarded to forty-two projects (ours included) throughout the nation. Additional funds for this grant came from a National Endowment for the Arts grant for Youth Training, an NPS Heritage Partnerships Program grant to correct drainage issues on the site, and an NPS National Trails Program grant for archeological work.

San Miguel (Figures 1 and 2) is the key site in the Barrio de Anasco National Landmark District. Oral history tells us that the barrio was founded by a group of Mexican Indians from Tlaxcala. The church was constructed under the direction of Franciscan friars to serve a small congregation of soldiers, laborers, and Indians living in the Anasco Barrio. In 1640, Governor Luis de Rosas razed the building to spite the Franciscan Friars who were using it as an infirmary. Built

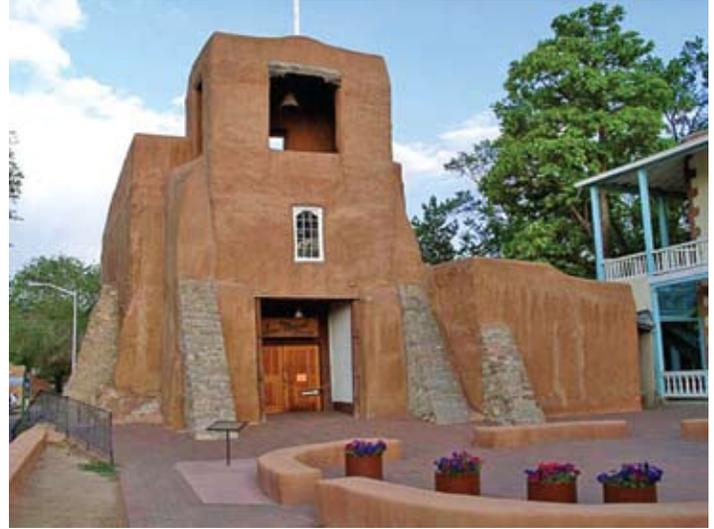


Figure 2: San Miguel today. The chapel is undergoing a multi-year rehabilitation partially funded by a grant obtained by Cornerstones  
Photo: GNU Free Documentation License, Encyclopedia Britannica

anew, it was again partially destroyed during the Pueblo Revolt of 1680, but by the early-eighteenth century, San Miguel had become one of the principal ecclesiastical buildings in the provincial capital. The present building dates from 1710 although it has undergone significant structural modifications since that time.

The rehabilitation of San Miguel is a community project. Youthworks of Santa Fe and the State Office for Vocational Rehabilitation will provide a core labor force. St. Michael's High School will have students, faculty, parents, and alumni working on it (Figure 3), and we have volunteers from across the street at the La Fonda Hotel, and from across the country, from as far away as Yale University. The focus of the project is to replace a failed drainage system that has been allowing excess water to accumulate in the church yard and cemetery, excess water that has been keeping the adobe walls wet. Since the work will occur in the church yard, all excavation work will be conducted by an archeologist and follow all state, local, and federal laws. Federal funding for the project ensures that Historic Preservation Act laws and policies will be followed.

A second work element for the project is to replace the building's stucco. The Portland cement stucco on the building, dating from the 50's, has failed and is cracking and separating from the adobe



Figure 3: Students from St. Michael's High School at the 2009 Noche Feliz fund raiser.

Photo: Courtesy Cornerstones Community Partnerships

bricks it was supposed to protect. The building was mud plastered from the 17th century through the mid- 20th century after which the cement stucco was applied. St. Michael's High School, the current owner of the building, wants to re-engage themselves and others in the community by re-introducing the tradition of mudding of the church regularly. Additional work is planned to repair wood elements and the structural connections between the roof framing and adobe walls.

**Fort Union National Monument interpretive planning and Tiptonville preservation**

Cornerstones is involved in a cooperative agreement to assess structures in Tiptonville (near Watrous), New Mexico which is along the Santa Fe Trail, and to work with the existing community of Tiptonville to focus on their historic structures. The scope of this project is to assist Fort Union National Monument in developing interpretive panels along the Santa Fe Trail near the park, including two pullouts along the 8 mile stretch of New Mexico Highway 161 between Watrous and Fort Union.

**Monte Vista, Colorado - Plaza de Los Valdezez, St. Francisco de Assisi**

Working with the community, Cornerstones applied for and was awarded a \$35,000 Colorado Historic Preservation Fund grant for emergency stabilization of the church.

**Santa Clara Pueblo – Santa Clara Church preservation**

An assessment of the church has been initiated to address tribal concerns regarding cracks and drainage problems. (Figure 4)

**Kewa (Santo Domingo) Pueblo - Trading Post**

An emergency assessment and preliminary treatment program for the Trading Post was completed in December. Development of plans for future stabilization and preservation are ongoing with the tribe.

**Tularosa, New Mexico - Saint Francis de Paula site**

Planning is underway to accomplish an assessment of cracks at the church.

**University of Arizona – Preservation training workshops at Organ Pipe Cactus National Monument**

The University of Arizona, through a cooperative agreement with the NPS, retained Cornerstones to assist them in conducting field schools for hands on training programs at Organ Pipe Cactus Na-



Figure 4: Jake Barrow and Antonio Martinez prepare to remove a section of stucco from the church at Santa Clara Pueblo to determine the condition of the adobe.  
Photo: Randall Skeirik



Figure 5: Participants in the January 2009 field school at Bates Well Ranch. The field school, funded through a cooperative agreement with the University of Arizona, was facilitated by Cornerstones.  
Photo: Rachel Perzel

tional Monument (Bates Well Ranch site). This will be a multi-year program. (Figure 5)

**Galisteo, New Mexico - Sala de San Jose, Sociedad de San Jose Community Center**

Cornerstones conducted a condition survey and prepared a preservation plan for La Sala. We continue to provide assistance to the community in their effort to preserve the building and bring it back into use.

**RECENT CONSULTATIONS:**

- Las Trampas, New Mexico – San Jose de Gracia Catholic Church  
Cornerstones worked with the community to finalize a NPS Heritage Partnership training grant. A \$9,000 grant from the Heritage Partnerships Program of the NPS was presented to the community during the course of a summer volunteer workday. (Figure 6)
- Acoma Pueblo, New Mexico – San Esteban del Rey Mission
- Bernalillio, New Mexico - Coronado State Monument
- Las Vegas, New Mexico - King's Stadium
- Manzano, New Mexico – Nuestra Senora del Dolores
- Garden Park, Colorado – Garden Park School
- Rayado, New Mexico - Maxwell-Abreu House
- Red Wing, Colorado – Nuestra Senora de Guadalupe
- Ojo Sarco, New Mexico – Church repairs
- Dixon, New Mexico – Dixon Hospital
- Santa Fe, New Mexico – Christo Rey church

**RECENT EVENTS**

Cornerstones has recently become a member of The Desert Southwest Cooperative Ecosystem Studies Unit (DSCESU), a cooperative network of seven federal, seven university, and six nongovernmental agencies studying and managing natural and cultural resources across the states of California, Nevada, Arizona, New Mexico, and Texas. Formed in 2000 and encompassing the Mojave, Sonoran, and Chihuahuan deserts, the DSCESU has been involved in more than 400 projects with funding totaling over \$19 million. The DSCESU is hosted by the School of Natural Resources at The University of Arizona in Tucson, Arizona. (For more information on the Cooperative Ecosystem Studies Units, see the feature article on page 5 of



Figure 6: Cornerstones Program Director Jake Barrow (front right) presents a check for \$9,000 obtained to help the community of Las Trampas preserve their historic adobe church.

Photo: Courtesy Cornerstones Community Partnerships

the FY 2008 Vanishing Treasures Annual Report.)

We've also joined forces with the Northern Río Grande National Heritage Area Stakeholder group. This collection of organizations collaborates to preserve and promote Heritage area stories and projects.

#### CROSS-CULTURAL CONNECTIONS

Cornerstones has built both a national and international reputation for the creative use of historic preservation as a tool for community revitalization. Our partners include small rural villages in the southwest as well as the Native American Pueblos of Acoma, Isleta, Jemez, Kewa, Laguna, Picuris, Sandia, San Juan, Santa Ana, Santa Clara, Taos, Tesuque, and Zuni. We have crossed the border into Mexico to participate in international workshops and seminars on lime technology.

Cornerstones is also fortunate to engage interns from the United States Office of the International Council on Monuments and Sites (US/ICOMOS) to assist with our projects. The US/ICOMOS Summer Intern Program provides participants with intense exposure to foreign cultures and diverse responses to heritage conservation. Host organizations, such as Cornerstones, serve to gain a deeper understanding of techniques that can be used to manage cultural resource protection problems. Cornerstones is expecting an ICOMOS intern from Chile this summer.

Recently, our international connections have expanded beyond Mexico into Chile. We are now partnering with a Chilean organization, the Fundación Altiplano, that is preserving mission churches in the mountains of northern Chile east of Arica, using much the same methods as Cornerstones. The Director and staff of the Fundación visited us in November to share notes (Figure 6), and our partner, Pat Taylor of Mesilla, New Mexico, participated in two workshops in Chile, the most recent focused on adobe buildings damaged in the 2010 earthquake.

Cornerstones also hosted a gathering for our Network members, Board, and other interested parties to meet Japanese participants in the International Scholarship and Training Program from San Francisco. Community revitalization and affirmation of cultural values are huge issues to contemporary Japanese people. We discussed youth training workshops and adobe construction and preservation, as well as the use of their traditional building materials: clay,

bamboo, and thatch.

Other international visitors included Adam Weismann and Katy Bryce from Cornwall, England, authors of *Building with Cob* (and Recipient of HM The Queen's 'Pioneers to the Nation' Award), whose projects include Labyrinth hideaway at Dumfries House, Kestle Barton Farm. They designed and built two structures (utilizing cob, timber, straw bale, and lime) at one of the private residences of His Royal Highness the Prince of Wales. We were able to share technical information with them and explore mutual challenges in maintaining traditional practices in the face of ever increasing use of industrialized materials in construction.

#### SPECIAL EVENTS AND FUNDRAISING

Cornerstones sustains itself in many different ways. Federal and state grants and project funds support many of our projects. We're also fortunate to have a wide base of donors, comprised of private individuals, foundations, and corporations providing a firm base of support among dedicated and caring individuals who consistently provide funding. We also host an annual benefit dinner/silent auction in October – Noche Feliz – and send out a holiday appeal in the winter.

Like so many other not-for-profits, the economic downturn has had an effect on our operation. This resulted in a "wake up call" for Cornerstones from which we have emerged on more solid footing after incorporating new efficiencies and budget accountability. While the dollar amount of donations may be down, the number of donors has actually increased, substantiating the larger community's commitment to Cornerstones.

Our goals for 2010 will be to continue to respond to calls for assistance, and to reach out to communities in New Mexico, throughout the southwest, and beyond. We intend to advance our agenda of strengthening connections to our past through the art of applying traditional building technologies, strengthening heritage, and participating with the communities that connect with these places. We will continue to raise funds to keep Cornerstones operating so that we can always be ready to help wherever needed. We resolve to remember that the beauty and history of buildings we work on are all about the people who put them up, maintain them, and continue to use them. Our goal is to assist them so that their traditions survive.

Robin Jones is Executive Director of Cornerstones Community Partnerships



Figure 6: The Director and staff of the Fundación Altiplano visit the San Miguel Chapel with Cornerstones Program Director, Jake Barrow (front left).

Photo: Courtesy Cornerstones Community Partnerships

V a n i s h i n g      T r e a s u r e s

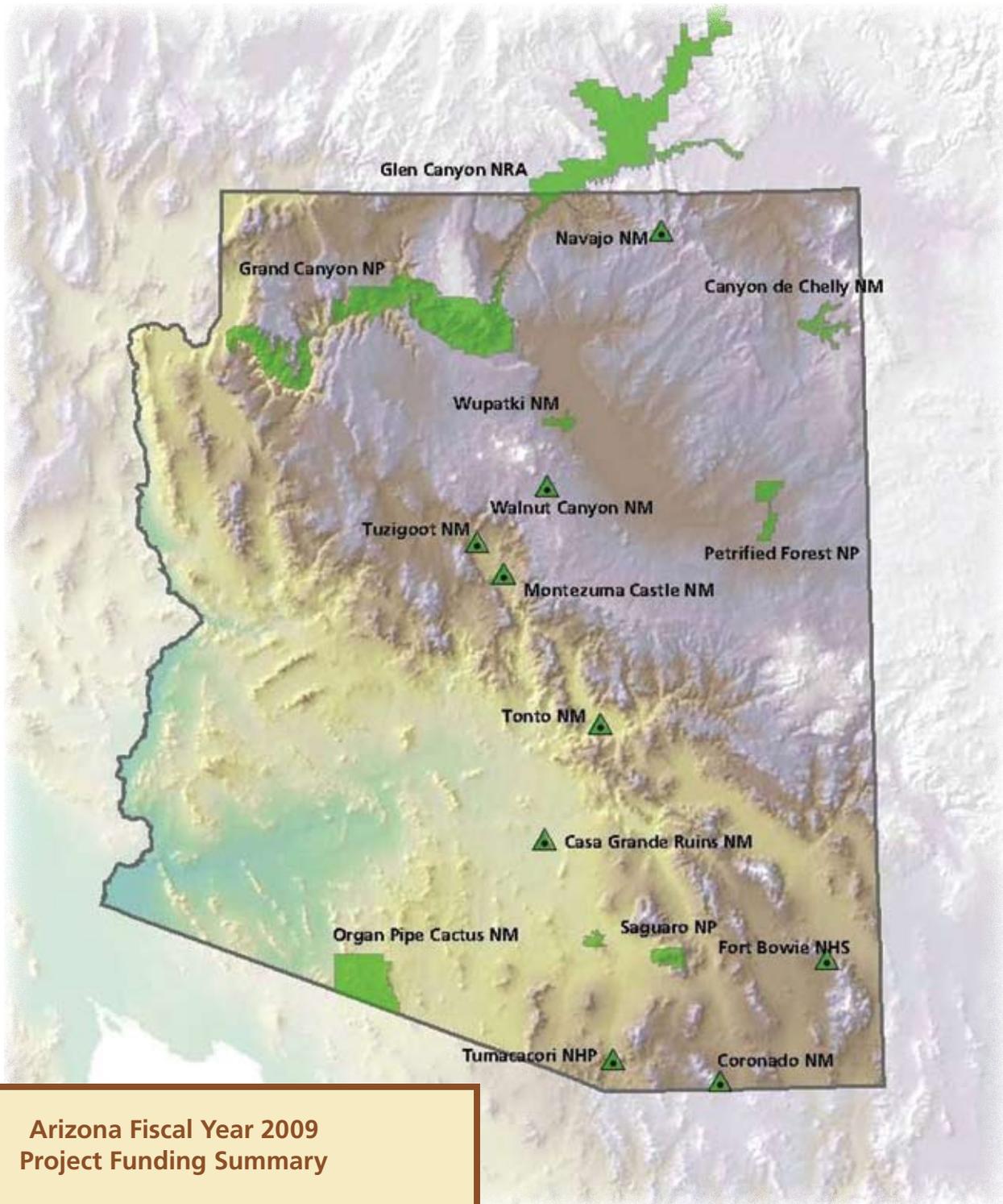
# A r i z o n a



*Lower Cliff Dwelling, Tonto National Monument*

*Photo: Rex Lavoie, 2009*

- ◆ Canyon de Chelly National Monument ◆ Casa Grande Ruins National Monument ◆
- ◆ Coronado National Memorial ◆ Fort Bowie National Historic Site ◆
- ◆ Grand Canyon National Park ◆ Montezuma Castle National Monument ◆
- ◆ Navajo National Monument ◆ Organ Pipe Cactus National Monument ◆
- ◆ Petrified Forest National Park ◆ Saguaro National Park ◆ Tonto National Monument ◆
- ◆ Tumacacori National Historical Park ◆ Tuzigoot National Monument ◆
- ◆ Walnut Canyon National Monument ◆ Wupatki National Monument ◆



**Arizona Fiscal Year 2009  
Project Funding Summary**

**Project Funds:**

- Casa Grande Ruins National Monument 117,197*
- Grand Canyon National Park \$84,124*
- Montezuma Castle National Monument \$61,200*
- Walnut Canyon National Monument: \$118,467*
- Wupatki National Monument: \$120,380*



## Canyon de Chelly National Monument

### VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

**VT Challenges and Successes:** Canyon de Chelly National Monument (CACH) was recently incorporated into the Southern Four Corners Group (SOFO), which is comprised of Hubbell Trading Post National Historic Site, Navajo National Monument, and Canyon de Chelly. Former Grand Canyon National Park VT Archeologist Ellen Brennan has been hired as the Chief of Cultural Resources for the group and is based out of Navajo National Monument. She provides guidance and assists cultural resource program development within the group.

Phase I of the Watershed Project Archeological Survey began in FY 2009. This project was designed to inventory archeological sites in the southern canyon system that may potentially be affected by the removal of exotic woody species during the ongoing park-wide Canyon Farms-Watershed Restoration Project. This project has a high potential to impact VT resources located on the canyon floor.

Canyon Del Muerto had been comprehensively inventoried in the 1990s, providing reliable baseline maps and data to assist in management efforts there. However, the southern canyon system has never been systematically inventoried for cultural resources, so survey efforts were concentrated on the floor of this canyon system, with efforts commencing at the mouth of Canyon de Chelly proper and proceeding systematically eastward.

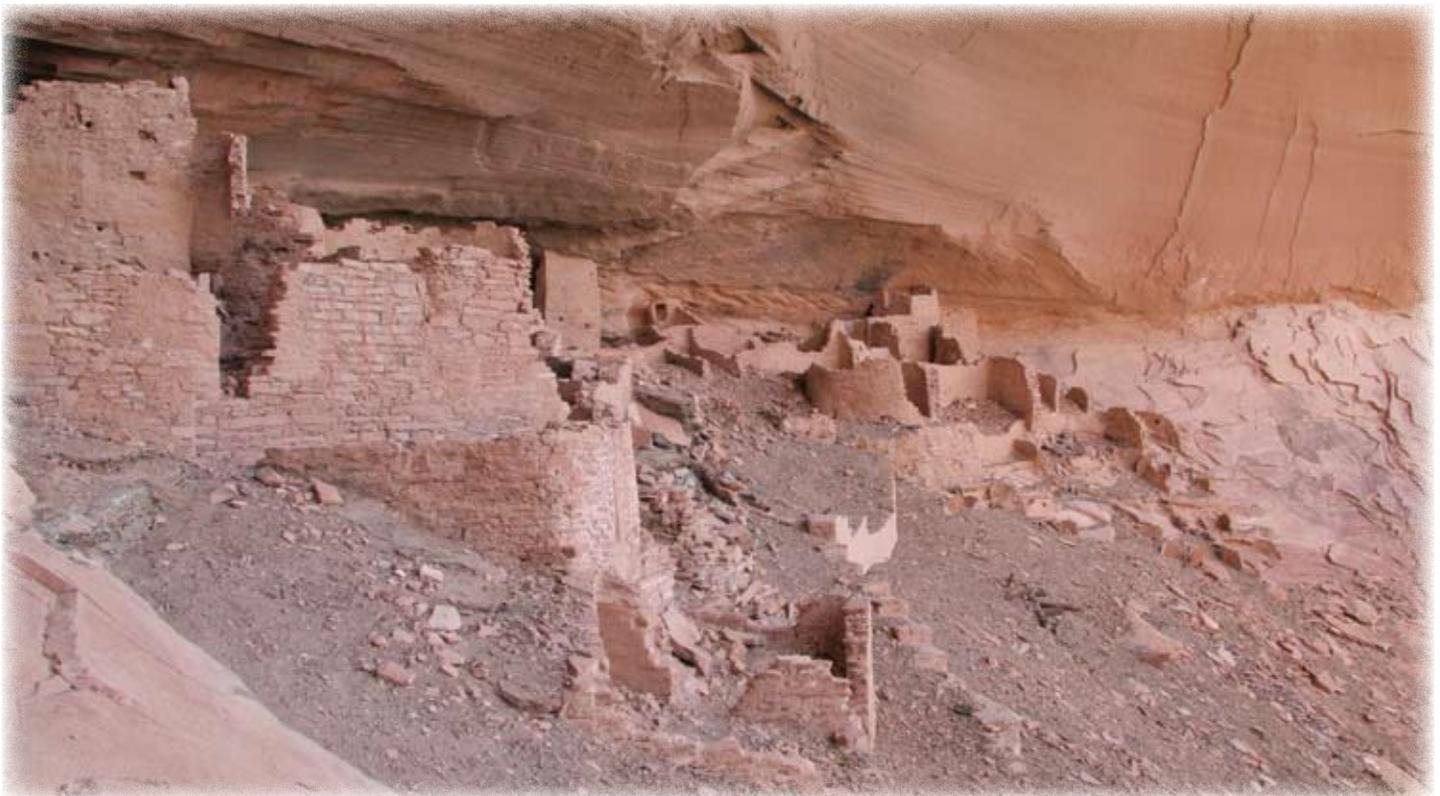
The Phase I survey was performed by a five-person field crew comprised of two full-time VT NPS archeologists, one seasonal NPS archeological technician, and two Student Conservation Interns. The Park Archeologist served as the Crew Chief, while all others served as crew members in varying capacities documenting resources with notes, photography, and maps.

It was hoped that a shift in project area focus and methodology from past seasons would allow a rapid and systematic survey of the canyon floor, including the identification, location, and basic documentation of each cultural resource for inclusion in the archeological site management information system (ASMIS) database. The data are then supplemented with basic digital photography and hand-drawn field maps. Phase II, slated

to begin FY 2010, will include the enhanced documentation of each site to more exacting park and VT standards. It is expected that this phase will run concurrently with Phase I for the rest of the project.

This work has resulted in the documentation and condition assessment of 68 new archeological sites plus the documentation of 40 previously recorded archeological sites to federal standards. A total of 572 acres was inventoried, and 24 of the 108 surveyed sites contained prehistoric and/or historic architectural components. Management recommendations for these sites were recorded and given to the park Natural Resource Division, which will use the data to develop non-destructive plant removal strategies that protect the cultural resources. Enhanced documentation and preservation strategies for these sites will occur in Phase II of the project.

Aside from the Phase I survey of Canyon de Chelly, two major VT sites, Mummy Cave Ruins and White House Ruins, were documented and received ASMIS condition assessments this year. Seven additional sites with significant architectural resources were also assessed. These included Wild Cherry Ruin, Sleeping Duck Ruin, Battle Cove, Face Rock Ruin, Bad Canyon Ruin, Round Cave



*Mummy Cave Ruins, Canyon de Chelly National Monument.  
Photo: Michael Denson*

Ruin and Tse Ta a'. The data that were collected will be analyzed to determine future site-specific preservation and enhanced documentation strategies.

In FY 2009, the Cultural Resources Program successfully collaborated with the park maintenance division in the construction of a new ruins protection fence at Sleeping Duck Ruin. The previous fence, installed in the 1980s, had fallen into disrepair; as a result, the ruin was threatened by human visitation, exotic vegetation encroachment, and livestock damage. A new fence now protects the 11,200 square meters of this major architectural site. To reduce hazardous fuel build-up, the park's exotic plant management team cleared woody, non-native species from the ruin area during the fencing project.

Park archeologists Keith Lyons and Jennifer Lavris also presented several programs on the park's current and historical archeological work and history to Northern Arizona University's Elderhostel Program, annual NPS-led Navajo Guide training, and seasonal and permanent interpretation staff.

Because a living community occupies landscapes and agricultural areas previously utilized by native peoples such as historic Navajo and earlier Ancestral Puebloan groups, the character of VT resources at Canyon de Chelly is unique in the Southwest. One of the biggest challenges in the management of park resources is balancing the needs of a living Navajo community with the requirements of a sustainable and effective cultural resources management program. Park staff are involved in a variety of compliance projects related to Navajo homesite- business- and farmstead-related development within the park. Cultural Resources (VT) staff are also involved in park-initiated compliance efforts for the Canyon Farms-Watershed Restoration Project, the South Rim Road Repaving Project, the Hazardous Fuels Reduction/Annual Prescribed Burn Project, and the replacement of backcountry bathrooms.

**Consultation:** Canyon de Chelly consulted with the Navajo Nation's Historic Preservation Department on a periodic basis and has kept the tribe informed of projects and activities as they relate to park cultural resources. We also consulted with affiliated Puebloan groups this year.

**Safety:** In FY 2009, the Cultural Resources Division maintained an effective safety program. Job Hazard Analyses (JHAs) were maintained for all field projects as well as for



*Keith Lyons recording prehistoric Puebloan rock art at Handprint Cave. Photo: Michael Denson*

office and front-country duties. Weekly division safety meetings were held throughout the duration of the field season, and monthly during the off season. Division staff obtained both First Aid and CPR certification this year.

#### **VANISHING TREASURES STAFF**

##### **Jennifer Lavris, Archeologist FY 2002 Position**

**Skills:** Jennifer specializes in North American archeology, historic and prehistoric architecture, rock art, site preservation, research design, human osteology, database management, digital imaging, and Egyptology.

**Accomplishments:** This year, Jennifer co-managed the park Cultural Resources Program with Keith Lyons (see below). Her primary duties included archeological database management, Section 106/110 compliance, Native American Graves Protection and Repatriation Act (NAGPRA) work, archeological site monitoring, the development of project and research designs, and management of the program's budget. Jennifer served as the database manager for the Watershed Project Archeological Survey (WPAS) and Archeological Site Monitoring (ASMIS-CAP 2009). During the formal field season, beginning in June and continuing through August, she supervised two

base-funded full-time term archeological technicians (GS-5), a seasonal archeological technician (GS-7), and two Student Conservation Association (SCA) Interns. Data processing and information management from current and previous years continued throughout 2009, and Jennifer continued to update and maintain various national and park-related databases this year.

**Training:** Jennifer completed no specialized VT training this year. She did attend utility vehicle operational safety training.

##### **Keith Lyons, Archeologist FY 2003 Position**

**Skills:** Keith specializes in North American archeology, historic and prehistoric architecture, rock art, site preservation, cultural landscapes, human osteology, and museum management.

**Accomplishments:** In FY 2009, Keith, along with Jennifer Lavris, co-managed the park Cultural Resources Program. His primary duties included archeological site monitoring, field supervision, Section 106/110 and NAGPRA compliance, archeological survey, and overall program development. Keith also continued to manage park collections this year, which included managing the park museum and database. Keith served as the field supervisor for WPAS and the Archeological Site Monitoring (ASMIS-CAP 2009). In that capacity, he supervised two base-funded full-time term archeological technicians (GS-5), a seasonal archeological technician (GS-7), and two Student Conservation Association (SCA) Interns. The primary field season began in June, 2009 and continued through September, 2009. Keith is currently responsible for entering park projects into the Planning, Environment, and Public Comment (PEPC) database/website. He also has maintained his role as Park Research Coordinator, facilitating a broad range of park research that includes both cultural and natural resources.

In 2009, Keith designed and supervised the installation of a new ruins protection fence at Sleeping Duck Ruin.

**Training:** Keith completed First Aid and CPR training this year. He also attended utility vehicle operational safety training.

#### **VANISHING TREASURES PROJECT FUNDING**

Canyon de Chelly did not receive Vanishing Treasures project funding this year.

## Casa Grande Ruins National Monument

### VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

**VT Challenges and Successes:** The Division of Resource Stewardship at Casa Grande is led and managed by Vanishing Treasures personnel and the accomplishments of FY 2009 are attributed to the support and funding that was provided by the Vanishing Treasures Program (VT), the Cultural Cyclic Maintenance Program (CCM), the Federal Lands Recreation Enhancement Act (FLREA), the Office of Indian Affairs & American Culture-Park Native American Graves Protection and Repatriation Act (NAGPRA), and the American Recovery and Reinvestment Act (ARRA).

The most actively interpreted site at Casa Grande is Compound A and, as such, it was the focus of most of the preservation work that was conducted in FY 2009. Detailed photographic and three-dimensional laser scanning was conducted to assess and document current conditions. Archival research was conducted and preservation

treatments were tested before being used to bring Compound A up to a rating of good condition. In scoping for this project, research was conducted under a Cooperative Ecosystem Study Unit (CESU) agreement with the University of Arizona School of Materials Science and Engineering. Additional scoping was done on-site when VT staff from Grand Canyon National Park, Wupatki National Monument, the Intermountain Regional (IMR) Office in Santa Fe, and Casa Grande met to share information regarding preservation treatments for earthen mortars, adobes, and plasters. This workshop produced a collection of preservation resources and generated an interest in holding additional meetings on this subject for Arizona parks.

Based on analysis and testing, a sacrificial layer of unamended earthen plaster (mixed with glass bead micro-tags) was applied to all previously encapsulated wall surfaces of the Northwest Building, North Building, Northeast Building, East Building, Fonts Room, Center Building, West Building, Southwest Building, and Southeast Building of Compound A. In areas where previous treatments were found not to pose a threat to the preservation of original features and

in areas where historic treatments could not be effectively replaced without their removal causing further damage to original resources, historic treatments were left intact. Elsewhere, failed historic treatments were removed and replaced with the unamended earthen plaster. Heavy rains during the treatment season required the application of an additional layer of 5% (by liquid volume) monomer-amended sprinkle coat of E-330 Acrylic to patch historic treatments of Daraweld C. This additional layer adhered well to historic treatments and blended the appearance of old and new treatments. In addition, it protected unamended earthen plaster patching and provided a consistent color for all of the previously encapsulated walls. All treatments were thoroughly documented.

Current drainage and eroding wall tops within Compound A that lie just flush with the ground surface were mapped through contracts with 4G Consulting Services, Western Mapping Company, and Desert Archeology. Annual site drainage treatments were completed and Desert Archeology was contracted to add additional fill to the Compound. To protect the eroding wall tops, approximately one foot of sterile soil



*The Big House and shelter, Casa Grande Ruins National Monument.*

*Photo: Randall Skeirik*



*Great Horned Owl nesting in a viga socket in the Big House.*

*Photo: Courtesy Casa Grande Ruins National Monument*

was added over a layer of geotextile fabric. This treatment will reduce the slope in areas of the site that were experiencing rapid erosion, and it will redirect standing water toward existing drainages. Additional funding from ARRA enabled CAGR to address similar issues at some of its backcountry sites as well.

The Resource Stewardship Division has continued to address animal impacts to archeological resources using an Integrated Pest Management (IPM) approach. Reducing the availability of standing water within Compound A and continuing to exclude animals from potential habitats within the site were early steps toward a larger resource preservation goal; this work will continue in 2010 and 2011. CAGR staff, working with the International Pest Management Institute produced an updated IPM Action Plan and a draft Environmental Assessment in 2009 to implement the plan. In 2009, the Arizona-Sonora Desert Museum assisted CAGR staff to successfully relocate a Great Horned Owl (*Bubo virginianus*) from its nest in a Viga socket of the Great House to a nesting platform where it will no longer damage archeological resources.

The Gila River Indian Community Cultural Resource Management Program completed Phase I Archeological Testing and Data Recovery in preparation for the park's proposed Visitor Center Expansion. Archeological features that were identified during this excavation have been documented and have guided the park's decision to move forward with constructing an addition to the south façade of the Visitor Center. While not related to the Visitor Center Expansion, additional archeological testing was con-

ducted under NPS-issued Archeological Resource Protection Act permits for utilities upgrades at the south and east perimeters of CAGR. Assistance for these projects was provided by adjacent land owners such as the Bureau of Land Management (BLM) and Bureau of Indian Affairs (BIA).

In preparation for the Phase I Archeological Testing for the Visitor Center expansion project, consultation with our culturally affiliated tribal communities was initiated. These consultations led to the generation of a project-specific NAGPRA Plan of Action. Further support from the Office of Indian Affairs & American Culture enabled CAGR to host numerous consultation meetings in 2009. This support enabled CAGR to pursue an agreement with affiliated communities to address inadvertent discoveries that are not limited to a specific project. It also enabled CAGR to facilitate the repatriation of Human Remains and Associated Funerary Objects for 54 individuals who were under the legal care of CAGR during 2009. These meetings also provided CAGR with an opportunity to host an interpretive workshop to discuss the message that CAGR presents to the general public in our interpretive materials.

Additionally, CAGR continued to work with international organizations during 2009. For the third year in a row, we hosted three directors from cultural monuments in Afghanistan as part of an international training program. The Afghan training program was organized by the Archeology Division at the NPS Washington Office, the Vanishing Treasures Program, the University of Arizona, and the George Wright Society. CAGR also entered into a CESU agreement with the University of Arizona School of Architecture to facilitate additional work with Paquime, in Chihuahua, Mexico.

The most significant challenges for coming years already have approved funding through VT, ARRA, CCM, Regional Small Park Block Allocation (NRPP), FLREA, and NAGPRA proposals that were submitted through the project management information system (PMIS). These projects included the following efforts.

1. Completing the preservation treatments at archeological sites identified in PMIS proposals for Compound B (VT, 2010) and backcountry sites that were identified in the 2006 condition assessment survey (ARRA, 2010 and CCM, 2010-2011)
2. Addressing animal impacts to archeological sites through further study (NRPP,



*Great Horned Owlet in a viga socket in the Big House.*

*Photo: Courtesy Casa Grande Ruins National Monument*

2010 and FLREA, 2010) and implementation (VT-2011)

3. Continued consultation with Culturally Affiliated Tribes and compliance with the intent of NAGPRA. This will include consultations in 2010 to repatriate unassociated funerary items, sacred objects, and objects of cultural patrimony.

VT staff from other parks who are able to provide assistance with these upcoming projects have been identified and many have already offered their support. However, we continue to look for an NPS Wildlife Biologist who would be able to do a 90-day detail at CAGR this year. We will post this position on the NPS Intranet site, but any additional suggestions are always welcome.

**Consultation:** All human remains and associated funerary objects within the legal purview of CAGR were addressed during consultations with our six culturally affiliated tribes: Gila River Indian Community (GRIC), Salt River Pima Maricopa Indian Community, Ak Chin Indian Community, Tohono O'odham Nation, Hopi Tribe, and Zuni Pueblo in 2009. As a result, 54 individuals and their associated funerary objects were repatriated to GRIC on August 20, 2009.

Consultation with these six Native American communities regarding the treatment of human remains began on October 3, 2009, when CAGR hosted a consultation meeting to discuss the upcoming NAGPRA Plan of Action that had been drafted by CAGR staff with assistance from the GRIC Cultural Resource Management Program and the NPS Office of Indian Affairs & American Culture. The Plan of Action addressed the

potential for inadvertent discovery of human remains during the proposed archeological testing and data recovery that was associated with the Visitor Center Expansion Project. At this meeting and during follow-up conversations with representatives from each community, an agreement was reached through which each culturally affiliated tribe informed CAGR staff that they wished to be consulted regarding any discovery and treatment of human remains. It was also agreed that each of the six communities were willing to defer to the Tribal Historic Preservation Officer (THPO) at GRIC regarding the responsibility for repatriation of human remains for that project.

Extensive research was conducted at the Western Archeological Conservation Center, the National Archives, and CAGR to refine previous determinations of provenience for the Human Remains and Associated Funerary Objects that were listed in the Federal Register published March 12, 1996. Through this research, human remains donated by Carl Mooseburg in 1931 and 1934 as part of accession CAGR-00003 and human remains donated to CAGR during construction of the Pima Agency Hospital in 1916 (accession CAGR-00188) were identified as outside the legal purview of ownership for CAGR. Thus, a letter was drafted to the Department of the Interior Solicitor's Office requesting a Determination of Rightful Owner, and representatives from the Bureau of Indian Affairs (BIA) were invited to the tribal consultation meeting on July 15, 2009.

Consultation with culturally affiliated tribes at this meeting, and in subsequent discussions, identified a procedure for the legal transfer of 54 individuals from CAGR to GRIC in 2009 and transfer of the remaining 13 individuals within the care of Casa Grande collections from BIA to GRIC in 2010. Representatives from each tribe provided a written statement deferring to GRIC for the responsibility of repatriating these individuals. Repatriation of the 54 individuals occurred on August 20, 2009.

A discussion was also initiated at this consultation regarding the potential for developing a Cooperative Agreement among all affiliated tribes to guide future treatment of inadvertent discoveries. CAGR staff made a presentation before the Four Southern Tribes Cultural Resources Working Group on August 21, 2009 to update them on the process. At this time, we were provided with a draft Cooperative Agreement, produced by the staff of Salt River Pima Maricopa Indian Community, that will be fur-

ther refined through consultations in 2010. A two-day consultation workshop on the use of language and enhancing interagency understanding was also partially funded through this project. The educational value of this meeting was invaluable for participants among CAGR, Western Archeological and Conservation Center, and IMR staff. After this meeting, half of the staff who participated in this workshop travelled to Hopi for a follow-up meeting on September 17. The other half attended a September meeting of the Four Southern Tribes Cultural Resources Working Group. At this meeting, comments were solicited regarding how to best facilitate upcoming consultations in 2010.

**Safety:** Scaffolding training was identified as a need for CAGR staff in the FY 2008 Vanishing Treasures Report. During FY 2009, this issue was addressed by only allowing use of scaffolding when in the presence of CAGR or contracted staff who have had training specific to the use of scaffolding at archeological sites. Resource Stewardship Division staff member Sheldon Baker attended scaffolding training that was offered by the Flagstaff Area Monuments in 2008.

At the beginning of 2008, a new IPM challenge was identified after bats began to colonize the Great House in Compound A. Resource stewardship staff conducted a bat survey to identify the number and quantity of bats living within cracks of the structure. A small colony of approximately 50 little

brown bats (*Myotis lucifugus*) was identified during this initial survey. Additionally a bat that was tested in July, 2006 was found to carry rabies, so this survey had a public health application in addition to concerns regarding impacts to the Great House.

After the initial bat survey, exclusionary devices that had been developed by CAGR staff with assistance from USDA-APHIS and Vanishing Treasures Exhibit Specialist Jake Barrow to exclude rodents and birds were removed in order to facilitate a detailed 3-D scan of the structure. Before these exclusionary devices could be reinstalled, a larger colony, in excess of 1000 bats, of Brazilian Free-tail (*Tadarida brasiliensis*) and Western Pipistrelle (*Pipistrellus hesperus*) bats also colonized the structure. Thus far, ten bats have been analyzed and 40% of this sample tested positive for rabies. As a result, Vanishing Treasures staff have been working with the Biological Resource Management Division of the NPS, Arizona Office of Public Health, Public Health Offices for both Maricopa and Pinal Counties, and USDA-APHIS to address potential public safety concerns. Three staff members have been trained in the handling of bats and have obtained immunization shots for rabies. The Great House was closed to staff and visitors in October 2008 and will re-open in late December, 2009. CAGR staff are working with USDA-APHIS Rabies Wildlife Biologist Krista Wenning to design exclusionary devices that are bat-specific, similar to those currently being used to exclude rodents and birds. A detail has been funded by NRPP to fund a Wildlife Biologist to review this work and prepare for the upcoming VT project in 2011.

## VANISHING TREASURES STAFF

**Rebecca Carr, Archeologist**  
FY 2005 Position

This position was originally filled as a GS-9 Exhibit Specialist in the Facilities Management Division. In 2006 it was converted to a GS-9 Archeologist in the Facilities Management Division and, in 2008 to a GS-11 Archeologist for the Resource Stewardship Division.

**Skills:** Rebecca's educational background includes an M.S. in Historic Preservation from the University of Pennsylvania and a B.A. with a double major in anthropology and art with a certificate in museum studies from the University of Delaware. Her work has focused on the documentation and conservation of earthen architecture and stone masonry. She has worked on



*Laura McCulloough and Darren Markley sift for artifacts in Compound A.*

*Photo: Courtesy Casa Grande Ruins National Monument*

projects including Ancestral Puebloan cliff dwellings, Hohokam Classic Period architectural compounds, and historic buildings such as hospitals, churches, and residences. She has periodically taught, published, consulted, and presented on the subjects of site documentation, condition assessment, materials analysis, and treatment techniques for the preservation of earthen buildings. During her career, Rebecca has worked as a resource manager, archeologist, exhibit specialist, architectural conservator, museum curator, and museum director. She also has experience with not-for-profit management and with private-sector fundraising.

**Accomplishments:** As Archeologist and Chief of Resource Stewardship for Casa Grande Ruins National Monument, Rebecca has hired and supervised project-related staff and contractors to ensure the continued preservation of VT resources at CAGR. At the height of the 2008 field season, she supervised a team of five archeologists and one biologist. Additional supervisory responsibilities included as many as 13 volunteers as well as contractors.

**Training:** In 2008, Rebecca attended an International Workshop on the Conservation and Restoration of Earthen Architecture that was hosted by Tumacacori National Historical Park in Arizona and in Sonora, Mexico. (This training was also known as the semi-annual "Taller Internacional de Conservación y Restauración de Arquitectura de Tierra", or TICRAT).

In order to maintain her Pesticide Applicator License with the State of Arizona Office of Pest Management, Rebecca also attended continuing education classes offered by the State of Arizona.

Rebecca authorized additional training for her staff to learn the safe use of scaffolding at archeological sites, methods of relocating Burrowing Owls that are impacting archeological resources, managing cooperative agreements, and safety precautions when working around wildlife that may be carriers of vector borne diseases.

#### Vacant, Masonry Worker

#### FY 2001 Position, Moved to the Maintenance Division

This position has not been reclassified, but the internal division of work within CAGR has changed since this position was created. In 2007, a Cultural Resource/Resource Stewardship Division was established at CAGR under the supervision of Archeologist, Rebecca Carr. Since that time, this ma-

sonry worker position has been dedicated to the maintenance, landscaping, and custodial services needed to ensure continued operation and preservation of historic buildings such as the Visitor Center, administrative offices, and Maintenance Compound. This position was located in the Division of Facilities Management during FY 2009.

### VANISHING TREASURES PROJECT FUNDING

**Project Name:** Compound A Preservation

**PMIS Number:** 123754

**Project Summary:** This project has enabled the monument to redesign and update the Casa Grande Ruins Resource Management Database to track all previous documentation plus current recommendations and preservation treatments. An extensive stabilization history and associated bibliography was compiled for Compound A. Engineering for a phased implementation plan to replace eroded fill in the immediate vicinity of the Great House was completed.

This plan was refined and is currently being implemented through a contract with Desert Archeology. CAGR staff continued to collect and analyze structural monitoring data for the Great House. A contract was secured with Western Mapping Company to document the topography of Compound A in sufficient detail to identify newly eroding wall tops and produce interpretive media.

CAGR staff utilized this documentation to conduct a detailed condition assessment of high-priority areas of the site. A contract was secured with Desert Archeology to replace eroded fill and redirect site drainage to better preserve this important site.

#### Project Budget:

Total VT Project Funding:	\$117,197
Personnel:	\$21,379
Vehicles:	\$0
Travel/Training:	\$77
Supplies/Materials:	\$1,541
Equipment:	\$0
Services/Contracts:	\$94,200
Other:	\$0

**Project Accomplishments:** With the aid of NPS staff and project contractors, all of the objectives for this project have been fulfilled, all funds have been fully expended, and remaining contractual work will be completed by March 30, 2009.

The following accomplishments were listed as measurable results in the project management information system (PMIS) proposal for this project.

1. Vanishing Treasures staff worked with database managers and IT staff from Tumacacori National Historical Park (TUMA) and the Southern Arizona Office (SOAR) to redesign and update the Casa Grande Ruins Resource Management Database. This database now tracks all known treatment documentation, management recommendations, and preservation treatments. It is now capable of linking site proveniences to photographic images, and it includes bibliographic references to archival reports for Compound A.

2. Seasonal staff compiled an extensive stabilization history and associated bibliography for Compound A. Through a contract with Western Mapping Company, the topography of Compound A was documented in sufficient detail to identify newly eroding wall tops while a second contractor, Desert Archeology, used this information to address drainage needs. This information was also used to prepare interpretive media. Seasonal CAGR staff photographed every remaining wall surface within Compound A before they were covered with protective backfill.

3. With assistance from Civil Engineer Cliff Walker, a phased implementation plan to replace eroded fill in the immediate vicinity of the Great House has been completed. This plan was put out to bid and was eventually contracted to Desert Archeology.

4. Materials compatibility testing from earlier projects was compiled and supplemented by new work conducted by CAGR staff, IAS Laboratories, and students from the University of Arizona. After consultation with the Arizona State Historic Preservation Officer (SHPO) and culturally affiliated tribes, it was decided to abandon the use of chicken wire lathe and polyvinyl acetate amended soil. Instead, a sacrificial layer of unamended earthen plaster (mixed with glass bead micro-tags) was found to be more compatible with the original wall construction. While much of this treatment work was funded by other sources, the work dovetailed nicely with the documentation work being conducted for the VT-funded project.

5. Structural monitoring equipment for the Great House was reassessed and reprogrammed. Information was compiled as a reference for ongoing monitoring and structural assessment. VT Structural Engineer Preston Fisher assisted with this work.



Wukoki Pueblo, Wupatki National Monument.  
Photo: Planetware.com

## Flagstaff Area Monuments

The Flagstaff Area Monuments include Wupatki, Walnut Canyon, and Sunset Crater National Monuments

## VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

VT Challenges and Successes: Our biggest

challenge was working on uneven slopes, which make it challenging to set up our Total Station equipment.

**Consultation:** We had no problems with consultation as it relates to our VT resources. We received no negative comments from our affiliated tribes about the compliance package for the Wupatki backfilling project. Hopi made a site visit and supported the project.

**Safety:** Both of the Fourth Fort sites are on canyon slopes and access was a little difficult, but we were able to get our Total Station and personnel in and out safely. For the Wupatki backfilling project, we had great help from the Chaco Culture National Historical Park (CHCU) preservation crew with setting up our conveyor and scaffolding systems.

## VANISHING TREASURES STAFF

Lloyd Masayumptewa, Supervisory Archeologist  
FY 1998 Position

In FY 2009, Lloyd's duties included research, report writing and editing, and VT Program Support. Lloyd's office duties focused primarily on the day-to-day activities of managing the Flagstaff Area Monuments' VT Program, while his research and writing tasks included developing and overseeing the implementation of scopes of work for archeology and ruins preservation projects at Sunset Crater, Wupatki, and Walnut Canyon National Monuments.

In addition, he is responsible for closing out the park's VT Program budget, stabilization training, writing year-end reports, writing project proposals for the yearly servicewide comprehensive call, submitting the FLAG end of FY reports, and other related administrative tasks. He also has been involved in tribal consultation efforts and other park-related management needs. This year he was also tasked with hiring for and managing two American Reinvestment and Recovery Act (ARRA) projects. This meant that he had to work with the facility management software system and the project scoping tool to get the funds appropriated for these projects, a requirement for all maintained archeological sites.

With two VT archeologist positions remaining vacant through FY 2009 (see below), Lloyd and Lisa Baldwin have shared the workload on all of the preservation activities in the FLAG parks and successfully directed the implementation of two VT-funded projects along with several other preservation projects that bear on the mission of the VT program.

**Training:** Lloyd attended in FY 2009 included a preservation workshop at Casa Grande Ruins National Monument, a Traditional Cultural Places workshop, backfill sessions at Aztec Ruins National Monument and FLAG, Supervision Beyond the Basics, Agreements Technical Representative Training, and NPS Fundamentals II.

### Lisa Baldwin, Archeologist FY 1999 Position

In FY 2009, Lisa was actively involved in a number of preservation projects and assignments related to VT resources including work at both Wupatki and Walnut Canyon National Monuments. Lisa conducted condition assessments on all sites slated for preservation work prior to the start of work, maintained field records during the course of the projects, and completed final reports outlining the completed work. In addition, she provided support for the Sunset Crater Survey that was undertaken in FY 2009 by Northern Arizona University (NAU). Lisa also assisted in developing the scopes of work for projects at Walnut Canyon and Wupatki. Her office duties include producing and supervising the production of stabilization, documentation, and monitoring reports.

Lisa also had several opportunities for public outreach and education. She led several site tours at Walnut Canyon and Wupatki for the annual Festival of Science and she conducted site tours for other groups including the NAU Ranger Academy and the American Conservation Experience (ACE) crew.

**Training:** In FY 2009 Lisa attended a Cultural Resource Advisor training workshop with the Coconino National Forest, *Supervision Beyond the Basics* at Glen Canyon, and NPS Fundamentals II. Lisa also attended numerous safety training sessions that pertained to field projects and additional seminars dealing with leadership. Finally, Lisa attended the Arizona Preservation Conference hosted by the Arizona State Historic Preservation Office (AZSHPO) and an Archeology Symposium held at NAU.

### Vacant, Archeologist FY 2000 Position

This position, previously filled by Lyle Balenquah, was vacant for all of FY 2009. Lapse salary was used for other park needs. Lyle's position at the Flagstaff Area Monuments has yet to be refilled.

### Vacant, Archeologist FY 2003 Position

This position, previously filled by Ian Hough, was vacant for all of FY 2009. Lapse salary was used for other park needs. Ian's position at the Flagstaff Area Monuments has yet to be refilled.

### Vacant, Geographer/ Geographical Information System (GIS) Specialist FY 2004 Position

This position was filled through part of FY



*Staff from the Flagstaff Area Monuments, assisted by staff from Chaco Culture National Historical Park, set up a conveyor system prior to backfilling rooms at Wupatki Pueblo, Wupatki National Monument.*

*Photo: Courtesy Wupatki National Monument.*

2009 by John Canella. John was hired in May, 2004 to fill the Flagstaff Area National Monuments GIS/Database Management position, a unique position that was jointly funded by the VT and Natural Resource Challenge Programs. In FY 2007, the position was converted from term to permanent.

John was responsible for overall GIS and Data Management for FLAG, including administration of park cultural databases and GIS data sets. He worked on developing cultural resource GIS data sets, including site datum, site boundary, site feature, and isolated occurrence layers with metadata for each of the Flagstaff Area Monuments. With the help of Cultural Resource staff, John also implemented a flexible information management system to store and retrieve digital site files, maps, and images from GIS. He also provided ongoing GIS/GPS support and training for the FLAG Cultural Resource staff as well as the ranger, interpretive, and maintenance divisions.

Additionally, John developed and implemented an agreement to provide GIS services to three National Monuments in northern Arizona (Tonto, Montezuma Castle, and Tuzigoot) designed to mine existing data and create metadata and data management directory structures that will conform to Intermountain Region (IMR) guidelines. This proved to be a highly successful partnership

because of a strong emphasis on communication between parks and the ability to select outstanding GIS talent from NAU's GIS certificate program. John left for Santa Fe to join the IMR Trails Program in December, 2008. His position was left vacant for the remainder of FY 2009 but will be filled in FY 2010. Lapse salary from this position was used for other park needs.

### VANISHING TREASURES PROJECT FUNDING

**Project Name:** Repair Drainage System and Backfill Selected Areas of Wupatki Pueblo

**PMIS Number:** 123612

**Project Summary:** This project involved upgrading the drainage system and backfilling areas of Wupatki Pueblo, a large 12th-century, 100+-room, multi-storied pueblo that serves as the main interpretive site at Wupatki National Monument. The existing drains, installed in 1953, consisted of cement drainage basins in the room corners with graded fill to aid in drainage. The drainage system was enlarged in 1964 with pipes and culverts installed between rooms to further facilitate drainage. With only periodic cleaning since 1964, some of the drains were no longer functioning because of material failure and insufficient fill in the pueblo to allow adjusting the grading to aid drainage.



Staff from the Flagstaff Area Monuments, assisted by staff from Chaco Culture National Historical Park, test the conveyor system used to backfill rooms at Wupatki Pueblo, Wupatki National Monument.

Photo: Courtesy Wupatki National Monument.

**Project Budget:**

Total VT Project Funding:	\$120380
Personnel:	\$57,529
Vehicles:	\$0
Travel/Training:	\$1,674
Supplies/Materials:	\$7,835
Equipment:	\$0
Services/Contracts:	\$4,124
Other:	\$49,218

**Project Accomplishments:** On February 24 and 25, 2009, the Flagstaff Areas hosted a backfill meeting to finalize our plans to perform backfill work at Wupatki and to get

feedback from other parks regarding their backfilling practices and experiences.

We were fortunate enough to have Gary Brown (Aztec Ruins National Monument), Roger Moore and Dabney Ford (Chaco Culture National Historical Park), Marc LeFrancois (Salinas Pueblo Missions National Monument), Tim Hovezak and Gary Ethridge (Mesa Verde National Park) Terry Morgart (Hopi), and Virginia Salazar-Halfmoon, Jake Barrow, Randy Skeirik, and Preston Fisher (VT Program) attend and provide us with their expertise.

Prior to the start of work, the site was extensively documented through planimetric maps, architectural documentation, and condition assessments. Phase I of the project involved backfilling seven rooms, the drains of which were repaired and upgraded using 4" ABS pipe which was connected to existing pipes in the pueblo walls.

Before backfilling the rooms, the walls were stabilized and geotextile fabric was installed to act as a marker between cultural deposits and fill. The fill was transported from the maintenance facilities at the Wupatki Visitor Center by Bobcat utility vehicle to a staging area near the pueblo. The fill was then hauled by wheelbarrow to a conveyor system that moved the fill into the rooms selected for backfilling.

The conveyor system was provided by Chaco Culture National Historical Park. The CHCU crew also assisted the FLAG area crew in setting up the necessary scaffolding equipment and configuring the conveyor

system for the project. Phase II of the project is continuing at this time; the monument received ARRA funds to backfill an additional 6 rooms.

**Project Name:** Formal Condition Assessment of Fourth Fort Site Complex (WACA 10, 156, 211, 216, 217), Walnut Canyon

**PMIS Number:** 123846

**Project Summary:** In FY 2009, the VT program provided funding to the Flagstaff Area Monuments to perform condition assessments (CAs) on the 5th Fort complex sites. However, because of unresolved boundary issues, we used FY 2007 funds that were intended for the 2nd Fort to document the 5th Fort complex.

With ownership of 2nd Fort area still not resolved in FY 2008, we asked for and received permission to use the VT project funding to conduct CAs on the 4th Fort complex sites. We have now pushed back the CA project on the 2nd Fort complex twice.

By FY 2009, the rights to the 2nd Fort area remained unresolved; and with all the other Fort sites documented, we took the opportunity to perform CAs on the sites associated with the 2nd Fort complex within our boundaries along with an ancient trail to water that had been first documented by Harold S. Colton in 1932.

**Project Budget:**

Total VT Project Funding:	\$118,467
Personnel:	\$0
Vehicles:	\$0
Travel/Training:	\$231
Supplies/Materials:	\$712
Equipment:	\$0
Services/Contracts:	\$112,422
Other:	\$5,101

**Project Accomplishments:** A cooperative agreement with the Museum of Northern Arizona's Archeology program was established to perform the majority of the CAs, although we used FLAG staff to document the ancient trail to water. We also setup a Cooperative Agreement with the ACE, to cut down brush and weeds to better expose the trail. A Total Station, as well as tape and compass, were used to map the trail.

Through creative project management, we were able to complete two projects for the price of one. We will eventually have to submit another proposal to complete the 2nd Fort complex, but that will not happen until the boundary issues are resolved and we are sure the additional resources lie within Walnut Canyon National Monument.

## Fort Bowie National Historic Site

### VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

**VT Challenges and Successes:** This year our stabilization crew concentrated on performing emergency repairs to three Fort Bowie structures. Because of the harsh weather of Apache Pass, the Post Trader's Store and Corral (LCS14062), Cavalry Barracks (LCS14038), and Gun Shed (LCS14064) needed emergency repairs to the lime plaster. Several large pieces of plaster had fallen off these structures requiring new coats of plaster to be applied to the exposed areas. Six foundations at the first and second forts required repointing, vegetation removal, and drainage repair, all of which were time consuming jobs. We were assisted by Cameron Mower, a Centennial hire laborer, who eagerly learned all that Fort Bowie Masonry workers Phil Tapia and Fernie Nunez could teach him. We also replaced our 1991 Diahatsu with a new Polaris Ranger for transporting personnel, equipment, and material to the work sites. The Polaris performed very well hauling materials and equipment over rough terrain to the more remote sites. Great care was taken to avoid permanent damage to the area surrounding the sites.

**Safety:** As in previous years, our safety concerns remained constant sun: heat, wasps, and snakes. This year, however, materials, equipment, and personnel were hauled to



*The Fort Bowie Post Trader's Store with Helen's Dome in the background, Fort Bowie National Historic Site.*

*Photo: Karen Weston Gonzales*

the work sites with our new Polaris Ranger. This allowed us to avoid using all-terrain vehicles (ATVs) and our underpowered Diahatsu. The Polaris did well in the steep rocky terrain, enabling us to establish drop-off points much closer to the work sites, eliminating the need for staff to carry heavy loads of equipment and material to the sites. Safety was always a foremost concern and our work was accomplished with no accidents or injuries.

### VANISHING TREASURES STAFF

**Fernie Nunez, Masonry Worker  
FY 1998 Position**

**Skills:** Fernie is skilled in adobe work, plastering, and repointing stone masonry. He is instrumental in our annual ruins stabilization program and is good with small engines and maintaining equipment in good operating condition.

**Accomplishments:** Fernie and the stabilization crew had a productive year in FY 2009. They completed emergency repairs to three structures (Post Trader's Store and Corral, Cavalry Barracks, and Gun Shed) and repointed, removed vegetation, and repaired drainage on six other structures at the first and second forts.

**Phil Tapia, Masonry Worker  
FY 1999 Position**

**Skills:** Phil is skilled in adobe work, plastering, and repointing stone masonry. He is the lead person for our annual ruins stabilization projects, monitoring and documenting the work performed.

**Accomplishments:** As lead person on the stabilization crew, Phil procured materials, scheduled stabilization work, documented the techniques used, and assisted the crew with the field work. Three structures (Post Trader's Store and Corral, Cavalry Barracks, and Gun Shed) received emergency repairs and six structures at the first and second forts received rock pointing, vegetation removal and drainage corrections.

### VANISHING TREASURES PROJECT FUNDING

Fort Bowie National Historical Site did not receive project funding this year.



*Fernie Nunez, Cameron Mower, and Jeff Sartain prepare the Post Trader's Corral wall for plastering, Fort Bowie National Historic Site.*

*Photo: Courtesy Fort Bowie National Historic Site*

## Grand Canyon National Park

### VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

**VT Challenges and Successes:** The Vanishing Treasures staff at Grand Canyon successfully completed its goal of gathering monitoring information and baseline condition assessment data on 23 sites in the Desert View District of the park, a Vanishing Treasures-funded project. A wide range of resources was assessed, including Cochonina and Ancestral Puebloan masonry structures, cliff-side granaries, and proto-historic/historic Havasupai and Navajo wooden structures. The data collected will help the park recognize future impacts to archeological resources, both human and natural. The crew also successfully completed a stabilization project on the Kiva A bench cap at Tusayan Ruin. The project was implemented using a new all-natural amending agent, Stabilizer Solutions, after

Ian Hough conducted successful tests with the product over the last two years.

**Consultation:** No tribal consultation was completed in 2009 for Vanishing Treasures resources

**Safety:** The Grand Canyon Vanishing Treasures archeology crew successfully completed its annual objectives while maintaining employee safety throughout the entire 2009 summer field season. Two Job Hazard Analyses (JHAs), 5 hazardous risk assessments, and one safety walk-around were completed for both field and lab activities in 2009. Safety issues were discussed with the crew on a regular basis to foster a "safety first" attitude. The 2009 GRCA field crew attended a one-day basic first-aid/CPR certification workshop sponsored by the park.

### VANISHING TREASURES STAFF

**Ian Hough, Archeologist**  
FY 2000 Position

**Skills:** Architecture database development, remote site documentation and condition assessment, logistical planning, stabilization

materials testing, tribal consultation, Adobe Illustrator and AutoCAD.

**Accomplishments:** In November 2008, Ian assumed responsibility of the Grand Canyon Vanishing Treasures Program following the departure of Ellen Brennan to SOFO. Accomplishments include working with a database developer to finish a draft architecture database, architecture field datasheets and instruction manual. Ian continued testing Stabilizer Solutions mortar amendment and helped coordinate a stabilization materials testing workshop.

**Training:** Supervisors training, FMSS

**Charlie Webber, Archeologist**  
FY 2005 Position

Lapse salary was spent on 2 seasonal Vanishing Treasures technicians, to upgrade global positioning system units, support for condition assessments and documentation on two Colorado River side canyon surveys, and gear and supplies for Tusayan Ruin stabilization.

**Accomplishments:** Charlie came to Grand



*Sunrise on the Esplanade, Grand Canyon National Park.*  
Photo: Frank Romaglia



*Seasonal archeologist Margie Shaw documents the remains of a seasonal habitation structure on the North Rim, Grand Canyon National Park.*  
 Photo: Courtesy Grand Canyon National Park.

Canyon in June after working for two years as a Vanishing Treasures archeological technician at Flagstaff Area National Monuments. This past summer Charlie led the day-to-day field operations of the GRCA Vanishing Treasures program. The main project for summer 2009 was gathering baseline monitoring and condition assessment data on 23 sites in the Desert View District. This project included assessing prehistoric masonry structures, cliff-side granary structures, and proto-historic / historic period wooden structures.

In June, Charlie co-led a team of volunteers helping them identify and record archeological sites in the Pasture Wash area. This project, run through the Grand Canyon Field Institute, lets members of the public assist Grand Canyon archeologists conduct survey and record archeological sites, thereby gaining more appreciation for archeological resources and the work we do to protect them.

Charlie also assisted in the stabilization work completed in at Tusayan Ruin. This work included using Stabilizer Solution, an all-natural, organic amending agent. This project focused on stabilizing the earthen bench located in Kiva A and included resetting a number of wall stones that had come loose.

**Training:** First Aid/CPR

## **VANISHING TREASURES PROJECT FUNDING**

**Project Name:** Vanishing Treasures Condition Assessments of Architectural Sites in the Desert View District

**PMIS Number:** 121247

**Project Summary:** The purpose of this project was to collect baseline condition information on architectural remains and assess preservation needs at 23 archeological sites (31 structures) in the Desert View District of Grand Canyon National Park. All 47 selected sites contained well-preserved architecture and were located in areas of high visitor use, resulting in ongoing impacts. All project fieldwork was completed in FY 2009; however data entry will continue in FY 2010. The project tasks were completed by Grand Canyon National Park Archeology (Vanishing Treasures) staff members including Ian Hough, Charlie Webber, Margaret Shaw, Steven Schooler, Tara Hoffmann, and Grand Canyon Association intern Shelley Szeghi.

### **Project Budget:**

Total VT Project Funding:	\$84,124
Personnel:	\$76,624
Vehicles:	\$1,500
Travel/Training:	\$0
Supplies/Materials:	\$2,500
Equipment:	\$3,500
Services/Contracts:	\$0
Other:	\$0

**Project Accomplishments:** Project members not only accomplished all project goals but regularly exceeded those goals, by monitoring each visited site and completing condition assessments at applicable sites. A total of 47 sites in the Desert View area had the potential to contain Vanishing Treasures architectural remains. Of these, condition data had been previously collected on 11 sites, 23 more were visited, and 13 could not be relocated.

Of the 23 sites visited, 12 did not contain Vanishing-Treasures-eligible architectural remains. These sites mainly consisted of prehistoric masonry structures that had collapsed to a stable grade. The site records at these sites were updated to reflect current archeological recording practices. At the 11 Vanishing Treasures eligible sites, site records were updated and additional architectural and condition data, including treatment recommendations, were completed for 31 individual structures. All 23 sites were monitored to gather data on the natural and human impacts that are currently affecting archeological sites in the Desert View area.

Six of the 11 assessed sites were prehistoric masonry structures from the late Pueblo I through the early Pueblo III periods and are believed to be culturally affiliated with the Kayenta and Cohonina. Five structures at two of these sites are well-preserved granaries. These structures contained intact original masonry and wooden elements. The condition of eight structures at four open-air sites was also assessed. While these structures were not as well preserved, between three and five courses of standing masonry remained intact, allowing Vanishing Treasures data to be collected.

Five of the 11 sites assessed in the Desert View area contained wooden structures associated with the late prehistoric to early historic occupation of the area by Havasupai and Navajo peoples. These 18 structures consisted of both conical and corral structures, many of which displayed excellent integrity. Although each masonry and wooden structure showed signs of varying degrees of impact from natural erosion, none will require physical treatment in the next five years. The greatest threats to the original architecture are visitor overuse and vandalism, both of which will be addressed with frequent monitoring and law enforcement patrols.

Tusayan Ruin, a stabilized archeological site that is open to the public, also received stabilization maintenance with funding and personnel from this project. GRCA archeologists removed eroded mortar from the Kiva A earthen bench and applied a new mortar cap using a new organic stabilizing amender from Stabilizer Solutions, Inc.

This project was funded through the National Park Service Vanishing Treasures Program at a total cost of \$84,124.44, all of which was obligated in FY 2009. A technical report of the project will be prepared once the project is complete and project activities will be published on the park's website.

## Montezuma Castle and Tuzigoot National Monuments

### VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

**VT Challenges and Successes:** Montezuma Castle and Tuzigoot National Monuments, using various project funding sources, continue to collect baseline condition information for VT archeological sites located at all three park units.

**Consultation:** Montezuma Castle and Tuzigoot National Monuments continue to work successfully with our eight affiliated Native American tribes and the Arizona State Historic Preservation Office to meet our obligations for consultation on proposed projects to our VT archeological sites.

**Safety:** In FY 2009, the Cultural Resource and Maintenance Divisions worked with the Grand Canyon National Park safety officer to develop an updated standard operating procedure (SOP) for accessing Montezuma Castle. This plan incorporates the use of a fall arrest system.

### VANISHING TREASURES STAFF

**Matt Guebard, Archeologist**  
FY 1999 Position

This position was originally filled as a Masonry Worker but was converted to an Archeologist in 2004.

**Skills:** Matt has considerable experience with condition assessment, architectural documentation, compliance, and stabilization of archeological sites.

**Accomplishments:** Matt, working with VT mason Stefan Sloper and archeological technician Josh Kleinman, completed emergency stabilization, condition assessment and architectural documentation at archeological sites located at Tuzigoot and Montezuma Castle National Monuments. Additionally, over the course of the FY 2009 field season, Matt drafted three site-specific project scopes of work for archeological sites located within the Tuzigoot and Montezuma Well (MOWE) boundaries. Matt supervised and assisted with the stabilization history and stabilization of Tuzigoot Ruin; and he and the crew initiated in-depth condition assessments, stabilization histories, structural assessments, and environmental monitoring within Montezuma Castle site.

Matt was also responsible for completing cultural compliance for all of the resource and facilities projects within the parks. He also continues to work with contractors on 3D light detection and ranging (LiDAR) mapping, condition assessment, and artifact analysis projects at our VT sites.

**Stefan Sloper, Masonry Worker**  
FY 1999 Position

This position was originally permanent full-time but was converted to term subject-to-furlough in 2007.

**Skills:** Stefan has developed skill as a mason and has considerable experience in the stabilization of prehistoric masonry structures using soil cement.

**Accomplishments:** As in previous years, Stefan removed inappropriate historic stabilization mortars and replaced them with a soil, sand, and cement mixture that will help preserve the remaining historic fabric of the pueblo. In addition to his work at Tuzigoot, Stefan has played an instrumental part in the planning and implementation of treatment projects at Montezuma Castle and Montezuma Well. In FY 2009, Stefan assisted the park archeologist with condition



Montezuma Castle, Montezuma Castle National Monument.  
Photo: Randall Skeirik



*Tuzigoot Pueblo after a snow, Tuzigoot National Monument..  
Photo: Randall Skeirik*

assessments at MOWE archeological sites and with planning for the development of archeological exhibits at the Tuzigoot museum. Stefan has also assisted with the testing of amended and unamended materials for treatment projects at historic buildings and archeological sites.

## **VANISHING TREASURES PROJECT FUNDING**

**Project Name:** Documentation and Stabilization of 14 Archeological Sites at the Montezuma Well Unit, Montezuma Castle National Monument

**PMIS Number:** 134753

**Project Summary:** This project completed the first of a two-phase documentation and treatment initiative at the Montezuma Well (MOWE) Unit. Project objectives were designed to document the condition of all Vanishing Treasures archeological sites located within the MOWE boundary. Documentation of these resources included the use of a Total Station Mapping system, medium-format digital photography, and the completion of condition assessment forms.

### **Project Budget:**

Total VT Project Funding:	\$61,200
Personnel:	\$53,940
Vehicles:	\$3,100
Travel/Training:	\$0
Supplies/Materials:	\$4,960
Equipment:	\$0
Services/Contracts:	\$0
Other:	\$0

**Project Accomplishments:** This project was developed to collect baseline condition

and map data to inform a Phase II treatment plan. Map and condition assessment data were collected for 16 sites and 126 individual wall units at the Montezuma Well Unit. Documented site types included rock shelters, surface pueblos, and fieldhouses.

The majority of recorded damage at project sites was the result of animal activity, illicit visitation, vegetation growth, and erosion. Rodent damage caused by burrowing and

digging accounted for a large percentage of the recorded damage at all project sites. Additionally, damage caused by vandalism, visitor impacts, and weathering were also noted. Damage was severe enough at five of the sites to warrant Phase II treatment, which will include repointing mortar joints, regrading historically looted rooms, rehabilitating erosion damage, and repairing loose mortar and plaster.

Project work was completed by the park archeologist and two STEP (student temporary employment program) archeological technicians. Additional support was provided by the TUZI VT mason and a MOCA/TUZI natural resource specialist. Office and laboratory duties associated with the successful completion of Phase 1 project objectives were completed by the park archeologist and one project-funded Archeological Technician.

Completed project objectives included updating existing ASMIS records, producing updated maps, and completing condition assessments for all project sites. Following the completion of fieldwork, an updated Phase I completion report and Phase II scope of work were created. The completion of Phase II work will update the condition of sites identified as needing work from "fair" to "good."



*Archeologist Matt Guebard and mason Stefan Sloper repairing a wall at Tuzigoot Pueblo.*

*Photo: Joshua Kleinman*

## Navajo National Monument

### VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

**VT Challenges and Successes:** Navajo National Monument started the year with no scheduled VT projects and no project funding. However, the Monument received year-end Operation of the National Park System (ONPS) money to fund an architectural condition assessment of Betatakin Pueblo. These funds were obligated through the Colorado Plateau Cooperative Ecosystem Study Unit (CPCESU) and the Northern Arizona University Department of Anthropology.

Data from the project will be used to complete facility management software system/maintained archeological sites (FMSS/MAS) reporting for the site.

The Monument also used lapse salaries to fund the final Inscription House architectural documentation and analysis report and to fund modeling of 20 rooms of Keet Seel Pueblo using existing 3-dimensional data.

**Safety:** The NAVA cultural resource staff had no lost-time injuries during FY 2009.

### VANISHING TREASURES STAFF

**Ellen Brennan, Cultural Resource Program Manager**  
**FY 2000 Position**

**Skills:** Ellen is skilled in graphic illustration and map production (AutoCAD and Adobe Illustrator), geographical information systems (GIS), databases, condition assessments, and architectural documentation.

**Accomplishments:** Ellen successfully obtained year-end funding and established co-

operative agreements through the CPCESU for architectural condition assessments of Betatakin (NAVA) and White House (Canyon de Chelly National Monument) ruins and 3-dimensional imaging of the upper alcove of White House. Ellen also developed a scope of work and acquired funding for a project to model 20 rooms from Keet Seel (NAVA) using existing 3-dimensional data, and she obtained funding for the final report on the architectural documentation and analysis of Inscription House (NAVA).

**Training:** Ellen attended a one-day FMSS

**Skills:** Susan is skilled in data entry, GIS, and in the use of Adobe Illustrator.

**Accomplishments:** Susan has continued the work of compiling and reporting on the archeological and stabilization histories of Keet Seel Pueblo.

**Joshua Ramsey, Archeological Technician**

**FY 1999 Position**

This position was originally filled as a permanent full-time archeologist, but has been converted to a term archeological technician.



*Tsegi Canyon, Navajo National Monument.  
 Photo: Courtesy Navajo National Monument*

training session sponsored by the Southern Arizona Office (SOAR) of the NPS.

**Susan Bierer, Archeological Technician**  
**FY 2005 Position**

This position was originally permanent full-time but was converted to a term position in 2006.

This position was vacant during part of FY 2009. Lapse salary was used to fund the final report on the architectural documentation and analysis of Inscription House Pueblo.

This position was vacant during part of FY 2007. Lapse salary was used to hire Joshua as a seasonal employee as well as a long-term volunteer for the summer season. In addition, lapse salary was used to purchase office supplies, and filing cabinets for organizing division maps and photographs.

### VANISHING TREASURES PROJECT FUNDING

Navajo National Monument did not receive project funding this year.

## Organ Pipe Cactus National Monument

### VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

**VT Challenges and Successes:** The cultural resource challenges facing Organ Pipe Cactus National Monument (ORPI) are many and varied in scope.

The ORPI cultural resource program has been overwhelmed by the sheer volume of the work that needs to be performed at this park. The size of the workload is complicated by border issues that restrict our access to many areas of the park, but we are excited by the opportunity to work in what is essentially a little-explored archeological wilderness. We have upwards of 1,000 archeological sites, of which only approximately 300 have been documented or minimally recorded. Many of our cultural resources are Vanishing Treasures resources, and the work that is completed in the cultural resource office has a direct effect on the documentation and preservation of our Vanishing Treasures resources.

We have equipped the Cultural Resource Office with a new GeoExplorer XT GPS unit with submeter accuracy and will begin the process of setting up our system in the coming year. We hope to hire an archeological technician with geographical information system (GIS) skills to assist in this endeavor.

**Consultation:** We have made efforts to meet and stay in contact with representatives of our culturally affiliated tribes and, with management's approval, I would like to set up a regular schedule of consultation meetings with the Tohono O'odham and begin consultation with the Hia C'ed O'odham. I wrote and prepared mailings for most of the tribal consultation letters that went out for our Section 106 compliance, Native American Graves Protection and Repatriation Act (NAGPRA), and associated projects throughout the year.

The Arizona State Historic Preservation Office (AZSHPO) notified us that they agree that the prehistoric Ak-Chin floodwater farming fields in the park are significant, and are likely to be eligible for the National Register. One newly discovered field site in particular (SON C:1:71) was recommended as "not eligible" in a survey by Border Patrol archeologists, but SHPO concurred with ORPI that it is, in fact, eligible.

We will be initiating consultation with the

Tohono O'odham and Hia C'ed O'odham for the Traditional Plant Use/Agricultural Crops Study and will also consult with several tribes on the Wild Horse Tanks pictographs, including the Yuman tribes, the Hopi Tribe, and Zuni Pueblo of New Mexico.

Archeological surveys, compliance reports, findings of effect, and determinations of site eligibility were completed for 18 projects in the Planning, Environment and Public Comment (PEPC) Website to comply with National Historic Preservation Act (NHPA) Section 106 requirements. For these projects we performed an archeological survey on an estimated 15 acres of new, unsurveyed federal lands (most in the Administrative/Residential area) and reconnaissance surveys on many hundreds of acres that had been previously surveyed. In most cases, the projects resulted in either "No Historic Properties Affected" or "No Adverse Effect" findings, which enabled us to streamline the SHPO review under our new 2008 Programmatic Agreement. In one instance (Table Top Telephone Fiber Optic Project), the finding of effect was "Adverse Effect", and a memorandum of agreement (MOA) had to be developed between several agencies to resolve the adverse effect before the project could proceed. The MOA was written and revised several times to incorporate various comments;

consultations were conducted; and the MOA was signed by the affected parties and the SHPO. The project is now proceeding as planned.

Under the new 2008 Programmatic Agreement with the AZSHPO, we are obliged to share data and submit copies of our original surveys along with findings of effect and site eligibilities for NHPA Section 106 compliance. Where project review was streamlined, we prepared a batch shipment of "No Adverse Effect" and "No Historic Properties Affected" reports and associated PEPC assessment of effect forms (AEFs) and sent them to the SHPO. They will be scanned into the restricted SHPO library and become available to other qualified researchers and professionals with access to AZSITE.

**Safety:** In addition to dealing with the usual hazards of weather, snakes, and insects, ORPI field staff must always plan for possible encounters with undocumented aliens or drug couriers. Despite these challenges, we had no lost-time injuries in FY 2009.

### VANISHING TREASURES STAFF

**Connie Thompson Gibson, Archeologist & Cultural Resources Program Manager FY 2004 Position**

**Skills:** Connie has been certified as a Registered Professional Archeologist for seven



*Sunset on the mountains, Organ Pipe Cactus National Monument.  
Photo: Joe Tuomey*

years. She has a B.A. and M.A. in Anthropology from the University of Texas at San Antonio (UTSA) with an archeology concentration. She also has an A.A.S. in Computer Information Systems from Germanna Community College, Virginia. Connie has 15 years of progressively responsible experience in all aspects of archeology including fieldwork, laboratory work, materials classification and analysis, supervision of students and employees, and writing/editing technical cultural resource management (CRM) reports. She was Laboratory Director for the Southern Texas Archeological Association for five years, Research Scientist Assistant at the Center for Archeological Research at UTSA for six years, was recruited to set up the archeology laboratory at the Center for Archeological Studies at Texas State University, and served as the Curator of Archeological Research Collections and the Technical Editor of CRM reports. Her specialties include lithic technologies (prehistoric chipped and ground stone) and historic ceramics. Connie has fieldwork experience in Arizona, New Mexico, Texas, Montana, and Louisiana, as well as in Chihuahua, Mexico and Belize in Central America.

**Accomplishments:** Before any project work or surveys could begin, we required a true and complete accounting of all sites previously recorded or surveyed and an assessment of which resources were being most impacted by border-related activity, in danger of being lost forever, and in need of protection. The intention was to generate an accurate and reliable geographical information system (GIS) layer of known archeological sites, historic structures and features, actual site boundaries, and corresponding report numbers. Hard-copy and computer site information was sorted with the goal of having all information related to each site stored in the same place. A searchable Microsoft Access database of all research materials was created, listing the author, title, year published, and other information needed for citations. It tells where the item is located, what form it is in, and provides keywords for searches. To date, we have over 200 database entries.

Once the research materials were collected, we began work on the new cultural resource management plan (CRMP), which will include a cultural chronology and a general culture history. We also began to correct deficiencies in our GIS data, which at present show erroneous site numbers, inaccurate locations, and otherwise unreliable data. We began the process of obtaining shape



*Funded through an FY 2009 cooperative agreement, a team of NPS staff, students, and volunteers performed stabilization work on the buildings at Bates Well Ranch. Here VT Architect Randy Skeirik inspects a support post for the bunkhouse while John Schroeder (JOTR), Jake Barrow (Cornerstones Community Partnerships), and Mark Sturm (ORPI) look on. All of the posts (inset) were found to be in poor condition and were replaced as part of the project.*

*Photo: Courtesy Organ Pipe National Monument*

files of all sites and areas surveyed, but we still have much to do in the area of data collection, organization, and file storage.

We assisted with developing several proposals for entry into the facility management software system (FMSS) and the project management information system (PMIS), including a proposal created with help from VT Historical Architect Randy Skeirik to rehabilitate Armenta Ranch for interpretative tours. We also have several historic adobe structures in the park that have not received enough attention or stabilization work. Proposals to repair the historic adobe structures at Dos Lomitas, Gachado Line Camp, and Armenta Ranch, to provide security measures during the repair work, and a proposal for an intensive archeological inventory of our Ak-Chin farming fields and irrigation devices will be submitted in FY 2010.

Prehistoric Ak-Chin floodwater farming fields were discovered while inspecting aerial photographs of the park. To date, three different fields have been identified in aerials, and the appearance of raised berms and interlaced channels is striking from the air. Though they are difficult to identify today, a

tribal member of the Tohono O'odham Nation remembers such fields in the vicinity of present day Armenta Ranch. A traditional use study of agricultural crops and plant utilization is planned, and will tie in with the Ak-Chin farming fields study.

Connie has reviewed, researched, mapped, and provided comments on cooperative ecosystem study unit (CESU) projects that are already in the works, including the Victoria Historic Mining District National Register nomination and cultural landscape inventory. This new mining district contains nearly 95.5 acres and several new important features that have been documented and added to the inventory. Another CESU project, the "Organ Pipe Cactus National Monument Historic Ranching Thematic Context Statement" was completed and accepted into the ORPI Cultural Resource Research Library.

We also have a proposal to repair and stabilize Bates Well Ranch structures through the Desert Southwest CESU. Bates Well is important because it is an excellent example of the cattle ranching industry in the Sonoran Desert in the early 20<sup>th</sup> century and it is in a section of the park that remains open to

visitors and researchers. It contains a nearly complete collection of ranch structures including sandwich-style corral fences with “trigger” gates, a desert cooler, an arrastra used to process small amounts of ore, cattle chutes, and several examples of the hard-scrabble vernacular architecture that is representative of the region as a whole.

The first part of this project is an archeological field school run by the University of Arizona to conduct a complete Class III inventory of approximately 100 acres. The survey should result in GPS maps of all structures, features, prehistoric sites, and related cultural features in and around the ranch. The second part of this project involves historic structures preservation field schools headed by the University of Arizona and Cornerstones Community Partnerships in collaboration with Vanishing Treasures Historical Architect Randy Skeirik. The architectural field schools will focus on the assessment and stabilization of various historic structures at the ranch, some of which are severely deteriorated. After years of planning, we will finally reach the stage of actual hands-on repair work beginning next year.

Approximately 10 site condition assessments were conducted, mainly in the back country with ranger escorts. Because of the large backlog of work, we lack archeological sites management information system (ASMIS) data entries for many sites.

One product of the cultural chronology and culture history will be the development of accurate scientific material for the Interpretation Division to use in their educational programs. We are developing a focus on prehistoric floodwater farming. Once the infrastructure that makes up our historic gold, copper, and silver mines has been repaired and made safe, we will begin work on an “1880s Gold Mines Tour.” When the structures at Bates Well and Dos Lomitas have been repaired and made safe, we also hope to provide a “Historic Cattle Ranches of the Sonoran Desert Tour”. Until then, we plan to develop computer virtual tours of the mines, ranch sites, and prehistoric rock art sites for the Visitor Center.

In addition, Connie has been working to inform the Interpretive Division about which archeological sites should not be divulged to visitors to prevent trampling of artifacts and loss of data. The goal is to establish a three-tiered rating system, Category I would include sites whose locations can be readily disclosed and that tourists are encouraged to visit, find on their own, or be included in van tours. Category II includes sites whose

location may be divulged to researchers and interested persons upon request, and represent sites that are more fragile or vulnerable to visitor impacts. Category III sites are the most fragile or vulnerable resources, whose locations should be guarded and kept from dissemination to the public according to ARPA, NHPA, and other preservation laws. Implementing this rating system will enable us to better manage our cultural resources.

The Cultural Resource Office conducted original research at the Wild Horse Tanks rockshelter to systematically record and collect surface artifacts that are in danger of being trampled or collected by tourists. We documented the presence of pictographs on the ceiling of the rock shelter and several valuable artifacts were discovered, including a dart point that is approximately 4500 to 4000 years old, portions of an obsidian dart point, and several different types of ceramics, including Hohokam Red-on-Buff. The rock art motifs are being damaged by waterborne salts leaching from a historic livestock tank above the alcove and a program to document and study each decipherable motif is in the works, along with plans to consult with Native American tribes on the pictographs.

Connie prepared and arranged for one ARPA permit this year to allow Transcon Environmental of Tempe, AZ to perform ground-disturbing activity in association with the Table Top Telephone Fiber Optic Project. Over the year, at least 10 ARPA sites were assessed in the back country (nearly all are VT resources), and Site Condition Assessments were completed for ASMIS during the same visits. Procedures were set up and protocols established with our Law Enforcement rangers to visit National-Register-eligible properties in the park that may be adversely affected by visitor use or illegal activities. Connie photographed baseline conditions for 10 sites and performed baseline Site Condition Assessments. The ARPA Law Enforcement Ranger, Jason Marsoobian, was informed of the threats to cultural resources and had already received training in how to treat illegal artifact collecting or excavations as a crime scene. We discussed deterrence, surveillance, and monitoring for eligible prehistoric archeological sites in addition to historic structures and features.

The park is in the process of repatriating a cremation of human remains (MNI 1) from AZ Y:16:2 and Connie completed the initial inventory, compiled and mailed multiple consultation letters, and began a record of tribal consultations.

She also reviewed and contributed to pro-

posals for American Recovery and Reinvestment Act (ARRA) and CESU projects including the Bates Well CESU archeological survey, field schools, and architectural plans for emergency treatments. She contributed to scopes of work, budgets, deliverables, and schedules and recommended scopes of work for the archeological portion of the Abandoned Mines Safety project and the Bates Well projects.

Over the past year, Connie read and provided comments to at least 5 contractors’ reports, including the SBInet 14 Towers Survey; the SBInet 59-4 and Bates Well Road Trenching Survey; the SBInet Tower 310 Road Two Sites Report; and the Table Top Telephone Fiber Optic Installation along State Route 85 Survey and subsequent Treatment Recommendations Report.

Connie worked with seasonal hire Ernie Rheume for approximately four months during the field season. By the end of his term, Ernie had experience in performing solo pedestrian surveys, collecting data, recording and downloading GPS coordinates, producing maps using ArcMap, and preparing CRM reports that comply with NHPA Section 106 requirements. He also became familiar with the basic tenets of establishing a cultural chronology and gained first-hand knowledge in the researching and writing of a regional cultural history.

Connie participated in a helicopter survey where she was airlifted to the project site and cleared the project area for cultural resources. She then conducted a helicopter “windshield survey” of a nearby mountain top area where it was necessary to hover over the project area because there was no suitable landing area.

She also surveyed the affected area of an oil spill associated with highway construction along State Route 85 for impacts to cultural resources. Additionally, she monitored the cleanup of a diesel spill at the Border Patrol camp at Bates Well Ranch. A monitoring report was submitted to the SHPO as a record of mitigation, with a finding of “no lasting adverse effect” to the historic property.

**Training:** Connie took the required courses in aircraft and helicopter flight safety training and she completed Wilderness Act training, Leadership training, ESRI GIS online training, NPS Fundamentals I, PMIS Courses 1 and 2, Intro to FMSS, and various other required NPS training courses.

## **VANISHING TREASURES PROJECT FUNDING**

Organ Pipe Cactus National Monument did not receive project funding this year.

## Petrified Forest National Park

### VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

**VT Challenges and Successes:** Petrified Forest National Park has faced great challenges and successes in the past year in managing its VT resources. The park faces two primary challenges in regard to our VT resources: incomplete and inaccurate baseline information concerning the number and nature of VT resources within the park, and the fact that the park has never received funding for a VT position. Despite these challenges, Petrified Forest, working in cooperation with VT staff from El Malpais (ELMA) and El Moro (ELMO) National Monuments, has made great strides in advancing the VT program and preserving VT resources in the park.

While Petrified Forest National Park may not contain the massive, intact Ancestral Puebloan ruins found at other VT parks such as Mesa Verde National Park, Chaco Culture National Historical Park, or Canyon de Chelly and Montezuma Castle National Monuments, the park's growing VT database is revealing and recording unique prehistoric and historic architecture the likes of which are not preserved in any other NPS unit.

PEFO contains standing architecture and intact architectural fabric from nearly all periods of human use, ranging from Late Archaic and Basketmaker pit house villages, to sites from the Pueblo I, II, III, and IV periods to a portion of the historic Beale Wagon Road and a section of the 35<sup>th</sup>-parallel railroad (originally the Atchison, Topeka, & Santa Fe Railway and now the Burlington Northern Santa Fe) to an early 20<sup>th</sup>-century

trading post and historic Route 66. All have VT-eligible structural remains.

The Jacob's Trading Post was an early 20th century structure that was built to trade with the local Navajo population. Today it includes not just the standing walls of the original trading post but also numerous "lambing pen" structures that demonstrate the importance of sheep herding during that period.

The Depot Tank Stagecoach Station supported Star Mail Route 40,101 from Santa Fe, NM to the town of Prescott in Arizona Territory. The station served as a place to change horses and rest passengers from the late 1870s until 1883. In 1883 the 35<sup>th</sup>-parallel railroad was completed, making stage coach mail delivery obsolete over this route.

With the completion of the railroad, numerous structures including stations, water tanks, and hotels sprang up along its tracks to support the steam engines and to take advantage of the larger volume of people and goods now passing in and out of the area. While the ruins of the Adamana Hotel lie outside the park, period structures at the town of Pinta and the remains of the water features of Bebo lie within the park's 2004-authorized boundary. The expanded boundary area includes many additional structures that date to the time of the early settlement of the area and to early local ranching developments.

In addition to historic-era VT resources, the park also protects a wide variety of prehistoric ruins. Puerco Pueblo and Agate House represent the two best known, since they are open to visitors. But each season's archeological field work leads to the identification of additional pueblos and pit houses belonging to all time periods, many of which qualify as VT resources. While the large

pueblo ruins demonstrate the urgency of fully developing a VT program at PEFO, the growing database of aceramic pit house village sites dating from the Basketmaker and/or Archaic periods are stimulating continuing research into prehistoric settlement patterns, village formation, and the importance of the Petrified Forest to cultural groups through time.

Petrified Forest has an ongoing effort, initiated in FY 2009, The Depot Tank Stagecoach Station Stabilization Project that is being carried out with assistance from VT staff from ELMO and ELMA. The 19th century stagecoach station, acquired as part of the park's 2004 authorized boundary expansion, is one of the sole surviving stops of Star Mail Route 40,101 along the 19th century Beale Road (a.k.a. Overland Wagon Road).

The original construction of the station incorporated sandstone masonry and unadorned mortar walls, timber rafters, and (presumably) tin roofing. Only a single roof beam now remains at the site, but several pieces of corrugated metal roofing have been found scattered and partly buried nearby. The masonry used to construct the structure appears to be a mix of sandstone gathered/quarried nearby and sandstone collected from nearby archeological sites. After more than a century of neglect and periodic use by cattle ranchers, bottle hunters, and other locals, the stagecoach station was in extremely poor condition when it was acquired by the park.

Research into the history of the station turned up photographs revealing that several walls had collapsed prior to the park's acquisition of the property. Additional damage was sustained during 2008's summer monsoons when a 1 meter square section of wall collapsed. Subsequent site visits by VT Structural Engineer Preston Fisher and



*Pronghorn antelope on a lonely desert road, Petrified Forest National Park.  
Photo: Courtesy Petrified Forest National Park*

VT staff from ELMA and ELMO including Archeologist and Chief of Heritage Preservation Jim Kendrick, Archeologist Steve Baumann, and Masonry Specialist Calvin Chimoni identified the primary threats to the historic building and appropriate preservation strategies.

PEFO staff initiated formal documentation of the structure, including site maps, drafted wall profiles, artifact identifications, and recording of the various historic inscriptions nearby. Using historic photographs and photographs taken shortly before the wall collapse, PEFO staff succeeded in creating digital masonry profiles that allowed ELMO VT masons to identify each masonry block from the collapse and its original placement.

Aside from documentation, work at the Depot Tank Stagecoach Station in FY 2009 included constructing safety and support braces for the masonry walls, initiating the repointing of the structure, and the reconstruction of the collapsed section. ELMO VT staff designed and constructed safety braces to support the leaning walls and mitigate the hazards of falling masonry during stabilization work and, in November 2009, the park, with assistance from the Southwest Conservation Corps, completed additional braces at the site to ensure winter weather would not cause further damage before stabilization work could continue in the spring.

In order to address the vulnerability of the structure to further deterioration, ELMA/ELMO VT staff and PEFO archeologists began replacing mortar throughout the structure in the summer of 2009. ELMO VT staff developed a completely reversible natural mortar for use at ELMO that was perfectly suited for repointing the stagecoach station. The mortar repointing will continue throughout 2010, with planned completion in 2011. While PEFO archeologists, volunteers, and ELMO VT staff worked to repoint the entire area under and around the collapsed section, ELMO VT masons began reconstructing the collapsed section of wall. The detailed maps produced by PEFO archeologists allowed

ELMO VT masons to replace each masonry block in its original location.

In order to ensure that future resource managers will be able identify our preservation efforts, we employed two measures to allow the identification of the current work and materials. Microscopic glass beads were included in the new mortar so that these mortars could be distinguished from the original fabric. We also used nonlocal sandstone, originating at Zuni, to bridge joints and pro-



*Stabilized through a cooperative project conducted with the Southwest Conservation Corps, a mason from nearby El Morro N. M. rebuilds failed masonry at the Depot Tank Stagecoach Station. Photo: Courtesy Petrified Forest National Park*

vide support inside the wall where it would be hidden from view.

This was done to address one of the major problems with the stability of the wall, an abundance of vertically aligned masonry joints. Concealing this repair inside the wall ensures the support of the structure while preserving its original appearance. Work in 2010 and 2011 will continue to replace mortar throughout the structure and install wall

caps that will prevent further penetration of the moisture that has led to the degradation of the building's structural integrity.

The Depot Tank Stagecoach Station Stabilization Project has also provided opportunities for furthering an on-going partnership with Mesa Community College (MCC) and the University of Colorado, Denver (UCD). Co-Principal Investigators Dr. Nicole Cerveney and Dr. Casey Allen, of MCC and UCD respectively, developed the Rock

Art Stability Index (RASI) for assessing the long-term stability of modified rock surfaces, including stone quarried for historic buildings.

The Depot Tank project offered the first opportunity in the park to employ RASI on an historic building rather than the petroglyph panels with which the students have become accustomed to working. Employing RASI on the masonry of the stagecoach station offered greater insights into the appropriate strategies for preserving the structural fabric of this building.

As part of the park's efforts to involve students in public land resource management, and to help train the next generation of resource managers, the park entered into a Service Learning Agreement with MCC. This agreement allows students at MCC to earn course credits for volunteering at the park and for participating in resource management activities. In FY 2009 alone, MCC students and faculty contributed over 1,700 volunteer hours to the park.

**Safety:** See discussion of safety braces constructed at the Depot Tank Stagecoach Station above.

## **VANISHING TREASURES STAFF**

Petrified Forest National Park has never received funding for a Vanishing Treasures position.

## **VANISHING TREASURES PROJECT FUNDING**

Petrified Forest National Park did not receive Vanishing Treasures project funding this year.

## Tonto National Monument

### VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

**VT Challenges and Successes:** Challenges in FY 2009 included the dangers of Africanized bee hives within and around the primary cliff dwellings and deterring visitor-related and rodent impacts to original fabric.

**Consultation:** Tonto staff had a productive meeting with the Arizona State Historic Preservation Office (AZSHPO) staff in FY 2009 regarding cultural resources projects requiring Section 106 compliance and the use of the new Programmatic Agreement.

**Safety:** Ruins preservation projects at TONT in FY 2009 were a success, and no safety incidents occurred.

### VANISHING TREASURES STAFF

**Duane C. Hubbard, Chief, Resource Management  
FY1998 Position**

The original VT exhibit specialist position was never funded at the full performance level, so the park allocated additional base funds to the position to provide a GS-11 Exhibit Specialist full performance position. In FY 2004 the position was changed to an archeologist (GS-0193-11) and the original VT allocation now funds less than ¼ of this position. The position has remained in the 0193 series but has now been converted to an Integrated Resource Manager.

**Skills:** Duane's skills include condition assessment, architectural documentation, stabilization histories, compliance, and hands-



*Western Mapping Company and TONT resources staff perform Ground Penetrating Radar at the Lower Cliff Dwelling. The data collected will help staff understand hydrological impacts occurring to the standing architecture in the cliff dwelling.*

*Photo: Courtesy Tonto National Monument*

on ruins preservation

**Accomplishments:** During FY 2009, Duane supervised a variety of cultural resource projects including preservation projects at backcountry archeological sites as well as continued documentation, preservation, and research at the primary cliff dwellings in the Monument. Cultural resources project funding in FY 2009 provided Duane with the help of three resources staff members: Project Archeologist Gavin Gardner,

student temporary employment program (STEP) Maintenance Worker Cinda Ewing, and Biological Technician Jenny Shrum. This group completed projects related to backcountry site preservation and the implementation of integrated pest management (IPM) in the primary cliff dwellings. Duane continued to establish relationships with numerous Native American tribes and he managed the park's archeological research, curation, consultation and compliance programs.

In addition to Duane's regular duties at TONT, he also assisted other VT parks as the Southern Arizona Office's regional archeologist. Several tasks were accomplished in this role that benefited VT parks: (1) assisting with the entry of Maintained Archeological Sites (MAS) into the facility management software system (FMSS); (2) performing in-field condition assessments; and (3) coordinating Arizona cultural resources staff meetings.

**Training:** Duane attended agreements technical representative (ATR) training in FY 2009.

### VANISHING TREASURES PROJECT FUNDING

Tonto National Monument did not receive Vanishing Treasures project funding this year.



*A well camouflaged rock squirrel (circled) burrows in a wall at the Upper Cliff Dwelling. Photo: Courtesy Tonto National Monument (Trip Camera)*

## Tumacacori National Historical Park

### VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

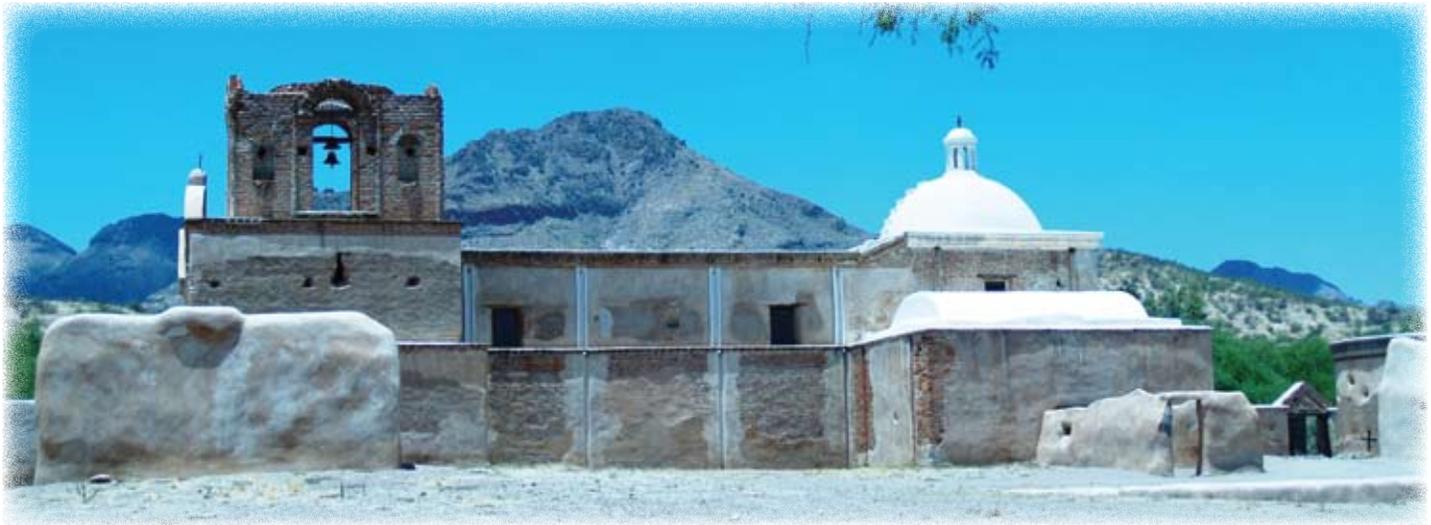
**VT Challenges and Successes:** We were able to complete all our preservation projects in a timely manner and bring historic park resources to a condition level of "Good". This year, Tumacacori's VT staff completed multiple preservation treatments, including work on the convento, campo santo wall, mortuary chapel, lime kiln, and sanctu-

Tribal consultation was completed this year concerning compliance with the Native American Graves Protection and Repatriation Act (NAGPRA). We have been consulting with our affiliated tribes for the past two years concerning repatriation, and a repatriation agreement with the Tohono O'odham Nation is now complete. A reburial at the park is planned for some time in the next 10 months. The reburial will include a multi-tribal ceremony that will last almost a full day.

**Safety:** We ensured that all VT personnel received Scaffolding Erection Training; as a result, NO ISSUES!

re-plastered the cisterns in front of church. He also repaired the cracked and broken design element on the façade of the church pediment.

In the area of "outreach and external" preservation projects, David executed preservation treatment interventions on Sabino Canyon bridges one through nine for the US Forest Service, using native materials to repair the extensive damage caused by the 2006 flood. He assisted with recapping the walls of the historic presidio at Terranate, a BLM holding, and he replastered the west wall of Fairbank Mercantile in Fairbank, Arizona after a previously applied rendering of



*The Mission San José de Tumacacori, Tumacacori National Historical Park.  
Photo: Randall Skeirik*

ary dome exterior. Most of this work was funded through the cultural cyclic program. Prior to the execution of these treatments, baseline documentation was completed and these data were used to identify the areas of greatest need. A three-part preservation database was also completed this year comprised of a preservation history, new preservation treatments, and the 2009 baseline documentation/condition assessments. We believe the database will allow us to better track future conditions, as well as study the past.

We were also able to train a number of seasonal preservation assistants in the proper techniques for preservation, helping to secure a trained cadre of preservation workers for the future.

**Consultation:** State Historic Preservation Office (SHPO) consultation was completed early in the process of project planning assuring timely completion of the compliance process.

### VANISHING TREASURES STAFF

**David Yubeta, Exhibit Specialist  
FY 1998 Position**

**Skills:** David provided all levels of preservation project management for NPS projects as well as for other Federal and state agencies.

**Accomplishments:** David completed the capping of extant adobe walls at Mission Guevavi and replastered the east wall of the Granary. He also plastered the Mortuary Chapel and the cemetery wall, repaired basal and wall erosion on the Granary interior and exterior, repaired missing and loose plaster on the north wall of the church, repaired the west window and west side of the church with new lime plaster, repaired the footing on the west side of church, and repaired the canales on the west side of church. He plastered the dome with St. Astier hydraulic lime, patched holes in the bell tower, plastered the interior of the convento/schoolhouse ruins, and repaired and

lime plaster had failed.

David conducted several adobe workshops including one for the City of Tucson and Pima County, in which 23 people were trained in the art of preserving and stabilizing earthen architecture at the Fort Lowell Park ruins. In November, David co-led a bi-national workshop held at Tumacacori and Pitiquito, Sonora. The focus of this workshop was the conservation, preservation and stabilization of earthen resources in the United States and Mexico. He also conducted an adobe repair workshop in Vail, Arizona on the historic 19<sup>th</sup>-century earthen post office, and the Tumacacori preservation crew conducted an adobe demonstration at the University of Arizona during an NPS expo featuring the premier of Ken Burns's film "America's Best Idea." The preservation crew also conducted an adobe/lime plaster workshop in Fort Davis, Texas, in which 18 people were trained in the preservation of earthen resources. Ma-

materials analysis was also a focus of the Fort Davis workshop. Finally, David conducted an adobe demonstration at Fort Lowell Days last February.

**Ramon Madril, Masonry Worker  
FY 1998 Position**

**Skills:** Ray is the park’s lead preservation mason. He is a highly skilled journeyman mason, responsible for upkeep of the ruins at Tumacacori’s three mission units.

**Accomplishments:** Ray completed preservation maintenance on the ruins of Mission Los Santos Angeles de Guevavi, assisting with the capping of the historic Jesuit-era walls. Ray had knee surgery early in the summer that kept him from joining the crew in a number of preservation projects. He did, however, work on the Civilian Conservation Corps bridges at Sabino Canyon for the USFS, repairing the historic bridges that were damaged by a flood in 2006.

Ray also participated in a week-long adobe workshop in which City of Tucson and Pima County park employees were trained in the preservation of earthen resources, and he assisted with adobe demonstrations for historic Fort Lowell Days and also for a project on the circa 1880 Old Vail Post Office in Vail, Arizona. Ray helped recap the extant walls of Terranate on the Santa Cruz, and lime plastered the walls of Fairbank Mercantile in southeast Arizona. Ray was also instrumental in providing adobe expertise in a workshop held at Fort Davis National Historic Site, training park and other NPS employees in the use of earthen materials.

**Jeremy Moss, Chief of Resource Management, Archeologist  
FY 2000 Position**

This position was originally hired as an Archeologist but has been converted to Chief of Resource Management.

**Skills:** Jeremy is skilled in general archeology, artifact analysis, condition assessment, architectural documentation, writing, and photography.

**Accomplishments:** This year Jeremy worked with other park staff on several preservation treatments that resulted in most of the park’s resources being brought up to “good” condition. He also assisted with and supervised the completion of our preservation database; collected baseline documentation for most of our structures; completed multiple compliance projects, including data recovery for a new leach field; assisted Saguaro National Park with trail compliance and condition assessments;



*The dome of the mission church receives a fresh coat of lime wash.*

*Photo: Courtesy Tumacacori National Historical Park*

conducted a small study on artifact movement resulting from the park’s annual fiesta; and assisted with completion of the new museum exhibits.

**Training:** Jeremy completed training in the use of the facility management software

system.

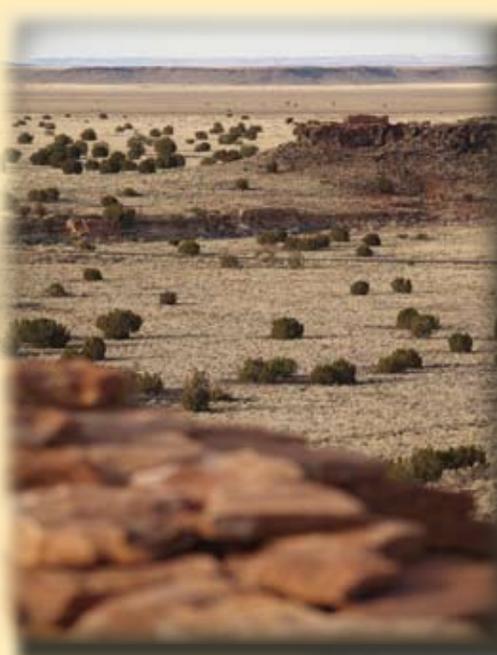
**VANISHING TREASURES PROJECT FUNDING**

Tumacacori National Historical Site did not receive project funding this year.



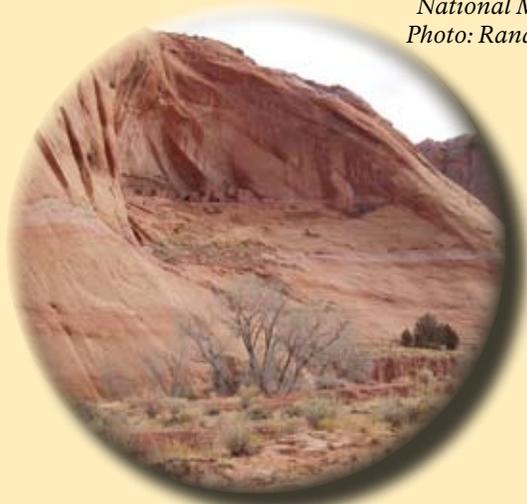
*Staff from Tumacacori assist with the replastering of the west wall of the Fairbank Mercantile in Fairbank, AZ.*

*Photo: Courtesy Tumacacori National Historical Park*



*Ruins of the Second Fort, Fort Bowie National Historic Site  
Photo: Randall Skeirik*

*One of the Box Canyon Dwellings, Wupatki  
National Monument  
Photo: Randall Skeirik*



*Inscription House, Navajo National Monument  
Photo: Randall Skeirik.*

*The Granary, Tumacacori National Historical Park.  
Photo: Randall Skeirik*



*The Old Ranger Cabin, Walnut Canyon National Monument  
Photo: Randall Skeirik*



*Tuzigoot Pueblo in the snow,  
Tuzigoot National Monument  
Photo: Randall Skeirik*

V a n i s h i n g      T r e a s u r e s

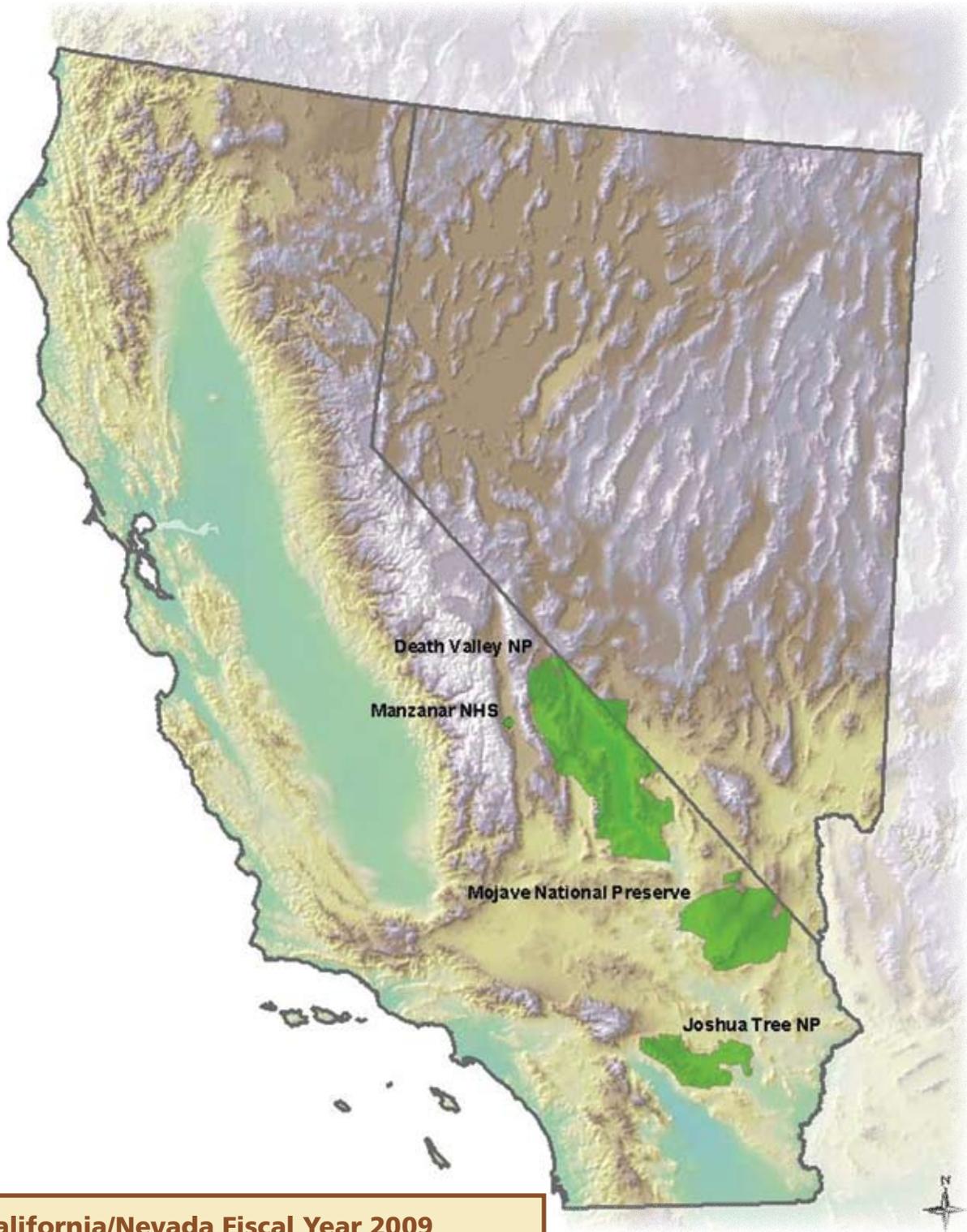
# California/Nevada



*Close-up of ore processing mill, Gold Mill Hill, Death Valley National Park*

*Photo: Randall Skerik*

- ◆ Death Valley National Park ◆ Joshua Tree National Park ◆ Mojave National Preserve ◆
- ◆ Manzanar National Historic Site ◆



**California/Nevada Fiscal Year 2009  
Project Funding Summary**

**Project Funds:**

Death Valley National Park: \$124,985



## Death Valley National Park

### VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

**VT Challenges and Successes:** Death Valley has numerous challenges associated with our VT resources, primarily remote locations and harsh weather conditions. The park is pleased to be part of the Vanishing Treasures program and appreciates the funding and technical assistance that have allowed for stabilization of park resources.

**Consultation:** The California State Historic Preservation Office (CASHPO) has been supportive of many of our VT projects, and this allowed the initial scope of the Keane Wonder Mine Tramway project to be completed under the streamlined review process. Phases II and III of the stabilization work will require additional consultation with the SHPO.

**Safety:** Safety is a high priority in Death Valley. The Keane Wonder Mine (see below) has been closed to the public for the past year because of its many mine-related hazards. The park has received American Recovery and Reinvestment Act (ARRA) funding to complete stabilization and mine closure work, which should allow us to reopen the site to the public in coming years.

### VANISHING TREASURES STAFF

Death Valley National Park has not received a base increase to fund a Vanishing Treasures position.

### VANISHING TREASURES PROJECT FUNDING

**Project Name:** Keane Wonder Mine Aerial Tramway Stabilization, Death Valley National Park

**PMIS Number:** 116962

**Project Summary:** The Keane Wonder Mine was an extremely profitable gold mine that operated in Death Valley in the early 20<sup>th</sup> century. Located in a mountainside more than a mile above the valley, an aerial tramway was constructed to move the ore down the mountain from the mine. This engineering marvel consists of upper and lower terminals, a “breakover” station, and 11 pyramidal towers (a 12<sup>th</sup> tower has collapsed). Two miles of steel cable and several ore cars still remain suspended on the towers; however, deterioration of the heavy timber tramway structures, coupled with the weight of the steel cables, threatens to collapse the whole system.

A cooperative ecosystem study unit (CESU) project was developed to conduct an assessment of the tramway, including engineering

stresses on the system and the condition of the heavy timber structures. Based on the results of this assessment, treatment recommendations will be developed and implemented to ensure the continued stability of the entire system.

#### Project Budget:

Total VT Project Funding:	\$124,985
Personnel:	\$67,513
Vehicles:	\$3,436
Travel/Training:	\$20,750
Supplies/Materials:	\$12,000
Equipment:	\$2,671
Services/Contracts:	\$18,615
Other:	\$0

**Project Accomplishments:** In April 2009, the School of Engineering at the University of Vermont (UVM), working with staff from the National Park Service (NPS) and professional partners, began a program of assessment, research, training, and initial stabilization of the aerial tramway at the Keane Wonder Mine. Until its closure last year, the Keane Wonder Mine was one of the most frequently visited and highly interpreted historic mining sites in the park.

The Keane Wonder Mine project will set an agenda, determine appropriate preservation methods and materials, demonstrate hands-on preservation techniques, accomplish limited preservation work, and provide the



Death Valley after heavy winter rains, as seen from Dante's View, Death Valley National Park.  
Photo: Randall Skeirik

park with training opportunities and techniques to complete the work here and on other mining sites in the park. The project is organized into two phases with Phase I focused on the assessment of the tram and development of treatment options (April 2009), and Phase II focused on field training of university students and NPS personnel (Winter/Spring 2010).

The UVM led the assessment team in the April 2009 session, working to determine the repair needs of the tramway and contiguous structures. Team members included Douglas Porter and Joseph Cotter (UVM); Ron Anthony and Kim Duggan (Anthony & Associates); Mel Green (Melvyn Green & Associates); and Leah Bonstead, Karl Olson, Pam Kranick, Gary Kranick, and Ken Harrison (NPS) along with VT Historical Architect Randy Skeirik and VT Structural Engineer Preston Fisher.

A draft report summarizing assessment results was received by the park in October 2009 and was returned to UVM for minor edits. The scope of work for Phase II will be determined by the results of the condition assessment and by priorities set by the park. The repairs will be executed using a field school format in the Winter/Spring of 2010 and will result in training opportunities for park staff and others in the repair techniques to be implemented. Most of the work in Winter/Spring 2010 will concentrate on Tower 6 and repairs to the lower terminal. Section 106 compliance will be initiated with the SHPO prior to the start of work.

Phase III of this project, involving further repair of the towers, is funded through PMIS 148432 (Keane Wonder Towers). This project will address further work at Towers 8 and 9, as well as at the upper terminal.



Heading down from the top of the tramway.  
Photo: Randall Skeirik



Keane Wonder Mine tramway field school participants rest on their way down the mountain after assessing the upper terminal. Tramway towers three, four, five and six can be seen in the background.

Photo: Randall Skeirik



Tower Six is perched precariously on the edge of a canyon. Despite previous repairs, the canyon wall continues to erode out from under the corner. Repairs to this tower will be one focus of the planned 2010 field school.

Photo: Randall Skeirik

## Joshua Tree National Park

### VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

FY 2009 proved to be a busy year, with preservation work being executed on several of the park's historic ranch and mining era structures.

Work started with a May site visit from VT Historical Architect Randy Skeirik. Accompanied by archeologist John Schroeder, Randy visited two mine related sites and two ranches in the park. At a stone miners cabin, known as the Grubstake Cabin, one wall was found to be unstable and in danger of collapse, and this became the highest priority for the field season.

Grubstake Cabin is an early 20<sup>th</sup> century, single room masonry structure associated with mining activities in the remote eastern side of the park. Originally mortared with a combination of Portland cement and soil cement, all of the walls were badly in need of repointing. One of the walls had lost a considerable amount of mortar and was

leaning so much that it was in danger of falling. Based on Randy's treatment recommendations, the decision was made to straighten and stabilize the leaning wall.

Drawing on directions compiled by NPS archeologists Roland Von S. Richert and R. Gordon Vivian in their 1974 publication *Ruins Stabilization in the Southwestern United States*, a plywood form was constructed on either side of the wall and tied together through voids in the wall with threaded tie-rods. The gaps between the form and the wall were filled with sand from a nearby wash so that the plywood form fit tightly against the masonry wall. After wetting the formed wall to soften the remaining mortar, two



*The upper ore bin at the Silverbell Mine showing the restored railings*

*Photo: John Schroeder*



*The Joshua Trees for which the park is named, with a pile of monzogranite in the background, Joshua Tree National Park.*

*Photo: Randall Skeirik*



The loss of mortar caused the north wall of the Grubstake Cabin to lean and bulge. Over the course of four feet the wall is nearly 6 inches out-of-plumb.

Photo: Randall Skeirik

bottle jacks were mounted in the interior of the room and the wall was slowly jacked back into a vertical position, a process that took about three months. Once vertical, the wall was repointed with an amended soil cement.



Dave Henley and Cody Slaughter erect the plywood form on the north wall of Grubstake Cabin.

Photo: John Schroeder

Work was also carried out at the historic Key's Ranch. This work included the re-siding of a structure known as the Disney Shed. This small wood framed structure was constructed in the early 1960s to house Disney's camera equipment and to serve

as a darkroom during the filming of such made-for-television movies as *The Wild Burro of the West* and *Chico, the Misunderstood Coyote*.

Based on treatment recommendations from the May VT site visit, limited assessment and stabilization work was carried out on two ore bins at the Silver Bell Mine. Gold, copper, and lead were strip mined here from the mid 1930s until its close in the early 1960s.

The sill beams on the two ore bins were excavated from alluvial sediments that had been deposited since the mining stopped. This exposed advanced deterioration of the beams from both water and termite damage. As a result a new PMIS statement was drafted to address these issues in a future year. Railings around the tops of the ore bins, which had fallen or been pulled down by visitors, were reinstalled.

All projects were funded with Cultural Cyclic Maintenance project funds.

#### **VANISHING TREASURES STAFF**

Joshua Tree National Park has not received a base increase to fund a Vanishing Treasures position.

#### **VANISHING TREASURES PROJECT FUNDING**

Joshua Tree National Park did not receive project funding this year.

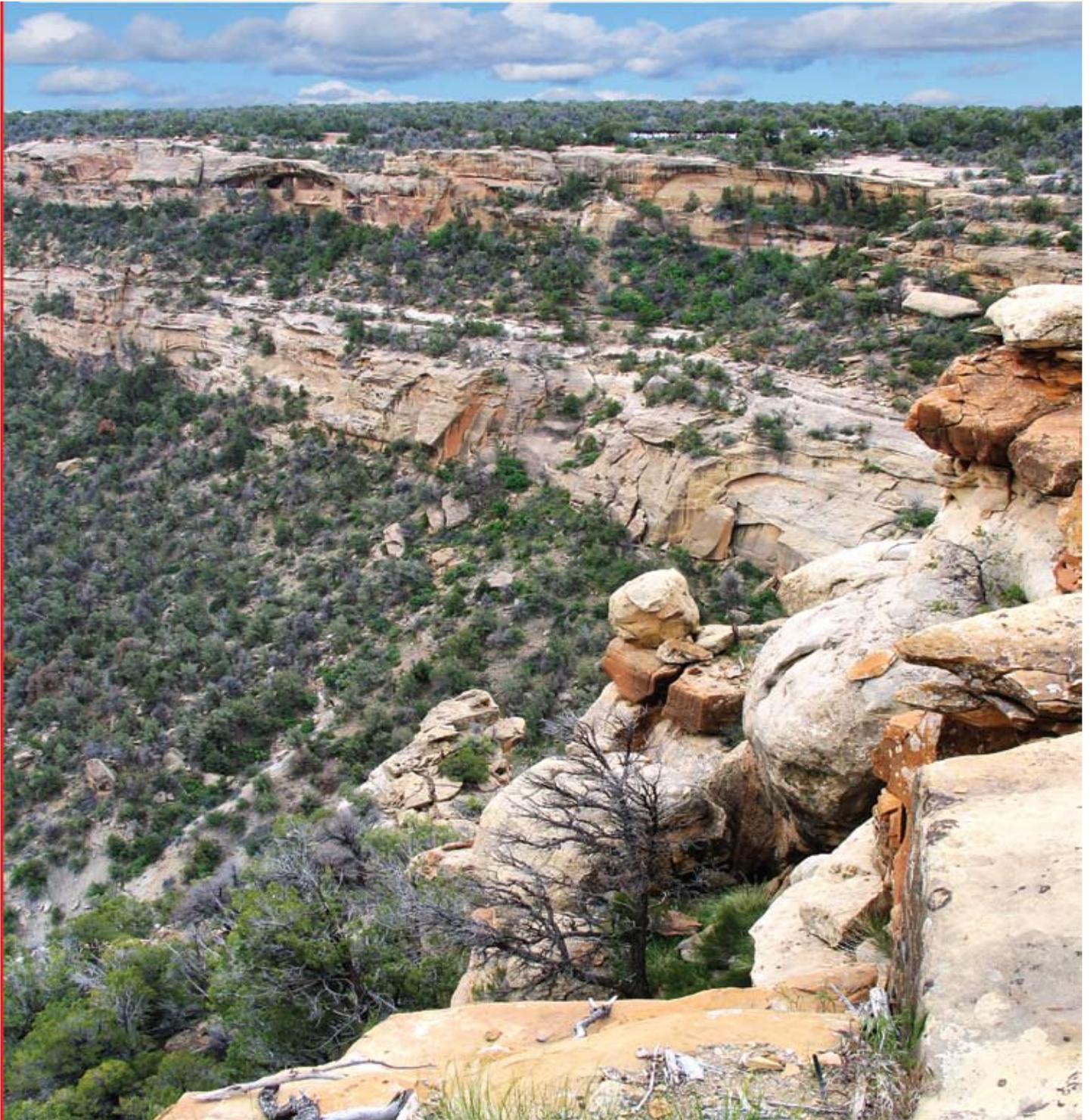


John Schroeder and Dave Henley slowly jacking the Grubstake Wall back to a vertical position

Photo: Caitlyn Marrs

V a n i s h i n g      T r e a s u r e s

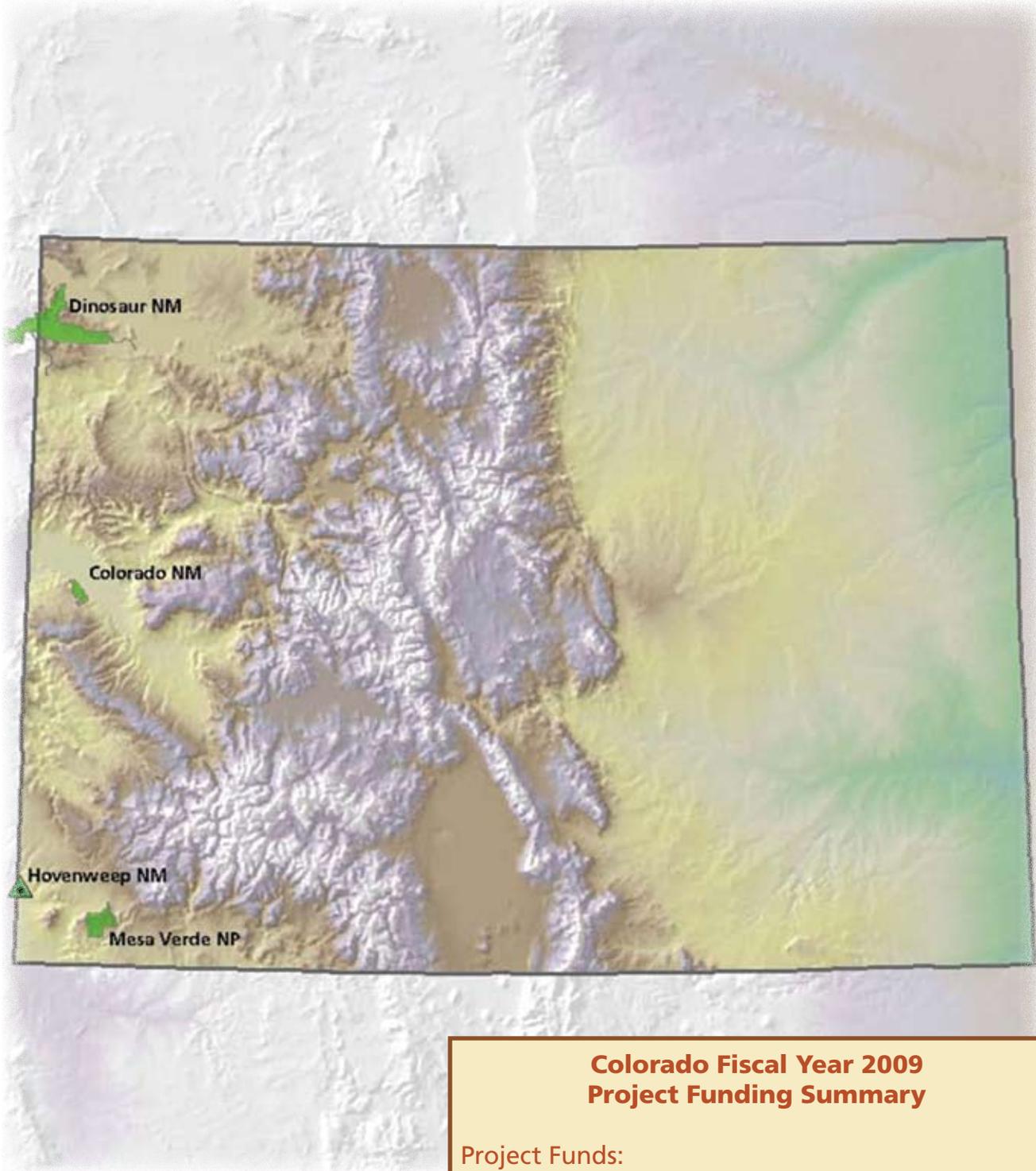
# C o l o r a d o



*Balcony House is located in an alcove (upper left) in the wall of Soda Canyon, Mesa Verde National Park*

*Photo: Courtesy Mesa Verde National Park*

◆ Colorado National Monument ◆ Dinosaur National Monument ◆  
◆ Mesa Verde National Park ◆



**Colorado Fiscal Year 2009  
Project Funding Summary**

**Project Funds:**  
No Colorado parks received project funding.



## Mesa Verde National Park

### VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

**VT Challenges and Successes:** Mesa Verde (MEVE) currently has three vacant VT positions: Exhibit Specialist GS-12 STF (stabilization crew leader), Exhibit Specialist GS-11 STF (conservator), and Exhibit Specialist GS-9 STF (stabilization crew). The funding for the two lower-graded positions has been absorbed into the overall Park budget. However, funding for the GS-12 position remains within the Division of Research and Resource Management for FY 2009. These funds were used to support a variety of VT-related projects and personnel, such as a photographer and an AutoCAD archeologist, both of whom participated in architectural documentation projects on Vanishing Treasures resources.

A major success of FY 2009 is illustrated by the fact that, despite having only four subject-to-furlough positions on the stabilization crew, we were able to use funding from Cultural Cyclic and Repair Rehab to hire two seasonal archeologists to work alongside the crew. As a result, we were able to complete major repairs at Far View House and Pipe Shrine House and to repaint and repair historic masonry chimneys on many of the park's Civilian Conservation Corps-era buildings. For the second year in a row, Mesa Verde was able to hire seasonal positions to help with preservation projects.

**Consultation:** Mesa Verde National Park has a programmatic agreement with 24 affiliated Native American tribes, an agreement that outlines the types of routine assessment, documentation, and preservation methods employed by the Archeological Site Conservation Program. No compliance-related issues were encountered during FY 2009.

**Safety:** Mesa Verde National Park's VT program had no safety problems or challenges in FY 2009.

### VANISHING TREASURES STAFF

**Tim Hovezak, Exhibit Specialist  
FY 1998 Position**

This position was originally filled as a Masonry Worker but was converted to an Exhibit Specialist in 2005.

**Skills:** Tim is skilled in stabilization work, conservation research, documentation, testing, excavation, survey, and reporting

**Accomplishments:** Tim and the preserva-

tion crew began FY 2009 with the restoration of the historic fire lookout station at Park Point, which was constructed by the Civilian Conservation Corps in 1939. This project was initiated during the summer as a cooperative effort between the Research and Resource Management (R&RM) and Maintenance Divisions. It involved masonry repairs to the stone foundation of the lookout structure, the application of new paint to the structure's exterior wood framing, installation of a new door, and reconstruction of a flagstone trail. Other work at Park Point included repairs to masonry foundation coursing, retaining walls, and railing pedestals at two associated viewing platforms.

The preservation crew returned to work on the Park's prehistoric structures in late October, partially reconstructing a section of the south enclosing wall at Pipe Shrine House and repairing deteriorating wall sections and shelter caps in rooms 13, 14, 15, and 16. These rooms had been partially rebuilt in 1942 by Al Lancaster and his stabilization crew but had fallen into poor condition as a result of deferred maintenance. The same types of problems found in these walls occur throughout the site and include cracked and separated shelter caps that allow moisture to enter wall interiors, hydrated and deteriorated masonry, and eroded mortar joints. Work at the south wall and related structures was suspended at the end of November because of inclement weather.



*View from inside Nordenskiöld's Ruin No. 12 (5MV1321), Mesa Verde National Park.  
Photo: Courtesy Mesa Verde National Park*

The Far View group also served as the setting for late fall work, undertaken as a graduate research project by Alex Lim, a student with the University of Pennsylvania School of Design. Lim's research involved the reconstruction and modification of part of an NPS-constructed upper wall between rooms 13 and 28 at the rear of Far View House. The wall was fitted with a revolutionary new "soft cap" that is designed to prevent the infiltration of moisture into wall interiors. Similar designs have been used to cap walls in Turkey and at medieval sites in the United Kingdom where they have successfully prevented the deterioration of rubble wall cores without the use of cement mortars.

The Mesa Verde crew also conducted work at Far View House, consisting of the deconstruction of a small segment of deteriorated plaza surface at the edge of Kiva D and its replacement with a new flagstone surface. Minor repointing and stone replacement within the kiva were also completed.

In December, Tim took the lead in completing the report for a Vanishing Treasures project in Glen Canyon National Recreation Area. This was a condition assessment and documentation project on six backcountry alcove sites in Cow Canyon that a crew from Mesa Verde NP conducted in the spring of FY 2008. This project involved backcountry camping for 9 days and required extensive helicopter

support to transport the crew and camping supplies. Tim's report, entitled "Architectural Documentation and Condition Assessment of Archeological Sites in Cow Canyon, Glen Canyon National Recreation Area: Interim Report Year One" outlines the current condition of the six sites and makes recommendations for additional preservation treatments for each site. The treatment phase of this project has yet to be funded.

During the first two weeks of April, Tim and the crew reconstructed a section of the Open Area B plaza at Balcony House. The surface in this area had deteriorated and was one of the routine annual repairs conducted at the site by the stabilization crew. At Cliff

Palace, the crew partially reconstructed the south wall of Room 15, which was slumping and in danger of collapsing.

The largest preservation project for the year consisted of the repair and rehabilitation of masonry chimneys on 30 of the Park's historic structures. The project involved chimney features in the administrative, maintenance, and residential areas of the park. Most of these chimneys required simple repointing of eroded mortar joints and the repair or application of new shelter caps, although some chimneys required partial or full reconstruction. While the chimneys at the stone houses (Quarters 2 through 8) in the Administrative District were in generally good condition and required only minor work, the chimney at Quarters 3 required dismantling and reconstruction. In the maintenance yard, brick chimneys on the carpenter shop, mechanics shop, and ware-

is to create a lab in which we can conduct in-house testing of mortar samples, soils, amendments, and other materials to determine the best preservation practices for the building fabric and environmental conditions present at MEVE.

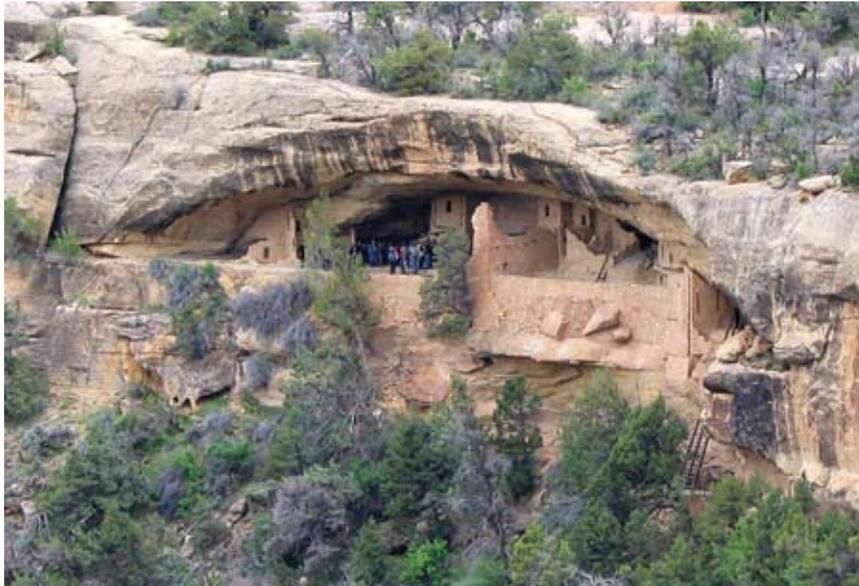
**Training:** Tim attended NPS Fundamentals V at Harper's Ferry and a geographic information systems (GIS) workshop held at MEVE.

#### Neill Smith, Exhibit Specialist FY 1998 Position

This position was originally filled as a Historical Architect but was converted to an Exhibit Specialist in 2005.

**Skills:** Neill is skilled in all areas of masonry work including repointing and stabilization.

**Accomplishments:** Neill and the preservation crew began FY 2009 with the restoration of the historic fire lookout station at Park Point, which was constructed by the Civilian Conservation Corps in 1939. This project was initiated during the summer as a cooperative effort between the Research and Resource Management and Maintenance Divisions; it involved masonry repairs to the stone foundation of the lookout structure, the application of new paint to the structure's exterior wood framing, installation of a new door, and reconstruction of a flagstone trail. Other work at Park Point included repairs to masonry



Close-up view of visitors in Balcony House, Mesa Verde National Park.  
Photo: Courtesy Mesa Verde National Park

house required partial reconstruction.

The preservation crew also constructed concrete foundations and masonry pedestals for two new concessions signs, one at the entrance to Far View Terrace and the other at the entrance to the lodge. The pedestals were designed to replicate modified Pueblo-revival-style masonry of the Park's historic buildings as first conceived by Jesse and Aileen Nusbaum in 1921.

Tim also was instrumental in taking the first steps in establishing a materials conservation and testing lab in the park, conducting research and consulting with conservation specialists to determine equipment and supply needs for the lab. The park's goal

foundation coursing, retaining walls, and railing pedestals at two associated viewing platforms.

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**Training:** Neill attended NPS Fundamentals V at Harpers Ferry and a GIS Workshop held at MEVE.



*Tim Hovezak, Jim Hampson, and Neill Smith work to repair a section of the trail through Balcony House, Mesa Verde National Park.*

*Photo: Courtesy Mesa Verde National Park*

#### **Kay Barnett, Exhibit Specialist FY 2004 Position**

**Accomplishments:** Kay began FY 2009 by assisting Tim Hovezak in completing the report for a Vanishing Treasures project in Glen Canyon NRA. This was a condition assessment and documentation project on six backcountry alcove sites in Cow Canyon that a crew from Mesa Verde conducted in the spring of FY 2008, all of which are remarkable for their excellent state of preservation. This project involved backcountry camping for nine days and required extensive helicopter support to transport the crew and camping supplies. The report, entitled "Architectural Documentation

and Condition Assessment of Archeological Sites in Cow Canyon, Glen Canyon National Recreation Area: Interim Report Year One" outlines the current condition of the six sites and makes recommendations for additional preservation treatments for each site. The treatment phase of this project has yet to be funded.

Kay also worked with the park's AutoCAD archeologist on the park's Backcountry Permitting process. The project involved the development of AutoCAD maps and text showing recommended access areas and pathways through all of the Park's sites that fall under the Backcountry Etiquette Permit Program. This program allows park staff to visit a few select sites for recreational purposes while off-duty, provided they first attend a park training course on backcountry etiquette. A total of 16 sites received recommendations.

Kay also helped conduct some of the backcountry etiquette training for park employees.

For the majority of FY 2009, Kay's primary responsibilities included the continued checking of data for the Spruce Tree House Architectural Documentation Project. The field work for this project was completed in FY 2008, but the data checking continued into FY 2009. Spruce Tree House, the third largest alcove site in the park, contains 126 rooms, nine kivas, and two towers and the data checking requires reviewing previously-produced field maps and documentation for accuracy and consistency and,

if necessary, correcting problems. To date, a total of 213 study units within the main Spruce Tree House alcove have received documentation, including the production of 213 plan and 583 elevation maps. In addition, the data checking of associated ledge room sites 5MV641 and 5MV530 will add an additional 20 study units receiving documentation, resulting in the production of an additional 20 plan and 3 elevation maps. In addition, Kay provided training for newly hired park Interpretation staff in the architectural details and building sequence of Spruce Tree House.

Kay also provided numerous behind-the-scenes tours of Spruce Tree House and she

worked with the Mesa Verde Community Volunteers on weeding projects at Far View House and Coyote Village.

**Training:** Kay attended a Historic Adobe Building Workshop in Columbus, New Mexico in October, 2008.

**Laura Ninnemann, Database Archeologist  
FY 2000 Position**

This position was originally filled as an Archeologist but was converted to a Database Archeologist in 2005

**Skills:** Laura is skilled in database development and management.

**Accomplishments:** Laura focused most of her work in 2009 on three contracted projects; the upsizing of Microsoft Access database models to Microsoft SQL Server 2008, web site development for internally hosting Research and Resource Management (R&RM) Division cultural and natural resource data, and further enhancement and testing of the Mobile Documentation Management System (MDMS, formerly MADMS). Initial stages of upsizing included extensive data analysis and clean-up of data records prior to passing Microsoft Access database models to the contractor for upsizing. As the contracting officer's representative (COR), Laura worked with the contractor to resolve all client-side issues and coordinated all contracting activities, including database model submissions, on-site visits, installation/updating of required software applications and hardware needs of MEVE information technology staff, and database security configuration. As a modification to the upsizing contract, Laura scoped and estimated the web hosting component, provided oversight for all contractor activities, and developed Web pages in Microsoft Visual Studio 2008. This project is scheduled for completion in 2010.

MDMS is a mobile solution for electronically capturing data (including that required by the archeological sites management information system (ASMIS)) during field documentation activities. The platform is geo-referenced, and global positioning system (GPS) data are directly transmitted to the relational database model. Data flow from primary databases to a mobile device (handheld personal digital assistant (PDA) with integrated GPS) where records are added or updated based on field observations. As data flow back into primary databases, the records are evaluated for completeness and integrity utilizing a group of quality assurance/quality control (QAQC)

queries within a separate database model. Throughout the process, relational data structures are maintained. In addition, an attachment tool allows crews to carry photographs and documents into the field on a digital storage card. The Data Capture Standards Manual (totaling approximately 270 pages) is also available in HTML format on the mobile device.

When fully implemented, MDMS will result in significant cost/time savings, as well as increased data completeness and integrity. MDMS work in 2009 included the analysis and addition of reevaluation and historic data topics to the site survey component, the analysis and addition of new dendrochronology and historic inscription data components, and incremental testing in preparation for project completion and final deployment in 2010.

Laura is also responsible for information management and technology (IMT) within R&RM. This year was the first of a multi-year project to reorganize and create working site files containing all project documents that have been generated over the last 100+ years, as well as all photographic images. Documents will be available in both print media and electronic formats, many as searchable files. Laura expanded an earlier file naming standard for photographs to accommodate naming of document files as well. These file names include three parts: part 1 includes a site designator, document type, page reference, and project code; part 2 includes the year the document was generated; and part 3 includes the document series designator. By using this format, all electronic files can be captured by the MDMS image tool and loaded onto a storage card for access in the field. In theory, all data generated for a site will be accessible in the field from handheld mobile devices with integrated GPS or from notebook computers if a larger display format is required.

Through the Colorado Plateau Cooperative Ecosystem Study Unit (CP-CESU), Laura coordinates the MEVE/Fort Lewis College (FLC) Internship Program. This highly successful partnership has been ongoing for the past eight years and directly benefits our VT-funded personnel. To date, interns have been placed in positions mentored by each of our VT staff members, including VT structural engineer Preston Fisher. Of the more than 60 internships successfully completed, 23 have directly benefited VT activities through mentoring by VT personnel. Laura's internship coordination activities in 2009 included compilation of internship opportunities for the current year, organiza-

tion of an internship fair at Fort Lewis College, selection of interns, background check processing, intern/park mentor orientation, midterm progress reporting by interns, and final project presentations and close-out. In addition, Laura mentored three interns in 2009 who assisted with web site development and site file reorganization projects.

Laura continues to manage the ASMIS dataset for both MEVE and Yucca House National Monument (YUHO). In 2009, she performed data entry for new and existing ASMIS records resulting from field work at 22 sites. As mandated by the ASMIS corrective action plan, these records were brought to complete, accurate and reliable condition. She also provided assistance with, and beta tested, the ASMIS 4.0 on-line software version.

As part of routine IMT responsibilities, Laura researched and authored reports describing historic trajectory, program goals, current activities, types of funding used, and tangible results for ASMIS, MDMS, site file reorganization, and MEVE/FLC Internship Program areas of responsibility. She analyzed and documented the structure and content of R&RM files stored on the park's computer network in preparation for site file reorganization activities, and analyzed sector management data used to identify and scope future site management goals. She assisted R&RM and IT staff in determining hardware and software needs, addressed software functionality issues, provided training to R&RM staff and Fort Lewis College interns performing data entry activities, addressed questions and issues related to the capture and keying of archeological data into primary database models, met with Hovenweep National Monument VT personnel to evaluate the efficacy of utilizing MEVE database models to meet their project requirements, and made database improvements to facilitate changing data capture needs.

**Training:** In preparation for database upsizing and web site development, Laura attended three week-long courses in Denver, CO and Tempe, AZ that covered areas of expertise required for successful completion of IMT projects.

**VANISHING TREASURES PROJECT FUNDING**

Mesa Verde National Park did not receive project funding this year.



V a n i s h i n g      T r e a s u r e s

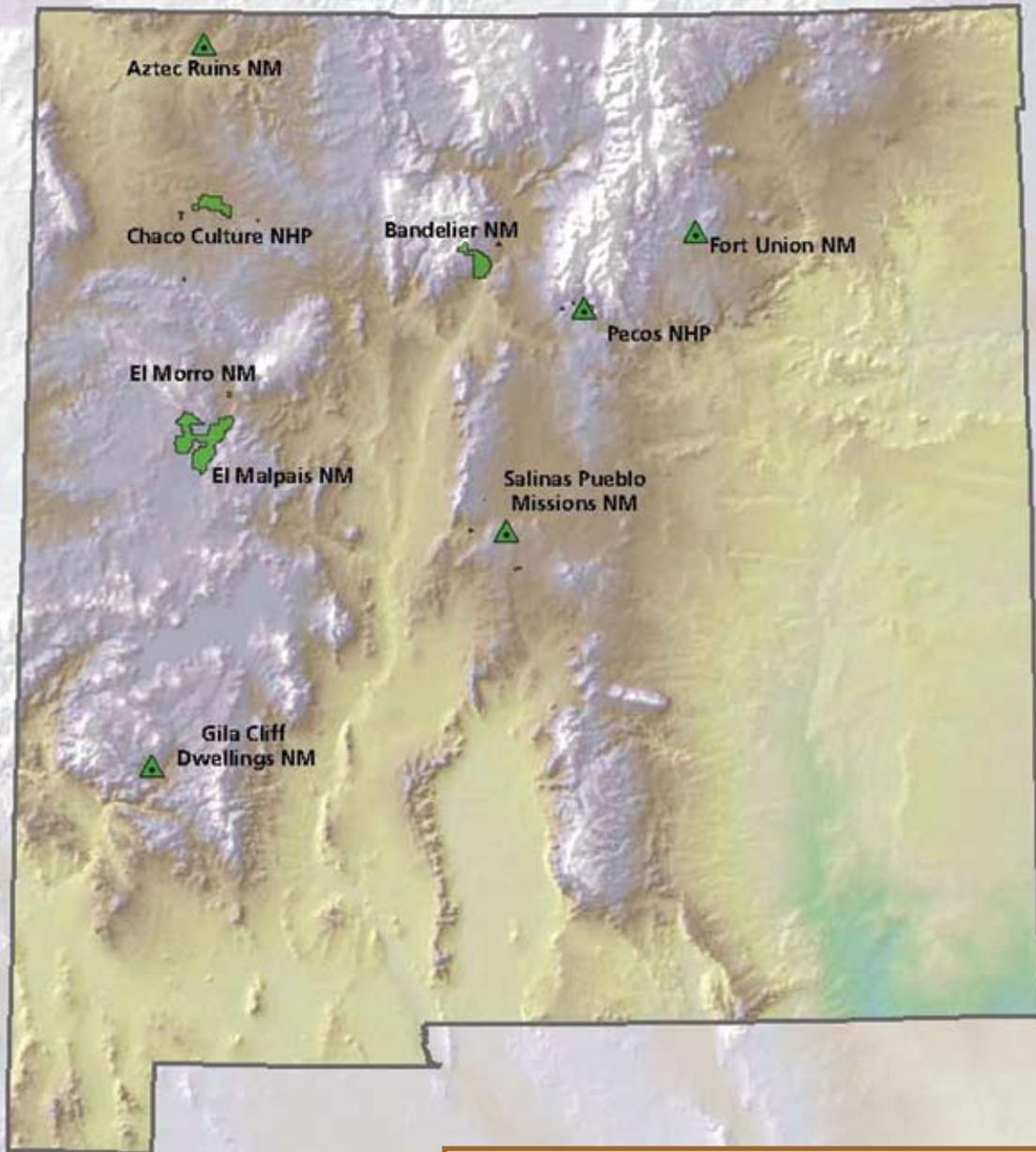
# N e w      M e x i c o



*Talus House nestled at the base of the cliff wall in Frijoles Canyon, Bandelier National Monument.*

*Photo: Randall Skeirik*

- ◆ Aztec Ruins National Monument ◆ Bandelier National Monument ◆
- ◆ Chaco Culture National Historical Park ◆ El Malpais National Monument ◆
- ◆ El Morro National Monument ◆ Fort Union National Monument ◆
- ◆ Gila Cliff Dwellings National Monument ◆ Pecos National Historical Park ◆
- ◆ Salinas Pueblo Missions National Monument ◆



### **New Mexico Fiscal Year 2009 Project Funding Summary**

**Project Funds:**

Aztec Ruins National Monument, \$25,380  
Bandelier National Monument: \$125,000



## Aztec Ruins National Monument

### VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

**VT Challenges and Successes:** The ancient Puebloan great houses at Aztec Ruins National Monument (AZRU) are generally stable buildings that have slowly deteriorated over the past 900 years. One Vanishing Treasures preservation challenge undertaken during FY 2009 involved the replacement of modern protective roofs at West Ruin. While these roofs were intended to help protect prehistoric fabric, the design and weight of these concrete roofs were causing additional problems. The concrete roofs were removed and replaced with more appropriate and effective coverings.

Another accomplishment involved the preservation and environmental monitoring of rooms that contain original paint and plaster. Several rooms at the West Ruin contain earthen plaster that covers major portions of ancient masonry walls. Many of these rooms have decorated plasters with red-

dish-brown wainscoting over an off-white background that covers most of the room interior. One room (Room 156) has sets of triangular symbols where the red wainscoting meets the white background. This motif is common at Mesa Verde, and it occurs elsewhere in the San Juan Basin, potentially symbolizing an important cultural connection between Aztec Ruins and other sites in the region. A second structure (Room 117) contains incised art on a similar background, but this room was backfilled in 1990 to help prevent further deterioration.

Room 156 was treated this year by a conservator who treated areas of plaster that were friable and peeling off the wall. In addition to arresting active deterioration, he also cleaned off mud streaks and removed salt efflorescence on one of the walls. To further aid in plaster preservation efforts, environmental monitors were installed in Room 156 to measure the temperature and humidity of the walls, floor, and ambient air inside the room.

**Consultation:** Most of our historic preservation consultation is done through annual written letter reports to our affiliated tribes. Project-specific consultation was initiated

on proposed modifications to the West Ruin Backfilling Program that includes fill reduction in areas where differential fill could not be equalized through backfilling. The tribes and New Mexico State Historic Preservation Officer (NMSHPO) were generally supportive, but there were concerns about the excavation of undisturbed archeological deposits and removal of artifacts from the site that might result from this change. These issues were addressed through meetings and additional tribal and NMSHPO consultation. In this way, a treatment plan for the Fill Levels Adjustment Project was successfully negotiated. As this project evolves, and other routine preservation work is undertaken, additional consultation will be undertaken.

In addition, the park is finalizing a General Management Plan that will provide a platform for future consultation with the tribes, NMSHPO, and the public.

**Safety:** Development of the AZRU Safety Program is ongoing, with continued emphasis on Job Safety Analysis (JSAs) and Job Hazard Assessments (JHAs). By involving the preservation crew in the creation of JSAs and JHAs, we have been able to develop a

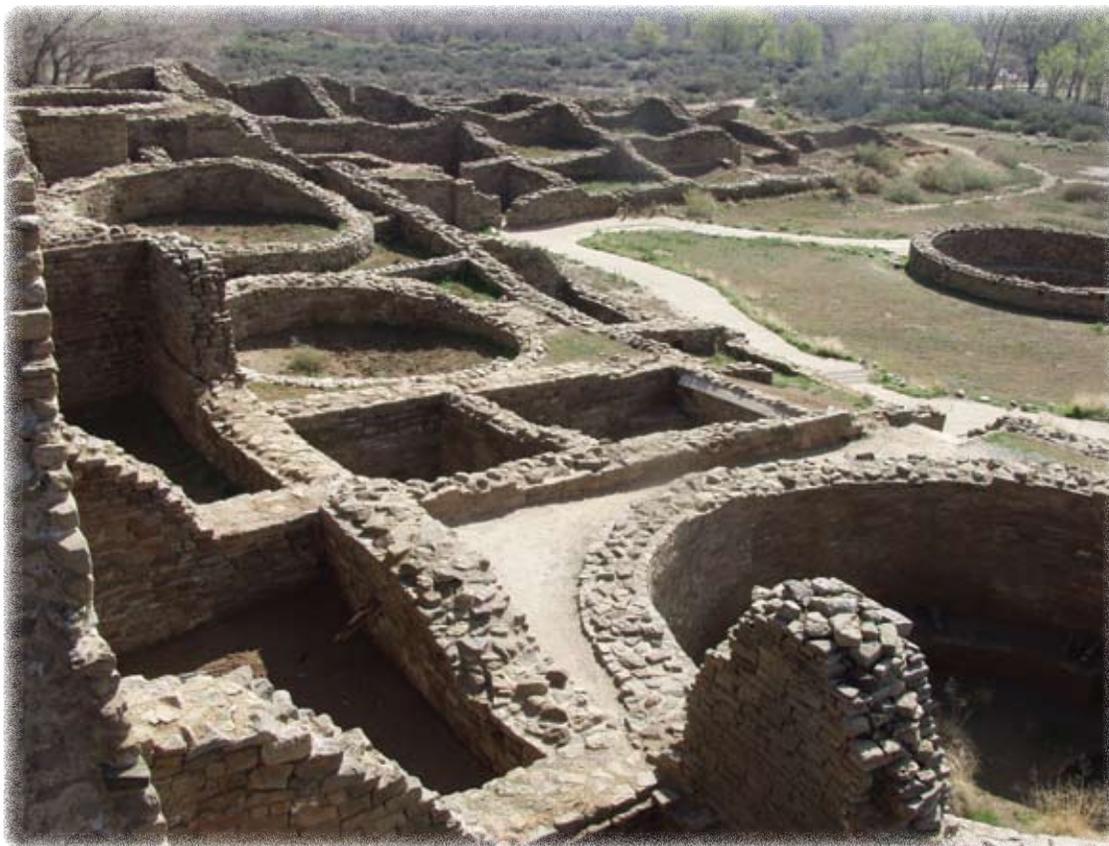
culture of safety and facilitated the staging of tailgate safety sessions that include the preservation crew and other cultural resource personnel. New protocols were developed to ensure safe operations as part of the excavation project at West Ruin.

### VANISHING TREASURES STAFF

Jeffery T. Wharton,  
Exhibit Specialist  
FY 1998 Position,  
Converted 2007

This position was originally filled as a Masonry Worker but was converted to an Exhibit Specialist in FY 2007.

**Skills:** Jeffery has an extensive background in the archeology of the Colorado Plateau, particularly of the San Juan Basin, along with experience in dealing with a range of cultural resource management concerns. His experience in archeology includes project planning and the development of



View of West Ruin from the third-story wall elevation in the north-central core of the great house, Aztec Ruins National Monument.

Photo: Gary Brown

survey strategies, preparation of data recovery plans, cost estimates and budgets for both small-scale and large-block survey and excavation projects, management and execution of cultural resource inventories, coordination and implementation of archeology excavation and testing programs, archeology compliance monitoring, cultural resource recordation and evaluation, synthesis of survey and excavation data, report preparation and editing, geographical information system (GIS) data analysis, computer graphics production, and data/laboratory analysis. His graphics experience includes the mapping and illustration of archeological sites and features, as well as photo-documentation utilizing archeological photographic methods.

He is skilled in archeological survey and excavation; cultural resource management; and the design, planning, and construction of protective roofs and protective gates for archeological sites

**Accomplishments:** Jeffery's accomplishments include ongoing design and oversight of construction and installation of protective roofs and gates for East and West Ruins, responsibility for the routine environmental monitoring of the Visitor Center and West Ruin, and the installation and monitoring of crack monitors throughout the site.

In addition, Jeffery has provided environmental monitoring for the Visitor Center



*Benjamin Boerum installing temperature and relative humidity data loggers in West Ruin, Room 156 to help with environmental monitoring as part of the effort to preserve the original paint and plaster.*  
Photo: Jeffery T. Wharton

curator room and museum, making recommendations for corrective actions when needed. He also conducts environmental monitoring of the ruins including monitoring cracks, recording the temperature and relative humidity inside the intact, protected parts of the ruins, and monitoring the water table in the vicinity of the main ruins group. Information from these activities provides valuable information for the development of, and revision to, our preservation plans. Jeffery also coordinates with the preservation crew and other archeologists on a number of preservation, stabilization, and documentation tasks related to the preservation of the pueblo.

Other accomplishments include the archeological survey of the expanded monument boundaries (320 acres) at Aztec Ruins. Ancestral Puebloan sites and other prehistoric and historic properties, including more than 50 structural site and cultural landscape features, were documented in this survey. Condition assessments of all the new sites along with GIS analysis of survey data were part of the overall project. Jeffery also conducted archeological monitoring of various park management projects and served as the cultural resource specialist/participant on the AZRU Vegetation Management Planning Team.

East Ruin preservation projects included involvement in the replacement of protective roofs and gates, responsibility for documenting archeological monitoring results, preparation of sections of the scope of work for the East Ruin stabilization, backfilling, preservation projects, and revisions to the cultural resources section of the AZRU General Management Plan.

At the West Ruin, Jeffery worked on backfill adjustments to eliminate soil contact with prehistoric wood door lintels that had resulted in rodent damage and on backfill adjustments to reduce impacts caused by differential fill levels. These backfill adjustments also required the installation of drains to help control ground moisture in the ruin.

Finally, Jeffery conducted damage assessments of several looted outlying prehistoric structural sites within the expanded monument boundary, providing documentation of the archeological damage, calculating the cost of restoration and repair, and coordinating backfilling in accordance with the Archeological Resources Protection Act (ARPA).

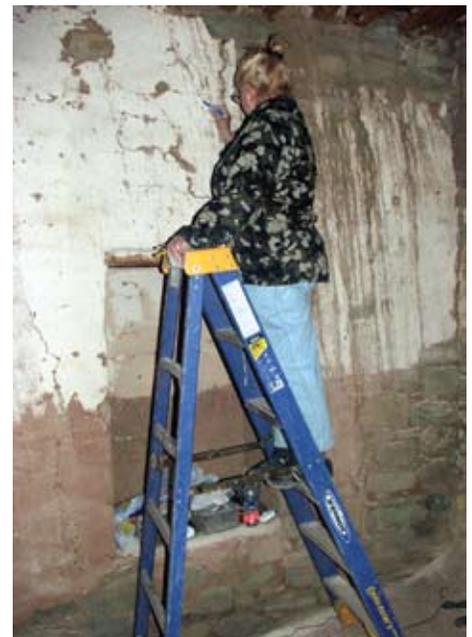
**Training:** Jeffery received the following training: Introduction to PEPC (Planning,

Environment, and Public Comment) and Contracting Officer's Technical Representative (COTR) Training.

#### **Ernest Harrison, Masonry Worker FY 1998 Position**

**Skills:** Ernest is proficient at masonry ruins stabilization, pre- and post-stabilization documentation, backfilling, protective roofing design and construction, ruins maintenance, and digital photography.

**Accomplishments:** Ernest has worked on the AZRU preservation crew since 2002. Before moving into a Vanishing Treasures position in FY 2008 he was funded through various project fund sources. As a VT mason, he has assumed the role of work leader on the preservation crew, where he assists with the logistics and implementation of a variety of preservation tasks ranging from routine ruins maintenance to the design and construction of protective roofing. As work leader, he participated in the replacement of a number of protective roofs that cover original ground floor rooms that have completely intact original roofs. He has set high standards for masonry fabric treatments and he provides leadership for a crew composed of both masonry workers and laborers. He has helped to design and implement backfilling tasks in conjunction with the West Ruin Backfill Project and the Fill Levels Adjustment Projects.



*Connie Silver applying conservation techniques at Aztec Ruins National Monument, to clean and help preserve the prehistoric paint and plaster in West Ruin, Room 156.*  
Photo: Jeffery T. Wharton

**Training:** This year Ernest had training in scaffold erection, fall protection, and skid-steer loader operation; he is also part of an ongoing safety awareness program.

**Gary M. Brown, Supervisory Archeologist  
FY 2001 Position**

**Skills:** Gary has experience in archeological field techniques, ruins preservation, compliance, artifact analysis, writing, technical illustration, statistical analysis, and project management.

**Accomplishments:** During FY 2009, Gary supervised a sizeable staff of existing park personnel, augmented with term and seasonal hires, on a range of preservation, archeology, and curation projects. As Chief of Cultural Resources he provided oversight for structure and site condition assessments, backfilling and fill adjustments, excavation, protective roof maintenance and repair, cultural resource inventory, List of Classified Structures (LCS) structure documentation, ruins stabilization and minor fabric replacements, laboratory analyses, and museum collections management.

Gary was involved with ongoing hydrology monitoring through a Cooperative Ecosystem Study Unit (CESU) partnership, the East Ruin Landscape Mapping project (also through a CESU partnership), and the Middle San Juan Chacoan Outlier research partnership funded by a grant from the National Science Foundation. He participated in a symposium on the Outlier research partnership at the New Mexico Archaeological Council annual meeting in Albuquerque, New Mexico, and the 2009 Pecos Conference in Cortez, Colorado. He also gave talks to several local and avocational groups.

**Training:** Gary completed various workshops and on-line training courses.

**VANISHING TREASURES PROJECT FUNDING**

**Project Name:** Replace Three Protective Roofs at West Ruin

**PMIS Number:** 116535

**Project Summary:** West Ruin is a largely excavated site with 20-ground-floor rooms that retain completely intact original roofs and standing architecture up to three stories high. In the 80 years since excavation, at least 10 intact or partially intact roofs have been lost through neglect. The remaining roof structures are covered by protective roofs of varying age and condition. Several



*Ernest Harrison and Gregg Kleppinger removing the old concrete protective roof from over one of the intact prehistoric roofs at West Ruin, Aztec Ruins National Monument. A new lightweight roof constructed of modern materials will be used to replace it.*

*Photo: Johnny Killian*

of these protective roofs were constructed of concrete slabs that are supported by original prehistoric masonry walls. This places stress on both the original prehistoric roofs that they are meant to protect and the ancient masonry walls that support them. In addition, the roof coverings were worn and needed replacing.

These poorly designed and antiquated concrete roofs were removed and replaced with new lightweight roofs of modern construction. Effective ventilation systems were installed to vent the space between the ancient and modern roofs and drainage outlets were installed to collect and divert rainwater away from the site. All aspects of the work were fully documented and extensively photographed.

**Project Budget:**

Total VT Project Funding:	\$25,380
Personnel:	\$24,180
Vehicles:	\$0
Travel/Training:	\$0
Supplies/Materials:	\$1,200
Equipment:	\$0
Services/Contracts:	\$0
Other:	\$0

**Project Accomplishments:** Rooms 112, 113, and 202 originally had heavy concrete protective roofs that were constructed in the

early 20<sup>th</sup> century and supported by the fabric of the prehistoric walls of West Ruin. They were used to protect the original prehistoric roofs and floors that lie underneath. These concrete roofs were heavy and, over time, had damaged the prehistoric structures. The goal for this project was to remove the heavy concrete roofs and replace them with modern, lightweight roofs that would be less intrusive. The modern roofs utilize up-to-date materials that are more compatible with the appearance of the prehistoric ruin, and they have improved ventilation and drainage features to enhance preservation.

This project had been partially funded during FY 2008, allowing one of the three protective roofs to be replaced. With the remaining funding coming available in FY 2009, the goals of the project were fulfilled.

The other two concrete roofs were demolished without harm to the ancient structures. They were replaced with lightweight protective roofs of wood and modern roofing materials that provide substantial protection for the original prehistoric roofs below with minimal impact on the historic fabric. New roof vents, constructed so that foreign materials, rodents and other creatures cannot access the air space beneath, were installed to allow airflow between the prehistoric roof and the new roof.

## Bandelier National Monument

### VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

**VT Challenges and Successes:** The success of the Vanishing Treasures Program at Bandelier National Monument (BAND) can be attributed to the hard work of our crew of term and seasonal archeologists, conservators, masonry workers and archival specialists, as well as to the contributions of other park staff and partners.

The Vanishing Treasures Program at Bandelier National Monument completed work on several projects in FY 2009.

**1. Cultural Cyclic funded “Graffiti Mitigation in Frijoles Canyon Cavates”:** Two conservators and one intern from the Museum of New Mexico were supported through a cooperative agreement to carry out testing, treatment, and documentation of graffiti in two cavates. Although located off-trail, the graffiti in both cavates was visible to the public; the resulting treatments have effectively obscured the vandalism.

**2. Cultural Cyclic funded “Assess and Conserve North Mesa Cavates” (Year 1 of 2):** In the first year of this two-year project, field crews completed detailed documentation of approximately 65 cavates, and condition assessments for 28 more, of the 117 documented cavates at North Mesa. A large percentage of the cavates at North Mesa are in poor condition and work this year focused on the cavates that retain a high level of integrity. The data resulting from this documentation will be used to prioritize treatments in FY 2010.

**3. Cultural Resource Preservation Program Base funded “Emergency Treatment of Frijoles Canyon Cavates”:** This funding supported a collaborative project (through the Colorado Plateau Cooperative Ecosystem Study Unit) to assess and monitor the largest intact and in-situ masonry cavate enclosure wall in Frijoles Canyon. The project focuses on establishing baseline structural stability information through digital and predictive modeling. The first element of Phase I was completed in FY 2009 and included a site assessment, measurement to establish wall geometry, and a digital structural model. Work is currently

underway to develop recommendations for ongoing structural monitoring. In future phases, a structural monitoring program may be implemented, depending on the assessment results and the needs and constraints of park management.

**4. Federal Lands Recreation Enhancement Act funded “Stabilize Frontcountry Sites Viewed by Visitors”:** Three frontcountry masonry sites were assessed and/or treated during the 2009 field season. Tyuonyi Pueblo, the most prominent and frequently visited pueblo in the park, was treated to remove incompatible cement mortar and introduce amended earthen mortars. A total of 82 wall faces consisting of approximately 131 square meters were treated, documented, and photographed. Additional work was carried out at Big Kiva, a highly stabilized site located along the visitor trail, during which two deteriorated and non-historic viga ends were replaced with new, preservative-treated wood. Field crews also carried out a condition assessment of Sterile House, a small excavated masonry pueblo located on Frijoles Mesa adjacent to the Tyuonyi Overlook trail.

**5. Vanishing Treasures funded “Docu-**



*Cavate Group M, Bandelier National Monument.  
Photo: Courtesy Bandelier National Monument*

**mentation and Conservation of Tsankawi Cavates”:** See VT project description below.

In addition to the project work that was completed by the VT field crew, a number of contracts are currently in process.

**1. Site Mapping and Laser Scanning, Western Mapping Company:** Currently Western Mapping Company, under the direction of Jim Holmlund, is documenting a number of archeological sites in the Bandelier landscape using global positioning system (GPS), and they are laser scanning a number of sites. Projects currently ongoing in Frijoles Canyon include site mapping for frontcountry archeological sites, laser scanning and mapping of Tyuonyi Pueblo and Big Kiva, and data interpretation for cavate MQ160 (an extremely significant cavate with extraordinary features and embellishments). In the Tsankawi Unit, photogrammetric mapping based on aerial photography is being completed, and cavate group LA 50976 is being mapped through laser scanning. See below for further discussion of current Tsankawi Unit mapping projects. All projects will be completed in FY 2010.

**2. Documentation of Tsankawi Cavates, Cooperative Ecosystem Study Unit (CESU) with the University of New Mexico/Office of Contract Archeology (OCA):** Staff of OCA completed documentation of 350+ cavates at the Tsankawi unit of Bandelier National Monument in FY 2008. A final report is currently being developed that will discuss site characteristics and condition and that will attempt to interpret components of the site. This project will be completed in April 2010.

**3. Finalize document, *Preliminary Data Analysis and Treatment Recommendations for the Frijoles Canyon Cavates*/Angelyn Bass Rivera for Conservation Associates:** In 2006, conservators with the Vanishing Treasures Program at Bandelier drafted a report that summarized nearly a decade of research and fieldwork related to the cavate pueblos. This document laid out management strategies for the cavate pueblos in Frijoles Canyon, which are extremely significant archeological resources that are identified in the enabling legislation for the park. The park is currently using the draft document to aid in the development of documentation and conservation strategies for these cavate sites, which continue to erode at an unknown rate. The information contained within the document is also being used to develop pilot projects for similar resources in other parts of the park and in

areas managed by other federal and state land agencies. The completion of the draft document, *Preliminary Data Analysis and Treatment Recommendations for the Frijoles Canyon Cavates*, is a high priority for the Vanishing Treasures Program and Bandelier National Monument. Angelyn Bass Rivera, Architectural Conservator and former manager of the Bandelier Vanishing Treasures Program, is currently working to prepare it for publication. Expected completion date for this project is April 2010.

**4. Sampling, testing, and analysis of the anthropogenically altered portions of the Tshirege Member of the Bandelier Tuff, Bandelier National Monument/CESU with the Department of Geological Sciences, New Mexico State University:** Professor Nancy McMillan, head of the Geological Sciences department, is leading a project to characterize the geology and composition of the portion of the Bandelier tuff into which the cavates were excavated and to determine the deterioration phenomena causing cavate disintegration. Ultimately, these data will be used to design appropriate conservation treatments for the cavates. Specific research goals of this project are to determine whether anthropogenic alteration of the tuff including carving, sooting, and use over time has changed its chemical and physical nature; to understand the weathering phenomena that cause tuff deterioration; and to investigate the role lichen plays in protecting or accelerating the deterioration of the tuff. Estimated project completion date is September 2010.

**5. Graffiti Mitigation in the Frijoles Canyon Cavates/CESU with the University of New Mexico (UNM) School of Architecture and Planning:** Under the direction of Associate Professor Douglas Porter, project participants from UNM will implement graffiti mitigation treatments in the cavates in Frijoles Canyon. The primary objective of graffiti mitigation treatments is to obscure modern graffiti that has been carved into the tuff and/or plaster in the high-priority cavates. Cavates with high integrity, many intact original features, and a location near public trails have been selected for treatment.

The impact of the graffiti on intact original materials is significant and mitigation will restore visual integrity. Fieldwork for this project will occur in spring 2010, with an expected completion date including reporting of June 2011.

**6. Structural Assessment and Monitoring of Cavate B002/CESU with the University of New Mexico School of Architecture and Planning:** Cavate B002 is unusual in that two of its original walls were built of masonry. Both walls were intact in the 1920s, but one has since fallen. The surviving wall, the largest, is extremely fragile because of extensive mortar loss and severe cracking in the cliff face just above it. A multidisciplinary project is currently underway to evaluate the structural stability of the wall and to study deterioration of the Bandelier tuff. This initial phase of research will include a detailed condition assessment of cavate B002, laser scanning to record wall geometry, design and analysis of a structural model, and development of recommendations for ongoing structural monitoring. The structural model generated from the laser scan data will be used to predict wall behavior based on small changes in existing



*Tsankawi Unit seen from inside one of the cavates, Bandelier National Monument.*

*Photo: Courtesy Bandelier National Monument*

conditions, and it will provide us with the theoretical basis for establishing stability/failure thresholds. This program will serve as a pilot to determine the techniques and equipment necessary to monitor the structural stability of the archeological masonry. The project is expected to yield results that will be applicable to similar sites within the Monument.

The primary collaborators in this project are the School of Architecture at the University of New Mexico, led by Associate Professor Douglas Porter, and the Vanishing Treasures Program at Bandelier National Monument. University and professional participants include Angelyn Bass Rivera, architectural conservator and former manager of the Bandelier National Monument Vanishing Treasures Program; Dr. John A. Ochsendorf, Associate Professor of Civil and Environmental Engineering and Architecture at the Massachusetts Institute of Technology; and Jim Holmlund and Joe Nicoli of Western Mapping Company, Inc. Expected project completion date is February 2012.

The greatest challenge for the VT Program at Bandelier continues to be hiring and maintaining a consistent workforce. Continuity of staff is key to the successful implementation of a cyclic regimen of maintenance in the park.

**Consultation:** The park successfully consulted with the State Historic Preservation Officer and our affiliated tribes under Section 106 requirements for work related to the preservation of cultural sites.

**Safety:** In FY 2009, the Bandelier VT staff developed a safety program in order to address the hazardous nature of our outdoor and backcountry work. The VT safety program included detailed safety plans for all field projects. These safety plans incorporate job hazard analysis review at the beginning of the season for all field personnel, weekly safety tailgate sessions on a variety of relevant topics (heat illness, hantavirus, etc.), appropriate respirator health review and fit testing, daily wilderness safety updates, emergency response procedures, evacuation routes, communication protocols, and hazard identification.

## VANISHING TREASURES STAFF

**Lauren Meyer, Exhibit Specialist  
(Architectural Conservator)  
FY 1999 Position**

**Skills:** Lauren has a background in archeology and historic preservation and has been employed as an architectural conservator with the National Park Service (NPS) since

2002. She has experience with architectural documentation, condition assessment, and treatment of archeological sites and historic architecture. For the last several years, Lauren has focused on the development and implementation of treatments for stone masonry, earthen mortars, and earth and lime plasters. Lauren is highly skilled at project budgeting and management, contract development, and database development and management as a result of both her project work through the Vanishing Treasures Program at Bandelier and contracts completed for museums and conservation organizations.

**Accomplishments:** In FY 2009, Lauren continued to manage the Vanishing Treasures Program at Bandelier National Monument. As the program manager, Lauren was responsible for the oversight of all VT activities performed in the park, including architectural documentation of masonry and cavate sites in Frijoles Canyon and the Tsankawi Unit of the park, masonry stabilization, and cavate conservation. Lauren developed several CESU projects and served as contracting officer's representative (COR) on park contracts dealing with site mapping, monitoring, and conservation, as well as materials research and analysis. In addition, Lauren served as an advisor on park projects related to the preservation of the Civilian Conservation Corps Historic District.

Lauren was on maternity leave from August, 2008 through November, 2008. During that time, Shannon Dennison managed program activities.

**Training:** Lauren completed several classroom and online-based trainings in FY 2009. These included Unexploded Ordinance and Explosives Awareness, Hiring Flexibility for Supervisors, and an Advanced Section 106 course offered by the Advisory Council on Historic Preservation, as well as all required NPS trainings.

**Shannon Dennison, Exhibit Specialist  
(Architectural Conservator)  
FY 1999 Position**

**Skills:** With an academic background in archeology, Native American studies, and architectural conservation, Shannon has a strong interest in the philosophy and practice of maintaining sites and buildings in a state of arrested decay. Her research has focused on historic ghost towns, homesteads, and pre-Columbian southwestern architecture. She has worked in both the private and public sectors as a cultural resource project

manager and has been a member of Bandelier's VT staff since 2007. Her skills include condition assessment, masonry stabilization, graffiti mitigation, erosion control and infill, documentation, Section 106 compliance, National Register of Historic Places evaluation, architectural surveys, and project reporting.

**Accomplishments:** During the fall and winter months of FY 2009, Shannon functioned as the acting Vanishing Treasures Program Manager and rotating Chief of Resources during periods of absence and vacancies. During this time, she drafted a treatment report that documented the results of the 2008 Frijoles Canyon conservation project, oversaw a report for the 2008 Tyuonyi Pueblo masonry stabilization project, and supervised a newly hired 9-month intern. She took on additional duties related to budgeting, contract management, and proj-



*Vanishing Treasures Exhibit Specialist Stephen Merkel  
Photo: Courtesy Bandelier National Monument*

ect planning and organized and led a week-long training session for three Afghan cultural resource specialists visiting Bandelier.

In the spring and summer of FY 2009, Shannon managed the hiring process for two subject-to-furlough term positions (Martin Davenport and Stephen Merkel) and 11 seasonal employees and interns. Shannon organized a VT orientation session in the spring and provided hands-on training for these new employees. During the field season, she worked with the VT Program Manager to oversee projects in Frijoles Canyon and at the Tsankawi unit of the Monument. At the end of the field season, Shannon organized a successful educational tour for the VT crew to several surrounding parks, including Aztec Ruins National Monument, Chaco Cultural National Historical Park, and Mesa Verde National Park.

**Training:** In FY 2009, Shannon completed



*applies graffiti mitigation treatments in a cavate.*

11 training sessions and attended one regional cultural resource conference. She attended the 2009 Pecos Conference; NPS Fundamentals I and II; Advanced Section 106 Seminar; Unexploded Ordinance and Explosives Awareness; Hazardous Waste Operations and Emergency Response Standard (HAZWOPER); First Aid and CPR training/recertification; wildland fire refresher; A Supervisor's Guide to Workers Compensation: Fact and Fiction; Operational Leadership and Risk Management; Leave Administration: The Mystery Unraveled; defensive driving; and office ergonomics.

### **VANISHING TREASURES PROJECT FUNDING**

**Project Name:** Documentation and Conservation of Tsankawi Cavates

**PMIS Number:** 121601

**Project Summary:** Cavates are hand-carved chambers in the volcanic tuff cliffs. They are unique in the prehistoric architectural record of the American southwest in several ways: for their high density in narrow canyons; their demonstration of the extensive use and modification of the natural environment and local geology for habitation; and for the excellent preservation of some of their interior architectural features. These cavates were commonly plastered in multiple layers and sooted, and they often formed the back rooms of multi-story stone masonry pueblos that were constructed in front of the cliff face. Most of the associated masonry structures have collapsed, leaving the soft tuff cavates exposed to the physical environment. This exposure, combined with their inherently weak composition, makes them fragile and easily susceptible to deterioration and loss.

There are approximately 352 cavates, the majority of which are concentrated on the south side of Tsankawi Mesa along a mile and a half stretch. Natural breaks in the canyon formed by drainages or geologic unconformity separate clusters or groups of cavates, which have been assigned Laboratory of Anthropology (LA) numbers. The cavates at Tsankawi are contemporary with those of Frijoles Canyon, having been occupied from the fourteenth to the sixteenth century C.E., and are ancestral dwellings of the Pueblo people.

This project is Phase II of a three-phase conservation project to design and implement a comprehensive conservation plan for the Tsankawi cavates. Phase I, which was completed in FY 2008, focused on the completion of baseline documentation (archi-

tectural descriptions and photographs), systematic and comprehensive condition and significance assessment, investigation into and monitoring of the environmental causes of cavate deterioration, and preparation of a Priority Treatment Schedule recommending immediate and long-range treatments and monitoring activities for each cavate.

Phase II will include hydrogeologic analysis, environmental monitoring, treatment testing, investigative analysis of original materials, and detailed documentation. Ultimately, Phase III will involve the completion and implementation of a conservation plan for the cavates. This plan will focus on treatments designed to arrest the causes of deterioration and, to a lesser extent, on the repair of existing damage. With this type of preventive approach, the resources will retain their integrity, and the rate of their deterioration will be slowed.

The results from all phases of the project will be used to not only manage the hundreds of cavates in adjacent canyons in the park but also by other Federal and State agencies, and the area Pueblos that manage similar resources.

#### **Project Budget:**

<b>Total VT Project Funding:</b>	<b>\$125,000</b>
Personnel:	\$88,000
Vehicles:	\$2,000
Travel/Training:	\$0
Supplies/Materials:	\$2,700
Equipment:	\$300
Services/Contracts:	\$32,000
Other:	\$0

**Project Accomplishments:** In 2008, 316 of the 352 cavate/talus structures at Tsankawi Mesa were documented and assessed by field crews from Bandelier's Vanishing Treasures Program and the University of New Mexico, Office of Contract Archeology (OCA). Through specially designed documentation forms and methods, the field crews recorded the extent and integrity of the existing cavate structures, their physical condition, their archeological context, and the type and severity of threats endangering them. This information provides baseline data on the physical form and the present condition of each cavate. It will be used to establish the archeological significance of each feature and to prioritize conservation treatments. This project builds upon the work done in the 1980s and 1990s by H. Wolcott Toll and the Bandelier Archeological Survey; it will serve as a comprehensive written and photographic archive for future study of the cavates.

In 2009, data collected during the 2008

project were entered into project databases and analyzed to determine project needs and treatment priorities for the cavates at Tsankawi Mesa.

This project was split into three distinct parts.

1. Treatment testing and implementation: Under the direction of Lauren Meyer and Shannon Dennison, VT staff at Bandelier National Monument implemented treatments in approximately 14 cavates around Tsankawi Mesa. These treatments included graffiti mitigation, floor mapping and backfilling, and tuff infill in heavily eroded areas. Fieldwork was led by term Exhibit Specialist Stephen Merkel and accomplished by seasonal staff members Erin Tyson, Jonathan Holdsworth, Mae Colburn, Molly Ray, William Goumas, Moe Nadel, Michael Tomiak, and Student Conservation Association interns Karim Hassanein, Ashley Crossen, and Rachel Perzel. Project assistance was provided by Martin Davenport BAND masonry crew leader, Cliff Hickey BAND mason and Jessica Bitley BAND VT program archivist.

Few cavates at Tsankawi retain original applied earthen plaster and soot finishes over the volcanic tuff substrate. Of those cavates that do retain surface finishes, several have modern graffiti carved into or applied onto their interior walls and ceilings. The highest concentration of graffiti appears to be in cavates that are visible and accessible from the visitor trail.

The primary objective of graffiti mitigation is to obscure modern graffiti and (hopefully) reduce the rate of its recurrence. Few instances of graffiti at Tsankawi Mesa have associated dates or other diagnostic features that indicate the antiquity of the graffiti. For this reason, the age of the graffiti played little to no role in the treatment priority. Instead, treatment priority was based on severity of the graffiti (how it impacted the original material surrounding the graffiti scar), treatability, and visibility to the public.

During the 2009 field season, 11 cavates were treated for graffiti. Graffiti was treated by infilling and inpainting incised areas with physically and visually compatible materials, primarily tuff-lime mortars, earthen plasters, and pigments. Besides concealing and preventing graffiti, infilling also helps prevent additional disintegration and loss of the plaster and the tuff, which easily erodes once the surface has been broken. No binders were used with

the natural and mineral pigments; and the clay, dirt, and stone used for infilling were collected locally from the Tsankawi Mesa area.

An important component of the 2009 field season at Tsankawi was the detailed mapping of the floor features in some of the most high-traffic cavates and the backfilling of these cavates to better protect the floors. A number of floors were identified for treatment in the condition assessment performed in 2008. Cavates 59 and 64 in LA 50976 were cleared and mapped and fill was added because they were determined to be at the highest risk due to frequent visitation, extremely low fill level, and high degree of intact and sensitive floor features including wooden loom anchors.

One cavate in the Tsankawi Unit was treated for deterioration resulting from ongoing drainage through a natural fissure in the cliff face. Portions of this fissure were infilled with a compatible mortar consisting of lime and local soil, and visible areas were inpainted with natural pigments mixed with lime and water to obscure the treatment. This treatment will redirect drainage away from the cavate and prevent further deterioration of interior plaster and earthen mortar.

2. Photography: Under the direction of Stephen Merkel, Exhibit Specialist, approximately 282 cavates were photographed using both digital and traditional 35mm photography. Cavate structures at Tsankawi were photographed systematically, starting with the cavates identified as high priorities for treatment. The photo-documentation captured images of exterior surfaces, wall faces, and all prominent and noteworthy features. Film prints and negatives are on file at Bandelier and digital images are stored on Bandelier servers.

3. Detailed documentation and mapping: Through a contract awarded to 4G/Western Mapping Company of Tucson, Arizona, the cavate pueblos of Tsankawi Mesa, as well as all associated archeological/architectural features were mapped through photogrammetry and GPS. Aerial photographs were taken for the entirety of Tsankawi Mesa in November, 2007. Processing of the photographs and map production were both completed in 2009. These products will allow Bandelier staff to more accurately locate cavate sites, and they will serve as a GIS base layer into which all architectural and condition as-

essment information will be entered. A system such as this will facilitate the monitoring of site conditions and the conservation of the resources around Tsankawi Mesa.

Additionally, one cavate group, LA 50976, which includes the most significant and intact cavate structures and related features found within the Tsankawi Unit, was recorded and mapped through laser scanning. Laser scanning was selected for the documentation of these cavates and associated features because LA 50976 is a complicated group (at the landscape level), and previous mapping campaigns have failed to produce materials that capture all available information or accurately depict the group in profile view. This will produce highly accurate site and topographic representations of this area and its fragile cavate resources.

The goals of this project are threefold:

1. To develop a methodology for mapping the cavate architecture in the park;
2. To document, in detail, the cavates and all associated features in LA 50976, one of the most significant cavate groups in the park and one that is highly visited by the public; and
3. To produce field maps and GIS data that will be useful in future management, including detailed monitoring, documentation, and conservation of the cavate pueblos at Tsankawi Mesa.

All data from the laser scanning will be integrated into the Tsankawi photogrammetric map, which was completed in 2009.

Mapping of the cavate groups at Bandelier National Monument is complicated because of their situation (they exist on a vertical plane, and they are wholly or partially integrated into the natural landscape), and results are often unreliable. Until now, maps have been generated by hand and are often lacking details that allow for ease of use. In addition, it has not been possible to integrate maps depicting individual cavate units into the larger base maps of the park because they are not tied to geographic locations, nor are they contextualized. The primary goal of this project is to develop a standard methodology for mapping cavate resources that would allow easy identification and location of these resources and would tie in to the larger mapping products that are being generated for the park.

## Chaco Culture National Historical Park

### VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

**VT Challenges and Successes:** Our challenge this year was not receiving VT project funding. Despite this, we were successful in obtaining limited funding for critical wall and capping treatment at two of our VT sites, Pueblo Bonito and Pueblo Alto. We were also able to repair a protective roof over a prehistoric roof in Pueblo Bonito.

In early summer, the preservation crew took our electric conveyor belt system and scaffolding to Wupatki National Monument, where they spent several days training Lloyd Masayumptewa's crew in basic scaffold erection and use of the conveyor system. The preservation staff from both parks benefited from working with different types

of equipment and prehistoric structures, and experiencing fresh problem-solving opportunities. Multi-park ventures such as this are probably one of the least expensive and most productive ways of providing preservation crews with training that will enhance their capabilities and offer new insights on preservation treatment and backfilling techniques.

**Safety:** We have continued to maintain and update our job safety analyses (JSAs) and project safety reviews before starting field work. Our park continues to offer Red Cross First Responder training to all our staff on an annual basis. We also have several of our VT staff trained as Professional Rescuers. We have taken part in a defensive driving program and all preservation staff participated in a scaffold "Competent Person" training event held in the park. The scaffold training focus involved tube and clamp setup as well as the use of other types of scaffolding.

### VANISHING TREASURES STAFF

**Roger A. Moore, Archeologist  
FY 1999 Position**

**Skills:** Roger is highly skilled at writing successful servicewide comprehensive call (SCC) funding source applications, working with multi-ethnic teams of employees and park partners, planning preservation programs, executing preservation work and documentation, designing databases, and site monitoring. He is experienced in masonry work, testing of mortar mixes, and monitoring and evaluating structural stability. He also has received formal training in general preservation techniques and is skilled in lithic artifact analysis and replication, lithic materials ID and analysis, the National Environmental Protection Act (NEPA), Section 106, Archeological Resource Protection Act (ARPA) investigations and incident reporting. He recently enhanced his understanding of preservation treatments while visiting



*The Great Kiva at Chetro Ketl, Chaco Culture National Historical Park.  
Photo: Courtesy Chaco Culture National Historical Park*

active preservation treatment programs at prehistoric World Heritage sites in Israel and Jordan.

**Accomplishments:** Roger helped schedule and plan, and participated in the cooperative scaffold and backfilling work at Wupatki National Monument this summer.

**Training:** Roger maintains scaffold use and safety and professional rescuer certification.

**Leo Chiquito, Masonry Worker  
FY 1999 Position**

**Skills:** Leo is a very skilled masonry worker, having worked for many years doing wall facing, repointing, stone replacement, wall core rehabilitation, wall basal repair, and wall capping construction and repair.

**Training:** Leo takes part in regularly scheduled formal scaffolding training, first responder first aid and cardio-pulmonary resuscitation (CPR) training, and the annual Northwest New Mexico VT workshops.

**Earl Johnson, Work Leader  
FY 1999 Position**

**Skills:** Earl is a master mason with 40 years of experience. He has been the preservation crew work leader at Chaco Canyon for the last 14 years, taking part in and teaching his crew all aspects of ruins stabilization and backfilling. He has worked with the VT archeologists in planning field season schedules, estimating project costs and maintaining necessary supplies and equipment. Earl retired from the NPS in December, 2009.

**Accomplishments:** Earl helped to plan the logistics and coordinate the work that

his crew undertook at Wupatki National Monument this past summer.

**Training:** Earl took part in regularly scheduled formal scaffolding training, first responder first aid and CPR training, and the annual Northwest New Mexico VT Workshops.

**James Yazzie, Masonry Worker  
FY 1999 Position**

**Skills:** James is a skilled masonry worker, with over 28 years of experience working on prehistoric wall facing, repointing and stone replacement, wall core rehabilitation, wall basal repair, and wall capping construction and repair. He takes part in the backfilling of sites and operates our Bobcat loader in these operations.

**Accomplishments:** James participated in the cooperative scaffold and backfilling work at Wupatki National Monument this summer.

**Training:** James received regularly scheduled scaffolding training, first aid and CPR/automatic electronic defibrillator (AED) training, and he attended annual NW New Mexico VT workshops.

**Garry Joe, Masonry Worker  
FY 2003 Position**

**Skills:** Garry is a skilled masonry worker, with over 10 years of experience. His skills include wall facing, repointing, stone replacement, wall core rehabilitation, wall basal repair, and wall capping construction and repair. When the Work Leader is absent, Garry takes on the responsibilities of that position. He has a commercial driver's license (CDL) and drives our dump truck

and operates our front-end loader, both of which are used to obtain and transport soil for backfill operations and dirt for mud mortar mixes.

**Accomplishments:** Garry helped to plan and participated in the cooperative scaffold and backfilling work at Wupatki National Monument this summer.

**Training:** Garry participates in formal scaffold training, first responder first aid and CPR/AED training, and annual local Northwest New Mexico VT workshops; he also maintains a CDL license.

**Harold Suina, Masonry Worker  
FY 2001 Position**

**Skills:** Harold is a skilled masonry worker, with many years working on prehistoric wall facing, repointing, stone replacement, shaping of replacement stones, wall core rehabilitation, wall basal repair, and construction and repair of wall capping. He takes part in all phases of our backfill operations, and he takes a lead role in mapping the location of drainage systems before the systems are covered with backfill.

**Accomplishments:** Harold took part in the cooperative scaffold and backfilling work at Wupatki National Monument this summer.

**Training:** Harold participates in regularly scheduled scaffolding training, first aid and CPR/AED training, and the annual local Northwest New Mexico VT workshops.

**VANISHING TREASURES PROJECT  
FUNDING**

Chaco Culture National Historical Park did not receive project funding this year.



*The preservation crew, Chaco Culture National Historical Park.  
Photo: Courtesy Chaco Culture National Historical Park*

## El Malpais National Monument

### VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

**VT Challenges and Successes:** One of the greatest preservation challenges now faced by El Malpais National Monument (ELMA) is the loss of archeological values resulting from widespread and rapid soil erosion. Erosion is threatening, or has already affected, a number of Vanishing Treasures resources, especially along the eastern boundary of the Monument. With VT funding, El Malpais has already conducted erosion control projects on three VT resources. While this project was quite successful, the scale and pace of erosion at El Malpais demands that we implement multiple preservation

strategies. Beginning in FY 2010, El Malpais will develop a plan of action that will include archeological excavation as a preservation treatment to mitigate these effects.

Another on-going challenge for the Vanishing Treasures Program at El Malpais and El Morro National Monuments has been the management of museum collections related to VT resources and projects. Each day in the field generates new digital images, observations and assessments, and a backlog of objects that need to be accessioned, cataloged, and entered into information systems. For small parks like El Malpais where VT staff may be the only cultural resource personnel, management of these ever-growing collections becomes a VT responsibility. El Malpais and El Morro are interested in partnering with other VT parks to meet this challenge.

**Consultation:** El Malpais has very good re-

lationships with Indian tribes in New Mexico and Arizona and with the New Mexico Historic Preservation Division. In FY 2009, El Malpais consulted all of these offices regarding a number of projects, but most specifically for Native American Graves Protection and Repatriation Act (NAGPRA)-related projects (reburial of NAGPRA collections at El Morro (ELMO) and inadvertent discoveries at ELMA) and fire management undertakings (at both ELMA and ELMO).

**Safety:** The VT Program at El Malpais recorded another year without accidents or injuries. We mentioned in last year's report that the ruggedness of the lava flows and the great size and remoteness of the monument pose many safety issues, including falling, tripping, and getting cut and bruised on the jagged lava. These conditions will always make El Malpais a challenging place to conduct field work safely. As mentioned last



*Entrance into a lava tube at the Big Tubes area, El Malpais National Monument.  
Photo: Randall Skeirik*

year, too, the lava flows will attract lightning during storms, so our staff must really pay attention to the skies as well as the VT resources during field work. During FY 2009 our staff and volunteers again encountered rattlesnakes, bobcats, and an occasional mountain lion. The VT staff at El Malpais and El Morro, though, work very hard to keep Job Hazard Assessments updated and to conduct frequent safety tailgate sessions. Every project and activity that we conduct is considered successful if everyone returns home safely at the end of each day.

### VANISHING TREASURES STAFF

#### James W. Kendrick, Archeologist FY 1999 Position

**Skills:** Jim's skills include field archeology, project direction, and cultural resource program management.

**Accomplishments:** Jim guided multiple Vanishing Treasures projects at El Malpais and El Morro National Monuments and at Petrified Forest National Park (PEFO) in FY 2009. These projects ranged from conducting condition assessments at El Malpais to a multi-year preservation project at Atsinna in El Morro and included an emergency preservation project at a c. 1880 stagecoach station in Petrified Forest National Park.

The Depot Tank Stage Station Preservation Project at Petrified Forest began early in FY 2009, when it was discovered that a portion of the main sandstone structure was collapsing. VT staff at El Malpais and El Morro, and Preston Fisher (the VT Program's structural engineer), made preliminary assessments and determined what immediate preservation treatments were needed. VT staff at El Malpais and El Morro developed a detailed scope of work for these treatments, created a safety plan, and began the project

in the summer of 2009. In addition, a partnership was developed with the Southwest Conservation Corps (SCC) to develop a Native American preservation team within the corps. This partnership will continue in FY 2010, as El Malpais, El Morro, and Petrified Forest work together with the SCC to save the stagecoach station.

Jim continued to develop additional partnerships to meet the management needs of El Malpais' and El Morro's museum collections. He worked with the Western Archaeological and Conservation Center in Tucson and University of Arizona staff to meet the monuments' annual collections responsibilities. He also worked with other partners who are currently conducting projects at El Malpais and El Morro. These partners include the University of Pennsylvania's Historic Preservation Department, which is working on a landscape-based preservation project for El Morro, and the University of New Mexico, which is working on cultural landscape inventories for El Malpais' historic homestead structures (which are also VT resources).

Jim worked on developing a partnership with the Museum of Northern Arizona to conduct a cultural affiliation study for the NAGPRA collection from Atsinna. The primary focus in FY 2009 was to establish a detailed scope of work that will guide research, consultation, analyses, and reporting.

Jim also served as Chair of the Intermountain Region's Resource Stewardship Advisory Team (RSAT), which in 2009 developed a subcommittee to address climate change issues throughout the Intermountain Region. This was the first such regional group organized to address climate change and its effects on cultural and natural resources.

**Training:** Jim completed Operational Leadership, Six Core Competencies of Leader-

ship, and Agreements Technical Representative training in FY 2009.

#### Calvin Chimoni, Masonry Worker FY 2000 Position

**Skills:** Calvin has exceptional preservation skills, especially with masonry and earthen materials. Calvin also conducts architectural documentation through photography, conducts architectural condition assessments, and assists in determining appropriate preservation treatments.

**Accomplishments:** Calvin's activities in FY 2009 included leading a Vanishing Treasures preservation work crew at El Morro National Monument's Atsinna Pueblo and assisting his colleagues on various projects at El Malpais and Petrified Forest National Park. At Atsinna Pueblo (a 700-year-old structure containing nearly 900 rooms), Calvin and the preservation crew conducted architectural documentation such as photography and condition assessments and determined appropriate preservation treatments for six rooms (eight walls and three architectural features). Since natural, un-amended mortar has traditionally been used at Atsinna Pueblo to repoint and repair walls, it is important to mention that last season's efforts, which included the use of soil cement (a mixture of natural mortar with Type II Portland Cement), endured the monsoon and winter moisture well. By using soil cement, the amount of time needed to repair and reset stone this season was significantly reduced. Therefore, in FY 2009 Calvin and the preservation crew focused on using soil cement to repair the upper wall areas and wall caps. Other important activity at Atsinna Pueblo included seasonal vegetation removal and the cleaning of several 4" drainage intakes that help to drain moisture away from Atsinna Pueblo.



*The Head Homestead, located on the edge of the lava flows, El Malpais National Monument.  
Photo: Randall Skeirik*

Throughout FY 2009 Calvin also assisted and provided technical expertise to Petrified Forest National Parks' Depot Tank Stage Station Preservation Project. During that project, Calvin and other VT staff from El Malpais and El Morro assisted park managers at Petrified Forest with initial planning and design of a scope of work specifically identifying steps for conducting photographic documentation, wall condition assessments, and hands-on preservation treatments to reset, repair, and repoint the severely eroded walls.

The first step in this project was to ensure that the preservation work could be conducted safely since the structure was on the verge of collapse. During the initial phase of the project, Calvin designed and helped construct seven wooden safety braces that provided stability to the walls, saving the structure from further collapse. Throughout the project, these safety braces provided support not only for the wall but also for temporary shelters that covered the interior of the rubble core walls from rain, snow, and wind. After constructing and placing the wooden braces, Calvin and seasonal employee Edwin Seowtewa conducted wall repairs and repointed the severely eroded wall. By the end of the project, a total of five wall areas in two rooms were repointed and stabilized.

Calvin also took the opportunity to direct and mentor PEFO's archeologists, volunteers, park staff, and several youth from the Southwest Conservation Corps (SCC) in preservation techniques and methods. (Read more about the Southwest Conservation Corps on page 10 in the Feature Article section).

**Training:** Calvin completed Operational Leadership training in FY 2009 and also acted as the Collateral Duty Safety Officer for El Malpais and El Morro. Calvin attended and participated as a panel member at the Annual George Wright Society Meeting in Portland, Oregon, where he was selected to represent the Vanishing Treasures Program. He discussed and shared his cultural connections and his use of traditional knowledge and values while conducting preservation work.

See Calvin's article "Cultural Connections" on page 9 in the Feature Article section.

### **VANISHING TREASURES PROJECT FUNDING**

El Malpais National Monument did not receive project funding this year.

## **El Morro National Monument**

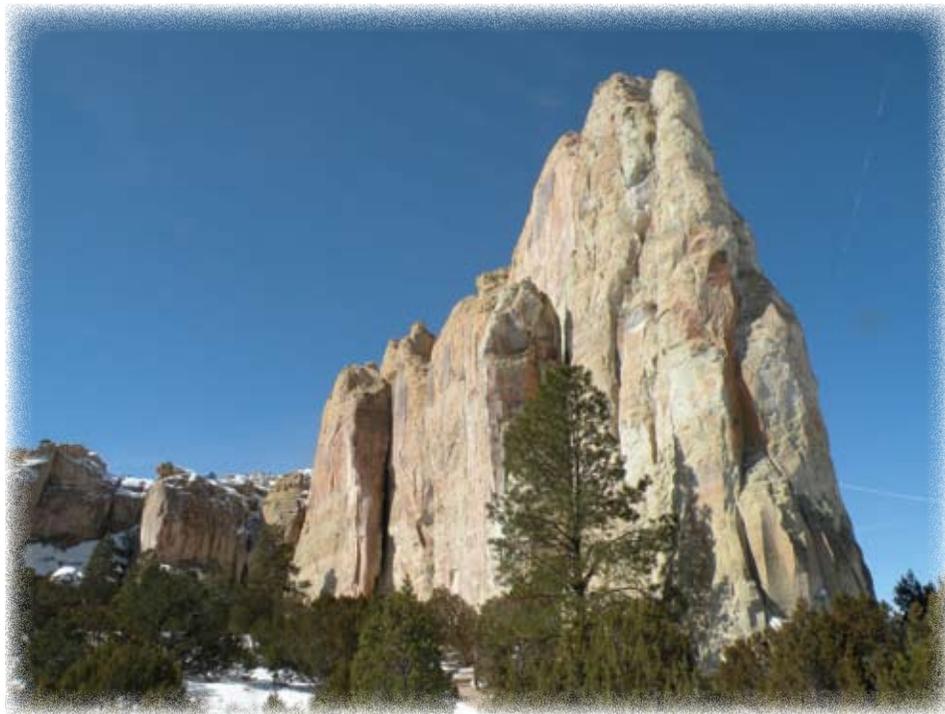
### **VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES**

**VT Challenges and Successes:** El Morro and El Malpais National Monument are co-managed and so our Vanishing Treasures Program and staff are combined with the VT staff from El Malpais. El Morro shares many of the same challenges with El Malpais. These include the loss of archeological values due to soil erosion at a few sites, although not to the extent of the challenges at El Malpais. At El Morro, our greatest challenge involves the management of our museum collections. As mentioned in last year's report, archives and museum objects are not considered VT resources; but we continue to generate, often on a daily basis, a significant backlog of project-related archives. El Morro, then, continues to recommend that we (the VT Program) evaluate this need program-wide to determine if a program curator position should be pursued.

The preservation treatments completed on Atsinna were very successful and fulfilled El Morro's preservation goals for the FY 2009

field season. El Morro masonry workers conducted preservation in six of Atsinna's rooms, repointing eight walls and three architectural features, including the imposing pilasters in Room 1 South. Room 1 South is one of the largest excavated rooms at Atsinna, and it is the first room visitors see as they ascend the trail to the top of the site. El Morro's preservation crew enjoys high public visibility here and, as a result, the crew made innumerable visitor contacts during the 2009 field season. They provided interpretation on Atsinna, preservation methods and principles, and the goals of El Morro's VT preservation program. Visitors to Atsinna who talked with our preservation crew were offered a unique experience and took home the knowledge that El Morro's preservation program is actively engaged in preserving and protecting the site. Visitor appreciation of El Morro's preservation crew was often expressed directly to them and also through El Morro's Visitors Register and at the front desk.

Alongside the successful preservation work at Atsinna was the initiation of an emergency stabilization project at the Depot Tank Stage Station, a 19<sup>th</sup>-century stagecoach and mail route station, in Petrified Forest. The site has been associated with the stagecoach route that followed the Beale Wagon Road (1857-1883) and carried mail on the Star



*It is easy to understand why the promontory known as El Moro served as a landmark for early travelers, especially with a reliable pool of fresh water at its base, El Moro National Monument.*

*Photo: Randall Skeirik*

Route between 1875 and 1887. Archival research into the Beale Road and the Star Route by Petrified Forest Archeologist Jay Theuer suggests that the stage station was built between 1874 and 1881. Additionally, Theuer notes that inscriptions on the rocks surrounding the structure, as well as material culture found in association, date from roughly the same period. This evidence supports the contention that the structure served the Star Route mail line during its use from the 1875 to 1887.

With one exterior wall in imminent danger of collapse, the stage station was in poor condition before preservation treatments were initiated. Treatments to the structure were completed by the El Morro and El Malpais preservation crew with help from the Petrified Forest cultural resources staff and a number of volunteers from Petrified Forest. The primary objective of the treatment project was to stabilize all of the walls and to halt the structural deterioration and probable collapse of three walls.

Accomplishments of this emergency stabilization work included repointing mortar joints on three exterior walls and one interior wall, resetting loose stones, repairing a collapsed section of an exterior wall, and the construction of temporary wood and wire wall supports that also functioned as safety braces to protect the crew during preservation work. The collaboration of El Morro, El Malpais, and Petrified Forest staff accommodated a scope of work that not only addressed immediate stabilization needs but also paved the way for more comprehensive preservation treatments in 2010.

Additionally, a partnership was established with the Southwest Conservation Corps that focused on developing preservation skills among Native Americans within the corps. This partnership will continue in FY 2010 as El Malpais, El Morro, and Petrified Forest continue to work together with the corps



*Atsinna Pueblo peeks over the edge of the mesa, El Moro National Monument.  
Photo: Randall Skeirik*

to save the stagecoach station. (Read more about the Southwest Conservation Corps on page 10 in the Feature Article section)

El Morro also received funding to conduct a cultural affiliation study for the Native American Grave Protection and Repatriation Act (NAGPRA) collection from Atsinna. A partnership through the Colorado Plateau Cooperative Ecosystem Study Unit (CPCESU) was established with the Museum of Northern Arizona to conduct this study. Initial consultation with potentially affiliated tribes has been conducted and a detailed scope of work was completed. This project will continue into FY 2010.

**Consultation:** El Morro National Monument continues to have very good relationships with the New Mexico Department of Historic Preservation and with Indian tribes in New Mexico and Arizona. In 2009, consultation with the New Mexico Department of Historic Preservation focused on the reburial of NAGPRA collections as well as fire management activities at El Morro. In June and August 2009, El Morro and its partner the University of Pennsylvania, held very successful meetings with the pueblos of Zuni and Acoma and the Navajo Nation regarding the Cultural Landscape Report that the University is preparing for us.

**Safety:** In FY 2009, the Vanishing Treasures preservation crew had a perfect safety record. No near misses or injuries were reported while conducting VT activities, including projects at Atsinna Pueblo (El Morro), across the rugged lava flows of El Malpais, and at the Depot Tank Stage Station located along the Big Lithodendron Wash in Petrified Forest National Park. Frequent (at least once a week) tailgate discussions were conducted and all routine work required the use of Job Hazard Analyses and use of the program's safety plan.

## **VANISHING TREASURES STAFF**

**Steven M. Baumann, Archeologist  
FY 2001 Position**

**Skills:** Steve has exceptional field archeology skills and has extensive experience with the archeological site management information system (ASMIS), database development, and geographic information systems (GIS). His field experience includes work in numerous national parks in several different regions. Complementing these skills is his ability to develop and manage large cultural resource information systems and to integrate GIS with other information systems. Steve also managed several major Vanishing Treasures projects, holds a red card, and has

recently acted as a Resource Advisor on prescribed burns at ELMA.

**Accomplishments:** Steve directed Vanishing Treasures projects at Atsinna Pueblo (at El Morro) and the Depot Tank Stage Station (at Petrified Forest) in 2009. His Vanishing Treasures work on the Atsinna Pueblo Preservation Project is a continuation of work conducted there in 2008. Accomplishments in FY 2009 included repointing eroded mortar joints on eight walls in six different rooms and three architectural features, along with filling deep voids with mortar, resetting fallen masonry, and repairing walls that were severely eroded by summer monsoons.

Steve also managed the work that was conducted on the Depot Tank Stage Station by the preservation crew from El Morro and El Malpais and cultural resources staff from Petrified Forest. Accomplishments there included the preparation of a scope of work, repointing mortar joints on three exterior walls and one interior wall, resetting loose stones, repairing a collapsed section of an exterior wall, and the construction of temporary wood and wire wall supports that also functioned as safety braces to protect the crew during preservation work.

Steve also worked closely with the fire management program at both El Malpais and El Morro. At El Morro, he ensured the protection of numerous Vanishing Treasures resources during a fuels-thinning project in Box Canyon and in the El Morro Visitors Center fuels unit.

Steve participated in the Foundation Planning for El Morro's General Management Plan and he worked with several El Morro partners in 2009 including the University of Pennsylvania's Historic Preservation Department (UPenn) and the Center for Desert Archeology (CDA).

His assistance to UPenn, a continuation of work begun in 2008, was on a cultural landscape report for El Morro. His work with CDA continued a partnership to complete laser imaging of inscriptions that will serve as the basis for modeling rock surface erosion rates and targeted preservation treatments.

**Training:** In FY 2009 Steve had fire refresher training and completed Operational Leadership training.

## **VANISHING TREASURES PROJECT FUNDING**

El Morro National Monument did not receive project funding this year.

## Fort Union National Monument

### VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

**VT Challenges and Successes:** The main success of the preservation program at Fort Union was the reduction of the loss of adobe fabric to the lowest level possible with the available preservation technology. This year 92,706 square feet of earthen shelter coat was applied, 2,140 square feet of re-pointing was completed on wall foundations, and approximately 4.5 cubic yards of accumulated soil was removed from the base of foundation walls. The trail crew rehabilitated 33,000 square feet of trail surface, resurfacing and redefining the trail edges. Looking to the future we are investigating the feasibility of a backfill project at four different locations within the Monument

**Safety:** The biggest challenge faced by the park was maintaining our record of 0 record-

able incidents for the fourth year. Our next challenge was to put together general safety videos geared toward preservation activities that can serve as a reminder of basic safety for our employees. When complete, this will become a part of the orientation process for the beginning of each season and should further improve safety practices.

All members of the preservation staff are on the safety committee and they are extremely committed to safety, both in the working environment and for the visiting public. Job hazard analyses (JHAs) are reviewed at the beginning of each season and standard operating procedures (SOPs) are written up to be used by employees when needed. A good example of the JHA process was the evaluation of our snake-handling procedures. We found out that best practices indicated we should modify how we handle snakes and upgrade safety equipment and personal safety gear. An emergency plan with SOPs was formulated then broken down into a quick reference guide that explains what to do if a rattlesnake is found on a public path.

Bi-weekly tailgate safety meetings and on-the-spot jobsite safety inspections were conducted on a regular basis and will continue in the future. One member of our preservation team attended OSHA-required scaffolding training in Albuquerque and upon his return shared his knowledge so that scaffolding could safely be used by all.

### VANISHING TREASURES STAFF

#### Sean Habgood, Exhibit Specialist FY 2002 Position

This position was vacant during part of FY 2009. The lapse salary was used to hire additional seasonal employees.

**Skills:** Sean Habgood was hired on October 11, 2009 and has a Master's degree in objects conservation and a B.A. in fine art with an emphasis in sculpture and painting. Sean has taken chemistry, fire science, and Occupational Safety and Health Administration (OSHA) courses for safety managers and is a Hazardous Waste Operations and Emergency Response (HAZWOPER)



*The white flagpole marks the center of the parade grounds, Fort Union National Monument.  
Photo: Courtesy Fort Union National Monument*



*Craft Specialist Theodore Garcia applies a protective shelter coat to an adobe wall, Fort Union National Monument. Photo: Courtesy Fort Union National Monument*

first responder. Sean has worked in several museums doing curatorial work on exhibits, as well as exhibit design and installation, for about 10 years.

Sean has also conducted research on paintings and linings at the Smithsonian Center for Materials Research and Education, where he and Marion Mecklenburg (one of the top scientists in the field of conservation materials in the world) developed the only flexible lining material that meets the structural needs of paintings. Sean has also worked on the development of a flexible lining material for the structural lining of textiles, as well as on a study of rubber and its aging process, in the hope of developing a coating to help preserve and stabilize it from UV, ozone, and oxygen degradation.

Sean has executed several conservation projects ranging from small objects to large monuments. Some of the larger projects included Thomas Jefferson's family graveyard, the Shaw Memorial, the Peace Monument in Washington DC, the Congressional Cemetery, the Pennsylvania State House, removal and reconstruction of a 17<sup>th</sup> to 18<sup>th</sup> century Italian marble fireplace, the conservation of artifacts from the Titanic including a large section of hull, and frame conservation in the rotunda of the US Capitol. Small objects that Sean has conserved include ce-

ramics, glass, furniture, plaster, ethnographic objects, and metals of all types. Sean has taken archeology courses, including hands-on field work.

**Accomplishments:** In the short time Sean has been at Fort Union, he has reviewed the preservation plan for the fort and has started research into mortar analysis in preparation for the execution of preservation treatments on stone structures and brick structures. He has helped with Fort Union's continuing green energy program, helping to save on energy costs and reduce the environmental impact and carbon footprint of the park.

Sean has also reviewed and researched proposed projects for entry into the facility management software system (FMSS) and the project management information system (PMIS).

**Training:** Sean attended the facility manager's conference, started NPS Fundamentals, and has had training in the use of FMSS and PMIS.

**Theodore Garcia, Preservation Crafts Specialist  
FY 2005 Position**

**Skills:** As a veteran Park Service employee, Ted's skills are considerable. He performs onsite crew leader duties for our preservation masonry crews, and he is highly skilled as an adobe preservation/mason. Ted is also

skilled and knowledgeable in the construction trades and has the skill and personality to manage personnel with an even hand, achieving a high level of productivity while maintaining the highest standards for safety and worker satisfaction. At Fort Union there is no job so big or so small that Ted cannot complete it with a high level of skill.

**Accomplishments:** Ted continued to utilize his great work leader skills to complete yet another successful preservation season. Despite weather-related setbacks, Ted and his fellow preservation crew members managed to stabilize all of the Fort Union adobe structures for the winter. In addition to preserving 125,000 square feet of standing adobe walls, Ted and his crew repaired a partial wall structure failure in the Hospital Complex (structure HS-57). The failure was caused by torrential rains impacting a wall section that had been weakened by packrat tunnels. Ted and the crew made 200 adobes to rebuild and stabilize the failed wall section and the surrounding wall structure.

## **VANISHING TREASURES PROJECT FUNDING**

Fort Union National Monument did not receive project funding this year.

## Salinas Pueblo Missions National Monument

### VANISHING TREASURES STAFF

**Ramona Lopez, Maintenance Worker (Ruins Preservation)**

**FY 1998 Position**

**Skills:** Ramona is skilled in many aspects of ruins stabilization work including architectural documentation and the skilled trades, especially the use of amended and unamended soil mortars to preserve complex stone archeological ruins.

**Accomplishments:** Ramona has been involved in ruins preservation for many years, even before her appointment in the VT program more than 10 years ago. She is skilled at stabilizing and building stone walls set in adobe and amended mortars; she is an experienced crew leader and pays close attention to detail.

Ramona helped to lead a crew of 15 student temporary employment program (STEP) summer hires, serving a key training role. As a result of her involvement, the cyclic stabilization of the five Kivas at Gran Quivira, the stabilization of the Abo Mission, and the stabilization of the 19<sup>th</sup>-century reoccupation structures at Abo were all successfully completed. Additional work was also executed on the San Buenaventura Mission at Gran Quivira.

Ramona also participated in the park's annual vegetation management program around sites throughout the park.

**Training:** Ramona participated in fall protection and Occupation Safety and Health Administration (OSHA) Hazardous Work Operations and Emergency Responses (HAZWOPPER) training.

**C. Derek Toms, Integrated Resources Specialist**  
**FY 2000 Position**

This position was originally an archeologist but was converted to an Integrated Resources Specialist in 2009.

This position was vacant during part of FY 2009. The lapse salary was used to backfill the position with non-permanent staff.

**Skills:** Derek has experience as an archeologist and as a compliance officer, and as a cultural, environmental, and natural resource manager. He is skilled in the use of the archeological sites management information system (ASMIS) and is trained as a contracting officer's representative. He is also skilled in photography and other forms of documentation.

**Accomplishments:** Derek is a new VT hire, filling the position previously held by Tobin W. Roop, who is now Chief of Cultural Resources at Yellowstone NP. Derek completed his B.S. in History (2000) and B.S. in Anthropology (2006) from Kansas State University. He is currently working on his M.A. requirements in Environmental Management at the University of Denver.

Derek's previous professional experience includes cultural resource management positions with both educational institutions and private contractors throughout the Midwest and Southwest regions. While working for Kansas State University, Derek served as the Native American Graves Protection and Repatriation Act (NAGPRA) lab supervisor and was responsible for inventorying, reorganizing, and repackaging all NAGPRA-related items that were housed in University collections as they were prepared for repatriation to their affiliated tribes. He has also worked as an archeologist for

Colorado State University's Center for the Environmental Management of Military Lands and with regional cultural resource management firms, where he was responsible for excavation, testing, survey, photographic documentation, report writing, and geographical information system (GIS) data collection.

Derek has worked as a seasonal, term, and student career experience program (SCEP) archeologist for Salinas since FY 2005 and has been responsible for performing condition assessments, architectural documentation data collection, condition assessment/archeological documentation, database management, cultural resources survey, photographic documentation, GIS data collection, compliance, and report writing. During this time period he has also served as the contracting officer's representative (COR) for laser scanning, ground penetrating radar (GPR), and documentation projects at the Abo unit. He was also successful in working with the Smithsonian Institution, the Museum of New Mexico, and the park's affiliated tribes in completing our NAGPRA repatriation process.

**Training:** In FY 2009, Derek attended the George Wright Society Conference and training seminars on Indian Law and Interagency Wilderness Stewardship.

**Marc A. LeFrançois, Chief of Facilities and Resource Management**  
**FY 1999 Position**

This position was originally an archeologist but was changed to Chief of Facilities and Resource Management in 2006. This position was vacant for part of FY 2009. The lapse salary was used to backfill the position with non-permanent staff.



*The Mission of Purísima Concepción at Quarai, Salinas Pueblo Missions National Monument.*  
*Photo: Randall Skeirik*

**Skills:** Marc is skilled in the field of architectural conservation of both archeological and historic structures particularly ruins preservation techniques and problem-solving and site documentation. He has special expertise in period technology and craftsmanship, the facility management software system (FMSS), and the list of classified structures (LCS). He is certified as a COR.

**Accomplishments:** Marc had been serving as Division Chief since the departure of Phil Wilson in October 2007. In 2009, he was hired into the position on a permanent basis and now supervises all Resource and Facilities staff and manages the division budgets. Marc also continued consulting with park and VT staff on preservation issues at SAPU.

Resource projects completed in FY 2009 included stabilization of the Abo Mission, stabilization of the five kivas of Gran Quivira, stabilization of the 19<sup>th</sup>-century structures at Abo, and documentation of the Abo Painted Rocks alcove-phase II.

**Training:** Marc's 2009 training included a course on Indian Law, a course on Wilderness stewardship, and Occupational Leadership.

#### **William Torrez, Exhibit Specialist FY 2003 Position**

This position was programmed to Marc, who has been acting as Division Chief since late 2007. When Marc was hired into the position of Division Chief, Willie was hired into Marc's old position; therefore there was no lapse salary.

**Skills:** Willie has extensive experience in trade skills, project field management, and architectural documentation.

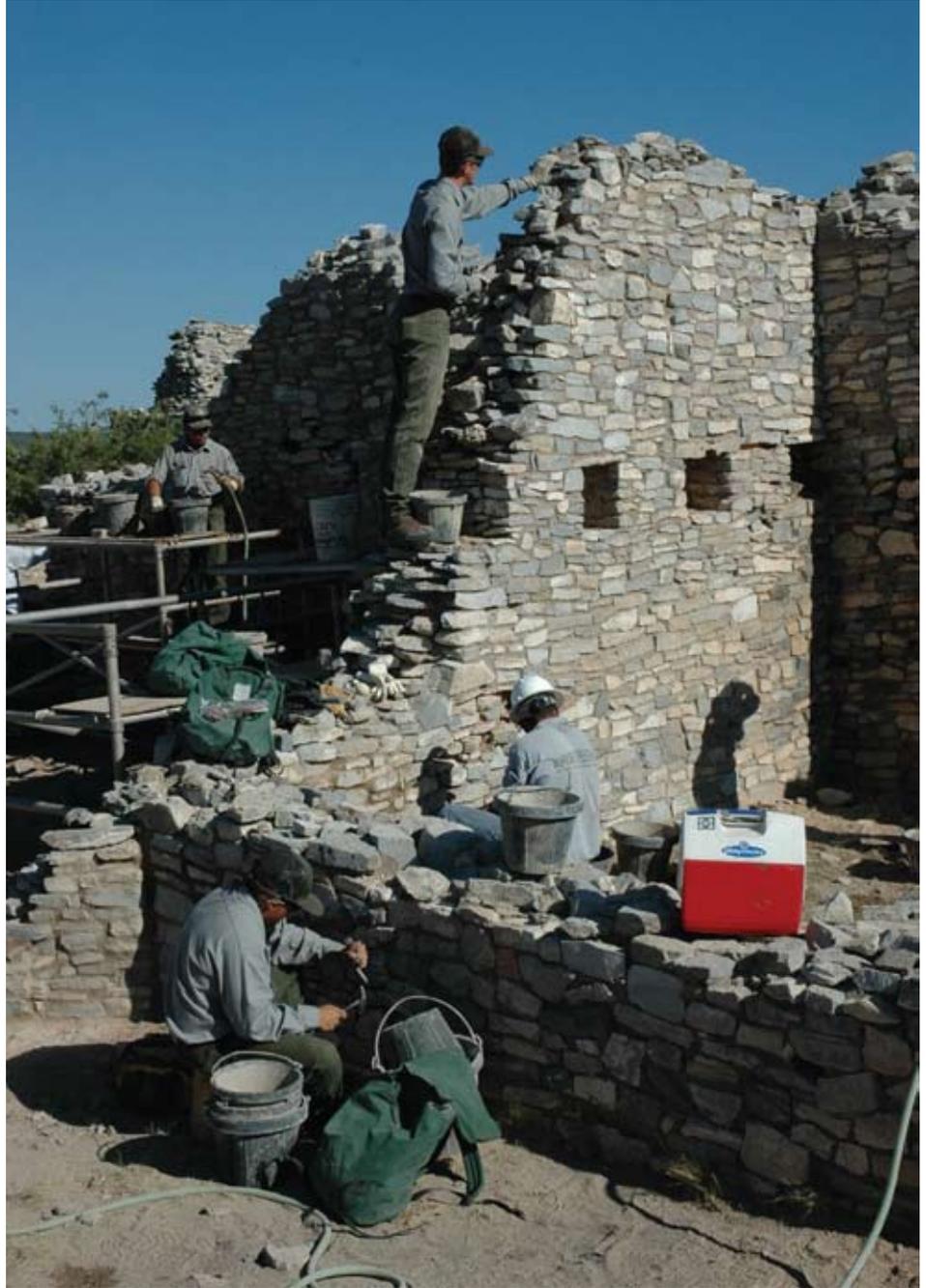
**Accomplishments:** Willie was instrumental in the completion of the stabilization of the Abo Mission, the stabilization of the five kivas of Gran Quivira, the stabilization of the 19<sup>th</sup>-century structures at Abo, and stabilization of the San Buenaventura mission complex at Gran Quivira.

**Training:** Willie had fall protection and OSHA HAZWOPPER training this year.

#### **José Nunez, SCEP Maintenance Worker (Ruins Preservation) FY 2003 Position**

This position was originally hired as a WG-08 but was changed to a WG-07 in 2009. Lapse salary was used to backfill with non-permanent staff.

**Skills:** José is skilled in a variety of construction trades, as well as ruins stabilization and



*The preservation crew works on stabilization and repair of stone masonry at the Gran Quivira Unit, Salinas Pueblo Missions National Monument.*

*Photo: Courtesy Salinas Pueblo Missions National Monument*

advanced documentation. He is currently completing a program in Applied Science in Construction Technology at Central New Mexico Community College.

**Accomplishments:** José was instrumental in the completion of the stabilization of the Abo Mission, the stabilization of the five kivas of Gran Quivira, the stabilization of the 19<sup>th</sup>-century structures at Abo, and the stabilization of the San Buenaventura mission

complex at Gran Quivira.

**Training:** José received fall protection and OSHA HAZWOPPER training this year.

#### **VANISHING TREASURES PROJECT FUNDING**

Salinas Pueblo Missions National Monument did not receive Vanishing Treasures project funding this year.

V a n i s h i n g      T r e a s u r e s

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# T e x a s

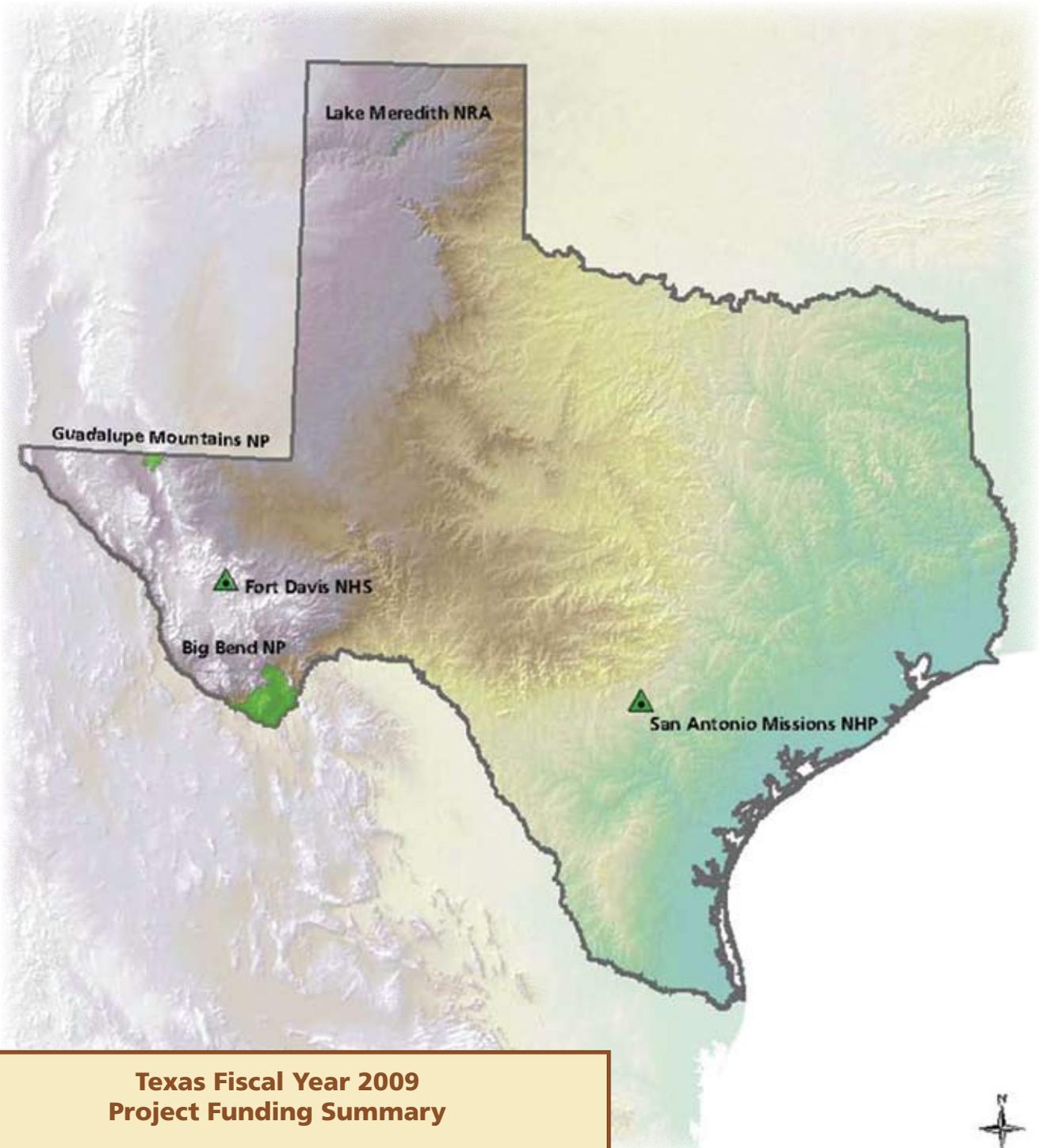
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*View from the convento at San José, San Antonio Missions National Historical Park.*

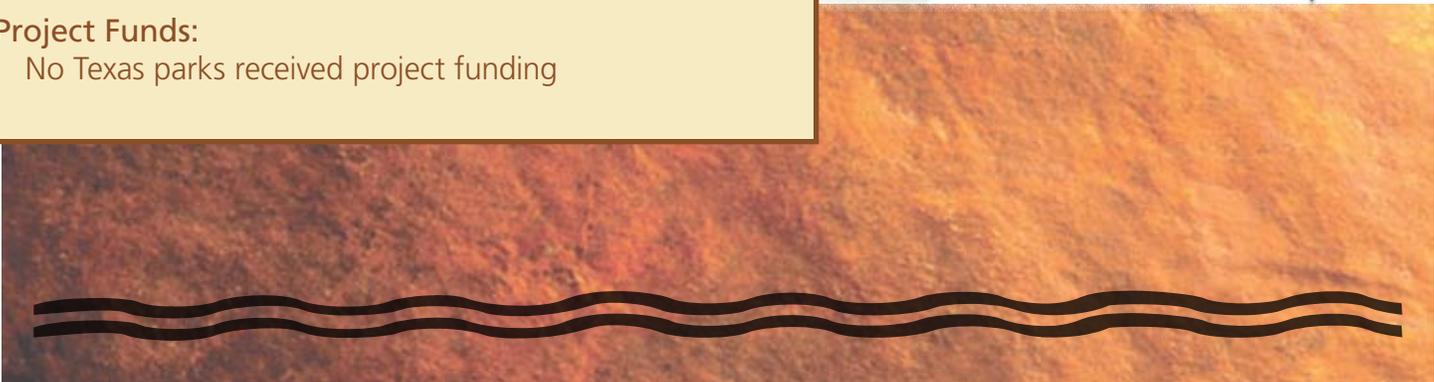
*Photo: Courtesy San Antonio Missions National Historical Park*

- ◆ Big Bend National Park ◆ Fort Davis National Historic Site ◆
- ◆ Guadalupe Mountains National Park ◆ Lake Meredith National Recreation Area ◆
- ◆ San Antonio Missions National Historical Park ◆



**Texas Fiscal Year 2009  
Project Funding Summary**

Project Funds:  
No Texas parks received project funding



## Fort Davis National Historic Site

### VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

**VT Challenges and Successes:** Our greatest challenge is finding the funding to keep a preservation crew working beyond a six-month season.

**Consultation:** We continue to maintain a very good relationship with the Texas State Historic Preservation Officer (SHPO) and have had no issues relating to consultation.

**Safety:** We have completed four years of preservation work with no days away from work, job restrictions, and/or job transfers, continuation of pay, or reportable incidents.

### VANISHING TREASURES STAFF

Roy Cataño, Masonry Worker  
FY 2000 Position

**Skills:** Roy served as the work leader for three seasonal employees during the execution of plaster conservation on the historic

Officer Quarters, completing work on two buildings and accomplishing a significant amount of work on two more. In addition, Roy instructed and oversaw the Historic Preservation Projects crew from Bandelier during their time assisting with plaster conservation.

Roy continues to monitor all of the crack monitors throughout the park's historic buildings and foundations, entering inspection information into the facility management software system (FMSS). He has taken responsibility for improving our documentation process, reporting on all work activities concerning the historic structures.

**Accomplishments:** Roy has completed ten years of service for the NPS, with all of that time spent working with the preservation of historic structures, particularly stone and adobe structures.

The first historic preservation effort by Roy and his crew in FY 2009 was to continue the repointing of adobe walls throughout the two-story Officer Quarters (HB-18) using unamended adobe mud, a project that was funded by FY 2008 carry-over dollars.

Roy and the crew also contributed to the

5th consecutive season of the Post Hospital (HB-46) field school at Fort Davis where he and the crew stabilized the foundation of the wash room prior to the installation of the wash room floor and assisted with the installation of ceiling boards and the sealing of openings against bats in the Hospital's North Ward, Steward's Room, and Surgeon's Office. During this field school, Roy also led a crew in finishing the adobe walls in the wash room of the North Ward where two windows were installed to complete the weather-tight sealing of this room.

Roy was instrumental in a two month effort to reestablish a historic drainage ditch to mitigate flooding impacts to the historic core of buildings at Fort Davis. His ability to operate heavy equipment allowed for a special blend of functional excavation with historic patterns of water channelization.

Roy participated as an instructor and group leader in two adobe, stone and plaster conservation workshops at Fort Davis and he is available to other NPS units to provide technical advice on the use of stone and adobe in the preservation of historic structures. He is also skilled in heavy equipment use and welding.



*Officers Row, lined with trees, forms one edge of the parade grounds, Fort Davis National Historic Site.  
Photo: Randall Skeirik*

## René Laya, Chief, Cultural Resources and Facility Management

### FY 2000 Position

**Skills:** René has just completed his first year at Fort Davis as the Chief of Cultural Resources and Facility Management. He brings a strong background in historic preservation to his position, having served with the Historic Preservation Projects crew, formerly of Santa Fe, and with the Historic Preservation Training Center of Maryland, where he completed the Exhibits Specialist program. René's specialty is working with all types of masonry.

**Accomplishments:** In FY 2009, René managed the cultural resource activities and historic preservation projects at Fort Davis. He supervised six permanent and ten seasonal employees, overseeing the Facility Management Program (FMP) and the facility management software system (FMSS) for the park.

A significant restoration project at the Post Hospital reached completion under René's guidance. This year's project work represented the 5th year of efforts to seal and finish three interior rooms. For two weeks, the FODA staff and 20 volunteers (who alone put in 750 hours) focused on ceiling, floors, windows, and doors to complete the three rooms. This effort will allow for the installation of exhibits and the protection of these exhibits from weather and pests.

René provided preservation planning to evaluate and design treatments for out-year projects, oversaw the park's Youth Conservation Corps (YCC) program, ensured quality control of historic preservation projects, evaluated and monitored over 130 historic structures at the site, and ensured that all park projects and treatments involving historic structures complied with the Secretary of Interior's *Standards for the Treatment of Historic Properties*.

**Training:** René completed a site inspection of a historic building for the community of Fort Davis and made suggestions for a scope of work to correct foundation and wall problems for this historic building.

He also coordinated and instructed two adobe, stone, and plaster conservation workshops at Fort Davis. He is available to other NPS units to provide technical advice on the use of stone and adobe in the preservation of historic structures.

## VANISHING TREASURES PROJECT FUNDING

Fort Davis National Historic Site did not receive project funding in FY 2009.



Roy Catano completes the top of an adobe wall in the wash room of the North Ward of the Post Hospital, Fort Davis National Historic Site.

Photo: Courtesy Fort Davis National Historic Site



René Laya demonstrates the use of various tools used in shaping stone at a May 2009 preservation workshop, Fort Davis National Historic Site.

Photo: Courtesy Fort Davis National Historic Site

**San Antonio Missions  
National Historical Park**

**VANISHING TREASURES  
ACCOMPLISHMENTS AND  
CHALLENGES**

**VT Challenges and Successes:** Progress in the VT masonry program has been challenging for the past few years since the lapse of one of our masonry worker positions in 2007. With only 2 masons, every project requires them to handle all tasks associated with masonry work including erecting scaffolding; marshalling tools, equipment, and materials; screening sand; mixing mortar; cleaning and raking joints; shaping stone; and cleaning up. Without a division of labor, progress can be extremely slow.

To help address this, park managers have implemented an internship program with Friends group funds and a youth-serving organization partnership that resulted in over 2,000 hours of help for the VT masons in FY 2009.

**VANISHING TREASURES STAFF**

Susan Snow, Archeologist  
FY 1999 Position

**Skills:** Susan is skilled in archeological survey and excavation, budgeting, and project management.

**Accomplishments:** In FY 2009 Susan performed a variety of duties including managing the curatorial facilities for exhibits, artifact, and archival collections; monitoring park development projects; and overseeing archeological research and reporting. She also served on the environmental management system (eMs) team and served as secretary for the Workforce Opportunities Council, Alamo Federal Executive Board. Susan is the co-coordinator of Section 106 compliance and SEPAS (special emphasis program allocation system) calls for the park, and she coordinates research permits for the park.

Susan also continued to serve as the NPS liaison for the archeological testing of several sites for proposed mitigation strategies. Phase III investigations were conducted

by EComm at sites 41BX254 and 41BX256 from October-December 2008. She serves on the Archdiocese’s Liturgical Enhancement Committee, which advises church officials on historically sensitive/correct methods for rehabilitating the interior of the churches at Missions Concepción and San José. Susan also serves on the Lyndon Johnson National Historical Park (LYJO) Cultural Resource Management team to review Section 106/110 issues; and she served, along with the park’s landscape architect, as a stakeholder for the City of San Antonio’s new City Historic Preservation Plan. Susan continues to be an active member of the facility management software system (FMSS)-Maintained Archeological Site workgroup.

In coordination with University of Texas at San Antonio’s Center for Archeological Research (UTSA-CAR), excavation at Rancho de las Cabras continued in FY 2009. Over 100 volunteers participated in a week-long teacher workshop and four volunteer Saturdays.

Susan monitors and/or acts as advisor on all



*Mission San Juan, San Antonio Missions National Historical Park.  
Photo: Randall Skeirik*

park cultural resource projects. Excavations were conducted at the site of Trueheart Ranch, which was being evaluated for a possible boundary expansion to be included in the park. The excavated feature was a stone arch bridge across an intermittent stream. The excavations were conducted both by UTSA-CAR's and in-house staff. Funds for the excavation were provided by the park's Friends group.

Additional monies were added to UTSA-CAR's agreement for documentation at Mission Espada in order to expand the project.

Susan worked with the City of San Antonio and the San Antonio River Authority to evaluate concerns about the structural safety of the "Old Stone Mill" ruins at Berg's Mill. The mill ruins are located near a site

that would host a city art project and the decision was made that the San Antonio River Authority would erect a protective fence around the site.

In FY 2009 Susan attended and helped to coordinate Partners in Equality Day through the Alamo Federal Employees Board. She attended the Texas Historic Preservation Conference and the Texas State Historical Association meetings as well as the Council of Texas Archeologists meetings, where the park was awarded the E. Mott Davis Award for Public Outreach for the Mission Concepción Courtyard Project. Susan helped to plan and facilitate Archeology Day at Mission San José and organized a session on Spanish Colonial trade and archeology for the 2010 Society for Historical Archeology meetings.



*A preservation crew works on a retaining wall for Mission Espada aqueduct, San Antonio Missions National Historical Park.*

*Photo: Courtesy San Antonio Missions National Historical Park*

**Training:** Susan attended National Environmental Policy Act (NEPA)/Section 106 training as well as online courses in FMSS.

**Dean Ferguson, Mason  
FY 2000 Position**

**Skills:** Dean is a skilled mason.

**Accomplishments:** Dean and Stephen Siggins worked on two main repointing projects in FY 2009 the San José Granary and the Espada Bastian/Contact station. They also corrected drainage issues around the Espada Aqueduct and reparged its interior. Aqueduct repairs also included repairing a sluice gate and stone drainage canal (post-colonial) that guide overflow water away from the stone masonry of the Aqueduct. All of this work was conducted with the aid of masonry apprentices from the Austin Youth Works masonry apprentice program, funded by our Friends group, Los Compadres.

**Training:** Dean attended Occupational Safety and Health Administration (OSHA) Scaffolding Training.

**Stephen Siggins, Mason  
FY 2003 Position**

**Skills:** Stephen is a skilled mason.

**Accomplishments:** Stephen worked with Dean Ferguson on two main repointing projects in FY 2009 the San José Granary and the Espada Bastian/Contact station. They also corrected drainage issues around the Espada Aqueduct and reparged its interior. Aqueduct repairs also included repairing a sluice gate and stone drainage canal (post-colonial) that guide overflow water away from the stone masonry of the Aqueduct. This work was conducted with the aid of masonry apprentices from the Austin Youth Works masonry apprentice program, funded by our Friends group, Los Compadres.

**Training:** Stephen attended OSHA Scaffolding Training.

**Vacant, Masonry Worker  
FY 2004 Position**

This position was vacant during all of FY 2009. The lapse salary was used to cover Operation of the National Park Service (ONPS) shortfalls.

**VANISHING TREASURES PROJECT  
FUNDING**

San Antonio Missions National Historical Park did not receive project funding in FY 2009.

# V a n i s h i n g   T r e a s u r e s

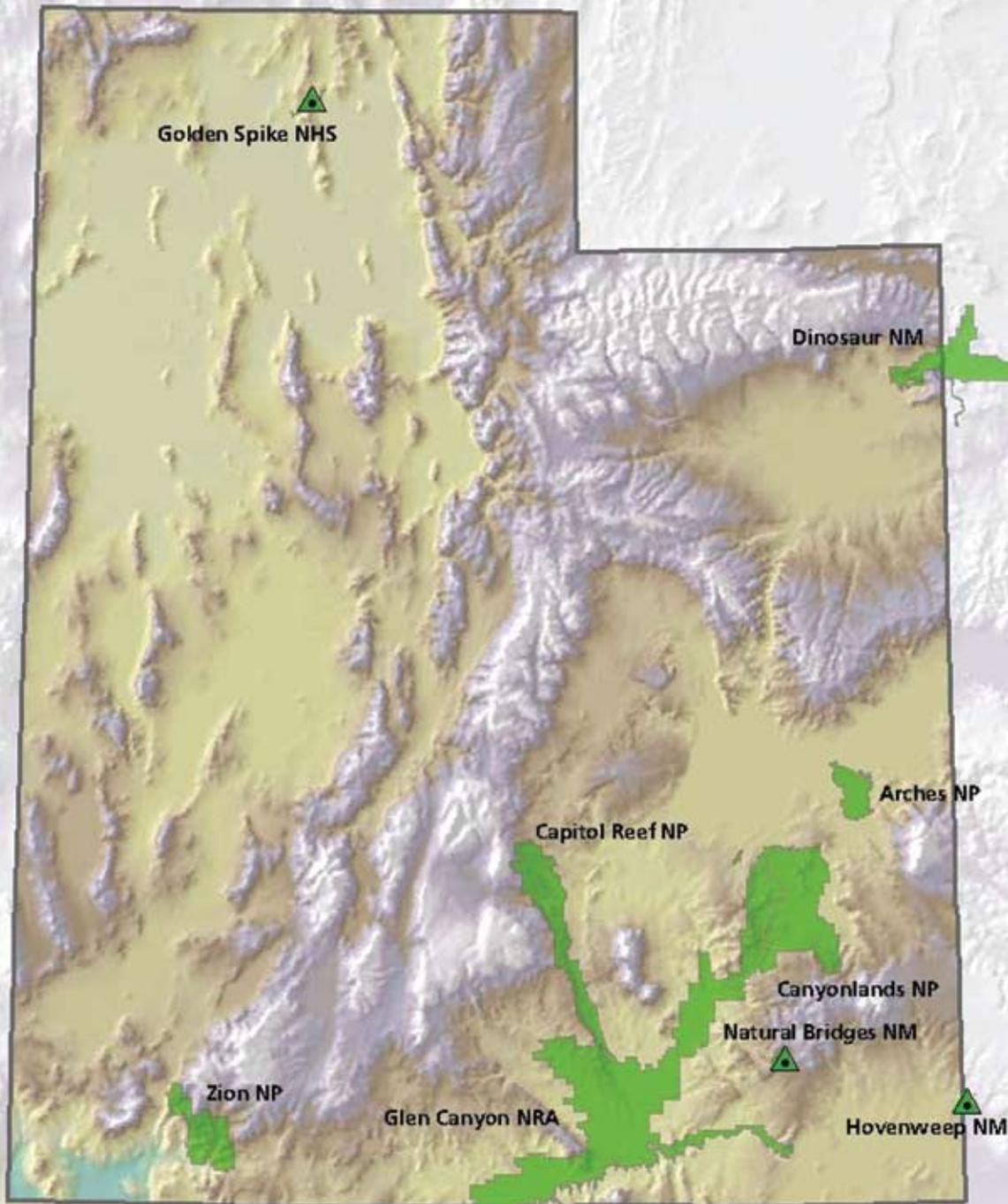
## U t a h



*Hewing a replacement log for the Fife Cabin, Zion National Park.*

*Photo: Courtesy Zion National Park*

- ◆ Arches National Park ◆ Capitol Reef National Park ◆ Canyonlands National Park ◆
- ◆ Glen Canyon National Recreation Area ◆ Golden Spike National Historic Site ◆
- ◆ Hovenweep National Monument ◆ Natural Bridges National Monument ◆ Zion National Park ◆



### Utah Fiscal Year 2009 Project Funding Summary

Project Funds:  
Canyonlands National Park: \$125,000  
Zion National Park: \$58,516

**Canyonlands National Park**

*Canyonlands is part of the Southeast Utah Group (SEUG) that also includes Arches National Park, and Hovenweep and Natural Bridges National Monuments.*

**VANISHING TREASURES STAFF**

**Sue Eininger, Archeologist**  
**FY 2002 Position**

This position was originally filled as an exhibit specialist but was converted to an archeologist in 2005.

**Skills:** Sue has extensive experience in pre-historic architectural documentation, condition assessments, structure stabilization, database management, and report writing.

**Accomplishments:** During FY 2009, Sue served as the project director for the Upper Salt Creek Documentation and Condition

Assessment Project. She led a crew of three on seven separate field sessions in the Salt Creek Archeological District of Canyonlands to update documentation and condition assessments at sites that, for the most part, hadn't been visited since just after CANY was established as a National Park in 1964. Despite difficult logistics and sometimes terrible weather, 25 sites received updated documentation.

Sue is also responsible for post-field data processing and report writing for the project, which will be completed in FY 2010.

**Pat Flanigan, Exhibit Specialist**  
**FY 2002 Position**

**Skills:** Pat has extensive experience in prehistoric architectural site documentation, condition assessments, and data entry.

**Accomplishments:** During FY 2009, Pat

performed condition assessment work on Vanishing Treasures resources in both Arches and Canyonlands National Parks. He completed a maintenance project on the roof at the Wolfe Ranch Cabin, working with maintenance staff and volunteers to successfully solve the problem of natural material sloughing off the roof surface. He also oversaw a Cultural Cyclic project on the Arches CCC Visitor Center Bridge.

**VANISHING TREASURES PROJECT FUNDING**

**Project Name:** Stabilize Threatened VT Sites in the River Corridors

**PMIS Number:** 115478A

**Project Summary:** The River Corridor Vanishing Treasures Stabilization and Documentation Project in Canyonlands National Park took place in two stages, from March



*The Green River at Fort Bottom, Canyonlands National Park.  
 Photo: Courtesy Canyonlands National Park*



*Park Archeologists document a remote site near Upper Salt Creek, Canyonlands National Park.  
Photo: Courtesy Canyonlands National Park*

through May and again in September, 2009. Six prehistoric sites were stabilized in the spring and an historic cabin located on the Green River was stabilized in September. Southeast Utah Group monitoring forms were updated to reflect the change in condition after the preservation work was completed. Additional work completed during this project included archeological site documentation, site monitoring, and site assessment for future stabilization or documentation needs.

**Project Budget:**

Total VT Project Funding:	\$125,000
Personnel:	\$47,250
Vehicles:	\$0
Travel/Training:	\$8,229
Supplies/Materials:	\$6,325
Equipment:	\$4,430
Services/Contracts:	\$0
Other:	\$58,690

**Project Accomplishments:** Six prehistoric sites--four located on the Green River at Turk's Head and Jasper Canyon and two sites on the Colorado River at Dog Leg and Monument Canyons were selected for sta-

bilization treatments through this project. These sites, some of the most heavily visited by the recreational public, were exhibiting serious degradation from both human and natural impacts. Stabilization work included the repointing of eroded masonry joints, wedging of dry-laid masonry, backfilling, and limited graffiti removal.

The stabilization of the historic cabin at Fort Bottom on the Green River was treated as a separate phase of the project because of the different approaches used to preserve masonry and wooden structures. Based on a condition assessment prepared by Randy Skeirik, VT Historical Architect, work on the cabin included the removal of the roof-fall material from the interior, replacement of an eroded sill log, insertion of dowels into the corners of the structure, pinning the rafter tails to the beam of the porch/ramada, application of Boracare to the lowermost logs on the cabin, setting Impel rods into the top beams, repair of the entry door, and the installation of Dutchman-type splices into rotted areas on the tops of two purlins. Jake Barrow, VT Exhibit Specialist, was recruited to direct and assist with the

historic preservation work. The sill log replacement turned out to be a collaborative effort that engaged personnel from numerous divisions throughout Canyonlands and other districts of the park.

In addition to conducting preservation maintenance on these seven sites, project funding also allowed the monitoring of two previously recorded sites and the archeological documentation of an additional 17 prehistoric sites, four of which received minimal stabilization during recording. Sites that were documented during this project were primarily those that were readily visible along the river corridors and had had minimal if any previous documentation. Finally, six archeological sites were visited and assessed for potential future stabilization and/or documentation needs.

All of the documented sites were entered into the SEUG archeological database and the park-wide ASMIS database. All but two of the documented sites are considered eligible for the National Register of Historic Places.

## Glen Canyon National Recreation Area

### VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

**VT Challenges and Successes:** During FY 2009 the Glen Canyon National Recreation Area Vanishing Treasures program conducted several archeological site condition assessments and recorded several new sites with standing architecture. In the Lees Ferry District, three previously undocumented archeological sites consisting of hogan like structures were recorded, and two previously recorded but undocumented hogan sites had condition assessments performed. These sites have the potential to offer insight into Navajo use patterns on the northwest side of the Colorado River in the Lees Ferry area. To broaden our understanding of these sites, the Glen Canyon Branch of Cultural Resources staff plans to follow up this field work by contacting local Navajo families to see if any elders would

be interested in sharing oral histories about historic or prehistoric use in this area. Also, in the Lees Ferry District, restoration of two buildings in the Lonely Dell Historic District continued with the restoration of the Weaver Ranch house and the repointing of the porch of Samantha's Cabin.

In the Orange Cliffs Unit, detailed condition assessments were performed at the Wolverton Cabin and French Cabin. Both of these sites contain multiple historic structures that were constructed and used by local ranchers during the early 20<sup>th</sup> century, and both also feature prehistoric components. Glen Canyon was assisted by VT Structural Engineer Preston Fisher in assessing the Three Roof Ruin, a Class I archeological site that contains stabilized Pueblo structures. The site is regularly visited by the public but is currently closed until repairs and stabilization can improve its condition. With the recommendations provided by Preston, Glen Canyon plans to ask for 2011 Federal Lands Recreation Enhancement Act (FL-REA) project funding to accomplish restoration work. In addition to field work,

time was spent updating our list of classified structures (LCS) database.

Our biggest challenge this year was the half-time work status of Thann Baker, our Vanishing Treasures Archeologist, while he completed his Master's Thesis. Thann's thesis research was funded by Vanishing Treasures money obligated in 2008 as a Cooperative Ecosystem Study Unit (CESU) project through Northern Arizona University and was completed in fall 2009. The thesis develops an architectural typology of storage feature construction and presents a temporal sequence of change in construction styles for archeological sites along the lower Escalante River and its tributary canyons. Direct radiocarbon dating, in conjunction with detailed architectural documentation, allowed for the placement of storage feature types within a temporal and cultural framework spanning the Early Agricultural period (ca. AD 250) to the Pueblo III period of the late Formative (ca. AD 1280), encompassing the occupational history of Fremont and Anasazi/Ancestral Pueblo populations.



*Located on the shores of Lake Powell, Three Roof Ruin receives heavy visitation, Glen Canyon National Recreation Area. Photo: Courtesy Glen Canyon National Recreation Area*



*Alan Malmquist along with other park maintenance staff and Elderhostel volunteers repairs the roof of the Lee's Ferry Fort, Glen Canyon National Recreation Area. Photo: Courtesy Glen Canyon National Recreation Area*

Thann will return to full-time work in January 2010 when he will concentrate his efforts on the standing architecture found throughout the Recreation Area.

**Consultation:** The park has standing consultation agreements with our affiliated tribes as well as a programmatic memorandum of agreement with the Utah State Historic Preservation Officer (SHPO) on phased compliance under Sections 110 and 106. No Vanishing Treasures-related consultation was conducted, although we did conduct consultations with tribes on a variety of other subjects this year including Rainbow Bridge and the Native American Graves Protection and Repatriation Act (NAGPRA).

**Safety:** In the Lonely Dell Ranch Historic District, the Weaver Ranch House remains closed to the public because of safety concerns and will not be reopened until the floor and wiring are replaced. The chimney and window lintels were determined to not be earthquake-safe and will also be replaced. This is a Vanishing Treasures resource that the VT Archeologist consults on regularly.

### **VANISHING TREASURES STAFF**

**Thann Baker, Archeologist**  
FY 2002 Position

**Skills:** Thann has received training in architectural documentation at Northern Arizona University and has led condition assessment and architectural documentation crews at Glen Canyon and Walnut Canyon. Thann is skilled in the use of ArcGIS, AutoCAD, and graphic design applications, and

in archaeogeophysics techniques.

**Accomplishments:** Following the departure of the previous VT archeologist in July, 2007, Thann was brought on as an emergency hire archeological technician. His employment continued part-time in a STEP (Student Temporary Employee Program) and now a SCEP (Student Career Experience Program) position until the anticipated completion of his M.A. in anthropology at Northern Arizona University in December of 2009. After graduation, Thann will move into a fulltime position.



*Alan Malmquist works on the Picture Window Cabin with Elderhostel volunteers, Glen Canyon National Recreation Area.*

*Photo: Courtesy Glen Canyon National Recreation Area*

Thann's thesis research, partly funded through VT funds obligated through the Colorado Plateau Cooperative Ecosystems Study Unit, develops an architectural typology of storage feature construction and presents a temporal sequence of change in construction styles for archeological sites along the lower Escalante River and its tributary canyons. Direct radiocarbon dating in conjunction with detailed architectural documentation allows for the placement of storage feature types within a temporal and cultural framework spanning the Early Agricultural period (ca. AD 250) to the Pueblo III period of the late Formative (ca. AD 1280).

In addition to providing oversight of the VT program in the park, Thann's other duties include support for the cultural resources program which includes the development and implementation of an archeological site monitoring and condition assessment program, coordination with the park's law enforcement staff concerning site protection, compliance and consultation associated with park operations, preparation of contract documents, project management, overseeing data management operations, and maintaining the park's cultural databases.

### **VANISHING TREASURES PROJECT FUNDING**

Glen Canyon National Recreation Area did not receive Vanishing Treasures project funding this year.

## Golden Spike National Historic Site

### VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

**VT Challenges and Successes:** Golden Spike’s biggest challenge for FY 2009 was the loss of our VT Archeologist. Vacated during the summer of 2008, the position remained vacant until October 2009. Looking forward, the immediate challenge will be to regroup and assess Golden Spike’s VT resource preservation needs and pursue funding opportunities for preservation projects.

**Consultation:** Golden Spike did not participate in any consultation in FY 2009.

**Safety:** Safety, and the encouragement of

a culture of safety, is an ongoing effort at Golden Spike National Historic Site.

### VANISHING TREASURES STAFF

Scott M Whitesides, Archeologist/  
Curator  
FY 2005 Position

This position was originally filled as an archeologist but has been converted to Park Archeologist/Cultural Resource Program Manager. This position was vacant during part of FY 2008 and the lapse salary was absorbed into base funding.

**Skills:** Scott M Whitesides joined the Golden Spike staff as the park’s archeologist and curator in October 2009 and will oversee the park’s cultural resource and environmental compliance programs. Mr. Whitesides brings a broad range of experience to Golden Spike including an emphasis in Great Basin

archeology, historical archeology, maritime archeology, National Historic Preservation Act/National Environmental Policy Act (NHPA/NEPA) compliance, and museum management. Mr. Whitesides is also an experienced carpenter (shipwright) and has performed preservation, restoration, and reconstruction projects on historic watercraft and maritime-related wooden structures.

### VANISHING TREASURES PROJECT FUNDING

Golden Spike National Historical Site did not receive Vanishing Treasures project funding this year.



Part of the alignment, known as “the big fill”, of the first transcontinental railroad, Golden Spike National Historic Site.  
Photo: Courtesy Golden Spike National Historic Site

## Hovenweep National Monument

*Hovenweep is part of the Southeast Utah Group (SEUG) that also includes Canyonlands and Arches National Parks, and Natural Bridges National Monument.*

### VANISHING TREASURES STAFF

**Noreen Fritz, Archeologist**  
FY 2003 Position

**Accomplishments:** During FY 2009, Noreen completed reporting on Vanishing Treasures projects from FY 2008 as well as addressing new projects for FY 2009.

At Canyonlands National Park, the final report for the FY 2008 VT-funded preservation work on the Green and Colorado Rivers was completed early in 2009. In addition, a stand-alone report on the stabilization of the Fort Bottom Cabin, part of the same VT River Corridor Stabilization Project, was completed and printed.

Preservation maintenance work, financed with Federal Lands Recreation Enhancement Act (FLREA) funding, was completed during early spring 2009 at five sites in the Island in the Sky district of Canyonlands (CANY) and Arches National Parks. Three of these sites received fabric interventions

while two had documentation updates and received measures to alleviate heavy visitor impact. Four additional sites were visited in order to conduct condition assessments and assess preservation needs. A draft report of this work was completed by the end of FY 2009.

In June 2009, documentation was updated and condition assessments were conducted at five sites in Natural Bridges National Monument for the Washington Office (WASO)-mandated Corrective Action Plan. This included data entry into the SEUG and archeological sites management information system (ASMIS) databases.

At Hovenweep National Monument Noreen coordinated the removal of a dead standing tree adjacent to the tower at the Holly Unit in cooperation with the SEUG trails crew and the 4-C's (Canyon Country Conservation Crew).

In preparation for the upcoming American Recovery and Reinvestment Act (ARRA) funded preservation projects at the Cuthroat and Cajon Units of Hovenweep National Monument, Noreen recruited and hired four masonry workers from the Hopi Mesas, prepared and submitted compliance and project review forms, and procured supplies to begin field work in FY 2010.

**Laura Martin, Exhibit Specialist**  
FY 2002 Position

**Accomplishments:** Laura participated in all of the large VT efforts during FY 2009. She assisted in the VT-funded Salt Creek Site Documentation and Condition Assessment project, and she was instrumental in organizing the condition assessment of Bighorn Sheep Ruin, a large architectural site in the Salt Creek Archeological District. She also assisted with the Island in the Sky (ISKY) preservation project and monitored sites at Natural Bridges for impacts during a prescribed burn project.

Laura organized and produced a report related to these documentation and condition assessments; she also conducted monitoring and preventative maintenance at 28 VT sites along the Green River. She was co-Project Director of a Sierra Club Service Trip that performed site updates and condition assessments at four sites in Horse Canyon in the Salt Creek Archeological District.

**Training:** Laura got a fire refresher/red card cert. and received Archeological Resources Protection Act training in Durango, CO.

### VANISHING TREASURES PROJECT FUNDING

Hovenweep National Monument did not receive project funding this year.



*The Holly Group, Hovenweep National Monument.*  
Photo: Randall Skeirik

## Zion National Park

### VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

**VT Challenges and Successes:** In March, 2009, the bulk of Zion National Park (ZION) was officially designated as Wilderness by the US Congress. Although this action represents a significant accomplishment toward continued conservation of the natural landscape, it poses certain challenges for the management of cultural resources located in wilderness.

For example, except for a few areas where sites are conveniently located along existing roads, most sites can only be reached on foot. Although not an issue for individuals, it can be complicated when site treatments require a great deal of gear, equipment, or materials. Horses can be used in some areas of the park and will be the best choice under many circumstances. In other cases, where huge loads of lumber or steel, or many cubic yards of soil are required, only mechanized equipment can efficiently accomplish the task. In these cases, we must evaluate in a comprehensive manner, if such action is truly warranted.

To date, the Cultural Resource Management staff have found viable and creative solutions to the challenges of working in Wilderness. The ZION Cultural staff has also received national recognition for the successful completion of a complicated historic structure stabilization project in Wilderness.

**Consultation:** Compliance and consultation this year have been fairly standard and unremarkable.

**Safety:** We have greatly relied on the existing expertise within our park. For example, we not only work with the Fire Program to get training in the use of many of the dangerous tools we use, including chainsaws, cross-cut saws, etc.; we also work directly with the fire crews, bringing them on-site to help safely accomplish dangerous tasks such as tree-felling.

### VANISHING TREASURES STAFF

Zion National Park has not received funding for a Vanishing Treasures position.

### VANISHING TREASURES PROJECT FUNDING

**Project Name:** Historic Sites Protection Plan

**PMIS Number:** 35205



*Autumn in Zion, Zion National Park.  
Photo: Courtesy Zion National Park*

**Project Summary:** Historic-era cultural resources in ZION represent industrial, domestic, agricultural, land management, and resource extraction activities of the late 19th and early 20<sup>th</sup>-centuries and include sawmill remnants, oil well remnants, and cabins associated with logging, ranching, mining, and early park management. Each year the integrity of sites is threatened by a range of natural and human impacts.

Primary among the natural factors is wildfire, while erosion and weathering are concerns as well. Of the 23 sites identified for this project, two thirds of the features are entirely wooden or have a wooden structural component. These structures with organic components are naturally decomposing and losing integrity. More importantly, organic components of these sites are particularly vulnerable as combustible fuels during management-ignited fires and the increasing number of large wildfires.

Human impacts on these sites result from visitor use and vandalism. Zion has a fairly open backcountry that receives a great deal of visitation each year. Site-monitoring data indicate increasing foot traffic on sites and more incidents of visitor impacts such as trash, human waste, collector piles, and illegal camping and campfires (particularly disturbing on sites with a ready supply of “scrap” wood).

The Zion Cultural Resource Management Program is implementing this project to focus on the efforts needed to protect these special, fragile sites. As with all ZION cul-

tural resource management field projects, this was conducted as a comprehensive undertaking. Sites and features are completely documented, data gaps and discrepancies are addressed, preservation treatments and stabilization actions are implemented, and preservation and long-term maintenance plans are developed. All aspects of this policy were included in this project and the results are described below.

#### Project Budget:

Total VT Project Funding:	\$58,516
Personnel:	\$49,163
Vehicles:	\$4,393
Travel/Training:	\$60
Supplies/Materials:	\$51
Equipment:	\$4,191
Services/Contracts:	\$0
Other:	\$82

**Project Accomplishments:** The primary goal of this project was to conduct detailed condition and fuels assessments for each targeted site and to develop a strategy for its protection and preservation. The documentation included overall site condition, on-site fuel loads, and individual assessments of the artifact assemblages and features. As a result of this project, 23 sites were visited; protection plans established for all 23; and treatments conducted at 12. Twenty of these sites are in Zion National Park while three are in Cedar Breaks National Monument (CEBR).\*

For all sites visited, site histories were completed detailing the chronology of the professional and volunteer work that has been

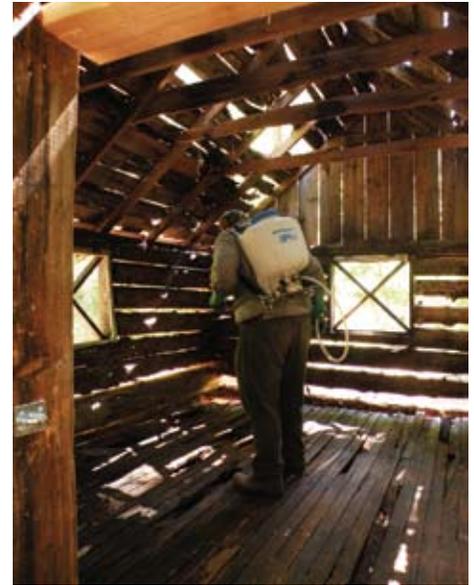
performed over the years. This information is vital to understanding prior actions at a site and how those actions may have contributed either to on-going impacts or to successful preservation and to determine what current treatment/stabilization actions should be implemented. The research included site files and related project reports, ZION collections, the park library, and the resource management library. Once all of the site records were compiled, existing site forms were evaluated for accuracy and completeness. The Intermountain antiquities computer system (IMACS) site forms and database were updated, addressing data gaps and including greater detail of site features and artifact assemblages. All current treatments were described in narrative format and documented on site maps; site maps were updated where necessary. All historic features were illustrated, photographed, measured, and described using every method of documentation. New condition assessment data that were collected were added to a newly created condition assessment database and archeological site management information system (ASMIS) records were updated for each site. Fire risk assessments were conducted and/or updated and revised in geographical information system (GIS) layers, new locational information was recorded for each site using the global positioning system (GPS), and the cultural resource GIS layers were edited.

The greatest threat to historic sites in the backcountry of ZION and CEER is fire. The overgrowth of vegetation can be dense and is a veritable tinder-box, particularly in the higher elevations where the forests include high numbers of standing, dead, beetle-killed trees. Fire risk at these sites is high. Treatments conducted for this project focused on the removal of fuels and the application of wood preservatives. Tasks included the removal of ground litter (duff) and large, standing, dead Ponderosa Pine and Douglas Fir; reduction of ladder fuels on and immediately surrounding sites; creating fuel breaks and fire lines around sites

and/or features; and multiple spray applications of Boracare to selected features. Fuel reduction was done in conjunction with the Zion Fire Management Program.

For all 23 sites, individual protection plans were developed to address issues related to the long-term maintenance, management, and protection of historic cultural resources. Protection plans include detailed feature documentation, current condition and fuel assessments, and cyclic maintenance plans including future treatments or stabilization. In most cases, the identified cyclic maintenance tasks can be accomplished in-house by volunteers, backcountry ranger staff, maintenance staff, or cultural resource staff. Examples would include removal of accumulated soil, removal of fuels (duff or ladder fuels), documentation of vandalism and increased pest activity, or recommendations for re-application of Boracare. Fire protection strategies are now incorporated with Zion Fire Program Management and our Fire Resource Kit was updated to include current risk levels assigned to these sites. The one recommendation that is common to the preservation of all of these historic resources is cyclical maintenance and monitoring to regularly remove fuels. Based on this year's work and the new preservation and cyclical maintenance plans, site monitoring schedules and protocols have been modified, focusing observations on architectural fabric and site threats.

While the Cultural Resource Management Program leads Zion in cultural site conservation, real success in preservation comes with the inclusion of a larger community and the sense of ownership in the protection of cultural resources that this inclusive approach affords. During this project we relied extensively on the technical expertise, work efforts, and the anticipated work efforts of others. In particular, the Fire Management program provided staff for fuel treatments, tricky tree-felling, and training cultural staff in gauging and recording fuel loads. The resulting archeological site fire risk levels have now been incorporated into



*A borate wood preservative is spray applied to the interior of a historic cabin in Kolob Canyon, Zion National Park. Photo: Courtesy Zion National Park*

the Fire Resource Kit, which is directly accessible during wildfires and management-ignited fires. The Vegetation Management program also contributed staff certified in handling potentially harmful chemicals, a requirement for the application of Boracare. Law Enforcement was involved in developing on-site protection messages and site monitoring schedules and they continue to provide staff for site monitoring. Finally, the Site Steward Program, supervised by the Zion Cultural Resources Program and staffed by trained community volunteers, also eagerly provides site monitoring.

\*Note: Although Cedar Breaks is not officially a VT park, the three additional CEER sites included in this project contain features that clearly meet the definition of a Vanishing Treasures resource. Cedar Breaks is a member of the ZION group of parks (CEER, Pipe Spring National Monument, and ZION), and technical support, such as cultural resource management, is provided by ZION to these other parks as needed

### ***Zion Stabilization Crew Receives an Honorable Mention for the Intermountain Region 2009 Wilderness Stewardship Award***

For their work restoring several log cabins in Zion National Park's wilderness, Amber Van Alfen, John Olsen, Dan Rhode, Jeremy Pribyl, and Alex Barajas received honorable mentions for the 2009 IMR Wilderness Stewardship Award. Work focused on the Fife Cabin in Kolob Canyon, which had deteriorated nearly to the point of collapse. Only hand tools were used, and all supplies and equipment were packed the 3 miles in to the work site. Dead and downed trees near the site were used to replace the deteriorated wall logs and, in all, eighteen logs were replaced. Logs were felled using a two-man crosscut saw and limbed with axes and handsaws. After cutting the logs to length, they were notched and fitted into place.

Pioneering this type of project at the park developed an appreciation for the need to plan for and implement minimum tool techniques. It also highlighted the challenges of using primitive construction methods as well as the need for interdivisional cooperation. Exceeding expectations, this project will be used as a model for future wilderness project planning

V a n i s h i n g      T r e a s u r e s

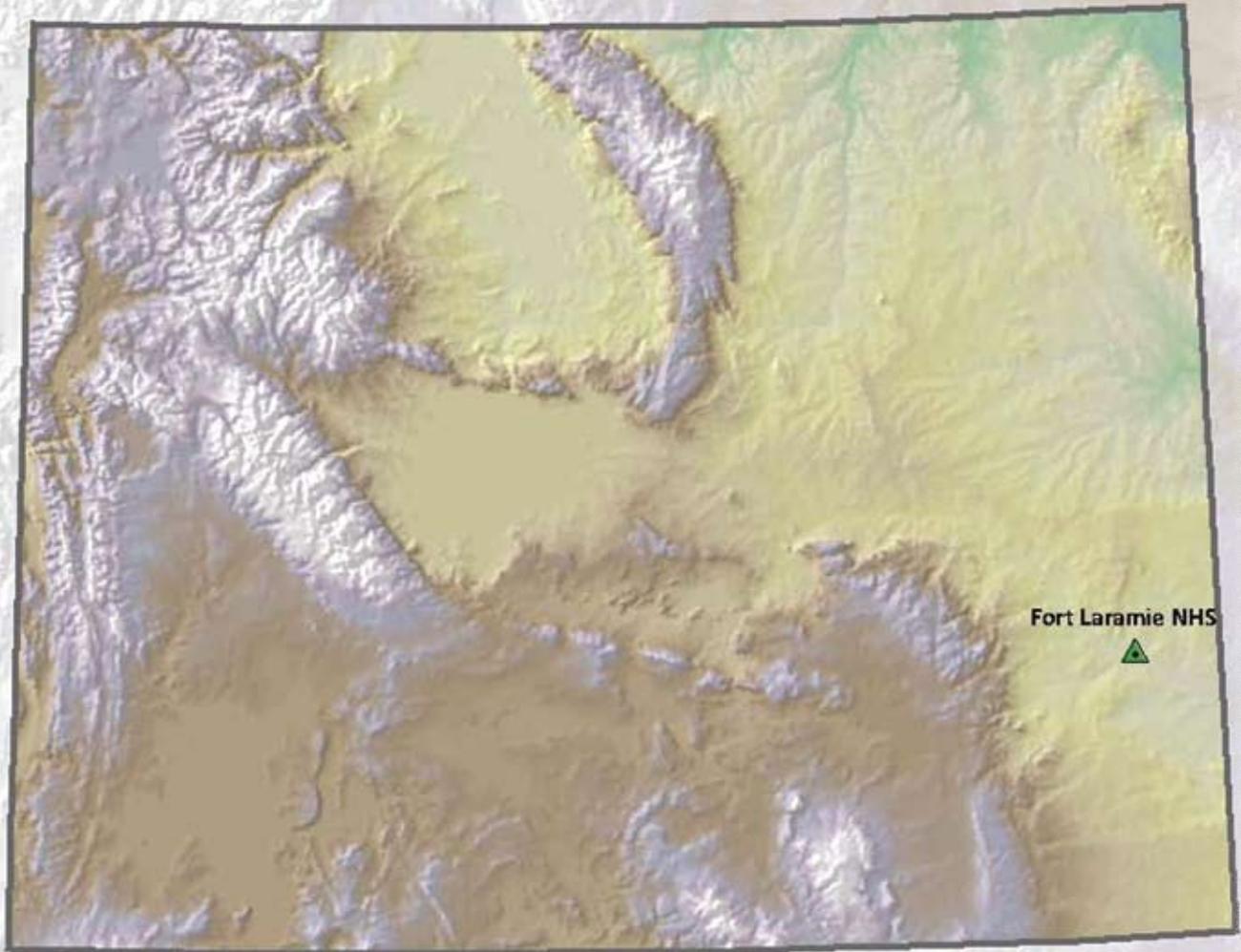
# W y o m i n g



*General View of the fort, Fort Laramie National Historic Site.*

*Photo: Courtesy Fort Laramie National Historic Site*

◆ Fort Laramie National Historic Site ◆



**Wyoming Fiscal Year 2009  
Project Funding Summary**

**Project Funds:**  
No Wyoming park received project funding.



## Fort Laramie National Historic Site

### VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

**VT Challenges and Successes:** The park's highest priority this year was to fill the vacant VT position with someone with preservation experience, a goal that was successfully accomplished.

**Safety:** The VT crew did not experience any negative safety issues this year.

### VANISHING TREASURES STAFF

Vacant

FY 2009 Position

Barry Hadsell, Exhibit Specialist (Ruins Preservation)

FY 2007 Position

This position was vacant during part of FY

2009. The lapse salary was used to purchase new VT supplies and equipment including mortar mixers, a 20-gallon water tank, a custom built mason utility trailer, hand tools, and AutoCAD 2010 software.

**Skills:** A new VT position, Exhibit Specialist Ruins Preservation (subject to furlough), was filled in February 2009 by Barry Hadsell. Barry worked the last three years with the Yosemite National Park Historic Preservation crew as a Preservation Carpenter and Mason. Barry is a participant in the Preservation and Skills Training (P.A.S.T.) program and will complete the two-year training program in the spring of 2010.

**Accomplishments:** Barry is a professional builder and mason with 30 years of experience. He holds an A.A.S. degree in Construction Technology, a B.A. in Industrial Management, and an M.A. in Vocational Education. He is certified as a Contracting Officer's Representative (COR) and is trained in National Environmental Policy Act (NEPA) and Section 106 compliance.



*A protective shelter coat being applied to the fort hospital, Fort Laramie National Historic Site.*

*Photo: Courtesy Fort Laramie National Historic Site*



*Ruins on the fort grounds, Fort Laramie National Historic Site.*

*Photo: Courtesy of visitusa.com*

Barry has gained excellent preservation skills through his participation in the P.A.S.T program. Barry's mentor for the P.A.S.T. program is Marty Vittotre, Exhibits Specialist at Yosemite National Park

Barry has performed condition assessments, documentation, and extensive field work on the ongoing stabilization of the historic lime grout/stucco ruins and he is updating all of the park's Historic American Building Survey (HABS) and as-built drawings. These documents were originally drawn with CAD KEY and are being transferred to AutoCAD 2010.

In addition, Barry and seasonal employee Mark Vigen developed specifications for a customized mason utility trailer. The trailer transports sand, lime, water, tools, generator, and an electric mortar mixer. The trailer saves time by allowing the crew to be more efficient and self-contained. Plans of the trailer are available upon request.

**Training:** Since filling the VT position, Barry has become a certified COR and attended NEPA/106 training.

### VANISHING TREASURES PROJECT FUNDING

Fort Laramie National Historical Site did not receive project funding this year.

# V a n i s h i n g T r e a s u r e s

# A p p e n d i c e s



**Appendix A:**  
**Definition of Vanishing Treasures Resources ..... i**

<sup>1</sup> con·di·tion \ken-'di-shen/noun  
Etymology: Middle English condicion, from Anglo-French, from Latin condicio-, condicio terms of agreement, condition, from condicere to agree, from com- + dicere to say, determine -- more at DICTION  
1 a : a state of being <the human condition> b : social status : RANK c : a usually defective state of health <a serious heart condition> d : a state of physical fitness or readiness for use <the car was in good condition> <exercising to get into condition> e plural : attendant circumstances <poor living conditions>

**Appendix B:**  
**Terminology ..... i**



**Appendix C:**  
**Leadership Committee ..... ii**

**Appendix D:**  
**Advisory Group ..... ii**



**Appendix E:**  
**Annual and Cumulative Funding ..... iii**

**Appendix F:**  
**VT Fiscal Year 2009 Project Funding ..... iv**



**Appendix F:**  
**Chronology of Vanishing Treasures Funded Positions ..... v**

## Appendix A: Definition of Vanishing Treasures Resources

Vanishing Treasures Resources are defined as a structure or grouping of related structures that:

- Are in a “ruined” state.
- Have exposed intact fabric (earthen, stone, wood, etc.).
- Are not being used for their original function.
- Occupation and utilization have been interrupted or discontinued for an extended period of time.
- Are located in the arid West.
- Are the resources, or part of the resources, for which the park was created, are a National Historic Landmark, or listed on, or eligible for listing on, the National Register of Historic Places.

### Examples of Vanishing Treasures Resources:

- Architectural remains that have intact historic fabric exposed at or above grade including: wall alignments, upright slabs, foundations, bins, cists, constructed hearths.
- Sub-grade architecture exposed through excavation or erosion (i.e., pithouses, dugouts, cists, etc.).
- Native American architectural structures (i.e., pueblos, cliff dwellings, hogans, wickiups, ramadas, corrals, earthen architecture, etc.).
- EuroAmerican architectural structures (i.e., churches, convents, forts, ranch-farm structures/homesteads, mine buildings, acequias or related features, kilns, etc.).

### Examples of Non-Vanishing Treasures Resources:

- Sites with no exposed architecture or structural remains, (i.e., collapsed, buried, mounded, or otherwise not evident).
- Archeological or other sites with no architectural remains (i.e., lithic scatters, dumps, campsites, etc.).
- Civilian Conservation Corps (CCC) and Civil Works Administration (CWA) buildings and features.
- Historic structures that are regularly maintained, and/or adaptively used, and fit within the Historic Structures/List of Classified Structures (LCS) definitions.
- Structures in use as National Park Service facilities (i.e., administrative buildings, trails, bridges, ditches, canals, etc).
- Mineshafts or caves, that do not have architectural/structural features.
- Pictographs, petroglyphs, rock art, etc., except if found in or on architectural structures.
- National Park Service or other reconstructed buildings or ruins (i.e., Aztec Great Kiva, Bents Old Fort).

Note: Many of the traditionally associated communities to whom Vanishing Treasures resources/archeological sites hold importance, do not consider those sites to be unoccupied, out of use, or abandoned. “Ruins” are considered by some groups to be spiritually inhabited and are considered to be “in use” by virtue of being invoked in prayers, songs, stories, etc. They are considered dynamic parts of active cultural systems. While we use the term “ruins” and the associated definition, it is recognized that some communities do not use the term “ruin” nor consider the places to be unoccupied or out of use.

## Appendix B: Terminology

### Condition

Good - The site shows no clear evidence of major negative disturbance and deterioration by natural and/or human forces. The site’s archeological values remain well-preserved, and no site treatment actions required in the near future to maintain its condition.

Fair - The site shows clear evidence of minor disturbance and deterioration by natural and/or human forces, and some degree of corrective action should be carried out fairly soon to protect the site.

Poor - The site shows clear evidence of major disturbance and rapid deterioration by natural and/or human forces, and immediate corrective action is required to protect and preserve the site.

### Intensity of On-Site Erosion

Severe - The site will be significantly damaged or lost if action is not taken immediately.

Moderate - For an impact to be considered moderate, it must meet at least one of the following criteria:

The site will be significantly damaged or lost if action is not taken in the immediate future.

The site has been damaged and some integrity has been lost.

Low - The continuing effect of the impact is known but it will not result in significant or irreparable damage to the site.

None - The site has not been obviously impacted.

**Integrity** - Integrity refers to how much of the structure remains standing and intact. For example, a structure with only one intact, standing wall, would be given a value of 20% . A structure with all four walls standing and intact, plus an intact roof and floor, a 100% value would be given.

**Stability** - Stability refers to a wall or structures’ state of equilibrium.

Stable - A structure that maintains consistency of composition and components with little or no sign of erosion that would lead to any form of structural degradation. The term stable can also be applied to structures that have essentially deteriorated to grade and thus have little or no standing structural remains above the ground surface that would be subject to further deterioration.

Partially Stable - A structure that exhibits signs of whole or partial degradation of the existing composition and components such that structural stability is threatened.

Unstable - A structure that has suffered damage from erosion such that structural collapse or complete degradation is imminent.

**Appendix C: Leadership Committee**

Vanishing Treasures Leadership Committee: 2009				
Representing	Name	Term	Start Date	End Date
Colorado/Utah/Wyoming	Corky Hays, Chair	3 Years	May 2008	May 2011
Arizona (North)	Kathy Davis	3 Years	May 2009	May 2012
Arizona (South)	Lisa Carrico	3 Years	May 2008	May 2011
California/Nevada	Andy Ferguson	3 Years	May 2009	May 2012
Colorado/Utah/Wyoming	Mitzi Frank	3 Years	May 2007	May 2010
New Mexico/Texas	Kayci Cook Collins	3 Years	May 2009	May 2012
New Mexico/Texas	Marie Frias Sauter	3 Years	May 2008	May 2011
IMR	Sande McDermott	Permanent		
PWR	Stephanie Toothman	Permanent		
VT Program	Virginia Salazar-Halfmoon	Permanent		
VT Program	Preston Fisher	Ex-officio		
VT Program	Randall Skeirik	Ex-officio		
VT Program	Lauren Meyer	Ex-officio		

**Appendix D: Advisory Group**

As a result of the costs associated with maintaining the advisory group and the difficulty of arranging meetings, the VT Leadership Committee voted in FY 2007 to dissolve the advisory group. Instead, ad hoc work groups will be created to address specific needs or problems.

In FY 2009 two work groups were formed, one to investigate standards for documenting VT resources and one to create a series of technical notes documenting preservation issues particular to VT resources.

The Documentation Work Group, under the direction of VT Structural Engineer Preston Fisher, has been formed to help establish standards for the documentation and recordation of VT sites. If you are interested in joining this work group please contact Preston at 970.529.5004 or preston\_fisher@nps.gov.



This work group has a web page on the new VT Sharepoint web site: [http://inpniscsmoss:3000/sites/NPS2/VT/doc\\_stdts/default.aspx](http://inpniscsmoss:3000/sites/NPS2/VT/doc_stdts/default.aspx)

The Technical Notes Work Group, under the direction of VT Historical Architect Randy Skeirik, will attempt to collect and centralize the specialized knowledge associated with the stabilization and preservation of architectural sites (sometimes termed “ruins”). We will investigate the potential for the publication of a series of these technical notes that will build upon the work done by the Technical Preservation Services (TPS) program in Washington, DC. The resulting documents will address preservation topics specific to the challenges found in VT park resources.

The format will be similar to the NPS/TPS *Tech Note* series. The series is tentatively titled *Preservation Prescriptions* and a banner has been designed (right). The topic of the first issue is expected to be a general discussion of the unique challenges of preserving buildings, sites, and structures that are no longer physically occupied and are in a state of deterioration.

While progress is being made in producing the first volume, it will take the collective, specialized knowledge of the VT staff to produce a comprehensive and useful series. We encourage you to participate in this process whether through helping to vet potential topics, assisting with document production, providing peer review, or by writing or collaborating on an issue please contact Randy at 928.821.2992 or randall\_skeirik@nps.gov.

This work group also has a web page on the new VT Sharepoint web site: <http://inpniscsmoss:3000/sites/NPS2/VT/technotes/default.aspx>



**Appendix E: Annual and Cumulative Funding**

<b>Vanishing Treasures Annual and Cumulative Funding</b>										
<b>FY 1998 through FY 2009</b>										
		VT Program Components			Total VT Program Expenditures	VT Park Base Increases		Total Base Increases	One-Year Personnel Funding <sup>3</sup>	Grand Total (Program plus Base)
		Projects	Training <sup>2</sup>	Management		Personnel	Additional <sup>1</sup>			
FY 1998	Annual Budget	505,300	31,700	10,000	547,000	453,000	0	453,000	0	1,000,000
	Cumulative Total	505,300	31,700	10,000	547,000	453,000	0	453,000	0	1,000,000
FY 1999	Annual Budget	627,600	40,000	44,000	711,600	585,000	237,000	822,000	0	1,533,600
	Cumulative Total	1,132,900	71,700	54,000	1,258,600	1,038,000	237,000	1,275,000	0	2,533,600
FY 2000	Annual Budget	814,600	0	56,000	870,600	795,000	0	795,000	0	1,665,600
	Cumulative Total	1,947,500	71,700	110,000	2,129,200	1,833,000	237,000	2,070,000	0	4,199,200
FY 2001	Annual Budget	973,000	0	60,000	1,033,000	236,000	0	236,000	0	1,269,000
	Cumulative Total	2,920,500	71,700	170,000	3,162,200	2,069,000	237,000	2,306,000	0	5,468,200
FY 2002	Annual Budget	1,038,000	0	60,000	1,098,000	435,000	0	435,000	0	1,533,000
	Cumulative Total	3,958,500	71,700	230,000	4,260,200	2,504,000	237,000	2,741,000	0	7,001,200
FY 2003	Annual Budget	1,031,000	0	60,000	1,091,000	600,000	0	600,000	0	1,691,000
	Cumulative Total	4,989,500	71,700	290,000	5,351,200	3,104,000	237,000	3,341,000	0	8,692,200
FY 2004	Annual Budget	997,400	0	60,000	1,057,400	375,000	0	375,000	0	1,432,400
	Cumulative Total	5,986,900	71,700	350,000	6,408,600	3,479,000	237,000	3,716,000	0	10,124,600
FY 2005	Annual Budget	1,030,700	0	60,000	1,090,700	0	0	0	300,000	1,390,700
	Cumulative Total	7,017,600	71,700	410,000	7,499,300	3,479,000	237,000	3,716,000	300,000	11,515,300
FY 2006	Annual Budget	1,024,000	0	60,000	1,084,000	0	0	0	260,000	1,344,000
	Cumulative Total	8,041,600	71,700	470,000	8,583,300	3,479,000	237,000	3,716,000	560,000	12,856,300
FY 2007	Annual Budget	1,024,000	0	60,000	1,084,000	0	0	0	0	1,084,000
	Cumulative Total	9,065,000	71,700	530,000	9,667,300	3,479,000	237,000	3,716,000	560,000	13,940,300
FY 2008	Annual Budget	1,024,000	0	60,000	1,084,000	0	0	0	0	1,084,000
	Cumulative Total	10,089,000	71,700	590,000	10,751,300	3,479,000	237,000	3,716,000	560,000	15,024,300
FY 2009	Annual Budget	972,257	0	60,000	1,032,220	0	0	0	0	1,032,220
	Cumulative Total	11,061,257	71,700	650,000	11,783,520	3,479,000	237,000	3,716,000	560,000	16,056,520

**Notes:**

- <sup>1</sup> \$156,000 base increase for one park for personnel and an \$81,000 park base increase.
- <sup>2</sup> Between FY 1999 and FY 2004 training costs were added to the total cost for personnel and included in base increases. Beginning in FY2005 training funds will be deducted from project funds.
- <sup>3</sup> In FY 2005 and FY 2006 personnel funding was for one year only and did not represent a permanent increase in park base funding. After FY 2006 the Program no longer provided money of any kind for personnel.

## Appendix F: FY 2009 Project Funding

<b>Appendix F: VT Fiscal Year 2009 Project Funding</b>						
FY 2009 PROGRAM STATUS						
VANISHING TREASURES PROGRAM-FUND 01						
TOTAL PROGRAM PROJECTED ALLOCATION					\$1,042,646.00	
Less Region Assessment of 1% (1,042,646.00 x .01 = 10,426)					\$10,426.00	
TOTAL AVAILABLE					\$1,032,220.00	
Park	Account Number	PMIS Number	Project Name	PMIS Allocation	Adjustment Increase/Decrease	
IMRO	7481-0504-CYA		VT Program Funds	\$59,963.00	\$ 0.00	
NABR	1349-1001-CYA	115154	Perform Condition Assessments at 35 Ledge and Alcove Sites in Natural Bridges National Monument	\$96,700.00	\$ 0.00	
ZION	1596-1001-CYA	133729	Stabilize Cable Mountain Draw Works	\$42,250.00	\$ 0.00	
BAND	7127-1001-CYA	134200	Vanishing Treasures: Documentation and Conservation of Frijoles Canyon Cavates FY11	\$124,990.00	\$ 0.00	
AZRU	7380-1001-CYA	134803	Install Drainage System to Divert Water from Protective Roofs away from Aztec West Ruin	\$65,200.00	\$ 0.00	
WUPA	7470-1001-CYA	123718	Condition Assessment of Abandoned and Ruined Historic Navajo Sites at Wupatki National Monument	\$118,000.00	\$ 0.00	
WACA	7475-1001-CYA	116763	Condition Assessment of 5 Previously Stabilized Cliff Dwellings at Walnut Canyon	\$111,184.00	\$ 0.00	
GRCA	8213-1001-CYA	132394	Condition Assessment of Prehistoric Architectural Sites in the Nankoweap Drainage	\$76,300.00	\$ 0.00	
CAGR	8610-1001-CYA	116814	Implement Backfill and Drainage Plan for Compound B	\$83,250.00	\$ 0.00	
MOCA	8650-0901-CYA	134753	Documentation and Stabilization of 14 Sites at Montezuma Well	\$50,400.00	\$ 0.00	
TONT	8680-1001-CYA	123561	Preserve Three Retaining Walls in Lower Cliff Dwelling, Southern Annex and Upper Cliff Dwelling	\$101,492.00	\$ 0.00	
ARCH	1348-1001-CYA	132174	Preserve Historic Stone Cabin, ARCH, for Visitor Satisfaction	\$50,000.00	\$ 0.00	
CHCU	7400-1001-CYA	114694	Conduct Condition Assessments and Emergency Treatments at Chacra Mesa Structures	\$52,491.00	\$ 0.00	
TOTAL ALLOCATED				\$1,032,220.00		
AMOUNT UNALLOCATED				0		
TOTAL PROJECT FUNDING FOR FY 2009 (\$1,032,220 less \$59,963 Program Funds)				\$972,257.00		



**Appendix G: Chronology of Vanishing Treasures Funded Positions**

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>ARIZONA PARKS</b>											
<b>Canyon de Chelly National Monument</b>											
					<b>Vacant</b> Archeologist GS-193-09 Perm FT	<b>Jennifer Lavris</b> Archeologist GS-193-09 Perm FT					
						<b>Keith Lyons</b> Archeologist GS-193-09 Perm FT					
<b>Casa Grande Ruins National Monument</b>											
		<b>Ray Hartzel</b> Masonry Worker WG-3603-08 Perm FT	<b>Larry Stewart</b> Exhibit Specialist GS-1010-09 Perm FT				<b>Nalbert Chavez</b> Masonry Worker WG-3603 Perm FT			<b>Vacant</b> Masonry Worker Perm FT	
							<b>Rebecca Carr</b> Exhibit Specialist GS-1010-09 Perm FT			<b>Rebecca Carr</b> Archeologist GS-193-09 Perm FT	
<b>Flagstaff Area Parks (Wupatki and Walnut Canyon National Monuments)</b>											
<b>Al Remley</b> Archeologist GS-193-11 Perm FT									<b>Vacant</b> Archeologist Perm FT	<b>Lloyd Masayumtewa</b> Archeologist GS-193-11 Perm FT	
	<b>Lloyd Masayumtewa</b> Archeologist GS-193-09 Perm FT										<b>Lisa Baldwin</b> Archeologist GS-193-09 STF
		<b>Lyle Balenquah</b> Archeologist GS-193-09 Perm FT						<b>Vacant</b> Archeologist			
						<b>Ian Hough</b> Archeologist GS-193-09 Perm FT			<b>Vacant</b> Archeologist		
						<b>Todd Metzger</b> VT Prog. Coordinator Perm FT			<b>Vacant</b> Archeologist		
							<b>John Canella</b> Dbase & GIS Spec. GS-1371-09 Term			<b>John Canella</b> Dbase & GIS Spec. GS-1371-09 Perm FT	<b>Vacant</b> Dbase & GIS Spec. Perm FT
<b>Fort Bowie National Historic Site</b>											
<b>Fernie Nunez</b> Masonry Worker WG-3603-08 Perm FT											
	<b>Phil Tapia</b> Masonry Worker WG-3603-07 Perm FT										
<b>Grand Canyon National Park</b>											
		<b>Amy Horn</b> Archeologist GS-193-09 Perm FT			<b>Ellen Brennan</b> Archeologist GS-193-11 Perm FT						<b>Ian Hough</b> Archeologist GS-193-11 Perm FT
							<b>Ian Hough</b> Archeologist GS-193-09 Perm FT				<b>Charlie Webber</b> Archeologist GS-193-9 Perm STF

**Appendix G: Chronology of Vanishing Treasures Funded Positions (continued)**

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>ARIZONA PARKS (Continued)</b>											
<b>Montezuma Castle and Tuzigoot National Monuments</b>											
	<b>Ruben Ramirez</b> Masonry Worker WG-3603-08 Perm FT					<b>John Schoeder</b> Archeologist GS-193-09 SCEP				<b>Matt Guebard</b> Archeologist GS-193-11 Perm STF	
	<b>Alex Contreras</b> Masonry Worker WG-3603-08 Perm FT							<b>Vacant</b> Masonry Worker WG-3603-08 Perm FT	<b>Stefan Sloper</b> Masonry Worker WG-3603-08 Term STF		
					<b>Vacant</b> Historical Architect Perm FT	<b>Randall Skeirik</b> Historical Architect Gs-0808-11 Perm FT				<b>Randall Skeirik</b> Historical Architect Gs-0808-12 Perm FT	
<b>Navajo National Monument</b>											
<b>Kathryn Sue Kramer</b> Archeological Tech. GS-102-07 Perm FT	<b>Vacant</b> Archeological Tech. GS-102-07 Perm FT	<b>Melissa Memory</b> Archeological Tech. GS-102-07 Perm FT				<b>Kenny Acord</b> Archeological Tech. GS-102-07 Perm FT			<b>Theodore Robers</b> Archeological Tech. GS-102-07 Term		<b>Joshua Ramsey</b> Archeological Tech. GS-102-07 Term
		<b>Kevin Harper</b> Archeologist GS-193-11 Perm FT				<b>Brian Culpepper</b> Archeologist GS-193-11 Perm FT					<b>Ellen Brennan</b> Archeologist GS-193-11 Perm FT
							<b>Vacant</b> Archeological Tech. GS-102-07 Perm FT	<b>James Dryer</b> Archeological Tech. GS-102-07 Term			<b>Susan Bierer</b> Archeological Tech. GS-102-07 Term
<b>Organ Pipe Cactus National Monument</b>											
						<b>Vacant</b> Exhibit Specialist GS-1010-09 Perm FT		<b>Joe Tuomey</b> Archeologist GS-193-11 Perm FT		<b>Connie Gibson</b> Archeologist GS-193-11 Perm FT	
<b>Tonto National Monument</b>											
<b>Miguel R. Estrada</b> Exhibit Specialist GS-1010-09 Perm FT						<b>Duane Hubbard</b> Archeologist GS-193-11 Perm FT					
<b>Tumacacori National Historical Park</b>											
<b>Davis Yubeta</b> Exhibit Specialist GS-1010-09 Perm FT											
<b>Ray Madril</b> Masonry Worker WG-3603-08 Perm FT											
		<b>Houston Rogers</b> Archeologist GS-193-9 Perm FT				<b>Jeremy Moss</b> Archeologist GS-193-9 Perm FT					

**Appendix G: Chronology of Vanishing Treasures Funded Positions (continued)**

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>COLORADO PARKS</b>											
<b>Mesa Verde National Park</b>											
<b>Willie Begay</b> Masonry Worker WG-3603-07 Perm STF			<b>Neill Smith</b> Masonry Worker WG-3603-07 Perm STF								
<b>Kec Charley John</b> Masonry Worker WG-3603-07 Perm STF								<b>Tim Hovezak</b> Exhibit Specialist GS-1010-9 Perm STF			
		<b>Don Corbeil</b> Historical Architect GS-0808-9 Perm FT						<b>Joel Brisbin</b> Exhibit Specialist GS-1010-11 Perm STF		<b>Vacant</b> Exhibit Specialist Perm STF	
		<b>Cynthia Williams</b> Archeologist GS-193-7 Perm STF						<b>Laura Ninnemann</b> Dbase Archeologist GS-193-11 Perm STF			
		<b>Vacant</b> Exhibit Specialist Perm FT	<b>Rebecca Carr</b> Conservator GS-1010-9 Term					<b>Vacant</b> Exhibit Specialist Term			
		<b>Preston Fisher</b> Structural Engineer GS-0810-13 Perm FT									
							<b>Vacant</b> Exhibit Specialist GS-1010-9 Perm STF	<b>Kay Barnett</b> Exhibit Specialist GS-1010-9 Perm STF			
							<b>Vacant</b> Exhibit Specialist GS-1010-9 Perm STF				
<b>NEW MEXICO PARKS</b>											
<b>Aztec Ruins National Monument</b>											
<b>Raymond Torrivo</b> Masonry Worker WG-3603-08 Perm FT									<b>Jeffery Wharton</b> Exhibit Specialist GS-1010-09 Term STF		
<b>Harry Etcitty</b> Masonry Worker WG-3603-08 Perm FT			<b>Carl Jim</b> Masonry Worker WG-3603-08 Perm FT							<b>Ernest Harrison</b> Masonry Worker WG-3603-08 Term STF	
			<b>Brian Culpepper</b> Archeologist GS-193-11 Perm FT			<b>Gary Brown</b> Archeologist GS-193-11 Perm FT					
<b>Bandelier National Monument</b>											
	<b>Angelyn Rivera</b> Exhibit Specialist (Architectural Conservator) GS-1010-11 Perm FT									<b>Lauren Meyer</b> Exhibit Specialist (Architectural Conservator) GS-1010-11 Perm FT	
	<b>Mary E. Slater</b> Exhibit Specialist (Architectural Conservator) GS-1010-09 Perm FT									<b>Lauren Meyer</b> Exhibit Specialist (Architectural Conservator) GS-1010-09 Perm FT	<b>Shannon Dennison</b> Exhibit Specialist (Architectural Conservator) GS-1010-09 Perm FT

**Appendix G: Chronology of Vanishing Treasures Funded Positions (continued)**

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>NEW MEXICO PARKS (Continued)</b>											
<b>Chaco Culture National Historical Park</b>											
	<b>Rachel Anderson</b> Archeologist Perm FT				<b>Roger Moore</b> Archeologist GS-193-11 Perm FT						
	<b>Paul Tso</b> Masonry Worker WG-3603-08 Perm FT									<b>James Yazzie</b> Masonry Worker WG-3603-08 Perm FT	
	<b>Jack Trujillo</b> Masonry Worker WG-3603-08 Perm FT							<b>Earl Johnson</b> Masonry Worker WG-3603-08 Perm FT			
	<b>Leo Chiquito</b> Masonry Worker WG-3603-08 Perm FT										
			<b>James Yazzie</b> Masonry Worker WG-3603-08 Perm FT							<b>Harold Suina</b> Masonry Worker WG-3603-08 Perm FT	
					<b>Lewis Murphy</b> Masonry Worker WG-3603-05 Perm FT			<b>Garry Joe</b> Masonry Worker WG-3603-05 Perm FT			
<b>El Malpais National Monuments</b>											
	<b>Rory Gauthier</b> Archeologist GS-193-11 Perm FT	<b>Jim Kendrick</b> Archeologist GS-193-11 Perm FT									
		<b>Calvin Chimoni</b> Masonry Worker WG-3603-08 Perm FT									
<b>El Morro National Monuments</b>											
		<b>Debra Popham</b> Archeological Tech. GS-193-09 Perm FT			<b>Melissa Powell</b> Archeologist GS-193-09 Perm FT		<b>Vacant</b> Archeologist Perm FT	<b>Steve Baumann</b> Archeologist GS-193-09 Perm FT			
<b>Fort Union National Monument</b>											
			<b>Vacant</b> Exhibit Specialist GS-1010-09 Perm FT		<b>Linda Richards</b> Exhibit Specialist GS-1010-09 Perm FT			<b>Greg Phillipy</b> Exhibit Specialist GS-1010-09 Perm FT			<b>Sean Habgood</b> Exhibit Specialist GS-1010-09 Perm FT
							<b>Theodore Garcia</b> Craft Specialist GS-1010-9 Perm FT				

**Appendix G: Chronology of Vanishing Treasures Funded Positions (continued)**

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>NEW MEXICO PARKS (Continued)</b>											
<b>Salinas Pueblo Missions National Monument</b>											
<b>Ramona Lopez</b> Maintenance Worker (Ruins Preservation) WG-4749-08 P FT											
	<b>Philip W. Wilson</b> Archeologist GS-193-12 Perm FT									<b>Vacant</b> Archeologist GS-193-12 Perm FT	<b>Marc A. LeFrançois</b> Chief, Resource Mgmt and Facilities GS-193-12 Perm FT
		<b>Duane C. Hubbard</b> Archeologist GS-193-11 Perm FT				<b>Tobin Roop</b> Archeologist GS-193-11 Perm FT				<b>Vacant</b> Archeologist GS-193-11 Perm FT	<b>C. Derek Toms</b> Archeologist GS-193-11 Perm FT
					<b>Marc A. LeFrançois</b> Exhibit Specialist GS-1010-11 Perm FT						<b>William Torrez</b> Exhibit Specialist GS-1010-09 Perm FT
					<b>Thelma Griego</b> Maintenance Worker (Ruins Preservation) WG-4749-08 P FT					<b>Vacant</b> Maintenance Worker (Ruins Preservation) WG-4749-08 P FT	<b>Jose Chavez</b> Maint. Worker WG-0199-07 STEP  <b>Jose Nunez</b> Maint. Worker WG-0199-07 STEP
<b>TEXAS</b>											
<b>Fort Davis National Historical Site</b>											
		<b>Jeffery Rust</b> Archeologist GS-193-11 Perm FT							<b>Miguel Estrada</b> CR & Maint. Program Manager Perm FT		<b>Rene Laya</b> CR & Maint. Program Manager Perm FT
	Shared Position	<b>Rogelio (Roy) Catano</b> Masonry Worker WG-3603-8 Permanent STF									
		<b>Linda Richards</b> Masonry Worker WG-3603-8 Permanent STF									
<b>San Antonio Missions National Historical Park</b>											
	<b>Susan Snow</b> Archeologist GS-193-11 Perm FT										
		<b>Dean Ferguson</b> Masonry Worker WG-3603-8 Perm FT									
					<b>Steve Siggins</b> Masonry Worker WG-3603-8 Perm FT						
						<b>Harvey Lister</b> Masonry Worker WG-3603-5 Perm FT			<b>Vacant</b> Masonry Worker Perm FT		

### Appendix G: Chronology of Vanishing Treasures Funded Positions (continued)

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>UTAH PARKS</b>											
<b>Canyonlands National Park</b>											
				<b>Patrick Flanigan</b> Exhibit Specialist GS-1010-7 Perm FT							
				<b>Fred Gomez</b> Exhibit Specialist GS-1010-7 Perm FT			<b>Melissa Memory</b> Archeologist GS-193-9 Perm FT		<b>Sue Eininger</b> Archeologist GS-193-9 Perm FT		
<b>Glen Canyon National Recreation Area</b>											
				<b>Brantley Jackson</b> Archeologist Perm FT	Shared Position	<b>Lynn Wulf</b> Archeological Tech. GS-193-9 Seasonal	<b>Lynn Wulf</b> Archeologist GS-193-9 Perm FT		<b>Thann Baker</b> Archeological Tech. STEP		
						<b>Grant Coffey</b> Archeological Tech. GS-193-9 STEP					
<b>Golden Spike National Historic Site</b>											
							<b>Bret Guisto</b> Archeologist GS-193-9 Perm FT			<b>Vacant</b> Archeologist Perm FT	<b>Scott Whitesides</b> Archeologist GS-193-9 Perm FT
<b>Hovenweep and Natural Bridges National Monument</b>											
				<b>Melissa Memory</b> Archeologist GS-193-11 Perm FT			<b>Laura Martin</b> Exhibit Specialist GS-193-11 STF				
					<b>Noreen Fritz</b> Archeologist GS-193-9 Perm FT						
<b>WYOMING PARKS</b>											
<b>Fort Laramie National Historic Site</b>											
									<b>Vacant</b> Exhibit Specialist GS-1010-7 Perm FT		<b>Barry Hadsell</b> Exhibit Specialist GS-1010-7 Perm FT

### IMR Funded Vanishing Treasures Positions

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Intermountain Regional Office, Santa Fe</b>											
							<b>Virginia Salazar-Hallmoon</b> Program Manager PFT				
									<b>Jake Barrow</b> Exhibit Specialist GS-1010 13 PFT		



The Vanishing Treasures logo is based on the logo from the 1920s for the National Park Service Southwest Monuments (right). The saguaro and rattlesnake, along with the mission church at Tumacacori (correctly oriented) have been retained and other representative VT resources are being incorporated.



At press time, the new logo remained a work-in-progress.

## Arizona

1. Canyon de Chelly National Monument
2. Casa Grande Ruins National Monument
3. Coronado National Memorial
4. Fort Bowie National Historic Site
5. Grand Canyon National Park
6. Montezuma Castle National Monument
7. Navajo National Monument
8. Organ Pipe Cactus National Monument
9. Petrified Forest National Park
10. Saguaro National Park
11. Tonto National Monument
12. Tumacacori National Historical Park
13. Tuzigoot National Monument
14. Walnut Canyon National Monument
15. Wupatki National Monument

## California / Nevada

16. Death Valley National Park
17. Joshua Tree National Park
18. Mojave National Preserve
19. Manzanar National Historic Site

## Colorado

20. Colorado National Monument
21. Dinosaur National Monument (Also Utah)
22. Mesa Verde National Park

## New Mexico

23. Aztec Ruins National Monument
24. Bandelier National Monument
25. Chaco Culture National Historical Park
26. El Malpais National Monument
27. El Morro National Monument
28. Fort Union National Monument
29. Gila Cliff Dwellings National Monument
30. Pecos National Historical Park
31. Salinas Pueblo Missions National Monument

## Texas

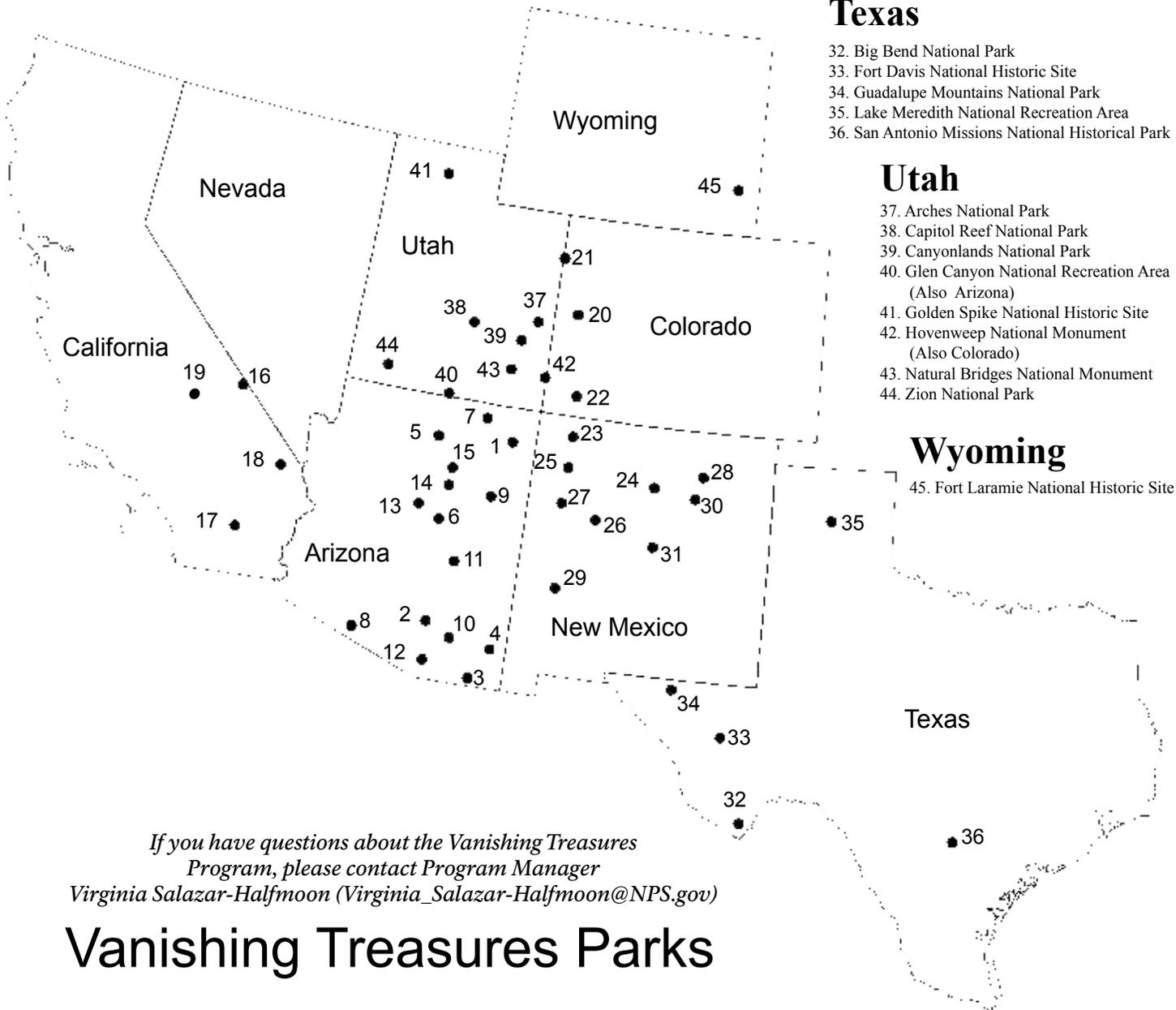
32. Big Bend National Park
33. Fort Davis National Historic Site
34. Guadalupe Mountains National Park
35. Lake Meredith National Recreation Area
36. San Antonio Missions National Historical Park

## Utah

37. Arches National Park
38. Capitol Reef National Park
39. Canyonlands National Park
40. Glen Canyon National Recreation Area (Also Arizona)
41. Golden Spike National Historic Site
42. Hovenweep National Monument (Also Colorado)
43. Natural Bridges National Monument
44. Zion National Park

## Wyoming

45. Fort Laramie National Historic Site



*If you have questions about the Vanishing Treasures Program, please contact Program Manager Virginia Salazar-Halfmoon (Virginia\_Salazar-Halfmoon@NPS.gov)*

# Vanishing Treasures Parks




National Park Service  
U.S. Department of the Interior

Vanishing Treasures, 2009