

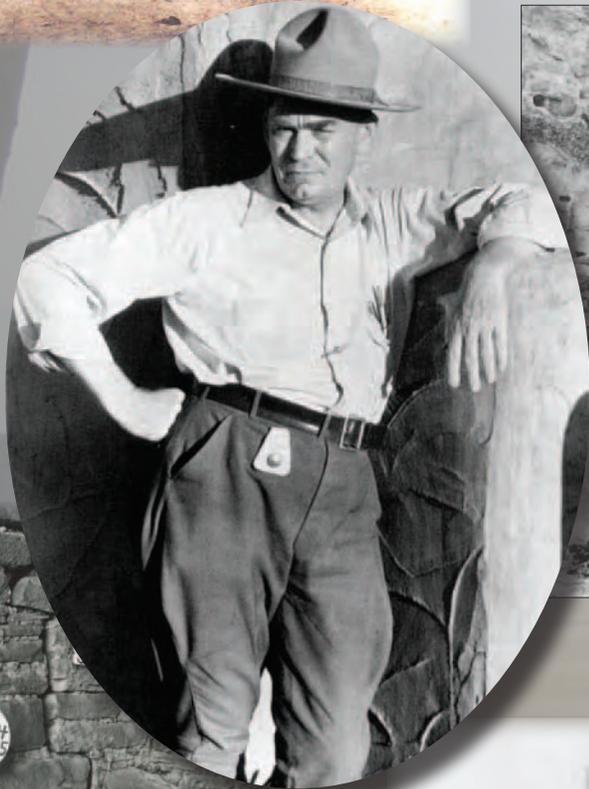
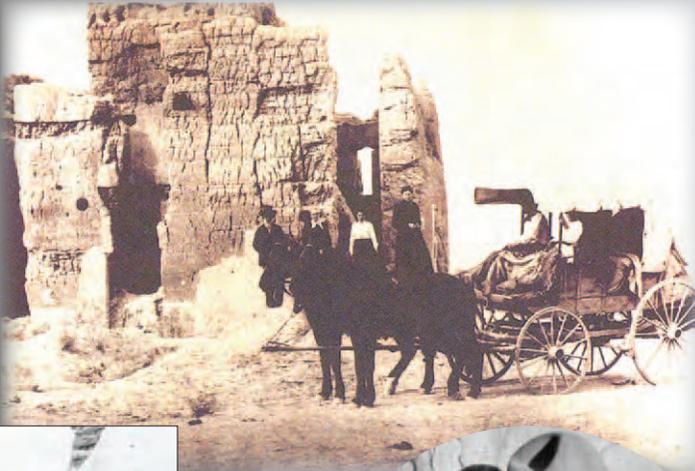
Vanishing Treasures

National Park Service
U.S. Department of the Interior



Vanishing Treasures Program

Antiquities Act: 1906-2006 Commemorative Issue



Year End Report
Fiscal Year 2006 and
Proposed Activities 2007

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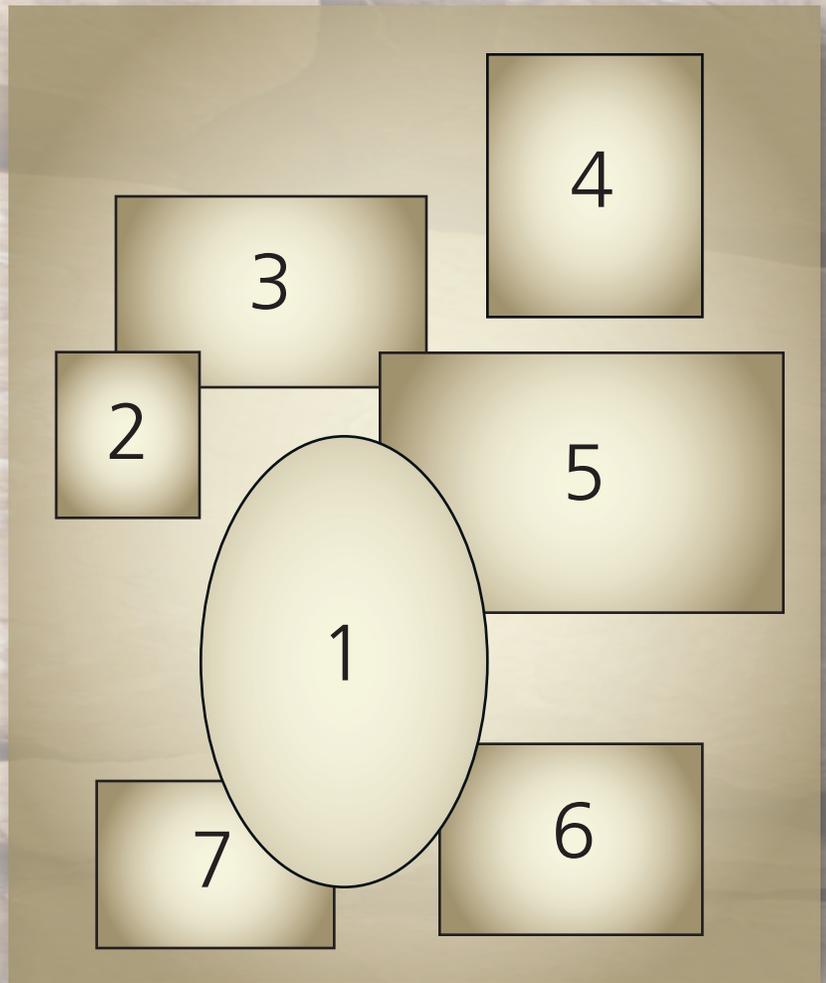
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1. Frank "The Boss" Pinkley - Pinkley, the first superintendent of the Southwest National Monuments got his start working as caretaker of the ruins at Casa Grande in 1901 under the jurisdiction of the General Lands Office. When Casa Grande was designated a national monument in 1918, the fledgling National Park Service offered Pinkley the job as resident custodian, with the expectation that he would also take charge of Tumacacori National Monument and several other monuments. In 1924 when the Southwestern National Monuments Office was formed, Pinkley found himself as superintendent in charge of 14 monuments, and by the time of his death in 1940, Pinkley was supervising 27 national monuments in four states throughout the American Southwest. NPS Historic Photo Collection, George A. Grant, 1934

2. Fort Union - Tourists at the ruins of Fort Union, 1932. Fort Union was established in 1851 to guard the Santa Fe Trail, was abandoned by 1892, and was designated a National Monument on April 5, 1956.

3. Casa Grande - Visitors to the Great House at Casa Grande, c. 1890s. Recognition of the need to preserve Casa Grande may date back to the 1860s, but it was not until 1889 that Congress acted to enable the Secretary of the Interior to repair and protect the site. The site was designated a National Monument in 1906. The first roof was built over the structure in 1903, and the current roof (see photo, page 19) was constructed in 1932.

4. Montezuma Castle - Custodian Earl Jackson showing Montezuma Castle to a visitor, c. 1940s. Montezuma Castle was the third National Monument to be declared after the passage of the Antiquities Act in 1906.

5. Bandelier - Talus House (under construction in this photo) was reconstructed in 1920. Similar talus houses, built from rock debris at the bottom of the cliff, used to be in front of the other cavates at Bandelier.

6. Tumacacori - The Mission San José de Tumacácori as it looked c. 1907. The park was established just one year later in 1908.

7. Mesa Verde - Spring House being documented by the Civilian Conservation Corps in 1935. Mesa Verde was designated a National Park in 1906.

Cover design: Greg Phillipy and Virginia Salazar-Halfmoon

All Photos Courtesy of the National Park Service

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Michael D. Snyder



Jonathan B. Jarvis

Message from the Regional Directors

The Antiquities Act of 1906 authorized the President of the United States to proclaim monuments to preserve and protect prehistoric and historic structures on behalf of the American people. The Act was a response to the loss of the rich, diverse heritage of the American Southwest through the ravages of time, looting, vandalism, and development. The Antiquities Act grew out of the voice of the American people who recognized the significance of these places, not only to the local communities but to the nation as a whole.

The Vanishing Treasures Program represents the next logical step in providing parks in the arid West with the support they need to protect and preserve these irreplaceable resources. National Park Service staff gave voice to the need for time, money, and the continuation of the traditional skills needed to stabilize and conserve the cultural heritage contained in western parks, many of which came into being as a result of the Antiquities Act. Beginning in 1998, Congress responded to that need by funding the Vanishing Treasures Program, which is dedicated to saving ancestral and historic architecture, in consultation with affiliated peoples, to preserve not just the structures themselves but essential intrinsic values as well.

It is with great pleasure that we introduce the 2006 Annual Report commemorating the Antiquities Act of 1906.

Michael D. Snyder
Regional Director
Intermountain Region

Jonathan B. Jarvis
Regional Director
Pacific West Region

Message from the Vanishing Treasures Program Manager

As the Vanishing Treasures Program Manager, it gives me great pleasure to introduce the 2006 Vanishing Treasures Program Annual Report commemorating the 100th anniversary of the Antiquities Act. Through the Antiquities Act, Presidents were given the authority to proclaim national monuments, many of which include historic and prehistoric structures to be preserved for the public. In 2006 the first national monuments celebrated their centennial anniversaries and today the Vanishing Treasures Program stands at the fore in the preservation of these special places. This report serves to document the superb work and dedication of the highly talented Vanishing Treasures staff in these parks.



With the completion of my second year as the Vanishing Treasures (VT) Program Manager, I am pleased to report that VT continues to be a dynamic and growing Program. Excellent guidance is being provided by the VT Leadership Committee, one major focus of which is the establishment of multi-discipline partnering approaches to park assistance. As an example, VT coordinated a multi-disciplinary Pest Management Workshop in response to many parks requests for assistance in addressing pest management problems that were affecting historic or archeological fabric. The workshop brought together numerous disciplines to discuss the various concerns, provide an opportunity to understand varying perspectives, and suggest methods to solve the issues. Participants included park managers, tribal representatives, and pest management specialists from both the National Park Service and the Department of Agriculture's Animal and Plant Health Inspection Service (APHIS). Afterward, in partnership with Colorado State University, we developed guidelines, based on integrated pest management practices, for park managers to deal with pests in historic and prehistoric structures and the landscapes that surround them. These guidelines will soon be available in both printed and electronic versions.

Another goal of the VT Leadership Committee is the effective utilization of the VT Program staff in providing support for park preservation efforts. This year, for the first time, Vanishing Treasures participated in the Cultural Resources program's call for technical assistance. These requests serve as the basis for the VT program staff work plans.

The Vanishing Treasures Program is one of the few efforts that serve parks in more than one region, and this year the VT Leadership Committee's annual meeting was hosted at Joshua Tree National Park. In part, the purpose of this meeting was to familiarize members of the Leadership Committee, most of whom are from the Intermountain Region, with VT resources in the Pacific West Region. The group had a full agenda, including the initial efforts to develop an action plan for VT that will guide the Program into the future. A field trip was also conducted that provided an opportunity to see a range of resources in the park including, mining operations and ranching homesteads. One of these homestead sites remains intact, complete with cars, tools and furnishings, as if the occupants will be returning in the evening. The mining site contained structures and large scale equipment that was utilized in the ore processing operation. It was very helpful for the Leadership Committee to become more familiar with the wide variety of resources included in VT, and the challenges that the park faces in preserving not only the structures, but also the integrity of their sites so that they can serve as the backdrop for park interpretation activities.

It was for the preservation of places such as those at Joshua Tree National Park that Vanishing Treasures was originally established. Envisioned as a ten year initiative, the Vanishing Treasures Program is currently transitioning to a permanent program within the National Park Service. Modifications to the VT Charter will be made to reflect the strategic changes necessary to ensure the sustainability of the program into the future.

I am excited to be a part of the Vanishing Treasures Program at such a pivotal point in the history of the program, and I look forward to the collective contributions we will be making toward the preservation of historic and prehistoric resource in the National Parks.

Virginia Salazar-Halfmoon
Virginia Salazar-Halfmoon
Vanishing Treasures Program Manager

At-Large VT Program Staff

Preston Fisher, Structural Engineer



Of my 25 plus years of federal government service, I have definitely enjoyed my last 6 years with the Vanishing Treasures Program the most. Since I joined the VT team in January 2001, I have had the opportunity to see some of America's most treasured, fragile, and unique Archaeological Sites up close and personal. And, although these sites are indeed rare and unique, I have come to realize that perhaps our greatest resources are the people that have

dedicated their lives to preserving and protecting these treasures. I have learned the importance of using site specific stabilization techniques and appropriate mortars from some of the most experienced masons and exhibit specialists in the world. I have had the opportunity to learn about the previous caretakers of these sites from some of the most knowledgeable, dedicated Archaeologists in the world as well. During my tenure with VT Program I have seen many different types of prehistoric construction styles and techniques, Spanish era missions, historic adobe buildings, and dry laid rock ranch and mine buildings.

Since my duty station is at Mesa Verde National Park (MEVE), I

have been fortunate to be a part of the Archeological Site Conservation Program (ASCP) that has been developed at MEVE. Over the past several years I have developed a set of structural engineering evaluation and evaluation forms and guidelines for use by Archaeologists in the field. This past year I worked closely with the MEVE ASCP database archaeologist to develop a structural engineering module for the ASCP architectural documentation database and we hope to have a version of the database available for use by other NPS VT parks this year.

Although my duty station is at Mesa Verde, 80% of my time is intended to be spent serving the needs of the 44 other parks in the Vanishing Treasures Program. During 2006 I provided varied types of assistance to several VT parks including the following. At Aztec Ruins National Monument I served as the contracting officer's representative on a project to remove an existing concrete roof and install a lightweight rubber membrane roof on rooms. I made several site visits to Wupatki National Monument to troubleshoot an electronic crack monitors and data logging equipment. I reviewed plans for the stabilization of a backcountry wall at Tonto National Monument and provided comments to the Arizona State Historic Preservation Officer.

I compiled and analyzed structural monitoring data collected at Pueblo Bonito at Chaco Culture National Historical Park, Square Tower and Cutthroat Tower at Hovenweep National Monument,

Spring House and Square Tower House at Mesa Verde National Park and Wupatki National Monument. I evaluated the structural condition and stability of Talus Slope Pueblo at Bandelier National Monument, Kaibab House at Wupatki National Monument, historic retaining walls and drainage structures along the Serpent's Trail at Colorado National Monument, the Ice House and Cellars at Fort Laramie National Historic Site, historic buildings at Glen Canyon National Monument, and several ranch structures at Pecos National Monument. In addition to condition assessments, many of these site visits also resulted in the preparation of recommended stabilization measures. I also reviewed plans and provided comments for proposed stabilization treatments and new roof installation at Organ Pipe National Monument.

I also assisted other federal agencies and partners including the US Forest Service at Chimney Rock Pueblo near Pagosa Springs, Colorado, the US Army Corps of Engineers at Jemez Pueblo, and the Santa Clara Pueblo.

I am fortunate to be a part of the Vanishing Treasures Initiative and look forward to carrying the VT Initiative through the transition to the Vanishing Treasures Program of the 22nd century. To this end I will continue to be available to VT parks for assistance in evaluating and monitoring the structural integrity of their resources and developing and recommending actions that can be taken to stabilize, preserve, and protect these fragile resources.



Randy Skeirik, Historical Architect

It has been a short 2 ½ years since I packed-up and moved 2000 miles across the country to assume the position of historical architect for the Vanishing Treasures Initiative. It was a BIG leap for me. Raised in the Midwest and educated on the east coast, I was knowledgeable about historic preservation, but back there it was all about buildings: wood, brick, stone, lime mortar, and slate roofs. There were so many buildings that anything without a roof was merely a picturesque afterthought. On the east coast it was all about the architecture and the (historical) architect was king. In the arid Southwest the archeologist rules and it's all about ruins; and the materials, a little wood, lots of stone, plus the enigmatic adobe, jacal, puddled earth, and mud mortar. What kind of stuff is that to construct buildings from? They'd melt in the rain, if it ever rained.

I've learned a lot about these things, with admittedly much more to learn, but what an opportunity! Working in 45 of the most amazing places on earth, with some of the most knowledgeable and dedicated people one could ever hope to meet.

My first year was occupied primarily with learning how to work in the federal bureaucracy and becoming familiar with some of the resources in my home state of Arizona. Since then I have had the opportunity to also visit VT parks in Utah, Texas and New Mexico, consult with the Santa Clara and Jemez Pueblos, and make several trips to Santa Fe to assist VT Program Manager Virginia Salazar-Halfmoon with program administration duties.



Yet, it seems that the fact that the VT program even has a historical architect remains a reasonably well kept secret. On the plus side, that low profile allowed me some time to get my bearings and settle into my new position but the time has come for me to assume a much higher profile in the program. That effort will be facilitated by the fact that I will soon be relieved of my division chief duties, a "collateral duty" that has occupied a tremendous amount of my attention.

While the exact duties of the historical architect haven't yet been fully delineated, I am available to all VT parks, at no cost, to provide any type of preservation architectural services needed to help preserve VT resources. I can assist with the identification, research, planning, treatment, and preservation maintenance of historic and prehistoric structures; help with the preparation of historic structure reports, document existing conditions and define treatment actions based on examination of the structure, documentary research, and professional evaluation of data; and I can help prepare other written reports, graphic illustrations, or plans associated with the management of historic and prehistoric structures. Generally, my availability will be limited to two to three weeks; so while I can contribute to large projects, I cannot take the lead in them. I also hope to be able to assist parks that lack qualified staff to prepare competitive VT project proposals, and I will continue to contribute to the overall management of the program through such efforts as preparing the annual report.

I am very much looking forward to continuing to expand my work in support of the preservation of our cultural resources and the mission of the program. I urge you to call on me whenever I can make a contribution to your park's preservation efforts.

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The Antiquities Act-Vanishing Treasures Connection

Kayci Cook Collins

One hundred years ago, the arid West was as it is today, rich with fantastic places and stories. At the turn of the last century, autographed sandstone cliffs, imposing Ancestral Puebloan sites, and mysterious canyons and caverns beckoned scientists, travelers, and vandals alike. Word of places like Chaco Canyon had spread among ethnologists, archeologists, museum curators, and ultimately, politicians. A growing number believed that these sites were important to the nation as repositories of scientific information and as places of exceptional scenery - far more than just places to collect interesting artifacts and geological specimens. Protection became the focus and it all came together with the congressional passage of the Antiquities Act of 1906. The Act did not itself create any national monuments, but gave the President the authority "to declare by public proclamation historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon the lands owned or controlled by the Government of the United States to be national monuments."

Following the Act's passage in June of 1906, President Roosevelt didn't waste any time - in September he proclaimed Devils Tower the nation's first National Monument. Three months later he gave us three more: El Morro, Montezuma Castle, and Petrified Forest, all of which are now "Vanishing Treasures" parks. Earlier that same year, Congress passed legislation creating Mesa Verde National Park, another VT park. Over the next decade, Presidents Roosevelt, Taft and Wilson not only proclaimed 17 more monuments, but they set in motion the basis for the creation of the National Park Service to manage these and other national parks that Congress had designated.

2006 marked the centennial anniversary of the Antiquities Act, perhaps the first legislated acknowledgement of the value of our "vanishing treasures." The Act ushered in a new era of federal protection for historical, archeological and natural resources and sparked the creation of a spectacular set of monuments, many of which are part of today's Vanishing Treasures Program of the National Park Service. 28 of the 45 VT parks were initially protected through the Antiquities Act. Like the efforts that led to passage of the Antiquities Act, the Vanishing Treasures program grew out of a grassroots movement aimed at protecting threatened resources to prevent their destruction and loss.

The upcoming centennials of units like Tonto, Chaco Culture, Grand Canyon (yes, Grand Canyon began as an Antiquities Act monument!), and Tumacacori will be great opportunities to celebrate NPS stewardship and to generate continued interest in sustaining resource-focused NPS programs like Vanishing Treasures. A great party starts with a good cause, and protecting our parks' Vanishing Treasures easily qualifies.

Kayci Cook Collins is Superintendent of El Malpais and El Morro National Monuments

Mesa Verde Centennial

Julie A. Bell

Mesa Verde National Park celebrated its 100th birthday on June 29th, 2006. This momentous occasion was commemorated by an entire year of events aimed at celebrating the first national park established to protect the works of man. Park staff and members of the Mesa Verde Museum Association began planning for the occasion in 2003. Several committees were formed to organize specific events, including the Archeology Action Group which was tasked with defining several conferences that could highlight archeological accomplishments at Mesa Verde over the last 100 years. This resulted in the park hosting the Mesa Verde Archeological Symposium in May 2006, and a consortium of organizations hosting the Pecos Conference in Farmington in August 2006.

The celebration began on December 8, 2005 during Mesa Verde's annual Open House when luminarias, typically placed only in the headquarters area and at Spruce Tree House, were also used to illuminate Cliff Palace for the first time in the park's history. Numerous photographers took advantage of the glowing lights to produce some beautiful images. Other events that took place throughout 2006 included a monthly lecture series on the cultural, natural, and park history, plein air painter's workshops, a Mesa Verde alumni reunion, Music in the Mountains concert and dinner featuring the newly composed Mesa Verde Suite, and a visit by First Lady Laura Bush. The actual birthday on June 29th included an entire weekend of activities including a celebration of a century of preservation through Native American dances, living history demonstrations, stagecoach rides, and presentations by National Park Service and Native American leaders.

A highlight of the year's events was a three-day archeological symposium entitled "A Century of Archeological Research at Mesa Verde National Park", which celebrated 100 years of archeological research in the park. Over 200 people attended the symposium and speakers included current and past park archeologists, historians, Native American experts, and many well known Southwestern archeologists. The presentations highlighted the last century of archeological research and the new directions for research in the next century.

Other special events offered in 2006 were limited ranger-guided



*Candeliaria in Cliff Palace.
Photo: Courtesy Mesa Verde National*



Park

tours to three backcountry sites: Mug House, Oak Tree House, and Spring House. Hikes were offered to all three sites, while a horseback ride was also available to Spring House. Archeologists established trails through the sites based on site stability. All three sites have received stabilization treatments, but none within the past 10 years, and none of the sites were sufficiently stabilized to withstand visitor traffic. Only Mug House has been extensively excavated and only limited areas of Oak Tree House were tested in the past. No subsurface work has ever been conducted at Spring House. The park viewed this as an opportunity to deliver a preservation message to the public, particularly at Spring House. A monitoring program was established to measure impacts from tours on the natural and cultural resources. Access to Mug House

and Oak Tree House was very limited, while a viewing platform was constructed at Spring House to keep visitors from trampling over unexcavated features.

The centennial finale took place on December 9, 2006 with the same luminaria celebration as the previous year, with Cliff Palace illuminated for the last time. It was a very successful centennial year with many celebrations to mark this once in a lifetime event. Mesa Verde looks forward to the next 100 years of ongoing archaeological research, preservation and excavation.

Julie A. Bell is Acting Research Archeologist at Mesa Verde National Park

Documenting and Conserving the Cavates in Frijoles Canyon, Bandelier National Monument

Angelyn Bass Rivera and Lauren Meyer

Deep within the canyons of the Pajarito Plateau in Northern New Mexico are thousands of earthen plastered rooms carved into the soft rhyolite tuff cliffs. These dwellings, known as cavates, were constructed and used from the 12th to 16th centuries^a by the ancestors of the modern Pueblo people, and were once the concealed back rooms of larger stone masonry villages that lined the base of the cliffs.

Though the exterior masonry pueblos have long since collapsed, the exposed honeycomb of cavates still hold extraordinarily well preserved architectural features that give us a rare glimpse into the daily lives of the Pueblo people of earlier times. Features within them include rows of loom anchors in the cavate floors, some complete with adobe plugs and wood loops; built-in floor elements including paired mealing bins and metate rests, adobe floor ridges, ash-paste filled cupules and fire hearths; pictographs and petroglyphs that embellish the plastered walls and the rock faces above the cavates; deep, plastered niches; and passageways that connect the cavates. Modern pueblo people visit the cavates and acknowledge them as an integral part of an ancient landscape to which they are strongly and deeply connected. The Tewa word for the cavates is *t'ová tewha*, which roughly translates to "old or crumbling villages against the wall."

In 1999, the Vanishing Treasures Program was established at Bandelier National Monument. With that, the park's ruins stabilization program was revived and the Frijoles Canyon Cavate Pueblo Conservation Project began. The principal goals of the cavate project are to develop appropriate methods to identify, document, conserve, and maintain the cavates as both constructed and natural heritage, and also, through Native American consultation and planning, to create a culturally adaptive management strategy that addresses the physical conservation of the cavates in their constantly changing landscape.

This project, now seven years ongoing, has been funded through the Vanishing Treasures Program, as well as other federal and private grants^b. We have carried out multidisciplinary research through partnerships, cooperative agreements, and contracts^c, and have also provided archaeological site conservation training to graduate and Pueblo students, conservation interns, archaeologists, and park staff through a field school in site conservation and heritage management. Through generous financial and research support, Bandelier has brought together science, technology, tradition, knowledge, and training to address the challenges of preservation and interpreting these unique sites.

Project History

The Frijoles Canyon Cavate Pueblo Conservation Project was designed and carried out in three phases:

Phase I (1999-2001) involved archival research, design and testing of data collection and documentation methods and protocols, and preliminary materials analysis of the cavate tuff, earthen plasters and paints.

Phase II (2002-2005) involved systematic documentation and assessment of 1,068 cavates in Frijoles Canyon, including both written and graphic documentation and digital and film photography^d [Figure 1]. Based on assessment of the cavates of Frijoles Canyon and subsequent analysis of the data collected, priorities for conservation have been developed. These priorities are based on each cavate's archaeological significance and present condition. Approximately 84 (8%) cavates have a high priority for treatment, 294 (28%) have a medium priority, and 677 (64%) have a low priority. Due to the sheer number of cavates and their imminent deterioration from constant landscape-level erosion, park management will focus conservation efforts on the high priority cavates. A formal treatment plan was prepared for the high priority cavates and testing was initiated. A relational database and Geographic Information System were also developed to integrate spatial data with detailed condition assessment information and images.

Phase III is currently underway and includes additional field and laboratory testing, materials analysis [Figure 2], detailed graphic documentation, environmental monitoring, and treatment implementation. In the future, medium and low priority cavates may receive some form of preventative conservation to prevent rapid deterioration, but at a minimum, all of the cavates will be documented and monitored.

Conservation Issues, Solutions and Results

The cavates are slowly deteriorating from both environmental and human impacts. One of the challenges of conserving the cavates is how to preserve their physical integrity despite constant landscape-level change and erosion of the cliffs. The cavates were carved directly into the soft, rhyolitic tuff cliffs formed from two separate eruptions and ash flows of the Valles volcano that occurred ap-



Figure 1. Conservators and archaeologists conducting cavate documentation and condition assessment. This cluster of cavates in Group M has rare intact masonry entrances and remnants of exterior talus structures.

Photo: Angelyn Bass Rivera, 2002

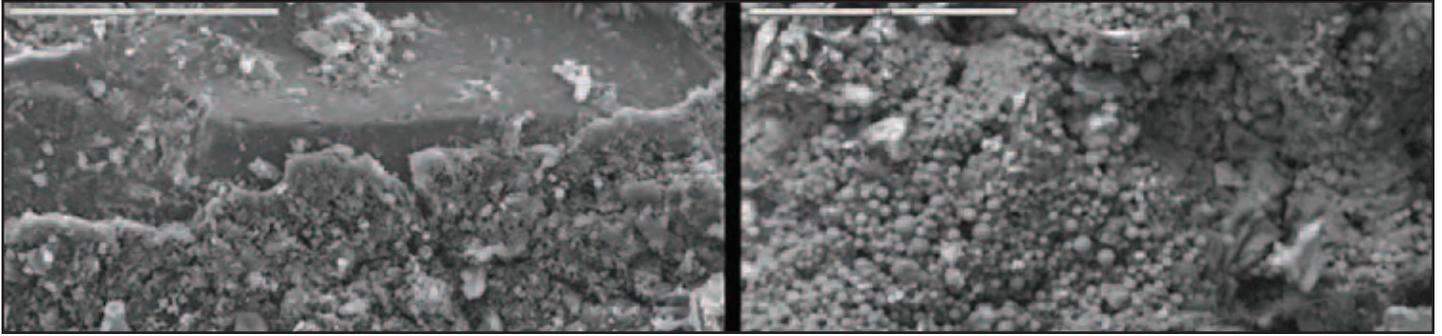


Figure 2. The composition of the plaster, paint, and weathered tuff were analyzed with a scanning electron microscope (SEM) at the University of New Mexico. The photomicrograph on the left shows a layer of black paint from above the dado in cavate M-100; the right shows a similar looking black layer from the ceiling of C 13-01 that is clearly soot (note the carbon spheres), and not paint. Photo: Mike Spilde, 2005

proximately 1.6 and 1.2 million years ago. Most of the cavates were excavated into a weakly cemented zone where the two ash flows meet, which makes the tuff ideal for excavation and occupation, but problematic for preservation because of its progressive deterioration. Preliminary geomorphic assessment of cavates and cliff bases in Frijoles Canyon revealed that deterioration of the tuff occurs primarily through small-scale spalling and granular erosion, and to a lesser extent from large-scale rock falls. The primary processes contributing to gradual erosion of cavates are the discharge of water from the vadose zone at the cliff base, capillary rise of moisture into the tuff, and surface water flow down the cliff face, which often streams directly into the cavates through the entrances, smoke holes and vents. Moisture infiltration combined with other complex chemical and physical deterioration processes such as soluble salts dissolution and crystallization, wet/dry and freeze/thaw cycling, and wind-blown particle abrasion accelerate tuff disintegration and loss. Some of the most severe deterioration conditions are the undercutting and collapse of tuff cavate ceilings (a result of differential tuff erosion), and the disintegration and loss of the masonry entrances and earthen wall and floor plasters [Figure 3].

In 2002, we began field-testing both preventive conservation and emergency stabilization treatments for the high priority cavates. The treatments are designed specifically for each cavate based on our understanding of both the tangible and intangible values (e.g. physical realities, material integrity, sentient responses, sense of place, etc. . .). Treatments are also intended to address the causes of the deterioration and, if needed, repair existing damage in ways that do not to alter the material integrity, that are imperceptible to the casual visitor, and that are reversible. This approach, which emphasizes limited conservation intervention, detailed documentation, and in some cases, no treatment because of physical limitations or cultural preference, attempts to strike a balance between allowing the continuity and preservation of the form and fabric of some cavates, while also allowing for the continuity of the natural processes of decay and renewal for others.

Conservation treatments have been field tested in 22 cavates. These treatments fall into three major categories: structural repair and monitoring, conservation of the architectural finishes (plastered and sooted wall and floors), and preventive treatments, which ad-

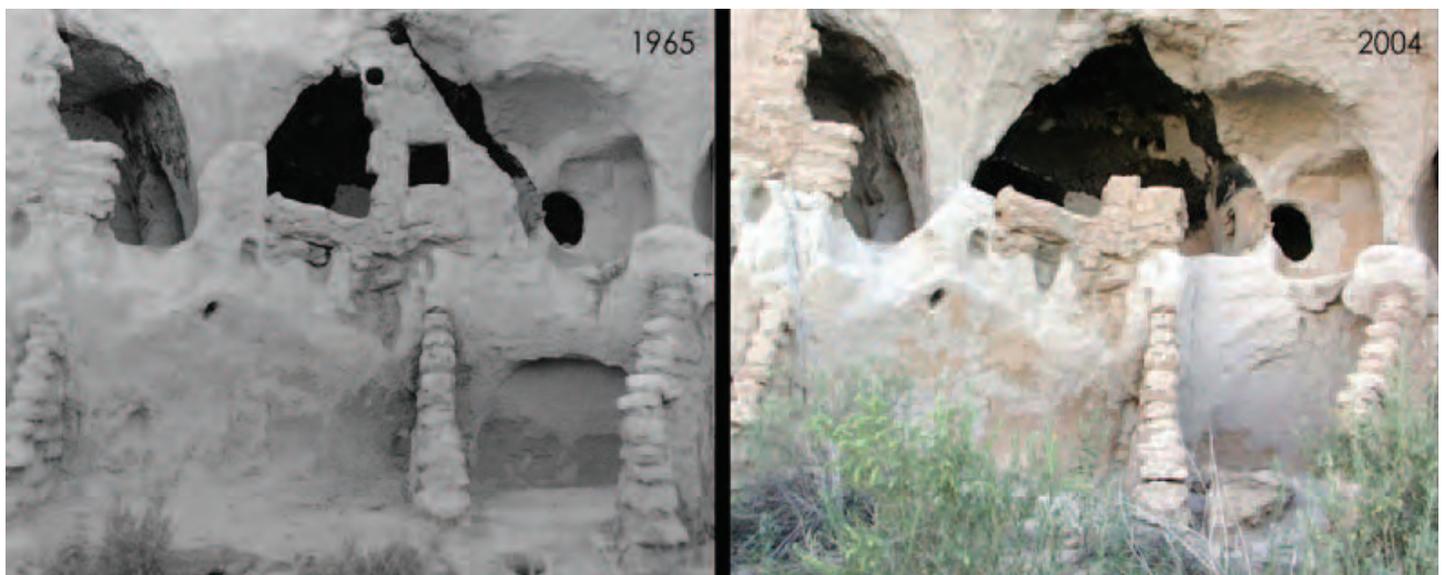


Figure 3. Historic photographs are used to determine extent and rate of change and deterioration over time to the cavate structures. This cavate pueblo in Group M was stabilized with unmodified earthen mortar in 1950s, however, the fragile masonry entrance collapsed sometime after 1965.

Photo: anon, 1965.; Lauren Meyer, 2004

dress both the major deterioration conditions as well as the causes of deterioration. Common treatments include masonry stabilization, primarily repointing with earthen mortars, surface water runoff control through the introduction of silicone driplines, berms and soil grading, plaster conservation through grouting, edging, and reattachment; stabilization of tuff erosion and undercutting through stone consolidation and infilling losses with lime-based fills, graffiti mitigation by infilling and inpainting [Figure 4], detailed documentation through measured drawings, photography, total station mapping and laser scanning; and lastly, preventive maintenance by backfilling floors, covering social trails, and public outreach.

Future Plans

The Frijoles Canyon Cavate Pueblo Conservation Project has been ongoing for seven years. Bandelier has collected and analyzed a tremendous amount of data about the cavates, which has extensively increased our knowledge about the archaeological context, state of preservation, and the types and severity of threats endangering the cavates. We have started examining the causes of cavate deterioration, both at the landscape level and individually, and have initiated field-testing of a variety of conservation treatments to preserve the cavates in their natural environment. Future project work will include a cultural significance assessment of the cavates in collaboration with the traditional affiliated Pueblos, continuing to implement and monitor treatments, documenting and assessing other cavate pueblos in the park; and, making the cavate data available for public use.

Significant progress has also been made through the professional and personal relationships we have developed with traditionally associated pueblos, universities, museums, non-profit organizations, and individuals. Our partners contributed extensively to the project through their expertise in photography survey, geomorphology, conservation treatments, materials analysis, database design, laser scanning, GIS, and landscape ecology. They have helped us complete fieldwork and undertake special research projects that otherwise could not have been accomplished. Through the relationships we have developed, Bandelier now has a close network of partners that are helping to raise awareness of the importance of the cavates and their landscape, and we are working together to develop culturally, ecologically, and technically appropriate solutions to appropriately manage and preserve the cavates as both a cultural and natural heritage for future generations.

*Angelyn Rivera is an Archeological Site Conservator at Bandelier National Monument
Lauren Meyer is an Exhibit Specialist at Bandelier National Monument*



*Figure 4. Before and after graffiti mitigation. Soil infills, inpainting, and cyclododecane effectively obscure the heavy vandalism.
Photo: Ross Madison Collins, 2002*

Endnotes

- ^a Occupation chronology was derived from different sources: analysis of pottery found inside the cavates and on nearby talus slopes, tree-ring dating of wood excavated from cavates, and archaeomagnetic dating of hearths.
- ^b Project financial supporters include the National Park Service's Vanishing Treasures, Cultural Cyclic and Cultural Resources Preservation and Protection Programs, the Getty Foundation, the Tauck Foundation through the National Park Foundation, and the Friends of Bandelier.
- ^c Project partners and contributors include the Pueblos of San Ildefonso, San Juan, Cochiti, and Santo Domingo, Claire Munzenrider and the Museum of New Mexico Conservation Lab, Frank Matero and the University of Pennsylvania Graduate Program in Historic Preservation, Mike Spilde with the University of New Mexico Institute of Meteoritics and Department of Earth and Planetary Sciences, New Mexico Heritage Preservation Alliance, US/ICOMOS, Steve Tharnstrom, Doug Oliver, and Jim Holmlund and his team at Western Mapping Company Inc.
- ^d This was the first systematic recording of all the cavates in the canyon, apart from mapping conducted as part of the Bandelier Archaeological Survey (BAS) in the 1980s-90s. A random sample of 353 cavates was analyzed by Wolcott Toll in 1986. The results of his investigation formed the basis of our archaeological significance assessment. For this project, many individuals assisted with archaeological and condition assessment, but the majority was done by Kathy Fiero and Sue Eininger in 2002-2003. Though all the cavates have been mapped and assessed, only 300+ cavates have been fully photographed in both digital and 35mm film formats. Photography of the individual cavates continues each season. Large format photography (4x5") has been completed in the occupational zone of the cliff face in Group D (Long House); and landscape-level photography, also medium format, has been completed for the north escarpment of Frijoles Canyon within the 1.5-mile study area.

Note: A full bibliography for this article will soon be available online at <http://inside.nps.gov/regions/custompages.cfm?rgn=716&id=5256&lv=3&pid=2219>

Fort Davis Post Hospital Project

Jake Barrow

The Fort Davis National Historic Site Post Hospital Restoration and training workshop embarked on a second season in 2006. Emergency plaster conservation training started on June 19, one week ahead of the full program which started on June 26. The program concluded on July 21, 2006. The five week workshop included instruction in historic plaster conservation, lime plastering, graffiti mitigation, 19th century window and door restoration, and floor reconstruction.

The workshop was a “hands on” training opportunity that mixed a wide



*Ft. Davis Post Hospital Field School Participants.
Photo: Max Kandler*

variety of people and skills. Individuals from Fort Davis, other units of the National Park Service, Cornerstones Community Partnerships, the

Youth Conservation Corps, and the University of Vermont Graduate Program in Historic Preservation participated in the project. Restoration of the hospital and the installation of new exhibits will provide Fort Davis and West Texas with a fascinating and educational window into 19th century medical practices as well as a deeper appreciation for the architectural complexity of the adobe hospital.

The park is the recipient of a Save Americas Treasures Grant. The regional office and park volunteer program assisted the project with project volunteer hours providing over \$30,000 in matching funds toward that Grant. The local Friends Group also continued to provide considerable financial support which serves as a match. Based on the success of this workshop and the previous one in 2005, planning is underway for a 2007 workshop to continue the mixed stabilization and restoration project.

Jake Barrow is an Exhibit Specialist at the Intermountain Regional Office, Santa Fe



*Fort Davis maintenance crew, from left: Roy Catano, Chip Prude, Frank Cauble, Henry Sanchez, Armando Valerio, Ramon Sanchez, and Mark Meacham.
Photo: Max Kandler*

New Mexico Parks Symposium

Mary Slater

On November 9, 2005, a stabilization forum was hosted by Bandelier National Monument. This forum was an informal meeting of stabilization practitioners in VT parks which included masons, exhibit specialists, archeologists, and architectural conservators. The purpose of the meetings (held once or twice yearly) is to share information on topics such as materials and methodology regarding fabric treatment of prehistoric masonry. Dialogue among the participants is facilitated by the host park, whose staff provides a site visit designed to promote further discussion.

At the 2005 meeting, 23 participants from Aztec Ruins National Monument, Bandelier National Monument, Chaco Culture National Historical Park, Fort Union National Monument, Pecos National Historical Park, and Salinas Pueblo Missions National Monument were joined by the Superintendent of Jemez State monument as well as an Exhibit Specialist from the Intermountain Regional Office, Santa Fe, and two representatives from the New Mexico State Historic Preservation Office. Participants discussed projects from the previous field season, looked at stabilization mortar test walls, and visited the stabilized pueblos of Tyuonyi and Long House.

Mary Slater was an Exhibit Specialist at Bandelier National Monument



*Mary Slater showing test walls at New Mexico VT parks symposium.
Photo: Lauren Meyer*

Society for American Archaeology Symposium

Phil Wilson

At the request of the VT Leadership Committee, VT staff at Salinas Pueblo Missions National Monument took the lead in organizing a symposium for the 72nd annual meeting of the Society for American Archaeology (SAA) in Austin, Texas (April 25 – 29, 2007). VT has provided partial funding to support this effort while participating parks have also provided financial and logistical support. The symposium is titled *Ruins Preservation in the North American Southwest: Keeping the Walls From Tumbling Down* and was organized by Philip Wilson (Salinas Pueblo Missions National Monument), Richard Reycraft (Jemez State Monument), and Marc LeFrancois (Salinas Pueblo Missions National Monument) with Robert Bryson (Mojave National Preserve) as Symposium Chair and Larry Nordby (NPS retired) as Moderator/Discussant.

The Symposium Abstract (listed below) captures the breadth of the topics to be discussed and the importance of an integrated management approach to ruins preservation.

In 1891, the first ruins preservation project in the North American Southwest was initiated at Casa Grande in Arizona. Since that time numerous significant historic and prehistoric ruins have been preserved with a bewildering array of stabilization techniques, some of which have been more detrimental than helpful for long term preservation. In this symposium, archeologists and stabilization experts from multiple parks throughout the region evaluate the long-term effects of prior stabilization techniques, identify current preservation technologies, and describe recent documentation practices; including laser scanning and GIS mapping, in an effort to develop a more consistent methodological approach.

Other participating VT parks and partners include:

- El Morro and El Malpais National Monuments
- Grand Canyon National Park
- Mesa Verde National Park
- Montezuma Castle National Monument
- Tonto National Monument
- San Antonio Missions National Historical Park
- Western Mapping, Inc.

The SAA is the premier professional organization for North, South and Central American archeology with a longstanding National Park Service affiliation. This symposium will be the first ever dedicated entirely to ruins preservation issues. Attendance at this conference will provide an excellent opportunity for the participants to highlight the preservation ethic of the National Park Service and the Vanishing Treasures Program, and it will provide an exemplary opportunity for outreach, education, partnering and recruitment.

The end result of the symposium is to gather presented papers for a published volume on the current state of ruins preservation in the Southwest. There will also be an effort to communicate the results of the symposium to interested parks and partners via telnet or other media means. The next VT annual report will carry a section devoted to the results of the symposium as well as efforts towards publication of the symposium papers.

Phil Wilson is an Archeologist at Salinas Pueblo Missions National Monuments

Southern Arizona Parks Cultural Resource Meetings

Cultural resource managers from the Southern Arizona (SOAR) parks meet two to four times a year to share information and discuss issues related to cultural resource management. While not specifically Vanishing Treasures meetings, the vast majority of the Southern Arizona parks participate in the VT program and so Vanishing Treasures topics are always on the agenda. The SOAR parks group includes Fort Bowie National Historic Site, Tumacacori National Historical Park, Saguaro National Park, and Chiricahua, Organ Pipe, Casa Grande, Tonto, Tuzigoot, and Montezuma Castle National Monuments.

Attendees are primarily park archeologists and cultural resource managers, while other participants may include park superintendents, staff from the Western Archeological and Conservation Center, or the SOAR Resources Program Manager. In FY 2006, discussions focused on topics that impact the SOAR cultural resources programs with focus on establishing technical standards and consistency among our various parks regarding cultural resource management. Initially, effort was focused on creating a standardized condition assessment form, however it soon became clear that a “standardized” form would not be possible because of the range of resource types and management needs within individual parks. However, the group agreed that a number of fields in each park’s form could be standardized through a glossary of ruins preservation terms. The glossary will provide consistency regarding the types of impacts recorded and condition definitions.

The group also hosts speakers on cultural resource related topics both from within the National Park Service and from outside organizations. In 2006 this included a presentation by Jill Cowley from the Intermountain Regional Office, Santa Fe discussing cultural landscapes in the national parks.

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



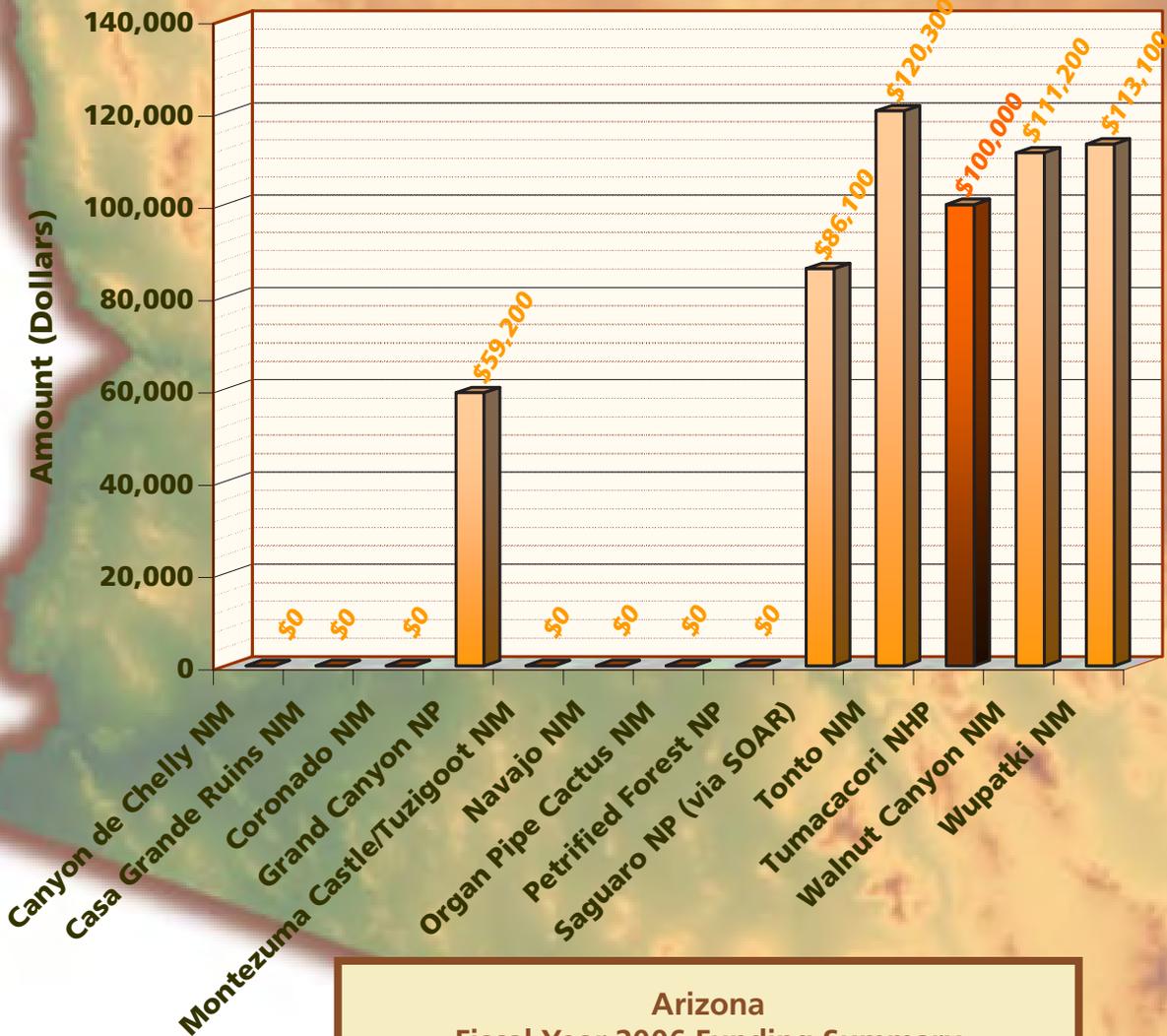
Preservation Crew at Montezuma Castle, Montezuma Castle National Monument.

Photo: Courtesy Montezuma Castle National Monument

- ◇ 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 ◇

FY 2006 VANSHING TREASURES Funding for ARIZONA PARKS

□ Project Funding
■ Personnel Funding (One Year Only)



Arizona Fiscal Year 2006 Funding Summary

Project Funds:

- Grand Canyon National Park, \$59,200
- Saguaro National Park, \$86,100
- Tonto National Monument, \$120,300
- Walnut Canyon, \$111,200
- Wupatki National Monument, \$113,100

Personnel Funding:

- Tumacacori National Historical Park, \$100,000

**Canyon de Chelly
National Monument
(CACH)**

VANISHING TREASURES STAFF

Keith Lyons, Archeologist

FY 2003 Position

Keith implemented an archival inventory project to generate an accurate report of the park’s scientific archives stored in the Visitor Center archives. This inventory will include all archeological site files, bound and unbound site and stabilization reports, photography, and maps.

On September 4th 2006, Keith monitored the removal of woody exotic vegetation from within the fenced area at White House Ruin. This removal has aided in the restoration of the natural landscape and now provides visitors with an unhindered view of White House Ruin.

Keith continued his Collections Management responsibilities.

Between February 13th and 17th 2006, Keith attended a Servicewide Comprehensive

Call (SCC) panel meeting at the regional office in Denver, Colorado. He served as a panel member for both the Cultural Cyclic and Historic Structures sections.

Jennifer Lavris, Archeologist

FY 2002 Position

Jennifer continued to work on the division’s digital imaging project. Through this project, all historic park photography, color slides and black & white prints from the 1990s Archeological Preservation Project (APP) will be digitized. Jennifer completed the scanning of the APP color slides this year.

Jennifer also organized and implemented the Archeological Site File Scanning project. This project digitized all of the park’s paper archeological site files and created both a digital backup and working copy of the park’s archeological data. Student Conservation Association (SCA) intern Michael Denson assisted with the scanning. In FY 2007, digital copies will be cross-checked with hard copies to assure completion of the digital archive. Hard-copy files will then be archived off-site at a later date.

Jennifer continued to update and maintain

various national and park-related databases this year.

Between March 12th and 17th 2006, Jennifer attended the Vanishing Treasures Advisory Group meeting and Sustainable Pest Management Workshop in Scottsdale, Arizona.

Cultural Resource Division Accomplishments

An archeological assessment was performed by RECON Environmental, Inc. along portions of the South Rim Road (NPS 10) that may be impacted by an upcoming road resurfacing project. Both Keith and Jennifer provided the contractors with guidance and support during this project. A pedestrian survey was conducted between May 30th and June 8th, 2006.

In March, the Division implemented the Antelope House Ruin Archeological Site Protection and Landscape Improvement Project. This project addressed a range of issues including archeological site protection, visitor safety, and exotic vegetation removal. Work included the placement of a new fence to protect the area below the main rock art panel and the exposed archeological deposits in front of the ruin, the removal



*Mummy Cave, Canyon de Chelly National Monument.
Photo: Randall Skeirik*

of woody exotic vegetation from in front of and downstream of the ruin, and the removal of obsolete traffic control boulders.

In November, Keith and Jennifer documented both human remains and thermal features in the Face Rock area of Canyon de Chelly that were exposed by a canyon road. In order to prevent future vehicular impacts, the park created a new road which avoids the site altogether.

Several wildfires affected park resources in FY 2006. Three of these fires were followed by cultural resource damage assessments by staff archeologists.

- On April 18th, 2006 a wildfire burned 5.5 acres within the Bad Canyon Rincon. Jennifer performed a post-fire cultural resource damage assessment and determined that no archeological resources were affected.
- On June 9th, 2006 a wildfire burned 19 acres within the Standing Rock Rincon in Canyon Del Muerto. Keith performed a post-fire archeological damage assessment of the area and documented a number of affected cultural resources. Keith was assisted during the fieldwork portion of this project by Student Conservation Associate Intern Michael Denson. The results of this assessment will be formalized in FY 2007.
- On June 12th, 2006 a wildfire burned 55 acres within Far Spiral Canyon in Canyon Del Muerto. Keith and Jennifer performed a brief post-fire archeological damage assessment of the impacted area. Several cultural resources were found to have been affected by the fire. The results of this assessment are yet to be formalized.

VANISHING TREASURES PROJECT FUNDING

Although Canyon de Chelly did not receive Vanishing Treasures project funding in FY 2006, a research design written by Jennifer, the DeHarport Archeological Site Relocation Survey (DASRS) was designed and implemented in FY 2006. This project was funded with Park VT base funds and no additional project funding was requested.

Project Name: The DeHarport Archeological Site Relocation Survey

Project Summary: This project had the following objectives:

- To definitively locate archeological sites originally recorded by David DeHarport between 1948 and 1959.
- To begin a reliable comprehensive map of cultural resource locations for the south-

ern canyon system.

- To supplement and standardize baseline data of sites previously recorded by David DeHarport.
- To survey and document those sites to SAIP standards.
- To increase the number of sites in the ASMIS database (meeting GPRA goal Ib2A).
- To determine the agents which are adversely affecting archaeological resources and at what level each site is being affected.
- To determine the management priorities for each archaeological site recorded.

Project Budget

Personnel: \$42,935.52 (VT Staff); \$9,645.00 (SCA Interns)

- Supplies/Materials: \$0
- Field/Office Supplies: \$0
- Film and Developing: \$527.23

Project Summary: The additional baseline data provided by this survey will allow for improved management of resources and will assist in projects such as stabilization assessments, site protection, monitoring, and mitigation of adverse effects. The collection of this data will also permit resource managers to begin testing DeHarport's analysis regarding settlement patterns within the canyon, to quantify the percent of the canyon that was surveyed by his project, to qualify his original data, and help to formulate new research questions for future archeological investigations.

Following the FY 2006 fieldwork season a brief fieldwork compilation report will be created. This report will include pertinent site information, maps, figures, and images. The potential exists for display and publicity of the project, its aims, and findings through Park-wide site bulletins, interpretive programs, public meetings and temporary exhibits (both during and post-fieldwork). Additional publicity exists

through professional journals, conference presentations, and the Student Conservation Association.

Three interns hired through the Student Conservation Association assisted with the DeHarport Archeological Site Relocation Survey and archival work. Crystal Kauk (Archeological Technician) worked between July 5th and July 26th 2006, Holly Johanns (Archeological Technician) worked between July 5th and October 7th, and Michael Denson (Cultural Resource Technician) worked between May 21st and November 9th, 2006.

The FY 2006 survey was a non-intrusive, targeted, field walking-based sample survey, which definitively located, identified, and recorded sites in Management Sector 1. Most archeological sites in this sector were originally documented by DeHarport during fieldwork he conducted for his doctoral degree and post-doctorate research between the years 1946-59. Approximately 277 acres were surveyed, and thirty-six previously known DeHarport sites and 32 new sites were documented to current standards.



Keith Lyons Recording archeological features at Sleeping Duck Ruin.

Photo: Courtesy Canyon de Chelly National Monument

Casa Grande Ruins National Monument (CAGR)

VANISHING TREASURES STAFF

Rebecca Carr, Archeologist, FY 2005 Position

Rebecca worked with Western Archeological and Conservation Center (WACC) archeologists Ron Beckwith and Sue Wells to complete condition assessments for all 61 archeological sites within the park. Information from this survey was digitized and entered into the Archeological Site Management Information System (ASMIS) along with archival references and site management recommendations. As a result, all archeological sites in the ASMIS database are now updated to include archival references, current conditions, treatment recommendations, and associated National Historic Preservation Act compliance projects. The park-wide data that was assembled has already proven useful in addressing the issues of erosion, animal damage, theft, and vandalism.

Rebecca utilized the Local Data fields in the ASMIS database in conjunction with both the Planning, Environment & Public Comment (PEPC) database, and a Research Database that was developed in 2005, to track potential impacts to archeological sites. She also developed and implemented cultural resource monitoring that, on a monthly basis, logs structural movement within the exposed architecture of the Great House, tracks the location and frequency of graffiti in the park, records soils analysis data from stabilization treatments, and logs treatment formulation data for historic repairs. Under the guidance of supervisory facility management specialist Larry Stewart, Rebecca supervised a crew of up to seven workers, both employees and volunteers, to ensure the accuracy of information collected for the archeology databases and cultural resource monitoring logs.

Based on comments from the Vanishing Treasures sponsored Integrated Pest Management Colloquium that visited the park in FY 2006, Rebecca developed a Global Positioning Satellite (GPS) based monitoring system to track animal impacts to archeological sites. She also worked with Chief Ranger Carol West and a team of volunteers to refine an existing monitoring system used to track bird activity within the Great House. In addition, she developed a

log for tracking the number of pest species caught within the park's historic structures. All three of these systems have been implemented and are being used to ensure the continued preservation of the cultural resources at Casa Grande.

Rebecca worked with staff from the Denver Regional Office of the National Park Service and the Arizona State Historic Preservation Office (AZSHPO) to obtain preliminary determinations that all of the archeological sites within the current boundaries of Casa Grande are eligible for listing in the National Register of Historic Places. She also worked with maintenance staff and WACC archeologists to replace the historic power line in Compound A with a new conduit that carries both electrical and video feeds to the Great House. This has enabled park staff to improve their surveillance of Compound A and prevent visitors from defacing or damaging the site.

Following a confrontation with three individuals during an illegal trespass incident in October of 2005, Rebecca was given the opportunity to attend Archaeological Resource Protection Act (ARPA) condition assessment training that was funded by the Society for American Archeology. She also attended NPS Fundamentals II at the Albright Training Center, as well as Arizona State Structural Pesticide Applicator training.

In addition to her work at Casa Grande, Rebecca had the opportunity to assist other parks during 2006 including doing surface

finish conservation for the hospital building restoration at Fort Davis National Historic Site, providing soils analysis data and sharing materials analysis techniques with Tonto National Monument and Grand Canyon National Park, and presenting a paper on surface finish preservation at the Centennial Archeological Symposium: A Century of Research at Mesa Verde National Park.

Nalbert Chavez, Masonry Worker, FY2001 Position

This position was created in 2001 as an exhibit specialist and was filled by Larry Stewart until his promotion to supervisory facility management specialist last year. In FY 2005 the position was converted to a masonry worker and filled by Nalbert Chavez. Over the past year Nalbert assisted with the repair and maintenance of existing stabilization treatments that have been applied to protect exposed architecture within Compound A and entered information into the park's preservation database.

Working with laborers Derek Mills and Kimberly Connor, Nalbert also assisted with animal impact monitoring and mitigation work by reducing the number of man-made habitats that have been attracting pest species into the park.

Under the guidance of Larry Stewart and Southern Arizona Office (SOAR) Ecologist Michele Girard, the park's maintenance staff implemented components of an Integrated Pest Management plan for Casa Grande. Nalbert worked with Roy Kiser to



*The Big House, Casa Grande Ruins National Monument.
Photo: Randall Skeirik*

install a drip irrigation system to reduce water sources for wildlife in the park's picnic area and placed gravel around the trees to discourage rodents from digging up the water lines. These efforts significantly reduced the amount of standing surface water used to irrigate vegetation within the park. By reducing the surface water and working to educate park visitors, two key factors that attract pest species to the park were diminished.

Nalbert attended training related to park safety and core operations during FY2006. Rachael Schultz, Archeological Technician (Temporary/Seasonal)

Prior to her employment at Casa Grande, Rachael completed an undergraduate thesis on Hohokam culture and worked at WACC. Rachael's archeology technician position at Casa Grande was jointly funded through the VT program and with special projects funding.

Rachael assumed much of the responsibility for moni-

toring animal impacts at the archeological sites and she consolidated previous documentation into a comprehensive set of digital site files that were used to populate the ASMIS database. She monitored animal impacts by measuring the weight of animal debris deposited within the Great House and

by recording wildlife observations within the park. This work enabled cultural and natural resource staff to approximate trends in animal impacts to both the Great House and to archeological sites that are not accessible to the public. As part of the archeology team at Casa Grande, Rachael fabricated re-

movable animal deterrents designed to protect original fabric within the Great House and she worked with WACC Archeologists on various other documentation and monitoring projects within the park.

VANISHING TREASURES PROJECT FUNDING

Casa Grande did not receive Vanishing Treasures project funding in FY 2006. However, park staff funded through the VT program achieved great success in our ongoing projects. As noted above, the most significant accomplishments in FY 2006 included the collection of essential base line survey data and the implementation of resource monitoring systems.



*Rachael Schultz and Rebecca Carr working in Compound A, Casa Grande Ruins National Monument.
Photo: Larry Stewart*

Flagstaff Area National Monuments (FLAG)

The Flagstaff Area Monuments are comprised of Wupatki, Sunset Crater Volcano, and Walnut Canyon National Monuments

VANISHING TREASURES STAFF

Al Remley, Archeologist
FY 1998 Position (Position vacated in September, 2006)

In FY 2006 Al performed a variety of duties including research, report writing and editing, and Vanishing Treasures (VT) Program Support. Al's office duties focused primarily on the day-to-day activities of managing the Flagstaff Area Monuments' Archeology Program while his research and writing tasks included developing and overseeing implementation of scopes-of-work for ruins preservation projects at Wupatki and Wal-



*Wupatki, Wupatki National Monument.
Photo: Randall Skeirik*

nut Canyon. Other work included writing a research proposal and contract with the Department of Anthropology at Northern Arizona University and Western Mapping Company of Tucson, Arizona to conduct detailed mapping and 3-D scanning of Kaibab House at Wupatki for the park's FY 2006 VT funded project.

In September 2006, Al accepted a position at San Antonio Missions National Historical Park as their Chief of Interpretation. In anticipation of Al's departure, Lloyd Masayumptewa was temporarily promoted and began serving in an acting capacity for Al's position. Lloyd is expected to remain in the position through November, 2007. A decision has not yet been made whether Al's position will be re-filled once Lloyd completes his temporary assignment.

**Lloyd Masayumptewa, Archeologist
FY 1999 Position**

In FY 2006, Lloyd 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. With both Lyle Balenquah and Ian Hough's positions remaining vacant in FY 2006 and on into FY 2007 (see below), Lloyd has taken the lead on all preservation activities in both parks and has successfully directed the implementation of a number of field projects.

At Wupatki this included maintenance projects at Wukoki Pueblo and Kaibab House. At Walnut Canyon he oversaw a number of drainage control and small scale structural stabilization projects on both the Island Trail sites and five mid-country sites, as well as a documentation project at the Third Fort Complex. This work included producing compliance packets for the projects and writing and submitting Servicewide Comprehensive Call proposals for fiscal years 2008, 2009, 2010, and 2011.

Working in cooperation with other VT parks, Lloyd provided Montezuma Castle/Tuzigoot National Monument archeologist John Schroeder with assistance in identifying an appropriate mortar source for pro-

posed preservation work at Montezuma Well, and he assisted Grand Canyon National Park Archeologists Ellen Brennen and Ian Hough with recommendations for identifying preservation materials for work on a portion of the Tusayan Pueblo.

With Al Remley's departure Lloyd has had responsibility for closing out the archeology program's budget, writing completion reports for FY 2006 projects, submitting the Flagstaff Area National Monuments Archeology Sites Management Information System data and superintendent's certification, conducting employee appraisals, and overseeing the day-to-day operation of the



JT Stark and Jessica Bland in the field at Walnut Canyon National Monument.

Photo: Courtesy Flagstaff Area National Monuments

archeology crews.

In addition, Lloyd continues to provide computer networking and software updating and conversion support for the Flagstaff Area National Monuments.

**Archeologist
FY 2000 Position (Vacant)**

This position was previously filled by Lyle Balenquah. In this position Lyle functioned primarily as the ruins preservation project leader for Wupatki National Monument. Lyle resigned in early October 2005 to take a position with the Hopi Tribal Government. Lyle's position at the Flagstaff Area Monuments has yet to be refilled. Approximately 10% of Lyle's lapse salary in FY 2006 was utilized for VT purposes.

**Archeologist
FY 2003 Position (Vacant)**

This position was previously filled by Ian Hough; he was employed primarily as the archeological monitoring project leader. He transferred to Grand Canyon National Park at the end of FY 2005 to fill one of Grand Canyon's VT positions. Ian's position at the Flagstaff Area Monuments has yet to be refilled. Approximately 10% of Ian's lapse salary in FY 2006 was utilized for VT purposes.

**John Cannella, Geographer/ Geographical Information System (GIS) Specialist
FY 2004 Position (TERM)**

John was hired in May 2004 to fill the Flagstaff Area Monuments GIS/Database Management position, a unique position that is jointly funded between the Vanishing Treasures Program and the Natural Resource Challenge Program. John was brought on for a four-year term position that will end in May 2008.

In FY 2006, John was responsible for overall GIS and Data Management for the Flagstaff Area National Monuments, 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 National Monuments. He also provided ongoing GIS/GPS support and training for Flagstaff Area Monuments cultural resource staff.

In addition, John has developed and implemented an agreement to provide GIS services to three National Monuments in northern Arizona (Tonto, Montezuma Castle, and Tuzigoot) that will mine existing data, and create metadata and data management directory structures that conform to Intermountain Region guidelines. This has proven to be a highly successful partnership both because of a strong emphasis on communications between parks, and the ability to select outstanding GIS talent from Northern Arizona University's GIS certificate program.



*Laser scanning at Kaibab House in Wupatki National Monument.
Photo: Courtesy Flagstaff Area National Monuments*

Vanishing Treasures Project Funding

Project Name: Perform Emergency Treatment/Repairs for Kaibab House Pueblo

Wupatki National Monument

Project Summary: Kaibab House Pueblo is a large (12-room) surface-masonry Ancestral Puebloan site with several standing walls measuring over 6 feet. Kaibab House is an open-air Pueblo situated on a bluff just southwest of Citadel Pueblo (a large, interpreted front country site). Kaibab House represents one of the best preserved, above-ground, surface-masonry Pueblos in Wupatki National Monument, exhibiting unique architectural attributes such as pattern-banded masonry and double-wall construction, and incorporating natural features such as a limestone earth crack in its design and construction. Kaibab House was comprehensively stabilized in 1983, but has received no treatment since.

When executing stabilization treatments, the risk of loosing original fabric is intrinsic and unpredictable, and the imposition of changes is inevitable. For this reason, it was decided that a non-invasive form of preservation treatment was most appropriate for this site. In our efforts to address current problems without further altering the site, it was decided that the most fitting preservation method would be the detailed documentation of the entire site.

Project Accomplishments: Western Mapping of Tucson, Arizona was contracted

to perform 3-D Laser scanning, geodetic surveying, topographic mapping, and 5 megapixel or higher resolution color digital photography. After a week of fieldwork at Kaibab House, previously unknown rock alignments and a petroglyph had been identified and documented.

Data gathered through this project will be used to eliminate the threat of mass wasting and wall collapse by addressing existing deadload/differential fill problems and by diverting or eliminating water runoff in the western portion of the pueblo. Dealing with these two threats will be a twofold effort, requiring some limited excavation of wall fall debris to relieve the deadload followed by stabilization of walls with mortar and stone. Loose wall stones will be reset and stabilized and, where needed, mortar joints will be repointed. Wall rubble removed from the site will be reused to buttress walls where such treatment is needed to counter the deadload from differential fill in room interiors. The installation of buttresses will have the added benefit of miti-

gating human impacts by keeping visitors away from wall foundations.

Cultural Cyclic funding will be needed to finish this proposed preservation work, and the assistance of VT structural engineer Preston Fisher will be required to provide recommendations pertaining to deadload/differential fill and precipitation runoff calculations.

Project Name: Formal Condition Assessment of Third Fort
Walnut Canyon National Monument

Project Summary: This project consisted of a thorough, systematic condition assessment of the Third Fort Complex, a multi-structure Elden Phase (AD 1150-1225) Sinagua site consisting of ten standing structures (25 rooms total), eight open spaces, four wing walls and a retaining wall. The architectural remains of the fort sit atop the apex of a promontory meander of the canyon and on a series of ledges. Third Fort is part of an architectural and settlement type found only within Walnut Canyon and it represents the most unique form of Sinagua occupation and adaptation to the canyon environment. Historically, the Fort has been the focus of visitor impacts (looting, graffiti, and artifact collecting) in the monument, yet it has never been comprehensively documented or assessed.

The current condition of the fort structures, their stability, structural integrity, rate of deterioration, threats to the integrity of the architecture, factors and types of deterioration and treatment needs are not known. No systematic condition assessment (documentation, assessment and mapping) of the Third Fort complex has ever been com-



Amanda Johnson and Lisa Baldwin in the field at Walnut Canyon National Monument.

Photo: Courtesy Flagstaff Area National Monuments

pleted. Due to this serious lack of understanding about the area, it is impossible to plan for future management strategies of the area. Factors such as the range and magnitude of natural impacts, their effects on the condition and integrity of the site, the history of preservation and excavation, and the mass and scale of remaining original fabric all need to be evaluated.

Project Accomplishments: The data collected through this project will be used to identify areas in need of treatment, to de-

velop appropriate preservation plans, and to establish a condition baseline for future monitoring and long-term maintenance. Our in-house preservation crew, consisting of five term employees (Walter Gosart, Jessica Bland, Amanda Johnson, Bernie Natseway, and Clive Briggs) and three temporary hires (Jonathan Stark, Lisa Bladwin, and Woody Coochwyte), completed all of the components of this project under the direction of project leader Lloyd Masayumptewa. This included planimetric maps (plan views, cross sections and wall elevations), detailed

architectural histories, scaled documentation photography, and collected tabular and narrative data on architecture attributes (masonry size, style and mortars utilized), structural conditions, and impact threat information.

The hand drawn maps generated from this project will be incorporated into a photogrammetric base map that will be contracted out to Western Mapping of Tucson, Arizona and will be completed in the fall of FY 2007.



Fort Bowie National Historic Site (FOBO)

VANISHING TREASURES STAFF

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

Phil specializes in adobe construction, plasters and rock work, and together with Fernie Nunez performs our ruins stabilization work. Jointly, their goal for FY 06 was to get a good start on repointing foundation walls at the Second Fort.

Phil contributed to the repointing of the laundress quarters (HS030), officer's quarters (HS006 and HS001), the wash house (HS011), and the commanding officer's quarters (HS025). Before these foundations could be repointed, they were prepped by removing invasive vegetation and loose mortar. Settlement cracks and rodent damage were noted and repaired, and wasp nests were removed. To match the historic mortar, soil, white Portland cement and sand were mixed and applied to the damaged foundations. A canopy was constructed over the foundations during and after treatment, reducing direct sunlight and improving the curing of the new mortar. As a side benefit, it was discovered that the shade reduced the number of gnats as well.

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

Fernie specializes in adobe construction, plasters and rock work, and together with Phil Tapia performs our ruins stabilization work. Jointly, their goal for FY 06 was to get a good start on repointing foundation walls at the Second Fort.



*The Second Fort, Fort Bowie National Historic Site.
Photo: Erik Briske*

Working with Phil, Fernie contributed to the repointing of the laundress quarters (HS030), officer's quarters (HS006 and HS001), the wash house (HS011), and the commanding officer's quarters (HS025). In preparation for repointing, invasive vegetation, loose mortar, and hornets nests were removed, and settlement cracks and rodent damage were noted and repaired. To match the historic mortar, soil, white Portland cement and sand were mixed and applied to the damaged foundations. A canopy was constructed over the foundations during and after treatment, reducing direct sunlight and improving the curing of the new mortar. As a side benefit, it was discovered that the shade helped to reduce the number of gnats.

VANISHING TREASURES PROJECT FUNDING

Fort Bowie did not receive Vanishing Treasures project funding in FY 2006. The past year's work was funded with Cultural Cyclic money. We received enough money to hire a seasonal maintenance worker to assist with the stabilization work.

asures project funding in FY 2006. The past year's work was funded with Cultural Cyclic money. We received enough money to hire a seasonal maintenance worker to assist with the stabilization work.

VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

Safety: Once again Phil and Fernie preserved their unblemished safety record due in-part to tail-gate safety meetings and safety awareness.

Special Training: Neither Phil nor Fernie were able to participate in training, or to assist other parks.

Special Challenges: This year's record rainfall, 7.3 inches in 18 hours caused severe flooding throughout the park. Continuing the ruin stabilization projects while cleaning up and repairing flood damage was no doubt their biggest challenge.

Grand Canyon National Park (GRCA)

VANISHING TREASURES STAFF

Ellen Brennan, Archaeologist FY 2000 Position

While Ellen continued to lead the Vanishing Treasures program at Grand Canyon National Park she also served as the acting Park Archaeologist for the last five months of the fiscal year. As a result, her activities were balanced between Vanishing Treasures resources and other cultural resource programs.

Wearing her VT hat, Ellen continued her condition assessment work in the Deer Creek Valley assisted this year by John Schroeder of Montezuma Castle and Tuzigoot National Monuments and Ian Hough, Grand Canyon Vanishing Treasures archaeologist. The goals of this project are to understand the relationship of area features to one another, to develop a chronology of use of the area, to understand the function of the architectural features in Deer Creek, and to develop a preservation strategy for the area.

Ellen also continued condition assessment activities elsewhere along the river corridor and in the Indian Gardens area with a particular focus on granary features. These structures often contain dateable materials and architectural typologies, tied to chronometric and cultural information that may provide insights into land use practices during the prehistoric period. In conjunction with this work, Western Mapping Company completed detailed mapping of architectural features in the Indian Gardens area this year and Ellen is supplementing those maps with condition data to develop treatment priorities for this area of the park.

In addition, Ellen led a rehabilitation project to mitigate visitor use impacts on Horseshoe Mesa, completed a rehabilitation project at an archaeological site damaged in 2005 by illegal trail construction. She also wrote a number of documents including the Hermit Road Cultural Resource Inventory report, an archaeological testing plan for the Yavapai Observation Station, the preservation maintenance plan for the Uncle Jim's Cave site, prescribed fire assessment of effects documents, and a scope-of-work for fire-related archaeological inventory.

Ellen helped to coordinate and implement Section 106 compliance activities related to



*Grand Canyon, Grand Canyon National Park.
Photo: Randall Skeirik*

park and concessioner projects, assisted with LCS surveys in the Grand Canyon Village Historic District, supervised the activities of the seasonal archaeological staff, participated in Parkwide archaeological inventory activities, wrote PMIS project statements, participated on the Hermit Road interdisciplinary team, the river protocols team, and Archeological Resources Protection Act task force, worked on the development of the Grand Canyon Vanishing Treasures integrated database, presented programs at the Tusayan Ruin for Arizona Archaeology month activities, and presented programs to Grand Canyon Field Institute Guides and Grand Canyon National Park interpretive staff.

Ellen has special expertise, and could assist other parks, in the areas of architectural documentation, condition assessment, digital cartography, and graphic illustration.

Ian Hough, Archeologist FY 2005 Position

On October 3, 2006, Ian began work at Grand Canyon National Park as Vanishing Treasures Archaeologist after six years of ruins preservation work at Flagstaff Area National Monuments. His work over the past year included architectural documentation, condition assessment and preservation treatment of historic wooden pole structures on the South Rim of the canyon, and architectural documentation and condition assessment of structures in Deer Creek Valley (working with Ellen Brennan).

The historic wooden pole structures project included three-dimensional scanning, completing architectural attribute data sheets, and condition assessments on 10 sweatlodges, forked-stick hogans, and wikiups. For the project, Ian coordinated consultation visits with the Cameron, Arizona chapter house at a sweatlodge and hogan site.



The site visits were videotaped and a copy will be presented to the Chapter House. The videotape will also be translated into English for inclusion in the final project report. A contractor also collected tree-ring samples at the ten sites and this information will be used to construction assign dates to the structures.

Ian assisted Ellen in completing architectural documentation and condition assessments of structures in Deer Creek Valley and 10 additional sites along the Colorado River. He also developed a supplementary preservation plan for Kiva A at Tusayan Ruin as a continuation of work done in 2005 and a test wall was constructed to test the performance of various stabilization materials and applications for future treatments at Tusayan Ruin.

Finally, Ian completed a number of program tasks including writing Project Management Information System project proposals,

attending various training sessions, providing assistance with Section 106 compliance requirements, training interpretation and protection staff, conducting Grand Canyon Field Institute classes, conducting site damage assessments, and updating the park's List of Classified Structures.

Ian has special expertise, and could assist other parks in the areas of architectural documentation and ruins stabilization.

Vanishing Treasures Project Funding

Project Name: Dating, Architectural Documentation, and Stabilization of Historic Wickiups and Sweatlodges

Project Summary: This Vanishing Treasures project will complete architectural documentation, detailed mapping and imaging, tree-ring dating, and limited stabilization on a select group of historic Native American structures in Grand Canyon National Park. These structures represent long-term and short-term uses of the South Rim of Grand Canyon by Navajo and Havasupai peoples for activities such as hunting, plant harvesting, and habitation. They are representations of a life-way that has received little study. They are highly endangered by human and non-human forces such as fire and weathering.

Project Budget: \$60,967

- Personnel: \$5,021
- Vehicles: \$1,000
- Travel/Training: \$0
- Supplies/Materials: \$734
- Equipment: \$0
- Services/Contracts: \$54,212
- Other: \$0

Project Accomplishments: Architectural documentation including medium format photography of the structures, completion of tabular data forms, detailed measurements, and narrative statements regarding structural features have been recorded. Detailed planimetric maps will provide a visual record of the structures and their attributes. These traditional recording methods are to be supplemented by 3D laser scanning. Laser technology will provide a metric digital model of the structures that will preserve structural details for future analysis. The structures have been sampled for tree-ring dating to understand the timing of Native American use of such structures in the Grand Canyon area. Information needed to include eligible buildings to the List of Classified Structures was gathered during field analysis. Preservative such as borates will be used to stabilize the wooden elements of the structures to protect them from water dam-

age and insect infestations.

VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

Consultation: Consultation for the wooden pole structures project included the Arizona State Historic Preservation Office, the Kaibab National Forest, and Grand Canyon National Park's 13 affiliated tribes, particularly the Navajo Nation and the Havasupai Tribe.

Field assistance to the Grand Canyon National Park Vanishing Treasures program was provided by John Schroeder of Montezuma Castle and Tuzigoot National Monuments. Consultation on technical issues was provided by Lloyd Masayumptewa of the Flagstaff Area National Monuments and Vanishing Treasures Engineer Preston Fisher. We appreciate the efforts of these individuals in support of our activities.

Special Training: Ellen attended archaeological damage assessment training in October 2005.

Ian's training in FY 2006 included Effective Interpretation of Archaeological Resources, Resource Advisor (READ) for fire management, Aviation Safety, Park System Resource Protection Act (19jj), 3D Scanning Technology Workshop with Western Mapping Company, Contracting Officer Representative-Technical Training, Wilderness First Responder, Supervisor's Safety, and Cultural Landscapes.



Ian Hough (left) and John Schroeder (right) producing a planimetric map of Structure 2 at site B:10:0004, Grand Canyon National Park. Photo: Ellen Brennan.

Montezuma Castle and Tuzigoot National Monuments (MOCA/TUZI)

VANISHING TREASURES STAFF

John Schroeder, Archeologist
FY 1999 Position, Converted in 2004

John started at Tuzigoot as a STEP (Student Temporary Employee Program) archeological technician in February of 2004. In 2005, after the retirement of one of our VT masons, the position was converted to that of an archeologist, and John was moved into that position as a SCEP (Student Career Experience Program). Since that time, John has functioned as the archeologist for Montezuma Castle, Montezuma Well, and Tuzigoot.

His work this year included completion of the documentation of Castle A and a series of 19 cavates, both located at Montezuma Castle National Monument. Documentation included the generation of metrically scaled plan view maps and AutoCAD elevation drawings, medium format photography of all architecture, research into the stabi-



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



*Wall repair work, Tuzigoot National Monument.
Photo: Randall Skeirik*

zation history, and the preparation of narrative reports discussing previous work, current condition assessments, and recommendations for stabilization treatments. At the close of FY 2006 the final reports were still being generated. The 19 cavates were particularly interesting as they have never been historically stabilized and still contain intact masonry walls, plastered floor surfaces, fire pits, storage cists, and wall and ceiling plaster.

Documentation was also completed for several sites in and around Montezuma Well, a spring-fed limestone sinkhole that is a detached unit of Montezuma Castle. These sites included Swallet Cave Ruin, three cliff dwellings inside the rim of the well, and a two level cliff dwelling located on the outside of the well overlooking Wet Beaver Creek. Final reports for this project were also being generated at the close of FY 2006. In addition, the multi-year project at Tuzigoot Pueblo continued with the documentation

now 80% complete, and approximately 60% of the stabilization work completed.

In 2006 work was also begun on the completion of an indefinite quantities contract with the cooperation of Tonto National Monument. This contract simplified the contracting process for such tasks as laser scanning of prehistoric ruins, use of ground penetrating radar to locate subsurface resources, and aerial photogrammetry. John also presented papers to the Sedona Historical Society and at the Arizona State Historic Preservation Office Preservation Conference in Glendale, AZ.

In addition to his archeology work, John has assumed a number of collateral duties including serving as the park's compliance coordinator, GIS specialist, collections manager, and research coordinator.

Vacant, Masonry Worker FY 1999 Position

Through most of FY 2006 the masonry worker position was held by Alex Contreras who retired in June of 2006. Up until his departure, Alex continued stabilization work at Tuzigoot, guided by ongoing research and documentation conducted by a team of STEP archeological technicians that included Travis Ellison, Margaret Bowler, Jeremy Omvig, Jaclyn Mullen, and Saul Hedquist. Alex was assisted by seasonal masonry assistant Stefan Sloper who, after Alex's de-

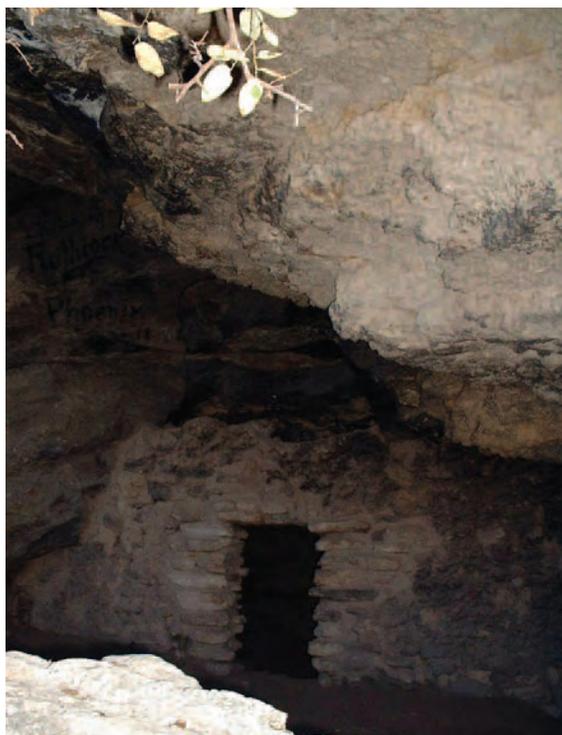
parture, continued the work through the remainder of the field season.

As in the two previous years, Alex and Stefan removed inappropriate pointing mortars and replaced them with a softer soil/cement mix that will facilitate the preservation of the remaining historic fabric. In addition, Alex and Stefan worked to move 1960s era wall capping that incorporated projecting stones intended to discourage visitors from walking or sitting on the walls. The jagged appearance of these projecting stones contrasted with the prehistoric stonework and interfered with the visitor's experience of the site. In addition, the design of the capping allowed water to penetrate the top of the wall, accelerating the deterioration of the prehistoric mortar inside the wall. The new capping both sheds water from the wall enhancing the preservation of the remaining historic fabric, and improves the aesthetic qualities of the site enhancing the visitor experience.

At the start of FY 2007 this position remained vacant, with the lapse salary going toward various supplies and equipment for use by the Resource Management Division. As a result of budget erosion since this position was first funded in 1999, we will be filling the position in the spring of 2007 as term, subject-to-furlough maintenance worker (historic preservation).



*Archeological Technician Maggie Bowler preparing a cavate site for documentation, Montezuma Castle National Monument.
Photo: Jaclyn Mullen*



*Swallet Cave, Montezuma Well National Monument.
Photo: Randall Skeirik*

VANISHING TREASURES PROJECT FUNDING

Montezuma Castle and Tuzigoot did not receive Vanishing Treasures project funding in FY 2006.

VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

Consultation: Montezuma Castle and Tuzigoot have worked hard to build an effective compliance process that includes regular consultation with the Arizona State Historic Preservation Officer (AZSHPO) and limits the use of programmatic exclusions to appropriate project types. Despite this, the AZSHPO has taken controversial stands on some projects that could negatively impact our ability to conduct resource preservation activities. If this trend continues, it may become necessary, as it already has for Tonto National Monument to appeal AZSHPO decisions to the National Council for Historic Preservation.

We have also worked steadily over the past two years to improve our relationships with our affiliated

tribes. This includes conducting tribal consultations for all proposed projects that may be of concern to the tribes. In addition, we have been working to implement Memorandums of Agreement with the tribes to expedite and streamline the tribal consultation process.

Safety: Vanishing Treasures staff and other cultural resource field staff have been careful to develop Job Safety Analyses prior to undertaking work in the field. In addition, tailgate sessions are held regularly to discuss the upcoming work and reinforce the need for safe practices.

Challenges: As noted above, budget erosion has made it impossible for the park to maintain the two full-time VT positions originally funded in FY 1999. Fortunately, the Superintendent fully supports the park's cultural resource program and that assures that our existing positions will be maintained to the fullest extent possible. The pending conversion of our mason position to subject-to-furlough will allow us to fund some of our VT stabilization work with Federal Land Recreation Enhancement Act money, which will assure that we continue to get a full season's fieldwork from the position.

Navajo National Monument (NAVA)

VANISHING TREASURES STAFF

Brian Culpepper, Archeologist FY 2000 Position

Brian enlisted the help of Larry Nordby, under a personal services contract, to author the final report on the Inscription House documentation project. The project began in 1998 and was completed in the spring of 2003 however, assignation of the final report duties was never identified by the project managers at the monument in initial or subsequent planning. Since retired NPS archeologist Larry Nordby was one of the original architects of the project and one of the pioneers of comprehensive architectural documentation of prehistoric villages, Brian

recognized that he was the best candidate to complete the report. The final report is expected in early 2007.

Kenny Acord, Archeologist FY 1998 Position

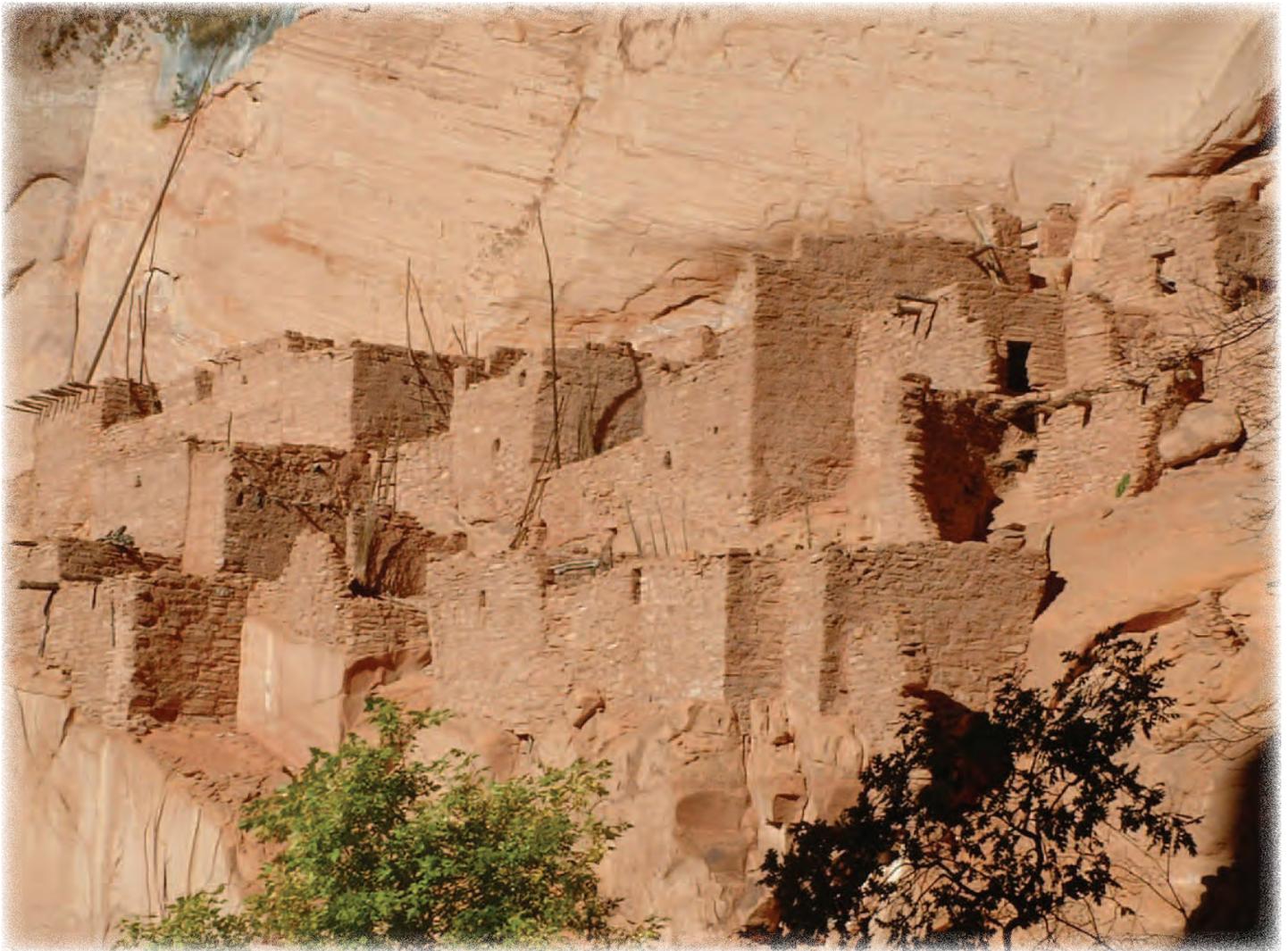
The final version of Fred Blackburn's research into the early history of Keet Seel was received in January. Upon the suggestion of Kenny Acord, Fred Blackburn was hired under a personal services contract to conduct the research in 2005. The purpose of the project was to delve into the archives at the Anasazi Heritage Center in Cortez, Colorado and into the microfiche of local papers in the last decade of the 19th and the first decade of the 20th Century to see if any information existed about the "discovery" of Keet Seel by Richard Wetherill. The research ultimately raised more questions than it answered.

After battling bile duct cancer for nine months Kenny passed away at his home in Flagstaff on June 30, 2006. Despite Kenny's absence, the division was still able to accomplish several items on their agenda during the year.

James Dryer, Architectural Technician FY 2005 Position (Term)

Jim Dryer completed an archaeological inventory of 240 acres of the Administrative Unit. The remaining 4.59 acres constitutes the sewage treatment lagoons and were not included in the inventory. Jim recorded six sites – four historic Navajo windbreaks and two prehistoric campsites.

Jim also completed the Regional Director's FY 2007 Intermountain Region Corrective Action Plan (CAP). All twenty of the monument's archaeological sites that had been entered into the Archeological Sites Man-



*Betatakin, Navajo National Monument.
Photo: Randall Skeirik*



Preston Fisher, VT Structural Engineer downloading recordings from a datalogger connected to a crack monitor at Inscription House, Navajo National Monument
 Inset: Crack monitor attached with bar clamps to minimize damage to historic fabric.
 Photos: Randall Skeirik

agement Information System (ASMIS) were revisited and their condition assessments made current according to ASMIS definitions of condition assessment.

VANISHING TREASURES PROJECT FUNDING

Navajo did not receive Vanishing Treasures project funding in FY 2006.

The cultural resources division was allocated a total of \$219,000, of which \$204,000 was ONPS base funds provided by the Vanishing Treasures initiative. The remaining \$15,000 was project funds provided by the Service-Wide Comprehensive Call's Cultural Cyclic Program (PMIS #106967 7430-0640-CMS) intended to fund minor preservation treatments at Betatakin and Inscription House. The cultural cyclic money was returned because staff shortages prevented the division from developing a scope-of-work in time for the field season.

VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

Special Training: Jim attended NPS Fundamentals II at the Albright Training Center. Other training attended by Brian and Jim included HAZCOM, defensive driving, sexual harassment/Equal Employment Opportunity, and Service Comprehensive Call/FSS.



Organ Pipe Cactus National Monument (ORPI)

VANISHING TREASURES STAFF

Joseph Tuomey, Archeologist
 FY 2004 Position

Joe spent much of FY 2006 becoming familiar with the monument's archeological resources and developing professional relationships with NPS, federal, state, and tribal cultural staff. Joe also became familiar with the Archeological Sites Management Information System (ASMIS) database, and he wrote two Project Management Information System proposals that would allow staff to complete condition assessments on historic ranch and mining structures in the monument. Joe also attended a valuable course in historic preservation and docu-



Organ Pipe Cactus National Monument.
 Photo: Randall Skeirik

mentation which will allow him to conduct condition assessments on Organ Pipe's Vanishing Treasures resources. In FY 2007 Joe will focus on completing condition assessments of the monument's Vanishing Treasures, and other cultural resources, with assistance from University of Arizona staff, other NPS archeologists, and State of Arizona site stewards.

During FY 2006 Joe oversaw a documentation project at Bates Well Ranch, one of the most significant historic sites in the monument. The project, funded in FY 2004 with help from the Southern Arizona Support Office, was conducted by the Desert Southwest Cooperative Ecosystem Study Unit and executed by University of Arizona graduate students, led by Brooks Jeffery, Associate Dean and Coordinator of Preservation Studies at the College of Architecture and Landscape Architecture. The students completed the field documentation of fourteen structures over the course of five days in April 2006 and an archival search of Organ Pipe's files relating to the Bates Well Ranch was completed the following month. A draft report was received in July 2006, and the park was still waiting for delivery of the final draft at the end of FY 2006.

Joe completed condition assessments on prehistoric sites contained in the ASMIS database most of which are located along the Ajo Mountain crest line and had never been assigned a condition. The original survey, completed in 1980, reported some of the alcove sites in this area contained standing walls, however after several days of dedicated effort, no standing structures were located. Work in FY 2007 will focus on further documenting the condition of prehistoric sites in the Ajo Mountains.

With assistance from Vicky Jacobson, NPS Historical Architect from the Intermountain Regional Office, Santa Fe, Joe completed an update of, and received certification for, the monument's List of Classified Structures.

Joe worked with Randy Skeirik, Vanishing Treasures Historical Architect, on a condition assessment plan for Organ Pipe's historic sites. Randy assisted Joe in developing a plan to bring several sites up to good condition, after which they will require only routine, cyclical maintenance.

Joe has special expertise in the area of post-fire rehabilitation and landscape treatments of wildfire burned archeological sites and could assist other parks with work in this arena.

VANISHING TREASURES PROJECT



Jake Barrow, Virginia Salazar-Halfmoon and Joe Tuomey consulting at Alamo Ranch, Organ Pipe Cactus National Monument.

Photo: Randall Skeirik

FUNDING

Organ Pipe did not receive Vanishing Treasures project funding in FY 2006.

VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

Consultation: Organ Pipe staff completed a Native American Graves Protection and Repatriation Act repatriation of human remains to the Tohono O'odham Nation in February 2006.

Safety: Joe completed Organ Pipe Cactus National Monument safety training.

Special Training: Joe attended several training courses including Introduction to ANCS+, Park Management Unified through Facilities Management Software System, Historic Structures Documentation Field School, and National Environmental Policy Act/National Historic Preservation Act/Section 106 Workshop.

Challenges: The greatest challenge in preserving Organ Pipe's Vanishing Treasures resources will be gaining an understanding of both the NPS funding system and the growing Facility Management Software System requirements to facilitate the acquisition of sufficient funding to complete condition assessments and preservation treatments on our resources.

Border related issues, including impacts from Homeland Security and undocument-

ed alien activities, cross-border pilfering of historic building materials, and restricted access to many sites further complicates our resource preservation efforts.



An Organ Pipe Cactus
Photo: Randall Skeirik

Tonto National Monument (TONT)

VANISHING TREASURES STAFF

Duane C. Hubbard, Archeologist
FY 2000 Position

Serving as the Chief of Resource Management for the park, Duane supervised a variety of cultural resource projects including condition assessments at backcountry archeological sites, continued documentation, preservation and research at three of the five of the primary cliff dwellings in the monument, as well as managing the park's archeological research, curation, consultation and compliance activities.

Duane and three cultural resources staff members (archeologist Matt Guebard, STEP (Student Temporary Employment Program) archeological technician Jackie Landry; and STEP Maintenance Worker Cinda Ewing) completed stabilization histories at the Lower Cliff Dwelling Southern and Northern Annexes. This involved intensive archival records research and in-field analysis of treatment locations and documentation. The crew also completed emergency micro-crack filling treatments in the Lower Cliff Dwelling to preserve detached adobe, they mounted an aggressive rodent control operation in the cliff dwellings, and they established a digital file system and Geographic Information System (GIS) protocol for the Monument's cultural resources program.

Duane, along with other Tonto cultural resources division staff, can offer consultation in ruins condition assessments at the wall and site levels, stabilization histories, laser scanning documentation, and GIS.

Vanishing Treasures Project Funding

Project Name: Implement Preservation Treatments at Three Primary Cliff Dwellings (Phase II)

Project Summary: This project implemented preservation treatments at two small cliff dwellings (TONT85A-39, TONT85A-44) and 8 of 32 rooms outside the dripline at the Upper Cliff Dwelling (TONT85A-50). This project was based on research and analysis that was funded in FY 2005. These Gila Phase sites are three of only five Salado cliff dwellings preserved by the National Park Service (AD 1300-1450). The project had two phases: (Phase I) perform baseline documentation for the creation of 3-D georeferenced, metrically accurate, high-reso-



*Lower Cliff Dwelling, Tonto National Monument.
Photo: Randall Skeirik*

lution laser scans for all three sites in FY 2005, and; (Phase II) perform recommended preservation treatments which include equalizing differential fill loads, improving onsite drainage, replacing eroded mortar through capping and repointing, and mitigating cracks in prehistoric adobe walls in FY 2006.

Project Budget: \$120,300

- **Personnel:** \$18,045
- **Vehicles:** \$1,200
- **Travel/Training:** \$1,200
- **Supplies/Materials:** \$7,200
- **Equipment:** \$8,400
- **Services/Contracts:** \$84,200
- **Other:** \$0

Project Accomplishments: Because of a disagreement with the Arizona State Historic Preservation Officer (AZSHPO), staff began by focusing on documenting the 8 rooms outside the dripline at the Upper Cliff Dwelling. Archival documents and historic photographs enabled staff to determine what parts of these rooms had been rebuilt historically and what remained as original prehistoric fabric. The decision was made to use the majority of the project funds to intensively map (laser scanning) and continue archival research on the front rooms of the Upper Cliff Dwelling so that further invasive ruins treatment options could be examined. Because of the erosion rates of the outer rooms, and their continued changes in the stability, the completed

documentation from this project is being viewed as a preservation treatment that may become the park's only option to save architectural information associated with these walls. The disagreement with the AZSHPO forced a delay in the implementation of work at sites 39 and 44 until the fall/winter of 2006.

The park worked closely with Salinas Pueblo Missions staff and cultural resource managers in other southern Arizona parks in planning and implementing this project. Additional assistance for the project was obtained through partnerships with the Flagstaff Area Monuments and Montezuma Castle and Tuzigoot National Monuments for Geographical Information Systems support, and with Western Archeological Conservation Center for curation and archival research.

VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

Consultation: Tonto National Monument experienced several unanticipated complications regarding the planned VT project in FY 2006. As designed, the project was divided into two parts: (1) scope of work and implementation of preservation treatments at two small cliff dwellings (TONT85A-39, TONT85A-44), and (2) planning and treatment through documentation of 8 rooms outside the dripline at the Upper Cliff Dwelling (TONT85A-50). After 40 years

of monitoring and two years of planning, a detailed scope of work and assessment of effect for sites 39 and 44 were sent to the Arizona State Historic Preservation Officer (AZSHPO) in the spring 2006. The park and the AZSHPO's office were unable to agree on the determined effect of the project (No Adverse Effect) and consultation continued until October of 2006. The inability to reach a consensus resulted in the project being referred to the Advisory Council for Historic Preservation, who ultimately decided in favor of the park.

Duane continues to establish and improve relationships with numerous Native American Tribes, and consultation regarding the park's VT project proceeded successfully with The Hopi Tribe, The Salt River Pima Maricopa



Horse Packing Laser Scanning Equipment, Tonto National Monument.

Photo: Courtesy Tonto National Monument

Indian Community, the Pueblo of Zuni and the Western Apache Coalition.

Safety: Park staff identified and addressed existing and potential hazards at the work sites. Due to the inherent dangers of working on prehistoric ruins, mandatory monthly safety meetings are held, and crew leaders perform safety tailgate sessions prior to field-work.

Challenges: The AZSHPO's contention that invasive treatment on untouched ruins is an adverse effect holds the potential to delay, or prevent many VT related preservation projects in the state of Arizona. Tonto's suggestion that the AZSHPO's assertion of an adverse effect and their recommendation of benign neglect is not consistent with NPS policy or the National Historic Preservation Act and its associated regulations [36CFR 800.5(a)(2)(ii) and 36CFR 800.5(a)(2)(vi)] was ultimately upheld by the Advisory Council.

Tumacacori National Historical Park (TUMA)

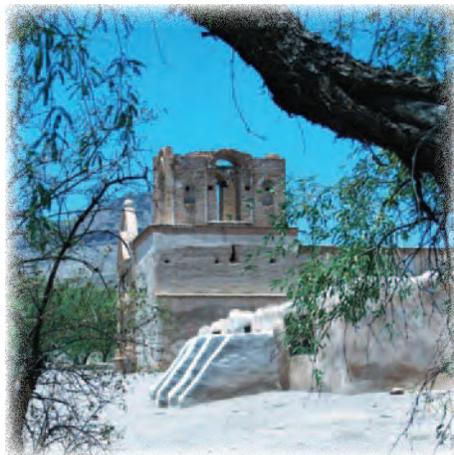
VANISHING TREASURES STAFF

Note: Tumacacori received a one-year base increase of \$100,000 to fund seasonal employment.

Jeremy Moss, Archaeologist FY 2000 Position

Jeremy served as the project leader for the VT funded Saguaro National Park project: "Documentation and Stabilization of Historic Lime Kilns". This project included a contract with Western Mapping Inc. to do LiDAR (laser) scanning and total station mapping of historic lime kilns. The project completion report will not be ready until next year.

Jeremy also served as the project leader for a fee demonstration funded project at Saguaro. This project provided condition assessments at 148 structural and non-structural sites (more than 1/3 of the park's total). He supervised data recovery efforts associated with utility line trenching on newly acquired lands at Tumacacori, and located a previously unknown structure



Mission San José de Tumacacori, Tumacacori National Historical Park
Photo: Courtesy of Tumacacori National Historical Park

that may be an adobe firing kiln that was mentioned by Frank Pinkley in 1921, and he wrote the final report for 2004 testing on the new lands. In addition, he has developed and implemented a geophysical survey working in conjunction with the University of Arizona through a Cooperative Ecosystem Study Unit cooperative agreement. This project is focusing on tracing the outline of structures identified

during utility line testing on new lands.

Jeremy collected and submitted materials to the University of Arizona for compositional analyses, focusing primarily on lime plasters and limestone sources that may have been used historically. He also sampled large oak beams from the bell tower in the Mission for dendrochronological dating.

In the office, Jeremy completed an article on the Tumacacori orchard and garden archeology and history for the "Revista" and the "Journal of Arizona History". He continues to compile preservation histories and develop a preservation database for use by interpreters and researchers.

David Yubeta, Exhibit Specialist FY 1998 Position

David continues to coordinate preservation activities on the three unit park at Tumacacori. This year, David has worked on historic structures at Joshua Tree and Saguaro National Parks as well as at Tumacacori. David has also worked on historic earthen structures for the Bureau of Land Management (BLM) and the US Forest Service (USFS) at Wikieup and Sabino Canyon Arizona, as well as at the BLM

sites of Sanford Ranch and Terranate.

In addition, David has performed condition assessments on the Sanford Ranch for the BLM, Fort Lowell Officers Quarters for the City of Tucson, the Canoa Ranch House for Pima County, AZ, and for the Civilian Conservation Corps (CCC) structures at Sabino Canyon (USFS) and ramadas/picnic tables at Saguaro National Park.

Accomplishments: Recipient of the overall 2006 “Windows on the Past” national award for the preservation of historic structures at Mills Canyon Orchard Ranch (USFS)

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

Over the past year, Ray has performed preservation intervention treatments at Tumacacori, as well as at Joshua Tree and Saguaro National Parks. At Tumacacori, Ray worked on the west wall of the 18th century Franciscan Mission Church as well as recapping the missions of Calabazas and Guevavi. At Joshua Tree, Ray worked on historic structures at Ryan Ranch, Keys Ranch, Lost Horse Mine, and Wall Street Mine. At Saguaro, Ray worked to stabilize six 19th century lime kiln structures.

In addition, Ray worked at the Carrow-Stephens Ranch House and Terranate on the Santa Cruz, re-capping walls and dealing with other preservation issues on the structures there and at Kentucky Camp



Ray Madril assisting Saguaro National Park repointing Camino Loma Alta Lime Kiln.

Photo: Jeremy Moss



Wes McQueen restuccoing the west wall of the Mission San José de Tumacacori.
Photo: Jeremy Moss

and Sabino Canyon for the U.S. Forest Service.

Ray also performed condition assessments on the Sanford Ranch for the BLM, the Canoa Ranch for Pima County, Arizona, the Fort Lowell Officers Quarters for the City of Tucson, the Sabino Canyon flood rehabilitation project for the U.S. Forest Service, and for CCC ramadas and picnic structures at Saguaro.

Ray has particular expertise in the preservation of wood, stone, earth and plasters, both historic and prehistoric, and could be made available to consult on projects involving any of these materials.

Vanishing Treasures Project Funding

Project Name: Preservation Treatment and Documentation of Historic Lime Kilns

Project Summary: In 2003 an architectural condition assessment was conducted at six lime kilns in both the East and West units of Saguaro National Park. Condition assessment work included photographic documentation, metrically scaled drawings, and written condition assessments. The Kilns included in this study were Loma Alta Kiln, Lime Kiln #3, South Lime Kiln, Sus Lime Kiln, Sus Lime Kiln #2, and North Lime Kiln. During the condition assessment study it was determined that all of the lime kilns were in poor con-

dition except for Sus Lime Kiln #2 which no longer existed.

This project treated all of the remaining lime kilns to prevent further erosion or loss of original fabric. All the lime kilns had suffered serious impacts to both caps and walls that required the capping of 120 linear feet of wall and the repointing of approximately 150 square feet of wall surface. There was also approximately 150 linear feet of basal erosion that required reconstruction.

Project Budget: \$86,100

- Personnel: \$20,423
- Vehicles: \$0
- Travel/Training: \$9,867
- Supplies/Materials: \$
- Equipment: \$1,684
- Services/Contracts: \$47,246 (Western Mapping documentation)
- Other: \$6,799

Project Accomplishments: Six historic lime kilns were stabilized and documented, including repointing, capping, grading/drainage work, minimal vegetation mitigation, and minor rebuilding of structurally unsound wall ends. Documentation included stabilization histories, archival research, photography, LiDAR (laser) scanning, and total station mapping. The project was executed by VT staff from Tumacacori with cooperation and coordination assistance from Saguaro National Park.



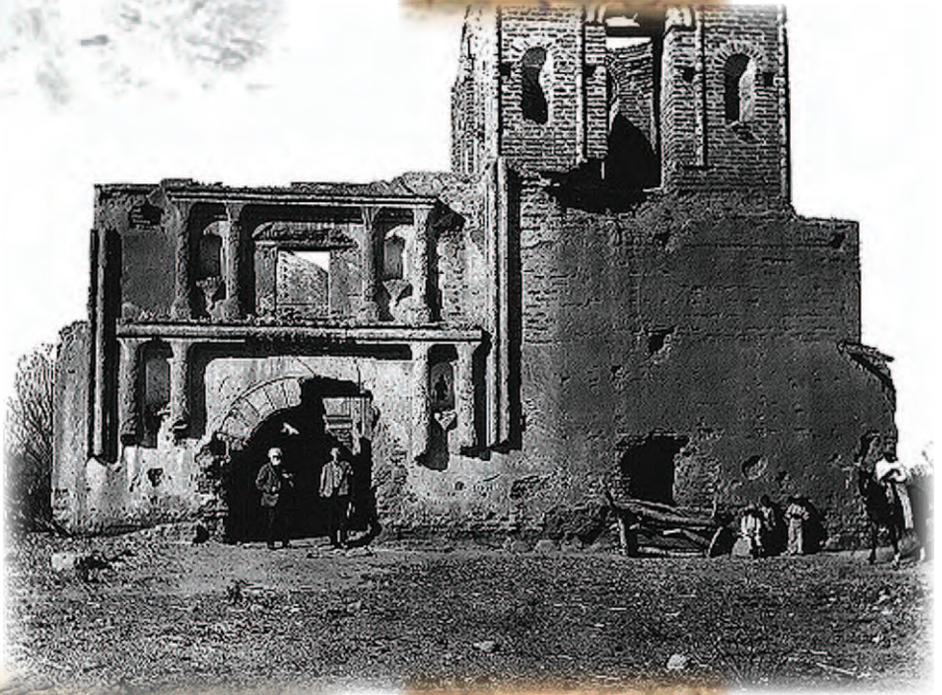
The Lower Ruins, Tonto, c. 1905.



The Big House, Casa Grande, after initial stabilization work, Date Unknown.



White House, Canyon de Chelly, 1932.



Tumacacori, c. 1907.



Montezuma Castle, 1900.



Antelope House, Canyon de Chelly, 1935.

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

California/Nevada

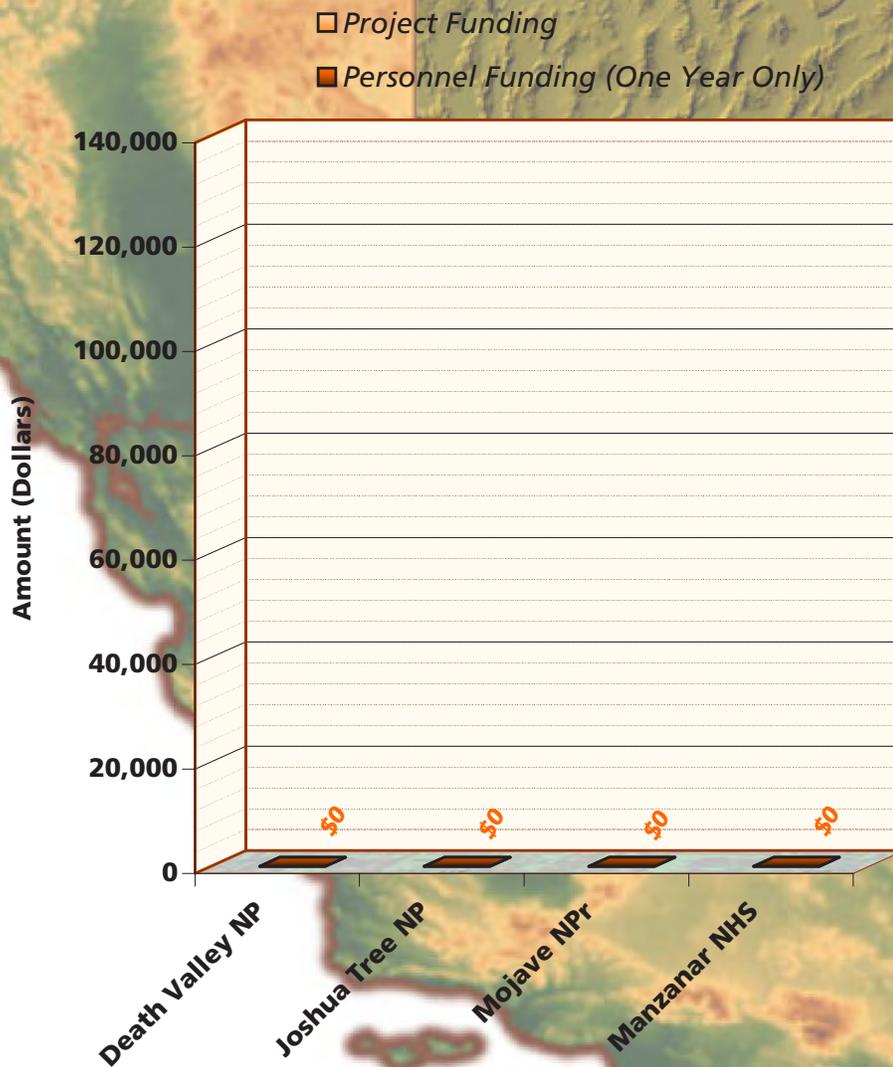


Architectural Remains at Manzanar National Historic Site.

Photo: Courtesy Manzanar National Historic Site

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

FY 2006 VANSHING TREASURES Funding for CALIFORNIA and NEVADA PARKS



California/Nevada

Fiscal Year 2006 Funding Summary

Project Funds:

No California Parks received project funding*

Personnel Funding:

No California Parks received personnel funding

* Mojave National Preserve received project funding, but returned the funds when a specialized preservation team could not be scheduled.



*A corral in Mojave National Preserve.
Photo: Courtesy Mojave National Preserve*

Mojave National Preserve (MOJA)

VANISHING TREASURES STAFF

Mojave has not received any base increases to fund a Vanishing Treasures position.

VANISHING TREASURES PROJECT FUNDING

Project Name: Mapping and Preparation of a Treatment Strategy for Outlying Historic Ranching Features

Project Summary: This project was funded by the VT Program in FY2004, but the final report was not submitted by the contractor until 2006. VT funding was used to prepare condition assessments for outlying historic ranching features in the proposed Rock Springs Land & Cattle Company (RSL&C Co) Historic District at Mojave National Preserve, and to develop a prioritized treatment plan for these resources. Through a partnership with the National Park Foundation, two major grazing allotments within the Preserve, the Kessler Springs and OX Ranches, together covering over 645,000 acres, were recently retired and their infrastructure acquired by the NPS. This resulted in the acquisition of 167 historic buildings and ranching features, many of them

eligible for the National Register of Historic Places (NRHP) as part of a proposed historic ranching district. Most of the buildings (residences, outbuildings, barns, etc.) are clustered in the two ranching headquarters.

Project Budget: \$42,000

- Personal: \$24,813
- Travel/Training: \$1,503
- Supplies/Materials: \$0
- Equipment: \$ 560
- Services/Contracts: \$15,000
- Other: \$ 124

Project Accomplishments:

The focus of this project was on the 20 outlying corrals and related water station features (reservoirs, water tanks, troughs, and pipelines) that were built during the operation of the RSL&C Co. between 1894-1927, and through the period immediately following its dissolution (ca. 1935). This project involved mapping of each of these complexes, limited photo documentation to assist with treatment planning, condition assessments for each individual feature, and the preparation of a treatment plan for the resources. It is expected that insights gained from this project can be applied in preservation planning for additional historic ranching features soon to be acquired by the park upon the planned retirement of another large

grazing allotment.

Within the project area, the Barnwell location contains prime examples of the type of ranching features this project is designed to consider. Barnwell originated as a water stop in 1893 when the Nevada Southern Railroad built tracks over Mountain Pass and into the Mojave. Shortly thereafter the Rock Springs Land and Cattle Company established its headquarters at the site, no doubt because of the ready availability of water here and the fact that its relatively high elevation provided relief from the high temperatures in the desert below. Early on, the RSL&C Co. established wells and a reservoir, a corral, and (perhaps) a slaughterhouse. By 1916 they had installed a pipeline to service a series of cattle watering stations extending from the wells at Barnwell for a distance of about ten miles to the southeast.

Although the remaining residential buildings at Barnwell remain in private ownership, the ranching improvements are on public land that recently came under NPS jurisdiction. Most notable of these structures is a circular hand-dug rock and mortar lined reservoir surrounded by a juniper post fence, and a deep hand-dug well. Also present is a rare example of a RSL&C Co. rectangular board corral constructed ca. 1894-1919 of railroad tie posts and horizontal boards held in place by a unique system of cast iron clamps. A

barrel boiler on a stone and mortar foundation of similar vintage is all that remains of the slaughtering facility.

This project consisted of two components. First, outlying ranching infrastructure (corrals, tanks, troughs, windmills, wells, etc.) at each of 38 watering stations was mapped with a Topcon Total Station surveying instrument, photographed in detail, and locations determined with a Global Positioning System unit and recorded by Mojave staff. The second phase of the project involved

ranching historian Dewey Livingston who revisited each location, conducted condition assessments of each individual feature, and then developed a long term preservation treatment plan that addresses the needs of each feature type. He prepared comments regarding the preservation needs at specific locations, but kept to recommendations sufficiently general to be applicable to other ranch features elsewhere in the Preserve.

The mapping and recordation phase of the project was completed in FY 2004, as were

Livingston's field assessments and a 95% draft report from the contractor was received in June of 2005. Mojave staff comments were incorporated into the original draft and a final "Condition Assessment and Treatment Plan for Outlying Ranching Features, Rock Springs Land & Cattle Company" was submitted last year. The report was used to update a proposal for Vanishing Treasures funding to carry out the suggested preservation treatments.



Historic Graves in Joshua Tree National Park.



Manzanar Internment Camp during World War II.

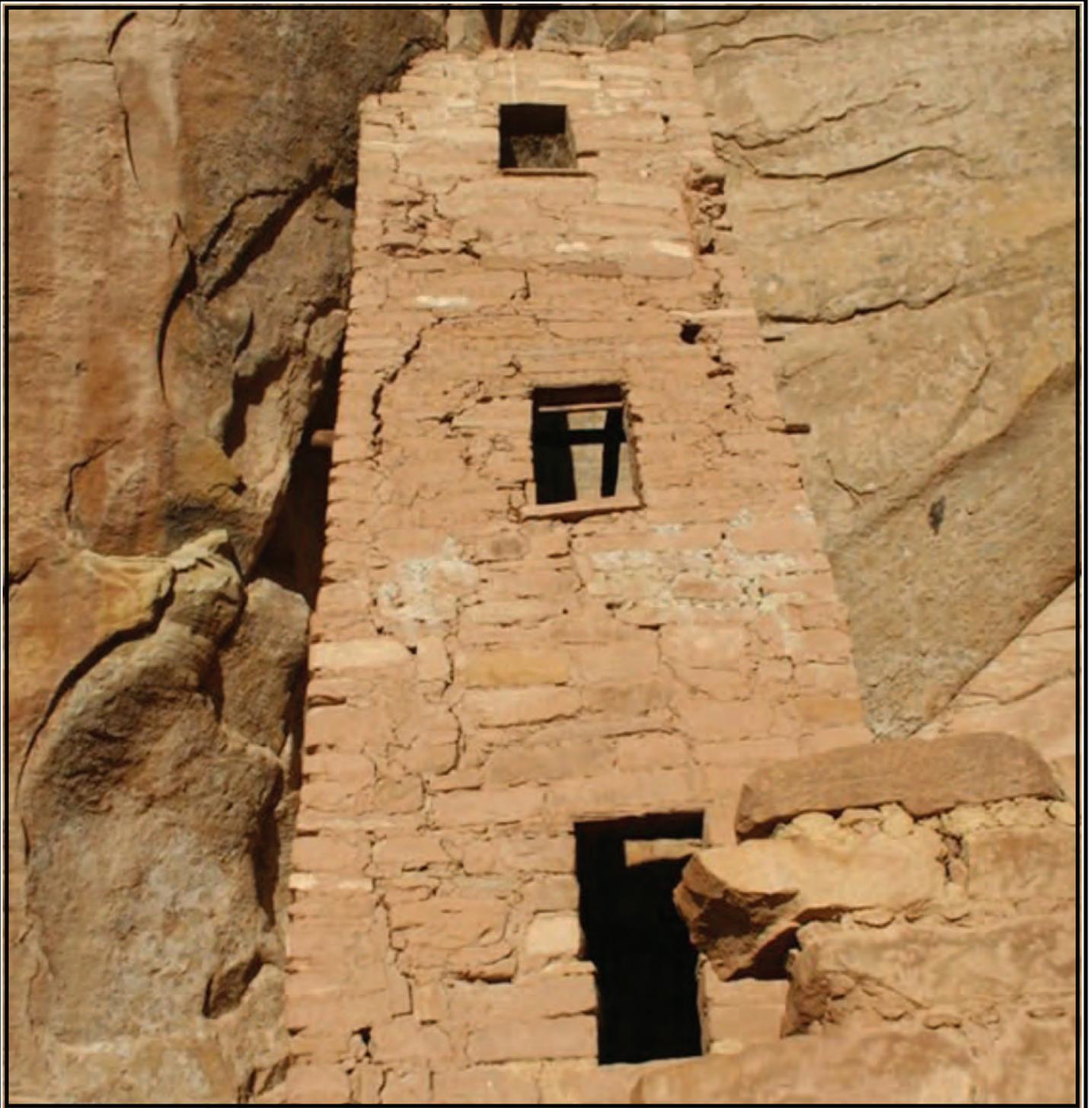


Historic Era Ruins, Joshua Tree National Park.

Photos Courtesy National Park Service and National Park Service Historic Photograph Collection

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

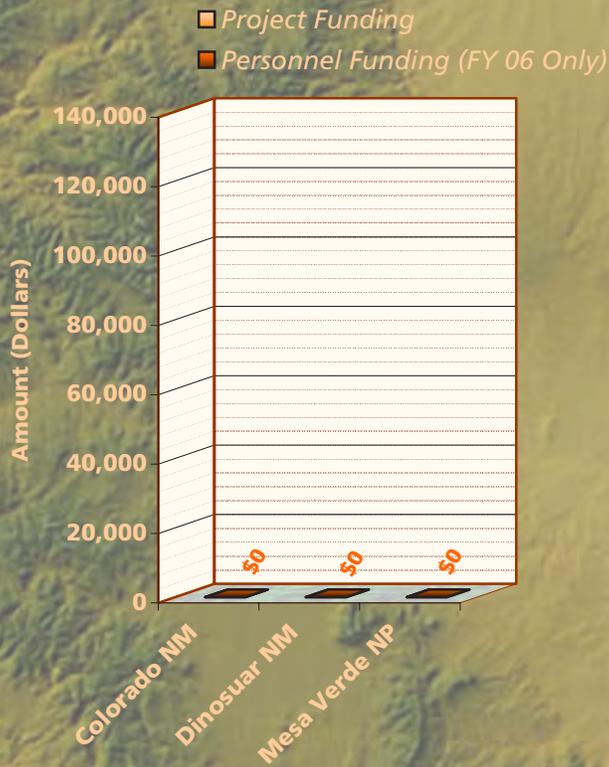


Square Tower, Mesa Verde National Park.

Photo: Courtesy Mesa Verde National Park

◇ Colorado National Monument ◇ Dinosaur National Monument ◇
◇ Mesa Verde National Park ◇

FY 2006 VANISHING TREASURES Funding for COLORADO Parks



Colorado Fiscal Year 2006 Funding Summary

Project Funds:

No Colorado Parks received project funding.

Personnel Funding:

No Colorado Parks received personnel funding.

Colorado National Monument (COLM)

VANISHING TREASURES STAFF

Colorado National Monument has not received any permanent base increases to fund a Vanishing Treasures position.

VANISHING TREASURES PROJECT FUNDING

Colorado National Monument did not receive Vanishing Treasures project funding in FY 2006.

VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

Challenges: The Serpent’s Trail is an abandoned roadway that has been used as a hiking trail since 1961. The road originally served as the main roadway between Grand Junction and Glade Park and was the original southeast access road into Colorado National Monument. It was constructed between 1921 and 1925 by local volunteers and maintained by Mesa County until 1937. It was officially closed to vehicular traffic by the Park Service in 1950.

Because many of the original drainage culverts have become clogged, runoff management has become a serious problem that is causing the roadbed to erode and retaining walls to collapse. Some of the lower portions of this trail have already been stabilized and resurfaced, and some of the retaining walls and culverts along this section have been repaired and rehabilitated.

On June 7, 2006, Preston Fisher, Vanishing Treasures Program Structural Engineer, and Virginia Salazar-Halfmoon, Vanishing Treasures Program Manager, traveled to Colorado National Monument to meet with monument staff and discuss potential stabilization and rehabilitation needs along the Serpent’s trail. They were asked to make recommendations regarding future rehabilitation and stabilization measures, mainly along the upper portion of the trail.

It was found that the road base is in generally fair condition, although there are some areas of channeling from runoff, and most of the upper portion of the roadway could use resurfacing. The original roadside drainage ditch needs to be cleaned out and, in several areas, reestablished. The majority of the road bed is graded to direct runoff into the drainage ditch along the uphill side of the road and the water is carried across or under the road in low water crossings



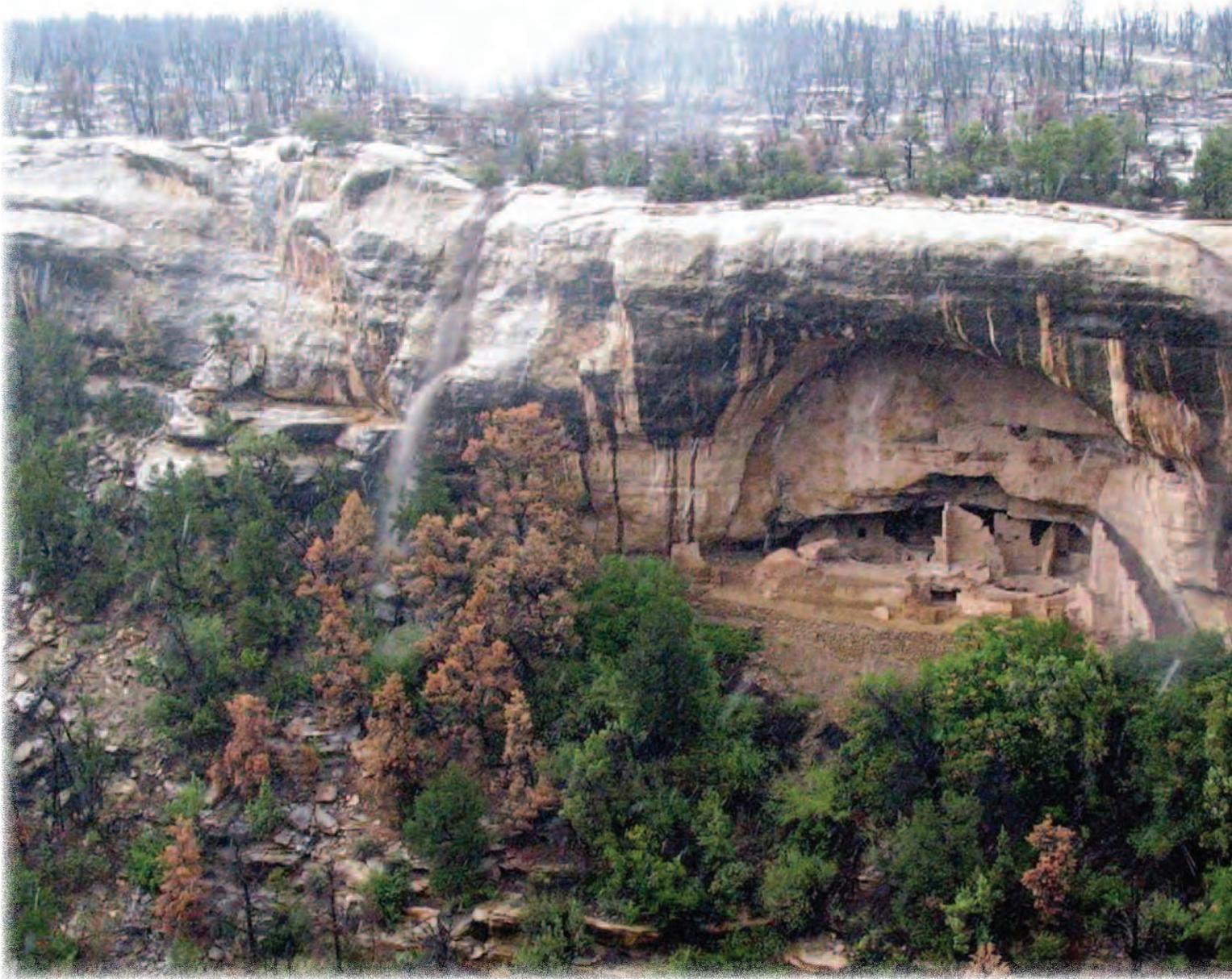
*The Serpent’s Trail, Colorado National Monument.
Photo: Preston Fisher*

and culverts where natural drainages intersect the roadway. Several of these low water crossings need to be cleaned, realigned, and

armored either with small rip rap or with a hard surface “gutter” installed across the roadway.



*Gullying from runoff flowing across the trail.
Photo: Preston Fisher*



*Oak Tree House showing diverted runoff after the forest fires of 2004, Mesa Verde National Park.
Photo: Courtesy Mesa Verde National Park*

Mesa Verde National Park (MEVE)

VANISHING TREASURES STAFF

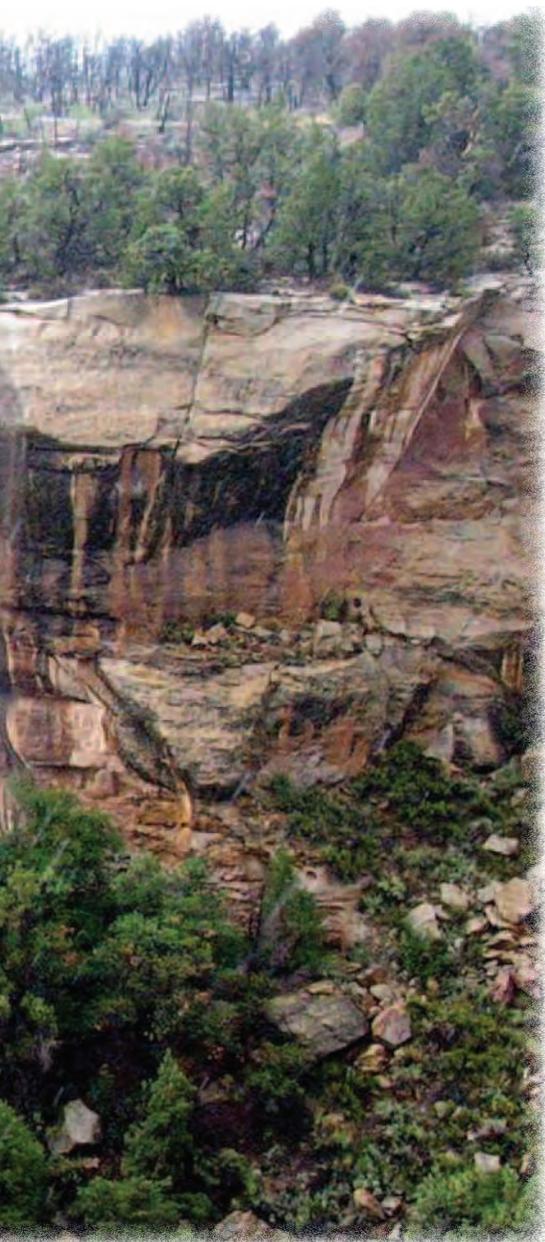
**Joel Brisbin, Exhibit Specialist
FY 2000 Position (*Converted in 2005*)**

During FY 2006, Joel's primary duties were the direction of the stabilization crew and oversight of the Spruce Tree House architectural documentation project. The stabilization projects began this year with some major trail repairs around three kivas at

Cliff Palace and the resetting of stones in one kiva wall. Following that work, the crew performed annual maintenance duties at eleven frontcountry sites in preparation for the season opening. These duties included removing temporary covers from sheltered sites, cleaning drainage ditches, and sweeping debris from the sites. Trail work was also conducted at Mug House, Oak Tree House, and Spring House, all sites that are normally closed to the public. However, because 2006 marked the centennial of the establishment of Mesa Verde National Park, special tours were conducted into these sites as part of the celebration.

The stabilization crew also worked at one backcountry site this year. Work at site 5MV1006 began in 2004, but only the most immediate stabilization work was completed at that time. Because of logistical complications resulting from the site's remote location, and the time necessary to complete stabilization repairs, further work has not been possible until this year when the crew was able to return to the site. Over the course of a month, they completed nearly all of the stabilization treatments and plan to return next season to wrap up the remaining work.

Joel presented two papers at the Mesa



Verde Centennial Symposium, one on pottery kilns and one on the Spruce Tree House Documentation Project.

In addition to his work with the stabilization crew, much of Joel's time was spent on the architectural documentation project at Spruce Tree House. This project, started in 1999, has the objective of collecting the most accurate and comprehensive architectural data possible in order to facilitate additional research and long-term preservation needs. Spruce Tree House is a large complex containing 126 rooms, nine kivas and two towers. This season, 31 additional architectural units were documented leav-

ing only 35 units to be completed. Joel devoted about half of his time this season to mapping study units and writing room descriptions that will be incorporated into a final report. When complete, the report will include the chronological history and construction sequence of the site, and it will use architectural sequencing to provide discussions points on the site's social organization for use in the park's interpretive program. We have applied for a Colorado Historical Grant to finish the field work at Spruce Tree House in FY 2007.

Tim Hovezak, Exhibit Specialist
FY 1998 Position (*Converted in 2005*)

Neill Smith, Masonry Worker
FY 1998 Position

During FY 2006, Tim and Neill worked as members of our four person stabilization crew. Working through the fall and into November they conducted annual maintenance tasks and winterized sites that are accessible to the public. When the crew returned from furlough on March 20th, they began reopening the sites, a process that entails removing the temporary covers that protect the excavated mesa top sites during the winter months, cleaning the drainage ditches in preparation for the summer monsoon season, and clearing internal drains. The cliff dwellings that are open for visitation were also cleaned and the drainage ditches above them cleared of accumulated debris and silt. The tunnel under Cliff Palace was also inspected for standing water. In addition, the stabilization crew helped construct trails into sites that, though typically closed to the public, were opened on a limited basis this year as part of the park's centennial celebration. These sites included Mug House, Spring House, and Oak Tree House.

Tim and Neill's accomplishments also included the building of new walkways around Kivas B, C and F at Cliff Palace. Also at Cliff Palace a portion of the east wall of Kiva C had to be repaired, a process that entailed removing a section of the wall above Pilaster #5, reinstalling the masonry with tinted Portland cement, and finishing it by over-pointing the area with soil amended with Rhoplex E-330. Loose rungs on one of the exit ladders at Cliff Palace were also repaired.

At Long House ruin on Wetherill Mesa, rodent burrowing in Kiva J had undermined the walls in the southern recess to such an extent that the roof over the vent tunnel collapsed and required reconstruction.

In the backcountry, Site 5MV1006 was

found to be in desperate need of stabilization when it was first assessed in 2000. Because this is a remote site that requires helicopter support, only temporary repairs were executed to hold the site until the resources became available to properly stabilize the site in 2004. At this time, the most threatened walls were stabilized while more stable walls were left for later. This season, the stabilization crew spent four weeks at the site and will return next season for an additional month to complete stabilization treatments.

The crew also worked on repairing the stone intakes of historic culverts that were originally constructed by the Civilian Conservation Corps in the 1930s.

Kay Barnett, Exhibit Specialist
FY 2000 Position

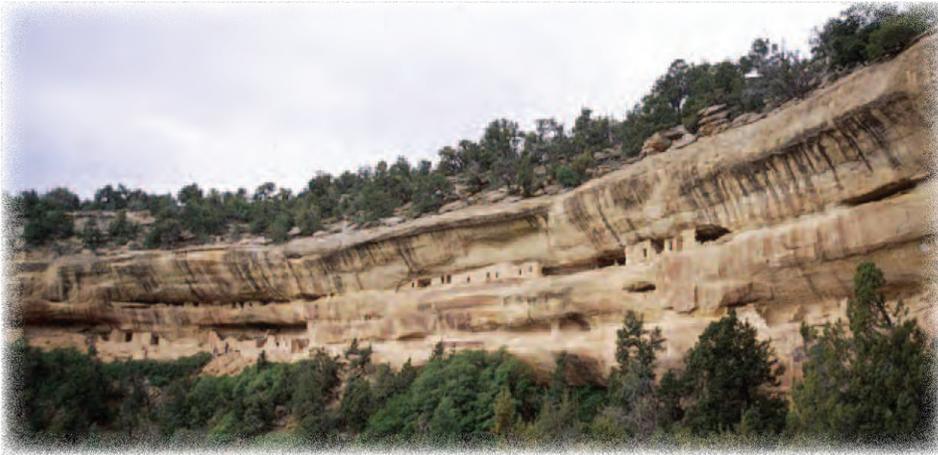
Kay spent much of her time this year working on the Spruce Tree House Architectural Documentation project. She helped direct the seasonal crews in the field and organized and kept track of the project's progress. This season, Kay and the Spruce Tree House crew were able to exceed their goals by documenting a total of 12 rooms, 1 kiva, 9 open areas, and 10 miscellaneous structures. Fieldwork at Spruce Tree House should be completed next season (providing that funding is available) after which a final report will be prepared that will include the chronological history and construction sequence of the site, and will use architectural sequencing to provide discussions of the social organization for use in the park's interpretive program.

Kay also helped with a project directed by Texas Tech University and the Kacyra Family Foundation to test the use of laser scanning to comprehensively map a portion of Spruce Tree House. Kay helped extensively with the laser scanning project this season, and will help to prepare a training session on laser scanning that Texas Tech will be conducting at Mesa Verde in FY 2007.

Kay also hosted four students from the Young Scientists Program. The four winners, high school freshman who competed in a national science competition, were treated to a week at Mesa Verde working side-by-side with archeologists in the field. Kay did a great job making sure they got the most out of their experience here.

Laura Ninnemann, Archeologist
FY 2000 Position

Laura assumed the position of Database Archeologist in January 2006 following her



*Double House, Mesa Verde National Park.
Photo: Courtesy Mesa Verde National Park*

graduation from Fort Lewis College, Durango, Colorado. Laura replaces Cynthia Williams-Loebig who resigned her position in August, 2004.

Laura was very busy this year working on numerous projects vital to managing our ever-expanding database. She spent most of the winter working on the development of a mobile computing solution for collecting field data. This project required a detailed analysis of three database applications to assure the integrity of all associated data fields and objects. Laura worked closely with both the Park's Geographical Information Systems specialist and the software developer to review, analyze, and test several iterations of the application and make necessary corrections. This mobile computing solution captures archeological data in the field at both the site survey and condition assessment levels. Data flows from the Park's main databases to the field data capture device (a Personal Digital Assistant) and then back to a quality assurance/quality control database, maintaining relational data models throughout the process. An attachment tool allows crews to carry photographic images into the field using a Secure Digital card. When implemented, this software application will provide significant cost and time savings, as well as increased data integrity. At the end of the fiscal year the project was approximately 85% complete.

Laura also worked extensively on revisions to field forms and instruction manuals that were necessitated by the mobile computing project. Because our database had not been so closely scrutinized since it was first developed over six years ago and the mobile computing project is based on data previously captured using paper forms, all of the data collected on paper forms were checked

to verify their integrity and inclusion within database structures. Data definitions were provided to the software developer for each database field in the form of an Excel spreadsheet.

Laura also made extensive revisions to the field manuals that provide instructions for the field forms. The addition of several new Archeological Sites Management Information System (ASMIS) fields and their corresponding definitions and instructions provided field crews with the tools required to make accurate determinations of ASMIS data values. Other revisions were made at the request of crew members to enhance the clarity of data definitions and manual instructions. This process is a critical, time-consuming, and ongoing function of the Database Archeologist that is essential to maintaining dynamic and responsive database applications.

ASMIS database updates were also a major focus in 2006. The park had a mandated goal of 100 sites receiving condition assessment and documentation updates in 2006, and our field crews exceeded that goal by documenting 124 new or previously identified sites. The information for 50+ ASMIS required data fields was captured by field crew members, entered by Laura into the ASMIS database and checked for data integrity. By the end of FY 2006, all 124 site records were brought to a complete, accurate, and reliable condition within the Park's ASMIS dataset.

Laura was charged with converting three main databases and several other component databases from Microsoft Access 97 to the 2002/2003 version of the program. Several complications that arose from these conversions were researched and resolved post-conversion, resulting in up-to-date

and fully-functional applications.

Laura also consulted with park staff, and conservators from the University of Pennsylvania to assess the condition of the existing surface finishes database in the context of upcoming work at Long House. Surface finishes data forms and instructions are being revised accordingly, and the database will be tested using new data to determine its continued viability and integrity. Modifications will be made as needed to provide required functionality, accessibility to data, and report generation. In addition, improvements were made to the functionality of several database components as a result of crew recommendations and needs, documentation within databases was improved, and data definitions were revised and updated.

Vacant, Conservator

FY 2000 Position

Vacant, Exhibit Specialist

FY 2004 Position

VANISHING TREASURES PROJECT FUNDING

Mesa Verde did not receive Vanishing Treasures project funding in FY 2006.

VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

Consultation: Mesa Verde National Park signed a Memorandum of Understanding (MOU) with the Colorado State Historic Preservation Officer in 2001, which covers all routine activities within the park's Archeological Site Conservation Program. This includes new site inventory, condition assessment, architectural documentation, stabilization, and monitoring. This covers the normal activities of the VT funded positions in the park. This MOU will remain in effect for 15 years.



First Lady Laura Bush and park Superintendent Larry Weise with Scotty Zane King, a member of the Ute Mountain performance group Red Sky, at the Centennial Celebration, Mesa Verde National Park.

Photo: Courtesy Mesa Verde National Park

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

New Mexico

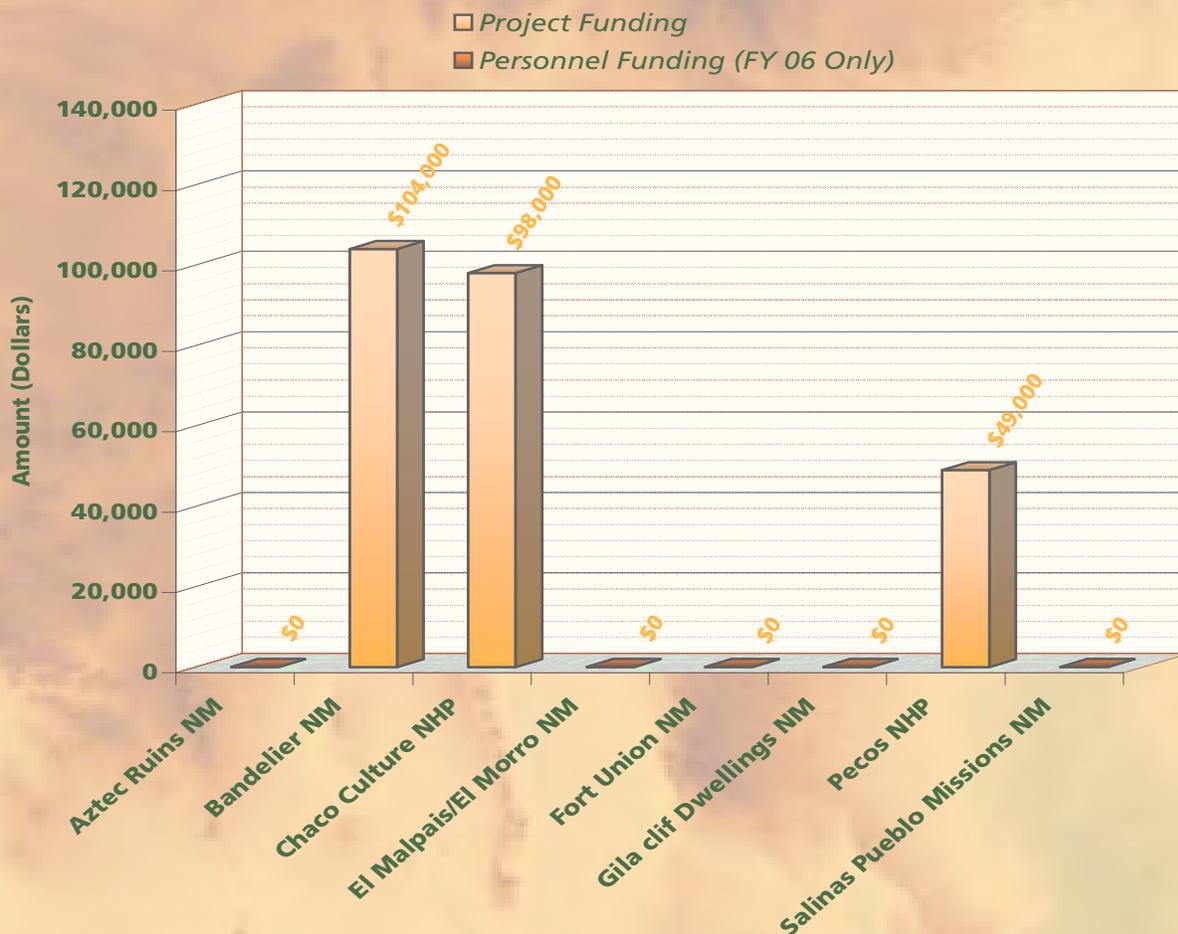


Talus House, a reconstructed pueblo, with cavates behind, Bandelier National Monument.

Photo: Courtesy Bandelier National Monument

- ◇ 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 ◇

FY 2006 VANISHING TREASURES Funding for NEW MEXICO Parks



New Mexico Fiscal Year 2006 Funding Summary

Project Funds:

Bandielier National Monument, \$104,000

Chaco Culture National Historical Park, \$98,000

Pecos National Historical Park, \$49,000

Personnel Funding:

No New Mexico parks received personnel funding.

Aztec Ruins National Monument (AZRU)

VANISHING TREASURES STAFF

Raymond Torrivio, Masonry Worker FY 1998 Position

Raymond is a masonry worker, specializing in ruins preservation, ancient masonry stabilization, and backfilling. As the senior member of the AZRU preservation crew, Raymond Torrivio coordinated with work leader Carl Jim and project-funded staff to execute fabric treatments, minor backfilling, modification of existing drainage features, and the installation of new drainage features. He and the crew also backfilled several archeological sites on the mesa north of the main ruins group that had been impacted by minor looting. In addition to these seasonal projects, Raymond worked year-round to see that drainage and other

site preservation features were maintained and fully functional, enhancing preventive treatments that had been executed in previous years. Raymond continues to develop new skills, including digital photography used to provide pre- and post-treatment documentation.

Carl Jim, Masonry Worker FY 1998 Position converted to Term, Subject to Furlough in FY 2001

Carl Jim is a Masonry Work Leader, specializing in ruins preservation, ancient masonry stabilization, and backfilling. Carl has worked on the Aztec Ruins preservation crew since FY01, has served as work leader since FY02, and was rehired during FY06 for a second term. Carl's position is partially covered by VT base funds and supplemented by project accounts. He and Raymond worked with project-funded personnel to complete ancient Pueblo masonry fabric treatments at 23 rooms in West Ruin's large Chacoan great house and 13 additional

structures at the nearby Hubbard Tri-Wall site. Most of this work involved treatments to wall faces and caps. Specific tasks included wall capping, repointing of wall faces, replacement of deteriorated sandstone, and resetting loose stones to enhance both safety and ruins preservation. Carl was instrumental in refining wall capping techniques that minimize moisture intrusion into the thick core/veneer walls that are characteristic of Aztec Ruins. Carl and the preservation crew were also responsible for completing pre- and post-stabilization photography and recording forms for this work.

Carl and the preservation crew also performed routine preservation and maintenance tasks including creating and maintaining drainage features and evaporative basins, minor grading of site areas, and controlling plants and animals that are adversely impacting the ruin. Carl also conducted a reconnaissance of areas outside the park to locate a new quarry source for sandstone to replace deteriorated masonry.



*Aztec Ruins National Monument.
Photo: Courtesy Aztec Ruins National Monument*

**Gary M. Brown, Archaeologist
FY 2001 Position**

Gary Brown is an archeologist, specializing in architectural ruins preservation, backfilling, and prehistoric archeology, and has been the Vanishing Treasures archeologist at Aztec Ruins since FY04. During FY06, his responsibilities were expanded to include increased oversight of other cultural resource and curatorial duties, including leadership of the Cultural Resources Division. He continues to maintain his primary focus on VT resources, while also managing projects that include preservation, archeological survey, and a variety of other tasks.

His work on Vanishing Treasures resources included the supervision of the fabric treatments at West Ruin and the Hubbard Tri-Wall site, and the initiation of architectural documentation and condition assessments at East Ruin through a partnership with the Center for Desert Archaeology that was funded by the National Science Foundation.

Pre-backfilling architectural documentation continued at West Ruin, and the finishing touches were put on a FY 2005 VT funded project that involved the replacement of a protective roof and the bracing of a damaged 900 year old roof at West Ruin.

FY 2006 was the second year of a hydrologic study of groundwater impacts on Aztec Ruins conducted through a partnership with Fort Lewis College that was funded by CESU. This study provided an opportunity to evaluate the effectiveness of previous drainage improvements and to assist in planning for further refinements of the West Ruin drainage system.

Gary attended an intensive NPS-sponsored Section 106/NEPA compliance workshop, ARPA archeological damage assessment training, and the New Mexico VT preservation workshop at Bandelier. He represented Aztec Ruins as a cosponsor of the 2006 Pecos Conference and presented an update on AZRU architectural documentation. He also gave presentations at local conferences, including a summer speakers series held at Aztec Ruins.



Raymond Torrivio resetting and replacing deteriorated stone masonry at Aztec West Ruin.

Photo: Cheryl Paddock

VANISHING TREASURES PROJECT FUNDING

Aztec Ruins did not receive Vanishing Treasures project funding in FY 2006.

VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

Consultation: AZRU and Chaco Culture National Historical Park held their joint, annual consultation meeting with associated tribal representatives in Farmington, NM. The tribes were briefed on recent and ongoing backfilling, stabilization, and other preservation and archeological work, as well as other relevant issues. Information concerning ongoing VT work and future projects were also entered in PEPC, and the park consulted with the New Mexico SHPO several times over the course of the year.

Safety: The preservation crew and other cultural resource staff completed a fourth consecutive year with no lost-time acci-

dents. Job Safety Analysis and Job Hazard Assessment forms were updated or created for new tasks, and procedures were assessed on a continuing basis. Some project funding was directed toward the purchase of safety supplies and equipment.

Special Training: VT staff maintained most necessary training through on-line and telnet courses. No specialized VT training was obtained during FY 2006. Gary Brown completed courses on Section 106/NEPA in Farmington and ARPA damage assessment in Santa Fe.

Challenges: The challenge for the future will be to continue the growth and development of our preservation program despite shrinking resources. 2007 will see the retirement of long-time NPS preservation expert Raymond Torrivio presenting Aztec Ruins with both the challenge and opportunity of hiring a new individual who can match Raymond's depth of knowledge and expertise and help with the continued growth of the program.



Aztec Ruins National Monument.

Photo: Courtesy Aztec Ruins National Monument

Bandelier National Monument (BAND)

VANISHING TREASURES STAFF

Angelyn Bass Rivera, Exhibit Specialist (Architectural Conservator), FY 1999 Position

Angelyn continued to co-direct the Vanishing Treasures (VT) Program along with Architectural Conservator Mary Slater. Angelyn's contributions this year included co-authoring, with Lauren Meyer, a Data Analysis and Treatment Recommendation Report for the Frijoles Canyon Cavates; managing a contract with Western Mapping for geodetic survey and laser scanning of petroglyph panels above Long House; and preparing and implementing a cooperative agreement with the Museum of New Mexico to conduct laboratory analysis and fieldwork for graffiti mitigation and plaster conservation. Over the past year, Angelyn worked part-time while pursuing an MBA at the University of New Mexico. The resulting lapse salary was used to support Lauren Meyer as the lead for the cavate project and other VT activities.

Angelyn continues to work with partners who are conducting scientific research that will lead to improved conservation practices. She is also working with contractors to create a base map and GIS to facilitate the management of the park's cultural and natural resources as well as the infrastructure in the main visitor use areas; and she is planning an international conference on the conservation of rock-cut structures that will be held at Bandelier.

The Data Analysis and Treatment Recommendation Report for the Frijoles Canyon Cavates, co-authored by Lauren Meyer and Angelyn, was finalized this year. It

summarizes five years of data collection and research and establishes a prioritized treatment schedule for all 1,055 cavates. Of these, 84 were assigned a high priority for treatment, and architectural descriptions, condition assessments, photographs, and treatment recommendations have been developed. The report also included archaeological significance statements for the cavate pueblos, annotated maps of all the Frijoles Canyon cavates, a comprehensive bibliography, and a database manual to guide the use and maintenance of the cavate database and geographical information system (GIS) data.



Frijoles Canyon showing Tyuonyi Village (bottom center), Talus House (center right), and cavates along the canyon wall.

Photo: Courtesy Bandelier National Monument

Of scientific interest, Angelyn and Lauren also worked with University of New Mexico (UNM) Geology Department to conduct Scanning Electron Microscopy (SEM) analysis of plaster, tuff and pigment composition. Analysis included compositional spectra (X-ray wavelengths) of pigments and their deterioration products, as well as SEM images of soot deposition vs. black paint, lichen and other biological growth penetrating both the tuff and plaster substrates.

Angelyn presented a paper on the cavate conservation project at the Conference on the Conservation of Archaeological Materials: Current Trends and Future Directions,

and co-authored a paper with Jim Holmlund and Lauren Meyer titled "*Conservation And Laser Scanning Of The Cliff Dwellings (Cavates) In Bandelier National Monument, New Mexico,*" which will be published in the conference proceedings. Angelyn also co-edited the Conservation of Decorated Surfaces on Earthen Architecture: Proceedings from the International Colloquium, 22-25 September 2004, Mesa Verde National Park, Colorado, USA., and contributed papers on mural painting conservation.

Mary Slater, Exhibit Specialist (Architectural Conservator), FY 1999 Position

Mary Slater co-directed the Vanishing Treasures Program, managed masonry stabilization projects at Talus House and Long House Pueblo, conducted graffiti monitoring and mitigation in Cave Kiva, assisted Santa Clara Pueblo in developing a treatment and documentation methodology for future work at Puye, their ancestral mesa top pueblo and cavate site, and led a Masonry Stabilization Forum at Bandelier.

After seven years as the park's architectural conservator, Mary accepted a conservation position with Architectural

Resources Group in San Francisco last September. Throughout her tenure at Bandelier, Mary significantly contributed to the park's preservation efforts and the preservation field in general through her intelligence and professionalism in planning and implementing projects, and through her demonstrated commitment to excellence. Mary actively participated in both park-wide and community events to promote conservation, and offered her assistance and good humor in many different park endeavors. Bandelier wishes her well in her new career.

As this report was being prepared, we learned that Lauren Meyer had been hired



Masonry Worker Cliff Hickey textures a mortar joint using a damp sponge, after re-laying a stone at Long House Pueblo, Bandelier National Monument.

Photo: Rae Miller

as the park's Exhibit Specialist (Architectural Conservator) to fill the position vacated by Mary.

Vanishing Treasures Project Funding

Project Name: Emergency Conservation of Frijoles Canyon Cavates FY 2006

Project Summary: In this project, Bandelier National Monument implemented conservation treatments that included detailed documentation for the Frijoles Canyon cavate pueblos. The primary aim of the project was to develop appropriate methods to identify, document, conserve, and maintain



Angelyn Bass Rivera inpaints soil fills to obscure graffiti incised into the walls of cavate A076 in Frijoles Canyon, Bandelier National Monument.

Photo: Shawn McLane

the cavates as both natural and constructed heritage. In addition, through Native American consultation, the project sought to create a culturally adaptive management strategy that would address the physical conservation of the cavates within the context of their landscape.

Project Budget: \$104,000 allotted; 103,592.71 spent

- **Personnel:** \$41,385.87 (GS-09 Exhibit Specialist @ 13 pp; GS-07 Exhibits Specialist @ 1 pp; GS-05 Archivist @ 3.5 pp; WG-7 Masonry Worker @ 2 pp)= 1540 total hours
- **Vehicles:** \$0
- **Travel/Training:** \$190.84 (New Mexico Heritage Preservation Alliance Conference)
- **Supplies/Materials:** \$837.00 (MNM Cooperative Agreement)
- **Equipment:** \$0
- **Services/Contracts:** \$59,400 (Western Mapping- Long House, Group M laser scan and mapping, geodetic survey)
- **Other:** \$1,682 (Western Mapping consultation and presentation); \$97 (seasonal background check)

Project Accomplishments: Project funding was used to support a GS-09 Exhibits Specialist as the project field leader, as well as a GS-07 Exhibits Specialist, a GS-05 Archivist, and a WG-7 Masonry Worker. Project activities and accomplishments included:

- Masonry stabilization at Long House pueblo (filling voids in the walls, replacing mortar, and conducting photography and treatment documentation).
- Scanning Electron Microscopy (SEM) analysis of plaster, tuff and pigment composition (with UNM geology department).
- Completion of a Data Analysis and Treatment Recommendation Report for the Frijoles Canyon Cavates, which includes a prioritized treatment schedule for 1,055 cavates, architectural descriptions, condi-

tion assessments, photographs, treatment recommendations for the high priority cavates, archaeological significance assessment of the cavate pueblos, annotated maps of all the Frijoles Canyon cavates, a comprehensive bibliography, and a database manual to use and maintain the cavate database and GIS.

- Laser scanning of the petroglyphs and portions of the cliff and cavates in Long House, and a geodetic survey by Western Mapping Company. VT will use the data



Conor McMahon, a conservator with the Museum of New Mexico, documents conditions in a cavate in Frijoles Canyon, Bandelier National Monument.

Photo: Shawn McLane

to monitor cavate deterioration, as well as use the three-dimensional models for analysis and interpretation.

- Earthen plaster and source material analysis, as well as graffiti mitigation and reassessment of all past treatments through a cooperative agreement with the Museum of New Mexico.
- Design and use of a treatment module in the cavate database, which is used to record past and present treatments, as well monitoring data, results, and recommendations.

VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

Consultation: The park consulted with the State Historic Preservation Officer, Tribal Historic Preservation Officer, and affiliated tribes under Section 106 requirements for ruins stabilization and laser scanning work.

Safety: The VT crew conducted weekly safety sessions led by different staff members. These sessions utilized both Job Hazard Analyses developed for the projects and outside research.

Chaco Culture National Historical Park (CHCU)

VANISHING TREASURES STAFF

Earl Johnson, Leo Chiquito, Paul Tso, James Yazzie, Lewis Murphy (resigned 3/06), Jack Trujillo (retired 2/06), and Garry Joe (Subject to Furlough)
Masonry Workers Positions, FY 1999 and 2001 Positions

The Vanishing Treasures (VT) preservation staff worked on a variety of treatment projects ranging from architectural and

capture the work.

Out in the field, Pueblo Bonito, one of the most visited greathouses in the park, was found to need repairs to wall capping and eroded wall mortar. Similar repair work was needed at the Kin Bineola and Kin Klizhin greathouses and the smaller sites Bineola Pinnacle and Clyde Pablo Trading Post. In addition, the first phase of Pueblo Bonito backfill project was completed. This project included the treatment of below grade kivas and rooms that front the plaza, and the development of a backfill and drainage repair plan.

Other work performed by the Vanishing Treasures staff included inspection and

fer Sahmel, the park maintains and monitors baseline and yearly hearing and respiratory fitness testing.

Roger A. Moore, Archeologist, FY 1999 Position

Roger completed his third full year in the VT archaeologist position, and has taken over supervision of the two staff members dedicated to the preservation documentation and archives programs. In FY 2006 Roger worked to update the formalized standards for architectural and treatment documentation of VT resources, and he continued development of electronic methods to store and track compiled documen-



Chetro Kettle with the wall of Chaco Canyon behind.

Photo: Randall Skeirik

treatment documentation and condition assessments, to significant preservation treatments to one front country structure and four structures in outlying units of the park. Over the winter, the staff worked in the darkroom developing preservation photographs, and later coordinated with the museum technician to label the photographs and compile the written architectural and preservation treatment forms. Using this information, compliance documents, work schedules, and scopes of work were established for field operations for the remainder of the fiscal year. Pre-treatment condition assessments were conducted to pinpoint the areas to be treated and provide information for estimating the quantity of materials that would be needed.

As the lead photographer for the preservation crew, James Yazzie is, responsible for the photo documentation of the treatment work. James has trained several other crew members in the use of the shift lens and set-up requirements for this type of perspective-corrective architectural photography. For archival stability, all the photographs are taken in black and white. Several of the staff are skilled in darkroom developing and printing, and can process film on site to assure photographs are clear and adequately

maintenance of the many drainage features installed as part of the ongoing backfilling program, emergency repairs to the boundary fence wash crossings to prevent livestock from entering the park, emergency trail repairs needed after a period of unusually heavy rains, and condition monitoring of interpreted backcountry sites and the outlying units of Kin Bineola, Kin Klizhin, Kin Ya'a, and Pueblo Pintado.

In November, 2006 the entire Vanishing Treasures preservation crew participated in a one day seminar/workshop at Aztec Ruins National Monument. Begun four years ago at Chaco by Roger Moore, the forum brings together VT specialists from parks in the region to discuss preservation problems and solutions. This year seven VT parks and one Chacoan greathouse/museum that is operated by the San Juan County Museum Association took part.

The preservation crew also took part in several safety training courses that included Hazardous Materials Communication training, as well as numerous impromptu safety training programs. Job Safety Analyses were reviewed and updated for many of the routine activities associated with preservation treatment work. In consultation with Intermountain Region industrial hygienist Jenni-

tation. He also coordinated closely with the park curator to assure that the structure of the database would accommodate both the 30 years of backlogged data and the information currently being collected. Roger oversaw the efforts of a student working with the collections in the Albuquerque office who focused on the oldest of the preservation records as well as an employee in the park working on the more recent backlogged data. He consulted with our partner, the University of Virginia (UVA), to work on modifications to our database to make it compatible with the one they use to record the same data. UVA has been assisting the park in the elimination of the preservation record backlog.

Roger continued to experiment with mortar colors using cement and soil based mortars, and he conducted a number of tours and presentations for professional and avocational archaeological organizations in the area that highlighted VT preservation activities in the park. In February he also made a presentation to the San Juan Archaeological Society on the Chaco preservation program, and a similar presentation to the Archaeological Society of New Mexico in April, 2006. This PowerPoint presentation has been made available as a template to

develop similar presentations at other VT parks.

Roger assisted with the daily operations of the preservation staff in both the backfilling and the wall treatment projects, and maintained the ongoing structural and backfill monitoring program. Through this program, moisture levels are recorded at the monitoring ports in the Chetro Ketl backfill test area each month and readings from a dial gage used to monitor movement on the back wall of Pueblo Bonito are collect weekly. These and other monitoring data are maintained for long-term evaluations of preservation treatments and needs. In addition, Roger worked closely with University of New Mexico researchers who are conducting a National Geographic Society funded excavation and field school at Pueblo Bonito. He assisted in coordinating and inspecting their excavations and data collection, and he worked with the interpretive program to schedule volunteer work and interpretive tours to the excavation site.

In June, Roger attended the Section 106 Essentials class offered by the Advisory Council of Historic Preservation in Denver, CO and he represented Chaco Culture NHP at the meetings of the Chaco Interagency Management Program. Roger also represents the NPS as a member of the Certification Council of the Archaeological Society of New Mexico and he is currently serving as the chairman of that committee. He also sits on the Advisory Council of the New Mexico SiteWatch program that is coordinated by the New Mexico Historic Preservation Division, and he assists with the volunteer SiteWatch program in the park.

Vanishing Treasures Project Funding

Project Name: Develop Backfill/Drainage Plan for Pueblo Bonito and Implement Initial Treatment Phase

Project Summary: Pueblo Bonito is the largest and most extensively excavated

structure in the park and is our most heavily visited resource. In the first phase of a two phase project, work focused on the below grade kivas and rooms fronting the west and east plazas of Pueblo Bonito. The project involved the development of a backfill and drainage repair plan, and the execution of necessary fabric treatment in areas targeted for backfilling and drainage installation. The second phase, scheduled to take place in FY 2007, will implement

- Vehicles: \$0
- Travel/Training: \$293
- Supplies/Materials: \$0
- Equipment: \$30,647
- Services/Contracts: \$0
- Other: \$0

Project Accomplishments: The plan identified 9 to 12 kivas that are to be backfilled to depths between 1 and 8 feet, and some 20 to 30 plaza perimeter rooms that will be filled to a depth of 1 to 3 feet. The east and west plazas, which together comprise about 1 acre in area, will be recontoured through the addition of 2-3 feet of fill around their perimeters so that they slope into their centers. This recontouring will direct the majority of the runoff to the south, where a drainage trench from the 1940s will be reopened and made functional again to carry water away from the site. The existing drainage systems in the plazas, as well as 30 individual drains scattered throughout the structure will be repaired, replaced, or eliminated altogether.

In accordance with the backfill and drainage plan, standard architectural documentation forms have been completed for all of the rooms and kivas that are to be treated, including both color and black and white photography and treatment/condition records. Based on the

condition assessment, all rooms and kivas have received the treatments necessary to prepare for the backfilling and drainage installation operations. This included repointing basal sections of walls with severely deteriorated stone and mortar, repair of fallen masonry veneer, and the replacement of deteriorated capping courses. Existing drainage features have been evaluated and those still functioning were cleaned and rehabilitated, and will be incorporated into the new, comprehensive system. The creation of a more detailed topographic map of the plaza will enable staff to correctly position (or reposition) major and minor drainage features.



Soil for backfilling will be dropped from a conveyor located above the hopper and carried on the lower conveyers into Room 8, an enclosed room in the southwest corner of Pueblo del Arroyo that still retains its original roof.

Photo: Courtesy Chaco Culture National Historical Park

the plan to complete the backfill and drainage project for this site.

Because of the heavy visitation at this site, the design plan for backfilling and drainage repair must incorporate preservation treatments that will not unduly impact the visitor experience. The Pueblo Bonito plan has identified the maximum number of rooms, kivas, and plaza surfaces to be affected by the treatments, however, slight modifications may be made that would enable some rooms and surfaces to remain open to visitors.

Project Budget: \$98,000

- Personnel: \$67,060

El Malpais and El Morro National Monuments (ELMA/ELMO)

VANISHING TREASURES STAFF

James W. Kendrick, Archaeologist FY 1999 ELMA Position

As the chief of the Heritage Preservation Division at El Morro and El Malpais National Monuments, Jim directed a number of cultural resource projects in FY 2006 in addition to temporarily serving as the Facility Manager for both monuments. As Facility Manager he became all too familiar with the Facility Management Software System (FMSS) and the world of facility management, yet he was still able to focus on protecting Vanishing Treasures resources during Fire Management activities. At El Malpais, he developed partnerships with the Center for Desert Archaeology (through the Colorado Plateau Cooperative Ecosystem Stud-

ies Unit (CESU)) in order to inventory ten prescribed burn units totaling over 2,500 acres. Jim advised El Malpais' Fire Management Program during three wildfires with the field assistance from Salinas Pueblo Missions National Monument archaeologists, and he worked with the University of Arizona to complete a preservation plan for the Earl Head Homestead, a Depression Era log cabin at El Malpais.

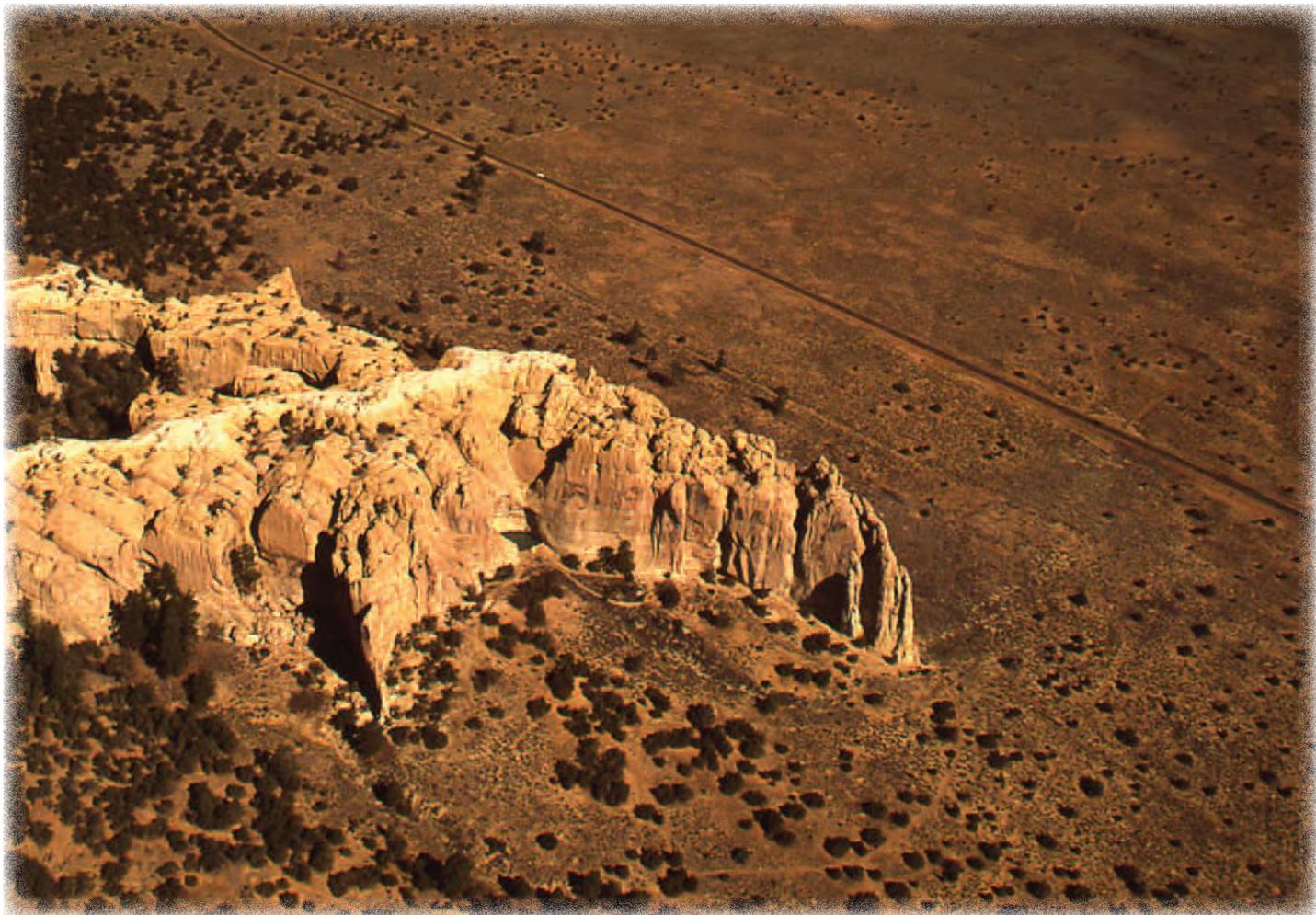
At El Morro, Jim and Steve Baumann worked with the Center for Desert Archaeology to develop an innovative multi-year project to determine surface erosion rates at Inscription Rock using high resolution laser scanners. Jim also oversaw the routine preservation work conducted at Atsinna Pueblo and assembled a group of conservators to assess the condition of El Morro's most threatened inscriptions.

In addition to his work at El Morro and El Malpais, Jim, along with Calvin Chimoni, repointed two rooms at Puerco Ruin in Petrified Forest National Park.

Calvin Chimoni, Masonry Worker FY 1999 ELMA Position

Over the course of the year, Calvin worked on a number of projects. He conducted routine preservation maintenance at Atsinna Pueblo, El Morro's largest Vanishing Treasures (VT) resource, including everything from seasonal vegetation management to documentation of preservation treatments. He worked with the VT team to relocate and identify archaeological sites at El Morro prior to an extensive hazardous fuels thinning project. In a example of inter-park cooperation, he redesigned and repaired a drainage system at Puerco Ruin in Petrified Forest National Park. This new drainage system will protect a significant petroglyph panel associated with that park's largest VT resource.

Calvin completed the TelNet Broadcast training entitled *Maintaining Historic Structures-Exteriors*. He also participated in on-site training at El Morro (his new duty station) with Jake Barrow of the Intermountain



*Aerial view of El Morro, or Inscription Rock, El Morro National Monument .
Photo: Fred Mang, Jr.*

Regional Office, Santa Fe that focused on viga splicing and replacement techniques. Calvin's long-term goals are to continue to expand his preservation skills through training with colleagues, to share those skills with co-workers and to provide leadership in the field of preservation.

Steve Baumann, Archaeologist FY 2001 Position

Steve joined the VT team at El Morro and El Malpais National Monuments in May of 2006 in a permanent, subject-to-furlough position. He is an archaeologist with extensive field experience and exceptional data management skills. Steve previously held a position with the Western Archaeological and Conservation Center in Tucson, and has been conducting projects at El Malpais and El Morro since 2004.

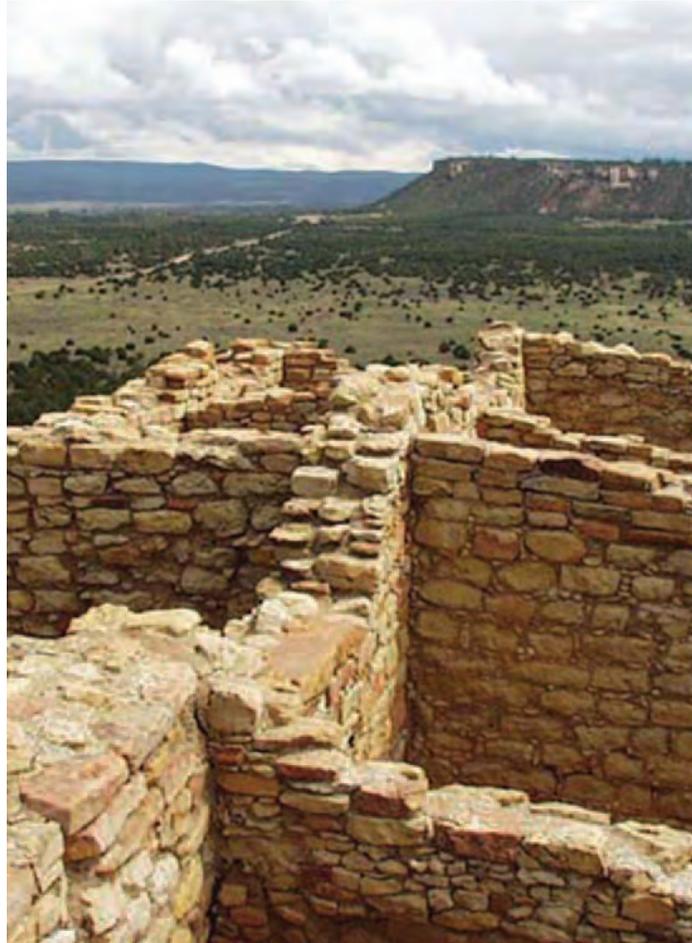
His first week as an El Morro employee was spent in our Core Operations Review providing him the best orientation he could get on the operations of El Morro and El Malpais. Steve then initiated a number of projects, several of which focused on cultural resource protection during fire management activities. Steve also played an integral part in establishing a partnership with the Center for Desert Archaeology that resulted the inventory of over 2,500 acres and the recording of over 40 newly discovered sites at El Malpais.

Steve was instrumental in enabling El Malpais and El Morro to meet its commitments regarding the servicewide Archeological Site Management Information System (ASMIS) corrective action plan. At El Morro alone, Steve conducted 43 condition assessments and updated ASMIS and our Geographical Information System (GIS) layers for each of those resources. Steve's work with the Center for Desert Archaeology allowed El Malpais to contribute more than 30 condition assessments that went toward meeting the region's corrective action plan goal.

Edwin Seowtewa, Masonry Worker (Seasonal)

This is Edwin Seowtewa's fourth season at El Morro and El Malpais. His VT work in FY 2006 focused primarily on routine

preservation treatments at Atsinna Pueblo. He participated in the viga replacement training offered by Jake Barrow of the Intermountain Regional Office, Santa Fe. He also completed the TelNet Broadcast training entitled *Maintaining Historic Structures-Exteriors* and he assisted Calvin Chimoni at Puerco Ruin in Petrified Forest National



*Mesa-top ancestral Puebloan site known as Atsinna, or "place of writings on rock", El Morro National Monument.
Photo: Steve Baumann*

Park. His long-term goals focus on continuing to learn about the history of preservation efforts in the National Park System, and to continue learning new preservation skills through mentoring and training.

Specialties to Offer Other Parks: Calvin Chimoni and Edwin Seowtewa offer exceptional masonry skills. They are both skilled in the use of amended and non-amended mortars, and in photographic documentation. Steve Baumann can (and does) assist other parks with data management (particularly with ASMIS and GIS), as well as archaeological inventory and excavation.

VANISHING TREASURES PROJECT FUNDING

El Malpais and El Morro did not receive Vanishing Treasures project funding in FY 2006.

VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

Consultation: The VT team consulted with the New Mexico State Historic Preservation Officer on a number of projects that included prescribed burns at El Malpais and the laser scanning project at El Morro. The team also consulted with the park's affiliated tribes regarding Native American Graves Protection and Repatriation Act issues for El Morro, and also regarding cultural resources along El Malpais' Zuni-Acoma Trail (a trail that includes archaeological resources that are over 1,200 years old).

Safety: The VT team at El Malpais and El Morro recorded no accidents and no lost time injuries during FY 2006. This was due, in part, to the development of Formal Hazard Assessments and Job Hazard Analyses for a wide range of preservation projects. The VT team at El Morro and El Malpais National Monuments focused much of its safety training on the erection and safe use of scaffolds. Jobsite "tailgate" sessions were conducted each morning, and management level "walk-arounds" were conducted frequently. In addition, the VT staff provided an orientation to archaeologists from the Center for Desert Archaeology prior to their archaeological inventory. This orientation

focused heavily on the dangers of hiking El Malpais where trips and falls pose a serious threat on the rugged lava flows.

Special Training: As mentioned above, Calvin Chimoni and Edwin Seowtewa completed the TelNet broadcast training entitled *Maintaining Historic Structures-Exteriors*.

Challenges: Our primary challenges during FY 2006 were satisfying the various preservation needs of other divisions at El Malpais and El Morro while, at the same time, meeting our goal for the corrective action plan and simultaneously executing Vanishing Treasures projects.

Fort Union National Monument (FOUN)

VANISHING TREASURES STAFF

Note: Fort Union received a one-year base increase of \$80,000 to fund seasonal employment.

Linda Richards, Exhibit Specialist FY 2002 Position

Linda left her position as Exhibit Specialist in mid-December to take a position at Fort Laramie Nation Historic Site. She spent her remaining time at Fort Union completing the year-end preservation report. Because of complications in the hiring process her position remained vacant through the end of the fiscal year. Lapse funding was utilized to hire seasonal employees to work on the preservation crew.

Greg Phillipy, Exhibit Specialist FY 2002 Position

Picking up where Linda left off, Greg intends to become an integral part of the preservation crew at Fort Union. He will provide frontline supervision for the four-person preservation crew as well as an average of ten seasonal employees and Youth Conservation Corps students. Greg will monitor quality control for preservation activities, and input and verify drawings in AutoCAD while also performing architectural documentation, evaluation, and assessment of the 72 historic structures within the park. Greg will be researching and completing National Environmental Policy Act/National Historic Preservation Act compliance packaging, writing preservation funding proposals, and coordinating safety and preservation training for the preservation crew. Greg will also be heavily involved in the hands-on stabilization efforts on existing brick features throughout the complex.

Theodore Garcia, Craft Specialist FY 2005 Position

One of the key objectives of the Vanishing Treasures Initiative was to create and maintain a cadre of permanent preservation professionals. Toward that end, Theodore Garcia, a ruins preservation technician with more than 30 years experience at Fort Union, was hired to fill a newly created Craft Specialist position. Originally hired in 1973 as a seasonal laborer, Ted has served in every capacity on the Preservation Crew and brings with him a wealth of ruins preservation experience. Ted has served as



Wagon amid the remains of Fort Union National Monument.

Photo: Courtesy Fort Union National Monument

onsite project work leader for the Preservation Crew for the last five years, and has provided on the job training and shared insights into adobe stabilization that he has learned through years of experience. New seasonal hires have benefited from Ted's knowledge of ruins preservation, worksite safety, and his establishment of an appropriate work pace. Ted's knowledge has also been beneficial in providing preservation recommendations to the park's facilities manager and exhibit specialist.

VANISHING TREASURES PROJECT FUNDING

Fort Union did not receive Vanishing Treasures project funding in FY 2006, however three crews, funded in-part with lapsed VT salary, applied over 120,000 sq. ft. of earthen shelter coat. This work included:

- Application of unamended earthen shel-

ter coats to wall faces and openings that were showing signs of erosion

- Application of unamended mud and/or adobe bricks to areas with basal erosion and coving
- Application of polymer amended earthen shelter coats (over unamended shelter coats)
- Partial reconstruction of eroded window openings that had fewer than three remaining courses of adobe above the foundation
- Partial reconstruction of failed architectural features that were deemed necessary to support adjacent adobe walls or wall fragments
- Repointing of 1,046 linear feet of stone foundation averaging 18" in height
- Stabilization of 15 linear feet of stone masonry
- Stabilization of 150 square feet of brick masonry
- Removal of vegetation in and around the site

VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

Special Training: At the close of the preservation season, Fort Union staff participated in a Heritage Preservation Program project to stabilize the Bonney House, a nearby homestead property which was in imminent danger of collapse. Our VT funded seasonal staff worked with Eduardo Gonzales and Ron Duran to repair the stone and adobe north wall, and to apply an earthen shelter coat to the exterior adobe surfaces of this ca. 1865 National Historic Landmark. Future work at this site may include the stabilization of an adjacent structure that served as the family chapel.



Exhibit Specialist Greg Phillipy.
Photo: Courtesy Fort Union National Monument

Pecos National Historical Park (PECO)

VANISHING TREASURES STAFF

Pecos has not received any base increases to fund a Vanishing Treasures position.

VANISHING TREASURES PROJECT FUNDING

Project Name: Repair and Stabilize Adobe Spanish Structures

Project Summary: To begin this stabilization effort we completed a total of nine condition assessments within the main ruins complex to identify and prioritize the needed work. The resulting preservation and stabilization plan identified the need to perform stabilization work on both historic and pre-historic ruins including the 18th Century Mission Church, the South and North Pueblos, and the Defensive Wall.

The stabilization work focused primarily on addressing deteriorated areas of the sacrificial shelter coat on the adobe, and exposed fabric from the 18th Century Church. Characteristic of this type of deterioration was degraded and collapsed areas of wall, basal erosion, weathered wall capping, and vegetative growth. Work started in the spring with the making, and stockpiling of adobe brick. Approximately one thousand adobes were completed and allowed to cure prior to utilizing them in the preservation effort.

Project Budget: \$49,000

- **Personnel:** \$41,600
- **Vehicles:** \$800 (Fuel for utility vehicles)
- **Travel/Training:** \$0
- **Supplies/Materials:** \$41,600 (Soil and sand for adobes and mortar, and Rho-plex)
- **Equipment:** \$1,000 (Personal protective equipment for crew)
- **Services/Contracts:** \$0
- **Other:** \$600

Project Accomplishments: Stabilization work started with the highest priority components completed first. To execute the work, the park hired five highly qualified masonry workers to work with the park's permanent masonry workers to accomplish the stabilization tasks. The crew included Vincent Quintana, Frank Archuleta, Jerry Varela, Victor Ortiz, Jerry Garza, Eluterio Varela, and Ray Tafoya. Both native unmodified and amended engineered soils were used during this stabilization campaign and these materials were mixed to match historically correct formulations to create a

natural, long lasting and durable finish that matched the original in appearance. The following work was accomplished:

18th Century Church

The north and south exterior and interior walls had considerable deterioration issues including basal erosion, and holes and cracks in the walls and wall caps. Work began on the south buttress wall with the removal of deteriorated adobe bricks and mortar from the existing sacrificial layer, and the installation of new adobe bricks to complete a new sacrificial layer. In all, a total of 192 square feet of surface area of the buttresses were repaired. Similar work was executed on the interior and exterior sides of the north wall as well where a total of 600 full and half adobes were re-laid on the wall surfaces. In addition, the interior window opening in the north wall required the removal and replacement of eroded adobe brick and mortar, and the treatment of the lintel with a wood preservative consisting of paraffin wax, linseed oil and paint thinner. On the west wall, preservation work included 152 square feet of wall and basal erosion repairs using amended adobe brick and mortar.

Convento

Stabilization work here consisted of pointing the walls and applying a cap using an amended mortar. Work was also completed on the west interior and exterior walls of rooms 41 and 42 using amended adobe bricks and mud mortar to replace deteriorated adobes.

Defensive Wall

The Defensive Wall is a dried laid stack stone wall that forms a protective wall around the main room blocks of the north and south pueblo ruins. The condition assessment identified eight separate locations where the wall had collapsed. Seven of these required only

minor repairs and in each case the stones were carefully removed and re-laid. A more significant failure had occurred on the east wall that measured four feet high by fifteen feet in length. This section of wall was also carefully dismantled and the stones re-laid to match the existing wall sections.

South Pueblo Ruins

Stone masonry failures were identified in rooms four, thirty three, thirty four and forty four. In these areas, the low stone walls were carefully re-laid using an amended mud mortar mix.

VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

Safety: Working on the 18th Century Church presented some difficult planning efforts. The crew completed a Job Hazard Analyses that identified the safety issues and physical challenges inherent in working on scaffolding forty feet in height that is installed on uneven ground. The church walls are seven feet wide at the base and taper to six



Adobe archway in the mission church at Pecos National Historical Park.

Photo: Randall Skeirik



The remains of the Pecos mission church, once the most imposing of all New Mexico's mission churches, Pecos National Historical Park.

Photo: Randall Skeirik

feet at the cap, making the scaffolding more complex to erect. The work area was then barricaded and warning signs hung in appropriate locations to protect the visiting public from entering the work site.

Challenges: Harsh winter weather coupled with the lack of both project funding and base increases to fill current vacant positions in the park are the leading contributors to the deterioration of new and historic fabric of our historic and pre-historic resources.

We continue to be optimistic about the future and that base funding will be increased through the implementation of the Facility Management Software System (FMSS) and the integration of ruins into the database. FMSS will provide the park with organized tools for managing, planning and tracking the facility condition index (FCI). FMSS can help justify the need for future base funding increases to Pecos NHP, and with a realistic park budget we hope to be able to perform the mandated care to these unique assets.



Salinas Pueblo Missions National Monument (SAPU)

VANISHING TREASURES STAFF

Phil Wilson, Archeologist
FY 1999 Position

Phil continues to oversee the preservation program at Salinas Pueblo Missions, directing and reviewing preservation projects as well as associated planning, compliance and documentation activities.

Specific program accomplishments achieved under Phil's direction include:

- Participation in the Facility Maintenance Software System (FMSS) archeology work group seeking ways to integrate Heritage Assets into FMSS
- Writing of preservation funding proposals, development of short and long-range preservation plans, and coordination of training for the preservation crew
- Completion of stabilization work and detailing in the Quarai convento and a 19th century structure
- Cyclic vegetation management and exotic

- species control
- Partial backfilling of the Mound 7 Pueblo at Gran Quivira
- Restoration of mined lands at Abó
- Continued research to complete a Historic Structures Report for the 19th century structures at Abó, a park-wide Historic Resources Study, and a park Administrative History

- Development of a symposium on Ruins Preservation for the annual meeting of the Society of American Archaeology to be held in Austin, TX in the spring of 2007. The symposium was developed at the request of the VT Leadership and executed in cooperation with several other VT parks and partners.



The Mission of Abó as seen from the plaza of the adjacent unexcavated pueblo.

Photo: Randall Skeirik

Marc A. LeFrançois, Exhibit Specialist

FY 2003 Position

Marc assisted Phil by continuing to supervise the ruins stabilization team at Quarai. Marc also continued work on the park study projects and continued supervising Jeanette Wolfe, a seasonal research assistant, whose on-going work on a park administrative history was accepted as part of her graduate studies at the University of New Mexico. Marc also participated in the restoration of mined lands at Abó and he worked with Regional Architect Sayre Hutchison to complete all of the park's remaining LCS file updates.

He continued research on the Mound 7 backfilling project, in collaboration with a team from the United States Geologic Survey (USGS) in Lincoln, Nebraska, led by Lyndsay Ball, to conduct a deep-resistivity survey of Gran Quivira. This project covered the ten acres encompassing the immediate exhibition area and seeks to evaluate geologic anomalies, which in turn will help the park develop the best possible backfilling plan for the preservation of Mound 7 pueblo, and preserve other subterranean resources. The final report for this project can be viewed at <http://pubs.usgs.gov/sir/2006/5176/>.

Under VT Archaeologist Ellen Brennan, Marc assisted the Cultural Resources Division at Grand Canyon in stabilizing the Wallowa Glades Pueblo and the kiva at Tusayan Pueblo. Goals for the coming year include cyclic stabilization on the east plaza area of Gran Quivira, completion and peer review of a detailed scope of work for the Mound 7 backfilling project, developing an impermeable capping system for the high walls of the park ruins, planning for complete stabilization of the mission ruins at Gran Quivira, planning for the conservation of the Abó pictographs and implementation of the Mound 7 backfilling project.

Tobin W. Roop, Archeologist
FY 2000 Position

Tobin continued to manage a variety of cultural resource projects at Salinas including the completion of a multi-year compliance project (Section 106 and National Environmental Policy Act) to complete the backfilling of Mound 7 and the hard-surfacing of



The pueblo of Las Humanas seen with the mission church of Gran Quivira in the background
Photo: Randall Skeirik

trails throughout the park. Tobin also completed comprehensive condition assessments of 23 sites at the Gran Quivira unit, which included a number of VT sites. Tobin continues to plan for the eventual introduction of prescribed fire into the cultural landscape at the park. In August, 2006 Tobin and Phil Wilson provided technical support to Tonto National Monument by assisting them with a ruins stabilization project.

Tobin continued to manage the park's museum collection, and he is managing a backlog cataloguing project of Salinas materials at Arizona State University. Tobin also updated the park's Archeological Sites Management Information System database, and assisted with the updating and development of the park's stabilization database.

Ramona Lopez, Maintenance Worker (Ruins Preservation)
FY 1998 Position

Ramona continued in her role as a key stabilization professional at Salinas by serving as an assistant and acting crew leader, and supervising and training seasonal staff. Working with her team doing hands-on stabilization, Ramona directed and instructed new

hires on the principles and practices of ruins stabilization, and she ensured a safe work environment. In addition to completing stabilization detailing on the convento of *la Nuestra Señora de Purísima Concepción de Cuarac* (Quarai) and the historic *Casa de Gonzales*, Ramona participated in vegetation control and exotic species management, reclaiming of mined lands at Abó, and assisted with the cyclic maintenance and upgrades of the Abó visitor's center as well as with other maintenance activities throughout the park.

Ramona maintained daily logs of all materials used and work completed, and she continues to maintain an inventory of stabilization equipment and supplies. During the 2007 season, Ramona will be working on the stabilization of the east plaza structures at Gran Quivira, the implementation of the Mound 7 backfilling project, and planning for the stabilization of the mission ruins at Gran Quivira in 2008.

Thelma Griego, Maintenance Worker (Ruins Preservation)
FY 2003 Position

Because of health-related issues, Thelma was unable to work during 2006, and has been recuperating at home. Lapse funding from Thelma's position was used to support the preservation program through the funding of seasonal and student positions.

VANISHING TREASURES PROJECT FUNDING

Salinas did not receive Vanishing Treasures project funding in FY 2006.

VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

Consultation: Tobin Roop completed 14 compliance packages for park projects ranging from routine maintenance to major park projects, and he completed consultation with stakeholders on many of these projects. Tobin has also developed a partnership with a charter middle school in Roswell, New Mexico and has integrated the compliance and planning process for Salinas into their social studies/history curriculum.

Special Training: Tobin completed supervisory training (Basic 40) in Albuquerque and Ramona attended an annual stabilization forum at Bandelier National Monument.

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

T e x a s



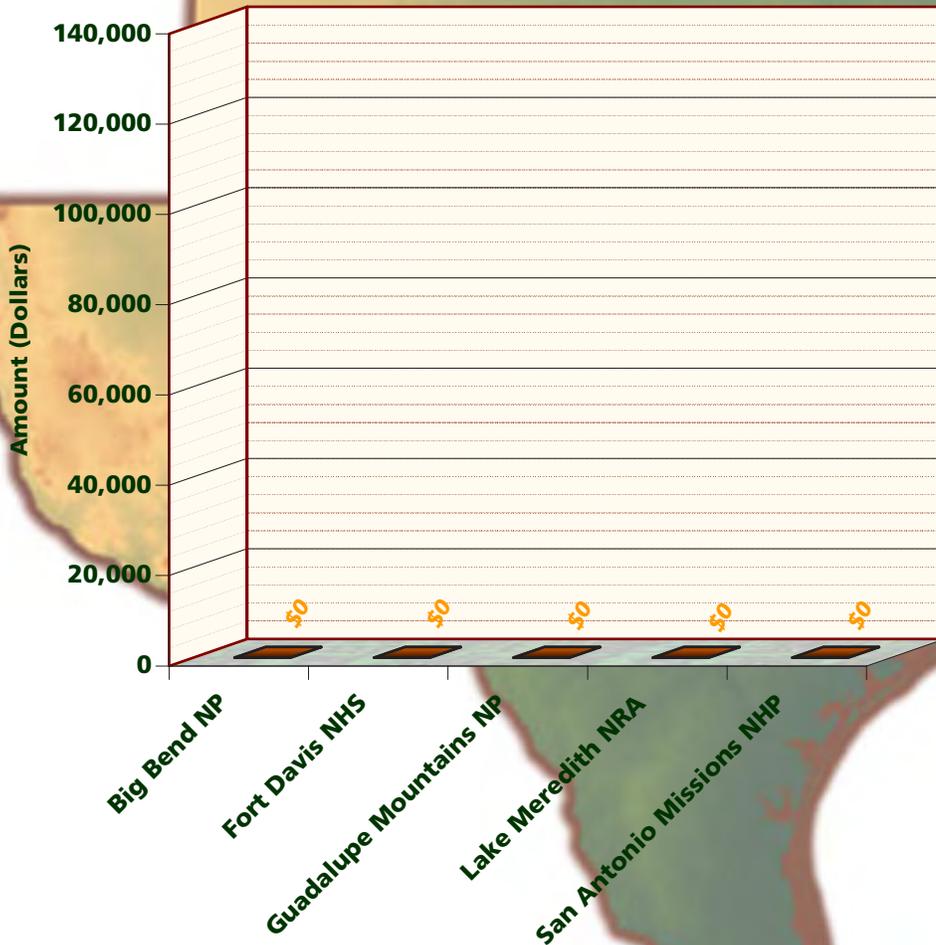
Golf Course at Park Boundary, with the Cristano House ruin at center right, Big Bend National Park.

Photo: Thomas C. Alex

- ◇ Big Bend National Park ◇ Fort Davis National Historic Site ◇
- ◇ Guadalupe Mountains National Park ◇ Lake Meredith National Recreation Area ◇
- ◇ San Antonio Missions National Historical Park ◇

FY 2006 VANISHING TREASURES Funding for TEXAS PARKS

- Project Funding
- Personnel Funding (FY 06 Only)



Texas

Fiscal Year 2006 Funding Summary

Project Funds:

No Texas parks received project funding

Personnel Funding:

No Texas parks received personnel funding

Fort Davis National Historic Site (FODA)

VANISHING TREASURES STAFF

Jeffrey Rust, Cultural Resource Manager FY 2000 Position

In FY 2006, Jeffrey Rust continued to manage cultural resource activities and historic preservation projects at the park. This included preservation planning to evaluate and design treatments for future projects, supervising six permanent employees and two seasonal employees, overseeing the Facility Management Program (FMP), overseeing the Facility Management Software System (FMSS) for the park, planning and supervising the park's Youth Conservation Corps program, ensuring quality control of historic preservation projects, documenting historic preservation projects and treatments, evaluating and monitoring over 130 historic structures at the site, supervising and overseeing the museum curation program at the park, implementing the park's cultural landscape program, completing environmental and cultural compliance documentation, and ensuring that all park projects and treatments involving historic structures comply with the Secretary of the Interiors Standards for the Treatment of Historic Properties.



Jake Barrow and former park superintendent Jerry Yarbrough installing a new floor in the North Ward of the Post Hospital, Fort Davis National Historic Site.

Photo: Max Kandler

Roy Cataño, Masonry Worker FY 2000 Position

Roy functioned as one of the work leaders for preservation treatments on the Commissary (HB-37), a historic adobe structure that is a contributing component of Fort Davis, a National Historic Landmark. Plaster stabilization was the primary focus of the treatments on the Commissary and included

the careful removal of several coats of paint from the lime plastered walls. Where original mud plaster was exposed new lime wash was applied.

In other work, modern floor boards were removed to expose the original floor boards, and original rotted floor boards were removed and replaced to match. Deteriorated joists were removed and replaced and, where needed, steel beams were used to support the long span of the original joists. All new lumber was treated with Bora-Care, an environmentally friendly fungus and insecticide and all doors, windows, and trim received a new coat of paint.

Roy also contributed his expertise in the stabilization of the Post Hospital (HB-46) on going project. Here he stabilized floors, installing new floor boards and new joists treated with Bora-Care. He also worked to repair and stabilize the building's stone foundations

Because Roy Cataño's position is subject to furlough, he was financed for six months from Vanishing Treasures funds and for five months from project funds. The remaining VT money was used to partially fund Ramon Sanchez a permanent WG-7 maintenance worker who assists with historic preservation projects.

VANISHING TREASURES PROJECT FUNDING

Fort Davis did not receive Vanishing Treasures project funding in FY 2006.



Roy Cataño performing Foundation Stabilization in the Post Hospital at Fort Davis National Historic Site.

Photo: Courtesy Fort Davis National Historic Site

San Antonio Missions National Historical Park (SAAN)

VANISHING TREASURES STAFF

Susan Snow, Archeologist
FY 1999 Position

In FY 2006 Susan Snow 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 Compliance Improvement Management System (Environmental Management Systems) (CIMS(eMs)) team and served as vice-president for the Federal Women's Group, Alamo Federal Executive Board. Susan also serves as the co-coordinator of Section 106 compliance and Special Program Allocation System (SEPAS) calls for the park, and she coordinates park research permits.

Susan continued to coordinate excavations, funded through a Save America's Treasures (SAT) grant, to correct drainage problems that threaten the convento at Mission Concepción. Weekend volunteer excavations were conducted as part of this award throughout FY 2006 and this volunteer labor was included as part of the match for the SAT grant. The project will be completed in FY 2007.

Susan served as the NPS liaison for archeological testing at several sites on NPS property needed for the San Antonio River Improvement Project. She facilitated the contractor's work and reviewed scopes of work, preliminary reports, etc. Susan also served as the NPS liaison for preservation work conducted by the Archdiocese of San Antonio. This work included stone conservation of the Rose Window at Mission San



*Repointing the Convento at Mission San José y San Miguel de Aguayo, San Antonio Missions National Historical Park.
Photo: Courtesy San Antonio Missions National Historical Park*



Convento wall at Mission San José y San Miguel de Aguayo overgrown with vegetation, San Antonio Missions National Historical Park.

Photo: Courtesy San Antonio Missions National Historical Park

José, stone conservation and repointing of the interior of the sacristy at Mission Concepción, and the rebuilding the collapsed chimney of the priest quarters at Mission San Juan. Susan has also been consulting with the Archdiocese's contractors on a drainage project for the sacristy at Mission San José, and she wrote a letter to the Texas Historic Commission with recommendations for related archeological testing/monitoring. Susan is serving as the park facilitator for a proposed "virtual tour" software program being developed for Mission Concepción and she oversaw archeological monitoring that was conducted for the installation of a sidewalk at Mission San Juan.

Susan supervised a number of volunteers and interns in FY 2006 including a temporary hire and a graduate student who

worked on processing small projects, as well as an Eagle Scout, and two undergraduate student interns.

In FY 2006 Susan attended, and helped coordinate, the Partners in Equality Day through Alamo Federal Employees Board. She also attended a one day workshop on historic ranches presented by the Historic Preservation Division of the City of San Antonio and the Texas Historic Commission. Susan helped plan and facilitate the first annual Archeology Day at Mission San José and made a presentation on recent archeology at the park. She also presented a paper at a local Rotary meeting and gave an update on the Concepción project at the annual Friends group gala.

**Dean Ferguson, Masonry Worker
FY 2000 Position**

Dean continued to work with the park archeologist and maintain the archeological pits at Mission Concepción. Dean, working with the rest of the masonry crew (Steve Siggins and Harvey Lister), replastered and repaired the fore bay of the grist mill at Mission San José and cleaned the lime kilns and the vat as part of regular cyclical maintenance. They also repointed the bastian in the southeast corner of the Indian Quarters at Mission San José and the exterior masonry of the convento at Mission San Juan.

Dean continued to maintain the gates to the Espada Aqueduct to help minimize gang access to the historic landmark and he had primary responsibility for graffiti removal in the park. Dean also assisted with hazardous tree removal and trimming to prevent trees from falling on historic resources.

Dean also shared photo-documentation duties with Harvey Lister.

**Steve Siggins, Masonry Worker
FY 2003 Position**

Steve, working with Dean Ferguson and Harvey Lister, replastered and repaired the fore bay of the grist mill, and cleaned the lime kilns and the vat at Mission San José. Steve helped to repoint the bastian at the southeast corner of the Indian Quarters at Mission San José and the exterior masonry of the convento at Mission San Juan. He also assisted with the removal of vegetation from



Convento at Mission San José y San Miguel de Aguayo with much of the overgrowth removed, San Antonio Missions National Historical Park.

Photo: Courtesy San Antonio Missions National Historical Park

the two doorless rooms of the convento at Mission San José, and he consulted with the archeologist to complete the condition assessment of these rooms. Steve also assisted with graffiti removal in the park and hazard tree removal.

**Harvey Lister, Masonry Worker
FY 2004 Position**

Harvey assisted masons Siggins and Fergu-

son with all their projects as well as assisting carpenter Jody Schuette with rehabilitation of wooden elements in the Harris House, (a National Register structure north of Mission San José), and repairs to the wooden porch of the Sisson House, (a National Register structure east of Mission San Juan). Harvey also assisted with the construction of a wooden frame to display the original door from the granary at Mission San José which was removed from active use and put on display. He assisted with hazard tree removal and other vegetation removal, and he shares responsibility for photo documentation and the recording of masonry projects in the Facility Maintenance Software System.

VANISHING TREASURES PROJECT FUNDING

San Antonio Missions did not receive Vanishing Treasures project funding in FY 2006.

VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

Special Training: Dean, Steve, and Harvey all participated in a TelNet course entitled “Hazard Tree Safety: Getting to the Root of the Problem”.

Harvey also attended Lime Preservation Training at Fort Pulaski National Monument in Georgia. At training in historic wood repairs, he repaired historic doors at Mission San José under the guidance of master carpenter Jody Schuette.

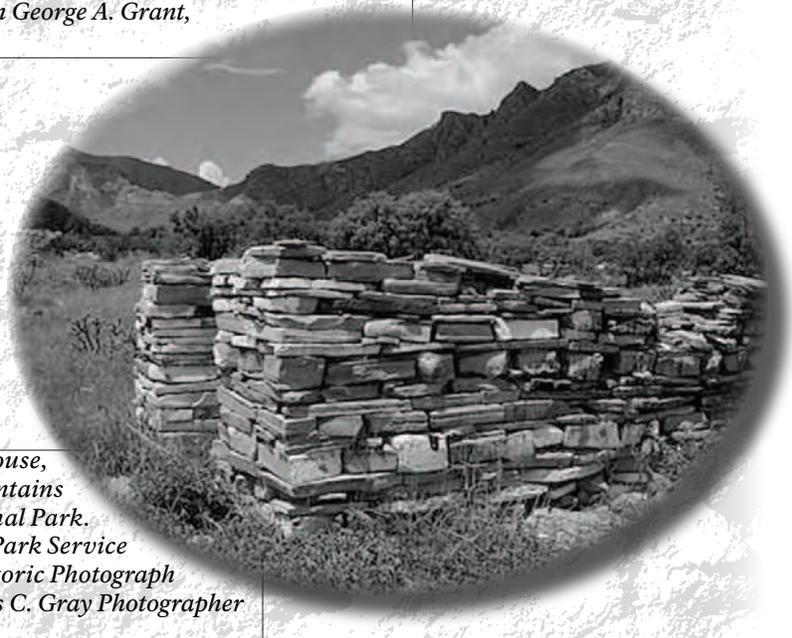


Bastian at Mission San José y San Miguel de Aguayo scaffolded for repointing, San Antonio Missions National Historical Park.

Photo: Courtesy San Antonio Missions National Historical Park



*Fort Davis, ca. 1953.
Photo: National Park Service Historic Photograph Collection George A. Grant,
Photographer*



*Ruins of Stone House,
Guadalupe Mountains
National Park.
Photo: National Park Service
Historic Photograph
Collection, Thomas C. Gray Photographer*



*Quicksilver Mine, Terlingua,
Big Bend National Park.
Photo: National Park Service
Historic Photograph Collection
George A. Grant, Photographer*



*The Village of Terlingua in Big Bend National Park, 1936.
Photo: National Park Service Historic Photograph Collection George A. Grant, Photographer*

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

U t a h

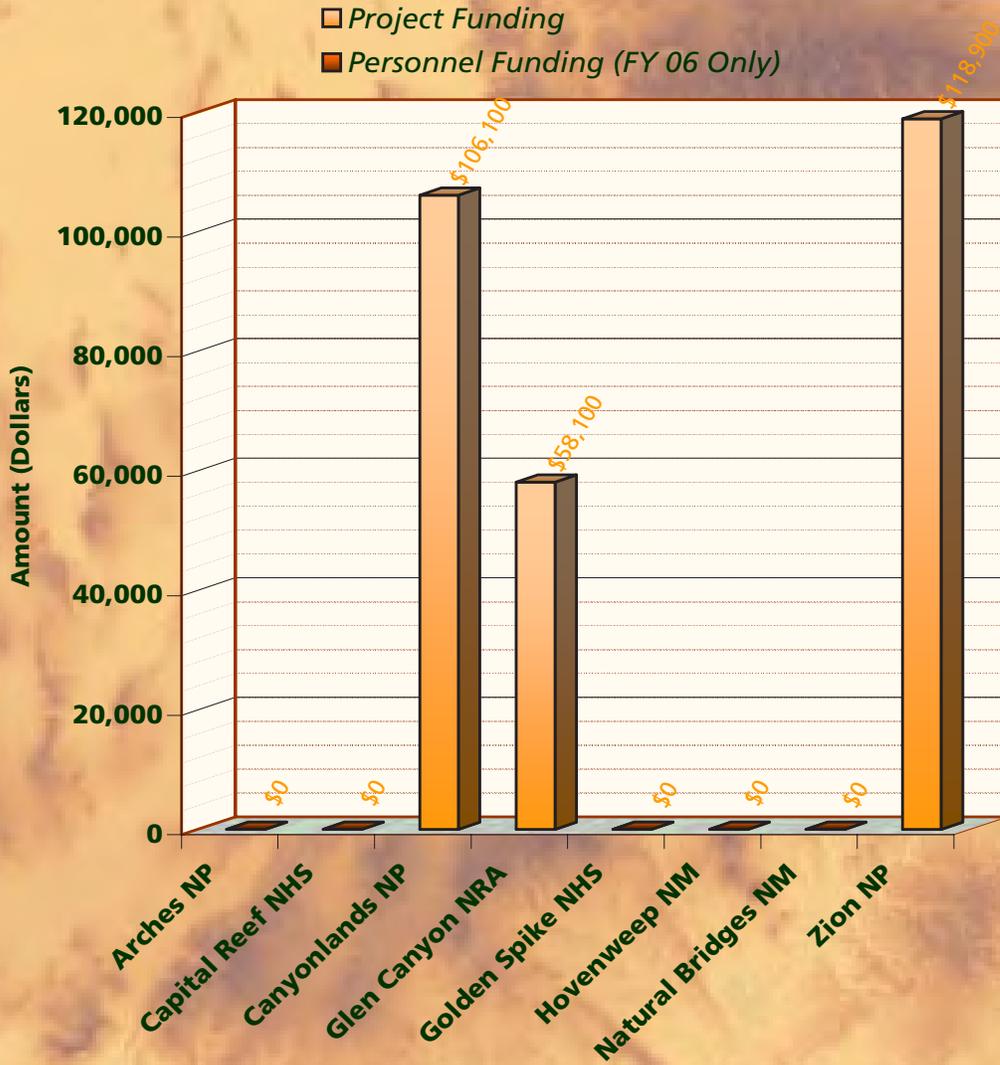


View of the Green River and the Maze District from Island in the Sky, Canyonlands National Park.

Photo: Randall Skeirik

- ◇ Arches National Park ◇ Capital Reef National Park ◇ Canyonlands National Park ◇
- ◇ Glen Canyon National Park ◇ Golden Spike National Historic Site ◇ Hovenweep ◇
- ◇ National Monument ◇ Natural Bridges National Monument ◇ Zion National Park ◇

FY 2006 VANISHING TREASURES Funding for UTAH Parks



Utah Fiscal Year 2006 Funding Summary

Project Funds:

Canyonlands National Park, \$106,100

Glen Canyon National Recreation Area, \$58,100

Zion National Park, \$118,900

Personnel Funding:

No Utah parks received personnel funding



Lake Powell, Glen Canyon National Recreation Area.

Photo: Randall Skeirik

Glen Canyon National Recreation Area (GLCA)

Vanishing Treasures Staff

**Lynn Wulf, Archaeologist
FY 2002 Position**

In FY 2006 Lynn continued her oversight of the Vanishing Treasures (VT) program in the park. Staff limitations required Lynn to spend much of her time completing condition assessment documentation for the archaeological site monitoring and condition assessments directives of the National Achievement Goal for the List of Classified Structures (LCS) Database and for the Archaeological Site Management Information

System (ASMIS) Corrective Action Plan (CAP). Lynn designed a field program that included ASMIS, LCS and VT archaeological sites in need of evaluation and condition assessments, and she coordinated volunteers and project staff to successfully execute the field work. Lynn then completed the associated office documentation and database updates resulting in Glen Canyon meeting all national database update objectives.

Lynn's project responsibilities included coordinating the finalization of the Phase I final report and the initiation of Phase II of a Colorado Plateau Cooperative Ecosystem Study Unit (CPCESU) contract with Northern Arizona University (NAU) for a condition assessment and evaluation of structural sites located in the Escalante River system. Also, Lynn's management duties included

initiating and coordinating the efficient operation of the Park's Law Enforcement Archaeological Site Monitoring program.

Lynn's office duties included organizing and designing park documentation, conducting research, completing field projects, authoring reports, completing PMIS proposals, and overseeing data management operations. Lynn authored the Scope of Work for a proposed Vanishing Treasures contract project that is part of a large-scale program emphasizing preservation and detailed documentation of structural sites in Glen Canyon. Acting as Contracting Officer's Technical Point of Contact (TPC) for ongoing contracts, Lynn provided assistance for compliance issues and managed cultural resource geographic information system (GIS) operations. Lynn's various duties included supervising the project activities of

NAU students and volunteers, and establishing communication and coordination with park project staff.

Project results have provided invaluable information on the multiple levels of impacts to cultural resources that are related to public visitation associated the change in distance to site locations resulting from changing lake levels. It was revealed that sites that are within two kilometers of the lake are often in poor condition. Conspicuously, the better maintained sites close to the lake shore have been treated with great care and respect by visitors. Impacts resulting from unregulated public access included vandalism, looting, collection, inadvertent damage, and visitor assisted coursing all remain a problem at Glen Canyon.

In addition to visitor related impacts, varying levels of impact to cultural resources caused by grazing activities are also being analyzed by Glen Canyon staff. Initial investigations documented that existing livestock trailing through archaeological sites have resulted in widespread site gulying, vegetal pedestalling, and general surface destabilization that is exacerbating sheet washing effects. Destruction of structural components as a result of livestock activity was also noted with the collapse of walls that is likely the result of bedding, scratching and leaning activities. Lower linear features were also found to be prone to damage when located in livestock travel routes.

Lynn hopes to initiate a management determination to develop park-wide baseline documentation (including annotated AutoCAD maps of stabilization and impact episodes) for specific VT sites, develop cyclic maintenance plans with recommendations for preservation treatment, develop or update graphic and descriptive databases, implement treatment, and compile reports for these activities.



*Kaiparowits Heli Trip – Bureau of Reclamation helicopter landing on the outskirts of project site.
Photo: Courtesy Glen Canyon National Recreation Area*

She would also like to develop projects to maximize information gathered on pre-historic structures including construction techniques and material dating, to utilize this information to better understand the nature and distribution of structural site types within the park, and to develop a system to test for patterns in the occurrence of various structure types through time.

Glen Canyon completed a 100% update of both their ASMIS and LCS databases this year.

Lynn is skilled in the use of AutoCAD, ArcGIS, and graphic design applications, as well as photography and could assist other parks with work in these areas.

Vanishing Treasures Project Funding

Project Name: Condition Assessments in the Escalante River System

Project Summary: Since 1986 the park has monitored close to 200 sites on a rotating basis using a relatively brief and subjective documentation format. Monitoring work was suspended in 2002 so that those methods and their results could be evaluated. Although a statistical analysis has not been performed, we have generally found that sites are deteriorating and disappearing at an alarming rate. The primary impact agent appears to be visitors, in both the front country (where access is by boat) and many areas of the back country (especially in the canyons where hiking is extremely popular).

As described in the park's draft Historic Preservation Plan, our new approach to the management of these sites will include a much more detailed documentation strategy that will be followed by fabric treatment. The extra time spent in producing detailed documentation and structure drawings will be considered part of the overall treatment process in that this information will greatly assist with future monitoring and maintenance activities, document the stabilization history of a structure, and provide a detailed record of the structure in the event of catastrophic loss.

Recent advances in analytic techniques such as mortar analysis, detailed documentation, and tree ring dating have expanded the research potential of historic materials and opened the door to studies of the growth and development of social groupings. The relative isolation of riparian canyon environments in Glen Canyon makes them an ideal place for such research, and places added emphasis on the preservation of structural remains.

Project Budget: \$58,100

- **Vehicles:** \$0
- **Travel/Training:** \$573
- **Supplies/Materials:** \$1,194
- **Equipment:** \$1,184
- **Services/Contracts:** \$5,008
- **Other:** \$0

Project Accomplishments: Within the context of the larger project, four smaller projects were executed in different areas of the park. They included:

Condition Assessments in the Escalante River System (\$3,000)

Vanishing Treasure project funds were used to finalize Phase I and initiate Phase II of the Condition Assessment in the Escalante River System. The objectives of this two phase CPCEU contract with Northern Arizona University included: 1) Prevent catastrophic loss through critical needs identification, 2) Achieve VT program goals, 3) Develop evaluation, prioritization and stabilization recommendations, 4) Achieve park condition assessment goals, 5) Record previously undocumented structural sites; and 6) Collect samples and perform radiocarbon dating for comparative chronological feature assessments to determine relative chronology for the different storage methods used in the Escalante River area.

Lake Condition Assessment Trip (\$2,705)

Vanishing Treasures funds were also used to conduct a lake-wide condition assessment trip, that included seven key structural sites located in six high visitation side canyons of Lake Powell. This trip resulted in the completion of condition assessments for the seven project sites, and initial scoping for contract proposals for completion of cyclical maintenance and treatment plans. All project sites were identified as requiring immediate (within two years) stabilization activities. The majority of impacts were a result of visitation, however two sites were found to have severe natural erosion effects which are contributing to site loss and creating visitor safety hazards.

Kaiparowits Backcountry Condition Assessment Trip (\$5,944)

Glen Canyon's enabling legislation allows livestock permitting and, as a result, grazing impacts are of concern to archeologists. In FY 2006, Vanishing Treasures funds were used to conduct a condition assessment backcountry trip on the Kaiparowits Plateau. This plateau has long been recognized as an area heavily utilized by prehistoric inhabitants in the Glen Canyon region, and site density is estimated to be between 50-70 sites per square mile. Due to the difficulty

of accessing this remote location, several Division of Resource staff pooled funds to facilitate transportation to this location by means of a helicopter. Park Archaeologists accomplished condition assessments for 27 sites revealing impacts resulting from both visitation and natural erosion. The predominant impacts were found to be from cattle grazing, including cattle trailing through sites and seeking shade in alcoves, bedding against structures or within work areas, churning midden deposits (up to 10-15 cm in depth), and changing the composition of soil organic matter (SOM) with concentrated urine and manure deposits.

The Cow Canyon Backcountry Condition Assessment Trip (\$7,760)

Finally, Vanishing Treasures funds were used to a conduct condition assessment backcountry trip in the Cow Canyon Wilderness Area. Archaeological sites in Cow Canyon have a great deal of integrity and are considered among the most significant resources in the park. This canyon contains 50 pre-historic archaeological sites, half of which contain significant structures, yet none have been stabilized in the last 20 years. This canyon is in an extremely remote location, and under normal conditions has only one land access route. Currently, the low water level of Lake Powell makes the land access route



Cow Canyon Condition Assessment crew including Brian Culpepper (Navajo National Monument Archaeologist), Chris Kincaid (GLCA Archaeologist) and Thann Baker (Northern Arizona University Graduate Student Volunteer).

Photo: Courtesy Glen Canyon National Recreation Area



Horseshoe Bend, Glen Canyon National Recreation Area.

Photo: Randall Skeirik

impassable, so the only access was through the use of helicopter. The Glen Canyon staff Archeologist, Navajo National Monument Archaeologist Brian Culpepper, and Northern Arizona graduate student volunteers conducted condition assessments of 23 sites here revealing unexpected impacts resulting from visitation and advanced erosion issues.

VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

Consultation: Both the Kaiparowits and the Cow Canyon project areas were within wilderness boundaries, and in areas with high site densities. As a result, all participating park staff completed National Environmental Policy Act consultation.

Safety: Because of the remoteness of the locations visited during FY 2006, a helicopter was needed for transportation on two of the projects. This posed a special safety issue, and all project participants were required to complete Department of the Interior Helicopter Safety Training prior to begin-

ning the project. In addition, a Minimum Requirements Decision Sheet was developed in which all safety measures and project activities were identified and discussed. In the field, the archaeologists conferred with the helicopter pilot to coordinate safe landing areas that would avoid disturbing archaeological sites. Several of the sites that were surveyed were located in the upper elevations of high Navajo Sandstone Cliffs and were abutted by steep talus slopes presenting additional safety issues for the surveyors.

Training: In March, Lynn attended two intensive SketchUp training sessions in Albuquerque, New Mexico. SketchUp is a 3D modeling program, developed for conceptual stages of design and for easy realistic 3D model representation. This training will be utilized in integrated archaeological site modeling projects using ArcGIS and AutoCAD.

Challenges: Several of the talus slopes were identified as unstable, in two cases resulting in the destabilization of the floor of the alcove containing the archaeological sites. Action is being taken to identify talus slope stabilization options in these locations to ensure both safety and site protection issues.

Golden Spike National Historic Site (GOSP)

Vanishing Treasures Staff

Bret Guisto, Archeologist
FY 2005 Position

Bret is an industrial archeologist specializing in western industrial adaptation and railroad technology. He brings to the park a preservation specialty for western historical archeology associated with railroads, mining, military construction, and settlement patterns that resulted from industrial expansion in the West. During his time at the Park, Bret has expanded his preservation knowledge into the areas of wooden railroad structures and dry laid stone masonry. FY 2006 was the first complete year for Bret at Golden Spike and he spent the year doing program development, site assessments, and structure preservation. Prior to Bret's arrival, Golden Spike did not have a full-time cultural resource program so there was a focus on establishing program files, and purchasing equipment and research material. Bret visited all of the sites in the park to become familiar with the resources, and he conducted condition assessments to meet NPS standards. Bret also worked closely with Sayre Hutchison, Historical Architect at the Intermountain Regional Office, to evaluate the ongoing preservation and stabilization work currently being executed by the maintenance division at Golden Spike. During the site visits, additional concerns were identified, and procedures were established for all of the structures associated



Union Pacific locomotive No. 119 crossing the Big Trestle in May 1869.

Photo: The Oakland Museum of California with the railroad grades. Several wooden structures were treated to prevent wood decay and new updated termite traps were installed near wooden culverts.

An inventory of current preservation, stabilization and reconstruction material was conducted for materials that have been purchased with year end monies over the last five years. Material and railroad hardware was evaluated for both condition and historical accuracy for use in proposed VT projects. It is a challenge to find replacement wood to match historic material that is no longer structurally stable, and to find historically accurate railroad hardware appropriate to the varying periods of construction along the railroad grades. A foundry in Ohio has been able to replicate period trestle hardware and salvaged hardware and trestle timber has become available as a result of the removal of the 1906 Lucin Cutoff trestle near Promontory Point.



*Repairing a historic trestle, Golden Spike National Historic Site.
Photo: Courtesy Golden Spike National Historic Site*

In FY 2007 the primary goal of the VT program will be to focus on the stabilization of the historic trestles along the east grades. In addition, an extensive evaluation of worker camps will be conducted to develop long term preservation plans. This will include the creation of a database to record each of the approx-

imately 700 structures located in 57 sites, and the use of survey equipment to map construction and settlement patterns along the grade. The park will also be working on reconstructing and stabilizing deteriorated drainage structures that threaten most of the historic structures along the railroad grades.

VANISHING TREASURES PROJECT FUNDING

Golden Spike did not receive Vanishing Treasures project funding in FY 2006 however, the following amounts were devoted to VT resources from the park's base budget.

Project Budget:

- **Personnel:** \$66,021
- **Vehicles:** \$4,935
- **Travel/Training:** \$4,700 (IMR support from Adrienne Anderson, Sayre Hutchison, and Clayton Frazier)
- **Supplies/Materials:** \$12,684 (wood preservation materials, research books, historic hardware, aerial photographs, excavation/inventory equipment, special collection cabinets, and replacement trestle wood)
- **Equipment:** \$409
- **Services/Contracts:** \$3,714
- **Other:** \$115

VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

Challenges: A major challenge facing Golden Spike is the preservation of unimpaired viewsheds as adjacent landowners develop their properties. The linear nature of the Park hinders the preservation of the cultural landscape, and maintaining the open vistas of 1869 will be challenging.

Southeast Utah Group (SEUG)

The Southeast Utah Group is comprised of Canyonlands and Arches National Parks, and Natural Bridges and Hovenweep National Monuments

VANISHING TREASURES STAFF

Melissa Memory, Archeologist
 FY2002 Position
 Canyonlands National Park

During FY 2006, Melissa continued in her role as Project Director for the third year of the Vanishing Treasures funded River Corridor Architectural and Rock Art Survey

project at Canyonlands National Park. She supervised the collection, compilation, and analysis of data collected during all three years of fieldwork and began preparation for report writing. Sadly, Melissa left the Southeast Utah Group in September to become the Cultural Resource Program Manager at Everglades National Park. Her VT-funded position will continue to be filled by a Term position for the foreseeable future.

Pat Flanigan, Exhibit Specialist
 FY2002 Position (*Converted to Subject-to-Furlough*)
 Canyonlands National Park

In FY 2006, Pat spent much of his time performing site documentation and updating

condition assessments on Vanishing Treasures resources in Canyonlands. Pat also assessed the impacts of a termite infestation at the Wolfe Ranch Cabin and Dugout in Arches National Park, and he supervised the termite eradication project.

Pat continued the task of updating List of Classified Structure (LCS) records, updating documentation and condition information, acquiring determinations of eligibility for four previously listed and three new LCS sites in the Island-in-the-Sky District of Canyonlands, and entering associated information into both the Archeological Sites Management Information System (ASMIS) and the LCS databases. Pat also updated data for eight LCS sites in the Island-in-the-



Cajon, Hovenweep National Monument.
 Photo: Randall Skeirik

Sky District and monitored three Vanishing Treasures sites in Arches National Park, updating their documentation, performing condition assessments, and entering the information into the park and ASMIS databases.

Pat developed a program to optimize the utilization of volunteer expertise of for projects in Arches, and he supervised a crew from the Canyon Country Conservation Corps on projects in both Arches and in the Needles District of Canyonlands.

Finally, Pat contributed to the River Corridor Architecture and Rock Art Survey in Canyonlands National Park.

**Noreen Fritz, Archeologist,
FY 2003 Position
Hovenweep National Monument**

During FY 2006, Noreen completed a variety of projects related to VT resources. A report on condition and recommended treatments for structures at Bare Ladder Ruin in Natural Bridges National Monument was completed. This report related to the VT-funded condition assessment project carried out in FY 2005 in collaboration with the Hopi Foundation.

Six LCS records for structures at Natural Bridges National Monument were updated, completing all LCS records for the monument. In addition, 13 LCS records were updated at Hovenweep National Monument, including the completion of new site forms for submittal to the SHPO for Determinations of Eligibility. All data was entered into the LCS, ASMIS, and park-based databases, and all 19 of these records have been certified.

Targeting sites with unknown condition in ASMIS, Noreen updated 12 site records at Natural Bridges as part of the Corrective Action Plan. Four of these sites were condensed into one for management purposes, bringing the level of recording up to contemporary standards. At the same time, several of the sites were found to be more complex and extensive than the original 1960s documentation indicated significantly complicating the task of documentation and condition assessment. Once fieldwork was completed, the sites were entered into the park-based database and the appropriate ASMIS records were updated.

Noreen also served as the co-lead on two Sierra Club work trips in the Needles District of Canyonlands National Park where she assisted the participants in mapping and updating documentation on a number of sites. Noreen visited the Goodman Point Unit

of Hovenweep National Monument where the Crow Canyon Archaeological Center is undertaking a testing project in partnership with Hovenweep National Monument. Noreen monitored the ongoing project and assisted staff with site mapping.

Noreen will continue to update site documentation and condition assessments on VT resources primarily at Hovenweep and Natural Bridges and will implement preservation treatments where needed.

**Laura Martin, Exhibit Specialist
FY 2004 Position (Converted to Subject-to-Furlough)
Hovenweep National Monument**

In FY 2006, Laura continued to participate in the River Corridor Architectural and Rock Art Survey project at Canyonlands National Park where she mapped and recorded baseline architectural data, performed condition assessments, and made recommendations for treatment of VT resources. Laura was specifically responsible for establishing accurate horizontal permanent control at sites that were recommended for treatment interventions or monitoring. As a result of her work, 113 permanent monuments have been installed within at-risk VT resources along the Colorado and Green River corridors within Canyonlands NP that will provide sub-meter accuracy for future mapping, monitoring, stabilization, and photo documentation work.

Building on last year's work, Laura continued to produce digital planimetric and elevational drawings to provide baseline documentation for assessed VT resources within both Canyonlands National Park and Hovenweep National Monument. She successfully integrated Global Positioning System (GPS) collected

spatial data on VT resources at both Canyonlands and Hovenweep into the Park's Geographical Information System (GIS) database, and continued to update the Southeast Utah Group's cultural layer dataset. Laura also continued performing condition assessments of structures at the Cajon unit of Hovenweep National Monument, and at sites within Natural Bridges National Monument. She assisted in the update and completion of the Corrective Action Plan for the ASMIS database for both Canyonlands National Park and Natural Bridges National Monument.

Currently, Laura is working on synthesizing data for the final report of findings from the River Corridor project at Canyonlands National Park. She will also continue to complete condition assessments, and to compile stabilization histories and previous documentation of the Cajon unit at Hovenweep National Monument, in preparation for a stabilization project to be started in the spring of 2007.

During FY 2006, Laura completed a four day workshop on compliance documenta-



*The Stone Cabin, Arches National Park.
Photo: Randall Skeirik*



Melissa Memory and Sue Eninger document a modern-era rock shelter, Canyonlands National park.

Photo: Randall Skeirik

tion requirements of the National Historic Environmental Policy Act and Section 106 of the National Historic Preservation Act of 1966 conducted by the Intermountain Region of the National Park Service. She also took part in a class exploring field methodologies that utilize GPS technology and the software application Pathfinder Office, and a training session on the operation of the Trimble GeoXT GPS unit that was organized and hosted by the Dolores Field Office of the U.S. Forest Service.

VANISHING TREASURES PROJECT FUNDING

Project Name: Complete River Corridor Vanishing Treasures Condition Assessment Canyonlands National Park, Utah

Project Summary: During the course of a two-year project begun in 2004, funded by Fee Demo money, and designed to document and complete condition assessments at prehistoric architectural sites along the Colorado and Green River Corridors, a number of additional sites were discovered that could not be dealt with in the two-year time frame conceived for the original project. This one-year project provided Vanishing Treasures funds to complete condition and site documentation on those unrecorded sites.

Project Budget: \$106,100

- Personnel: \$63,778.00
- Vehicles: \$0
- Travel/Training: \$3,742.00
- Supplies/Materials: \$20,179.00

- Equipment: \$2,537.00
- Services/Contracts: \$7,833.00
- Other: \$8,031.00

Project Accomplishments: Archeological sites along the river corridors have been destinations for river outfitters since before Canyonlands was established however, no baseline data existed through which to place these resources into larger archeological and interpretive schemes, or to gauge the extent of impacts that visitation and natural impacts have had on the sites. This survey was the first project at the Park to integrate Sec-

tion 110 inventory goals with the baseline condition assessment information needed to develop and implement a comprehensive ruins preservation program. The methodologies, procedures and logistics developed for this project have now been standardized for all archeology projects conducted within the SEUG parks. With this information, treatment recommendations will be made and priorities established.

One-hundred and twenty sites were documented as part of this project, resulting in condition assessments of over 240 individual structures. Four contractors were hired, one each to perform lithic, ceramic, and corn analysis, and a fourth for database support. Significant research results included the recognition of previously unknown site sites, and the discovery of undocumented site types, architecture, and rock art styles including the first documented presence of the Fremont culture in the area.

This information will be disseminated to the public through park interpretive programs, on our website, and in a planned public information bulletin. Management results include the identification of heavy visitor impacts such as unauthorized collecting of artifacts, active and ongoing graffiti problems, social trailing, and wall disturbance caused by both visitor activities and natural erosion. Additional funding has been requested through the Vanishing Treasures program to deal with immediate preservation needs along the River Corridors.



Fort Bottom Cabin, Canyonlands National park.

Photo: Randall Skeirik

Zion National Park (ZION)

VANISHING TREASURES STAFF

Zion has not received any permanent base increases to fund a Vanishing Treasures position.

VANISHING TREASURES PROJECT FUNDING

Project Name: Document and Prepare Treatment Strategies for Sites in Parunuweap Canyon

Note: This project was partially funded in FY 2005 with the remainder of funding received in FY 2006. Accomplishments reported here account for the work completed in both FY05 and FY 2006. Between both field seasons, the project as originally planned has been completed.

Project Summary: The abundance and condition of prehistoric sites in Parunuweap Canyon led to its inclusion in Zion when it became a National Park in 1918. In the 1930s, Civil Works Administration (CWA) crews excavated six sites within the Park boundaries of Parunuweap Canyon but neglected to backfill the structures. In addition

to these early excavations, visitor use, guided horse tours, and vandalism continued to heavily impact many of the sites until the canyon was designated as an archaeological district in the National Register of Historic Places in 1996, and then managed as a Research Natural Area (RNA) since 2000. Although many of the sites have been sporadically documented between 1933 and 1986, it was not until the early 1990s that all of the sites in Parunuweap Canyon were recorded. This documentation, however, was minimal, consisting only of the standard IMACS (Intermountain Antiquities Computer System) form; no condition assessments, preservation recommendations or treatments were completed. Minimal condition assessments and stabilization projects were conducted on six of the sites in 1994 and 1995, and since that time monitoring crews have noted the continuing deterioration of both unstabilized and stabilized features.

The purpose of this project was to conduct architectural documentation on these sites starting with the lower part of Parunuweap Canyon in the first field season, and the remaining sites in the upper part of the canyon in the second. As a result, we have determined that the deterioration is primarily the result of human caused impacts rather than natural processes. Parunuweap Canyon is narrow, steep sided, and highly geologically active, and erosional processes work rapidly on the natural landscape. This has produced the usual and expected impacts to these sites. However, the combination of these natural factors coupled with poor management decisions (leaving the excavated sites open, exposed, and not backfilled for 60 years) has resulted in many features being reduced to a degraded state.

Project Budget: \$64,600

- Personal: \$58,227
- Vehicles: \$1,531
- Travel/Training: \$1,480
- Supplies/Materials: \$2,417
- Equipment: \$0
- Services/Contracts: \$613
- Other: \$0

Project Accomplishments: VT funding for FY 2006 was used to hire three seasonal archaeologists and a mason to execute the project. Work included extensive archival research to locate and compile records of past activities and treatments at all of the project sites. As a result, we now have a complete record of all documented activities that have occurred at each site easily accessible in the site file folder. These records are cross-referenced to pertinent documents (and objects) with Automated Na-



*Bottom of the Canyon Road running through Zion Canyon, Zion National Park
Photo: Randall Skeirik*

tional Catalog System accession numbers and document locations in our park libraries or other files. We identified information gaps and missing objects, most of which have now been rectified.

Architectural documentation this year was completed at five of the remaining sites, making a total of 15 sites documented in both years of the project. This documentation has not only provided a comprehensive record all of the project sites, but is also being considered as a form of treatment. All of the data collected have been entered into the Zion Architectural Documentation database, an Microsoft Access based program. The information recorded as part of this project includes a formatted, detailed feature description, current condition information, and treatment recommendations. Systematic photography has provided clear, concise imagery establishing reference conditions for each feature. Legacy data, consisting of the original IMACS forms, have been updated and inaccuracies and deficiencies in the original site recording have been rectified with new architectural documentation data. Site locations are now accurately documented through systematic Global Positioning System position collection, and existing cultural site coverages have been updated. We have also created new Geographical Information System coverage for these sites with attribute data that will specifically track existing and future conditions and preservation treatment needs. Archeological Sites Management Information System records for all for the project sites have also been updated.

As a final product of this project, preservation plans and treatment recommendations have been developed for each site. Along with specific treatment recommendations for site features, a key element in the preservation plan is regular, consistent monitoring. Zion's Archeological Site Monitoring program will facilitate this monitoring, assuring that appropriate documentation is maintained and sites are preserved.

Project Name: Architectural Documentation of Five Historic Irrigation Ditches in Zion Canyon

Project Summary: This project involved the complete and systematic documentation of existing archaeological features and linear components associated with five historic period irrigation ditch alignments in the main canyon of Zion National Park.

The construction and maintenance of irrigation ditches was essential to the development of agriculture in the small Mormon



Alcove site 42WS122, also called the Granary Site, a prehistoric Ancestral Puebloan site in Parunuweap Canyon. These are challenging structures for completing architectural documentation. They are precariously pedestaled on a large boulder within the alcove and are covered with fragile mud plaster.

Photo: Courtesy Zion National Park

settlement north of Springdale, Utah in Zion Canyon. With the North Fork of the Virgin River as the main water source, four ditches and their diversion dams were constructed by pioneer settlers during the latter part of the nineteenth century. A fifth ditch was built on the west slope of the canyon circa 1920, but was abandoned shortly thereafter as it failed to retain water. The Civilian Conservation Corps (CCC) contributed to the modernization of the ditch system by building new diversion dams and lateral systems for two of the ditches during the 1930s.

The 2006 Historic Ditch Architectural Documentation Project was undertaken to compile archival records, produce comprehensive documentation of the extant masonry walls, other remaining historic features, and linear aspects of these irrigation ditches, to rectify the histories of each ditch, and to update the Park Service and regional databases with this new information. Among the five sites, 265 features were documented and approximately 13.7 kilometers of overall ditch alignments were mapped utilizing two seasonal archaeologists hired with VT funds.

Project Budget: \$54,300 allotted; 51,866 spent

Note: The bulk of the unspent balance was originally programmed for employee lump sum payouts (expected to be approximately \$1,800) and one month of vehicle costs (estimated \$450.00). The employees were retained in other programs and no lump sums were

paid; the vehicle costs were covered by the Fire Program for wildland firefighting.

- Personal: \$46,127
- Vehicles: \$1,992
- Travel/Training: \$0
- Supplies/Materials: \$1,237
- Equipment: \$1,871
- Services/Contracts: \$461
- Other: \$176

Project Accomplishments:

Irrigation systems were and are essential for agriculture in the arid landscape of southwestern Utah and the building of dams and the digging of ditches was of the highest priority for the first settlers in this area. The farms of Zion Canyon depended on irrigation ditches to produce consistent yields from year to year. For this reason, the documentation of historic irrigation ditches in Zion Canyon is vital to understanding the history of recent human settlement in Zion National Park. The extant features of these ditches, mostly masonry retaining walls, are the last remaining architectural features constructed by the early settlers of this canyon. Knowledge gained from this documentation assists with the overall understanding of land use patterns, construction techniques, and labor requirements during both the pioneer settlement period and the Park Service development era of Zion Canyon.

Although a variety of archaeological docu-

mentation projects have been performed both by the Park Service and by private contractors, the remaining individual and linear features of each ditch have never been fully documented. Four of the ditches are currently listed in the National Register of Historic Places and are existing sites in the Archeological Sites Management Information System database (ASMIS), so it was only necessary to add one new site to the ZION ASMIS database. This project established each ditch as an individual archaeological site and assigned individual state site numbers.

Each site was thoroughly documented by:

- Searching archival records, including previous archaeological documentation and an oral history by J. L. Crawford*
- Collecting Global Positioning System data on all complete ditch alignments and on all features, and using that data for the preparation of accurate baseline maps
- Preparing detailed descriptions and photographic documentation of each feature
- Drawing plan and elevation maps of noteworthy examples of historic retaining walls and drop structures
- Identifying critical areas of deterioration and developing site specific plans for future treatment and long-term management



Wooden flume structure spanning a wash, historic Pine Creek irrigation ditch
Photo: Courtesy Zion National Park

After the fieldwork and archival research was completed this documentation project resulted in five products:

- Formal archaeological site documentation including producing new, and updating previously completed, Intermountain Antiquities Computer System (IMACS) site forms and ASMIS records and databases

- A detailed report of the existing architectural features including interpretive data

- Highly accurate geographic data and updates to Geographical Information System (GIS) cultural base map coverages

- Graphic base data (photographs and plan and elevation drawings) for tracking resource condition and modifications to original fabric through time

- A preservation treatment plan for each site

In keeping with the comprehensive nature of Zion's cultural resource management program projects, this project encompassed significant archival and oral history components. The majority of archives that were used in this project were located in the Cultural Resource Management office, Resource Management and Administration libraries, and park archives. Other sources used for this project include the Technical Information Center (TIC), Midwest Archaeology Center (MWAC), the Utah Water Rights website, and Division of State History/Utah State Historical Society website.

* J. L. Crawford, who was born in Oak Creek Village prior to the establishment of Zion National Park, and whose family built and maintained two of these ditches, spent many hours assisting our research team through several interviews. His personal knowledge of the layouts, construction and maintenance of the ditches during the early 20th century provided invaluable data that could not be obtained from any other source. His unpublished paper "Up the Ditch" was the primary source for information regarding the distribution of irrigation water among the various farms in the area and the difficulties of maintaining ditches on the steep talus slopes of Zion Canyon.



A Parshall Flume in the historic Flanigan irrigation ditch. This structure measures water volume.

Photo: Courtesy Zion National Park

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

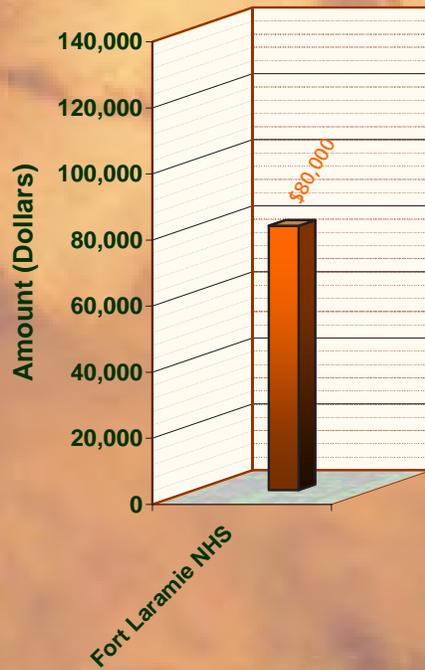


The unmarried officers quarters known as “Old Bedlam”, Fort Laramie National Historic Site. Photo: Courtesy Fort Laramie National Historic Site

◆ Fort Laramie National Historic Site ◆

**FY 2006 VANISHING TREASURES Funding
for
WYOMING Parks**

- Project Funding
- Personnel Funding (FY 06 Only)



Wyoming

Fiscal Year 2006 Funding Summary

Project Funds:

No Utah parks received personnel funding

Personnel Funding:

Fort Laramie National Historic Site, \$80,000

Fort Laramie National Historic Site (FOLA)

VANISHING TREASURES STAFF

Note: Fort Laramie received a one-year base increase of \$80,000 to fund seasonal employment.

Trenton Robinson: Seasonal Maintenance Worker (Lime Grout), Travis Wolfe: Seasonal Laborer (Lime Grout), Rick Miller: Seasonal Laborer (Lime Grout)

FY 2006 One-Year Positions

Due to the climate and the resulting short duration of seasonal employment in Wyoming, Fort Laramie was fortunate to have skilled preservation workers available to help protect and preserve the unique and stately ruins of this frontier fort on the High Plains. Working as a team, Trenton, Travis and Rick applied lime grout to stabilize 5 historic ruins, the Post Hospital, Officers Quarters B, C, and D, and the Post Bakeries.

They also provided preservation support for FOLA museum staff during the interior rehabilitation of the Sutler's Store (HS-02), the second oldest standing building in Wyoming, where the crew was called upon to apply whitewash to the original interior plaster.

If funding is made available to rehire this seasonal crew, they have experience in the application of lime grout/stucco surfacing with variable surface finishes, color matching, and matching of lime grout texture, and could share this expertise with other parks.

VANISHING TREASURES PROJECT FUNDING

Fort Laramie did not receive Vanishing Treasures project funding in FY 2006. The one-year base increase was expended in the following categories:

Base Increase: \$80,000

- Personnel: \$27,049.25
- Vehicles \$00.00



Fort Laramie National Historic Site

Photo: Courtesy Fort Laramie National Historic Site

- Travel/Training \$935.60
- Supplies/Materials \$18,988.92
- Equipment \$32,107.90
- Services/Contracts \$00.00
- Other \$00.00

On August 29, 2006 Preston Fisher, Vanishing Treasures Program Structural Engineer, traveled to Fort Laramie to discuss concerns and make recommendations for three historic structures there. He met with Facility Manager Linda Richards and Superintendent Mitsi Frank. They observed conditions at, the Ice House (HS-32), Cellar HS-33, and Cellar HS-34. The stone and lime masonry walls of these three structures are about five feet below grade and pressure from the surrounding earth is bowing the walls inward five inches or more. This threatens to cave in the walls, totally destroying these structures.

HS-32 Ice House

The Ice House is a below grade stone and lime mortar structure approximately 6 feet wide by 8 feet long. The walls, approximately 5 feet tall and completely below grade, are being forced inward by the lateral pressure of the earth behind the walls. Adjacent to the doorway in the center of the northeast wall some of the upper portions of the walls have collapsed. Earthen material is being washed into the structure from all sides, es-

pecially from the northeast wall through the doorway.

HS-33 Cellar

This cellar is a below grade stone and lime mortar structure approximately 6 feet wide by 8 feet long. The exposed walls are approximately 3 feet tall and all below grade. As with the Ice House, the walls are being forced inward by the lateral pressure of the earth behind the walls, and the upper portions of the walls have collapsed adjacent to the doorway in the northeast wall of the structure. Earthen material is being washed into the structure from all sides, especially from the northeast wall through the doorway.

Discussions included the possibility of erecting exterior wall supports on the two longest walls at each of these structures similar to those in use at Fort Union National Monument in New Mexico. A bearing plate could be installed against the portion of the wall with the greatest bulge or lean and a metal support post could be wedged against the bearing plate at approximately a 45 degree angle with the bottom of the post anchored to the ground on another bearing plate near the base of the opposite wall. Although this might be somewhat visually intrusive, this would certainly keep the walls from collapsing until more funding can be obtained for a more comprehensive solution such as that proposed under PMIS Project 116581. We also discussed the possibility of sloping the fill adjacent to the tops of the walls away from the structures to direct runoff away from the structures.

VANISHING TREASURES ACCOMPLISHMENTS AND CHALLENGES

Consultation: Representatives of the Wyoming State Historic Preservation Office and



Fort Laramie as it appeared in 1870

Photo: Courtesy Fort Laramie National Historic Site

State Archeologists Office visited the Fort and were taken on tour of the Fort and the ruins. Discussions included preservation activities that were included in our joint Memorandum of Understanding, and possible future funding from the Vanishing Treasures Initiative.

In August of 2006, VT Structural Engineer Preston Fisher visited the park. Preston examined VT resources and made recommendations concerning their structural stability. He prepared a report describing the procedure for bracing the interior walls of three structures, and explaining how to monitor structures for lateral movement.

Safety: Fort Laramie NHS is proud to hold a five year no lost time record. Our safety awareness program is an integral part of the maintenance and preservation staff's activities. Weekly tailgate safety sessions are given with staff members presenting various safety topics.

Special Training: Don LeDeaux, an exhibit

specialist in a non-VT, based funded position is currently serving as a member of the Vanishing Treasures Advisory Group and attended the VT Advisory Group meeting and Integrated Pest Management workshop

in Scottsdale, AZ.

Term employee and preservation crew member Greg Dodson attended NEPA/106 training in Cheyenne, WY. Although not in a Vanishing Treasures funded position, Greg brought back information on the importance of compliance and documentation that he shared with other members of the preservation crew.

Vanishing Treasures Employees and Seasonal Maintenance Workers viewed the instructional DVD video "Sandcastles of the Plains: Lime Concrete Buildings at Fort Laramie National Historic Site" which was funded through VT (2004) and produced by Colorado State University.

Challenges: Fort Laramie NHS is testing the use of OH 100 Conservative; manufactured by Prosoco. This product, intended to consolidate and strengthen friable surface materials, is being tested on the ruins surface. These test areas will be monitored over the next few years.



*Trenton Robinson performing stucco repairs, Fort Laramie National Historic Site
Photo: Courtesy Fort Laramie National Historic Site*



*The Ice House showing bowed walls and collapsing walls near doorway.
Photo: Preston Fisher*



Vanishing Treasures

Appendices



Appendix A:
Definition of Vanishing Treasures Resources.....i

¹con·di·tion \ken-'di-shen/noun
Etymology: Middle English condicion, from Anglo-French, from Latin condicion-, condicio terms of agreement, condition, from condicere to agree, from com- + dicere to say, determine - more at DITION
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>

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Terminology.....i



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VT Fiscal Year 2006 Project Funding.....iv

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 Corp (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: 2005				
Representing	Name	Term	Start Date	End Date
AZ	Ann Razor	1 year	Incumbent	May 2006
AZ	Lee Baiza	3 years	5/25/2005	May 2008
CA/NV	Curt Sauer	3 years	5/25/2005	May 2008
CO/UT/WY	Bruce Noble	2 years	5/25/2005	May 2007
CO/UT/WY	Corky Hays	3 years	5/25/2005	May 2008
NM/TX	Glenn Fulfer, Chair	1 year	Incumbent	May 2006
NM/TX	John Lujan	1 year	Incumbent	May 2006

Vanishing Treasures Leadership Committee: 2006				
Representing	Name	Term	Start Date	End Date
AZ	Brad Traver	3 years	1/24/2006	May 2009
AZ	Lee Baiza, Chair	3 years	5/25/2005	May 2008
CA/NV	Curt Sauer	3 years	5/25/2005	May 2008
CO/UT/WY	Bruce Noble	2 years	5/25/2005	May 2007
CO/UT/WY	Corky Hays	3 years	5/25/2005	May 2008
NM/TX	Kayci Cook Collins	3 years	1/24/2006	May 2009
NM/TX	Todd Brindle	2 years	1/24/2006	Aug. 2006
NM/TX	Darlene Koontz	2 years	8/2006	May 2008
IMR	Sande McDermott	Permanent		
PWR	Stephanie Toothman	Permanent		
VT Program	Virginia Salazar-Halfmoon	Permanent		

Vanishing Treasures Leadership Committee: 2007				
Representing	Name	Term	Start Date	End Date
AZ	Brad Traver, Chair	3 years	2006	May 2009
AZ	Lee Baiza	3 years	2005	May 2008
CA/NV	Curt Sauer	3 years	2005	May 2008
CO/UT/WY	Corky Hays	3 years	2005	May 2008
NM/TX	Kayci Cook Collins	3 years	2006	May 2009
CO/UT/WY	Mitzi Frank	3 years	2007	May 2010
IMR	Sande McDermott	Permanent		
PWR	Stephanie Toothman	Permanent		
VT Program	Virginia Salazar-Halfmoon	Permanent		

Appendix D: Advisory Group

Vanishing Treasures Advisory Group: 2005 - 2008				
Name	Representing	Start Date	Term	End Date
Jennifer Lavris	Arizona	November 2005	3 years	November 2008
Angelyn Rivera	New Mexico	November 2005	3 years	November 2008
Dave Evans	Arizona	November 2005	2 years	November 2007
Robert Bryson	CA/NV	November 2005	2 years	November 2007
Sarah Horton	Utah	November 2005	2 years	November 2007
Donald LaDeaux	Wyoming	November 2005	2 years	November 2007
Virginia Salazar-Halfmoon	Chair		Permanent	
Preston Fisher	Ex-Officio		Permanent	
Randy Skeirik	Ex-Officio		Permanent	

Appendix E: Annual and Cumulative funding

Vanishing Treasures Annual and Cumulative Funding

FY 1998 through FY 2006

		VT Program Components			Total VT Program Expenditures	VT Park Base Increases		Total Base Increases	One-Year Personnel Funding ³	Grand Total (Program plus Base)
		Projects	Training ²	Management		Personnel	Additional ¹			
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

Notes:

¹ \$156,000 base increase for one park for personnel and an \$81,000 park base increase.

² 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.

³ In FY 2005 and FY 2006 personnel funding was for one year only and did not represent a permanent increase in park base funding.

Appendix F: VT Fiscal Year 2007 Project Funding					
FY 2007 PROGRAM STATUS					
VANISHING TREASURES PROGRAM-FUND 01					
TOTAL PROGRAM PROJECTED ALLOCAION				\$1,091,000	
Less Region Assessment 1% (\$1,095,000 x .01 = \$10,950)				\$11,000	
TOTAL AVAILABLE				\$1,084,000	
PARK	ACCOUNT NUMBER	PMIS NUMBER		PMIS ALLOCATION	ADJUSTMENT Increase/Decrease
IMRO	7481-0503-CYA	NO#	VT Program Management	\$20,000	
IMRO	7481-0504-CYA	NO#	VT Leadership/Advisory Group Coordination	\$20,000	
IMRO	7481-0505-CYA	NO#	VT Support Staff	\$20,000	
BAND	7127-0601-CYA	114548A	Emergency Conservation Of Frijoles Canyon Cavates FY06	\$0	Cont. Returned \$20,800 Not Funded
MOJA	8386-0601-CYA	103287	Condition Assessment/Treatment Plan For Historic Evening Star Mine Headframe And Related Structures	\$50,000	Returned FY06 funds and received FY07 funding
MANZ	8760-0711-CYA	52861	Excavate, Document And Stabilize Features In Accordance With CLR Recommendations	\$30,000	Region Priority
WACA	7470-0701-CYA	97156A	Architectural Condition Assessment Of Second Fort Site Complex, Walnut Canyon	\$125,000	
BAND	7127-0701-CYA	115758A	Detailed Documentation And Emergency Conservation Of Frijoles Canyon Cavates FY07	\$124,900	
TONT	8680-0701-CYA	115465A	Implement Preservation Treatments At The Upper And Lower Cliff Dwellings, (Phase I)	\$120,000	
CHCU	7400-0701-CYA	114682A	Complete Backfill And Drainage Treatments At Pueblo Bonito	\$106,500	
GRCA	8213-0701-CYA	115234A	Complete Condition Assessments Of Architectural Sites In The Clear Creek Drainage	\$26,700	
AZRU	7380-0701-CYA	116255A	Stabilize East Ruin	\$70,100	
SAPU	7260-0701-CYA	117133	Documentation And Development Of Treatment Strategies For The Abo Mission Complex.	\$125,000	
WUPA	7470-0702-CYA	97163A	Condition Assessment Of 23 Architectural Sites In WUPA Front Country	\$121,900	
GLCA	1445-0601-CYA	116047B	Assess Condition And Perform Cyclic Maintenance At Seven Sites In Glenn Canyon (VT) Year Two.	\$58,400	
SAAN	7600-0701-CYA	75068A	Preservation Documentation At Mission Espada	\$31,600	
PECO	7500-0701-CYA	73055A	Stabilize Architecture At Pigeon's Ranch	\$33,900	Requested \$43,000
CANY		115478A	Stabilize Threatened VT Sites In The River Corridors		Requested \$125,000 Project Not Funded
			TOTAL ALLOCATED	\$1,084,000	
			AMOUNT UNALLOCATED	\$0	
			TOTAL PROJECT FUNDING FOR FY 2007	\$1,084,000	





In Memoriam

Kenny Acord

The year 2006 was a tragic one for the Cultural Resources Division at Navajo National Monument and the Vanishing Treasures Initiative. Archeologist Kenton “Kenny” Acord passed away at his home in Flagstaff on June 30, 2006 after battling bile duct cancer for nine months. He was 36.

Kenny was hired in 2004 as a Student Career Experience Program (SCEP) employee. He worked at the monument while he was enrolled in the Anthropology Department’s graduate program at Northern Arizona University and working on his master’s thesis which he successfully defended in May 2005. He became a permanent employee in September 2005 about the same time he was diagnosed with cancer. In his relatively brief employment at the monument, Kenny worked to compile room histories of Keet Seel, a body of work that has helped to create a foundation for future research at the site. He is missed enormously by his family, friends, and co-workers.



*Kenny Acord with Jimmy Black at Keet Seel in 2005
Photo: Courtesy Navajo National Monument*

Kenny was an avid outdoors enthusiast who enjoyed biking, camping, and all of nature’s wonders. He had a great love of music, an insatiable appetite for reading, and a passion for sports both as a player and spectator. He is survived by his partner, DeeAnn Tracy; his parents Bobby and Anna Acord of Marshall, VA; his sister and her husband Leanna and “Chip” Willard of Wilmington, NC and so many other dear friends and relatives.

Kenny will be remembered as a compassionate, caring, and very loving person. Donations can be made in his name to Johns Hopkins University for Biliary Cancer Research, c/o Dr. Pedram Argani, Johns Hopkins Hospital, Weinberg/Room 2242, 401 Broadway, Baltimore, MD 21231-2410.

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

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

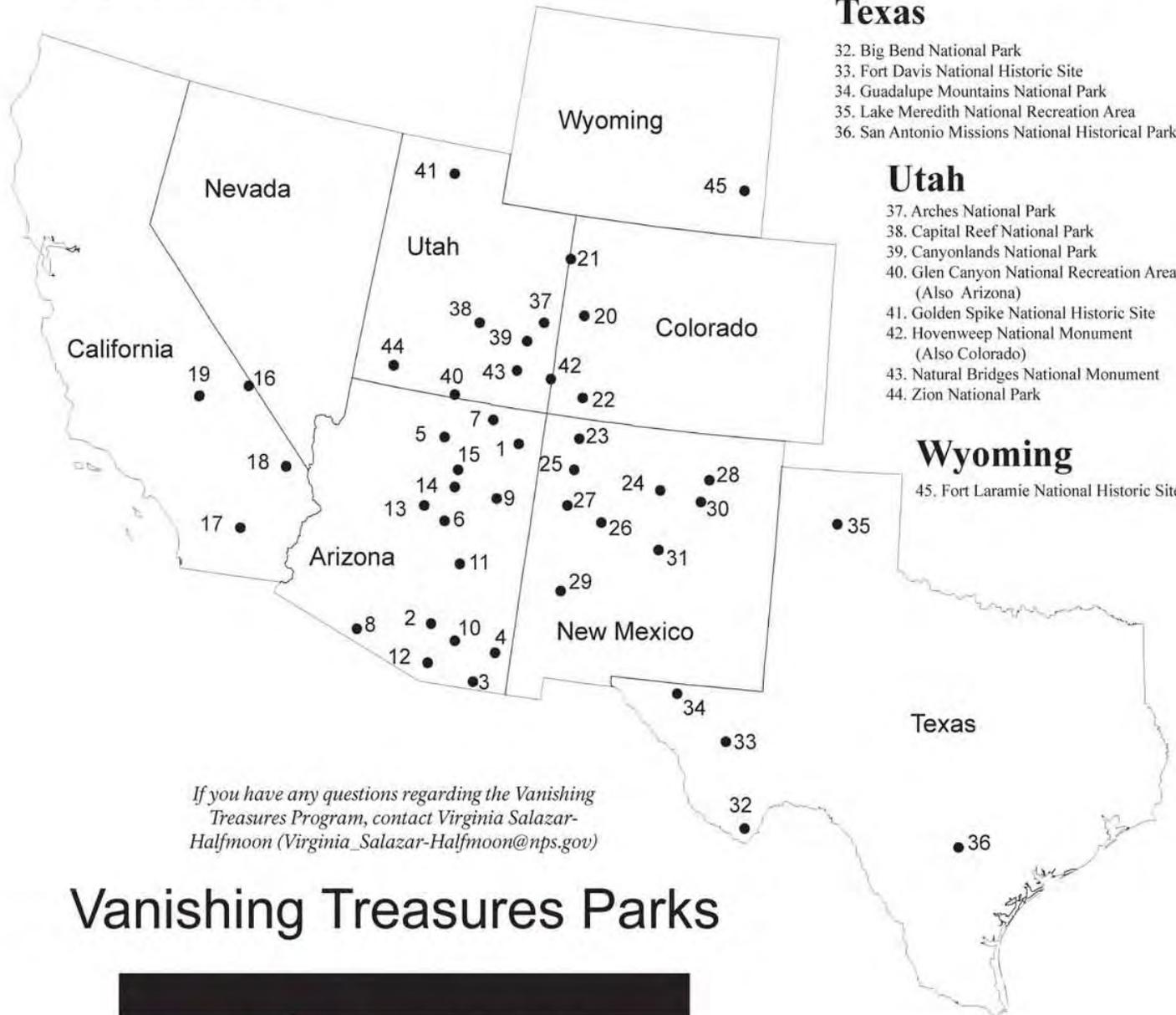
32. Big Bend National Park
33. Fort Davis National Historic Site
34. Guadalupe Mountains National Park
35. Lake Meredith National Recreation Area
36. San Antonio Missions National Historical Park

Utah

37. Arches National Park
38. Capital 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 any questions regarding the Vanishing Treasures Program, contact Virginia Salazar-Halfmoon (Virginia_Salazar-Halfmoon@nps.gov)

Vanishing Treasures Parks

