

ARCHAEOLOGY SOUTHWEST *magazine*

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Archaeology Southwest (formerly the Center for Desert Archaeology) is a private 501 (c) (3) nonprofit organization that explores and protects the places of our past across the American Southwest and Mexican Northwest. We have developed an integrated, conservation-based approach known as Preservation Archaeology.

Although Preservation Archaeology begins with the active protection of archaeological sites, it doesn't end there. We utilize holistic, low-impact investigation methods in order to pursue big-picture questions about what life was like long ago. As a part of our mission to help foster advocacy and appreciation for the special places of our past, we share our discoveries with the public. This free back issue of *Archaeology Southwest Magazine* is one of many ways we connect people with the Southwest's rich past. **Enjoy!**

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What is Preservation Archaeology?

WILLIAM H. DOELLE, ARCHAEOLOGY SOUTHWEST

Simply put, Preservation Archaeology is archaeology for the future. When we practice Preservation Archaeology, we optimize what remains for future exploration and discovery.

Archaeology Southwest staff members coined this term in 2000 to describe our work. We *are* Preservation Archaeologists and we *do* Preservation Archaeology. In our organization, Preservation Archaeology has three parts: pursuing big-picture research questions through low-impact investigative methods, sharing archaeological results with professionals and the public (as with this publication), and actively protecting sites through ownership or conservation easements. By engaging many people with the places of the past, we hope to expand and enrich preservation advocacy, as we learned to do in Arizona's San Pedro valley (see page 16).

Of course, we did not "invent" Preservation Archaeology twelve years ago. It has a deep and complex history, and it is still being developed and refined. As ecologist and wilderness proponent Aldo Leopold wrote in *A Sand County Almanac*, "Nothing so important as an ethic is ever 'written.'" Rather, an ethic evolves "in the minds of a thinking community."

That is how I see Preservation Archaeology—as an evolving ethic that reflects the thoughts and actions of a diverse community of people, all of whom have found meaningful connections to the past.

This double issue of *Archaeology Southwest Magazine* introduces the depth and breadth of Preservation Archaeology. In addition to some historical background, we offer short articles by authors whose work and experiences illustrate various facets of Preservation Archaeology in action.

A historical perspective shows the broadening of the preservation concept. Our reasons for preserving and our choices about what to preserve have changed significantly over the past century and a half. At first, preservation focused on architectural monuments in the east, as when the Mount Vernon Ladies' Association purchased and protected George Washington's estate in 1853. In fact, this nation has a long history of women's leadership in historic preservation, and early archaeological preservation efforts benefitted greatly from tenacious women leaders.

Initial documentation of the Southwest's archaeological sites occurred during military and civil planning expeditions. After the Civil War, westward expansion and settlement brought new residents in direct contact with ruins. Many saw them as resources to exploit: rock and wood construction materials could be reused, and ancient relics could bring sorely needed cash.

By the 1880s and 1890s, reports of looting were increasingly common. Warren K. Moorehead, leader of the 1891–1892 Illustrated American Exploring Expedition party to southeastern Utah,



Visitors to Mesa Verde in 1939 were as filled with wonder as any explorer before or since. PHOTO: RUSSELL LEE, COURTESY OF THE LIBRARY OF CONGRESS

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offered this commentary on the vandalism he observed: “Cowboys and Indians, tempted by the flattering offers made them by traders, have despoiled the ruins and the relics easiest of access.” In time, threats to the many ancient ruins raised concerns in the eastern and western United States.

Two early efforts to protect archaeological sites focused on impressive multistory architectural remains: Casa Grande (see pages 4–5) and the cliff dwellings of Mesa Verde (see pages 6–7). Boston philanthropist Mary Hemenway tapped her political connections to communicate Casa Grande’s dire situation to the United States Congress, which prompted creation of the country’s first archaeological reserve in 1892.

An alliance of Colorado women drew regional and national attention to the need to protect Mesa Verde, which led Congress to establish Mesa Verde National Park in 1906.

Early preservation efforts also highlighted some of the still unresolved tensions that surround ancient artifacts. Many different interest groups were involved. Western residents found economic benefit to selling local artifacts to eastern museums that were scrambling to obtain collections. This trend accelerated after the World’s Columbian Exposition of 1893, which greatly expanded awareness of the Native American history of the West. When museums ceased buying these kinds of collections, sales to the private art market increased, stimulating the ongoing destruction of archaeological sites for profit.

An 1891 conflict over the rightful disposition of artifacts shaped Preservation Archaeology in significant ways (see page 8). Gustaf Nordenskiöld, a Swede with formal scientific training, came to southern Colorado’s Mancos valley in the summer of that year. Guided and assisted by members of the Wetherill family—ranchers whose archaeological explorations are now legendary—Nordenskiöld conducted what was, for that time, quite respectable archaeology. Upon completion of the project, he sought to ship the recovered artifacts back to Sweden. As Nordenskiöld biographers Judith and David Reynolds note, “The idea of a ‘foreigner’ sending relics out of the country had caught fire in Durango.” Although Nordenskiöld prevailed, that proprietary “fire” burned slowly but steadily, and ultimately led to passage of the Antiquities Act of 1906.

The most important voice in crafting the language of the Antiquities Act was that of Edgar Lee Hewett, the first Preservation Archaeologist (see page 5). Because of his foresight, the



The Illustrated American Exploring Expedition to southeastern Utah gathered a modest collection of artifacts that was displayed at the 1893 World’s Columbian Exposition in Chicago. Expedition members left indelible marks at the sites where they worked, including this engraving at a site on Comb Ridge, northwest of Bluff. PHOTO: WILLIAM H. DOELLE

act accomplished a number of ends. It required permits for excavations conducted on federal land, and it called for fines or imprisonment for unauthorized excavations or damage to antiquities on federal land. Public museums were to serve as permanent repositories for the results of permitted excavations. Furthermore, the Act authorized the president to declare national monuments (see pages 10–11 for Connie Stone’s portrait of the Agua Fria National Monument, which was designated in 2000).

Over the first half of the twentieth century, archaeology transformed into a scholarly endeavor pursued by university-trained professionals. During the Great Depression, large-scale archaeological projects received government funding through pro-

grams that aimed to employ large numbers of unskilled laborers. The consumption of archaeological resources through excavation was seen as a social good in that era, in part because such resources seemed to be abundant. In the 1950s and early 1960s, urban renewal projects and expansion of the federal highway system resulted in the demolition of the historic cores of many cities. The National Historic Preservation Act (NHPA) of 1966 redressed this significant loss of cultural heritage by requiring officials to evaluate how federal projects might affect archaeological remains or historic properties.

Important changes in archaeological thinking again transformed the discipline in the 1960s and 1970s. As an ecological perspective grew, researchers recognized that diversity and variation were important aspects of the archaeological record. Past populations adapted to regions, spending some time in permanent villages and some time involved in important tasks away from those settlements. All of these activities left distinctive material traces on the landscape. This more comprehensive view was critical to understanding the past. It was no longer just about impressive monuments. The full range of archaeological remains could contribute to understanding the big picture. (See page 11 for Melissa Kruse-Peeples’s introduction to the Legacies on the Landscape project, which is firmly rooted in the ecological concepts of this era.)

Another paradigm shift in archaeological thinking began in 1974, when William Lipe published “A Conservation Model for American Archaeology” (see excerpt on page 9). Lipe asserted that archaeological resources are *nonrenewable resources*. Moreover, he astutely proposed that we have to think about when *not* to dig sites, and he called on archaeologists to carefully consider

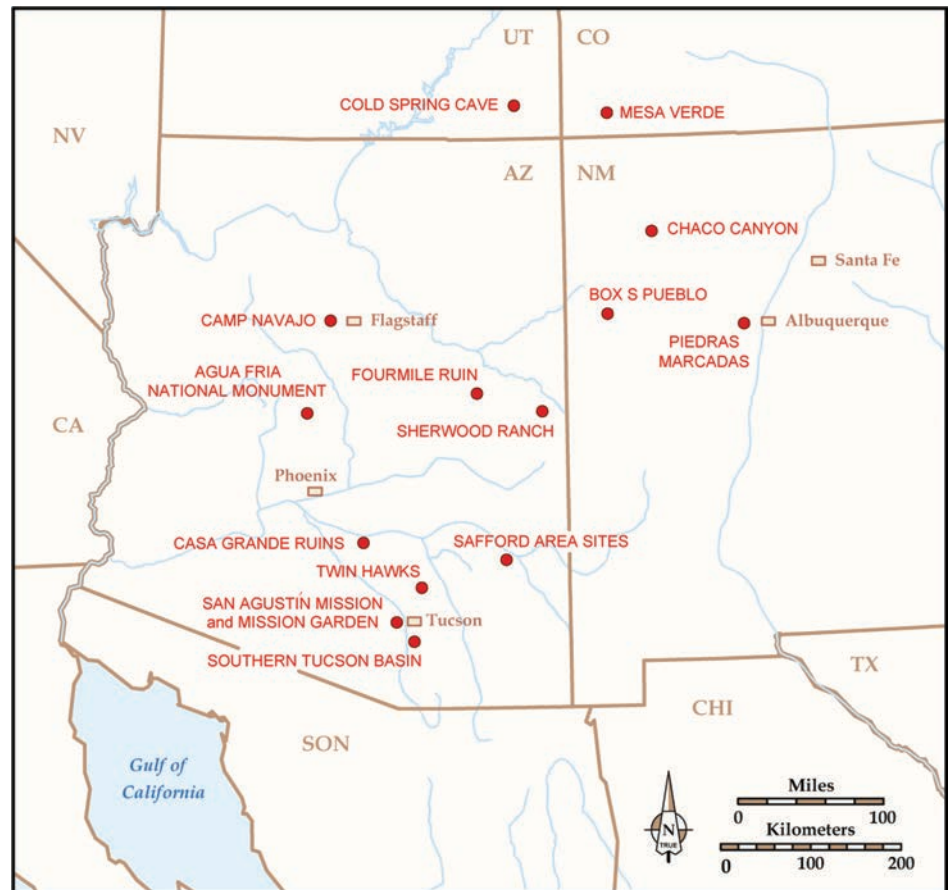
what *kinds* of sites should be preserved for the future. Lipe's views had a profound effect on me and many others, as we considered what archaeology could become in the twenty-first century and how it could more effectively engage the larger community.

The 1970s also opened a new dimension to archaeology: the field of cultural resources management, or CRM, which grew out of the NHPA, the National Environmental Policy Act of 1969, and other laws. Dramatic expansion of traditional museum- and university-based activities into the private sector occurred between 1975 and 1985. As regulations spread from federal to state and local contexts, more and more professional archaeologists found employment in CRM.

Today, CRM is the primary engine of new fieldwork. Done well, it contributes to scientific knowledge and community history, as with Suzanne Griset's ethnohistorical study of Camp Navajo (pages 17–18), and as Jonathan Mabry shows it is doing for our understanding of the Early Agricultural period (page 15). It can even achieve effective preservation, as I illustrate has happened in the southern Tucson Basin (pages 12–14).


Although preservation in place is the ideal expressed by relevant regulations, it rarely happens. CRM usually addresses threatened sites—sites in the path of development—through excavations that preserve the information values of the site, but not the site itself. A Preservation Archaeology approach *is possible* within CRM, however, and it calls for careful consideration of ways to protect even portions of threatened sites wherever feasible (see pages 12–14). At the same time, in seeking to limit impacts to sites that are not threatened, Preservation Archaeology does not call for the cessation of all excavation outside of CRM. There are long-term site management issues that benefit from limited excavation, and there are areas where development and important research topics do not overlap.

Nevertheless, creative and meaningful archaeological research can occur without new excavation, and archaeological training should include exposure to these possibilities. Some examples of nondestructive research presented in this issue are field based: Matthew Schmader details how electrical resistivity is helping archaeologists understand Pueblo contact with Spaniards at Piedras Marcadas (pages 19–20), and Chip Wills describes what his team is learning by reopening trenches that were excavated at Pueblo Bonito in the 1920s (pages 21–22). Some examples



Places mentioned in this issue. MAP: CATHERINE GILMAN

are collections based: Patricia Crown (page 23) and Scott Van Keuren (page 24) cogently argue for the wealth of information present in existing museum collections, which in turn underscores the need to “rescue” nearly abandoned collections (pages 25–26). In order to understand large-scale changes in Paleoindian lifeways, Mary Prasciunas and Jesse Ballenger map private and institutional collections of Clovis and Folsom projectile points across the Southwest (page 27). Chip Colwell-Chanthaphonh (page 28) and Bernard Siquieros (page 29) illustrate the power of conversation—on the land and in the museum—for enriching understanding of the past.

As you read this special issue of *Archaeology Southwest Magazine*, you will perceive a strong thread: Preservation Archaeology requires holistic thinking, conversation, and collaboration—within the profession, with other professions, with descendant Native American communities, with government agencies, with host communities, and with a variety of stakeholders. Jim Walker's experience at Box S Pueblo (see page 31) is an inspiring example of how people can work to protect a site that is so much more than just a place of the past. Preservation Archaeology *is* archaeology for the future, and the future of Preservation Archaeology is more expansive conversation and collaboration. 

First among Equals: The Story of Casa Grande Ruins National Monument

KATE SARTHER GANN, ARCHAEOLOGY SOUTHWEST

Casa Grande Ruins National Monument in Coolidge, Arizona, stands as a monument to the Hohokam inhabitants of this ancient settlement along the Gila River and a testament to the foresight of those who advocated, secured, and furthered its preservation in the late nineteenth and early twentieth centuries.

Father Eusebio Kino's 1694 visit to the place called *hottai ki* left no mark other than his journal entry and a name—*casa grande*—that has carried on to the present. Subsequent visitors to the singular four-story adobe structure and surrounding compounds were not always so benign, however.

Beginning in the 1830s, and especially after the 1860s, some of Casa Grande's guests left their marks and removed artifacts. The arrival of a railroad line within twenty miles of the site in the winter of 1879–1880 brought an associated stagecoach line past the Great House itself. Together, these routes provided ready access to souvenir-seeking tourists and outright treasure hunters. Concerns about the site's deterioration began to mount.

By the mid- to late 1880s, accounts of the place and its situation were reaching important ears. Archaeologist Adolph Bandelier's 1884 report on the site followed his May 1883 visit. Additional information came from the Hemenway Southwestern Archaeological Expedition of 1887–1888, led by Frank Hamilton Cushing. Sylvester Baxter, a journalist who served as the Expedition's secretary-treasurer, visited Casa Grande Ruins with Cushing and immediately became a fervent advocate for its preservation. Baxter shared his view with philanthropist Mary Hemenway and other eminent Bostonians. With Cushing's help, they persuaded Massachusetts Senator George F. Hoar to take up the cause for federal protection.

In 1889, Congress authorized the president to “reserve from settlement and sale the land on which said ruin is situated...for the protection of said ruin and of the ancient city of which it is a part.” President Benjamin Harrison signed the executive order



Casa Grande's steel shelter is both protected and protective. In place since 1932, the shelter is eligible for listing on the National Register of Historic Places. PHOTO: HENRY D. WALLACE

creating America's first federal archaeological preserve at Casa Grande Ruins on June 22, 1892. Four hundred eighty acres of Arizona Territory were set aside, to be managed by the General Land Office (GLO).

Meanwhile, formal assessments continued, and Smithsonian researcher Cosmos Mindeleff directed preliminary stabilization of the Great House in 1891. The site remained at risk, though. Its first two custodians, Reverend Isaac Whittemore (appointed December 1889) and H. B. Mayo (appointed 1899), did not live at Casa Grande. Even so, each took his role seriously and diligently pursued fencing and a protective covering. In 1901, Frank Pinkley became the first resident caretaker of the Casa Grande Ruins, actually living in a tent for several years. During

his early tenure, the first shelter was finally erected (1903), and Jesse Walter Fewkes of the Smithsonian Institution undertook repairs and extensive excavations (1906–1907 and 1907–1908). Notably, Pinkley argued that excavated artifacts should remain at the site for exhibition. The Smithsonian agreed to leave some objects behind, and Pinkley put homemade shelves in the Great House for their display.

Pinkley's dedication to Casa Grande is apparent in his achievements, reports, and funding requests—and in his persistence when funds or approvals were not forthcoming. He saw protection, development, education, and promotion as his most important responsibilities. Pinkley's vision for the preserve incorporated the nearby Adamsville site and the Escalante and Poston Butte Ruins, a position he first articulated in 1905 (and under consideration today).

When President Woodrow Wilson made the Casa Grande reserve a national monument on August 3, 1918, management transferred from the GLO to the National Park Service (NPS). Pinkley remained, ultimately serving as superintendent of all southwestern monuments and earning the affectionate title “Boss.”

Major developments envisioned by Pinkley and Thomas C. Vint, a chief landscape architect with the NPS, were completed in 1932, as was a shelter based on designs by Vint and Frederick Law Olmsted Jr. A series of master plans set forth subsequent improvements, some of which were realized through Depression-era programs. The shelter and buildings from that period remain today, protected right along with the “ancient and celebrated ruin of Casa Grande” they have been serving. ■

Who was the First Preservation Archaeologist?

WILLIAM H. DOELLE, ARCHAEOLOGY SOUTHWEST

I believe this distinction must go to the redoubtable Edgar Lee Hewett (1865–1946), and not only because of his role in crafting the Antiquities Act of 1906. Hewett practiced a forward-thinking form of Preservation Archaeology that incorporated experiential learning, public outreach, active preservation and advocacy, institution building, intellectual content, and good old-fashioned networking.

A teacher by training, Hewett believed strongly in experiential education—learning by doing. He arrived in the Southwest in 1890, to fill a teaching position. By 1898, he had signed a five-year contract to serve as president of New Mexico Normal School, a teachers' college in Las Vegas, New Mexico, and he had begun archaeological explorations of the Pajarito Plateau west of Santa Fe.

Hewett integrated surveys and excavations into the college curriculum, setting the stage for a long series of field schools that he directed or administered through various institutions well into the 1930s. He taught some of the twentieth century's most important southwestern archaeologists—A. V. Kidder, Earl Morris, Marjorie Ferguson Lambert, and Florence Hawley Ellis, to name a few—and he welcomed women to his field schools and to the discipline.

Although he eventually earned a doctorate from the University of Geneva, Hewett was essentially a self-trained archaeologist, and this, along with his vocation as a teacher, surely had something to do with his career-long commitment to engaging the public with the past and with Pueblo culture. Upon arriving in the Southwest, he set about building relationships with fledgling community historical and archaeological societies, and even helped found some. He lectured frequently. He contributed to local and syndicated newspaper articles. He welcomed visitors to his field projects, and he gave tours—perhaps none as significant as the weeks-long camping trip he took in 1902 with Congressman John F. Lacey of Iowa, with whom he later worked to write and pass the Antiquities Act.

Even beyond the Antiquities Act, Hewett advocated the preservation of sites and landscapes throughout his career. In 1899, he called on the General Land Office (GLO) to protect the archaeology of the Pajarito Plateau through the promotion of a national park. The GLO withdrew 153,000 acres in 1900, but protection ultimately came in 1916, in the form of the smaller Bandelier National Monument. Hewett's 1904 memorandum on the condition of the Southwest's archaeological sites, prepared for the GLO, laid the groundwork for the Act. He succeeded in getting President Taft to proclaim Gran Quivira a national monument in 1909. And these are just a few early examples.

Hewett helped build some of the Southwest's preeminent scholarly and cultural institutions, particularly Santa Fe's School of American Archaeology (now the School for Advanced Research), the Museum of New Mexico, and the University of New Mexico's Archaeology and Anthropology Department. Through these institutions, Hewett pursued innovative protection strategies, including the School's purchase of almost 1,300 acres at Chaco Canyon and the state's acquisition of several other properties.

Hewett's nickname was “El Toro” for a reason: he ruffled feathers at almost every step, but he got things done, and he paved the way for the Preservation Archaeology I practice today. I cannot do his rich life justice in this brief portrait; I encourage readers to visit www.archaeologysouthwest.org/asw26-1 for recommended readings. ■

Mesa Verde: The Only Archaeological National Park

WILLIAM H. DOELLE, ARCHAEOLOGY SOUTHWEST

Hidden deep within the canyons dissecting the high green mesa that towers over southwestern Colorado's Mancos valley were remarkably well-preserved pueblos built into large natural alcoves. Full reports of these magnificent cliff dwellings did not emerge until late in the 1800s. The Wetherill family arrived in the Mancos valley in 1880, and their first visit to Cliff Palace occurred in December 1888. Thereafter, the Wetherills explored, excavated, and guided visitors to cliff dwellings throughout the Mesa Verde area.

Even before discovery of the main cliff dwellings, people were fascinated by the ruins of the Four Corners area. Work by famed photographer William Henry Jackson and geologist William Henry Holmes informed the creation of a clay model of Two Story House (see photo) at the U.S. Centennial Exposition held in Philadelphia in 1876. And tourism to southwestern Colorado surged after the Denver & Rio Grande Railroad reached Durango in 1881, one year after the Wetherills settled in Mancos. In 1889 and 1890, the Wetherills guided Frederick Chapin around the Mesa Verde area, and in 1892, Chapin published *The Land of the Cliff-Dwellers*, a book that further fanned public imagination about this "strange" place and its ancient inhabitants.

In 1893, a series of events propelled the idea of a Mesa Verde National Park forward. Gustaf Nordenskiöld (see page 8) published the first archaeological monograph about the site, *The Cliff Dwellers of the Mesa Verde*. The World's Columbian Expo-

sition in Chicago featured re-creations of Cliff Palace, Square Tower House, and Balcony House, along with artifact displays. Although some ten million visitors had attended the 1876 Centennial Exposition, the Columbian Exposition drew more than twice that. The notoriety served to increase destruction at Mesa



Mesa Verde's Two Story House. PHOTO: WILLIAM HENRY JACKSON

Verde's archaeological sites, which in turn led Virginia Donaghe McClurg, a resident of Colorado since 1886, to launch an effort to create a park at Mesa Verde.

A dynamic organizer, speaker, and letter writer, McClurg worked with the Colorado Federation of Women's Clubs. Her key ally was Lucy Peabody, who lived in Denver with her husband, a retired army major. While living in Washington, D.C., Peabody had worked at the Bureau of American Ethnology for

nine years. Her intellectual contributions and powerful political connections proved invaluable to the park project. In 1900, McClurg, Peabody, and their associates established the Colorado Cliff Dwellings Association to promote the park idea.

Although they were able to get bills introduced in Congress from 1901 through 1905, each bill failed. Despite a more favorable political climate and gradual gaining of momentum, in 1906, a split developed between McClurg and Peabody. Arguing that Mesa Verde should be a state park, McClurg broke publicly with Peabody, who continued to support a national park. Edgar Lee Hewett (see page 5) helped refine the language of the bill and lobbied Congress, which finally approved a bill to establish Mesa Verde National Park. President Theodore Roosevelt signed it on June 29, 1906. To this day, Mesa Verde is the only national park established for its archaeological resources. (Archaeology is most often celebrated and protected in national monuments, as at Casa Grande Ruins, pages 4–5, and Agua Fria, pages 10–11.)

The Smithsonian Institution hired Hewett to survey the new park's boundaries and to assist with park development planning. Hewett called out Cliff Palace, Spruce Tree House, and Balcony House as "the ruins that will be visited by all travelers who go to the park." The Colorado Cliff Dwellings Association provided the Smithsonian with funding that allowed Jesse Walter Fewkes to conduct excavation and stabilization at Balcony House in 1908. Fewkes ultimately completed a total of fifteen field seasons of excavation and stabilization at Mesa Verde.

Mesa Verde embodies the delicate balance between preserving archaeological resources and providing public access to them. Key places developed for visitation are reached by highway; interpretive centers, lodging, restaurants, and restrooms now serve more than 550,000 visitors annually. On peak days, the park tallies more than 3,000 visitors. The challenge is substantial and two-fold: maintaining ancient architecture while still providing visitors with experiences that create real connections to the distant past. ■



Disagreement over whether the State of Colorado or the federal government should administer the proposed Mesa Verde park drove a wedge between the park's original leading proponents, and echoes in some of today's debates about public lands management. This newspaper editorial cartoon supported federal administration of the proposed park, the position maintained by Lucy Peabody. Virginia McClurg had decided that jurisdiction should remain with the state.

The Antiquities Act and National Monuments

WILLIAM H. DOELLE, ARCHAEOLOGY SOUTHWEST

Signed by President Theodore Roosevelt on June 8, 1906, this law has played a fundamental role in the preservation of archaeological resources because it contains the following fifty words: "The President of the United States is authorized, in his discretion, 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..."

Roosevelt named Devil's Tower in Wyoming as our first national monument in September 1906. By the end of his term in early 1909, Roosevelt had designated eighteen national monuments in nine states. Roosevelt-declared monuments in the Southwest include Petrified Forest (1906), Montezuma Castle (1906), El Morro (1906), Chaco Canyon (1907), Tonto Cliff Dwellings (1907), Gila Cliff Dwellings (1907), Tumacácori Mission (1908), and Grand Canyon (1908).

Of the eighteen U.S. presidents since Teddy Roosevelt, only three did not use the Antiquities Act to designate at least one national monument. Bill Clinton used the Act extensively his final months in office. Overall, he established eighteen national monuments; the seven located in the Southwest encompass more than four million acres. Unlike most previous monuments, the Clinton monuments are under the jurisdiction of the Bureau of Land Management (BLM), where they are important components of the BLM's National Landscape Conservation System. The ongoing preservation legacy of the Antiquities Act of 1906 is remarkable in its magnitude. ■

The Nordenskiöld Effect

WILLIAM H. DOELLE, ARCHAEOLOGY SOUTHWEST

A community's outrage over the actions of a tubercular Swede spurred federal protections for archaeological sites and artifacts. Can professional archaeology meet the challenge raised by comparable discontent today?

In 1891, Gustaf Nordenskiöld, the son of a distinguished polar explorer, opened the first scientific excavations at Mesa Verde. He was assisted by John Wetherill, who had explored the area's cliff dwellings with his family in the late 1880s. At the close of excavations, Nordenskiöld prepared to ship artifacts overseas.

The indignant local community viewed this as theft of its heritage, and Nordenskiöld was arrested, touching off a brief international incident. In time, it became clear that there were no legal controls over the disposition of these antiquities, and they traveled to Stockholm. (The collection now resides with the National Museum of Finland.) This local affair soon developed into a national effort to pass a federal Antiquities Act, which finally succeeded in 1906 (see page 2).

But the Nordenskiöld Effect has not gone away. All too often, professional archaeologists carry out excavations in places where they are not well known, and they do not develop long-term relationships within these communities. Historically, an archaeologist's departure has two results. First, excavations bring attention to the "treasures" in the ground, initiating a flurry of pot hunting. Second, the community becomes frustrated that "outsiders" have taken away artifacts that should be part of the community's heritage.

These issues are formidable. Building relationships with local community members takes time, and most archaeologists work in an area for limited periods. Professional demands on an archaeologist's time make it difficult to maintain these relationships.

Nevertheless, local residents are partners who permit archaeologists to explore the places that make host communities special. At the very least, archaeologists have an obligation to leave behind a bigger story than was there when they started, information that encourages and supports community efforts to protect and manage heritage resources.

The original Nordenskiöld Effect had a positive outcome, in that it led to the passage of a landmark piece of legislation. The recurrence of the Nordenskiöld Effect demands serious consideration within the profession. ▣



Top: Another aspect of Nordenskiöld's legacy is the outstanding collection of photographic images he produced during his time in the region. This image depicts a site known as Navajo Watchtower. PHOTO: GUSTAF NORDENSKIÖLD, COURTESY OF THE NATIONAL PARK SERVICE, MESA VERDE NATIONAL PARK, MEVE 11110/588

Left: Nordenskiöld shipped his Mesa Verde collections overseas. They are now with the National Museum of Finland. PHOTO: COURTESY OF THE NATIONAL MUSEUM OF FINLAND, MUSEUM OF CULTURES

A Conservation Model for Archaeology

WILLIAM D. LIPE, WASHINGTON STATE UNIVERSITY

In the United States, “salvage” archaeology (now replaced by the more comprehensive “cultural resource management” approach) developed in response to the ever-increasing pace of site destruction due to economic development. Archaeologists recognized that the supply of sites was not infinite, and that important sites, once lost, could never be duplicated among the sites remaining. The response was to excavate the sites most immediately threatened with destruction—to retrieve as much information as possible with the time, money, and methods available.

We now realize that all sites are rather immediately threatened, if one takes a time frame of more than a few years. In this sense, all of our archaeological efforts are essentially “salvage.” I submit that we not only need to know how to do “salvage” archaeology, but also how not to do it. The latter involves creating a model of resource conservation.

There are three positive conservation measures that archaeologists can take in order to manage archaeological resources for maximum longevity. These are public education, involvement in planning, and archaeological preserves.

First, public education and its objective, public support, are the key to the whole undertaking. If more of the public understood and respected archaeological values, greater self-restraint would be exercised, land-holding agencies would find it easier to justify the expenditures for archaeological patrols, and law-enforcement and judicial agencies would be more eager to use existing antiquities laws. The tremendous energies of avocational archaeological groups should be channeled for the benefit of archaeology, so that their members can serve as educators of the general public and as advocates for archaeological conservation. The best protectors of archaeological resources are often the people who live near the sites. The inhabitants of these areas could be of great service to archaeology by refraining from pot hunting, by chasing

vandals away from sites, or at least reporting them, and by blowing the whistle on land-alteration projects that threaten sites.

Second, archaeologists must also make strenuous efforts to acquire institutionalized access to the planning and management process whenever land-surface alterations are involved. In this way, projects can be designed so that destruction of archaeological sites is minimized.

The third basic conservation strategy is to establish and protect archaeological preserves, areas where land alteration is prohibited or at least very rigidly controlled. The guiding principle in setting up archaeologically relevant land preserves should be representativeness rather than current significance. For example,

many of our archaeologically based national parks and monuments were established on the presumption that the largest, most spectacular, and most unique types of archaeological sites were the most significant. At the time those preserves were set up, this was probably an accurate reading of both the public’s and the archaeologists’ assessment of significance. Yet today, we have increasing numbers of projects designed to investigate functional variability among numbers of sites, small as well as large, and much greater interest in the statistically

typical as well as the rare and unique. Fortunately, a number of our existing archaeological parks and monuments have been set up to cover districts rather than individual sites, so that there are resources available for a number of different research and display orientations.

A focus on resource conservation leads us to a responsibility for the whole resource base. Only if we are successful in slowing down the rate of site loss can the field of archaeology continue to evolve over many generations and thereby realize its potential contributions to science, the humanities, and society. ■



Lipe was assistant director at the Museum of Northern Arizona when the article that is abstracted here was published in The Kiva in 1974. He is now emeritus at Washington State University, Pullman (1976–2001), after a distinguished career in its Anthropology Department. He served as president of the Society for American Archaeology (1995–1997) and has maintained a long and productive association with Crow Canyon Archaeological Center of Cortez, Colorado. He serves on Archaeology Southwest’s advisory board.

Agua Fria National Monument: The First Decade

CONNIE L. STONE, U.S. BUREAU OF LAND MANAGEMENT

President Bill Clinton's designation of the Agua Fria National Monument (AFNM) in early 2000 confirmed what many archaeologists, interested citizens, and Secretary of the Interior Bruce Babbitt (a former governor of Arizona) already knew—that Perry Mesa, Black Mesa, and their stunning canyons encompass an extraordinary cultural landscape of interconnected communities of the late prehistoric period. In an interview with the National Geographic Society, Secretary Babbitt said of Agua Fria, “It is one of the most complicated, challenging, natural, and human landscapes you can imagine, and right next door to Phoenix.”

Early Anglo explorers of this region included J. W. Simmons, who described Baby Canyon Pueblo and other ancient settlements for his work with the Federal Writers' Project in the mid-1930s. Archaeologists have conducted research in the Perry Mesa area since the late 1960s. In the mid-1970s, Southern Illinois University and Prescott College initiated the Central Arizona Ecotone Project. This seminal project pursued research topics that set the stage for current investigations of migration and depopulation, prehistoric land use and agricultural strategies, conflict and alliances, and networks of communication and long-distance trade.

National monument status provided a great opportunity to attract new researchers and enthusiastic volunteers while supporting ongoing research. The Bureau of Land Management (BLM) successfully competed for funds that required matching contributions. Through 2009, the BLM provided about \$215,000 that was “matched” by nearly \$300,000 in volunteer labor and contributions. The ensuing partnerships generated significant research projects.

Through a partnership with the Museum of Northern Arizona and Northern Arizona University, Dr. David Wilcox continued his investigation of prehistoric conflict in the region. The resulting publication, *The Archaeology of Perry Mesa and Its World*, synthesizes data from new fieldwork and existing collections. The volume examines the Perry Mesa settlement system and its connection to larger-scale sociopolitical processes and population movements between A.D. 1300 and 1450. This project was linked to Archaeology Southwest's (then the Center for Desert Archaeology) pan-southwestern study, which in turn funded source analysis of obsidian artifacts from Perry Mesa pueblos.

Archaeologists and ecologists from Arizona State University established an innovative partnership for the Legacies on the Landscape project (see page 11). These interdisciplinary studies have focused on topics as diverse as dry-farming techniques and agave cultivation, the role of mysterious “race track” features in social interaction, the relationship of climate change to the growth



Pueblo la Plata, an impressive and publicly accessible site in the Agua Fria National Monument. This large site, which dates between A.D. 1250 and 1450, has between eighty and 100 rooms. PHOTO: ©ADRIEL HEISEY

and abandonment of the Pueblo villages, and the use of ceramic sourcing to study social interaction networks on and beyond the mesas.

Researchers studying in the AFNM sometimes offer competing hypotheses and interpretations, and a recent public symposium sponsored by the Friends of the Agua Fria National Monument highlighted these. Treated in a cordial and scientific manner, such competing viewpoints create new avenues of inquiry. Moreover, the symposium offered the public a great example of science in action.

Dedicated BLM volunteers serve as core members of the Friends group. They have assisted with research projects, rock art documentation, oral histories, public education, and interpretive development of two historic sites within AFNM, the Teskey Homestead and the 1891 School House site. Discovery of a petroglyph likely created by William Perry, one of the mesa's original settlers and its namesake, coincided with a volunteer's completion of a history of the Perry family.

Although AFNM seems to offer unlimited potential for public partnerships and productive research, there are challenges and needs to meet. We seek continued funding to support public education efforts such as the Pueblo la Plata Interpretive Plan, which would install low-profile interpretive facilities at the site. Together with our colleagues at the adjacent Tonto National Forest, onto which Perry Mesa extends, we wish to develop inclusive interpretive and protective strategies. In addition, the presence of pottery from the Hopi mesas and artifacts of the Hohokam and Yavapai peoples shows that many Native American tribes share the cultural heritage of the monument. We seek to more actively engage Native communities and incorporate their perspectives into strategies for resource protection, research, and public education. ■

Legacies on the Landscape

MELISSA KRUSE-PEEPLES, ARIZONA STATE UNIVERSITY AND
NATIVE SEEDS/SEARCH

In partnership with the Bureau of Land Management, a multidisciplinary team from Arizona State University has been researching prehistoric human-environmental interactions in the Agua Fria National Monument (AFNM). Our Legacies on the Landscape project integrates ecological studies of contemporary landscapes



Arizona State University undergraduates participating in fieldwork for the Legacies on the Landscape project. Each person is standing on a prehistoric agricultural terrace at the Bull Tank Agricultural Field, located south of Pueblo la Plata on Perry Mesa. This entire hillslope, like many in the region, is covered with stone alignments built to control and conserve water and soil. PHOTO: MELISSA KRUSE-PEEPLES

with archaeological studies of human land-use histories. Since its inception in 2003, the project has trained numerous students in archaeological and ecological field methods and resulted in nearly a dozen undergraduate and graduate theses.

The present-day landscape of AFNM reveals a long history of natural ecosystem changes and human-induced transformations. Together, AFNM and Tonto National Forest preserve the entire ancient settlement system of Perry Mesa. This provides a unique opportunity to investigate ecological legacies at the scale of prehistoric villages, as well as across the larger landscape.

One aspect of our research has focused on the area's extensive agricultural fields. AFNM's mesa-canyon environment restricts the use of irrigation and other flood-water-farming techniques. Prehistoric farmers had to rely upon rainfall and systems of rock alignments, or terraces, to retain surface runoff from intense thunderstorms. Investigations of several of these systems have documented subtle alterations in soil texture and fertility, as well as transformations in plant communities that will grow within prehistoric fields. Farming activities that occurred more than 700 years ago continue to influence the ecology of this grassland. Our results will help AFNM land managers interpret the past and present environment of the region. ■

Creative Opportunism in the Southern Tucson Basin

WILLIAM H. DOELLE, ARCHAEOLOGY SOUTHWEST

The preservation story of Arizona's southern Tucson Basin shows how long-term commitment to core principles and creative use of available opportunities can lead to success—incremental success, but success nonetheless.

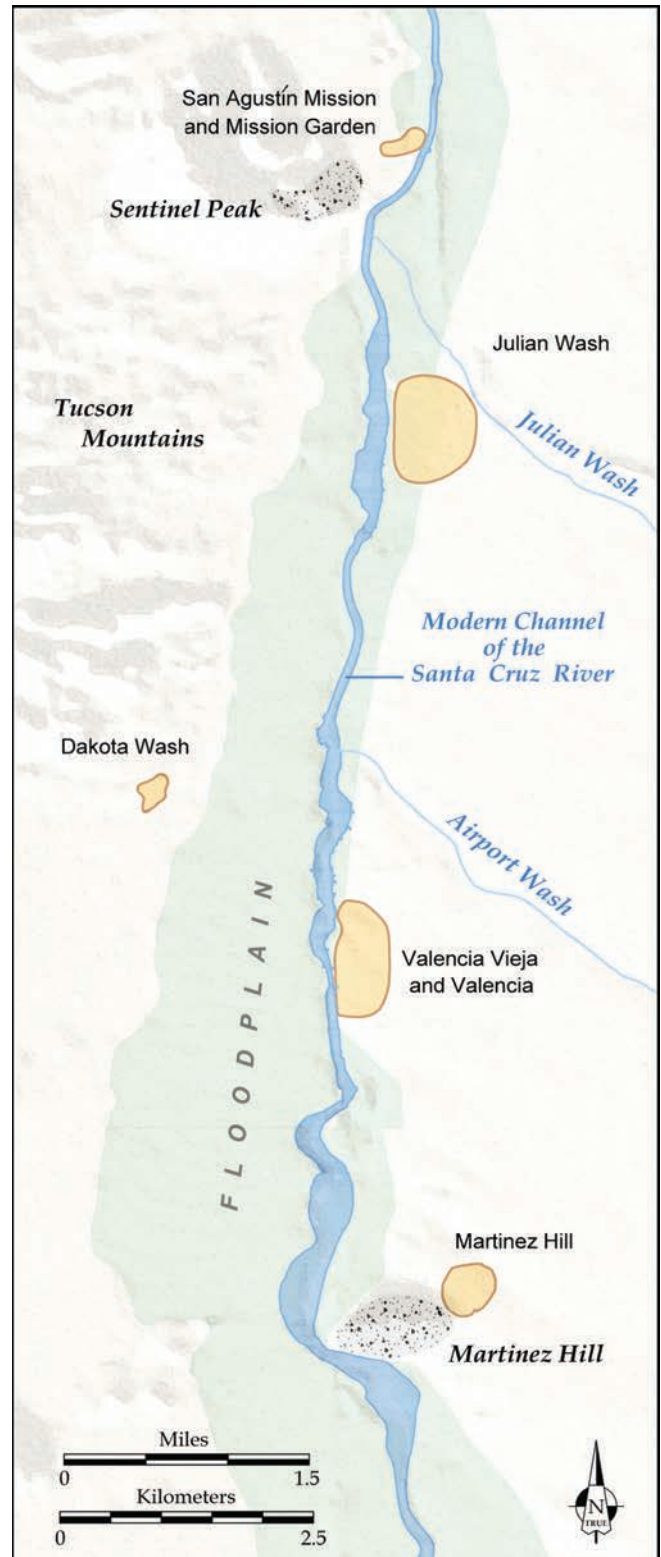
The area of interest lies between two significant volcanic outcrops along the Santa Cruz River, Martinez Hill on the south and Sentinel Peak ("A" Mountain) on the north. The Santa Cruz was an intermittent stream even before initiation of groundwater pumping in the early twentieth century. These two outcrops forced the underground water of the Santa Cruz to the surface. The availability of that water sustained 4,000 years of agrarian success.

In 1975, the City of Tucson hired visionary planner Guy S. Greene to develop a master plan for the Santa Cruz Riverpark. Greene wanted to restore flowing water to the Santa Cruz and tie thirteen linear miles along the river to key places in local history and prehistory. Like many plans, it was very ambitious, and it far outstripped available resources. Greene's vision reflected an understanding of the local environment, the archaeological resources, and the community's commitment to its heritage. As a result, it has guided subsequent actions by individuals, groups, and cultural resource managers.

Significant preservation events along this stretch of the river are:

- ❖ 1984: The Valencia site (400 B.C.–A.D. 1; A.D. 450–1150) was listed on the National Register of Historic Places. Greene had envisioned a Native American cultural center focused on this Hohokam ballcourt village.
- ❖ 1986–1988: A proposed road alignment into downtown Tucson threatened the location of the San Agustín Mission. After the City of Tucson dropped the road plan, a community-based planning effort focused on the last remnants of the mission, which date from the 1750s to the 1820s.
- ❖ 1998: Excavations by Desert Archaeology, Inc., at Valencia Vieja, the antecedent to the Valencia site, provided insights into early village organization and achieved substantial preservation.
- ❖ 1998–2007: Statistical Research, Inc., conducted excavations at the Julian Wash site (see pages 13–14) prior to construction of a linear park by the Army Corps of Engineers. This was followed by Desert Archaeology's work for the Arizona Department of Transportation, which included preservation and excavation. A Transportation Enhancement Grant funded additional preservation and interpretive development.

These archaeological sites have been damaged by development to varying degrees. Still, a common vision has guided diverse community-based efforts to ensure preservation of portions of these places of the past along Tucson's Santa Cruz River. MAP: CATHERINE GILMAN



- ❖ 1999: Voters in the City of Tucson passed the Rio Nuevo initiative. A major investment in archaeology and other downtown economic development activity followed. Political problems and the severe economic downturn have since stalled the project.
- ❖ 2002: Pima County, in which Tucson is located, used voter-approved historic preservation bond funds to purchase the Mission Garden property. Eighteenth-century residents of the San Agustín Mission tended orchards and grew crops at this site.
- ❖ 2005: Pima County used bond funds to purchase the Dakota Wash Ballcourt Village.
- ❖ 2008: The City of Tucson's public-private Parque de Santa Cruz project developed one mile along the Santa Cruz River. Fieldwork by Desert Archaeology, Inc., revealed a major irrigation canal dating to about A.D. 500–1150. The canal linked multiple Hohokam villages.
- ❖ 2010: Using local bond funds and state funds from the voter-approved Growing Smarter Initiative, Pima County purchased the Valencia site.
- ❖ Since 2009: Desert Archaeology, Inc., has been working with the San Xavier District of the Tohono O'odham Nation to document a settlement complex around Martinez Hill. The complex was a major center from about A.D. 500–1450.
- ❖ Ongoing: The private nonprofit Friends of Tucson's Birthplace is implementing the Mission Garden project initiated under the Rio Nuevo plan.
- ❖ Ongoing: The Paseo de las Iglesias project is a concept developed by the Corps of Engineers and Pima County to provide additional links between the San Xavier Mission (founded in 1692) and San Agustín Mission, a distance of nearly eight miles.

This area of Tucson has experienced intensive development pressures over the past fifty years. The cumulative efforts of individuals, groups, and cultural resource managers have ensured the documentation of 4,000 years of Tucson's history, the protection of some of the community's most important places, and the raising of public awareness about local heritage. Although there were many problems along the way, persistence and creative opportunism—guided by a greater vision—have forged a path to long-term success. ■

Preserving the Julian Wash Site, Piece by Piece

WILLIAM H. DOELLE, DESERT ARCHAEOLOGY, INC.

Initial surveys for the Santa Cruz Riverpark in the 1970s served to put a focus on the Valencia site. The 1982 plan update noted, "Preservation of



Excavations at Julian Wash focused on areas of direct impact plus a fifty-foot buffer. This is the primary area of investigations after excavation of more than sixty Hohokam pithouses. The new freeway lanes now run directly over this portion of the site.

PHOTO: ©ADRIEL HEISEY

this prehistoric Hohokam site and excavation for scientific value and public interpretation must receive the highest priority.”

The Valencia site had experienced only limited impacts from development, but the Julian Wash site, another large and important village about three-and-a-half miles to the north, had many modern impacts. When

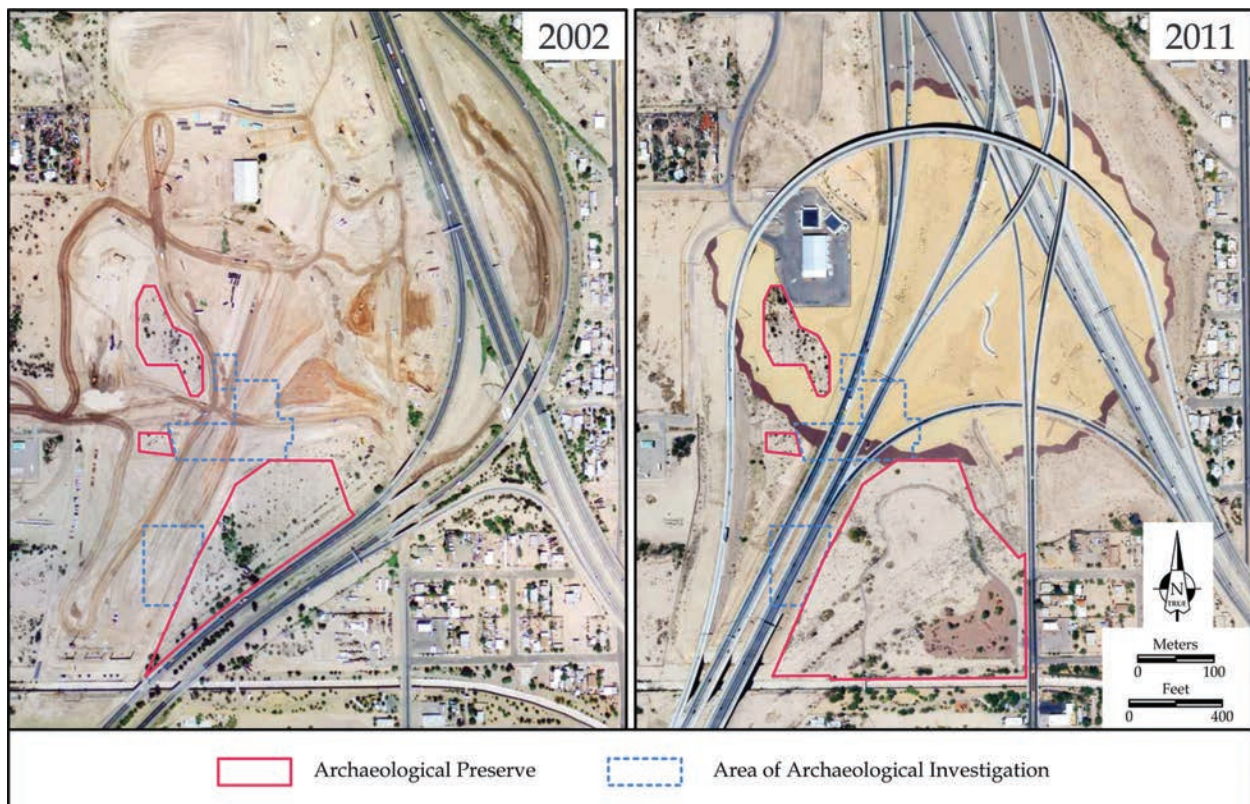
the site was first recorded in 1958, it was called a “sherd area; possible low trash mound.” In the 1960s, the Julian Wash site was cut by a forty-foot-wide, concrete-walled drainage channel and crossed by the original alignment of both lanes of Interstate 19 (I-19). There had been no archaeological assessment for those two major construction projects, and the riverpark report concluded: “Preservation efforts at this site are not warranted.”

By the mid-1980s, substantial new work had occurred in the Tucson Basin, and the Julian Wash site had been revisited. Archaeologists now recognized that it had all of the attributes of a large, pre-Classic Hohokam village (A.D. 750–1150), despite its many impacts. In the mid-1990s, the Arizona Department of Transportation (ADOT) was planning a complete rebuild of the I-10/I-19 freeway interchange. Desert Archaeology completed extensive testing of the construction area. The four-and-six-tenths miles of archaeological trenches led to documentation of ninety-four pithouses, a sample that led to a prediction that almost 300 pithouses (and more than 350 nonresidential features) were present in the tested area.

ADOT intended to proceed with complete data recovery within the right-of-way defined by the very wide-radius curve of the on- and off-ramps planned for the new I-10/I-19 inter-

change. Desert Archaeology staff pushed to maximize preservation within the interior of that area. The cost savings of preservation were a compelling aspect of the discussion. Ultimately, excavations focused on ninety pithouses that were located in areas planned for direct construction activity, plus a fifty-foot buffer zone to provide greater flexibility for the maneuvering of heavy equipment during road construction.

The final preservation steps at Julian Wash were even larger in scale. Desert Archaeology staff worked with the City of Tucson and ADOT to prepare a Transportation Enhancement Grant that ultimately brought in more than one million dollars and allowed the City to purchase an additional four-and-a-half acres at the core of the Julian Wash site. The grant also funded development of an interpretive trail and multimodal path that connects to an earlier interpretive trail implemented by the Army Corps of Engineers along the channelized Julian Wash. This larger preserve incorporates the land that was beneath the original I-19 alignment. Fortunately, a small area excavated by Desert Archaeology prior to construction of a drainage channel confirmed that archaeological features are preserved beneath that alignment. As a result, today nearly seventeen acres of this important archaeological site are preserved for the future. ▣



Establishment of archaeological preserves at the Julian Wash site occurred in two stages. Left: During a massive construction project in 2002, three preserves (red) were protected by fencing. Excavations were conducted only in construction areas (blue). Right: After construction was completed, abandonment of the old freeway right-of-way and purchase of an additional four-and-a-half acres expanded the area preserved to seventeen acres. Note that each image covers a half mile in width.

First Farmers: An Example of CRM's Contributions to Science and Community in the Southwest

JONATHAN B. MABRY, CITY OF TUCSON

Over the past two decades, Cultural Resources Management (CRM) has transformed knowledge about the transition to agriculture and settled village life in the southwestern United States. An explosion in information has resulted largely from mandated archaeological projects related to highway improvements, utility infrastructure expansions, and urban development.

I have seen this process from two perspectives—first as a researcher, and now as the City of Tucson's Historic Preservation Officer (HPO). As a researcher, I helped uncover portions of several early farming settlements in Tucson. And I closely followed work on CRM projects across the Southwest that revealed new information about when, where, how, and why this transition occurred.

Thanks to the immense body of data that has been recovered from the Tucson Basin, Colorado Plateau, and upper Rio Grande valley, we now know that maize, food storage, and agrarian settlements appeared in the archaeological record and spread rapidly across this region more than 4,000 years ago. We know that some groups of early farmers used fired ceramics and developed water management techniques. We also know that large habitation sites—some with surprisingly extensive field and canal systems—developed in some persistently occupied optimal locations. Today, archaeologists have a firmer understanding of when these changes happened, in what environments they occurred, and how they sometimes differed from place to place.

Researchers are still trying to determine if Mesoamerican cultigens spread to northwestern Mexico and the southwestern United States through migration (brought by people on the move), diffusion (passed along through trade), or both processes. Debate continues over the linguistic identities of these first farmers, whether they lived year-round in some settlements, how large some communities were, how much effort residents of certain places invested in their canal systems, and how dependent on agriculture some communities actually were.

As the City's HPO, I see another benefit to this research. Through my work, I know that community members are aware of local discoveries and their importance to science. Because of local and national media, many Tucsonans know that this patch of Sonoran Desert was an agricultural community for more than four millennia, and they know that this is significant. Knowledge of this deep history contributes to a unique sense of place.

The National Historic Preservation Act and other regulations that compel CRM are in place for a reason: to preserve information of benefit to science and the broader community. We must not lose sight of what CRM can and should achieve in both the civic and scientific arenas. ■



CRM excavations by Desert Archaeology, Inc., at the Las Capas site in 2012. White paint delineates canals, berms, and garden beds. This very early field system, built and maintained between 900 and 800 B.C., is much more extensive than originally thought. PHOTO: HENRY D. WALLACE

Preservation Archaeology's Development at Archaeology Southwest

WILLIAM H. DOELLE, ARCHAEOLOGY SOUTHWEST

Southeastern Arizona's San Pedro River valley nurtured the concept of Preservation Archaeology we now practice at Archae-

just before Spaniards arrived. Our surface survey along seventy-five linear miles, accomplished with the help of volunteers, revealed how well-preserved and abundant sites of this period were. But then, overnight, a large village that we had visited but not recorded was bulldozed out of existence. We learned a painful lesson—preservation is tenuous. Today's conditions may not hold true tomorrow.

Stunned, but resolute, we knew we had to do a better job of reaching out to the community. At valley events, we shared our goals and findings with residents. We recruited community site stewards to help protect the valley's sites. And, after a few years of negotiation, we accepted a conservation easement that protects three archaeological sites on fifty acres.

When the department of transportation proposed to route a truck bypass—effectively, a freeway—through the valley in 2007, we joined residents in describing the dire impacts that would result. The archaeological knowledge we had gained helped terminate the project. Since 2008, our site-protection specialist, Andy Laurenzi, has provided our planning information and comments on several large construction projects

in an effort to promote preservation-based solutions.

Just as our research program has expanded beyond the valley and across the Southwest, so too has our site-protection and advocacy program. Our December 2011 acquisition of an eight-acre parcel that preserves one of the San Pedro valley's most impressive Hohokam ballcourts was especially satisfying, though, because it resulted from relationships we had built.

Meeting the principle challenge of working in a rural setting—putting in the significant time and energy it takes to establish and maintain strong relationships—can also bring richer, more meaningful, shared rewards. As Nordenskiöld discovered more than a century ago (see page 8), failure to do this leads to undesirable outcomes. ■



San Pedro Valley resident Pete Edgell (white shirt and cap at left) joined other volunteers for our limited excavations at the site of Tres Alamos north of Benson in 2000. Working alongside community members like Pete meant that our findings were truly shared. PHOTO: LINDA PIERCE

ology Southwest. For more than two decades, we have pursued research and public outreach in this remarkable natural and cultural landscape, and we acquired our first conservation easement (see page 30) there in 2002.

Sense of place is a deeply felt relationship between people and their natural or built environment. It develops gradually, as we experience a place in different seasons, weather, lighting; a place has many sensory paths into our psyche. Mostly, it takes time. Our long-term efforts in the San Pedro valley transformed us intellectually and emotionally.

Research drew us to the valley in 1990. Limited investigations had suggested it might hold answers to questions about a dramatic population collapse that occurred in the southern Southwest in the centuries

Food for Thought...

Where should artifacts go? Is one place better than another, or is each a mere stopover along the well-traveled itinerary of these things? ...I believe that the history of artifacts is better served if memory can accompany them.

—Craig Childs
Finders Keepers (2010)

The Camp Navajo Project

SUZANNE GRISET, SWCA ENVIRONMENTAL CONSULTANTS

What started as typical data recovery in advance of road construction developed into a three-year ethnohistorical study that highlighted civilian Native American contributions to World War II and forged new connections between Native communities and the Arizona Army National Guard.

The Guard's training installation, Camp Navajo, is located in Bellemont, Arizona, twelve miles west of Flagstaff. It was originally known as the Army's Navajo Ordnance Depot (NOD). Road improvements proposed in 2008 included a section that runs through NOD's "Old Navajo Village" and "Old Hopi Village." These segregated developments housed Navajo and Hopi workers who helped build and operate the depot during World War II.

The Guard implemented standard survey and excavation efforts to address the "adverse effect" of road construction on these historical sites, but then the Arizona State Historic Preservation Office asked the Guard to seek out surviving workers to identify and interpret concrete foundations and features found during excavations. The Guard asked SWCA to conduct archival and ethnographic research, and I was pleased to take up this task. My friend Bill Beaver, longtime owner of Sacred Mountain Trading Post north of Flagstaff, introduced me to his Navajo and Hopi friends who had been "at Bellemont," which is how Native people refer to their time on the military post. They, in turn, introduced me to others who had lived at Bellemont.

The NOD was constructed between April and November 1942, a time when many men had already volunteered or been drafted into military service. Completing the depot in six months required at least 1,000 workers. Lieutenant Colonel E. B. Myrick sent trucks across the Navajo Nation and Hopi lands, asking men to grab what they could carry and come work for wages. After the combined blows of the forced Stock Reduction and the Great Depression in the 1930s, and in light of poor employment prospects on the reservations, men literally jumped on board. Many Navajo workers did not speak English when they arrived, and they had to rely on translations provided by the work group leader. Many workers had never been off reservation, and few had ever lived so close to people unrelated by birth or marriage.

As they built the depot, workers camped in the woods to the north. With winter coming on, and in the hope of encouraging workers to remain, the Army created family housing on post. Recognizing the divide between Navajos and Hopis, Myrick created a "village" for each. He erected neat rows of "hogans" and tents heated by wood stoves.



Top: Rows of Army-built hogans and tents erected to house Native workers during the winter of 1942 at Old Navajo Village, Navajo Army Depot (NAD), Bellemont, Arizona. PHOTO: NAD NEGATIVE NO. 2126

Bottom: Navajo ammunition handlers, May 26, 1944. PHOTO: NAD NEGATIVE NO. 1313

These were soon replaced by wood-frame barracks transported from the Civilian Conservation Corps (CCC) camp in Flagstaff. These “houses” consisted of a single room for what were often very large families, and people shared centrally located bathrooms. Excess ammunition crates provided heating and cooking fuel. Families hauled water from central facilities.

Other CCC buildings served as a clinic, a recreation hall, and a kindergarten. The Army bussed school-aged children to public school in Flagstaff. During our interviews, several former workers stated that their children’s education was a decisive factor in relocating their families to Bellemont.

Handling, refurbishing, repacking, and demolishing old ammunition were very hazardous jobs. The war effort required round-the-clock work shifts, so women were also recruited to refurbish ammunition. For many, it was the first time they worked for wages, outside of their homes.

Each village elected a council to relay information to and from the Colonel. Exorbitant prices at the Bellemont store and the difficulty of traveling to Flagstaff to shop led the Navajo Council to request permission for trading post owner Hubert Richardson to establish another store near the villages. It stocked goods familiar to Native families, served as their bank, bought their handmade crafts, and provided jobs for young people.

Some families maintained traditional religious practices and used medicine men living in Navajo Village. A sweat lodge was erected west of the village. Christian missionaries leased



Top: Navajo children attending kindergarten in Old Navajo Village, April 15, 1943. PHOTO: NAD NEGATIVE NO. 178/4039
Bottom: May 2008 reunion of former residents at Camp Navajo. PHOTO: COURTESY OF SUZANNE GRISET

land between Navajo and Hopi Villages and built a church that also housed meetings of the Boy Scouts and a sewing guild. Other workers were members of the outlawed Native American Church; they held ceremonies in secret and were sometimes expelled from their jobs or from the post. Their children went on to fight to legitimize the use of peyote, contributing to passage of the American Indian Religious

Freedom Act of 1978

and achieving legalization of the Native American Church on the Navajo Nation.

Many families returned to the reservations when the Army downsized the installation; others moved to Flagstaff but retained ties to their homelands. Many of those who returned ended up serving in tribal governments.

The Camp Navajo Project produced an outdoor interpretive display at the location of the former Indian villages. Nearly 100 people attended a May 2008 reunion that provided many with their first access to the place where they had lived;

the event was charged with emotion. Former residents and their families toured the village sites, viewed old photographs and shared some of their own, identified the locations of their houses and those of their neighbors, and told stories about life at NOD. Members of the Native American Church held a religious ceremony on post in September 2008, commemorating their thirty-five-year struggle for legal standing.

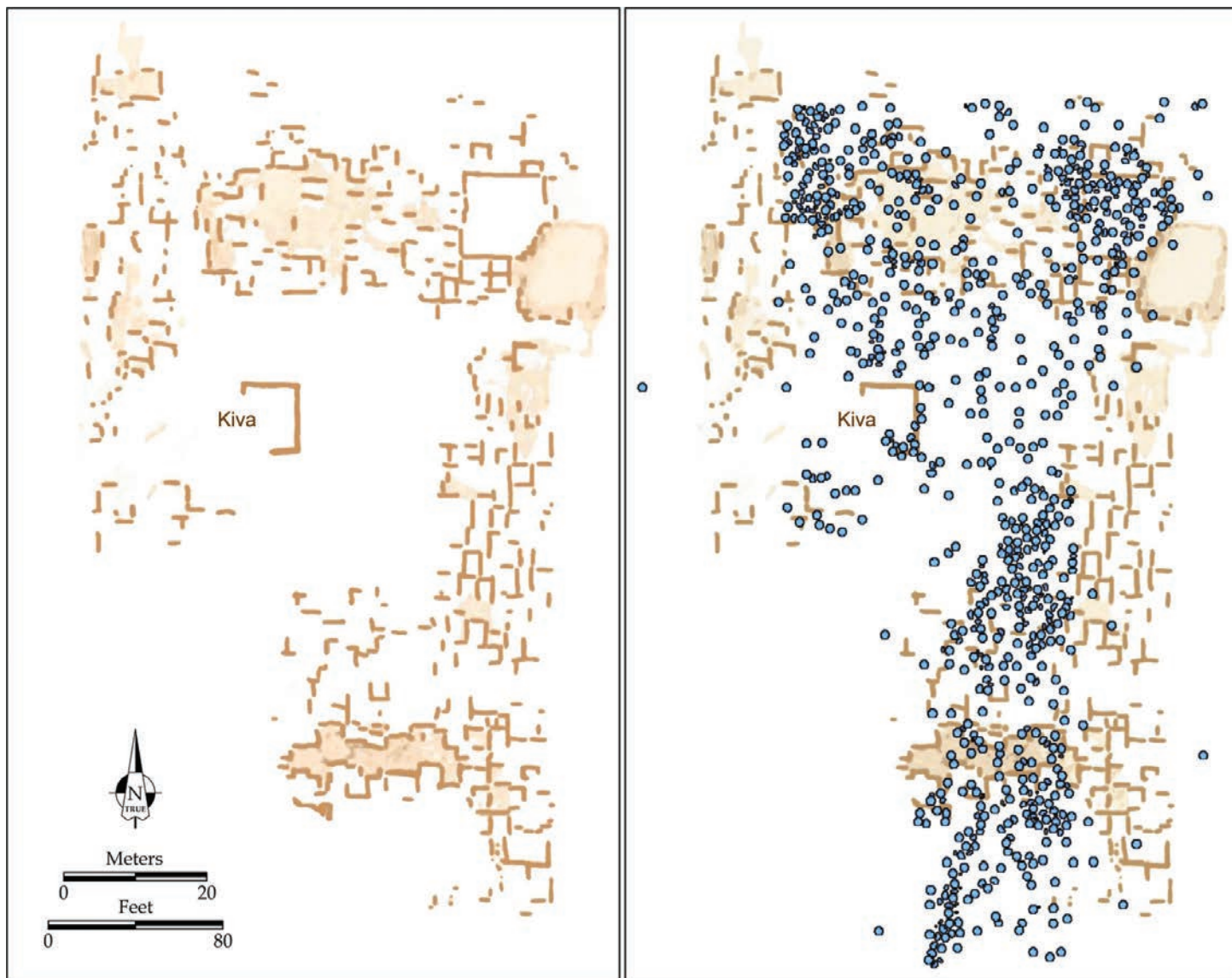
In 2009, the Army acknowledged the effectiveness of this alternative means of data recovery by awarding Camp Navajo the Secretary of the Army’s Award for Cultural Resources Management by an Installation. ▣

Preservation and Research at Piedras Marcadas Pueblo

MATTHEW F. SCHMADER, CITY OF ALBUQUERQUE

Critical information about first contact between native Pueblo peoples of the Rio Grande valley and foreign expeditionaries is emerging through an integrated program of remote sensing at Piedras Marcadas Pueblo.

Designated LA 290 by the New Mexico Laboratory of Anthropology, the site is located in the central Rio Grande valley near Albuquerque. People lived at the site from just before A.D. 1300 until about 1625. The pueblo contains at least 1,000



Left: Electrical resistivity allowed archaeologists to identify subsurface remains without excavation. The kiva labeled above is located in a large, open plaza surrounded by dense room blocks. Wall outlines (brown) imply ground-floor rooms, whereas the less-defined areas of adobe melt (beige) were probably multi-storied.

Right: Blue dots indicate the positions of artifacts located with metal detectors (courtesy of Matthew Schmader and Ivan Schmader). MAP: SRI/CHRISTINE MARKUSSEN; ADAPTED BY CATHERINE GILMAN

ground-floor rooms and several hundred second- and third-story rooms of adobe construction, making it the largest known site of that period in the region.

Because Piedras Marcadas was privately owned from the early 1900s until 1988, it remained unexcavated. By the 1980s, landowners had begun development plans that would have



Four copper boltheads recovered from Piedras Marcadas. These would have been mounted on the end of a wooden shaft that was propelled by a crossbow. Such boltheads are indicative of the era in which the Coronado Expedition took place, when firearms had not yet replaced crossbows. Lead isotope analysis demonstrated that the copper was mined in the Mexican state of Michoacán. The boltheads were fashioned before the expedition left Mexico. (Artifacts are all actual size.)

destroyed the site. Preservation activists fought development, and in 1988, the City of Albuquerque acquired the property as open space.

When Petroglyph National Monument was established in 1990, its boundaries included Piedras Marcadas (“marked rocks”), in recognition of the pueblo’s connection to nearby petroglyph concentrations. National monument status spurred consultation with the pueblos of Sandia and Isleta, who requested that research projects avoid large-scale excavation at this ancestral site. Consultations identified remote-sensing techniques, surface analysis, and limited disturbance as acceptable approaches to understanding Piedras Marcadas.

The City of Albuquerque began a series of remote-sensing efforts in 2000, working with Statistical Research, Inc. (SRI). At first, we employed a battery of techniques over a test area, including electrical resistivity (ER), magnetometry, and ground-penetrating radar. These tests showed that ER was reasonably effective for identifying subsurface remains.

The City and SRI undertook a second, more extensive round of ER between 2004 and 2006. This study covered approximately two-and-a-half acres. Results were excellent, revealing several hundred room outlines half a meter—almost 20 inches—below ground surface.

While clearing dead shrubbery prior to ER, we also exposed large areas of the site’s surface. We found a single wrought-iron nail, which, when analyzed, proved to be a sixteenth-century artifact. The nail appeared to confirm a long-standing hypothesis that Piedras Marcadas might be one

of twelve villages described by the Francisco Vázquez de Coronado Expedition of 1540–1542.

We initiated another round of remote sensing in 2007, this time using metal detectors (at the suggestion of Charles Haecker, National Park Service) to

determine how much sixteenth-century European material was at the site. We soon found many artifacts diagnostic of that time: copper crossbow tips or “boltheads,” lead musket balls, a broken dagger tip, chain mail, and more wrought-iron nails and fragments. Although the first area we investigated was only twenty meters by twenty meters, we still found more than 100 pieces of sixteenth-century metal.

Between 2007 and 2011, we covered 4,400 square meters—just over an acre. We have now recovered more than 1,000

sixteenth-century metal artifacts, which are interesting in their own right, but their overall distribution with respect to the adobe architecture is more revealing as to what happened at Piedras Marcadas. Concentrations of artifacts in specific areas suggest that forces attacked the pueblo from more than one direction; other areas indicate that fighting may have occurred in the interior plaza once expedition-

aries gained access to the pueblo. Research will continue under annual permits issued by the New Mexico Historic Preservation Division. ■

Food for Thought...

In our fervor to command our world, we may do well to draw a lesson from one of archaeology’s most pragmatic strategies: leave some places untouched out of respect for our present ignorance.

—Adriel Heisey
From Above (2004)

This Old Trench: The Chaco Stratigraphy Project

W. H. WILLS, UNIVERSITY OF NEW MEXICO

Like museum collections, excavated sites can be revisited as new research or analytical methods arise. Existing trenches may bear valuable information that can be accessed without further destructive excavation.

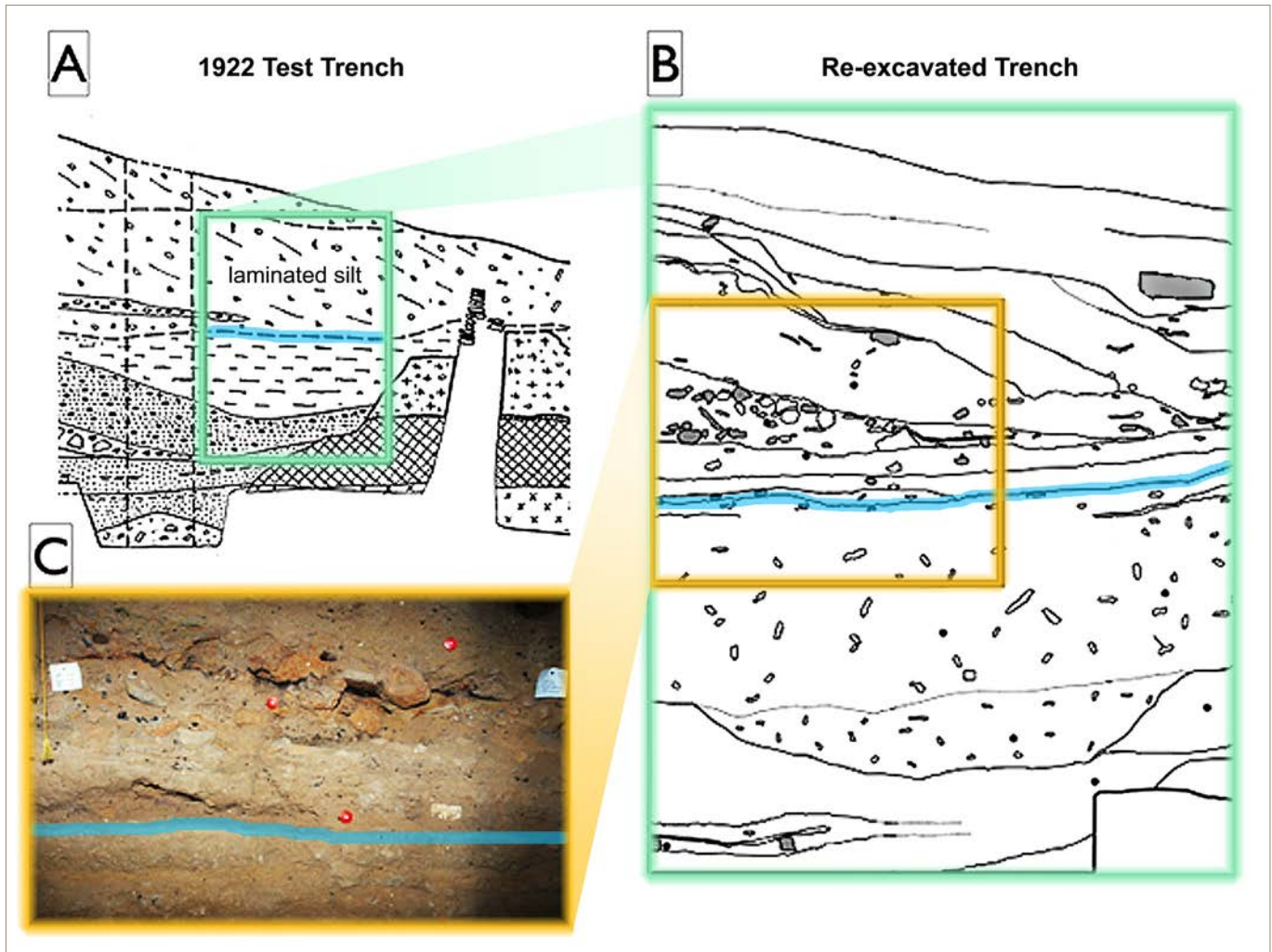
Between 2005 and 2007, the University of New Mexico reopened three archaeological trenches at Pueblo Bonito in Chaco Canyon. These were originally excavated by the National Geographic Society in the 1920s, under the direction of Neil M. Judd. As part of our efforts to better understand agricultural production around the time Pueblo Bonito was built (during the Bonito phase, circa A.D. 860–1140), we decided to reexamine several large water channels that were buried under the two earthen mounds on the south side of the ruin.

Reconstructing the canyon's hydrological systems is a central focus of our work. By reinvestigating these channels, we hoped to improve our knowledge of prehistoric water flow and availability. We were particularly interested in understanding exactly when these westward-flowing channels formed, when they were filled in, and whether they had been intentionally constructed.

Sections of each trench were reopened where the original investigations indicated channels had been encountered. In each case, we relocated buried channels and obtained new geological and archaeological information. Through chronometric dating and examination of associated pottery, we learned that these features formed in the early to mid-eleventh century and filled soon afterward, before A.D. 1100. Rather than being part of the main flood-plain hydrological system, these channels were associated with tributary flows originating on the north



Pueblo Bonito sits beside Chaco Wash in the stunning cleft that is Chaco Canyon. The two earthen mounds investigated in the 1920s and more recently are found along the back of the "D." PHOTO: ©ADRIEL HEISEY



Comparison of original East Mound Trench profile section (A) with new map (B) and detailed photograph of contact boundary between fluvial deposits and overlying midden (C). COURTESY OF W. H. WILLS, ADAPTED BY CATHERINE GILMAN

side of the canyon. In each section that we examined, the channels were culturally modified, either by armoring the bottoms with stone or building retaining walls along the edges. We think that Pueblo Bonito's residents built the channels to control local water flow.

Channel flows ceased when residents rapidly and intentionally introduced copious amounts of cultural debris, including construction material and household trash. We see this clearly in the East Mound Trench, where the original published map (A) shows a contact line between lower deposits and upper "laminated silt" but does not indicate the nature of the boundary

between them. Our observations (B) indicate that this boundary is the top of thick, water-lain sandy loam. The cultural material includes burned rubble, oxidized sediments, artifacts, charcoal, and ash (C). Our work affirmed that the "laminated silt" label

was a mistake. (In the original 1925 field notes, however, this label was correctly placed below the contact line.)

The preliminary interpretations presented here are only one small part of a large, complicated picture that we are assembling from these three original trenches. Our project is funded by the National Science Foundation, the National Geographic Society, Western National Parks Association, and the University of New Mexico. ■

Food for Thought...

In the debate over who should own the past, it is easy to forget what is being fought over in the first place... What we really want from archaeology is not a debate over who owns what, but a meaningful, tangible connection to people who came long before us. We are looking for our place in time, a temporal context for our own civilization and our very lives.

—Craig Childs
Finders Keepers (2010)

Hidden in Plain Sight: Finding Cacao in Chacoan Cylinder Jars

PATRICIA L. CROWN, UNIVERSITY OF NEW MEXICO

Sometimes, museum curation facilities really do resemble that last scene from *Raiders of the Lost Ark*, cabinets filled with artifacts stretching into the distance. What value do these objects have? Is there a reason to curate them forever? An example from my own research illustrates how artifacts themselves curate information about the past, and how that information can be extracted by new technologies.



Left: Cylinder jars in Room 28 of Pueblo Bonito. PHOTO: GEORGE H. PEPPER, COURTESY OF THE MAXWELL MUSEUM OF ANTHROPOLOGY, UNIVERSITY OF NEW MEXICO, 88.42.12

Right: A Chaco cylinder jar in the collection of the American Museum of Natural History. PHOTO: PATRICIA L. CROWN

In 2007, many years of research documenting Chacoan cylinder jars led me to ask a Maya specialist how the Maya used their cylindrical vases. When she told me that they were used to drink cacao, I decided to test whether or not the Chacoans might also have consumed chocolate drinks from their cylinder jars.

In order to do this, however, I had to find appropriate samples for testing. I knew from other organic residue studies that I needed to find sherds that were large enough to recognize the form. Significantly, the sherds had to be unwashed, and preferably, they would have been handled as little as possible. Finding unwashed, uncontaminated vessels in collections is not always easy, but they do exist. I was fortunate that the University of

New Mexico excavations at Pueblo Bonito were ongoing (see pages 21–22) and I had access to almost 200,000 unwashed sherds. From these, I pulled five sherds for testing; three of those sherds showed the combination of theobromine and caffeine residues indicative of cacao.

The Washburns' subsequent analyses of whole vessels in museum collections and my own continuing analysis of sherds in extant collections have confirmed the presence of cacao residues. Some of the material testing positive for residues was excavated in the 1890s and has



been sitting on museum shelves ever since. Although the residues are not visible, they have survived for about 1,000 years. Indeed, my research protocol involves burring off the exterior surfaces of the sherds to avoid any possibility of contamination by modern residues. So, these are invisible, absorbed

residues that are detected with modern techniques. An unrelated study recently discovered plant DNA in much older ancient Greek vessels, revealing their original contents.

When Richard Wetherill and George Pepper excavated the first Chacoan cylinder jars at Pueblo Bonito in 1896, they could not have predicted that, more than a century later, there would be techniques for demonstrating that those vessels held chocolate drinks. And the same is true for us: we cannot know what technological advances will permit us to discover in the next century. It is best to assume that every artifact potentially curates myriad bits of information about the past. It is also best to leave a sample of materials unwashed and untreated as a foundation for future analyses. ■

Why Museum Collections Matter (To Me)

SCOTT VAN KEUREN, UNIVERSITY OF VERMONT

During a two-week period in the summer of 1896, Jesse Walter Fewkes and a group of local teenage boys excavated several hundred painted bowls and other pottery vessels from Fourmile Ruin in east-central Arizona. These were shipped back east via train, largely forgotten and unpublished, and eventually curated at the National Museum of Natural History's support center in Suitland, Maryland.

Years ago, when I arrived in Suitland to analyze Fewkes's collection for my dissertation research, I encountered cabinet after cabinet of painted vessels that defied my preconceptions about ceramics in the region. The vessels represented, among other things, moments in time when individuals crafted their own versions of a fourteenth-century sacred lexicon. I found that potters were creatively and sometimes exclusively depicting iconographic-style decoration. These past behaviors would have been impossible to recognize with sherds alone.

That early project inspired my fieldwork at Fourmile Ruin itself, which laid the groundwork for the donation of the village to the Archaeological Conservancy months after an episode of large-scale looting. Indeed, looting has decimated the entire region. Fortunately, preservation of Fourmile's legacy continues: Brigham Young University's Museum of Peoples and Cultures recently accepted a donation of painted pottery and other materials recovered from Fourmile Ruin and nearby ancestral Pueblo sites. The museum acted quickly to transfer a significant cultural resource back to the public domain before it was parsed out to private collectors. This achievement shows how such institutions are dynamically involved in preservation initiatives.

At the time I was surveying museum collections for my dissertation, a friend related a sentiment that he had heard from another graduate student: if your work is solely collections based without new fieldwork, you will never get a job in the discipline. This statement seems grandly naïve to me now. And it certainly did not apply when Emil Haury, one of the most important archaeologists of the twentieth century, produced a dissertation entirely based on Hohokam collections in Harvard's Peabody Museum. Given the urgency of preservation issues—not to mention our duty as stewards of cultural resources—the future of our work will increasingly rely on museum collections, as well as the intellectual leadership of collections staff and curators who oversee these resources. □



Top: Fewkes's 1904 report on his excavations at Fourmile Ruin includes vibrant illustrations of painted bowls from the village. PHOTO: IMAGE REPRODUCED FROM THE 22ND ANNUAL REPORT OF THE BUREAU OF AMERICAN ETHNOLOGY, PLATE 25

Bottom: A 2006 donation of artifacts from Fourmile Ruin and environs was exhibited at Brigham Young University's Museum of Peoples and Cultures from 2009 to 2011. PHOTO: COURTESY OF THE MUSEUM OF PEOPLES AND CULTURES, BRIGHAM YOUNG UNIVERSITY

The Research Potential of Rescued Collections

KATE SARTHER GANN, ARCHAEOLOGY SOUTHWEST

Sometimes, misguided intentions place archaeological collections in less-than-ideal situations. When this has occurred—and when it is brought to an archaeologist's attention in a spirit of cooperation—is it worth arranging transfer to an appropriate repository? Are not museums and repositories struggling to process and make room for collections as it is? And when a collection is old, deteriorating, incomplete, or lacking detailed provenience information, does it retain any research value?

Yes; yes; and yes. Archaeology Southwest and the Arizona State Museum (ASM) have come together in three such cases, and the outcomes have all been positive—for research today and tomorrow.

The Twin Hawks Collection

In 1997, through the efforts of archaeologist Mark Slaughter and ASM curator Arthur Vokes, and with the cooperation of archaeologist Dudley Meade, ASM received a collection from Twin Hawks, an early thirteenth-century hamlet in southeastern Arizona's lower San Pedro River valley. The collection, which includes artifacts, samples, field notes, and plan maps, resulted from Central Arizona College excavations that took place in the 1970s under Meade's direction. The materials had been kept in an outdoor storage shed for more than a decade, and the work remained unpublished.

In 2000, as part of its long-term research program in the valley, Archaeology Southwest (then the Center for Desert Archaeology) excavated four small test units at the site, relocated Meade's datum (the point from which everything was measured), and attempted to correlate surface observations with the earlier site map. University of Arizona graduate student and Archaeology Southwest research assistant Sarah Luchetta analyzed the 1970s material and Archaeology Southwest's limited

artifact collection as part of her 2005 master's thesis. During her analysis, Luchetta processed and rehoused the original Twin

Hawks material to meet current ASM collections care standards.

The Twin Hawks collection and related research in the region show that this site and similar upland sites were inhabited seasonally but repeatedly over several years. Dry farming was possible, but not sufficient to support year-round settlement.

Based on the relatively high frequency of corrugated brown ware pottery and the presence of Cibola White Ware at Twin Hawks, Archaeology Southwest researchers think that its residents may have had origins in the Mogollon Highlands of east-central Arizona, though they would have arrived in the San Pedro valley before the first major waves of Kayenta migration from northeast-

ern Arizona. In addition, the inhabitants of Twin Hawks seem to have had close relationships with nearby riverine settlements in the San Manuel vicinity.

Collections from the Dewester, Crary, and Murphy Sites

Collections from three privately owned sites in southeastern Arizona's Safford Basin addressed a fundamental question: do surface collections of artifacts accurately reflect subsurface collections of artifacts?

The Dewester, Crary, and Murphy sites are within half a mile of one another on a Safford-area ranch. The landowner had a long family history in the valley and was very interested in learning more about the region's deep past. As such, he permitted surface collection and research excavation at these three sites in the late 1990s. For various reasons—none ill intended—the artifacts returned to the landowner, who stored them in a chicken coop.

When Archaeology Southwest Preservation Fellow Anna Neuzil undertook dissertation research in the valley in 2003, she conducted additional surface collections at these three sites. Neuzil was primarily interested in understanding the social consequences of late-thirteenth- and fourteenth-century migrations



Archaeology Southwest volunteers Peter Boyle (left) and Georgiana Boyer (right) have prepared two rescued collections for curation at the Arizona State Museum. At present, they are completing work on the Sherwood Ranch Pueblo collection. PHOTO: KATE SARTHER GANN

into the region. The landowner not only provided access to the earlier collections, but also sought Neuzil's help in transferring them to an appropriate facility. ASM agreed to accept these collections, and Archaeology Southwest volunteers Georgiana Boyer and Peter Boyle prepared them for curation according to ASM standards.

Although some artifacts and labels had sustained mold and mildew damage, their information potential remained intact. Neuzil, Boyer, and Boyle undertook extensive analyses comparing the earlier and later surface-collected assemblages to each other and to the excavated collection. Their work demonstrated that the surface collections were comparable to each other and representative of the excavated collection, which in turn suggests that surface collection data may adequately identify a site's inhabitants and period of occupation. Surface data are not likely to reflect materials that are present at very low frequencies, however, and these scarce materials often provide crucial information about the exchange of rare or exotic goods.

The Sherwood Ranch Pueblo Collection

Sherwood Ranch Pueblo had much to teach us about dramatic changes that occurred in the thirteenth and fourteenth centuries, as groups of people migrated southward into the Mogollon Highlands of east-central Arizona. Significant parts of that story were lost, however, as a modern archaeological tragedy unfolded.

In the 1980s, the White Mountain Archaeological Center began leasing the privately owned pueblo and operating an excavation program at "Raven Ruin," as the site was then called. Through the 1990s, hundreds of people paid to participate in excavations and earnestly pursue their interest in southwestern archaeology.

By the turn of the decade, the White Mountain Archaeological Center had closed amid a tangled string of disputes. An Arizona court ruled that the landowners could regain control of the site, but not the artifacts, maps, or records. These were retained by the director of the White Mountain Archaeological Center. To this day, it is unclear where thousands of artifacts have gone. (There are reliable accounts of Internet sales, however.)

Meanwhile, the site itself was in danger, and dangerous:



Preservation Archaeologist Doug Gann recovered the extant Sherwood Ranch Pueblo collection from this abandoned bunkhouse on the property. PHOTO: DOUG GANN

excavated rooms had not been backfilled with earth to stabilize the walls of the pueblo, and better fencing was needed. In 2001, facilitated by Archaeology Southwest, the landowners decided to donate the pueblo to the Archaeological Conservancy (TAC). Archaeology Southwest, TAC, and other partners developed a plan for mapping, photodocumenting, stabilizing, and backfilling the site. A grant award from the Arizona Heritage Fund enabled that project to proceed in 2002 and 2003. The donation went forward, and TAC maintains in-perpetuity protec-

tion at the site.

A few drawers and buckets of archaeological material remained in a bunkhouse that had served as the excavation program's storage unit. As the site donation proceeded, the landowners authorized Archaeology Southwest to remove the materials and prepare them for donation to ASM. In 2011, volunteers Georgiana Boyer and Peter Boyle again took up the task of organizing these extant collections and performing preliminary analysis on the pottery sherds. With detective-like skill, Boyer and Boyle have been able to determine varying degrees of provenience information for some materials.

Predictably, there is a conspicuous lack of artifacts with economic value. Completely absent from the existing collection are projectile points and intact or reconstructible ceramic vessels. And there are very few decorated sherds, in marked contrast to the vast number—more than 6,000—of corrugated ones.

Substantial quantities of flaked stone, ground stone, animal bone, botanical material, and soil samples should yield useful information. Already, X-ray fluorescence (XRF) has shown that almost all of the obsidian in the remaining collection originated in Mule Creek, New Mexico. This was unexpected, because there are obsidian sources closer to Sherwood Ranch Pueblo. It suggests close contact between the inhabitants of Sherwood Ranch and Mule Creek, specifically the fourteenth-century residents of the 3-Up site (see *Archaeology Southwest Magazine* Vol. 24, No. 4).

The Twin Hawks Collection is ASM Accession No. AP-1998-3. The collections from the three Safford-area sites are ASM Accession No. AP-2003-1300. At the time of publication, the Sherwood Ranch Pueblo collections are still being prepared for curation. ASM has assigned Accession No. AP-2003-16. □

Paleoindians and Projectile Points in the Southwestern United States

MARY M. PRASCIUNAS, WESTLAND RESOURCES, INC.
JESSE A. M. BALLENGER, STATISTICAL RESEARCH, INC.

Arizona is home to one of the richest concentrations of well-preserved early Paleoindian sites in the United States, but don't expect to come across one on your next hike—unfortunately, the chances that you will never find one are extremely good. In fact, archaeologists have not discovered a large, well-preserved Paleoindian site in Arizona since 1966, when Drs. Peter J. Mehringer and C. Vance Haynes found the Murray Springs site.

Although sites such as Murray Springs contribute enormously to our understanding of Paleoindians, the rarity of these sites also limits their usefulness for understanding large-scale changes in Paleoindian lifeways through time. An alternative source of information for addressing big-picture questions about Paleoindians is the distribution of distinctive projectile points across the landscape. These “bread crumbs” pinpoint human activities in time and space.

If we assume that projectile points were hunting tools lost or discarded in the pursuit of large grazers, such as mammoth and bison, then projectile point distributions should reflect suitable foraging conditions for grazers and the hunters who pursued them. The distribution and density of projectile points, therefore, provides a proxy measure of the geographic range and intensity of Paleoindian activities. By compiling projectile point data at regional scales, we can identify large-scale and long-term patterns of land use.

One challenge archaeologists face is the preservation of knowledge tied to personal collections of Paleoindian artifacts. When these collections are dismantled and sold to antiquities dealers, as often happens, important information is lost forever. To counter this problem, we recently launched the Arizona Paleoindian Projectile Point Survey. We are documenting the occurrence of Paleoindian projectile points across the state of Arizona by soliciting information from both collectors

and professionals. The survey is a long-term public outreach project that draws on all available sources of information to locate Paleoindian-age points in public and private artifact collections.

Developing positive working relationships with nonprofessional archaeologists is fundamental to the project. These relationships—combined with curiosity, trust,

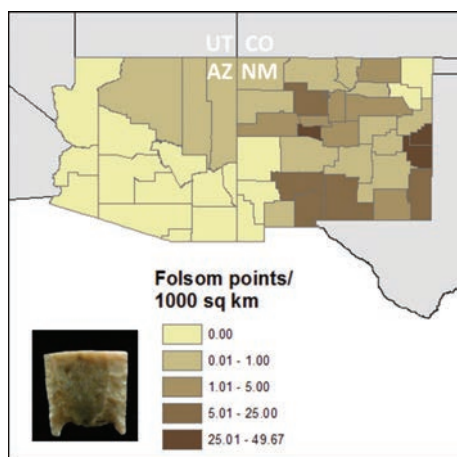
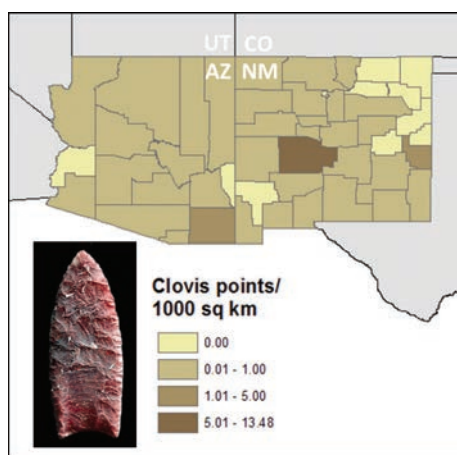
and a little luck—are the cornerstones of Paleoindian discovery. Avocational archaeologists have identified some of the most important Paleoindian sites in the Southwest: Edward F. Lehner, Fred and Marc Navarrete, Louis Escapule, and “Slim” Leikem are among the dedicated individuals whose discoveries in the upper San Pedro River valley have meaningfully shaped our understanding of southwestern prehistory.

As an example of how we can use projectile points to better understand large-scale changes in Paleoindian lifeways through time, we can look at the distributions of Clovis and Folsom projectile points in the Southwest (see figure). Clear differences are apparent between the densities and distributions of Clovis and Folsom projectile points: whereas Clovis points are widely distributed, Folsom points cluster and are altogether absent from large portions of the Sonoran and northwestern Chihuahuan Deserts. These differences probably relate to global climatic and regional biogeographic changes that occurred around 12,800 years ago.

Using projectile point distribution data accumulated from a wide variety of sources puts us in a much better position to clarify the details of how Paleoindian lifeways changed at the end of the

Pleistocene.

Learn more about the Arizona Paleoindian Projectile Point Survey at <http://azpaleosurvey.pidba.org/>. A continental compilation may be found at <http://pidba.utk.edu/>. □



County-level distributions of Clovis and Folsom projectile points in Arizona and New Mexico, compiled from a variety of sources.

Archaeological Preservation and Native Traditions

CHIP COLWELL-CHANTHAPHONH, DENVER MUSEUM OF NATURE & SCIENCE

Illuminating the archaeological past does not always require shovels and screens—sometimes all it takes is a notebook.

Starting in 2001, while a Preservation Fellow at Archaeology Southwest, I participated in the San Pedro Ethnohistory Project. Directed by T. J. Ferguson and Roger Anyon, and primarily funded by the National Endowment for the Humanities, this collaboration with Apache, Hopi, Tohono O’odham, and

Oral tradition was a central way that many of the tribal advisors sought to explain the rise and fall of archaeological cultures. The O’odham cultural advisors shared their oral traditions of how *I’toi* (Elder Brother) created and destroyed the *Hubugkam*, whom archaeologists describe as the Hohokam. Zunis, in turn, said that the valley’s Pueblo remains relate to their traditions of a group of ancestors who emerged from the

Grand Canyon and were then directed to sojourn southward, while the rest of the people migrated to the Middle Place.

San Pedro artifact collections at the Arizona State Museum and the Amerind Foundation presented another rich avenue of historical discourse. Hopis believe that their ancient ancestors, the *Hisatsinom*, intentionally left artifacts as “footprints,” evidence of their wide-ranging migrations. Painted pottery strongly resonated with Hopi advisors, who interpreted many of the designs as water symbols—prayers for rain.

Cultural advisors provided insights into deep history and more recent events. O’odham advisors identified most closely with Sobaipuri communities, groups of O’odham living in the valley in the 1600s (see page 29). These advisors elaborated on Spanish documents and archaeological research at several Sobaipuri villages. San Carlos Apache advisors related their versions of the 1871 Camp Grant Massacre, in which more than 100 innocent Apaches were murdered by a vigilante



Hopi cultural advisor Lewis Numkena Jr. (left) consults with Chip Colwell-Chanthaphonh (right). The San Pedro Ethnohistory Project filled many of these yellow notebooks. PHOTO: T. J. FERGUSON

Zuni cultural advisors documented tribal histories in southeastern Arizona’s San Pedro River valley.

The valley is a storehouse of history, with sites documenting 13,000 years of human civilization. Although archaeologists had amassed a trove of data on the valley’s past, few scholars understood the cultural values Native communities maintained for this ancestral homeland or the historical narratives of the valley embedded in tribal traditions. As such, the San Pedro Ethnohistory Project aimed to provide new, humanistic interpretations of the valley’s history. Each tribe offered unique insights into the San Pedro valley’s past, novel readings of the archaeological record, and fresh arguments for the protection of historical landscapes.

group from Tucson.

During the project, we also learned how Native communities have continued to use and value the valley. Tohono O’odham have long returned to the areas around *Babad Du’agi*—Frog Mountain, also known as the Santa Catalina Mountains—to gather plants and food. The Apaches maintain the memories of more than sixty place names in the valley.

The San Pedro Ethnohistory Project revisited the existing archaeological record without employing destructive methodologies. Our collaborative approach invited a new set of stakeholders to combine their understandings of the past with the archaeological record, thereby expanding the context in which the scientific record is evaluated, perceived, and esteemed. ■

Understanding Sobaipuri

BERNARD SIQUIEROS, TOHONO O'ODHAM NATION CULTURAL CENTER & MUSEUM

When the San Pedro Ethnohistory Project began in 2001, I was the project administrator for our cultural center and museum, which was in development at that time. I was invited to a meeting with the project's researchers—T. J. Ferguson, Roger Anyon, and Chip Colwell-Chanthaphonh—as well as cultural affairs program staff and our cultural preservation committee. The researchers discussed recent archaeological work in the San Pedro valley and their goal for the project, which was to understand Native perspectives on the valley's archaeological sites.

We knew from previous studies that our ancestors had lived along the San Pedro River, but we had been away from there for so long that we really did not have that connection anymore. I was asked to pull together a team of tribal members to go along with the researchers and try to make that connection to the area. Joe Joaquin, our cultural resource specialist, gave me the names of some elders I should speak to, including José Enriquez and his brother Joe. We wanted to have some team members from San Xavier District, because they are closest to the San Pedro—in fact, some district members may be descendants of the Sobaipuri who came over to the Santa Cruz valley from the San Pedro.

The experience was a real eye-opener for us. As we traveled to places in the valley, starting up north near Mammoth, the researchers had a lot of questions for us. The elders provided answers when they could, and they had questions of their own. We were all learning as we went through this process.

As we traveled farther south, we came to an excavated site. The researchers pointed out circular arrangements of stones that

had footed houses made of sticks and grass. There was also a large roasting pit we could identify with.

Chip and T. J. kept referring to the people who had lived there as “Sobaipuri,” “this is a Sobaipuri village.” José finally came over to me and asked, in O’odham, “Who are these people they are talking about called ‘Sobaipuri’? Because what I see

here is O’odham.” I replied that the archaeologists call these relatives of ours who had lived here “Sobaipuri,” and we spent a long time trying to figure out what this word meant. And we couldn’t, until recently.

Since 2005, I and other O’odham consultants, including retired professor Tony Chana, have been working with Dale Brenneman and other researchers and tribal representatives on the O’odham-Pee Posh Documentary History Project.

During our discus-

sions about the Spanish colonial documents and Father Kino’s journeys in the San Pedro valley, Tony mentioned he had read of how Spaniards considered the O’odham living along the San Pedro River to be the most warrior-like among the O’odham. And they had to be, living on the front lines of our territory where there was a lot of raiding; they had to be fighters.

In our language, when someone is warrior-like, we say that person is *s-o:bima* (S-Awe Be Ma). We are now considering how that word might be related to the word the Spaniards recorded as “Sobaipuri.” Finally, we are making that connection.

These projects help us better understand our ties to the San Pedro. Our children now know that the land they are growing up on is only a part of what our ancestral lands were; they once extended as far east as the San Pedro valley. ■



Tohono O’odham cultural advisors and San Pedro Ethnohistory Project researchers share information at a site in the San Pedro River valley. From left to right: Roger Anyon, Bernard Siquieros, José Enriquez, Edmund Garcia, Jacob Pablo, Joseph Enriquez, and Chip Colwell-Chanthaphonh. PHOTO: T. J. FERGUSON

Site Protection

WILLIAM H. DOELLE, ARCHAEOLOGY SOUTHWEST

Increasingly, the private sector is expanding its role in protecting archaeological sites for the future. Edgar Lee Hewett (see page 5) was a pioneer in this arena. As director of the predecessor of today's School for Advanced Research, or SAR, Hewett purchased several archaeological sites in the early 1900s. Another leader is Steven LeBlanc, founder of the Mimbres Foundation. While leading a regional-scale research project in New Mexico's Mimbres valley, LeBlanc realized that archaeological sites could be purchased for a lower price than the cost of proper excavation. The foundation subsequently accumulated a small portfolio of sites that it either owned or held easements on.

The vision of preservation on a national scale led LeBlanc, attorney Mark Michel, and California businessman Jay Last to found the Archaeological Conservancy (TAC) in 1980. Based in Albuquerque, TAC maintains several regional offices. The organization has some 430 sites in its portfolio, and it publishes the award-winning magazine *American Archaeology*. In his article on Box S Pueblo (see page 31), Jim Walker, TAC's

Southwest Regional Director, provides an inside look at how private-sector site protection can achieve success through ownership.

Another site protection strategy that we use at Archaeology Southwest is the conservation easement. A landowner can sell or donate some of their private property rights to a qualified nonprofit organization. For example, they can cede their right to subdivide their property into smaller lots or their right to disturb its ground surface. Although conservation easements are generally much less expensive to obtain, they carry a responsibility to ensure, through monitoring, that the landowner is observing the protective measures. This in-perpetuity responsibility has a potentially high long-term cost. For that reason, Archaeology Southwest maintains a site-protection investment fund that covers that annual cost of monitoring and potentially enforcing an easement. ■



The Mimbres Foundation recently closed, and, at the foundation's invitation, Archaeology Southwest took over the Mimbres valley sites it owned or held easements on. This image shows historic homestead walls at one of these properties, the Wheaton-Smith site. With these additions, Archaeology Southwest now owns five archaeological sites and holds easements on eight other sites. PHOTO: ANDY LAURENZI

This double issue of *Archaeology Southwest Magazine* includes Volume 25, No. 4, and Volume 26, No. 1. For additional content and recommended reading, visit www.archaeologysouthwest.org/asw26-1.

Archaeology Southwest explores and protects the places of our past across the American Southwest and Mexican Northwest. We have developed a holistic, conservation-based approach known as Preservation Archaeology. By looking forward and acting now, we are achieving protections and creating meaningful connections between people and history that will benefit generations to come.

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Box S Pueblo

JIM WALKER, THE ARCHAEOLOGICAL CONSERVANCY

I will never forget the gut-wrenching sensation I felt the first time I saw Box S Pueblo. It was 1973, and I was a newly minted, twenty-two year-old anthropology graduate working for the School of American Research in Santa Fe. Archaeologist Mike Marshall and I were on assignment, visiting sites in the Zuni region. The 1,100-room Box S Pueblo had just been looted, with the landowner's permission, using mechanical equipment. At that time, the looter's actions were not against the law. I vividly remember standing on the edge of the site, staring into 100 open rooms with broken artifacts and bones scattered everywhere, as if the site had somehow exploded.

Known to the Zuni as *Heshodan Imk'oskwi'a*, or "Emerging Village," Box S Pueblo is an ancestral Zuni site dating from A.D. 1260–1285. Adolph Bandelier noted the site in 1892, and Leslie Spier described it in 1917. The site has an impressive great kiva ninety-two feet in diameter. The pueblo is located along the eastern edge of the Zuni reservation in western New Mexico. The reservation boundary straddles the site, and, until 2001, about fifteen percent of the site was on Zuni land. A group of investors owned the land that included the rest of the site.

In 1989, Zuni Governor Robert Lewis contacted the Archaeological Conservancy with an impassioned plea to acquire and preserve privately owned portions of the site. After numerous attempts to engage the owners, the Conservancy finally succeeded in signing a bargain-sale-to-charity purchase option in 1999 for 160 acres. Archaeologist Keith Kintigh, who owns a cabin near the site, knew one of the investors and urged his cooperation. We also benefited from a newly enacted New Mexico subdivision law that made it impossible to split a large parcel into quarter-acre lots without building roads and bringing in utilities. The huge additional investment this would have required quashed the investors' dream of developing the property into a subdivision.

We developed a grant proposal and began approaching New Mexico foundations. We proposed to map the site, backfill the looted rooms, and build a perimeter fence. We also sought to develop a management plan for the preserve. Our fundraising goal was larger than any amount we had ever raised for a New Mexico project, so our hopes—and our apprehensions—were high.

Then Patrick Lannan of Santa Fe's Lannan Foundation called. Although Patrick was excited about the project, he explained that his foundation could not provide funds directly to the Conservancy. If the Lannan Foundation made a grant to the Zunis, he asked, could the Conservancy assist them in mapping, backfilling, fencing, and management plan development, and then transfer ownership of the 160 acres to the Zunis in exchange for the funds? Our board decided that Lannan's plan was an ideal solution.

Collaborating with the Zunis was amazing. Using Zuni and Conservancy volunteers, we worked with the Zuni Cultural Resource Enterprise to map and backfill the site. It took more than 1,800 cubic yards—about 180 dump truck loads—of clean dirt to fill the 100 open rooms. Everyone who worked on the project displayed a passion for preserving the site and repairing the damage.

In the summer of 2001, we celebrated the project's completion and the property transfer. Conservancy volunteers and board members joined Zuni tribal members and officials for an afternoon of food and traditional dances at the Box S preserve. Zuni Governor Malcolm Bowekaty spoke to tribal members in Zuni, and then turned to the entire group, saying, "For you, this place represents the past. But for us, it is still living. Many important people are buried here, and we still turn to them when we need them." I knew that I was witnessing the dawn of a new era at *Heshodan Imk'oskwi'a*. ■



An exposed room at Box S Pueblo, an ancestral Zuni site. The Archaeological Conservancy and the Zuni Tribe worked together to map and backfill the site, which is now owned by the tribe.

PHOTO: JIM WALKER



back sight

Organizations should not change their names on a whim. And the decision to transform the Center for Desert Archaeology into Archaeology Southwest was not a casual one, I assure you.


A few years ago, a Board of Directors task force considered a name change but concluded that it was not worth the costs. A subsequent, larger-scale and professionally guided branding effort did not begin by assuming that we needed a new name. But after a comprehensive review of our core values and our identity, we found ourselves revisiting the issue.

Although our values had held remarkably constant since our inception, the scope of our work had changed dramatically. Initially, we saw our geographic focus as “Archaeology in Tucson,” the early name of our newsletter and membership program. In ensuing years, as we added full-time staff, we expanded into the U.S. Southwest and Mexican Northwest, and we added the global concept of Preservation Archaeology to our mission. Under intensive examination, it was clear that our name had become limiting. It needed to signify our changes.

In 1999, we changed the name of our quarterly publication from *Archaeology in Tucson* to *Archaeology Southwest*. In 2011, as we sought a name that adequately reflected our current and future identity, we suddenly realized that Archaeology Southwest, the name we had already used for our flagship publication for a dozen years, was the answer. We formalized the publication as *Archaeology Southwest Magazine* and adopted Archaeology Southwest as our new name.

Even with a seemingly simple transition like this, the complexities are great. We are still working out some of the details, but as this issue of the attractively redesigned *Archaeology Southwest Magazine* shows, the work of Preservation Archaeology is where we must keep our focus. Archaeology is a profession, but the scientific community is not the only group with a stake in exploring and protecting the places of the past. The adventurous days of the discipline, in which every new encounter conveyed an extraordinary revelation, are long past. The

legal framework that now encompasses nearly every aspect of archaeology has grown ever more complex. Vandalism, modern development, and long-term natural processes have taken an incredibly destructive toll on the archaeological record.

To succeed, those of us committed to the practice and expansion of Preservation Archaeology must engage in research that in some way resonates with broad audiences. We must make that exciting information widely available, and we must commit to the thoughtful and very gradual consumption of our core resource, the archaeological record. In many cases, we must delay gratification and save archaeological sites for the future. Archaeology Southwest remains committed to these fundamental principles as we move forward, energized by our dynamic, inclusive new identity. 



Archaeology Southwest

Exploring and protecting the places of our past

back sight (băk sīt)
n. 1. a reading used by surveyors to check the accuracy of their work. 2. an opportunity to reflect on and evaluate Archaeology Southwest’s mission.

William A. Joelle

