



# Archeology Program

National Park Service  
U.S. Department of the Interior



August 2017 Archeology E-Gram

## NPS NEWS

### **Archeological Investigations at Saint Croix Island International Historic Site**

During the first week of August 2017, the Northeast Region Archeology Program (NRAP) joined staff and volunteers from Saint Croix Island IHS and Acadia NP to conduct high-resolution geophysical surveys across the southern half of Saint Croix Island, the location of one of the earliest (1604) French settlements in North America. The team camped on the island and completed surveys over 7,200 m<sup>2</sup> with five different geophysical methods including ground penetrating radar, fluxgate gradiometry, resistivity, conductivity, and magnetic susceptibility. The goals of the survey were to locate and identify cultural resources, and to investigate the integrity of the sedimentary structure of the eroding bluff edge of the island.

Results from this project will aid decision-making for treatment, protection, and management of the archeological resources on Saint Croix Island. The southeastern end of the island is being destroyed at an accelerated rate due to tidal surges, storm impact, and intense rodent burrowing. Data collected by the erosion team shows a net loss of 67 cubic meters from the southern bluff during the five-year period between 2011 and 2015. In 2016, the net loss was 262 cubic meters, a 391% increase over one year compared to the previous 5 years.

*From a story by Meg Watters Wilkes, Northeast Region Archeology Program*



Left to right: William Griswold, Daniel Fransiscus, Joel Dukes, Charlotte Skolnick, Torrey Dukes, Jacquelyn Miller (top), Carole Broer (bottom), Meg Watters Wilkes, Alice Kelley. (Photo: NPS)

### **Youth Diving With a Purpose Assists Biscayne National Park to Protect Shipwrecks**

Diving with a Purpose (DWP) partnered with Biscayne NP to organize a week of underwater exploration for young adults from all over the nation. The *Youth Diving With a Purpose* (YDWP) program introduces young people to experiences that correlate with real-world underwater archeological work. The goal is to instill an appreciation and understanding of the need to study and protect submerged cultural heritage.

Participants spent one week in Key Largo, Florida, in a classroom setting where they learned scientific methods for collecting and interpreting data. The participants acquired skills such as using trilateration to record and map artifacts, and drawing *in situ* artifacts. NPS Latino Heritage interns and the YDWP participants then surveyed a portion of the reef inside Biscayne NP to identify historic artifacts, measure and record their locations, and draw them to create a comprehensive site map.

DWP is a community-focused nonprofit organization dedicated to the conservation and protection of submerged heritage resources by providing education, training, certification and field experience to adults and youth in the fields of maritime archeology and ocean conservation. A special focus of DWP is the protection, documentation, and interpretation of African slave trade shipwrecks and the maritime history and culture of African-Americans.

*From Latino Heritage Internship Program blog*

#### **Interns Focus on Interpretation at Cowpens National Battlefield**

Cowpens NB hosted two history interns in the first half of 2017. Joel Cook, from the Greening Youth Foundation, graduated from Fayetteville State University and is heading to a MA program in Marine Archeology. Trevor Freeman recently graduated from Appalachian State with a degree in Public History.

During his internship, Cook became fascinated with the history of African Americans, especially Loyalists, who supported the British in the Southern Campaign of the American Revolution. After learning of the *Journey Back to Birchtown* Festival at the Black Loyal Heritage Center in Nova Scotia, Cook spent numerous hours with Ranger Will Caldwell researching and preparing a first-person, living history program to present at the center in July 2017. Joel said, “I felt an ancestral connection to the people I was speaking to and I was standing on the shore where the original Black Loyalists landed in 1783.”



Freeman utilized his education, science, history, and math skills to develop a multi-faceted STEM (Science, Technology, Math and Engineering) unit to complement the history of the Battle of Cowpens. Tied to North and South Carolina educational standards for 8<sup>th</sup> grade students, the unit contains lessons calculating the trajectory and ballistics of muskets and rifles, the speed of units marching at quick and double-step, and primary source analysis. At a workshop in June, primary school teachers were especially excited about an activity that uses a graph overlaid on archeological bullet scatterings to determine what happened during the 1781 battle.

*From story by Kathy McKay*

#### **Preservation work underway at Tumacacori National Historical Park**

A five-year project is underway to conserve Tumacacori NHP's valuable heritage. Frank Matero, University of Pennsylvania, is overseeing a team of specialists on earthen architecture to conserve the original plasters and painted finishes inside San José de Tumacácori Mission Church.

Tumacacori, which dates to the early 1800s and was never completed, became the first historic site designated by the U.S. government for its Hispano cultural importance in 1908. This memorialization predates Arizona statehood by four years, and the establishment of NPS by ten. Frank “The Boss” Pinkley was named caretaker of Tumacacori and, eventually, a dozen more national monuments. He recognized the importance of preservation instead of restoration. Pinkley’s foresight in replacing the Tumacacori

church's wooden roof, which had collapsed by the late 1850s and exposed the interior to weather, saved the fabric of the church. He realized the site's cultural value and worked tirelessly, at times with his own money, to preserve it.

The present team, mostly post-grad students, is working with NPS conservator Alex Lim, focusing on the east wall of the nave. Also involved are the University of Arizona, Arizona State Museum and San Xavier Mission. Their project is a four-phase process:

- Removing old repairs and reattaching loose adobe.
- Grouting with clay to reattach plaster to the adobe
- Consolidating crumbly plaster
- Edging/ filling broken plaster.

Since 1991, specialists have been visiting the site for research and student training. The NPS offers opportunities and allows them to help in their management. While protecting the culturally significant structure, the NPS offers educational and collaborative opportunities for Americans, Mexicans, and NPS professionals. Next up in the five-year project is the preservation of the church's south side in December, west side next August, and north side in two years, following completion of the nave.

*By Kitty Bottemiller, Green Valley News*

#### **NPS Park NAGPRA Program Launches New Site on InsideNPS**

Park NAGPRA has launched a new site on InsideNPS. Users report that it is much easier to use than the Sharepoint site, and has excellent links, reporting tools, and information on NAGPRA training. Most of the work was done by NCPE intern, Holly McKee, who subsequently was hired into a permanent position at the Office of Archaeology & Historic Preservation at History Colorado.

The Native American Graves Protection and Repatriation Act (NAGPRA) provides a process for museums and Federal agencies to return Native American human remains and cultural objects to affiliated Indian tribes or Native Hawaiian organizations. Park NAGPRA is the national program that provides technical and compliance assistance to all national park sites throughout the United States.

NPS employees can access the InsideNPS Park NAGPRA Program site by going to  
<https://sites.google.com/a/nps.gov/in2-ensure-compliance-to-preserve-and-protect-places/home/nagpra?pli=1>

#### **National Park Service Awards \$1.2 Million in Battlefield Planning Grants**

The NPS has announced that \$1.2 million in American Battlefield Protection Program (ABPP) planning grants will be used to help local communities preserve and protect America's significant battlefields. These grants will support 19 projects to aid in the research, documentation, and interpretation of battlefields in 12 states and two insular areas, representing more than 300 years of history.

A number of the grants include archeological research. ABPP awarded three grants totaling \$171,700 to the Fairfield Historical Society, Mashantucket Pequot Tribal Nations, and the Old Saybrook Historical Society for projects related to the Pequot War in Connecticut. Florida Museum of Natural History received \$72,500 to conduct a project to research, identify, and provide the status of all battlefields associated with the English campaign against Spanish Florida that culminated the siege of the *Castillo de San Marcos* at St. Augustine. ABPP awarded the University of Hawaii nearly \$80,000 to help preserve the site of the Battle of Nuuanu. The Battle of Nuuanu was a key turning point as King Kamehameha fought for unification of the Hawaiian Islands. The Northwestern Band of the Shoshone Nation received

\$72,000 to help preserve the site of the 1863 Bear River Massacre. Up to 500 members of the tribe died during the attack by the U.S. Army.

Earlier this month Interior Secretary Ryan Zinke announced \$7.2 million in additional grants to help identify, preserve, and protect nearly 1,200 acres of battlefield land as part of the American Battlefield Land Acquisition Grants program.

Since 1996, the American Battlefield Protection Program has awarded 579 planning grant awards totaling \$19,621,000 to help preserve significant historic battlefields associated with wars on American soil. Federal, tribal, state, and local governments, nonprofit organizations, as well as educational institutions are eligible for the battlefield grants, which are awarded annually.

For more information about American Battlefield Protection Program Battlefield planning grants, go to [www.nps.gov/abpp/grants/planninggrants.htm](http://www.nps.gov/abpp/grants/planninggrants.htm).

#### **National Park Service Releases Additional Historic Preservation Funds**

The NPS has distributed an additional \$21 million in historic preservation grants to every U.S. state, the District of Columbia, U.S. territories, and partnering nations, as well as \$4.6 million for historic preservation grants to 169 Tribal Historic Preservation Offices. This funding, along with \$32.6 million awarded earlier this year, represents a total of \$58 million that the NPS has invested in the preservation efforts of states and tribes this year.

Administered by the NPS, these funds are appropriated annually by Congress from the Historic Preservation Fund (HPF). The HPF funds preservation programs at State Historic Preservation Offices and ensures local involvement by passing 10% of state funding through competitive sub-grants to Certified Local Governments. All funding to the states and the District of Columbia requires a 40% non-federal match, which leverages state, local and private dollars to do even more with the federal HPF investment. Tribal grants do not require a match, although all tribes supplement their funding to accomplish their Tribal Preservation Office mission.

Since its inception in 1977, the HPF has provided more than \$1.2 billion in historic preservation grants to states, tribes, local governments, and non-profit organizations. Funded at \$80 million in 2017, the HPF does not use any tax dollars. It is supported solely by Outer Continental Shelf oil lease revenues.

## **FEDERAL NEWS**

#### **New Guidance for Working for Non-federally Recognized Tribes**

The Advisory Council on Historic Preservation has issued new guidance on working with non-federally recognized tribes in the National Historic Preservation Act Section 106 process. The guidance fulfills the ACHP's commitment to support the U.N. Declaration on the Rights of Indigenous Peoples which applies to all indigenous peoples. The guidance encourages federal agencies to include non-federally recognized tribes in Section 106 consultations when they have important information to share and when historic properties of religious and cultural significance to them may be affected by an undertaking. The guidance also clarifies that inviting non-federally recognized tribes to participate in the process does not substitute for consultation with federally recognized Indian tribes nor does it diminish their role in consultation.

The guidance is also available online at <http://www.achp.gov/docs/Working%20with%20Non-Fed%20Rec%20tribes%20Guidance%20-%208-11-17.pdf>.



### The Federal Archeologist's Bookshelf

The July issue of *American Antiquity* offers two articles related to the NPS! We report on one this month, and one next month.

*Feasting, Ritual Practices, Social Memory, and Persistent Places: New Interpretations of Shell Mounds in Southern California* by Lynn H. Gamble. *American Antiquity* 82(3), 2017, 427-451.

As a student in the 1970s, I and fellow classmates worked our way through site reports on shell mounds and other midden sites for research projects and class assignments. On occasion, the authors noted anomalies – interments or caches of unexpected artifacts. We pondered the significance of these findings, but usually concluded, along with the excavator, that the burial or pit was ‘intrusive’ and returned to solving whatever problem New Archeology had set for us.

Given the same site reports today, students have more than two decades of research that has moved beyond taphonomy and subsistence to situate shell middens and features associated with them within the context of feasting, cultural landscapes, ritualization, and other aspects of memorialization. Author Lynn Gamble draws on this literature, especially the body of work coming out of the American Southeast, to situate her investigations of El Montón, a shell mound on Santa Cruz Island in Channel Islands NP.

And what a shell mound it is! The location is stunning, on a low ridge on the far western tip of the island, with views seaward and landward in all directions, and access to a wide array of marine resources. Three vertical meters of cultural debris caps a hill, spreading for 4.5 hectares. The site contains 50 house pits and 2 cemeteries.

Gamble argues that El Montón was “a persistent place that became a significant feature on the landscape that served to create social memory among many generations of people” (Gamble 2017: 430). Discussion of the evidence supporting this argument is compressed, and the author assumes that the reader is familiar both with the literature on site memorialization and the prehistory of the Channel Islands. Readers not familiar with research on persistent places and collective memory might consult Van Dyke and Alcock (2003), who list four broad categories of archeologically accessible material media through which social memories are commonly constructed: ritual behaviors, narratives, objects and representations, and places.

Although not explicitly stated, Gamble identifies ritual behaviors in the mortuary treatments of specific individuals in the cemeteries; and figurines placed in burials as a line of evidence for memorialization of El Montón. She also attributes deposits containing unusual proportions of red abalone shells and sea mammals, as well as stacked and whole abalone shells and sea urchin tests, to feasting behavior. Feasting, when it is a ritual behavior, can also contribute to the construction of persistent places. Cemetery dates ranging from 6,000-2600 B.P. support a conclusion that El Montón was a commemorative place.

There is a number of tantalizing loose threads for the reader to tug on. Gamble demonstrates that there is inequality in the distribution of grave goods more than a thousand years before other elements of social complexity are demonstrated. Is there a connection between unequal distribution of grave goods and later social complexity? There is also variation in house size. Does this variation represent inequality, different household sizes, conflation of non-domestic architecture with communal buildings, or something else?

Gamble’s analysis provides another perspective for interpreting the archeological data, and allows us to think more deeply about human dimensions of landscape. Research on the transformation of behaviors into material media has provided insights into the ways that information is ‘fixed’ in collective memories. Myths and legends can contain important information about famine resources for infrequently –occurring events. Perhaps commemorative places served similar functions, especially in pre-literate societies. El

Montón is situated near critical natural resources and provided views of other islands whose conditions may have been better. As a cemetery and persistent place, El Montón may have been a means to maintain information about crisis resources in the collective memory of distant communities.

Understandably, it is not possible to convey the results of almost a decade of research at El Montón in a short article. Further publications will add immense information about the site and history of the island. Ironically, in an article about persistent places and memorialization, the name of the national park that manages the site is never mentioned.

## **GRANTS AND TRAINING**

### **National Park Service Offers Webinar on Archeological Site Condition Assessment App**

Staff from the NPS Midwest Archeological Center (MWAC) will present a webinar about technological developments in collecting site condition data on September 14, 2017, from 2-3pm ET. Anne Vawser, Amanda Renner, and Austin Butterfield will give *There's an App for that? Collecting Archeological site condition assessment data using Collector for ArcGIS*.

MWAC received funding through the NPS National Center for Preservation Technology and Training in FY2016 to develop and test a mobile data collection workflow for archeological site condition and monitoring at Midwest region parks. Using the NPS Geospatial Portal for ArcGIS Online and the Collector for ArcGIS app, MWAC's workflow simplifies data collection, allowing archeologists, law enforcement rangers, and other park staff to navigate to site locations, fill in a form, take photos, and sync the data from their NPS mobile device. It has potential to decrease the time staff spend conducting assessments. This presentation will discuss general workflow, map-based data collection form, and plans going forward to continue testing and implementation at parks in the Midwest region.

**Register here:** <https://attendee.gotowebinar.com/register/3696159354560273666>

### **Advisory Council on Historic Preservation Offers New Training**

The ACHP is offering new online courses with training in the use of National Historic Preservation Act Section 106 to protect historic properties. Two courses cover integration and coordination of Section 106 reviews with the National Environmental Policy Act (NEPA) review process, which is of particular importance as policy makers at all levels of government search for new ways to create efficiencies in regulatory processes and advance infrastructure projects.

The course catalog also includes a FREE online course, "What is Section 106?" Designed for the general public, it provides a broad overview of the Section 106 review process and the opportunities for the public to play a role in such reviews. A fourth offering, *Successfully Navigating Section 106 Reviews: An Orientation for Applicants*, targets applicants for federal permits and assistance to help better understand, support and participate in Section 106 reviews. A forthcoming course will further explore the circumstances under which NEPA can serve as a substitute for Section 106.

These courses are part of the ACHP's broader training program that includes onsite courses and webinars. On-demand courses are available any time of the day or night for a nominal fee.

For more information about the courses and instructions to register, go to:  
<http://www.achp.gov/elearning.html>

## **SLIGHTLY OFF-TOPIC:** Researchers Discover Earliest Evidence of Wild Potato Use in North America by Science News staff

Archeologists and anthropologists, led by the University of Utah, have discovered potato starch residues in the crevices of a 10,900-year-old stone tool in Escalante, Utah — the earliest evidence of wild potato use in North America. At least twenty tuber-bearing, wild species of *Solanum* are known from North and Central America, yet their importance in ancient diets has never been assessed. The prehistory of potato use, leading to its domestication and diversification, has been confined to South America.



(Photo: University of Utah)

Several Native American tribes, including Apache, Hopi, Kawaik, Navajo, Southern Paiute, Tewa, Zia and Zuni, consumed *Solanum jamesii*. The groups used various cooking and processing techniques, including boiling, grinding into flour or yeast, and mixing with clay to reduce bitterness. Some groups still tend their potato populations in cultivated gardens.

Lisbeth Louderback and Bruce Pavlik analyzed stone tools from the 11,000-year old North Creek Shelter in the Escalante Valley. The researchers examined large sandstone metates and manos, the ancient food processors on which people prepared meals. They found microscopic starch granules that previous archeologists never suspected were present.

Louderback and Pavlik identified the potato species from characteristics of the starch granules. Starch granules have concentric circles that grow outward like tree rings. The origin of the growth is called the hilum. The majority of plant species have starch granules with hilum at the center of the grain. However, the hilum of granules filling the team's microscope slides were off-center. Only a few species from the Four Corners region produce starch granules with that specific characteristic; *Solanum jamesii* is one of them.

The scientists analyzed granules from modern-day *Solanum jamesii* to establish a set of five characteristics that accurately identified the wild potato, starting with the off-center hilum. Starch granules with five out of five characteristics were a verified wild potato. They checked for the characteristics on granules found on the ancient stone tools from North Creek Shelter. Out of the 323 total starch granules, 122 had the off-center hilum. Of those, nine were verified *Solanum jamesii* and another 61 were either likely or possibly *Solanum jamesii*.

The oldest granules were found in substratum 4k (10,900–10,100 cal B.P.). Younger deposits, dating to ~6,900 cal B.P., also contained tools with *S. jamesii* granules, indicating at least 4,000 years of intermittent use. Ethnographic and historical accounts extend the period of use to more than 10,000 years from the archeological past to the ethnographic present. The question then arises as to whether some *S.*

The potatoes we buy at the grocery store are all varieties of a single species (*Solanum tuberosum*) that was domesticated in the Andean highlands more than 10,000 years ago. Since then, *Solanum tuberosum* has diversified into thousands of other potato types. The study deals with *Solanum jamesii*, a species found in the shelter of oaks, sagebrush and piñon pines in the southwestern U.S. Also known as the Four Corners potato, it is most abundant in the New Mexico highlands, where its green leaves and delicate white flowers are scattered throughout piñon-juniper woodlands.

*jamesii* populations could have undergone transport, cultivation, and eventual domestication over such a long period of time.

The findings appeared in the *Proceedings of the National Academy of Sciences*.

*Starch granule evidence for the earliest potato use in North America* by Lisbeth A. Louderback & Bruce M. Pavlik. *PNAS*, published online July 3, 2017; doi: 10.1073/pnas.1705540114

### **Correction**

In our profile of Alice Dewey last month the individual with Dewey in the photograph was identified as retired NPS employee Earl (Buddy) Neller. The individual in the photo was actually University of Hawaii student Jim MacDonald. Neller was the photographer.

**Archeology E-Gram**, distributed via e-mail on a regular basis, includes announcements about news, new publications, training opportunities, national and regional meetings, and other important goings-on related to public archeology in the NPS and other public agencies. Recipients are encouraged to forward *Archeology E-Grams* to colleagues and relevant mailing lists. The *Archeology E-Gram* is available on the *News and Links* page <https://www.nps.gov/archeology/public/news.htm> on the NPS Archeology Program website.

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