

# Arkansas Archeological Survey

Annual Report for 2018–2019



A Division of the University of Arkansas System

# **Arkansas Archeological Survey**

**Annual Report for fiscal year 2018–2019**



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University of Arkansas System

# Arkansas Archeological Survey

## Introduction

**T**he Arkansas Archeological Survey (ARAS) is a part of the University of Arkansas System. Our mission is to study and protect archeological sites in Arkansas, to preserve and manage archeological information and collections, and to communicate what we learn to the people of Arkansas. Cooperative agreements with seven state university campuses, two state parks, and the UA System's Winthrop Rockefeller Institute enable scholars at research stations around the state to carry out this mission. The Survey has been a model for statewide archeological programs in the United States and around the world.

Our coordinating office (CO) in Fayetteville is the ARAS administrative body. The Director, the State Archeologist, the ARAS registrar, the fiscal office, publications staff, and outreach programs operate from the CO. The registrar maintains a central archive of all archeological site records for the state. The coordinating office building also contains the University of Arkansas Museum Collections Facility. The Survey acts as a repository for archeological collections originating from state and federally funded projects in Arkansas, our own research, private consulting firms, and donations. Also at the coordinating office are our sponsored research program (SRP) and computer services program (CSP) which support themselves in part through grants, contracts, and cost-share agreements with local, state, and federal agencies. The CSP maintains several websites with educational information on Arkansas archeology and frequently updated stories about our projects. The CSP also supplies research support through our archaeogeophysical program, employing the latest technologies for nondestructive detection of subsurface features at archeological sites.

Professional archeologists at our research stations teach college courses in anthropology and assist their university museums, or develop materials for public interpretation at the state parks, in addition to conducting basic research in their areas. Survey archeologists help to increase our knowledge of the past and its relationship to the present by working closely with local, state, and federal government agencies, American Indian tribes, college students, school teachers and K-12 students, tourists, fellow scholars, land owners and managers, amateur archeologists, and all Arkansas residents interested in archeology, prehistory, and the early history of the state.

At the Survey, science and service go hand-in-hand.

*George Sabo III, Ph.D.*  
**Director**



# Highlights for the Year



## Scientific Achievements & Archeological Mission 2018–2019

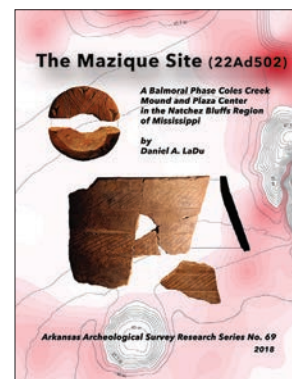
- Survey staff authored or coauthored **47 print or digital publications and reports**, and presented **46 papers or posters at meetings and conferences** in 2018–2019.
- The Survey's **AMASDA database (Automated Management of Archeological Site Data in Arkansas)** is **one of the oldest and best computerized site file systems in the country**. Our computer services program and registrar's office personnel are constantly working to expand and upgrade the AMASDA system to add new functionality. The system is now available online (password protected) for qualified researchers. Contractors may subscribe per project or for an annual fee.
  - **444 new archeological sites** were recorded, bringing the total number of sites in Arkansas site files to **49,750**.
  - **162 new archeological projects** were entered into the database, bringing the projects total to **7,368**.
- The Survey registrar facilitated **2,500 requests for information** from the Arkansas site files by students, researchers, and project managers. This included **15 graduate student and academic research** projects. We assisted **local, state, and federal entities**, four **American Indian Tribes**, and **47 private firms** conducting projects in Arkansas.
- We conducted projects supported with **new funds generated by grants and cost-share agreements totaling \$97,314**.
- **Volunteer participation** in our projects, totaling **12,337 hours**, continued to show a high level of interest in archeology.
- **Digital Data Collection Initiative**. A DDCI working group within ARAS led by Carl Drexler (ARAS-SAU) developed an action plan to transition us from paper records filled out by hand to use of a digital platform for creating all of the records collected during fieldwork and uploading those records from the field to our servers. This involved making digital versions of



the many forms we use (excavation unit level records, feature forms, profile forms, Field Serial Number log sheets, photo record sheets, special sample forms, etc.), selecting associated hardware platforms (weatherized tablets for use in the field), and developing software for uploading the data. Other members of the group were Elizabeth Horton (ARAS-TMRS), the late Jamie Brandon (ARAS-UAF), Emily Beahm (ARAS-WRI), John Samuelson (ARAS-CSP), and Teka McGlothlin (ARAS-Registrar).

Michelle Rathgaber and Madelyn Rose used the new artifact database to process several collections in the lab, testing the new system's functionality as they worked. Photo Rachel Tebbetts (ARAS).

- This year the interactive fieldwork database was employed during the Training Program excavations at Lockesburg Mounds in Sevier County. This provided further testing of the system and the ease with which new users could master it.
- An additional larger focus during 2018–2019 was expansion of the concept to develop and implement it for working on artifact collections in the laboratory. John Samuelsen worked with others to create and implement the artifact database. With funding from ANCRC, lab technicians led by Michelle Rathgaber and Madelyn Rose refined the application by processing several large artifact collections, both prehistoric and historic, to determine how existing artifact classifications functioned within the database. The system proved to be efficient and useful.
- Our **publications program** continues to develop with a new Research Series volume (no. 69) published in 2018 and three Popular Series volumes in production.
  - Thanks to cooperative effort with the University of Arkansas's CashNet team, our program now has an online eCommerce storefront, linked from our main website, where individual customers can order books. This has greatly streamlined our process to better serve students and the public.
- In conjunction with our 50th year in 2017, we embarked on a **major initiative to create a systematic archive of all our accumulated project documentation, including digitization of paper records for long-term preservation.** We also started to inventory and organize our collections at the coordinating office and all ten research stations to ensure that records are complete and storage is according to modern curatorial standards. The ARAS registrar's office is pursuing the digitization effort.
  - In 2018–2019 station records from ARAS-WRI were completed. Station records at ARAS-HSU and slides from the coordinating office were also finished, and the office began scanning records from ARAS-UAPB.



### Staff News

John H. House retired from the Survey at the end of December 2018. He had been with the organization since 1978, but his involvement with archeology in Arkansas stretches back even further to his teenaged years in Mountain Home. He was a young participant in the founding of the Arkansas Archeological Society, and saw the creation of the Survey in 1967. House was educated at the University of Arkansas, where he earned a B.A. with a major in Anthropology, taking many courses from Michael P. Hoffman. He then worked in Georgia, Louisiana, and at South Carolina's Institute of Archeology and Anthropology, where he learned on the job from Albert C. Goodyear. He returned to Arkansas and to the Survey as an assistant at the UAPB research station. His career was well established when he entered graduate school, receiving his Ph.D. in 1991 from Southern Illinois University at Carbondale. His graduate studies were supported in part by a National Science Foundation fellowship. House served successively as research station archeologist for the Survey in Monticello and finally in Pine Bluff, where he remained until retirement.

His research has focused on the emergence of historic era ethnic groups, particularly the Quapaws. Inspired by Bruce Trigger, House brings the perspective of American archeology as Native American history. He cites his work in partnership and collaboration with the Quapaw as the most gratifying part of his career. Included are discoveries that identified the 1600s Quapaw village of Osotouy and the French Arkansas Post of the early 1700s. He also remarks on the importance of avocational archeologists and members of the general public as contributors to archeological discovery and research — a founding principle of both the Arkansas Archeological Survey and Society over more than 50 years.

John House was granted emeritus status by the University of Arkansas System Board of Trustees. The Arkansas Archeological Society presented him with the McGimsey Preservation Award in 2018 for his lifetime of service to Arkansas archeology.





Lela Donat also retired in December, 2018. Hired as Assistant Registrar in 1992 after completion of her M.A. degree in Anthropology from the University of Arkansas, Lela was promoted to Registrar for the Survey in 1994 and held the position thereafter. She played a lead role in the development of the AMASDA database system for managing statewide information on archeological sites, projects, reports, and associated information. Throughout her career she provided invaluable assistance to students, scholars, federal and state agency officials, Native American officials, and Survey staff members requiring access to database information. Lela supervised a carefully trained staff, who ably cared for the Survey's extensive records and collections, and provided valuable oversight for collection curation activities at the Survey's coordinating office and at our statewide network of research stations. In the final years of her career, Lela oversaw the development of a major initiative to digitize records and maps accumulated during the past half-century of all the Survey's facilities. Lela is missed not only for her professional skills, but for the kindness and empathy she brought to her interactions with everyone, and for her role as the keeper of knowledge about anything and everything happening in the coordinating office.



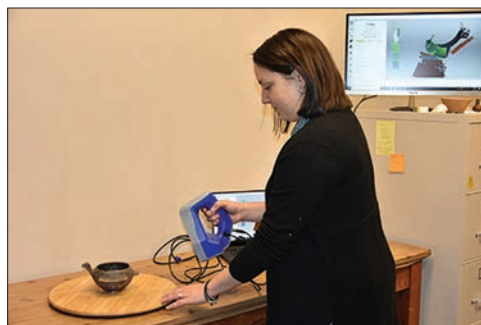
Marilyn Whitlow also retired on December 31, 2018 from her position as Research Station Assistant at Toltec Mounds Archeological State Park, where she began working as a secretary on October 1, 1985. During her long tenure at the station, she provided valuable assistance to all four Station Archeologists: Drs. Martha Rolingson, Julie Markin, Jane Anne Blakney-Bailey, and Elizabeth T. Horton. Beyond basic office management, Marilyn regularly helped with field activities and supervising Arkansas Archeological Society volunteers, assisted with special events and programs at the State Park, and contributed extensive effort to inventorying, cataloging, and curating the station's artifact, photo, and record collections. She also completed the first digital inventory of the Toltec artifact collections using the DELOS nomenclature, developed during the 1980s by the Survey's Computer Services Program, and then used the resulting database to create analysis tables appearing in Dr. Rolingson's monographs. We'll all miss Marilyn's dedicated service and good cheer.



Teka McGlothlin succeeded Lela Donat as Survey Registrar. Teka worked in the registrar's office as a Research Assistant from 2008–2014, while completing her M.A. in Anthropology at the University of Arkansas. Promoted to Assistant Registrar in 2014, Teka assumed primary responsibility for managing the Geographical Information System elements of AMASDA and later helped develop the Survey's 3D scanning and printing lab. Teka brings extensive archeological field and lab experience to her new position, with a special focus on the study of historic sites in northwest Arkansas.



Sarah Shepard was promoted to Assistant Registrar at the beginning of 2019. Following receipt of her B.A. in History from the University of Central Arkansas in 2010 and another B.A. in Archeology at the University of Oklahoma in 2011, Sarah entered the graduate program at the University of Arkansas, earning a M.A. degree in 2016. She has worked as Research Assistant at the Survey since 2014, assisting the registrar's office with maintenance of AMASDA databases and inventorying and cataloging artifact and record collections. Sarah is also managing the Survey's recent NPS-funded effort to update our Native American Graves Protection and Repatriation compliance.



Rachel Tebbetts was hired following a nationwide search to begin work as our graphic artist and photographer in July 2018. Rachel has been making art her whole life. As a child, she loved drawing, coloring, and taking pictures. Rachel fostered that interest by pursuing a degree in art with an emphasis in painting from the University of Arkansas. After completing a BFA with honors, she began to create pottery while living and working at Terra Studios in Durham, Arkansas. In 2011, she and her spouse started a business in Fayetteville called Ease Arts Supplies. Together, they created a unique line of wholesale pottery, gave art lessons, and more. In the summer of 2016, Rachel and family moved to Trinidad, Colorado, where Rachel began work in Graphic Design. She and her family are happy to return to Fayetteville where Rachel is now using her art skills as the Commercial Graphic Artist for the Arkansas Archeological Survey.



Andrew R. Beaupré was hired as the new Research Station Archeologist for ARAS-UAPB, and Research Assistant Professor of Anthropology, University of Arkansas–Fayetteville. Following a search during FY2019, Beaupré took up his post in August 2019. He has been interested in archeology since his first visit to an excavation in the fourth grade. He earned his Ph.D. at the College of William and Mary in 2017. His current research interests include historical archeology, culture contact and colonialism, landscape archeology, heritage studies, and public archeology. He has excavated throughout the eastern seaboard of the United States, in Canada, and as far away as Australia. Prior to joining ARAS, Beaupré was the inaugural Postdoctoral Teaching and Research Fellow in the McCormick Center for the Study of the American Revolutionary Era at Siena College in Loudonville, NY. He has also taught courses at the University of Vermont, several community colleges, and has worked as a cultural resource management archeologist.



### ***Archeological Projects Around Arkansas 2018–2019***

- The Survey has been developing an organizational focus on **the study of early agriculture in Arkansas and the Southeast**, and public education about this topic.
  - Our ***Gathering, Gardening, and Agriculture: Plant-based Foodways in the Southeastern United States*** 5th grade social sciences curriculum is available free of charge online <https://archeology.uark.edu/gga/>.
  - Experimental and teaching gardens at three of our research stations contribute to study and public outreach on this topic in a variety of ways.
  - The **Plum Bayou Garden** at Toltec Mounds Archeological State Park is the first such project to celebrate and teach about the indigenous plants that were domesticated locally and cultivated by Native people in the eastern United States. It is a permanent feature at the park and projects at the garden contribute to collaborative research across the Southeast.
  - The **Mississippian Garden** at Parkin Archeological State Park focuses on the “three sisters” crops (corn, beans, squash) imported from Central America that formed dietary staples of the later Mississippian cultures that dominated pre-Columbian economies at the time of European arrival, and that contributed much to the Columbian Exchange.
  - The ARAS-WRI station has both **Mississippian and Woodland Native American Teaching Gardens**, and offers visitors a chance to engage in gardening activities, including experimenting with a replicated set of implements.
  - **Emily Beahm (ARAS-WRI)** and **Mel Zabecki (Educational Outreach Coordinator)** continue to work with **home-schoolers** and **Gifted & Talented students from public schools** at the WRI research station, using the GGA curriculum and other lesson plans they have developed, including extensive hands-on activity in the gardens.
- **Paleoethnobotanical research** performed by **Elizabeth Horton** has added a new dimension to the Survey’s abilities. Work carried out during 2018–2019 in the **Paleoethnobotany Lab at the ARAS-TMRS** included analysis and processing of charcoal and flotation samples from 3NW1308 and 3NW1309 bluff shelter sites in the Buffalo National River for a contractor (Panamerican Inc.); analysis and sample selection from the Holman Springs site 3SV29 for ARAS-SAU and the 2019 Training Program; botanical analysis from excavations at 3FR46 on the Mulberry River project for ARAS-UAF; and ongoing work on unanalyzed samples from 2010 Training Program excavations at the Toltec Mounds site 3LN42.



- Horton assisted **MicroCT scanning of the Edens Bluff seed bag** (UA Museum 32-3-139) and continued comparative work (seed measurements) with *Rudbeckia* sp. to narrow identification of the “unknown Asteraceae” seed accompanying the domesticated *C. berlandieri* seeds that are inside the bag (see p. 81).
- **Experimental paleoethnobotany** research included pawpaw processing exploring lakeside retting and the role of tools like plummets and chert knives. (“Retting” is softening plant fibers by soaking them in water.)
- **“Naked Grains in ENA: Little Barley and Type X”**: Horton, working with intern Jenna Bracas, carried out three small-scale experiments in processing and charring little barley, three species of native wild rye, and native broom grass to understand the phenomena of “naked grains” in the archeological record of North America. The “Type X” is a (so far) unidentified domesticated grass present archeologically at Toltec Mounds.



Type X seeds from Toltec Mounds. ARAS photomicrograph.

- With an emphasis on Civil War era sites, and homefront sites of the World Wars, **conflict archeology** is another emerging research focus within ARAS. **Carl Drexler (ARAS-SAU)** has a long-term research interest in this topic and experience in battlefield archeology, and has been exploring a number of Civil War related sites in southwest Arkansas (Elkins’ Ferry, Dooley’s Ferry, Wallace’s Ferry, Prairie D’Ane). The Survey has also carried out a multi-year project at Pea Ridge (see below) and a number of fieldwork projects at Prairie Grove Battlefield State Park. Research by **Jodi Barnes (ARAS-UAM)** at Camp Monticello and projects associated with Japanese-American internment bring attention to archeology and anthropology of the World War II home front.

- The Survey partnered with the **National Park Service** to conduct archeological inventory at **Pea Ridge National Military Park**. The four-year project was named as part of the federal **Cooperative Ecosystem Studies Units (CESU) program**. Planned fieldwork was completed in 2019 with the final report to be submitted in January 2020. Geophysical surveys, Geographical Information System (GIS) spatial analysis, artifact collection, and excavations took place variously at Ruddick’s Field Civil War Battlefield, at Leetown (a Civil War era hamlet), and at Foster’s Field and Clemens Farmstead (domestic sites that figured in the battlefield landscape). Two University of Arkansas field schools, a NPS-sponsored workshop, and the 2018 jointly sponsored Survey and Society Training Program were held in conjunction with the project. Staff from across the Survey have been involved in the Pea Ridge project, especially the **ARAS-UAF and ARAS-SAU research stations and ARAS-CSP**, with **Carl Drexler, Jami Lockhart**, and the late **Jamie Brandon** as principal investigators.

- **Camp Monticello is a World War II Italian prisoner of war camp** in southeast Arkansas. The results from 2013 research by **Jodi Barnes (ARAS-UAM)** were published this year in a thematic issue of the journal *Historical Archaeology*, “Intimate Archaeologies of World War II,” edited by Barnes. In addition, Barnes partnered with Dr. Stacey Camp (Michigan State University) to include Camp Monticello in an online comparative database of World War II internment. Funding was being sought from the National Park Service and the National Endowment for the Humanities.



Mid-nineteenth century clay smoking pipe from the Lee/Mayfield House at Pea Ridge National Military Park. Photo Jamie Brandon.

- **Juliet Morrow and her colleagues (ARAS-ASU)** continued with research on **Paleoindians in Arkansas**. Morrow has been building an Arkansas Paleoindian Database (APD) to map all known locations of identified diagnostic artifacts (fluted points and the terminal Paleoindian Dalton points). Over the last year, Morrow and team expanded the regional contexts of the project to include the entire Ozark Mountains region across 93 counties in four states: Missouri, Arkansas, Oklahoma, and Kansas. This gives a more accurate picture of the area’s use by Clovis era peoples. At a continental scale, the Ozarks was a major supply zone for raw material for stone tools. Data suggest the midcontinent was the “reservoir” for Paleoindian variation.

- **Jeff Mitchem (ARAS-Parkin)** has been working on processing material from past excavations at the **Richards Bridge site (3CT11/22)**. So far, the results call its identification as a Parkin phase village into some question. On the other hand, it does not resemble “typical” Nodena phase sites either. Probably the site was settled before well-defined chiefdoms developed in the region and before continuous warfare necessitated strategically located fortified villages. The location of the village in a presumed frontier zone highlights its importance in learning about the timing of **shifting political boundaries in northeast Arkansas during late prehistory**.

- **Mary Beth Trubitt (ARAS-HSU)** continued her research on **Caddo lifeways in the Saline and Ouachita river valleys**. With accumulated evidence from past excavations at several sites, a picture of how these ancestral Caddo communities used the land and resources is being built. The upland aspect of Ouachita area land use is explored through the station’s novaculite tool production and exchange research project, presented on our dedicated “Arkansas Novaculite” website. Conference presentations, journal articles, and two forthcoming books bring the results to colleagues and to the public. “Ouachita Mountains Archeology” was in press for the ARAS Popular Series in 2019. A coauthored volume on the “Archeology of Quarry Landscapes” for Oxbow Books is in preparation. Trubitt is preparing another book manuscript comparing results of past excavations at Hughes (3SA11) and Hedges (3HS60), two contemporaneous Caddo mound sites in the Saline and Ouachita river valleys.

- This year a major accomplishment was transfer of artifacts from the **Joint Educational Consortium’s Hodges Collection**, curated by ARAS-HSU research station, from closed to open storage in the newly rehabilitated Caddo Center on the HSU campus. Staff, students, and volunteers updated inventories and installed the artifacts.

- **Jami Lockhart (ARAS-CSP)** is developing **high-resolution 3D maps and imagery for archeological sites** using aerial photos and LiDAR derived imagery. Lockhart is able to interpret these cutting-edge data sets—even in densely forested areas—to complement hand-drawn site sketches currently included within the Survey’s AMASDA database. The new data provide unequalled analytical information for discovering, measuring, and mapping prehistoric mounds, earthworks, and bluff shelters, as well as historic roads, Civil War related features, former land use, and more. To date, Lockhart has processed and analyzed bare-earth LiDAR data for more than 250 archeological sites and study areas statewide.

- **Jodi Barnes (ARAS-UAM)** has continued to work at **Hollywood Plantation**, developing a focus on **the archeology of health and foodways**, especially representing **the lives of women**, both the wife of the plantation family and the enslaved women who worked in its kitchen and cared for their owners’ children. This year she expanded her research to begin a comparative analysis of the findings from Hollywood with information from the Brownlee House (3PU30) in Pulaski County and Lakeport Plantation (3CH90) in Chicot County. Grants allowed preliminary analysis of faunal remains from these two sites to better understand foodways across the state, and how ethnicity and religious practices of the families, their ownership of enslaved laborers, and urban versus rural location influenced diet.

- **Tim Mulvihill (ARAS-UAFS)** continued to assist with the **Willhaf House and Drennen-Scott Historic Site**, two 19th century properties located near the downtown area of Van Buren, Arkansas, that are owned by the University of Arkansas - Fort Smith. Drennen-Scott has served as an archeological “laboratory” for Mulvihill’s Introduction to Archeology students at UAFS, who participate in excavations to acquire hands-on experience. The Willhaf house is currently being stabilized and rehabilitated, with Mulvihill consulting on archeological matters. During 2019, Mulvihill monitored while a 1990s addition that had been built onto the back of the historic structure was removed; no intact below-ground features were encountered.



Volunteer Janice Fisher and HSU student Rae'Shawn Jones installing artifacts in the Caddo Center. Photo Mary Beth Trubitt (ARAS-HSU)



Excavating a kitchen at Hollywood Plantation in 2014. Photo Jodi Barnes (ARAS-UAM).



- Beginning in 2014 the Survey, in partnership with the National Park Service Midwest Archeological Center (MWAC) in Lincoln, Nebraska, began a **multiyear comprehensive archeological inventory of the Osotouy Unit at Arkansas Post National Memorial**. **John House (ARAS-UAPB)** and **Jami Lockhart (ARAS-CSP)** were co-principal investigators. Geophysical surveys of the Menard-Hodges site (3AR4) indicated numerous cultural features beneath the surface and excavation on selected locations ensued. Midwest Archeological Center conducted follow-up topographic mapping and mound coring. The partnership project officially ended in summer 2019. However, ARAS-UAPB personnel will continue to work with MWAC, interpreting the results and integrating the findings from past excavations.

### Contributions to Higher Education in Arkansas 2018–2019

- George Sabo III**, Survey Director since 2013 and **Professor of Anthropology**, serves as **Co-Director of the Environmental Dynamics Interdisciplinary Ph.D. Program**, which is part of The Graduate School and International Education at the University of Arkansas.
- Survey archeologists held **research faculty titles in the Department of Anthropology** at the University of Arkansas in 2018–19: Jodi Barnes, Emily Beahm, Andrew Beaupré, the late Jamie Brandon, Carl Drexler, Ann Early, Elizabeth Horton, John House (Emeritus), Jami Lockhart, Jeffrey Mitchem, Juliet Morrow, and Mary Beth Trubitt.
- Survey archeologists **taught 19 courses for 268 students enrolled at 9 university campuses** in Arkansas and one out-of-state school (Southern Missouri State University): UAF, UAFS, UAPB, UAM, UALR, ASU, HSU, SAU, and Hendrix College. This included **four online courses** for University of Arkansas and Arkansas State University Midsouth.
- Courses taught by Survey archeologists fulfill **basic education requirements** and contribute to **several undergraduate majors and graduate degree programs** at Arkansas universities, including Anthropology, History, Geosciences, and Environmental Dynamics at UAF; Heritage Studies at ASU; the Historic Interpretation Program at UAFS; and African Studies at UAPB.
- Survey archeologists contributed numerous **guest lectures, demonstrations of geophysical technologies, field and lab instruction including mapping, ethnobotanical, and other specialized processing, and tours of facilities** to college and university students in Arkansas.
- Survey archeologists **supervised three students in Intern positions**: Elizabeth Horton (ARAS-TMRS) worked with Hendrix University student Jenna Bracas, Emily Beahm (ARAS-WRI) worked with ATU student Morgan Vaughan, and Ann Early (State Archeologist) supervised UALR student Katheryn Bryles.
- Elizabeth Horton (ARAS-TMRS) participated with Dr. Krista Lewis (UALR) in the **Land of Frankincense Archaeological Project at Al Baleed**, a UNESCO Heritage site in Oman. Horton assisted with excavation strategy and directing fieldwork, including training for two field school students (from UALR and Southern Missouri State University).
- Survey archeologists served on **25 thesis or dissertation committee positions (member or chair) for UAF graduate students** in Anthropology and Environmental Dynamics, and **1 committee for a UALR graduate student**.
  - In addition Survey archeologists advised **2 undergraduate Honors students** studying anthropology at UAF.
- Survey archeologists at all research stations and the coordinating office provided opportunities for **hands-on research experience** in archeological fieldwork and laboratory analysis for undergraduate and graduate students at host campuses.
- The Survey provided **employment to students at several campuses** through grant funding, assistantships, and direct employment.



Michelle Rathgaber with her committee after successfully defending her Ph.D. dissertation. Photo Rachel Tebbetts (ARAS).

• **Additional service to Arkansas college and university campuses** included:

- participation in course and program development for host departments,
- membership on campus and departmental committees, curatorial functions and exhibit development for campus museums and libraries, and
- assistance with historic properties and artifact collections owned or managed by the universities: the Joint Educational Consortium's Hodges Collection (HSU); Lakeport Plantation (ASU); Drennen-Scott Historic Site (UAFS); Willhaf House (UAFS); Camp Monticello (UAM); the Taylor House/Hollywood Plantation (UAM); development of SAU Museum; ongoing UA Museum Collections research and on-campus exhibit development (UAF); the Gregoire collections and Arkansas Tech Museum (ATU).

## Graduate Student Research

The Arkansas Archeological Survey supports graduate students working on internship, thesis, and dissertation projects both at the coordinating office and at our research stations. Support is provided through employment when available, and for assistantships paid out of our base funding and through grants or other special project funds. We also work closely with the Anthropology Department and the J. William Fulbright College of Arts and Sciences at the University of Arkansas to host students who receive support through the Hester A. Davis Internship in Public Archeology and the Charles R. McGimsey III Endowment for Cultural Resource Management. Our graduate students work on a wide variety of research, preservation, and educational initiatives and thus make valuable contributions to our mission within the University of Arkansas System.

- **Jessica Cogburn** is a Ph.D. student in the Anthropology Department at the University of Arkansas Fayetteville, where she is supported by a Survey graduate assistantship. She has been working on a database for the State Historic Preservation Office regarding archeological site eligibility for the National Register of Historic Places. Her dissertation research is on late prehistoric and protohistoric sites in the Central Arkansas River Valley, primarily focusing on the Isgrig site (3PU15), which is located south of Little Rock. Jessica Cogburn's dissertation advisor is Dr. John House.
- **Michelle Rathgaber** completed her Ph.D. in the Environmental Dynamics program at the University of Arkansas Fayetteville and graduated at the end of FY2019. Her dissertation research focused on the New Madrid seismic zone in NE Arkansas/SE Missouri and how earthquakes may have affected life in the Middle-Late Mississippian cultural period (around AD 1200s–1500s). She used archeological excavations at two sites (Manley-USrey and Eaker) as well as larger scale views of the landscape and environment to study this problem. She was supported by a Distinguished Doctoral Fellowship as well as a graduate assistantship through the Arkansas Archeological Survey. Michelle Rathgaber's dissertation advisor was Dr. George Sabo III. She was hired by the Survey as Station Assistant at the Parkin research station.
- **John Samuelsen** is a Ph.D. student in the Anthropology Department at the University of Arkansas Fayetteville. He is employed full-time at the Survey coordinating office as server administrator in our Computer Services Program. John's dissertation research involves strontium and lead isotope analysis of samples from a unique skull and mandible cemetery at the Crenshaw site in the Caddo archeological area of southwest Arkansas to help determine whether the people buried were of local origin, and the meaning of the cemetery. With permission of the Caddo Nation of Oklahoma, he applied for and received a \$14,750 Doctoral Dissertation Research Improvement Grant in 2018. His project will aid the Caddo Nation in determining the cultural affiliation of the human remains at the site. John Samuelsen's dissertation advisor is Dr. George Sabo III.
- **Lydia Rees** is a graduate student in the Anthropology Department at the University of Arkansas Fayetteville. She is completing her M.A. degree with an emphasis on prehistoric ceramics in the Arkansas Ozarks. Ms. Rees received an Outstanding Achievement in Preservation Education Award from Preserve Arkansas for her work on the "Bluff Shelters of the Arkansas Ozarks" website. She is also the recipient of the Hester A. Davis Internship in Public Archeology. Lydia Rees's advisor is Dr. Wesley Stoner (UAF Department of Anthropology).



Samuelsen working in clean lab on the UAF campus.



### Contributions to Public Schools and K-12 Education 2018–2019

- **Gathering, Gardening & Agriculture – 5th Grade Social Sciences Curriculum.** With funding from multiple sources (the Southeastern Archaeological Conference, the Arkansas Archeological Society, the Arkansas Humanities Council, and the National Endowment for the Humanities), **Jodi Barnes (ARAS-UAM), Emily Beahm (ARAS-WRI), and Elizabeth Horton (ARAS-TMRS)** developed a 5th grade social sciences curriculum that is now **available free on the ARAS website** at <https://archeology.uark.edu/gga/>. Each year, hundreds of 5th grade educators teach their students about pre-Columbian societies and early European exploration in North America, a period known largely through archeology. This lesson and instruction package is aligned with the 5th grade Arkansas Department of Education (ADE) Social Studies Curriculum Framework. It presents the history of early Arkansas by comparing foodways and plant-based cultural traditions of Native Americans, European settlers, and African Americans. Archeological evidence from Arkansas is used to illustrate and to show how science can explore these topics. Lesson plans, exercises, and PowerPoints may be downloaded directly from the Gathering, Gardening, and Agriculture webpages, which also include background information and updates on teacher workshops to help educators implement the curriculum. A hardcopy workbook is available to Arkansas educators on request.
  - Emily Beahm gave presentations to Booneville Elementary social studies 5th graders using the GGA curriculum.
  - Homeschool students visited the station for a monthly series “Plant Use Through Time” that uses the GGA curriculum, supplemented with hands-on activities in the Teaching Gardens.

#### Other unique and creative educational activities:

- **Project Dig.** ARAS-WRI station staff, cooperating with Winthrop Rockefeller Institute, again presented Project Dig, a semester-long program for gifted and talented 5th and 6th graders that uses archeological concepts and active learning to teach about culture, using evidence-based critical thinking and the scientific method. **Sixty-three students** from Dardanelle, Dover, Perryville, Pottsville, and Hector participated, along with their teachers and some parents.
- **Teacher Workshops.** George Sabo (ARAS Director) taught 24 participating teachers about Caddo Indian culture at a teacher workshop in Nacogdoches, Texas. ARAS Educational Outreach Coordinator Mel Zabecki made arrangements with Educational Cooperatives for five teacher workshops that were offered around the state, including at the Training Program. Emily Beahm presented a “Gathering, Gardening, and Agriculture” teacher’s workshop at the ARAS-WRI station.



Jodi Barnes helps a student with a puzzle during After School Anthropology, McGehee.

- **After School Anthropology.** Jodi Barnes (ARAS-UAM) offered this monthly after-school program at the McGehee Community Center. The program offers lessons on culture and history of Africa and its peoples, and the African diaspora, using videos, readings, and hands-on activities to change misconceptions about Africa, show the diversity of its people and their achievements.
- **Classroom Materials.** We offer a series of **educational fliers** on many topics available as downloadable PDFs that can be used for teacher preparation or as classroom handouts. Our new Educational Outreach Coordinator, Mel Zabecki, is working to reorganize these in a presentation that will be more useful for Arkansas educators.
- **School Visits, Programs & Tours.** Survey archeologists gave **talks and demonstrations** on archeology, American Indians, and early Arkansas history, including **Career Day** presentations, Project Dig, projects with homeschoolers, summer reading programs, and tours at our main office, to **approximately 2750 K–12 students** and their teachers at schools, parks, libraries, and other venues across the state.



Fayetteville GT students on a field trip to the ARAS-WRI station (above) and during an in-class “simulated excavation” lesson (right). Photos from Mel Zabecki (ARAS).



- **GT Archeology Semester.** Educational Outreach Coordinator **Mel Zabecki (ARAS-CO)** worked with three **Fayetteville 5th and 6th grade Gifted & Talented** teachers on a semester-long archeology project that included classroom visits, lesson planning, field trips, and a final conference in Little Rock.
- **4H Programs.** ARAS staff at the coordinating office participated in a **4H visit & tour**, with 13 students and 6 adults in the group. Hope Bragg, County Extension Agent and 4H coordinator at UAM, also brought a group of 24 students and 10 adults to the summer Training Program in De Queen, where youth were able to learn application of STEM concepts and skills through participation in a real archeological dig.

## Public Service and Outreach 2018–2019

- **NAGPRA Documentation.** We continued our **NAGPRA compliance program** in cooperation with several American Indian Tribes. Under the federal Native American Graves Protection and Repatriation Act (NAGPRA), many institutions and agencies are obligated to provide an inventory of all items in their collections that are subject to repatriation. Such items are human remains, funerary objects, sacred artifacts, and items of cultural patrimony. This is done by researching and providing a summary of all existing records for each artifact collection in order to establish the geographical origin, cultural affiliation, and other basic information about how the items were acquired and accessioned. The remains and objects may then be repatriated to modern representatives of the appropriate culturally affiliated American Indian Tribe. The Survey’s activities are essential for compliance with this federal law. We also curate, under contract, collections owned by various government entities that are subject to NAGPRA.
- **ARAS Reaches Near Up-to-Date Compliance on Notices of Inventory Completion.** As of 2018–2019 the ARAS has substantially completed the steps necessary to be in compliance with our NAGPRA obligations for collections that we currently curate. This process has taken a number of years, and has been overseen by the ARAS registrar’s office, with Sarah Shepard in charge of preparing the Notices of Inventory Completion (records that are required to be published in the Federal Register).
- This year Notices of Inventory Completion and Correction Notices were forthcoming for the JEC Hodges collection from the ARAS-HSU station.
- We also assisted these outside agencies with NAGPRA compliance and information: Arkansas Department of Transportation, Arkansas State Parks, University of Arkansas Department of Anthropology, U.S. Army Corps of Engineers, University of Arkansas Museum, Missouri Department of Transportation, U.S. Forest Service, University of West Florida, and West Tennessee Regional Forensic Center.



- **State and Federal Agencies.** The Survey works closely with **state and federal agencies** whose responsibilities under environmental and cultural preservation statutes include the management and protection of archeological sites:
  - Department of Arkansas Heritage and the Arkansas Historic Preservation Program; Arkansas Department of Transportation; Arkansas Department of Parks and Tourism/Arkansas State Parks; Arkansas Game and Fish Commission; National Park Service; USDA Forest Service; U.S. Natural Resources Conservation Service; U.S. Army Corps of Engineers; and U.S. Fish and Wildlife Service.
- **Training Program & Field School.** **Sixty members of the Arkansas Archeological Society** attended our jointly sponsored annual **Training Program for amateur archeologists** in June. **The 2019 “Society Dig”** took place in Sevier County in the De Queen area. Carl Drexler (ARAS-SAU) directed the project. Eighteen ARAS staff members contributed to the program as instructors and field and lab supervisors. The UA-Cossatot campus provided assistance and facilities for teaching space, lab, and headquarters. Attending the program this year was a Teacher Workshop with 12 teachers who earned professional development credits, and a group of 24 4H youth and 10 adults (parents and supervisors) who came from Mountain Home, Little Rock, Monticello, the De Queen area, and Kansas. College students can also arrange to earn credit with their institutions. All participants learn about archeology while contributing to research as citizen scientists.
- **Public Programs & Presentations.** Survey staff gave **99 public lectures, workshops, tours, information booths, and other presentations** reaching audiences of **over 5300** Arkansans and people in neighboring states during FY2019. An additional **38 public talks to chapters of the Arkansas Archeological Society** reached combined audiences of **833**.
- **Historic Cemeteries.** Kathleen Cande coordinates Survey assistance and advice to groups and individuals working on projects to document and protect **historic cemeteries, especially African-American cemeteries**. In Monticello, Jodi Barnes hosted a cemetery clean-up at Hollywood Plantation for the Martin Luther King, Jr. Day of Service.
- **Encyclopedia of Arkansas.** Survey staff have so far contributed **58 articles** and reviewed many others for the CALS online *Encyclopedia of Arkansas*.
- **Public Contacts.** Survey staff members respond to thousands of **requests for information** from members of the public every year, by telephone, email, and in person.
- **Exhibits & Museums.** Survey staff have created or assisted with a number of **exhibits** around the state:
  - ARAS-HSU staff, with student intern Rae’Shawn Jones and volunteers, installed Hodges Collection artifacts into open storage exhibit space at the refurbished Caddo Center on the HSU campus. Station staff also maintain displays using Hodges collection artifacts at the HSU Huie Library, the OBU Hickingbotham Library, and the Clark County Historical Association Museum in Arkadelphia.
  - Melissa Zabecki and Elizabeth Horton provided materials for an exhibit at the Arkansas State Library in Little Rock.
  - ARAS-UAPB inventoried artifacts exhibited at the Esther D. Nixon Public Library in Jacksonville, which were donated to the research station by Mike Wilson of Jacksonville.
  - Mike Evans and Jared Pebworth (ARAS-UAF), with Jerry Hilliard (retired statopn assistant) assisted Shiloh Museum in Springdale with installation of a new exhibit on Ozark Bluff Shelters. Among other contributions, Mike and Jared



Miranda Diaz attended the Training Program as part of an HSU Independent Study. Photo by Mary Beth Trubitt (ARAS-HSU).



A Mosaic Templars grave marker uncovered at the Valley Farm Cemetery during the Martin Luther King Jr. Day of Service, photo by Jodi Barnes (ARAS-UAM).

produced a replicated collection of ancient stone tools and assisted in the creation of 3D printed replicas of artifacts for display as part of the exhibit.

- George Sabo was curator for a permanent exhibit on “Arkansas Native Americans” installed at the Arkansas Union on the UAF campus.
- Other assistance for exhibit development, collections, or programs at museums was provided to Delta Gateway Museum; ASU Museum; Arkansas Tech Museum; Parkin and Toltec Mounds State Parks Visitors Centers; Davidsonville Historic State Park; Turner Neal Museum at UAM; Old Statehouse Museum; Pine Bluff-Jefferson County Historical Museum; The Gilcrease Museum; Shiloh Museum of Ozark History; Rogers Historical Museum; University of Arkansas Museum Collections; and Museum of the Mississippi Delta in Greenwood, Mississippi.
- **Website and Social Media.** Our website, designed and maintained by our own Computer Services Program staff (Deborah Weddle and John Samuels), offers a modern, graphic home page that is easy to navigate, with rotating content that emphasizes interesting information about archeological research and discoveries in Arkansas, and educational materials for public and schoolroom use. We also maintain **topical websites for the general public and fellow scholars.**
  - Visitor traffic to the ARAS website increased by 9.65% in FY19, with **116,266 pageviews** by 18,137 users.
  - A popular new feature on the website in 2018 and 2019 is our **Artifact of the Month** series. These brief illustrated stories tell visitors about Arkansas’s prehistoric and historic heritage, and how we learn about and from the past, one artifact at a time (<https://archeology.uark.edu/artifacts/>).



A few of the artifacts featured in “Artifact of the Month” on our website during 2018–2019 (clockwise from left): The small Parker Figurine is carved from shale and aligns Arkansas with the famous Poverty Point site of northern Louisiana; a quartz crystal Clovis point is one of the oldest known implements made in Arkansas, about 12,000–13,000 years old; a carved pendant made of green novaculite has design motifs also found on the Florida Gulf Coast and at Toltec Mounds in central Arkansas; a tiny glass chevron trade bead is evidence that Hernando de Soto and his men passed through what is now Parkin Archeological State Park in 1541. All photos by ARAS.



- **AMASDA Online** provides password-protected, web-based access to our archeological site database for qualified researchers. Contractors pay a fee per project or by annual subscription. The new online eCommerce site enables a more streamlined process for contractors to access their accounts. More information is in this Annual Report in the registrar’s office section and the computer services section. AMASDA Online had **85,623 pageviews** in 2018–19.
- The Survey and its research stations increased the use of **social media** to provide information about Arkansas archeology, our projects and discoveries, and local volunteer opportunities. Our new Educational Outreach Coordinator manages the social media administrative functions for the main accounts. Each research station also has its own Facebook page.
- **Survey staff work with local landowners** who are concerned about site looting and trespassing on their property. We respond to requests from concerned landowners to investigate and to recover information from sites that have been damaged by unauthorized digging.



- Survey staff served on a number of **Boards and Commissions** in Arkansas and beyond:
  - Jodi Barnes (ARAS-UAM): Secretary, Chair of Governance Committee, and Behind the Big House Planning Committee, **Preserve Arkansas**; grant reviewer, **Arkansas Community Foundation**; board member, **Drew County Historical Society and Museum Commission**.
  - Jamie Brandon (ARAS-UAF): **State Review Board for Historic Preservation**; board member, **Arkansas Humanities Council**; Board of Directors, **Preserve Arkansas**; Board of Directors, **City of Fayetteville Woolsey Farmstead Restoration Committee**.
  - Kathleen Cande (ARAS-SRP): Board of Directors, Corresponding Secretary, **Washington County Historical Society**.
  - Carl Drexler (ARAS-SAU): Board of Trustees, **Arkansas Historical Association**; board member, **Friends of the Arkansas State Archives**.
  - Ann Early (State Archeologist): Vice Chairman of the **State Review Board for Historic Preservation**; board member of the **Arkansas Genealogical Society**; board member of the **Arkansas Women's History Institute**; Vice President of the **National Association of State Archaeologists**.
  - Jami Lockhart (ARAS-CSP): **Northwest Arkansas Open Space Plan Steering Committee**.
  - Jeffrey Mitchem (ARAS-Parkin): Advisory Board, **Alliance for Weedon Island Archaeological Research and Education**, St. Petersburg, Florida; Director-at-Large, **Florida Public Archaeology Network**.
  - Deborah Sabo, Marilyn Knapp (ex officio), and Melissa Zabecki (ex officio) (ARAS-CO): Executive Committee of the **Arkansas Archeological Society**.
  - Deborah Weddle (ARAS-CSP): Board of Directors, **Fan Association of North America**.
  - Melissa Zabecki (ARAS-CO): board member, **Arkansas Humanities Council**.

### Professional Service 2018–2019

- **Jeffrey Mitchem (ARAS-Parkin) sits on the Board of Directors of The Archaeological Conservancy.** Mitchem has served the organization for many years as a tour leader and lecturer, and (along with other ARAS archeologists) has partnered to assist the Conservancy's mission of investigating sites that may be protected through acquisition, and helping to negotiate this process. The Parkin site, now preserved within Parkin Archeological State Park, was acquired by the Conservancy and donated to the State of Arkansas for this purpose. Over 500 important archeological sites have so far been saved by the Conservancy.
- Survey staff provided **expert advice or other assistance** to over **140** agencies, firms, museums, schools, parks, civic groups, and other bodies, in addition to service rendered to research station host institutions.
- Several Survey archeologists serve as editors or members of editorial boards for professional organizations and journals.
  - Jodi Barnes serves as **Associate Editor** of the journal *Historical Archaeology*. She also was on the **editorial board** for the *Journal of Undergraduate Research in Anthropology* (through summer 2018).
  - Emily Beahm serves as **newsletter editor** for the Southeastern Archaeological Conference.
  - Kathleen Cande serves as Gulf States **current research editor** for the Society for Historical Archaeology.
  - Jeffrey Mitchem is on the **editorial board** for the journal *The Florida Anthropologist*.
  - Mary Beth Trubitt serves as **Editor** of the journal *Southeastern Archaeology*. She is also on the **editorial board** for the *Caddo Archaeology Journal* and the *Journal of Texas Archeology and History*.
- Multiple Survey staff members served as officers, members of various committees, or in other service capacities for these **professional organizations**. Details can be found throughout this Report.
  - Society for American Archaeology
  - Society for Historical Archaeology
  - Caddo Conference Organization
  - Southeastern Archaeological Conference

- The Archaeological Conservancy
- Florida Anthropological Society
- Arkansas Historical Association
- Society of Bead Researchers
- Florida Archaeological Council
- Friends of the Arkansas State Archives
- National Association of State Archaeologists
- National Association for Interpretation
- Washington County Historical Society
- The Survey posts “**Guidelines for Fieldwork and Report Writing in Arkansas,**” an appendix to the Arkansas State Plan, on its website for access by agency and private firm archeologists.

## Grants & Cost-Share Agreements 2018–2019

- Make No Bones About It: Foodways and Faunal Remains at Arkansas Historic Sites: \$1400 grant awarded to Jodi Barnes (ARAS-UAM) by the Arkansas Archeological Society’s Archeological Research Fund, with additional funds from the Arkansas Archeological Survey’s Hester Davis Public Outreach Fund, and Historic Arkansas Museum.
- Mary Beth Trubitt (ARAS-HSU) received a \$595 grant from the Arkansas Archeological Society’s Archeological Research Fund for “Is Cooper Boneware the Earliest Pottery in the Trans-Mississippi South?” With it, she obtained an AMS date from Beta Analytic, Inc., on a Dragover site feature containing Cooper Boneware sherds, and summarized results for the Society’s newsletter, *Field Notes*.
- Carl Drexler and Fiona Taylor (ARAS-SAU) received a \$780 grant from the Arkansas Archeological Society’s Archeological Research Fund for radiocarbon dates from the Holman Springs site 3SV29.
- “Preserving and Presenting Arkansas History” is a \$24,314 grant awarded to the Survey by the Arkansas Natural and Cultural Resources Council that allowed staff members at the coordinating office lab to upgrade the inventory catalog for four major ARAS artifact collections containing more than 135,000 artifacts, to test a new artifact database, and to refine data categories.
- George Sabo (ARAS Director) received a \$73,000 grant from The Roy and Christine Sturgis Charitable and Educational Trust for purchase of a Breuckmann 3D structured light scanning system for the Survey’s new Digital Imaging Lab.
- Jami Lockhart (ARAS-CSP) was awarded \$2,000 from the Ozark National Forest as part of a renewal for a Master Participating Agreement; he developed a pilot project to illustrate the efficacy and efficiency of GIS modeling and LiDAR data development for the Big Piney Ranger District.
- A \$14,750 Doctoral Dissertation Research Improvement Grant (ongoing, awarded 2018) from the National Science Foundation helps support John Samuelsen’s dissertation project, “An Isotopic Assessment of Late Prehistoric Interregional Warfare in the Southcentral U.S.” (Dissertation Chair/principal investigator, George Sabo III).
- George Sabo III (ARAS Director) is a co-principal investigator (with Claire E. Terhune, Wenchao Zhou, Paul M. Gignac, and Haley D. O’Brien) on “MRI: Acquisition of a micro-computed tomography system for advanced imaging and inter-disciplinary multi-user access for the University of Arkansas and the US Interior Highlands” (\$687,161 grant from the National Science Foundation for 2017–2020) <https://micro.uark.edu>; <https://researchfrontiers.uark.edu/researchers-test-new-microct-imaging-system/>.
- George Sabo III (ARAS Director) is a co-principal investigator (with Kathryn Sloan, Michael Pierce, Kim Sexton, Robert Cochran, David Fredrick, Sean Teuton, and Eric Funkhouser) on “Arkansas Stories of Place and Belonging” (\$88,735 grant from the University of Arkansas Chancellor’s Discovery, Creativity, Innovation, and Collaboration Fund for 2018–2019).
- Elizabeth Horton (ARAS-TMRS) is a collaborating researcher on “The Palette for Selection: Growing and Sequencing Lost Crops to Understand the Role of Plasticity in Plant Domestication,” a multi-year Smithsonian Institution Grant Program award to Logan Kistler (NMNH) and Natalie Meuller (Cornell University) in 2017.



### Honors & Awards 2018–2019

- John House (ARAS-UAPB) received the Arkansas Archeological Society's McGimsey Preservation Award in 2018.
- Marvin Jeter (Emeritus Archeologist) also received the McGimsey Preservation Award in 2018.
- Upon retirement John House was awarded Emeritus status by the University of Arkansas Board of Trustees.
- Jami Lockhart (ARAS-CSP) was promoted from Associate Archeologist to Archeologist, effective July 1, 2019.

### Finding Creative Solutions to Persistent Challenges

The Survey recognizes a number of ongoing challenges in fulfilling our mission of research, service, and education. We are committed to evaluating our programs from within and seeking ever more creative and more efficient ways to meet our goals.

- **Site Destruction.** Damage to sites and the loss of Arkansas's irreplaceable archeological heritage due to changing land use patterns and vandalism remains an important issue.
  - The pressure of land development threatens sites in the state's growth regions. Land-leveling for agriculture also destroys large numbers of sites. **The Survey works successfully with landowners and tenants to employ the latest technologies to identify, assess, and rescue archeological information without impeding normal land use.**
  - We also work with government agencies, including the Arkansas Historic Preservation Program, and advocacy groups such as the Northwest Arkansas Open Space Plan, to promote efforts to protect valuable natural and cultural properties.
  - Rock shelters in the Ozarks are often exploited for illicit purposes, including methamphetamine production, and sites on private, state, and federal property across Arkansas are subject to persistent vandalism. **The Survey works with various law enforcement agencies to assist investigations and prosecutions.**
  - **The Archaeological Conservancy** purchased 8 archeological sites in Arkansas between 2001 and 2014. The Survey continues to work closely with the Conservancy to identify additional sites that can be secured for future preservation. This past year, **erosion control and rehabilitation of Cavanaugh Mound in Fort Smith** was completed. **Dr. Jeff Mitchem (ARAS-Parkin)** recently was elected to the Conservancy's Board of Directors.
- **Funding for Backlog of Reports.** Over our half-century, we have responded to many emergency situations requiring the salvage of information from archeological sites as they were being destroyed, transferring collections from other institutions that no longer wished to curate materials from Arkansas, and inventorying donations from private individuals. Funding to support such activities is seldom available, yet timely handling of these tasks is an important ethical responsibility. We earmark a portion of our annual budget in anticipation of these needs. Staff at our coordinating office and all ten research stations devote significant time each year to archival and collections maintenance tasks including digitizing paper records, producing comprehensive inventories of legacy collections, and undertaking research projects that bring new perspectives and emerging technologies to the study of materials that have long been in our possession. **For many years, significant support for these efforts has been provided by grants awarded to the Survey by the Arkansas Natural and Cultural Resources Council. During FY2018–2019, ANCRC funds supported a coordinating office lab project that served to implement a new tablet-based, digital collection inventory system that will greatly increase the efficiency of our collection management operations across the entire organization.**
- **Public Education and Heritage Tourism Opportunities.** Even after more than half a century of efforts by our staff, many Arkansans still do not know that Arkansas possesses archeological sites recognized for their importance by scholars throughout the United States and around the world. **We continue to refine the stories we tell about the long history of our state and region through the “voice” of archeology.**
  - During the past year our **Educational Outreach Coordinator** (see pp. 110–113) has developed new public programming and reached out to hundreds of people in multiple settings to deliver our message about the educational uses of archeology and the inherent importance of learning about and preserving information on Arkansas's past. Dr. Mel Zabecki engaged **audiences numbering over 4291** in public education settings.
  - Our **5th grade social sciences curriculum** “Gathering, Gardening, and Agriculture” is available for free to Arkansas educators (and to the public) on our website.
  - New **Popular Series** volumes for general readers on Arkansas prehistory and historic boat wrecks are nearing completion.

- Our *Indians of Arkansas*, *Bluff Shelters of the Arkansas Ozarks*, *Arkansas Novaculite*, and *Rock Art in Arkansas* **web-sites** continue to serve the public education community as primary sources of information and materials for learning and teaching about archeology and anthropology in Arkansas and the South. **We added new material to several of these sites, and continue to work on expanding their educational content.**
- Arkansas has only a few archeology-themed parks where the public can visit interpreted archeological sites. **We are working with State Parks, the U.S. Forest Service, and the National Park Service to develop archeological heritage tourism.**
- Archeologists from the Survey's coordinating office and UAF research station are completing a four-year program of **investigations at Pea Ridge National Military Park, organized in concert with the National Park Service** under the federal Cooperative Ecosystem Studies Units (CESU) program, designed to contribute extensive new information benefitting the park's many historical, educational, and visitor programs and amenities.
- In 2019 **the annual Training Program sponsored jointly by the Survey and the Arkansas Archeological Society was headquartered on the De Queen campus of the Cossatot Community College of the University of Arkansas.** The Training Program included excavations at the nearby Lockesburg Mound site, an important Caddo ceremonial center, but participants for the first time also engaged in advanced laboratory study of a large collection of ceramics excavated during the mid-1980s from the nearby Holman Springs salt-making site. Our presence in De Queen generated significant local interest and new opportunities for our educational outreach programs.
- **Dr. Michelle Rathgaber was added to the Survey's staff at Parkin Archeological State Park** to assist with the analysis of collections and development of new interpretative information and educational outreach materials.
- We continue to provide archeological support for ongoing development at several state parks including **Davidsonville, Devil's Den, Hampson, Historic Washington, Hobbs State Park and Conservation Area, Petit Jean, Poison Springs, and Prairie Grove Battlefield.** These are in addition to the regular programs of research at **Toltec Mounds and Parkin State Parks.**
- Our **educational/experimental gardens** exploring plant use in prehistoric and pioneer Arkansas (at Parkin and Toltec state parks and at the UA System's Winthrop Rockefeller Institute campus) continue to attract large numbers of visitors and also now are part of a network of such gardens supporting research by a national team of scholars investigating the genetics of early plant domestication.
- **Budget Constraints and Institutional Issues.** Survey employees earn significantly less than their comparably qualified colleagues at universities, federal agencies, and private cultural resource management firms. This has made it harder to recruit new station archeologists and to keep good station assistants.



**J**amie Chad Brandon, station archeologist for the Survey's research station at University of Arkansas Fayetteville, passed away on December 24, 2018, aged 47, after a brief and hard-fought battle against cancer. His wife, Lydia Rees, and his entire family were by his side.

A memorial service was held in Giffels Auditorium on the University of Arkansas campus on Saturday, January 26, 2019.

Dr. Brandon's career in archeology spanned three decades, involving fieldwork throughout the Southeast on sites ranging in age from the late Pleistocene to the early 20th century. He produced research on a wide range of topics that included race and ethnicity in the American South, historical memory, and the prehistory of the Southeast. Beyond producing an impressive record of scholarly research, Jamie is well-remembered for his unparalleled devotion to outreach activities for the general public about archeological discoveries and their relationship to understanding modern society. He was a popular teacher and mentored a host of students through internship, thesis, and dissertation projects.



Jamie worked for the Arkansas Archeological Survey first in Magnolia, where he was research station archeologist for nine years, and then in Fayetteville where he taught in the Anthropology Department at the University of Arkansas. In Fayetteville, he continued his studies of Civil War history through projects at Prairie Grove State Park and Pea Ridge National Military Park. With Lydia, he developed a series of research projects on archeological collections from Ozark bluff shelter sites, with a focus on important collections curated by the Survey and the University of Arkansas Museum. An enduring legacy of this effort is Rees's and Brandon's "Bluff Shelters of the Arkansas Ozarks" website.

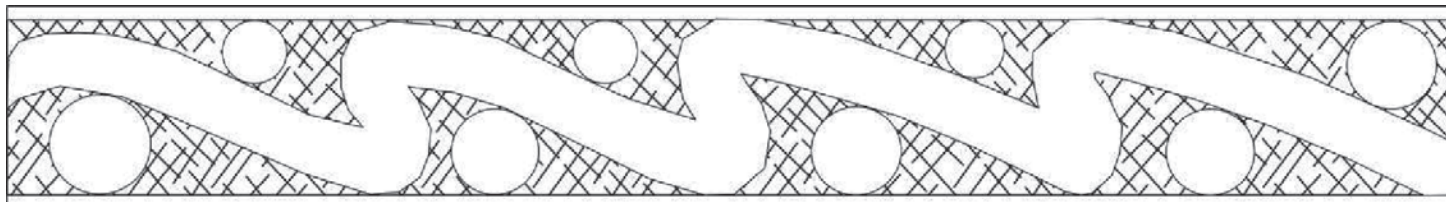
Jamie will be remembered most of all for his love of people. Jamie never met a stranger, and in fact invited us all to share his passion for his profession as well as his general love of life, through his charming and prolific social media presence. He was a generous person with his time, willing to travel all over the state to support historic preservation and the humanities in Arkansas. His enthusiasm, cheerfulness, and constant support of others in the pursuit of common goals will be sorely missed.

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Photo courtesy of Lydia Rees



# Research Station Reports







## Toltec Mounds Archeological State Park Research Station

**T**he Toltec Mounds research station is located at Toltec Mounds Archeological State Park in Scott. The Toltec Mounds site is a National Historic Landmark. Survey staff carry out research at the site, providing information for development of interpretive programs at the park. The Toltec Mounds site was the religious, social, and political center for people of the Plum Bayou culture of central Arkansas. Built and occupied between AD 650 and 1050, it is one of the largest and most complex American Indian sites in the Mississippi Valley. Archeologists who visited the site more than 100 years ago found 16 mounds inside a 5298-foot-long ditch and earthen embankment. Though many of the mounds have been plowed down or mined for fill dirt, several remain visible today, along with remnants of the embankment. Most of the mounds were square, flat-topped earthen structures built by carrying basket-loads of dirt. Several were arranged around an open plaza and aligned according to astronomical observations. The two largest were built in stages, and stand today at 39 and 49 feet high. Most Plum Bayou people lived in scattered villages and hamlets in the surrounding countryside, where they grew a variety of native domesticated crops, harvested nuts, hunted, and fished. They gathered at the Toltec Mounds site for religious and community activities.

**Elizabeth Horton** (Ph.D., Washington University in St. Louis, 2011) is the Survey's Research Station Archeologist for Toltec Mounds Archeological State Park, and Research Assistant Professor of Anthropology for the Department of Anthropology, University of Arkansas Fayetteville. She came to the Survey in 2010 as a postdoctoral researcher at the coordinating office, and began the position at the Toltec Mounds research station in July 2011. Horton's doctoral dissertation focused on Pre-Columbian fabric technology and plant fiber use in the Southeast, Arkansas in particular, using assemblages from the University of Arkansas Museum Collections. Her specialization in paleoethnobotany brings needed skills to the Survey. She has established a paleoethnobotany lab at the Toltec research station that can serve the entire organization.

**Katherine Gregory** (M.A., Florida Atlantic University, 2006) joined the Survey as station assistant at ARAS-UAM in October 2014. In October 2016 she transferred to the Toltec Mounds research station. She earned her B.A. in Anthropology from Marquette University and previously worked for the Seminole Tribe of Florida Tribal Historic Preservation Office.

**Marilyn Whitlow** served as assistant at the Toltec Mounds research station from 1985 until her retirement in December 2018 (see p. 4 of this Report). She worked with all the Toltec station archeologists on many aspects of station management, including daily operations, research (field and lab), processing and cataloging artifacts, and outreach, including hosting lab days for volunteers.

The photo shows the entrance to the Plum Bayou Garden, an experimental project for research and education on early crop domestication.



The end of FY2018–19 marks the final phase of one multiyear project, the *Iva annua* Study, and completion of another, the SEAC Sexual Harassment Study, for Horton, her collaborators, and the Toltec Mounds research station. Although dramatically different projects, both at their core ask questions of the past in order to address current and future challenges.

#### ***Iva annua* Study: Palette for Selection Work Packet 1**

The *Iva annua* Study (see ARAS annual report for 2017–2018) focuses on one of the critical “Lost Crops” of Eastern North America (ENA). In studying the wild cousins of an extinct ENA crop, the “Palette for Selection” is seeking to help us understand how native plant species react to dramatic changes in their environment through adaptive processes, and how we humans impact these changes and take advantage of them to create domesticated crops and improve cultivars. Last year Horton, Gregory, and ARAS-TMRS intern Jenna Bracas collected intensive data on growth patterns and plant phenotypic expression for sumpweed (*Iva annua*) from four experimental plots and one wild plot, as well as the *Iva* that has been grown in the Plum Bayou Garden. These data covered rate of germination, rate of growth, and potential impact of local conditions on plant phenotypic expression.

Horton also developed a stand-alone database for collection of both quantitative and qualitative data (Filemaker database IVA\_STUDY) on plant growth, as well as historical climate data (temperature and precipitation) over the course of growing seasons using a new database system that ARAS has

been developing and adapting for both field and laboratory data collection (see discussion of the ARAS Digital Data Collection Initiative, DDCI, pp. 2–3). This year included the planned expansion of this project to the collection of live plant tissue for RNA analysis. In February, “Palette for Selection” co-PI Natalie Mueller came to TMRS to assist Horton in establishing collection protocols for plant tissue. From February into September of 2019, Horton, with the assistance of Gregory, planned to collect six samples each from two wild sumpweed populations and the Plum Bayou Garden sumpweed, and eight samples each from four experimental grow plots located adjacent to the Plum Bayou Garden. At the end of FY 2018–2019, TMRS had collected over 300 tissue samples for RNA analysis. Horton has also been providing public updates and information on the project via the Plum Bayou Garden Facebook page and the Toltec Mounds research station Facebook page. In addition, this year saw the completion of a website dedicated to the work Horton and a network of colleagues nationwide are engaged in regarding ENA “Lost Crops” ([www.LostCrops.org](http://www.LostCrops.org)).

#### **Paleoethnobotanical Public Archeology**

This project, and the Plum Bayou Garden, continue to offer Horton a unique opportunity to expand public understanding of the range of scientific research critical to archeology in a modern era, as well as the ways in which archeology helps inform us about our past, and about our future as well. Increasingly archeologists globally are working alongside geneticists, ecologists, and agronomists to understand the complex cultural and biological processes of crop domestication, and the devel-

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Here, Dr. Horton is collecting tissue samples of *Iva annua* for the RNA study, and documenting growth stage and condition in the experimental garden (ARAS-TMRS digital photo IMG\_9793).







Measuring inflorescence development and height of plants used for RNA tissue samples (ARAS-TMRS digital photo IMG\_0744).



Natalie Mueller (Washington University in St. Louis) assisting with tissue sample collection (ARAS-TMRS digital photo IMG\_8226).

opment and sustainability of agriculture both in the past and the future. Through in-person interaction with park visitors during RNA tissue sample collection, and through social media posts about the project, Horton has been able to teach about these modern scientific methodologies, and to explain the vital importance of research on these modern plant populations not just for archeology but for practical understanding of global agricultural practices and potentials.

The Plum Bayou Garden specifically has allowed Horton to reach audiences whose interests are located more in conservation, contemporary agricultural issues, and the preservation of intangible cultural heritage. These now extinct domesticated crop plants have an enormous amount to tell us not only about our human past, but also our future. Many of the challenges facing farmers in Arkansas today are not new, and ancient Indigenous farmers would have had to struggle with some of the same problems—too little rain, too much rain, late freezes, inadequate crop yield, and more. Implicit in the Palette for Selection project is that these locally adapted plants, once domesticated as key food sources, offer a unique opportunity for modern small-scale farmers, particularly for Indigenous Nations looking to expand and deepen their own efforts at food sovereignty. This project also highlights the need for

conservation of crop progenitors globally in order to safeguard modern crop biodiversity and the potential and challenges in the creation of new (old) crops. As an example of the reach this unique approach to public archeology can have, Horton and colleagues were interviewed earlier this year in an *Atlas Obscura* article highlighting the “Lost Crops” and some of the issues raised by the research ([www.atlasobscura.com/articles/native-american-crops](http://www.atlasobscura.com/articles/native-american-crops)).

### SEAC Sexual Harassment Study (SEAC SHS)

In December, *Advances in Archaeological Practice* published the SEAC Sexual Harassment Study (SEAC SHS) project team’s final report drawn from the 2015 survey data (Meyers et al. 2018). The publication was featured in Cambridge Core’s “First Look” Blog ([www.cambridge.org/core/blog/2019/02/01/the-context-and-consequences-of-sexual-harassment-in-southeastern-archaeology/](http://www.cambridge.org/core/blog/2019/02/01/the-context-and-consequences-of-sexual-harassment-in-southeastern-archaeology/)), which also provided an open-access download for one month to ensure wider distribution. Shortly before this final publication, Horton took part in the Plenary Session for the 75th SEAC meeting “Towards Evidence Based, Community Solutions to Sexual Harassment and Assault in Southeastern Archaeology,” along with SEAC SHS project leader Maureen Meyers and members

of the SEAC Task Force on Sexual Harassment and Sexual Assault. Horton presented the summary of the SEAC SHS survey data and discussed key take-away points for approaches to this challenge. While the SEAC SHS study was primarily oriented to understanding the impact within the profession, it also revealed that volunteers on Southeastern archeological sites have experienced harassment and assault.

As public archeologists, these findings in particular concern us. We believe strongly in the importance of engaging and including the public not just as learners about our collective human past, but as active participants in the production of knowledge. In order to look forward to the long-term future of archeology, and especially public archeology, we increasingly need to look to our own past to understand how we make our research more open, more inclusive, more engaging, and more welcoming to as broad a public as possible.

Every year the Survey, through our participation in the annual Training Program co-sponsored with the Arkansas Archeological Society, offers a unique opportunity for members of the public to engage in intensive fieldwork with professional archeologists and to participate in research that expands our understanding of Arkansas's part in the human story. But we understand from the SEAC SHS data that some participants may not always have experienced a welcoming or safe volunteer environment. The Survey and its professional staff have a renewed commitment to ensure we are creating welcoming opportunities that value the participation of all members of the public.

As Horton's active role on this issue winds down, Carl Drexler (ARAS-SAU) and Emily Beahm (ARAS-WRI) have

committed as team members to a new phase of collaborative research sponsored by SEAC, looking at how we can improve field school contexts.

### Records & Collections Management

The Toltec Mounds research station continued its work to bring records and collections up to date and to reorganize for easier access for research. This included stabilization and inventory of digital photo records and paper-copy records, and of remaining black-and-white photographic prints; reorganization of the secondary and primary curation rooms; inventory and re-boxing of the extensive Chowning collection (a donated collection), with Gregory overseeing Arkansas Archeological Society volunteers working on this material on open lab days; re-sorting and inventory of 2010 excavation material; arrangements to accept donation of the Anita Major Collection with material from Coy Mound, Toltec Mounds, and the Baytown site.

The Paleoethnobotany Laboratory at the station became the repository for all of Richard Yarnell's *Iva annua* comparative materials this year. This includes seed from growing experiments carried out by Charles Heiser in the 1960s, as well as a small amount of carbonized archeological macrobotanicals from the Apple Site in southern Illinois. These materials had been curated at the Yarnell Lab at the University of North Carolina, Chapel Hill, Research Laboratories of Archaeology and were donated to the ARAS-TMRS lab by UNC-RLA director Margie Scarry. These seeds provide an invaluable addition to the already existing comparative materials and will be added into existing databases of seed size and morphology.



### Toltec Mounds Research Station — Academic & Service Activities

#### Grants, Honors & Awards

- Elizabeth Horton (ARAS-TMRS) is a collaborating researcher on “The Palette for Selection: Growing and Sequencing Lost Crops to Understand the Role of Plasticity in Plant Domestication,” a multi-year Smithsonian Institution Grant Program awarded to Logan Kistler (NMNH) and Natalie Mueller (Cornell University) in 2017.

#### Teaching & Higher Ed

- **UALR Anthropology Program.** Though not a faculty member, Horton maintains an active collaboration with area universities and colleges, to create hands-on opportunities and help train archeology students in central Arkansas. Below are her contributions for the 2018–2019 fiscal year.
- Summer Internship in Ethnobotany and Paleoethnobotany for Hendrix College student, Jenna Bracas, who remained as a volunteer into fall 2018.
- UALR student Rachel Jones worked and volunteered in the station lab under Horton’s supervision for over a year until her acceptance in the graduate program at the University of Oklahoma, starting in the fall of 2019.
- Field School at Al Baleed Archaeological Park in Oman, Project Director, Dr. Krista Lewis (UALR). During December 2018 and January 2019 Elizabeth Horton provided field training for two undergraduate students (University of Arkansas, Little Rock and Southern Missouri State) and one graduate student (University of Arizona); assisted in directing field excavations with a crew of 15 hired local laborers; and assisted with excavation strategy and implementation.
- Students taking ANTH 4487 at UALR assisted ARAS-TMRS in a lakeshore pedestrian survey on Mounds P and F where there is ongoing erosion due to high water levels. The students received training in survey methods and basic mapping and processed, sorted, and inventoried artifacts. Their efforts added to the station’s study of the rate of loss due to erosion on Mound P.
- Horton also taught a one-day course on the role of archeology in preservation and conservation of archeological sites for ANTH 4487 at UALR.
- Horton was interviewed by a South New Hampshire Introduction to Archaeology student, for a student course requirement.

#### Service to State Parks & Toltec Mounds Archeological State Park

- **Educational Outreach.** Site tours of the park and Plum Bayou Garden for students from UALR Economic Botany class (11), Winterville Mounds and Mississippi Master Gardeners (22), Bernard Siquieros, Education Curator, Tohono O’odham Nation Culture Center and Museum (3), Choctaw Nation Tribal Historic Preservation and Cultural Services members (6), and University of Central Arkansas Introduction to Southeast Indians class (25); assisted park interpreters with two temporary exhibits for the Visitor Information Center; worked with KATV Channel 7 on a Toltec Mounds documentary under production; administration of a Facebook Page for the Plum Bayou Garden.
- **Archeological Consultation and Testing.** Monitoring of small projects to replace/improve park infrastructure.
- **Park Development.** Ongoing monitoring of impacts of lake levels on the park’s cultural resources; consultation and communication with Arkansas State Parks, Corps of Engineers, and relevant Tribal Historic Preservation Officers regarding lake levels; consultation with the park and USGS to select a location for a water level monitoring system, and monitoring of the system’s installation.

#### Professional Service

- **Professional Organizations.** Horton served as a member of the SEAC (Southeastern Archaeological Conference) Executive Board, and provided peer review for the Society of Ethnobiology.
- **ARAS Committees.** Horton served on the ARAS Publications Committee and on the ARAS Digital Data Collection Initiative (DDCI) working group.
- **UA Museum.** Horton is assisting Curator Mary Suter develop an inventory and description of perishable grave goods associated with burials from Ozark bluff shelters for inclusion in the Federal NAGPRA Notice of Inventory Completion.

#### Public Service & Outreach

- **Programs & Presentations.** Horton gave public presentations at Hobbs State Park (25), Sylvan Hills Methodist Church in Little Rock (11), the UALR Department of Earth Sciences Earth Talk Series (100), the St. Louis Fiber Guild (38), Louisiana Archaeological Society in Monroe, LA (11), UA Museum Lecture Series in Fayetteville (20), and a day-long class on plant domestication in Eastern North American for the Osher Life-Long Learning Institute in Fayetteville (8).

Gregory led a tour of the research station lab for participants in the Department of Defense Native American Cultural Affairs Workshop (15).

- **Historic Cemeteries.** Station staff assisted the ARAS-UAPB research station in a survey of the Hickory Grove Cemetery, and assisted the Natural Resources Conservation Service (NRCS) in site assessment at Nelson Cemetery 3PU528 in Pulaski County.
- **Plum Bayou Garden Seed Bank.** Horton fulfilled seed bank requests to the Eastern Band of the Cherokee, University of North Carolina Healthy Native Network, University of Tennessee, Cornell University, and Ohio University; she also filled seed bank requests and provided advising for two high school science fair projects in Illinois and Connecticut (re: *Chenopodium berlandieri* as a commercial crop).
- **Exhibits.** Gregory assisted ARAS Educational Outreach Coordinator Mel Zabecki with materials for an exhibit at the Arkansas State Library.
- **Media Outreach.** Horton administers Facebook pages for the Toltec Mounds research station ([www.facebook.com/ARASTMRS](http://www.facebook.com/ARASTMRS)) and for the Plum Bayou Garden project ([www.facebook.com/PlumBayouGarden/](http://www.facebook.com/PlumBayouGarden/)). Both are used to disseminate information about activities and research by the Arkansas Archeological Survey and Arkansas Archeological Society, and also other public archeology entities throughout the Southeast.
  - Horton was interviewed by Reina Gattuso for “The Promise and Perils of Resurrecting Native Americans’ Lost Crops,” [www.atlasobscura.com/articles/native-american-crops](http://www.atlasobscura.com/articles/native-american-crops).
  - Horton wrote a contribution for the Survey’s Artifact of the Month web series.
- **Public Requests.** Horton and Gregory responded to requests for site visits (1), information regarding cemeteries (3), and artifact identifications (4).

#### Service to Arkansas Archeological Society

- **Chapter Presentations.** Horton gave a public talk at the Tunican Chapter in Monticello (10).
- **Central Arkansas Chapter.** Research station staff assist the Chapter as a liaison with statewide activities; the station hosted six volunteer lab days for the Chapter and a Lakeshore Cleanup Project at which Chapter volunteers assisted ARAS staff with litter and trash removal and assessment of the earthworks adjacent to Mound Lake; station staff also collaborated with the Chapter on public outreach events; this included developing a “carry out” teaching collection of unprovenienced artifacts, a streamlined loan system for the Chapter, and assistance with text for public event booths.
- **Training Program.** Horton taught a Paleoethnobotany class at the 2019 Training Program and assisted with excavations at the Lockesburg Mounds.

#### Volunteer Hours

- Volunteers contributed 339.5 hours working on station research projects in the field, paleoethnobotany lab, and collections and archives during 2018–2019.



## Parkin Archeological State Park Research Station

**T**he Parkin research station was established in 1990 at Parkin Archeological State Park in Cross County. Its primary mission is to study the Parkin site and related sites in the region and to aid State Parks staff in interpreting and presenting this research to the general public. The Parkin site is a 17-acre Mississippian American Indian village located on the banks of the St. Francis River, and lies entirely within park boundaries. It has a large flat-topped earthen mound surrounded by hundreds of buried house remnants, and was enclosed by a log palisade and moat. Excavations in the 1990s showed that the site was settled as early as AD 1000 and was occupied at least until 1541, when the expedition of Hernando de Soto passed through the area. Parkin is believed to be the Indian village of Casqui that was visited by the Spaniards and described in the four written accounts left by survivors and chroniclers of the expedition.

**Jeffrey M. Mitchem** (Ph.D., University of Florida, 1989) is the Survey's Research Station Archeologist for Parkin Archeological State Park, and Research Associate Professor of Anthropology for the Department of Anthropology, University of Arkansas Fayetteville. He joined the Survey in 1990 to establish the Parkin research station, following appointments at Florida State University and Louisiana State University. His specializations include late prehistoric and early historic archeology of the Southeast and the Mississippi Valley, early Spanish contact sites in the New World, ceramic technology, glass bead studies, beads of Jordan and the Levant, Florida archeology, and the history of archeology in the Southeast. He is past President of the Society of Bead Researchers, and was recently elected to the Board of Directors of The Archaeological Conservancy.

**E. Faye Futch** earned an Associate of Arts degree in 2002 from Mid-South Community College and a B.A. in Interdisciplinary Studies with a Minor in African-American Studies from Arkansas State University in 2005. She joined the Survey staff in 1990. She helps process artifacts in the laboratory, greets visitors to the park and station, and is involved with the African American cemetery preservation initiative. Ms. Futch is working toward a Master's degree in History, with an emphasis in Public History, at Arkansas State University. She was promoted to Research Assistant in 2008, and now pursues local history research in northeast Arkansas.

The photo is a view of the mound at the Parkin site.



Interaction with the general public is a major aim of the Parkin research station, occurring on a daily basis. Visitors bring artifacts or collections to be examined, and local residents often call with questions or arrange to bring in artifacts for identification. These informal contacts give Parkin station personnel the chance to highlight the value of archeology. Research at the site helps State Park staff with interpretation and programming.

### Processing and Analysis of Richards Bridge Site (3CT11/22) Excavation Materials

Dr. Mitchem directed excavations at the Richards Bridge site in Crittenden County during the Arkansas Archeological Society's 2015 and 2016 Training Programs. This overall project was co-directed with Timothy S. Mulvihill (ARAS-UAFS) and Dr. Jami J. Lockhart (ARAS-CSP). Work by Arkansas Archeological Society members during the two field seasons produced a very large amount of excavated material. Washing and sorting of the material is an important first step in analyzing it, but this is a labor-intensive process, and lack of personnel has hampered progress at the Parkin research station. Funding for extra help is nonexistent, and the rural location of Parkin makes attracting volunteers difficult. Volunteers at temporary laboratories washed and sorted a great deal of material during both Training Programs, but it is taking much longer than anticipated to complete the lab work.



Fragment of fired daub with cane impressions from the Richards Bridge site. Such objects can reveal house construction details to archeologists. Photo ARAS-Parkin.



Dr. Mitchem examining artifacts for visitors during an Arkansas Archeology Month event. Photo from ARAS-Parkin.

Richards Bridge is important because it is located near the edge of what archeologists believe to be the boundary of Parkin phase territory. The investigations revealed that the village was different from other known Parkin phase settlements, in terms of layout, house form, and especially defensive features. Radio-carbon dates indicate that most of the site dates from as early as AD 1290, and some structures may have been built or occupied as late as AD 1615.

So far, the results from Richards Bridge call its identification as a Parkin phase village into some question. On the other hand, it does not readily resemble "typical" Nodena phase sites either. These uncertainties are probably related to the time of its occupation. In terms of current interpretations of northeast Arkansas prehistory, it was probably settled before well-defined chiefdoms developed in the region and before continuous warfare necessitated strategically located fortified villages. The location of the village in a presumed frontier zone highlights its importance in learning about the timing of shifting political boundaries in northeast Arkansas.

### Working with The Archaeological Conservancy

Dr. Mitchem was elected as a member of the Board of Directors of The Archaeological Conservancy (TAC) in 2017. The Conservancy, founded in 1980, is dedicated to saving significant archeological sites in the United States. It accomplishes this by buying them or acquiring them by donation, retaining ownership and protecting them in perpetuity or until a suitable public entity can take over ownership. Dr. Mitchem is involved in decisions about which sites to acquire. His broad experience in the Southeast and other parts of the country, as well as his current job as a professional archeologist, makes him especially qualified for this volunteer position.

Mitchem also serves on two TAC committees, Finance and Archaeological Affairs. The Finance Committee is the most active of the two, and requires constant attention to investments of TAC's funds as well as monitoring the stock market in gen-

Clarence B. Moore in November, 1881. Photo from the collection of Lawrence E. Aten.

eral. The organization is involved in ongoing fund raising while maintaining a basic endowment-like safety net. The Finance Committee is charged with ensuring that TAC has sufficient funds to cover acquisitions and all of the associated expenses, while seeing that remaining funds are invested in safe places that can be accessed quickly if needed. The Finance Committee has formal meetings twice a year at TAC's regularly scheduled Board meetings, but also carries out a monthly telephone conference call with a broker to discuss TAC's investments.

The Archaeological Affairs Committee is concerned with such matters as developing preservation plans for acquired sites and reviewing requests by scientists to conduct research on properties owned by TAC. They also handle any miscellaneous issues that arise related to these topics.

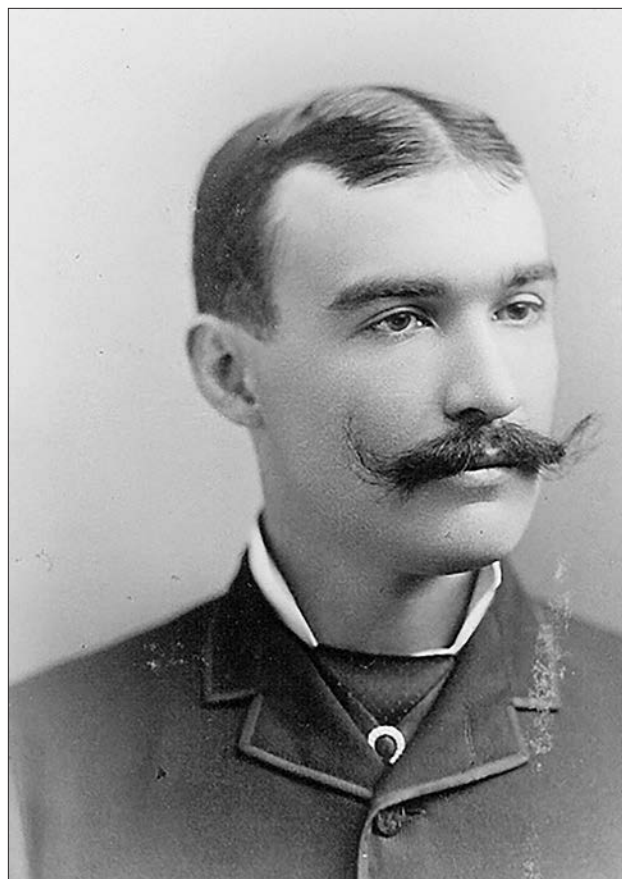
The Parkin site was acquired largely through the efforts of TAC (especially due to TAC President Mark Michel who spearheaded the effort). Once it was transferred to Arkansas State Parks, it was made the focus of Parkin Archeological State Park, where it is open to visitors year-round. This means Dr. Mitchem is in a unique position to understand the philosophy and the challenges of TAC's mission. The Parkin site is considered one of TAC's best success stories.

Dr. Mitchem has supervised research at the site since 1990, and not only are visitors able to watch discoveries being made, but on-site exhibits, museum displays, written materials, and site tours incorporate these findings. The result is the direct presentation of the results of scholarship and scientific research to members of the public in an easy-to-understand fashion. All of these factors are aims of The Archaeological Conservancy when they acquire sites to preserve them. Rarely are so many of those intentions achieved. In his service as a member of TAC's Board of Directors, Dr. Mitchem strives to see the Parkin success duplicated in other places.

### Writing the Definitive Biography of Clarence B. Moore

The name Clarence Bloomfield Moore is not familiar to most people, but to those interested in the archeology of the southeastern United States, his name is well known. Born in 1852, Moore was the heir to a successful paper company in Philadelphia. Following the death of his father in 1878, he became the head of the company, but before long handed most of his duties over to others so that he could indulge his primary interest in archeology. Buying and outfitting a steamboat and hiring a group of workmen, he began an annual expedition to the rivers and coast of the Southeast, digging in mounds and other archeological sites. His primary aim was the discovery of artifacts, particularly those of artistic beauty or rare form.

He developed a system where his field trips were undertaken during the winter and he would return to Philadelphia during the warmer months to clean and study his finds, compiling large, well-illustrated volumes that he would publish at his



expense through the Academy of Natural Sciences of Philadelphia. During the winter and spring, his boat captain would visit the region where the next field trip was scheduled to locate suitable archeological sites and negotiate landowner permission to dig. Moore continued this activity for a number of years until the second decade of the twentieth century, amassing a large collection of artifacts and producing a number of publications. He had no interest in owning the collections, and therefore donated them to various museums and institutions, first in Philadelphia and then throughout the United States.

Although his interests were primarily in objects and their description, his writings often recorded information about the contexts where items were found and other information about the archeological sites, including ones where he was denied permission to dig or chose not to excavate. One of his companions was a skilled map maker and drew accurate maps of many of the places they visited and dug. Later archeologists came to value Moore's publications and his collections because these are often the only remaining records from localities that have since been destroyed by development, agriculture, or other activities.

In the 1990s, the University of Alabama Press began a project of reprinting Moore's many works in the original oversize format, but consolidating all of the reports by state or geographical region. Dr. Mitchem edited two of the three volumes of reprints on Florida, and has maintained an interest

since learning that Moore visited and dug at the Parkin site in 1910. The information included in Moore's publications and field notes have been of tremendous value in interpreting the archeology of northeast Arkansas.

In the fall of 2018, Dr. Mitchem was contacted by Dr. Lawrence E. Aten, a retired archeologist living in Washington, D.C. An acquaintance of Dr. Mitchem, Aten had a long career with the National Park Service and had carried out fieldwork in Florida and elsewhere. He also had long been interested in Moore and had amassed a large amount of information about the man, the archeology he carried out, and almost every aspect of his life. He was in the early stages of writing an in-depth biography of Moore. Unfortunately, he had been diagnosed with Parkinson's Disease about a decade earlier, and it had lately become

apparent that he would not be able to complete the project. He and his wife, Dr. Carol Aten, who had assisted in the research, discussed with Dr. Mitchem the possibility of joining with them to complete the biography. Mitchem visited their home and examined the tremendous amount of background material and after several days agreed to join the project. The final product is to be a book with Dr. Aten as senior author and Mitchem as junior author. The research materials were shipped to Arkansas, where they have been housed in the Survey's Parkin research station. When the project is completed, the amassed papers and files will be donated to the Smithsonian Institution's National Anthropological Archives, where they will be accessible to researchers in the future. Dr. Lawrence Aten passed away in June 2019.

## Parkin Research Station — Academic & Service Activities

### Service to State Parks and Parkin Archeological State Park

- Both Mitchem and Futch answer visitor questions or advise State Park personnel on various matters about artifacts or the Parkin site.
- Mitchem clarified and updated National Register of Historic Places forms for the Parkin archeological site and sent the information to Arkansas State Parks.

### Professional Service (Jeffrey Mitchem)

- Board of Directors of The Archaeological Conservancy; Finance Committee, Archaeological Affairs Committee.
- Editorial Board of *The Florida Anthropologist*.
- Peer review for the journals *Southeastern Archaeology*, *Journal of Archaeological Science: Reports*, *BEADS*, *The Florida Anthropologist*, and *American Antiquity*.
- Publications Committee, Society of Bead Researchers.
- Director at Large (out-of-state), Board of Directors of the Florida Public Archaeology Network (FPAN).
- Advisory Board of the Alliance for Weedon Island Archaeological Research and Education (AWIARE) in St. Petersburg, Florida.
- ARAS Personnel Committee, alternate member; participated in candidate interviews for the UAPB station archeologist.

### Public Service & Outreach

- **Programs & Presentations.** Mitchem presented a public talk at Lakeport Plantation (50); participated in two Artifact, Fossil, and Mineral ID Days at Parkin Archeological State Park (combined, 74) and one at Delta Gateway Museum in Blytheville (16); presented an introductory talk to The Archaeological Conservancy's "Peoples of the Mississippi Valley" tour in Memphis (30); conducted tours of the Parkin site and the McClellan-Ritter site for the "Peoples of the Mississippi Valley" tour and a PASP employee (31); gave presentations to the Men's Club of the Graham Memorial Presbyterian Church in Forrest City (51) and the Forrest City Rotary Club (35).
- **K-12.** Both Dr. Mitchem and Ms. Futch participated in a STEM camp for girls event at Arkansas Northeastern College in Blytheville, organized by Nucor-Yamato Steel Company. Participants sorted and identified excavated materials from the Richards Bridge site (45 students and teachers).
- **Other Outreach.** Mitchem advised on exhibit design with personnel at the Museum of the Mississippi Delta in Greenwood, Mississippi; assisted them with conservation of a possible de Soto artifact; advised Delta Gateway Museum about donated artifacts; and, at the request of a Florida colleague, looked at photos of Roman coins supposedly found by a metal detectorist at St. Petersburg Beach, Florida (they appeared to be replicas).

### Service to the Arkansas Archeological Society

- **Programs & Presentations.** Mitchem gave a public presentation to the Central Mississippi Valley Chapter in Jonesboro (15).
- **Training Program.** Mitchem participated in the June 2019 Training Program at Lockesburg Mounds near De Queen.





## University of Arkansas, Fayetteville Research Station

The ARAS-UAF research station is located at the Survey coordinating office in Fayetteville, with additional office space in the Anthropology Department on the UAF campus. The station archeologist teaches in the Department of Anthropology at UAF and performs other faculty service to the Department and campus. The UAF station territory covers 12 counties and lies almost entirely within the Ozark Mountain region of northwest Arkansas. The archeology of the Ozarks is justly known for the excellent preservation of organic material such as basketry, textiles, woven sandals, and plant food remains in dry rock shelters. Large collections of such remains, excavated in the past from sites now inundated by reservoirs, are housed in the UA Collection Facility awaiting modern analysis. Station research in the last 40 years has broadened the archeological understanding of the region by focusing on ceremonial mound sites that link the Ozarks to the Mississippian and Caddo cultures. Other projects have emphasized historical sites left by pioneer Arkansans, Civil War related sites, and environmental history.

Using replicas that they have made, Mike Evans and Jared Pebworth give a presentation on ancient technology at Searcy County Historical Society. Photo by James Johnston.



**Michael Evans** (Research Associate) has been with the Survey since 1991, working with the Sponsored Research Program on projects throughout Arkansas and in neighboring states. He has developed specialized skills including advanced mapping technologies, GIS, AutoCAD and Surfer map production, data editing and management, geophysical fieldwork and data interpretation, archeological fieldwork planning and supervision, project background research, and report production. Evans is interested in flintknapping, traditional methods of construction and architecture, blacksmithing, and ancient technology and replication. Beginning January 2018 he was reassigned from ARAS-SRP to become one of the UAF station assistants. He will continue to lend his skills to other collaborative projects around Arkansas.

**Jared Pebworth** (Research Associate) is a member of the Choctaw Nation of Oklahoma and has been with the Survey since 1991, working with the Sponsored Research Program on projects across Arkansas and in several neighboring states. Pebworth is well versed in field and laboratory logistics, geophysical fieldwork, site mapping, historic and prehistoric material culture, metal artifact conservation, and the reproduction of traditional technologies. Pebworth is interested in historic archeology and traditional Ozark architecture as well as lithic raw material studies and replication. He is also an excellent artifact photographer. Beginning January 2018 he was reassigned from ARAS-SRP to become one of the UAF station assistants. He will continue to lend his skills to other collaborative projects around Arkansas.

As noted in last year's Annual Report, the Arkansas Archeological Survey lost a valuable staff member and friend with the passing of Dr. Jamie Chad Brandon on December 24, 2018, after waging a valiant battle with cancer. A memorial service was held on the University of Arkansas campus in January. Dr. Brandon kept a vigorous activity schedule for most of the summer and fall. During his illness and after his death, station assistants Mike Evans and Jared Pebworth pursued a number of activities and projects while ARAS administration and staff worked to provide support for his students and later began the search for a new station archeologist.

### Archeology at Pea Ridge National Military Park

This four-year collaboration between the Arkansas Archeological Survey and the National Park Service, organized under the federal Cooperative Ecosystem Studies Units (CESU) program, seeks to assist Pea Ridge National Military Park staff by conducting new research within the National Park to generate expanded and updated information to support ongoing Civil War battle reconstruction and interpretation programs. The Battle of Pea Ridge took place on March 7–8, 1862, pitting approximately 16,000 Confederate soldiers against nearly 10,500 Union troops. The Union victory resulted in the Confederate cession of control over Missouri during a struggle that came to be known as “the Gettysburg of the West.” Pea Ridge National Military Park provides a variety of experiences for visitors, and this project was organized to further assist those efforts.

Following completion of the 2018 Training Program investigations at the Clemens' Farm and Leetown Hamlet, along with associated University of Arkansas archeological field school excavations conducted at Foster's Field and farm—reported in the 2017–2018 Annual Report—the project moved into its final phase involving wrap-up fieldwork, data analysis, and final report production.

Final field activities involved metal detecting and small-scale testing to identify suspected archeological features identi-

fied in geophysical prospection surveys conducted in wooded areas near Ruddick's Field.



Excavations at Leetown, Pea Ridge, revealed a 19th century brick cistern complex adjacent to the Lee/Mayfield House. Photo by Jamie Brandon (ARAS-UAF).



Under Dr. Brandon's supervision, and aided by Evans and Pebworth, graduate assistant Victoria Jones and UAF Anthropology student volunteers worked during Fall semester, 2018 on inventorying and analyzing materials excavated from Leetown Hamlet and other areas during the 2018 field school. As summarized below, Jones completed her M.A. thesis during the Spring semester of 2019.

### Bluff Shelters in the Arkansas Ozarks

A second major research effort at the UAF research station centers on the investigation of Ozark bluff shelter sites. Great attention was lavished on these sites by early- to mid-twentieth century archeologists, but since then only limited attempts have been made to update interpretations of bluff shelter archeology. The current effort seeks to refine and expand our knowledge of bluff shelter sites through a combination of field investigations and more extensive study of existing records and collections.

**Saltpepper Cave.** Saltpepper Cave (3NW29) is a deeply stratified bluff shelter site, excavated by ARAS staff in 1969–1970, with 14 feet (4.11 m) of archeological deposits representing at least 9,000 years of Arkansas history. Long-term research on collections from these excavations began in 2016–2017, supported in part by grant funds awarded by the Arkansas Natural and Cultural Resources Council (ANCRC). This year, the ARAS central lab staff, led by Dr. Michelle Rathgeber and Madelyn Rose, completed an inventory of the entire artifact collection using the new tablet-based, digital cataloging system, also supported by ANCRC funding. Project staff also repacked

Jared Pebworth talks to Dr. Marvin Kay, UA Department of Anthropology, about projectile point typology. Photo ARAS-UAF.

the newly processed collections following current curation standards.

Jared Pebworth also continued work on a projectile point database from Saltpepper Cave, and examined other northwest Arkansas bluff shelter collections in the University of Arkansas Collection Facility to identify Early Archaic period San Patrice materials. Pebworth also contributed to Dr. Julie Morrow's (ARAS-ASU) Paleo/Dalton database project by contributing information from Saltpepper Cave and other Ozark area sites.

### 19th Century Stoneware Potteries in the Ozarks

Mike Evans, Jared Pebworth, and Tim Mulvihill (ARAS-UAFS) conducted field and documentary research on 19th century Ozark stoneware pottery making sites including the William Crawley Pottery in Strickler and the J. D. Wilburn kiln site in Canehill, Arkansas. Local stoneware production represents an important industry in nineteenth century Arkansas, contributing to household and rural farmstead economies.

### Mulberry River Project

Jared Pebworth assisted Tim Mulvihill with analysis of lithic assemblages excavated during 2017 archeological Training Program excavations at 3FR46 along the Mulberry River.

### Graduate Student Research

The Anthropology and Environmental Dynamics graduate programs at the University of Arkansas provide high quality research and training in the field of archeology, and the Survey is one of several institutions offering special opportunities for these students. This year, the ARAS-UAF research station had the good fortune to work with a number of graduate students from the Anthropology program.

Kayden Dennis is enrolled in the Anthropology M.A. program and began the year working under Dr. Brandon's guidance on a study of Late Archaic projectile point technologies at Ozark bluff shelter sites. He will continue his studies with Professor Marvin Kay in the Anthropology Department.

Nathanael Fosäaen, also in the M.A. program, worked on sediment samples and animal bone collections excavated during the ARAS-UAF research station's 2011–2012 investigations at the Breckenridge shelter with Dr. Marvin Kay of the UAF Anthropology Department. Fosäaen will continue his study of the faunal material during the 2019–2020 academic year at the University of Tennessee.

Victoria Jones served as graduate assistant during the 2017 University of Arkansas field school at the Leetown hamlet in Pea Ridge National Military Park, co-directed by Dr. Brandon and Dr. Carl Drexler (ARAS-SAU). Jones completed her analysis of the excavated material during the current year and successfully defended her M.A. thesis on "The Archaeology of





Examining a previously unrecorded bluff shelter. Photo ARAS-UAFS.

Leetown Hamlet: Households and Consumer Behavior in the Arkansas Ozarks” during Spring Semester, 2019.

Also under Dr. Brandon’s guidance, Breanna Wilbanks studied a collection of materials excavated by the ARAS-UAF research station in 2004 and 2005 at the St. Anne’s convent site (3SB1083) in Fort Smith, Arkansas. The convent was established in 1853 by the Sisters of Mercy, a Catholic religious order who provided health care services to the local community. Wilbanks examined patent medicine bottles and other artifacts associated with nineteenth century medical practices in an effort to reconstruct the nature and organization of the Sisters’ practices as a basis for her project on “‘Mercy from Women’s Hands’: A Religious Institution’s Creation of a Healthcare System in a 19th Century Frontier Community.” Dr. Jodi Barnes (ARAS-UAM) became Breanna’s thesis advisor following Dr. Brandon’s passing.

### Service to Agencies & Groups

**Jacob Wolf House.** Last year, ARAS-UAF research station staff assisted Dr. Jami Lockhart (ARAS-CSP) in conducting a multisensor geophysical survey of a three-acre plot surrounding the Jacob Wolf House, a two-story log structure in Norfolk, Arkansas. Built in 1829, the site is managed by the Department of Arkansas Heritage. This year, Mike Evans, Jared Pebworth, and Sarah Stuckey (ARAS-ASU) assisted DAH in monitor-

ing construction of new walkway and utility line installations, creating maps of project areas and checking impacted areas for artifacts and other cultural features.

**Prairie Grove Battlefield State Park.** Mike Evans and Jared Pebworth monitored a buried cable installation extending from the visitor facility to the new maintenance building, and also participated in planning meetings between ARAS and park staff for future archeological investigations in the Borden House area.

**Shiloh Museum.** This year retired station assistant Jerry Hilliard, along with Mike Evans and Jared Pebworth, assisted Shiloh Museum (Springdale, AR) staff with installation of a new exhibit on Ozark Bluff Shelters. Among other contributions, Mike and Jared produced a replicated collection of ancient stone tools and assisted in the creation of 3D printed replicas of scanned artifacts for display as part of the exhibit.

**Rogers Historical Museum.** Mike Evans and Jared Pebworth worked with museum staff on planning for a local cemetery documentation project.

**Crescent Hotel, Eureka Springs.** Ground maintenance by staff at the Crescent Hotel in Eureka Springs led to the discovery of a buried cache of specimen bottles, some containing suspected tissue and medicinal samples, thought to be associated with a 1930s hospital operation at the Hotel run by Norman Baker, who claimed to offer miracle cures for cancer. Following an examination of the area by the State Police, the Arkansas medical examiner, and an Arkansas Department of Environmental Quality HAZMAT team, UAF research station staff Mike Evans and Jared Pebworth spent several days at the site in April 2019, excavating an early to mid twentieth century trench dug to provide a place for burying the specimen bottles. The salvage operation was, for a brief time, a sensational news item covered by print and broadcast media, featuring a curious and sometimes amusing juxtaposition of historical and scientific explanation by Mike and Jared, alongside tales of ghosts and hauntings offered by hotel staff and proprietors. A selection of specimen bottles with suspected medicinal contents is currently on display at the hotel. This project was featured on CNN; a video can be viewed on our website.

**Georgia Flats Cemetery.** UAF research station staff Mike Evans and Jared Pebworth assisted Dr. Jami Lockhart (ARAS-CSP) in conducting a gradiometer survey of a portion of the Georgia Flats Cemetery near Sulphur Springs, Arkansas, thought to contain Civil War era interments.

**Arkansas Game and Fish Commission and Buffalo National River.** Mike Evans and Jared Pebworth worked with Arkansas Game & Fish Commission and Buffalo National River staff on monitoring and damage assessments for bluff shelter sites subject to looting on state and federal lands.





ARAS-UAF archeologists and Crescent Hotel staff examine artifacts from a 1930s hospital discovered on the hotel grounds.



Mike Evans and Jared Pebworth in front of a display of medicinal and specimen bottles at the Crescent Hotel in Eureka Springs.



## UAF Research Station — Academic & Service Activities

### Teaching & Higher Ed

- **UAF Anthropology Department.** Brandon taught ANTH 5203, Method and Theory in Archeology (5 students) during Fall semester 2018.
- Brandon remained active in working with and mentoring undergraduate and graduate students in Anthropology, serving on 7 University of Arkansas graduate student committees (5 M.A./2 Ph.D.).
- UAF research station took part in the annual Anthropology Department Open House during Spring semester 2019, which attracts visitors from campus and the Fayetteville area to exhibits and demonstrations of research and training programs.
- Evans and Pebworth presented a demonstration of atlatl technology to the UAF Anthropology Club (12 students).

### Professional Service

- **Professional Organizations.** Brandon continued service on the Editorial Board of the Society for Historical Archaeology.
- **ARAS Committees & Units.** Brandon served during 2018 as an alternate member of the ARAS Personnel Committee, and as a member of the Web Steering Committee and the Digital Data Collection Initiative (DDCI) working group. Mike Evans provided robotic total station, GPS data gathering, and ArcGIS training and support to Survey staff and students throughout the year. Evans also managed UAF station total station and GPS unit maintenance and upgrades, and assisted Dr. Jami Lockhart (ARAS-CSP) in setting up the new ARAS gradiometry mobile cart array.

### Public Service & Outreach

- **Boards & Committees.** Brandon served on the State Review Board for Historic Preservation, the Preserve Arkansas board of directors, the Arkansas Humanities Council board of directors, and the City of Fayetteville's Woolsey Farmstead Restoration Committee.
- **Presentations & Programs.** UAF research station staff participated throughout the year in coordinating office tours and presentations to a variety of groups, including SHE Camp members (16), Arkansas 4H club members (19), Rogers Historical Museum Explorers, the Quapaw Heritage tour (43), and the U.S. Forest Service heritage resource technician program. Evans and Pebworth gave presentations on flintknapping and ancient hunting technology at the Searcy County Historical Society (30) and for various Arkansas Archeology Month events including the Celebrate Archeology Day in Fayetteville that had 441 visitors.
- **Media Outreach.** Brandon continued to manage the social media presence on Facebook, Twitter, and Instagram for the ARAS-UAF research station, until those duties were taken over by Evans and Pebworth.
- **Artifact Identification, Citizen Inquiries.** Brandon, Pebworth, and Evans fielded a large number of calls concerning northwest Arkansas archeology and "drop-in" requests for artifact identifications, and visited sites and private collections throughout the research station area at the request of landowners. Evans and Pebworth created replicated collections of ancient Native American tools for the ARAS Educational Outreach program, and provided Native American craft and flintknapping demonstrations and workshops during the year for tour groups, faculty, and students at the coordinating office.
- **Other Outreach.** ARAS-UAF station staff advised on heritage resources and management practices with a wide variety of constituents, including the City of Fayetteville (Woolsey Farm Restoration Project); the City of Bella Vista (activity impacts to cultural resources along Back Forty Trail); Historic Cane Hill (historic property restoration and management); and the University of Arkansas Museum (artifact identification).

### Service to the Arkansas Archeological Society

- **Chapter Presentations.** Brandon gave a talk to the Ko-ko-ci Chapter in Fayetteville (30). Pebworth and Evans gave a presentation to the Ark-Homa Chapter in Fort Smith (15).
- **Ko-ko-çi Chapter.** Brandon assisted with scheduling speakers for the monthly Ko-ko-ci Chapter meetings and edited the Ko-ko-ci Newsletter.
- **Three Rivers Chapter.** Brandon advised the Three Rivers Chapter in Mountain Home during the summer and fall of 2018.

### Volunteer Hours

- Volunteers (Society members, UAF anthropology students, and others) contributed about 2000 hours to station projects during 2018–2019.



## University of Arkansas at Fort Smith Research Station

The ARAS-UAFS research station was established in 2005 at the request of the University of Arkansas at Fort Smith campus. The University purchased the Drennen-Scott House, 1838 home of the City of Van Buren founder, businessman, and Indian Agent John Drennen, with plans to use the property as a museum and training center for their Historical Interpretation degree program. The station's responsibilities include archeological investigations at the Drennen-Scott site and other assistance to the program at UAFS, working with the Ark-Homa Chapter of the Arkansas Archeological Society and other outreach activities in the Fort Smith area, and archeological research in the Arkansas River Valley between Fort Smith and Clarksville in cooperation with the ARAS-UAF and ARAS-WRI research stations.

**Timothy S. Mulvihill** (M.A., University of Arkansas, 1996) joined the Survey in 1989 as station assistant at ARAS-ASU, then moved to the Parkin research station, where he was station assistant from 1991–2005. In late spring of 2005, Mulvihill moved to Fort Smith to establish the new UAFS research station. His interests include Woodland and Mississippi period archeology, site survey methodologies, and mapping.

In the photo, Bob Campbell and Raven Cole learn to use the Total Station in a class on mapping taught by Tim Mulvihill during the 2019 Training Program for members of the Arkansas Archeological Society.



The UAFS station continued work on a number of existing projects that have long-term goals, and responded to new situations. One of our good accomplishments from the previous year, working alongside The Archaeological Conservancy, was stabilization of the Cavanaugh Mound in Fort Smith. This means monitoring of this property will be a simpler task going forward.

### Mulberry River Project, 3FR46

Work continued this year on the 3FR46 site materials. This site, located along the Mulberry River, was part of the 2017 Arkansas Archeological Society Training Program during which over 100 volunteer participants excavated 18 units. This project was a cooperative effort of the Arkansas Archeological Survey, the Arkansas Archeological Society, the Ozark National Forest, and the USDA Job Corps center at Cass, Arkansas. The site was composed of surface scatters of argillite flakes and buried amorphous anomalies identified through geophysical survey. Excavations showed that these areas contained concentrations of unmodified and fire-cracked rock (FCR), sometimes called rock middens. Interspersed with the rock concentrations were argillite flakes, argillite hoes, hoe fragments, chert flakes, and occasional chert projectile points of various types. These concentrations ranged in depth from the surface to 40cm below surface.

Portions of the site appear to have been used for the production of argillite hoes. Argillite is a type of fine-grained sedimentary rock that was used for tool making in the past. It is found as river cobbles in the Mulberry River, and at an argillite quarry site (3FR407) approximately two miles away from

3FR46. The hoe production, along with the two large storage pits that were also excavated in this area and the lack of normal village refuse, indicate that at least this portion of the site was used for gardening or agricultural purposes rather than habitation. Radiocarbon dates from the two pit features, paid for with a grant from the Archeological Research Fund (ARF) of the Arkansas Archeological Society, show that the pits were used during the Mississippi period, although the hoe production may also extend back into the Woodland period as well, based on projectile point types found at the site.

Most of the work this year was focused on the processing and analysis of artifacts excavated during the 2017 Training Program at 3FR46 and the follow-up excavations during October of 2017. All of the artifacts are now cleaned, numbered, and analysis is continuing with the volunteer help of Mary Brennan (retired archaeologist from the Ozark National Forest), who was a co-director of the project, and Natalie Mulvihill (a part-time assistant for ARAS), who finished cleaning, numbering, and rough-sorting the artifacts. In addition, Jared Pebworth (ARAS-UAF) lent his expertise in identifying ceramic and chert types. A database was also developed for the excavated materials from the site, and as the preliminary sorting is completed, the information is being entered into the database.

In late November and December the UAFS station, along with Carol Swboni and Lexie Rue Harris of the Ozark National Forest, helped coordinate the work of Jeremy Menzer, a University of Arkansas graduate student, who wanted to conduct further geophysical work at the site as part of his dissertation research. The site grid was reestablished and the area mowed



Mary Brennan working on 3FR46 materials in the UAFS station lab. ARAS-UAFS digital photo IMG\_7915 by Tim Mulvihill.





Jared Pebworth recording a bluff shelter in Washington County. Digital photo IMG\_6009 by Tim Mulvihill (ARAS-UAFS).

by a Forest Service crew. In March, Mulvihill, Dr. George Sabo (Survey Director), Mary Brennan, and Carol Swboni revisited the quarry site (3FR407) to check on its condition and to obtain samples of the argillite for comparison with those found at 3FR46.

### Willhaf House and Drennen-Scott Historic Site

The Willhaf House and Drennen-Scott Historic Site are nineteenth century properties located near the downtown area of Van Buren, Arkansas, and both are owned by the University of Arkansas - Fort Smith. The properties are an important part of the early history of Van Buren and the station has conducted archeological research on them since they were acquired by UAFS. Drennen-Scott was the home of one of Van Buren's founders—John Drennen—while Leonard Willhaf, a German immigrant, opened up the first bakery in town.

Drennen-Scott has for several years served as an archeological “laboratory” for UAFS Introduction to Archeology students. As part of the class, Mulvihill requires the students to participate in excavations on the property so they can acquire hands-on experience. The Willhaf House is currently being stabilized and rehabilitated, with Mulvihill consulting on archeological matters. During early 2019, a circa 1990 addition that had been built onto the back of the historic structure was removed. Mulvihill monitored the removal of the concrete foundation which extended below the surface of the ground. Several unassociated artifacts were recovered, but no intact below-ground features were encountered. An electrical line trench and digging for footings to repair the cellar entrance were also monitored, again with no intact features found.

### Mapping of Chickasawba Site, 3MS5

In 2012, contour mapping was completed of much of the Chickasawba site in Mississippi County by Tim Mulvihill, Michelle Rathgaber, and Marion Haynes (both then worked for ARAS at the now closed Blytheville research station). Since that time, The Archaeological Conservancy (a nationwide non-profit that acquires and protects archeological sites) has acquired portions of the site that were not previously mapped. In November of 2018, Mulvihill, with the assistance of Marion Haynes (now retired), mapped these additional portions of the site, which may contain the remnants of a low mound.

### Fall and Spring Dig

Mulvihill assisted Oklahoma Archeological Survey archeologists Scott Hammerstedt and Amanda Regnier and Oklahoma Anthropological Society (OAS) members with excavations at a prehistoric site (4SQ521) near Muldrow, OK, as part of the OAS's Fall Dig, October 10–12, 2018, and again during the Spring Dig, May 9–19, 2019. The site was discovered by OAS member Ray McAllister during a site survey project he initiated a few years earlier. Mulvihill had also previously assisted Hammerstedt and Regnier with a geophysical survey of the site area in 2016. Unfortunately, not much work was accomplished during the Fall Dig due to an abundance of rain. The Spring Dig fared better and excavation units began to encounter features, which will be the focus of future work at the site. The Ark-Homa Chapter, which meets in Fort Smith on the UAFS campus, is a joint chapter of the Arkansas Archeological Society and the Oklahoma Anthropological Society because of its location on the border of these states.

### New Bluff Shelter Sites Recorded

Mulvihill and Jared Pebworth (ARAS-UAF) recorded a previously undocumented series of shelters in western Washington County. The landowner had been seeking information about the bluff shelters on various social media sites and Mulvihill responded to his request. The bluff shelters were measured for length, depth, and height. Projectile point fragments and a nutting stone found by the landowner showed evidence for prehistoric use of some of the shelters, while some rock wall construction indicated historic use as well. (The ARAS maintains a dedicated website about “Bluff Shelters of the Arkansas Ozarks,” <https://archeology.uark.edu/ozarkbluffshelters/>.)

### Historic Aerial Photos

Work has continued on scanning a series of historic aerial photos that are on loan to the Survey. The photos date from the late 1930s, 40s, and 50s. These photos provide important

information on former land use and the location of historic structures and features on the landscape. They are used prior to beginning new archeological research, including site survey, excavation, and geophysical survey projects on historic and prehistoric sites. So far, nine Arkansas counties have been scanned, with each set consisting of 300–500 photos. Natalie Mulvihill, part-time assistant, has been doing the scanning, and when needed, creating a new key for the flight path when that information is missing.

### Records & Collections Management

Mulvihill continued to work on organizing the excavation records for all fieldwork conducted at the UAFS research station in preparation for archival scanning. This is part of the Survey’s ongoing effort to secure digital backups for all our paper records.

## UAFS Research Station — Academic & Service Activities

### Teaching & Higher Ed

- Mulvihill taught ANTH 490V, Archeology Special Topics (1 student) during Summer I 2018 and ANTH 493V, Anthropology Independent Study (1 student) during Fall 2018 at UAFS.
- Ongoing consultation and archeological research at the Drennen-Scott Historic Site and the Willhaf House (properties owned by UAFS).

### Public Service & Outreach

- **Programs & Presentations.** Mulvihill gave a joint presentation with Mary Brennan about the 3FR46 discoveries to the Master Gardeners of Fort Smith (52) and set up a booth on archeology for Outdoor Enthusiasts Day at Arkansas River Valley Nature Center (with Melissa Zabecki and Marilyn Knapp) during Archeology Month (130 visitors).
- **K-12.** Mulvihill gave two presentations to Hackett 3rd through 6th grade Gifted & Talented students (49 students) and two presentations to Ozark High School AP history classes (38 students).
- **Other Public Outreach.** Mulvihill met with a group interested in preserving the Devil’s Backbone Civil War battle site (18); visited and recorded two sites at landowner request; visited Ben Geren Regional Park at the request of the park director to look at possible historical features; visited Dyer Cemetery at the request of the groundskeeper to discuss locating of unmarked graves.
- **Media Outreach.** Mulvihill administered a Facebook Page for the ARAS-UAFS research station.

### Service to the Arkansas Archeological Society

- **Chapter Presentations.** Mulvihill presented a co-authored talk to the Central Mississippi Valley Chapter in Jonesboro (39).
- **Training Program.** Mulvihill participated in the first week of the 2019 Training Program and taught a class on mapping.
- **Ark-Homa Chapter.** The station advises and supports the Ark-Homa Chapter of the Society serving the Fort Smith area. Mulvihill makes arrangements for guest speakers and provides information to UAFS for press releases. He served as Chapter treasurer during 2017–2018. The station hosts lab sessions for Chapter members and provides fieldwork opportunities for volunteers.

### Volunteer Hours

- Volunteers contributed 111 hours to station research projects in the field and laboratory during 2018–2019.





## Winthrop Rockefeller Institute Research Station, Morrilton

The ARAS-WRI research station is located on the campus of the Winthrop Rockefeller Institute on Petit Jean Mountain. The Institute was established in 2005 as an educational and conference center of the University of Arkansas System. “The Rockefeller Institute’s mission is to develop diverse programs that nurture ideas, policies and activities to make life better in Arkansas.” The WRI research station of the Survey conducts archeological research in 11 counties of mountainous west-central Arkansas, including the southern fringe of the Ozarks (the Boston Mountains) and a large portion of the Ouachitas. The two mountain ranges incorporate varied upland and river valley environments and are separated by the Arkansas River corridor. Examples of important archeological resources in the station area range from rock shelters and rock art sites—including Indian Rock House in Van Buren County and numerous pictographs and petroglyphs at Petit Jean State Park in Conway County that are listed on the National Register—to finely made prehistoric ceramics from Carden Bottoms in Yell County—to the early nineteenth century town of Cadron in Faulkner County, also on the National Register of Historic Places.

**Emily Beahm** (Ph.D., University of Georgia, 2013) joined the Survey as an assistant at the WRI research station September 1, 2013 and was promoted to station archeologist beginning July 2015. She is also a Research Assistant Professor of Anthropology for the Department of Anthropology, University of Arkansas Fayetteville. Her major fields of interest are archeology of the eastern United States, Mississippian culture, ceramics, regional settlement patterns, social interaction, style, and iconography. Before coming to the Survey, she worked primarily in Tennessee and Georgia, with experience in directing major field projects, college teaching, and archival research.

**Larry Porter** is a native of Logan County, Arkansas, and has been a member of the Arkansas Archeological Society since 1979. He participated in summer Training Programs and spent eight years doing contract archeology for various private firms, mostly in the Ouachita National Forest, before joining the Survey in 1999 as archeological assistant at the ATU (now WRI) research station. His interests include the prehistoric Woodland and Mississippi periods of the northern Ouachita Mountains and Petit Jean River Valley, as well as early historic settlement in Arkansas. He is also an accomplished artist whose depictions of archeological subjects have appeared in publications and museum exhibits.

Photo shows the new fence around the Woodland Period Teaching Garden at the WRI research station. Photo by Emily Beahm (ARAS-WRI).



The ARAS-WRI research station has been working toward several new directions over the last few years, as well as keeping up with normal station responsibilities. These new directions focus on Petit Jean Mountain archeology, including rock art sites; educational outreach with special emphasis on the plant-based educational tools that ARAS has developed and an extended series for homeschoolers; and a renewed partnership with Arkansas Tech University and the ATU Museum.

### Rock Art Website

The ARAS-WRI research station began a project to update the Arkansas Archeological Survey's "Rock Art in Arkansas" website (<http://archeology.uark.edu/rockart/index.html>). This effort has thus far included reimagining and organizing a new website layout, compiling photographs of Arkansas rock art through time, developing distribution maps of Arkansas rock art images and sites, organizing and working with the rock art database, taking new photos, and revisiting rock art sites. This newly imagined website aims to put Arkansas's rock art sites in context both culturally and within the landscape and to present this information in a way that is accessible and engaging to a wide audience.

3CN165 is one of several rock art sites revisited recently by ARAS-WRI station personnel. A number of the (now faint) red painted motifs can be seen, with the most recognizable being a "sun-burst." ARAS-WRI photo.



### Records & Collections Management

Larry Porter continues to inventory existing collections at the ARAS-WRI station. Working off of those inventories, Dr. Beahm has so far submitted records of novaculite from over 50 sites in station territory to the "Arkansas Novaculite" website (<http://archeology.uark.edu/novaculite/index.html>) for Dr. Trubitt's (ARAS-HSU) research.

In the fall of 2018, the ARAS-WRI station intern, Morgan Vaughn, made great strides in management and organization of our collections and records. In addition to charting the location of all collections in our curation room, Morgan transcribed our photo records and scanned black-and-white photographic prints. She digitized cassette tapes of oral histories recorded in the 1980s and 1990s. She also worked on digitizing videotapes of excavations from the 1990s.

### Partnership with Arkansas Tech University

The ARAS-WRI research station has had a long history with Arkansas Tech University (ATU). The station was originally located on the ATU campus, and worked closely with the museum at Arkansas Tech. While continuing to hold Arkansas Archeological Society Chapter meetings in the Arkansas Tech Museum, the ARAS-WRI station had little to do with the museum since around 2008 when the station moved to the Winthrop Rockefeller Institute, and the museum's focus shifted from its emphasis on Arkansas History and Prehistory to solely Arkansas Tech history.

In 2018 the focus of the Arkansas Tech Museum has once again changed to include regional history and prehistory. The museum also has a new director—Dr. James Peck. It is anticipated that the ARAS-WRI research station will resume an active relationship with the Arkansas Tech Museum, particularly in respect to prehistoric Arkansas displays and research into the prehistoric collections held at the museum. ARAS-WRI has already assisted in this endeavor by providing Dr. Rebecca Wiewel, an anthropology professor at Arkansas Tech, and Dr. Peck with information about sites represented in the Gregoire collections held at the museum. In fall of 2018, ARAS-WRI had an intern from Arkansas Tech's Public History Program, Morgan Vaughn.

There are also shared outreach activities. Each fall, Beahm sets up a table with a food-related archeological display for Arkansas Tech's "Food Day" celebration. In March, Arkansas Tech University has an Archeology Day on campus where Beahm sets up artifact displays and answers student questions. In fall of 2019, Beahm presented guest lectures ("What Can We Learn from Ceramics" and "Prehistoric Arkansas Plant Use Through Time") in two Arkansas Tech anthropology classes.

### Partnership with Petit Jean State Park

The ARAS-WRI station assists Petit Jean State Park whenever possible in stewarding their cultural resources. As usual, Beahm gave a talk and led a tour of the research station for Petit Jean State Park's Archeology Day in March. Beahm consulted



WRI station table with samples of native foods found archeologically in Arkansas available for sampling at Arkansas Tech Food Day, November 14th. ARAS-WRI photo.

all aspects of life. Then the students take several class periods to brainstorm and come up with an entirely new, unique, imaginary culture, creating artifacts, an alphabet, and murals to reflect that culture. They take a field trip to the WRI research station where they actually excavate another class's material culture, and then take several class periods to analyze the artifacts and draw conclusions about the other class's culture. Finally, they come back up to the Winthrop Rockefeller Institute and present their findings to the other class in a semi-formal environment, what we call the "Research Symposium." This program applies a blend of STEM techniques, humanities concepts, and critical thinking in a creative, hands-on setting.

In the spring of 2019, Pottsville, Dover, and Clinton 5th grade GT students, Perryville and Dardanelle 6th grade GT students, and Hector 5th and 6th grade GT students participated in the Project Dig program with the WRI station archeologists.

### Teaching Gardens

The Teaching Gardens at the ARAS-WRI research station are designed to be an interactive way to learn about Native American gardening techniques, tools, and the plants used both before and after the introduction of corn (*Zea mays*) into the

with park interpreters about plans for the new museum display that will be going into the soon-to-be constructed visitor center. Beahm and Porter also consulted with park interpreters regarding archeological sites located on the park's newly acquired property.

### 2019 Training Program

Beahm taught the Basic Excavation class for the 2019 Training Program at Holman Springs/Lockesburg Mounds in southwest Arkansas. She also oversaw excavations at the Mound E location at Lockesburg. Larry Porter participated in the Training Program during the second week.

### Project Dig

Project Dig is a joint venture of the Arkansas Archeological Survey's WRI station and the Winthrop Rockefeller Institute. This program, first started at the station in 2008, is a semester-long experience for gifted and talented 5th and 6th graders at local Arkansas public schools within the WRI station territory. At the beginning of the program, Beahm visits each class and talks to them about what culture is and the role it plays in

Southeast. The Teaching Gardens are a collaboration between the Arkansas Archeological Survey and the Winthrop Rockefeller Institute. First established in 2016, the Native Teaching Gardens at WRI include three different areas representing different plant procurement strategies used by Native people in Arkansas. The plants in the Arkansas Native Plants Walkway area reflect wild plant food resources gathered by Native people beginning at least 8500 BC, such as hickory nuts, pecans, acorns, ferns, dewberries, blueberries, paw paws, maypops, and pokeweed. The plants in the Woodland Period Garden are similar to the plants found in the Plum Bayou Garden at Toltec Mounds Archeological State Park near Scott, Arkansas, and include native plants of the Eastern Agricultural Complex that were cultivated and domesticated by 3000 years ago. The Mississippi Period Garden showcases the agricultural plants used by people in the late prehistoric and protohistoric periods in Arkansas: corn, beans, and squash. Now in their fourth year, the Teaching Gardens have expanded to include traditionally important herbs used during early European settlement of Arkansas. This expansion ties the Teaching Gardens in more securely with the Heritage Farmstead facilities where the





Central Arkansas Master Naturalists after a tour to Rockhouse Cave. ARAS-WRI photo.

ARAS-WRI research station is housed. Low fencing has been added to the Woodland and Mississippian garden during this fourth year as well.

Each year the WRI station highlights the Teaching Gardens by attending the “Go Native, Grow Native” event held at the Russellville Forest Service Building.

### Homeschool Education Series

With the assistance of Dr. Mel Zabecki, Educational Outreach Coordinator for the Arkansas Archeological Survey, Beahm developed a Homeschool Education Series for local families. In 2018 this series incorporated both the Gathering, Gardening, and Agriculture Social Science Curriculum created

by the Survey and the WRI Teaching Gardens that are located at the ARAS-WRI research station. This education series added new archeology-related educational activities to the existing GGA curriculum. Classes were held once a month at the WRI research station from April to September to encompass the entire growing season, and cover the history of plant use in Arkansas from the Archaic through the Historic periods.

The 2019 series is called “Not Just Food: The Many Uses of Plants in Arkansas’s History.” In this series we look at how plants were used in non-food ways through the centuries. Topics of exploration include bottle gourds as containers, musical instruments and toys, plant fibers for cordage, weaving, dyes, and architecture.

Not only does this series educate children about plant use through time in Arkansas, but the children also provide assistance in the planting and maintenance of the Teaching Gardens. Homeschool students have assisted in planting the crops in the Mississippian and Woodland period gardens, harvested little barley and maygrass, carried out insect control on squash, and worked on processing sunflowers.

### Other K-12 and Public Outreach

Beahm assisted Zabecki with an archeology program for gifted and talented students in the Fayetteville school district. This involved four days of field trips to the WRI station for various archeological related activities and four days in the Fayetteville classes overseeing mock excavations.

The ARAS-WRI research station continues to host and participate in several events for Archeology Month. The station hosted its own Archeology Month Open House complete with artifact exhibits and hands-on archeology related activities and crafts. As part of the Open House, the WRI station also hosted a Seed Swap sponsored by ROOST (Revitalizing Ozark-Ouachita Seed Traditions).

The WRI station hosted the Central Arkansas Master Naturalists class. The class had a morning session about the archeology and geology of Arkansas. In the afternoon Beahm lead the class on a tour of Rockhouse Cave.

### WRI Research Station — Academic & Service Activities

#### Teaching & Higher Ed

- Beahm presented two guest lectures: “What Can We Learn from Ceramics?” to ANTH 3303, Southeastern Archeology at Arkansas Tech University (10 students); and “Prehistoric Arkansas Foodways Through Time” to ANTH 3103, Anthropology of Food at Arkansas Tech University (12 students). Students from an Arkansas Tech archeology class visited and toured the station (5 students).
- Beahm oversaw Arkansas Tech intern Morgan Vaughan, August through November.
- Beahm prepared booths with relevant archeological displays and answered questions for visitors at Arkansas Tech Food Day in November (audience, 75) and Arkansas Tech Archeology Day in March (audience, 50).

#### Service to Winthrop Rockefeller Institute

- **Native American Garden Project.** Station staff managed the Native American Gardens at WRI, including planting, tending, and harvesting; processing the food and fiber plants; and preparing the gardens for winter.
- **Project Dig.** Station staff, cooperating with WRI Program Coordinators, again presented Project Dig, a program for Gifted and Talented students that uses archeological concepts and active learning to teach critical thinking, STEM, and humanities concepts; 5th and 6th grade students from Pottsville, Dover, Perryville, Dardanelle, and Hector schools participated, along with teachers and some parents (63 students).
- **Art in the Natural State.** Station staff assisted one of the artists to relocate her exhibit into the Heritage Farmstead’s Smokehouse.

#### Professional Service

- **Professional Organizations.** Beahm served as newsletter editor for SEAC (Southeastern Archaeological Conference), and on the SEAC 2021 Conference Committee. Beahm worked with Carol Colaninno-Meeks, Carl Drexler (ARAS-SAU), and Shawn Lambert on an NSF grant proposal entitled “Evidence-based Transformation of Undergraduate Field Schools to Promote Safety and Inclusivity among Southeastern Archaeology.” The goal of this research is to help develop evidence-based recommendations and best practices for creating field schools that are safe, inclusive, and free of harassment, assault, and violence for all students regardless of racial identity, gender identity, or sexual orientation. This work builds on the SEAC Sexual Harassment Study.
- **ARAS Committees.** Beahm served as a member of the ARAS Publications Committee and the DDCI (Digital Data Collection Initiative) working group and participated with the Web Steering Committee; she is working on a redevelopment of the ARAS “Rock Art in Arkansas” website.

#### Public Service & Outreach

- **Programs & Presentations.** Emily Beahm gave a tour of the station and a talk about archeology for Petit Jean State Park’s Archeology Day (18). Beahm set up a display about the Native Gardens project at the “Go Native, Grow Native” event at the Forest Service in Russellville (50). The station hosted its annual Open House for Archeology Month and invited ROOST (Revitalizing Ozark-Ouachita Seed Traditions) for a seed swap (5). Beahm hosted a class about archeology at the station and a tour of Rockhouse Cave for the Central Arkansas Master Naturalists (20).
- **K–12.** Beahm assisted Mel Zabecki (ARAS Educational Outreach Coordinator) in working on an archeology unit with Fayetteville 5th and 6th grade classes; the classes visited the WRI station on four different days, when Beahm presented an hour-long, hands-on lesson called “The Dirt on Dirt” (240 students); in the fall, Beahm visited schools and assisted teachers with a “simulated dig day” (120 students). Beahm gave presentations to Booneville Elementary social studies 5th graders using the ARAS “Gathering, Gardening, and Agriculture” curriculum (60 students). Homeschool students visited the station for a monthly series “Plant Use Through Time” April through September; this education series traces the use of plants from the Archaic into the historic period, with hands-on activities and the Teaching Gardens to supplement the lessons in the GGA curriculum (about 20 students per class). Beahm presented a “Gathering, Gardening, and Agriculture” teacher’s workshop at the ARAS-WRI station (5 teachers).
- **Other Outreach.** Beahm assisted the Arkansas Tech Museum director in the NAGPRA process. Beahm created 14 activities for local Girl Scouts for a merit badge in archeology. Porter responded to a landowner request to view several sites on her property and recorded 3JO816, 3JO817, and 3JO823. Porter assisted members of Hatley Missionary Baptist Church in Dover with locating a reputed pauper cemetery on church property (recorded as 3PP1390). Porter discussed looting at an unrecorded bluff shelter site in Logan County with the Little Rock District COE archeologist. Beahm and Porter accompanied State Parks interpreter B. T. Jones to visit several rock art sites on property recently acquired by Petit Jean State Park.



- **Media Outreach.** Emily Beahm administers a Facebook Page for the WRI research station with events, news, and photos. The social media outlet gained new followers and reached up to 8000 people this year. A writer for the publication *About the River Valley* visited the station and interviewed staff for an upcoming article.

#### Service to the Arkansas Archeological Society

- **Chapter Presentations.** Emily Beahm joined Mel Zabecki (ARAS Educational Outreach Coordinator) in presenting “Archeology of Gourds in Arkansas & Gourd Crafting Workshop” to the Arkansas River Valley Chapter in Russellville (23); Larry Porter gave a public talk to the Ouachita Chapter in Hot Springs (20).
- **Training Program.** Emily Beahm taught Basic Excavation during the June 2019 Training Program near De Queen and supervised excavations on Mound E at Lockesburg. Porter attended the second week of fieldwork at the 2019 Training Program and assisted with excavations of Mound A at Lockesburg.
- **Arkansas River Valley Chapter.** The WRI research station advises and supports the Arkansas River Valley Chapter, serving the Russellville/Morrilton and Petit Jean Mountain area. Emily Beahm served as Treasurer and as “acting President” when the former president moved out of state; she planned programs, handled publicity and logistics for monthly meetings, and made flyers. The staff hosted field/lab days for volunteers whenever possible.

#### Volunteer Hours

- Volunteers contributed 61 hours to station research projects in the field and laboratory during 2018–2019.



## University of Arkansas at Pine Bluff Research Station

The ARAS-UAPB research station is located on the University of Arkansas at Pine Bluff campus. The station archeologist teaches courses in the UAPB Department of Social and Behavioral Sciences. The station conducts archeological research in eight counties of east-central Arkansas, extending from Little Rock to the Mississippi River. This territory encompasses portions of diverse physiographic regions including the Delta, the Gulf Coastal Plain, and the Ouachita Mountains. The archeological heritage of the area includes sites representing the earliest Paleoindians at about 11,500 BC, through Colonial and Historic Arkansas. The best-known site in station territory is Menard-Hodges in the Osotouy Unit of Arkansas Post National Memorial. Menard-Hodges is part of a complex of sites thought to include the Quapaw village of Osotouy and the earliest Arkansas Post, which was the first European settlement in what became France's Louisiana colony.

**John H. House** (Ph.D., Southern Illinois University at Carbondale, 1991) is the Survey's Research Station Archeologist for UAPB, and Research Professor of Anthropology for the Department of Anthropology, University of Arkansas Fayetteville. He has been involved with Arkansas archeology since he was a high school student in Mountain Home, and attended the first ever Arkansas Archeological Society Training Program. House joined the Survey in 1978 as an assistant at the UAPB station. He served as station archeologist at UAM from 1983 to 1985, and again during 1988, before returning to head the UAPB station. His interests include North American prehistory, material culture studies, and the archeology of colonial era Native Americans. *Dr. House retired from the Survey at the end of 2018.*

**Robert J. Scott** (Ph.D., Southern Illinois University Carbondale, 2018) has worked previously for the Illinois State Museum, the Center for Archaeological Investigations at Southern Illinois University Carbondale, and Panamerican Consultants, Inc. He worked as the station assistant at the Survey's UAM research station (2004–2007), leaving to enter the Ph.D. program in Anthropology at Southern Illinois University Carbondale. Scott was a teaching assistant at University of Alabama and Southern Illinois University, and for the archeological field schools at both institutions. His past experience includes work with WPA-era museum collections, studies of historic artifacts, faunal analysis, and the analysis of prehistoric pottery. He rejoined the Survey as station assistant at ASU in September of 2010, and transferred to UAPB station in the fall of 2013. *Scott served as the interim Station Archeologist for UAPB from January 2019 until the arrival of Dr. Andrew Beaupré in August.*

Photo above shows donor Mike Wilson and Dr. House examining exhibit cases installed at the Esther D. Nixon Library in Jacksonville.



Station Archeologist John House retired from the Arkansas Archeological Survey in 2018, following a long and illustrious career. His involvement with Arkansas archeology dates back to when House was just 13 years old, well before the Survey's creation. He has served the organization in different capacities at two research stations since 1978. An interview with Dr. House, exploring his contributions over this extended period, was published in volume 57 of *The Arkansas Archeologist*. (See also p. 3 in the Highlights section of this Report.) Robert Scott filled in as interim station archeologist during the search period, and Dr. Andrew Beaupré was hired to begin in August 2019.

### Lake Dumond Site 3AR110

Station archeologist Dr. John House continued analysis of materials from Native American graves at the Lake Dumond site (3AR110), now part of the Osotouy Unit of Arkansas Post National Memorial. The graves are those of children believed to be Quapaws who lived on the nearby Wallace Bottom site. Burial associations included cuprous metal tinkling cones, clips ("copper mail"), a ring made from a cuprous sheet metal tube, glass beads, vermillion, basketry preserved by copper salts, and one fragmentary Native ceramic vessel. Station assistant Dr. Robert Scott completed the analysis of the glass beads recovered from two burials and prepared a short descriptive report on the assemblage. House is preparing a journal article reporting this research.

### Menard-Hodges

Beginning in 2014 the Survey, in partnership with the National Park Service Midwest Archeological Center (MWAC) in Lincoln, Nebraska, began a multiyear comprehensive archeological inventory of the Osotouy Unit. John House and Dr. Jami J. Lockhart (ARAS-CSP) represent the Survey as co-principal investigators for this project. In February 2014 Lockhart

directed geophysical surveys of the plaza and outlying northern periphery of the Menard-Hodges site (3AR4). Results from the geophysical survey indicated what appeared to be numerous cultural features beneath the surface in both areas. Phase 2 fieldwork, begun in September 2015, included further geophysical mapping and excavation on selected potential cultural feature locations. Osotouy Inventory fieldwork resumed in March 2016 with excavation on three additional anomalies identified by the 2014 remote sensing. Midwest Archeological Center conducted follow-up topographic mapping and mound coring in fall 2016.

The partnership project officially ended this summer. However, ARAS-UAPB personnel will continue to work with MWAC, interpreting the results of the 2014–2016 excavations and integrating findings from the 1997 and 1998 excavations at Menard-Hodges carried out as Arkansas Archeological Society Training Programs. At the end of June, Scott selected and sent 13 pottery samples from the 1997/98 excavations for thermoluminescence dating to The University of Washington in Seattle. Goals for the projected dating program included: (1) refining the ceramic chronology for the region by directly dating diagnostic pottery types; (2) determining the duration of site occupation by dating Baytown, Coles Creek, and Mississippi period ceramics from the site; and (3) dating different occupation areas of the site.

### Mike Wilson Donation

In May of 2018, Mike Wilson of Jacksonville, Arkansas contacted Dr. House to discuss his wish to donate surface collections of Native American artifacts from two sites located on his property near Bayou Meto in eastern Pulaski County. For nearly 40 years Mr. Wilson plowed the surface of sites 3PU752 and 3PU919 for the sole purpose of finding Indian artifacts, and, as a result, had accumulated an impressive collection of flaked projectile points (knives, spear points, and arrow points)



Participants in The Archaeological Conservancy's Lower Mississippi Valley tour visited Menard-Hodges in 2018. ARAS-UAPB photo.

Helena Museum artifacts  
undergoing documentation.  
ARAS-UAPB photo.

and ground stone implements, many of which have been on display at the Esther D. Nixon Public Library in Jacksonville since 2012. The exhibit includes over 2,000 stone tools arranged chronologically to illustrate nearly 11,000 years of Native American occupation in central Arkansas. These artifacts were officially donated to the Survey's UAPB research station in June, but will remain on display at the library for three more years.

The artifacts in the library display comprise only a fraction of the surface-collected artifacts in Mike Wilson's collection. Unlike most amateur archeologists and collectors, Mike also picked up broken and informal chipped stone tools, debitage, pecked and ground stone tools, and samples of fire-cracked and unmodified rock. Chipped stone artifacts from 3PU752 and 3PU919 that he did not recognize as tools or tool fragments he placed in large containers behind his house. Each site had its own container(s). Ground stone tools and unmodified and fire-cracked rock were stacked in separate piles by site. In October, Mike Wilson offered to donate this material along with 13 boxes of artifacts, labeled by site, containing additional stone tools.

### Joe Madonia Collection

In 2006 Joe Madonia of Helena donated a large and meticulously documented prehistoric artifact collection to the ARAS-UAPB research station. The collection consists of thousands of artifacts—including pottery sherds, chipped stone dart and arrow points, projectile point preforms, blanks, cores, debitage, ground stone celts, cobble tools, and other artifact categories—collected by Madonia from over 100 sites in Phillips and adjacent counties in Arkansas, as well as in Louisiana and Mississippi. Station personnel began preparing the collection for curation in 2007. This included sorting the specimens and accessioning them into the ARAS cataloging system. Unforeseen circumstances interrupted curation leaving approximately 40 percent of the collection unsorted and unaccessioned. The curation project was taken up again after the New Year with two goals: (1) sort the remainder of the collection by site; and (2) count, weigh, and dispose of all unmodified rock. Thanks to the assistance of Arkansas Archeological Society and UAPB student volunteers, and Dr. Scott's daughter (Elizabeth Evans-



Scott), both tasks were completed before the end of March. We hope to enlist new UAPB students in the 2019–2020 semesters to further assist with accessioning and inventorying these collections.

### Elaine Area African American Cemeteries

In December, House and Scott traveled to Elaine in response to an invitation from Dr. Mary Olson of the Elaine Legacy Project to meet with James White, an officer of the Elaine Legacy Center, to tour a series of undocumented African-American cemeteries in southern Phillips County. Scott and White agreed to make weekly trips to record these cemeteries as archeological sites starting in early spring. They visited and recorded six cemeteries between February and May and made plans to continue the cemetery documentation in the fall.

### Helena Museum of Phillips County

In late January Joseph Alley, with the Helena Museum of Phillips County, contacted the ARAS-UAPB station and requested the Survey's assistance in creating new labels for pottery vessels and other Native American artifacts in the Museum's collections. Scott traveled to Helena on February 5th and spent the day inventorying the whole vessels and recording basic descriptive information for each one. The museum has 66 complete and partial pots in their collections, a number of which are excellent examples of common Late Mississippian and/or early Protohistoric pottery types associated with archeological phases centered on the St. Francis, Lower White, and Lower Arkansas river valleys. A collection of 27 additional vessels that had been loaned to the museum a few days earlier was also documented. All that was known about the latter ves-



sels is that they were found in the vicinity of Old Town Lake and/or Trenton, Arkansas. Scott provided the Museum with information on each of the 93 vessels, including pottery type classifications; descriptions of distinctive formal, stylistic, and technological attributes; estimated date ranges; and, where appropriate, the possible geographic origins of foreign-looking vessel shapes and decorative techniques.

### Drought Reconstruction Using Archeological Mussel Shell

Dr. Scott continues to collaborate with Dr. Joe Collins in the Department of Geosciences at Middle Tennessee State University on research involving the use of oxygen isotope analysis and bulk chemistry of mussel shell to determine season-of-capture and reconstruct environmental conditions in southeast Arkansas during the Late Prehistoric and Protohistoric periods (ca. AD 1400 to 1650). In October Scott sent mussel shell from a discrete midden deposit excavated at a Tillar phase habitation site (3DR166) located on Bayou Bartholomew in Drew County. Dr. Collins will be comparing the elemental compositions of archeological shells from three sites to modern control samples of live-collected specimens taken from Bayou Bartholomew in the winter of 2011. This analysis is part of a pilot study to test the hypothesis that a large shell deposit excavated at the Tillar Farms site in 1973 (determined by oxygen isotope analysis to have been collected during winter) was harvested during a mid-seventeenth century drought event.

### Quapaw Tribal Elders Tour

Scott and House collaborated with Jamie Rawlings of Pinnacle Tours in leading a tour by Quapaw Tribal Elders of places in southeast Arkansas connected with the Tribe's history. Events on the tour included a visit to locations in Pine Bluff, including Saracen's grave in St. Joseph's cemetery, and a visit to the Menard-Hodges site in the Osotouy Unit of Arkansas Post National Memorial. The tour ended with a banquet at the University of Arkansas at Pine Bluff campus, followed by presentations by Morris Arnold and John House.

### Records & Collections Management

During summer, Bob Scott completed an inventory of the collections from sites in the UAM station territory donated by Robert and Frank Chowning. Altogether, there are 4,084 artifacts from 21 sites at the UAM research station. Only five of these, however, have state site numbers. The locations of the other 16 sites remain to be pin-pointed, but information on labels with those collections indicates several are somewhere in Cleveland County. Scott also worked on the Mike Wilson collection. This included a size-graded sorting (1-inch; ½-inch; ¼-inch; and < ¼-inch) of novaculite, chert, and quartz crystal artifacts using nested screens for a quick estimate of total relative frequencies at the two sites and a possible way to identify differences in how raw materials (novaculite vs. chert) were made into tools. Comparison of the count and weight of debris by size-grade revealed clear differences in the reduction of novaculite between 3PU752 and 3PU919.



Quapaw Tribal Elders visit Saracen's grave in St. Joseph's Cemetery in Pine Bluff. Dr. House (near the grave monument, wearing a plaid shirt) leads the tour group. ARAS-UAPB photo.

### UAPB Research Station — Academic & Service Activities

#### Grants, Honors & Awards

- John House received the Arkansas Archeological Society's McGimsey Preservation Award in 2018.
- Upon retirement John House was awarded Emeritus status by the University of Arkansas Board of Trustees.

#### Teaching & Higher Ed

- John House taught SOCI 2330, Introduction to Anthropology, during the Fall 2018 semester at UAPB (28 students).
- Robert Scott (hired as an adjunct instructor) taught SOCI 2330, Introduction to Anthropology, during the Spring 2019 semester at UAPB (25 students).
- John House serves as chair of UAF Anthropology Ph.D. student Jessica Cogburn's dissertation committee.
- House and Scott served as judges for the Junior and Senior High School exhibits in the Earth Science Division of the annual UAPB Regional Science Fair.

#### Public Service & Outreach

- **Programs & Presentations.** House participated in an artifact identification program at Marjorie Walker McCary Library in Lonoke (1). House and Scott led participants in The Archaeological Conservancy's Lower Mississippi Valley Tour on a visit to Menard-Hodges (30). Scott organized and/or assisted with three events for Arkansas Archeology Month in March: an artifact identification event at the Delta Rivers Nature Center (12); activities and a small artifact exhibit for Family Fun Day at the Arts and Science Center of Southeast Arkansas in Pine Bluff (8); and a presentation given by House at the Jacksonville Public Library (38).
- **K-12.** House and Scott assisted ARAS Educational Outreach Coordinator Dr. Mel Zabecki with day-long teacher workshops at the Arkansas River Educational Service Cooperative in Pine Bluff (6 teachers) and the Great Rivers Educational Service Cooperative in Helena (5 teachers). Scott gave presentations on Historic Native Americans in Arkansas and Ethnohistory to two sections of AP History at Sheridan Public High School. House gave presentations on archeology to 4th and 5th grade Gifted and Talented students from Sheridan (20 students and teachers), and, via a television link, to East End in Grant County.
- **Historic Cemeteries.** Scott responded to requests for information and consultation on cemeteries in College Station (Pulaski County) and Trenton (Phillips County). House and Scott continue to advise Mr. Lewis Crook of Little Rock on his efforts to document and preserve Hickory Grove Cemetery, an abandoned African American burial ground in Lonoke County. House served on the board of the cemetery, which successfully obtained certification as a 501c(3) organization in the fall of 2018. Scott attended the first spring meeting of the board to discuss long-term goals.
- **Advice & Assistance.** Scott assisted Dr. Evan Peacock (Cobb Institute of Archaeology, Mississippi State University) with locating additional samples of sherds and mussel shell for a shell-tempered pottery sourcing study. Samples were selected from two sites, 3PR32 and 3PO24, on the White and St. Francis Rivers, respectively. Scott consulted with Tim Good from the National Park Service about the probability of identifying archeological evidence of events that took place during the Elaine Massacre of 1919.
- **Collections.** Scott completed an inventory of artifacts currently on display at the Esther D. Nixon Public Library in Jacksonville from two sites (3PU752 and 3PU919) on Bayou Meto in east Pulaski County. The artifacts were donated to the ARAS-UAPB research station by Mike Wilson of Jacksonville. Between June and August, Scott completed a preliminary inventory of collections donated to the ARAS by Frank and Robert Chowning from sites in the ARAS-UAM station territory. Altogether, there are 4,084 artifacts from 21 sites.
- **Other Public Service.** Scott identified artifacts for people in Phillips, Grant, Cleveland, and Jefferson Counties. Three individuals emailed pictures of artifacts to the UAPB station. A couple from the Altheimer area brought the entirety of their recent surface collections to the research station for identification.
- **Media Outreach.** Robert Scott administers a Facebook Page for the UAPB station, with 965 followers in 9 counties.

#### Service to the Arkansas Archeological Society

- **Programs & Presentations.** John House gave public talks to the Ouachita Chapter in Hot Springs (30), the Three Rivers Chapter in Mountain Home (30), and the Red River Chapter in Magnolia (30).
- **AAS Publications.** John House participated in an interview about his career, which covers a good bit of the history of the AAS as well as ARAS. The interview was filmed for the annual meeting of AAS and later published in the Society Bulletin, *The Arkansas Archeologist*.



- **Training Program.** Robert Scott attended the 2019 Training Program at De Queen, Arkansas, where he assisted Mary Beth Trubitt (ARAS-HSU) in teaching the Caddo Ceramics seminar, and in analysis of pottery from the Holman Springs site excavated during the 1985 and 1986 Training Programs.
- **Volunteer Opportunities.** The station invites local Society members to assist in the lab or fieldwork whenever opportunities arise.

#### Volunteer Hours

- Volunteers contributed 110 hours to station research projects in the field and laboratory during 2018–2019.



UAPB student working on the Madonia collection.  
ARAS-UAPB photo.



## University of Arkansas at Monticello Research Station

The ARAS-UAM research station is located on the University of Arkansas at Monticello campus, where the station archeologist teaches anthropology courses in the School of Social and Behavioral Sciences, conducts research, and hosts public outreach programs. The station territory covers seven counties in southeastern Arkansas—Ashley, Bradley, Chicot, Cleveland, Desha, Drew, and Lincoln. This portion of the state consists of landforms deposited by the ancestral Arkansas and Mississippi Rivers and their tributaries. People have lived in this region for at least 9,000 years and archeologists have investigated the lives of the American Indians and the African, Asian, and European Americans who lived here in the past. Among many significant sites in the station territory, the small Lake Enterprise Mound, thought to be 3,500 years old, is the oldest known Indian mound in Arkansas. Archeological research shows that the people who built it were affiliated with the famous Poverty Point culture. At the opposite end of the time scale, the Taylor/Hollywood Plantation 1840s log house in Drew County and Lakeport Plantation in Chicot County are the sole remaining pre-Civil War plantation houses on the Mississippi Delta in Arkansas. Southeast Arkansas is also the location of several sites from Arkansas's World War II Home Front Heritage, including Rohwer and Jerome, both Japanese American internment camps, and Camp Monticello, an Italian prisoner-of-war camp.

**Jodi Barnes** (Ph.D., American University, 2008) is the Survey's Research Station Archeologist at UAM and Research Associate Professor for the Department of Anthropology, University of Arkansas Fayetteville. She joined the Survey in January 2013. She was previously staff archeologist and GIS coordinator for South Carolina's State Historic Preservation Program. Her research ranges from the archeology of the African diaspora to World War II Home Front Heritage. She has published articles in journals such as *International Journal of Historical Archaeology*, *Historical Archaeology*, and *Southeastern Archaeology*, plus a number of book chapters. She recently edited a thematic issue of *Historical Archaeology* on the intimate archeologies of World War II. She also edited the book *The Materiality of Freedom: Archaeologies of Post-Emancipation Life*, and co-edited the volume *Managing Cultural Resources: Global Context, National Programs, and Local Actions*, with Frank McManamon and Andy Stout.

The photo shows Dr. Jodi Barnes leading a tour at Hollywood Plantation.



**H**ollywood Plantation is an 1840s plantation house owned by the University of Arkansas at Monticello. Dr. Barnes has conducted archeological research on the site since 2014 to identify the locations of the front and back porches, the ell kitchen, the smokehouse, and the cellar. This has resulted in thousands of artifacts ranging from buttons to medicine bottles that provide intimate information about the Taylor family. The research helps the university's effort to restore the house, and contributes to larger comparative projects with other historic sites.

### Hollywood Plantation (3DR26)

John Martin and Mary Elizabeth Taylor invested in the construction of Mauvilla, an 18-room house in Kentucky, and in the lands along Bayou Bartholomew that became Hollywood Plantation in 1846. They established a 10,000-acre plantation and became one of the largest slaveholders in Arkansas. Those enslaved laborers cleared the floodplains and the high, well-drained ridges along the bayou to build the two-story, dogtrot style, cypress log house and grow cotton as a cash crop.

With the completion of the secondary analysis of the glass, ceramics, faunal remains, and buttons recovered at Hollywood Plantation, research has focused on two key topics: health and foodways. In spring 2019, Barnes began examining the data, creating tables, photographing artifacts, and writing two journal articles, a final report, and exhibits to be displayed at the site.

**Foodways.** The research resulted in a variety of artifacts that provide information about the shared ways the Taylor family thought about, procured, preserved, and consumed foods. The analysis of the ceramics shows that although the Taylors used some decorated dishwares at Hollywood, 81 percent of the ceramics were sturdy whiteware plates, cups, and bowls. Stoneware crocks, used for storing flour and other kitchen necessities, make up less than one percent of the ceramic assemblage. Dr. Lucretia Kelly analyzed the faunal remains and found that in addition to pork, cow, and chicken, wild foods, like deer, squirrel, and fish, were an important part of the Taylor family diet. The animal bones from the kitchen and the smokehouse show that the Taylor family practiced self-sufficiency as the bones show butchering marks, like cut or chop marks. Overall the research shows that the taking of wild animals was not out of necessity, but partially out of sport as well as a means of providing variety to the diet. Combined, these two classes of artifacts show that despite the Taylors' wealth, Hollywood Plantation was a farm house and differed from Mauvilla, their Kentucky home, where they used the hand-painted French porcelain dishes they acquired on their wedding trip to New Orleans.

**Health.** Over 30 percent of the artifacts recovered at Hollywood were glass. The glass was sorted into two sizes—less than 1 cm and greater than 1 cm—and by color. The glass greater than 1 cm in diameter was separated by whether it was flat or curved, or whether it was window glass, bottles or jars, or housewares. Housewares include lantern globes and household items such as drinking tumblers, chandelier drops, decorative

bowls, and dessert goblets. Of the glass assemblage, 24 percent was classified as bottle fragments for storing medicine, food, or beverages. The bottle glass was sorted by form, color, and contents—food, beverage, or medicine—based on logos and makers marks. A large portion of these bottles were medicine bottles providing important information about changes in health care in rural Arkansas at the turn of the twentieth century.

A number of patent medicine bottles, including McElree's Wine of Cardui, Hostetter's Bitters, and Parker's Hair Balsam, and druggist bottles were recovered. These bottles provide clues to the Taylors' health and their medicine-taking habits. The patent medicine bottles have a mean production date of 1898. The druggist bottles have a mean production date of 1923. This corresponds with changes in health care at the turn of the twentieth century, where medical practitioners and the Food and Drug Administration constrained the advertising of pharmaceuticals and constrained consumers' access to pharmaceuticals to treat their aches and troubles.

The research at Hollywood Plantation provides important information about foodways, health, and changing infrastructure in rural Arkansas. These are all themes that will appear



Examples of whiteware dishes from Hollywood Plantation excavations. ARAS-UAM digital photo.



Examples of bottle glass finishes, or lips from Hollywood Plantation excavations. ARAS-UAM digital photo.

in the final report. It also highlights the need for comparative analysis with collections from sites that date to similar time periods across the state.

### A Comparative Study: Foodways

To start the comparative analysis, Dr. Barnes began two projects, one on foodways and the other on health. In the fall of 2018, she received grants from the Arkansas Archeological Survey and the Arkansas Archeological Society to conduct preliminary analysis of faunal remains from the Brownlee House (3PU30) in Pulaski County and Lakeport Plantation (3CH90) in Chicot County to understand foodways across the state and how the ethnicity and religious practices of the families, their ownership of enslaved laborers, access to butchers and local markets, and their rural or urban location influenced peoples' diets. Archeologists have studied historic-period kitchens that also functioned as slave dwellings at places like Hollywood Plantation, the Brownlee Kitchen at Historic Arkansas Museum, Lakeport Plantation, and the Block Kitchen (3HE236-19) at Historic Washington in Hempstead County. These studies resulted in tablewares, crocks, utensils, and faunal remains (animal bones) that provide information about the foodways of the families who lived and worked in these places. Yet detailed analyses of the faunal remains have rarely been conducted. Faunal analysis provides information about diet, subsistence strategies, the amount of available meat, and preference for wild or domesticated species and cuts of meat. The archeology of food is an entry point for learning about the people and cultures that make Arkansas the state it is today.

The Brownlee House is one site in the comparative foodways study. Robert Brownlee, a stonemason who came to Little Rock from Scotland to work on the State House, built the two-room Federal style brick house in downtown Little Rock for his brother James and James's wife Isabel around 1846. The house had a kitchen and a smokehouse in the backyard. An enslaved woman named Tabby lived in the kitchen.

Dr. Barnes sent samples from the Brownlee Kitchen in Little Rock to Dr. Lucretia Kelly at Washington University. Kelly analyzed the faunal remains and submitted a preliminary report. The faunal remains came from two different areas excavated at the Brownlee House—the kitchen and the smokehouse. The kitchen excavations resulted in a small sample and few taxa. Except for a single fish vertebra, the taxa identified were domestic animals, cow, pig, and chicken. About one-third of the mammal bones recovered exhibit saw marks, but little butchering debris was found.

The faunal material from the smokehouse area differs from the faunal assemblage at Hollywood Plantation, where there is clear evidence of butchering. Most of the bones from the kitchen and the smokehouse of the Brownlee site were sawn, rather than cleaved. At Hollywood, pig was the predominant animal identified, but at Brownlee cow remains were slightly more numerous. Beef was harder to preserve than pork, and therefore was more often eaten fresh. At Brownlee, many of

the sawn bones represent retail cuts of meat rather than larger wholesale or home-butchered cuts. This suggests that the meat represented by the domestic mammals found in this area was most likely purchased at a butcher shop. The research shows clear difference in the faunal assemblages in the rural and urban settings and aligns with research at other urban sites where people ate fewer wild foods and relied more on commercially processed retail meat cuts. From the large quantity of cow bones, which differed from the typical Arkansan's pork-based diet, Tabby likely prepared beef and potato based-meals that suited the Scottish family's diet. Further research will help provide information about the history and culture of food in Arkansas.

### A Comparative Study: Health

The research at Hollywood Plantation resulted in thousands of glass fragments and lots of patent and druggist medicines. These offer information about what types of medicines the Taylor family members were purchasing, the symptoms they were treating, and changes in healthcare at the turn of the twentieth century. The ARAS-UAM research station holds collections ranging from plantation houses to tenant farmer cabins, but little analysis has been completed on the historic sites that have been identified in southeast Arkansas. To begin comparing Hollywood with sites in the area, Benjamin O'Neal, the research station's lab assistant, began preliminary analysis of the artifacts from historic sites in Ashley, Bradley, Chicot, and Desha Counties.

### Behind the Big House

Dr. Barnes was a part of the 2019 planning committee for Preserve Arkansas's 4th Annual Behind the Big House program at Historic Arkansas Museum. The Behind the Big House program, which is sponsored by the Black History Commission of Arkansas and funded by the Arkansas Humanities Council, moves beyond the "Big Houses," or stately historic homes, to explore extant slave dwellings and interpret the experiences of the enslaved people who inhabited them. The two-day workshop includes live historical interpretations, lectures, and hands-on activities to highlight the important contributions African Americans made to Arkansas's history.

Dr. Barnes worked with Dr. Mel Zabecki, the Survey's Public Outreach Coordinator, to develop a foodways activity based on the results from the Brownlee kitchen analysis. Participants learned about the archeology and foodways of the Brownlees and the enslaved person, Tabby, who lived in the kitchen. The activity was part of a larger workshop where 180 eStem 5th graders rotated through three interactive stations on the Museum's grounds throughout the day to learn how archeologists and historians study slavery and foodways in the past and what it can tell us about the lives of enslaved people. That night, attendees not only rotated through the activity areas, they sampled antebellum cuisine, listened to a lecture by Dr. Jodi Skipper (University of Mississippi) about slavery





Dr. Barnes and Dr. Zabecki with 5th grade students from eSTEM at Behind the Big House, Historic Arkansas Museum.

and roots tourism, participated in a fireside chat with Joseph McGill (Slave Dwelling Project) and Dr. Kelly Houston Jones (Arkansas Tech University), and spent the night on the Museum grounds. The following day, participants learned about documenting and preserving slave dwellings, researching and interpreting slavery at historic sites, and genealogical research.

### Camp Monticello (3DR305)

Camp Monticello is a World War II Italian prisoner of war camp in southeast Arkansas. The results from the 2013 research were published in a thematic issue, "Intimate Archaeologies of World War II," edited by Dr. Barnes in the journal *Historical Archaeology*. In addition, Dr. Barnes partnered with Dr. Stacey Camp (Michigan State University) to include Camp Monticello in an online comparative database of World War II internment. Funding is being sought from the National Park Service's Japanese American Internment Sites grant and the National Endowment for the Humanities.

### Cemetery Preservation

African American cemeteries are an important part of Arkansas history and an endangered resource. In 2019, the second annual Martin Luther King Jr. Day of Service cemetery clean up was held at the Valley Farm Cemetery, the African American cemetery associated with Hollywood Plantation. In addition, the research station assists communities with the preservation and documentation of these important sites.

### Sulphur Springs Site (3AS1/5)

The looting of archeological sites on timber company land is a serious problem for land managers. A timber com-

pany with land in Ashley County has repeatedly dealt with the looting of a mound site, the Sulphur Springs site, on their property. With the help of Dr. Bob Scott (ARAS-UAPB) and Fiona Taylor (ARAS-SAU), Dr. Barnes mapped the looters' pits and screened some of the back-dirt piles. Dr. Carl Drexler (ARAS-SAU) examined the LiDAR data and created maps of the site. Dr. Barnes hosted a Boy Scouts lab day to analyze the artifacts. The 2012 and 2018 salvage efforts at this site indicate that people lived there between AD 700 and 1200 and perhaps later. Poverty Point Objects (PPOs), or cooking balls, recovered at the site also connect it to the Poverty Point site in Louisiana and potentially date it to the Late Archaic period (1600–1100 BC). Archeologists once thought that Archaic Indians were hunter-gatherers living a very transient life focused on basic survival, but Poverty Point, Sulphur Springs, and other ceremonial centers bring forth new questions about social organization, foodways, and daily life during this period. Dr. Barnes partnered with Dr. Don Bragg (University of Arkansas at Monticello) to write an article for *Field Notes* about the site and the importance of collaborating with timber companies to manage properties with archeological sites. They identified practices that archeologists and land managers could put into place to better protect Arkansas's important cultural heritage.

### After School Anthropology

Dr. Barnes worked with the McGehee Community Center to develop the After School Anthropology program. Each month, she visited the center and taught a lesson focused on Africa. Students learned about the cultures, countries, and capitals of Africa through videos, music, readings, arts and crafts, and hands-on activities. For example, in a lesson on the Yoruba in Nigeria and Benin, students watched a Nigerian cartoon, Bino and Fino, read about Yoruba history and culture, including the history of carving wooden masks, and made masks.



After School Anthropology students learning about Africa at the McGehee Community Center.

### Records & Collections Management

Barnes continued to update the records and collections at the UAM research station. She supervised student assistant Benjamin O'Neal as he organized the site overflow files and re-bagged/boxed collections from 3AS141. O'Neal then started conducting preliminary analysis on the artifacts from sites with historic collections in Ashley County for comparison with Hollywood Plantation (3DR26), the Brownlee House (3PU30), and Lakeport Plantation (3CH90).

Barnes also reorganized the station office this year. She re-boxed and moved collections, returned collections to other research stations, sorted boxes of former station archeologist Dr. Marvin Jeter's papers, organized equipment, and removed a number of chairs, old shelves, bulletin boards, and such to create a more efficient work space.



UAM student and station lab assistant Benjamin O'Neal working on artifact analysis. ARAS-UAM photo.

## UAM Research Station — Academic & Service Activities

### Grants, Honors & Awards

- **Make No Bones About It: Foodways and Faunal Remains at Arkansas Historic Sites:** \$1400 grant awarded by the Arkansas Archeological Society's Archeological Research Fund, with additional funds from the Arkansas Archeological Survey's Hester Davis Public Outreach Fund, and Historic Arkansas Museum.

### Teaching & Higher Ed

- Jodi Barnes taught ANTH 2243, Sex, Gender, and Culture (12 students) and ANTH 479V, Independent Study: Historic Preservation (1 student) during Spring 2019 at UAM. Amanda Roberts, a history student, updated Preserve Arkansas's Most Endangered Places list as part of the Independent Study. Barnes also taught an Independent Study on Feminist Archeology during Fall 2018 for UAF graduate student Breanna Wilbanks.
- Barnes served on UALR student Devin Sorrows' thesis committee and helped him outline a plan for completing research on Historic West 9th Street. Barnes also served on three thesis committees for UAF graduate students: Breanna Wilbanks, Victoria Jones, and Lydia Rees.
- Jodi Barnes provided Dr. Suzette Goldmon, Director of Hospitality and Tourism at UAM, with advice and support on Camp Monticello and Hollywood Plantation, including site visits, assistance with tours, discussing ideas for development and restoration, and archeological monitoring of work as needed. Barnes hosted the 2019 Martin Luther King Jr. Day of Service Cemetery Clean Up at Hollywood Plantation (28 participants with 84 volunteer hours).

### Professional Service

- **ARAS Committees.** Chair of ARAS Publications Committee; ARAS Personnel Committee; participated in Web Steering Committee activities and contributed website content for Women's History Month and Archeology Month.
- **Peer Review.** Barnes provided peer review for *International Journal of Heritage Studies*, *Journal of Community Archaeology and Heritage*, and Berghahn Books.
- **Journals & Editorial Service.** Associate Editor for *Historical Archaeology*.
- **Society for Historical Archaeology.** Jodi Barnes served on the SHA's Gender and Minority Affairs Committee, Academic and Professional Training Committee, and Editorial Board for the journal *Historical Archaeology*. She co-organized a symposium and presented a paper at the annual meeting and moderated a forum on Black Lives Matter. Barnes assisted Joe Joseph (SHA President) and Kelly Lizarraga (Coalition for American Heritage) in developing an advocacy bill that would authorize the National Park Service to form and support an African American Burial Grounds Network. Barnes was nominated to run for the SHA Board of Directors.
- **Southeastern Archaeological Conference.** Barnes serves on the Public Outreach Committee.



## Public Service & Outreach

- **Preserve Arkansas.** Jodi Barnes served as Secretary, chair of the Governance Committee in 2018–2019, and as chair of the Advocacy Committee in 2019. She attended Executive Committee meetings, quarterly Board meetings, and many other meetings and events, such as the Awards Banquet, the Legislative Reception, the Most Endangered Places announcement, Preservation Crustaceans, and Behind the Big House. Activities this year included:
  - **Behind the Big House.** Barnes was part of the 2019 planning committee. She worked with ARAS Educational Outreach Coordinator Dr. Mel Zabecki to develop a foodways activity, wrote social media content to promote the event, and helped present the activity at Historic Arkansas Museum. She drafted text about the Arkansas program to be included on the main website Behind the Big House: Interpreting Slavery in Local Communities (<https://behindthebighouse.org>); the website also includes Barnes' presentation from the Best Practices for Interpreting Slavery workshop.
  - Assisted with advocacy and review of projects (e.g., Environmental Assessment and Survey for the I-30 expansion).
- **Arkansas Community Foundation.** Barnes served as a reviewer for the 2018 AR Delta Endowment for Building Communities grant and reviewed applications for the Arkansas Black Hall of Fame Foundation grant.
- **Arkansas Living History Association Conference.** Barnes and Rachel Patton prepared a workshop about Behind the Big House and interpreting difficult histories for the 2019 living history conference in Little Rock.
- **Arkansas Stories Conference.** Barnes worked with Dr. Kim Sexton (Fay Jones School of Architecture) to plan the 2019 Arkansas Stories Conference on internment in Arkansas; she provided information about her research and suggested possible speakers and locations.
- **After School Anthropology.** Barnes started this monthly after school program at the McGehee Community Center. The program offers lessons on culture and history of Africa and its peoples and the African diaspora. Videos, readings, and hands-on activities are used to change misconceptions about Africa and show the diversity of its people and their achievements.
- **Programs & Presentations.** Barnes gave Archeology Month presentations at McGehee Community Center, Philanthropic Education Organization, and Behind the Big House/Historic Arkansas Museum.
- **Other Public Assistance & Advice.** Jodi Barnes serves on the Drew County Museum Commission. She continues to advise the Museum about their archeological collections. Barnes provided assistance to archeologists and local, state, and federal agencies including Drew County Museum, Cane Creek State Park, Arkansas Historic Preservation Program, and Arkansas Game and Fish Commission. She also assisted individuals with questions, artifact identifications, and cemetery concerns. She visited Mount Olive Cemetery in Desha County and completed a site form for it (3DE302).
- **Social Media.** Jodi Barnes continued to develop public outreach and education on social media. She contributed content to the ARAS website, including an article for the Women's History Month web page and other items.
- **Audiences.** Total audience numbers for public programs, presentations, and workshops equaled about 711.

## Service to the Arkansas Archeological Society

- **Tunican Chapter.** The station advises and supports the activities of the Southeast Arkansas Tunican Chapter, including Lab Days for volunteers, two lab days for Boy Scouts, and various assistance to Chapter board members. Jodi Barnes organized the speaker series, developed Archeology Month events, prepared press releases and newsletters, and served as Treasurer.
- **Programs & Presentations.** Barnes gave public talks to the Tunican Chapter in Monticello, Ouachita Chapter in Hot Springs, Red River Chapter in Magnolia, Ark-Homa Chapter in Fort Smith, and Central Mississippi Valley Chapter in Jonesboro. Barnes also presented a paper at the Annual Meeting in Fayetteville (combined audiences about 100).
- **Training Program.** Barnes attended the 2019 Training Program, where she co-supervised Mound A excavations at the Lockesburg Mounds site and taught basic excavation to students who were not in the formal seminar.

## Volunteer Hours

- Volunteers contributed 99 hours to station research projects in the field and laboratory during 2018–2019.



## Henderson State University Research Station, Arkadelphia

The ARAS-HSU research station is located on the campus of Henderson State University in Arkadelphia, where the station archeologist teaches anthropology courses in the Department of Sociology, Human Services, and Criminal Justice. The station territory covers nine counties of southwestern Arkansas. This area is dominated by the Ouachita Mountains, but extends across parts of the Little Missouri, most of the Middle Ouachita, and the Middle Saline river basins on the Gulf Coastal Plain. Ouachita Mountain novaculite, mined extensively in the nineteenth century as “Arkansas whetstone,” and also quarried by prehistoric American Indians for toolmaking and trade, is a resource that affected early settlement and land use in the uplands. In the river basins, salt-making was an industry pursued by American Indians and later by settlers. Both activities are represented by important archeological sites.

**Mary Beth Trubitt** (Ph.D., Northwestern University, 1996) is the Survey’s Research Station Archeologist at HSU/Arkadelphia, and Research Professor of Anthropology for the Department of Anthropology, University of Arkansas Fayetteville. She joined the Survey in 2000 after a teaching position at Western Michigan University. She has previous field experience in ten states and Belize, including work in southern Arkansas in the 1980s, and extensive research at the Cahokia site, where she studied the role of prestige goods in the political strategies of chiefdoms, among other topics. She is an expert on various prehistoric technologies and procurement strategies, including the shell bead industry, novaculite and other lithic extraction and tool making, and ceramics.

**Chelsea Cinotto** (M.A., University of Reading, 2014) worked as the assistant for the ARAS-HSU station from February 2017 through May 2019. Chelsea earned a B.A. in anthropology from the University of Oklahoma and an M.A. in archeology from University of Reading in the United Kingdom. She has experience working for the Oklahoma Archeological Survey, the National Cowboy & Western Heritage Museum, and Sam Noble Oklahoma Museum of Natural History.

The photo shows visitors to HSU’s Caddo Center viewing Hodges Collection artifacts in the new “open curation” area.



## Records & Collections: Managing & Archiving Our History

The Arkansas Archeological Survey's 50th anniversary prompted renewed efforts to document and archive our collections of artifacts, maps and paper records, photographs, and electronic files. Mary Beth Trubitt and Chelsea Cinotto, assisted by Arkansas Archeological Society (AAS) volunteers and Henderson State University (HSU) students during weekly archeology lab days, inventoried curated artifact collections at the ARAS-HSU research station and updated databases. To date over 325,000 artifacts have been documented, adding content and location information to the station's master inventory.

These efforts have spurred new research. Trubitt and Cinotto consolidated records on past excavations at Magnolia Manor (3CL768) and the J. E. M. Barkman House (3CL450), two Arkadelphia residences built just prior to the Civil War, and presented an overview to the South Central Historical Archaeology Conference in October. Cinotto began analyzing artifacts from the two sites. In 2018, Dalton points identified in ARAS-HSU collections during the curated collections inventory were loaned to the ARAS-ASU station for further research.

Paper field and lab records curated at the ARAS-HSU station (1999–2018) were scanned by ARAS-CO staff this year, completing this portion of the archival project. Trubitt and Cinotto updated the station's projects database. They continued scanning color slides at the ARAS-HSU research station, archiving digital images of slides taken from 1992–1995 and 2000–2012, and updating the photograph databases.

## Ancient Caddo Lifeways in the Saline and Ouachita River Valleys

A major research focus at the ARAS-HSU research station incorporates analysis of old collections with new excavations to interpret Caddo Indian lifeways in west-central Arkansas. Progress continues on analyzing and interpreting results of major excavations conducted during the 2013–2014 ARAS/AAS Training Programs at Dragover (3MN298) in the Ouachita National Forest. Trubitt analyzed Instrumental Neutron Activation Analysis results from samples of pottery sherds from Dragover and the nearby Adair site (3GA1). Preliminary results were included in a chapter Ann Early (State Archeologist) and Mary Beth Trubitt wrote on Caddo ceramics in the Ouachita River drainage for a planned LSU Press book edited by Duncan McKinnon, Jeffrey Girard, and Timothy Perttula.

Trubitt used a small grant from the Arkansas Archeological Society's Archeological Research Fund for an Accelerator Mass



Archeologists Thurston Hahn, Skip Stewart-Abernathy, Chelsea Cinotto, Joanne Ryan, Sara Hahn, and Liz Davoli discuss artifacts from the Barkman House (3CL450) following the South Central Historical Archaeology Conference at HSU (ARASHSUD\_Co847 photo by Mary Beth Trubitt).

Spectrometry radiocarbon date on a sample from Dragover associated with Fourche Maline pottery sherds typed as Cooper Boneware. This new information on the earliest pottery in this region pushes the beginning of the Woodland period back to 1000 BC.

Trubitt is preparing a book manuscript comparing results of past excavations at Hughes (3SA11) and Hedges (3HS60), two contemporaneous Caddo mound sites in the Saline and Ouachita river valleys. A summary article on this project was published in *Caddo Archeology Journal*. Trubitt and Early wrote a short piece on Caddo salt-processing pans for the Survey's "Artifact of the Month" website feature. Cinotto completed her analysis of ceramics and other artifacts from a large pit feature excavated in 1973 at the Caddo Hills site (3MN22). Her article detailing the results and comparisons with other Caddo sites in the Ouachita Mountains has been accepted for publication in *The Arkansas Archeologist*.

## Increasing Access to the JEC's Hodges Collection

As the Joint Educational Consortium (JEC), HSU and Ouachita Baptist University own a significant collection of Native American artifacts amassed in the 1930s and 1940s by Thomas and Charlotte Hodges. The collection of about 50,000 objects has ceramic vessels and stone tools from Caddo sites in the Ouachita River valley in Clark and Hot Spring counties. Since the JEC acquired this historical collection in 1977, it has been curated by the ARAS-HSU research station. With grants from the Arkansas Natural and Cultural Resources Council, HSU is rehabilitating the historic Caddo Center building on campus as a consolidated center for student services, with space for permanently exhibiting Hodges Collection artifacts and interpreting local Caddo Indian history.

HSU museum studies intern Rae'Shawn Jones inventoried Hodges Collection artifacts for installation in the Caddo Center during spring semester 2019 (ARASHSUD\_C1096 photo by Mary Beth Trubitt).

In spring 2019, Trubitt and Cinotto, assisted by HSU museum studies intern Rae'Shawn Jones, moved Hodges Collection artifacts from closed curation to "open curation" in the renovated Caddo Center. Staff, students, and volunteers unpacked boxes, checked and updated inventories, and installed artifacts on shelves of exhibit cases. Trubitt, Cinotto, and Jones presented a paper summarizing the progress at the annual Caddo Conference in March. They gave tours to scores of visitors, and used visitor questions to develop interpretation materials. Trubitt continued to consult with university and Caddo Nation administrations about the collection. She finished an article describing Hodges Collection ceramic vessels from eight sites near Arkadelphia that was published in *Caddo Archeology Journal*. Trubitt and John House are collaborating on a manuscript describing the vessels and other artifacts in the Hodges Collection attributed to Menard-Hodges (3AR4) and other eastern Arkansas sites.

### Investigating Tool Production and Exchange Using Arkansas Novaculite

Another major research focus of the ARAS-HSU research station has been understanding the acquisition, production, and distribution of novaculite, an important toolstone that was quarried from mountain ridges in the Ouachita Mountains. Trubitt regularly updated the "Arkansas Novaculite" website source/distribution database with information submitted by



colleagues and the public on novaculite artifacts found in and beyond the quarry zone. She also added information on typed novaculite points from recorded sites in the region based on the ARAS-HSU curated collections inventory. Using the website database, Trubitt and John Samuelson (ARAS-CSP) created a poster mapping the distribution of novaculite by time period, and presented it at the Southeastern Archaeological Conference. Trubitt recorded a new novaculite quarry (3HS715) on Nature Conservancy property in February 2019.

Trubitt continued interpreting and reporting results of the 2007–2008 ARAS/AAS Training Program excavations at Jones Mill (3HS28). She created a poster summarizing information on the Jones Mill projectile points, and presented it at the AAS annual meeting. She updated the "Archaic Arkansas" research page on the Survey's website. She included results from the Jones Mill and Dragover Training Program excavations in writing her "Ouachita Mountains Archeol-

Mary Beth Trubitt talked about novaculite quarries at Hot Springs National Park during National Park Week, April 2019 (ARASHSUD\_C1992 photo by T. Hill).



ogy” book manuscript. This year, she revised the manuscript and worked with Survey Publications Editor Deborah Sabo to finalize it for publication in the ARAS Popular Series.

### Mississippian Societies in the Midwest and Southeast

With funding from the Cahokia Archaeological Society, Trubitt created a portable display banner interpreting results of the 1997 West Cahokia project in Illinois. With Kelsey Kahlbaum-Hoisington, she organized artifacts and project records for curation. She delivered the banner and presented a talk to the CAS group in October 2018, and transferred project artifacts and records to the Illinois State Museum for curation.

Her short article reporting the project results has been published in *Illinois Archaeology*.

Trubitt drafted a chapter on Spiro arrow points for the planned National Cowboy & Western Heritage Museum exhibit volume (“Recovering Ancient Spiro: Native American Art, Ritual, and Cosmic Renewal”), edited by Eric Singleton and Kent Reilly. She was an invited discussant for a symposium on Mississippian iconography organized by Bretton Giles and Erin Phillips at the 2018 Southeastern Archaeological Conference, and was invited to and attended the Mississippian Iconography Workshop at Texas State University in San Marcos in May 2019.



Mary Beth Trubitt (second from left in the front) with participants in the Caddo Ceramics Seminar, 2019 Society Training Program at De Queen (ARASHSUD\_K13915 photo by Society President Hope Bragg).

### HSU Research Station — Academic & Service Activities

#### Grants, Honors & Awards

- Trubitt received funding (\$595) from the Arkansas Archeological Society's Archeological Research Fund for "Is Cooper Boneware the Earliest Pottery in the Trans-Mississippi South?" With it, she obtained an AMS date from Beta Analytic, Inc., on a Dragover site feature containing Cooper Boneware sherds, and summarized results for the Society's newsletter, *Field Notes*.

#### Teaching & Higher Ed

- **Teaching & Advising.** Trubitt teaches courses in Henderson State University's Department of Sociology, Human Services/Social Work, and Criminal Justice. She taught ANT4083, Readings & Research in Anthropology (1 student) during Summer 1 session (student Ashley Hennessee revised her final paper for publication as an article in *Field Notes*); ANT4053/SOC4063, and graduate level ANT5053, World Cultures (39 students), and ANT3034, North American Indians (14 students) during Spring 2019.
- Trubitt and Cinotto worked with Rae'Shawn Jones to complete her Museum Studies program internship at the Caddo Center during the spring semester. Trubitt gave a guest lecture "The JEC Hodges Collection: History and Future Plans," to David Sesser's Museum Studies class at HSU in September (10 students), and a guest lecture "Stone, Shell, Copper, Clay: Investigating Caddo-Mississippian Interaction and Exchange" to John Kelly's World Archaeology class at Washington University in St. Louis in October (50 students).
- Trubitt attends department meetings and provides information on the anthropology program as requested. Her application for graduate faculty status was approved this year.
- **Other Service to HSU.** Trubitt, Cinotto, and Jones completed the move of the Joint Educational Consortium's Hodges Collection of Native American artifacts from closed curation to open curation in the newly renovated Caddo Center on the HSU campus. In addition to working with students and volunteers in the interpretation lab/classroom, they gave tours and talks to about 100 visitors to the Caddo Center during spring 2019.
- **Pieces of the Past Exhibits in Huie Library.** Cinotto created and installed small exhibits that change monthly, featuring artifacts from ARAS-HSU station and museum collections. Exhibits included "Ammonites and Archeology," "Archeology in Downtown Arkadelphia," "Ancient Egyptian Scarabs," "Clark County Bicentennial," "Two Ceramic Vessels from Eastern Arkansas," "Rose Quartz Necklace," "Archeology and 3D Technology," "Antique Ink Bottle," "Artifacts from the Lake Ouachita Area," and "Traces of Ancient Buildings."
- **Joint Educational Consortium.** Trubitt and Cinotto curate the JEC's Hodges Collection of American Indian artifacts at HSU. In consultation with the JEC board and ARAS staff, Trubitt arranged a memorandum of understanding between JEC and ARAS regarding human remains and associated grave goods, resulting in a transfer of these materials to the ARAS coordinating office for NAGPRA documentation in September 2017. Trubitt and Cinotto finished vessel analysis and organized JEC Hodges Collection records. Cinotto checked current exhibits that display artifacts in the collection at the HSU Huie Library, the OBU Hickingbotham Library, and the Clark County Historical Association Museum in Arkadelphia.

#### Professional Service

- **ARAS Committees.** Trubitt served on the ARAS Personnel Committee.
- **Professional Organizations.** Trubitt served on the nominations committee leading up to the 2019 elections for the Caddo Conference Organization. Trubitt and Cinotto assisted with planning and organization of the annual meeting of the South Central Historical Archaeology Conference at HSU in Arkadelphia in October 2018. Trubitt is a member of the Southeastern Archaeological Conference board of officers.
- **Journals & Editorial Boards.** Trubitt serves as the editor for *Southeastern Archaeology*, and on the editorial boards for *Caddo Archeology Journal* and the *Journal of Texas Archeology and History*.

#### Public Service & Outreach

- **Programs & Presentations.** Trubitt gave talks at the Clark County Bicentennial lecture series in Arkadelphia (60); the Hot Springs Historical Society in Malvern (22); the Cahokia Archaeological Society in Illinois (25); Hot Springs National Park, for National Park Week (30); Ouachita National Forest, for Heritage Resource Technician Training (15); and two groups at the Arkansas Master Naturalists annual meeting (BioBlast 2019) in Hot Springs (45).
- **K-12.** Trubitt talked about archeology and anthropology to high school students as part of an Upward Bound program at HSU (40), and to grade school children at Childcare Network daycare in Benton (35). Cinotto taught two Archeology Workshops for Teachers with Mel Zabecki in Arkadelphia and Gillham (13), and presented two "Archeology Rocks" talks to children at public libraries in Arkadelphia and Gurdon (40).



- **Historic Cemetery Preservation Initiative.** Cinotto and Trubitt mapped and documented graves in the Mt. Tabor Cemetery (3DA656) with several community volunteers, and created a large-format map for the cemetery committee. Trubitt corresponded with an interested citizen about the Hot Springs City Cemetery (3GA1061). Cinotto met with interested local residents in Grant County and recorded the Bethel South Cemetery and the Wilson Cemetery as new archeological sites (3GR192, 193).
- **Media Outreach.** Trubitt administers the ARAS-HSU research station's Facebook page, making regular posts about station projects and research results, volunteer opportunities for Society and Chapter members, and jobs and internships of interest to HSU students.
- **Other Public Service.** Trubitt and Cinotto advised local residents about sites, artifacts, and collections via telephone, email, and in-person meetings, recording 12 new archeological sites in Clark, Garland, Grant, Hot Spring, Howard, and Montgomery counties this year. They accepted and completed paperwork and documentation on six donations of artifact collections to the ARAS-HSU research station. They advised staff from archeological consulting companies, the Nature Conservancy, and state and federal agencies (Arkansas Historic Preservation Program, Arkansas State Parks, National Park Service) about sites and site preservation.

#### Service to the Arkansas Archeological Society

- **Ouachita Chapter.** Trubitt and Cinotto attended monthly meetings of the Ouachita Chapter in Hot Springs. Trubitt served as President and Cinotto as Secretary for the chapter in 2018 and 2019. Trubitt also edits the chapter newsletter, sends promotional materials to local newspapers, and administers the chapter's Facebook page. For Arkansas Archeology Month in March, daily postings on the Facebook page highlighted past/present chapter activities in support of Arkansas archeology; Cinotto distributed Archeology Month brochures and posters. Cinotto represented the chapter at the Clark County Bicentennial Dinner in November. Cinotto and Trubitt worked with Ouachita Chapter volunteers during weekly archeology lab days at the ARAS-HSU research station.
- **Programs & Presentations.** Cinotto gave public talks to the Tunican Chapter in Monticello (8), the Red River Chapter in Magnolia (24), the Arkansas River Valley Chapter in Russellville (15), and the Ark-Homa Chapter in Fort Smith (8). Trubitt gave Archeology Month talks to the Central Mississippi Valley Chapter in Jonesboro (50) and the Three Rivers Chapter in Mountain Home (40).
- **Training Program.** Trubitt taught the Caddo Ceramics Seminar at the 2019 Society Training Program in De Queen in June (13 participants). During the course of the two week program, Survey staff and Society volunteers analyzed about 92,000 ceramic sherds from past excavations at the Holman Springs site.

#### Volunteer Hours

- Volunteers contributed 793 hours to station research projects in the field and laboratory during 2018–2019.



## Southern Arkansas University Research Station, Magnolia

**T**he ARAS-SAU Research Station is located on the Southern Arkansas University campus in Magnolia, where the station archeologist teaches in the School of Liberal and Performing Arts. The station serves 11 counties in southwestern Arkansas, stretching from the edge of the Ouachita Mountains south to the Arkansas/Louisiana state line, and from the Ouachita River west to the Oklahoma and Texas state lines. This territory incorporates the Great Bend region of the Red River, once a major settlement area of the Caddo people. Sites in station territory include Crenshaw, the earliest known Caddo ceremonial center, Historic Washington State Park, the region's earliest American trading center, and many of the Camden Expedition battlefields from 1864.

**Carl G. Drexler** (Ph.D., The College of William and Mary, 2013) joined the Survey in 2011 and was promoted to Research Station Archeologist in 2015. He also serves as Research Assistant Professor of Anthropology for the Department of Anthropology, University of Arkansas Fayetteville. He has previously worked for the National Park Service, Colonial Williamsburg Foundation, and U.S. Army Engineer Research and Development Center, using his expertise in historical archeology, conflict studies, and spatial analysis. He has field experience in Mexico, Cuba, the British Virgin Islands, and in the United States Midwest, Great Plains, Southeast, Southwest, and Mid-Atlantic regions.

**Fiona M. Taylor** (B.A., Texas A&M University, 2015) was hired as the Arkansas Archeological Survey Research Station Assistant at Southern Arkansas University in Magnolia in January 2017. Following graduation, she moved to rural northern Nevada to fulfill an AmeriCorps position teaching science and outdoor ethics to underprivileged schools and communities. Fiona has been a member of the Arkansas Archeological Society since 2010 and has participated in numerous archeological projects around the state. Her research interests include collections management, environmental anthropology, and conflict.

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The photo shows a view of Holman Springs in Sevier County.



In a break from the usual focus on Civil War sites, research this year included major projects on several large Caddo sites in the station territory. This effort came from the need to complete unfinished projects that have been sitting in the ARAS-SAU station collections area for too long.

### Caddo Settlement in the Little River Region

Initial focus was on the Holman Springs site (3SV29), located west of De Queen. This had been the subject of 1985 and 1986 Arkansas Archeological Society (AAS) Training Programs, overseen by Dr. Frank Schambach. For various reasons, the artifacts and records from those two AAS projects remained largely unprocessed. A new AAS Training Program dedicated to following up that earlier work was proposed as the best way of concluding those efforts.

Preparing for the 2019 Training Program spurred a closer look at the state of the Holman Springs collections. This led to several boxes containing unprocessed carbon samples. To test if they were viable after thirty years on the shelf, Drexler and Taylor applied for and received a small grant from the AAS Archeological Research Fund to process two of them. This gave

direct dates on the site for the first time—one relatively early (mid 1300s), the other late (late 1500s)—and a new window on Caddo settlement in the Little River region of southwest Arkansas, and on Caddo saltmaking in particular. The initial plan was to do the summer 2019 fieldwork at Holman Springs, but due to access restrictions, an important yet barely researched nearby site known as Lockesburg Mounds (3SV48) was chosen instead.

Lockesburg Mounds is a massive site, one of the largest in the Little River Region, or in southwest Arkansas. At least 12 mounds have been documented there in the past, and more may have stood before modern agriculture and relic hunting altered the landscape. Despite this grandeur, little archeological work had ever been done on the site. This is in part due to the extensive damage done to the site by relic hunting in the 1980s. As a result, ARAS crews started with a fairly clean slate, and worked over the course of the year to better understand this place.

The first task was mapping the site using LiDAR data, a 3D dataset that can create fine-scale maps using lasers. We not only saw the mounds, but could actually see the old relic hunter pits

Gradiometer at the Lockesburg site, 3SV48. Survey pins mark a grid in the background. ARAS-SAU digital photo IMG\_4331.





Training Program participants excavating Mound A profile cut at the Lockesburg site. ARAS-SAU digital photo DSC\_0621.

in the data. The looting was that bad! Using the LiDAR map as a starting place, we amassed historical and ethnographic data about the recent history of the site to better understand what kinds of destruction we might encounter and what kinds of artifacts might be there. This led to some collections at the University of Arkansas Museum that were attributed to the site.

As some of the Museum collections were known to come from burials at the site, ARAS consulted with the Caddo Nation of Oklahoma about studying those artifacts and planning the upcoming Training Program. We had several productive conversations about how the work would progress in ways that would be sensitive to the Tribe's concerns, yet still bring out information of interest to them.

To prepare for the Training Program, and to adhere to the Tribe's interest in avoiding graves, we conducted large-scale geophysical surveys of the mound site in the winter and spring. These succeeded in identifying one mound that had been completely destroyed, and several looter trenches. They also gave an idea of where to dig to gain important information about the site while paying attention to the Caddo Nation's concerns.



Training Program participants sorting Holman Springs site sherds in the lab. ARAS-SAU digital photo P\_20190609\_131201\_LL.

The Training Program started in June, with two excavation areas. First was a 12 x 2m trench in a looter backhoe cut in the large platform mound on the site. Starting in the disturbed area and removing just enough dirt to see an undisturbed profile face revealed a picture of the mound's construction with as little interference as possible to the remaining mound structure. Over the two weeks of the Training Program, all of the units in this trench were linked together, giving a contiguous profile across the 12m—no small feat when you consider that the mound drops over three meters from its top to its bottom.

In the field to the east, AAS members enrolled in the Basic Excavation class worked on a small mound that the geophysical survey suggested had a house foundation in it. Not only did they succeed in finding the house, they also documented two large backhoe swipes cutting straight through it. Our goals were to learn about the site and the damage done to it, and both parts of the field project achieved those ends. Fieldwork was closed out by using a drone to take some beautiful overhead images of the excavation.

As the fieldwork at Lockesburg Mounds progressed, laboratory volunteers dove into the old collections from Holman Springs. Dr. Mary Beth Trubitt (ARAS-HSU) taught a one-week intensive course on Caddo ceramics in conjunction with



this effort, all of which focused on processing the ceramic collection. In the course of the Training Program, AAS volunteers analyzed over 90,000 ceramic sherds, and re-boxed much of the remainder of the Holman Springs collection. This is a massive aid in moving the long dormant Holman Springs assemblages towards proper analysis, and is a giant step in completing two decades-old AAS projects. Through the two weeks, Society members contributed almost 4,000 hours of volunteer time in the lab and field.

### **Territorial Settlement in the Red River Valley**

Moving forward in time to the early nineteenth century, Drexler and Taylor continued working on several sites occupied in the first few decades of the 1800s. The Sulphur Fork Factory was an Indian trading post that stood on the bluffs overlooking the confluence of the Sulphur Fork and Red Rivers. The station worked with local historians to revisit a site last excavated in the 1980s, and conducted a short geophysical survey on an adjacent property rumored to have both Native American graves and the burials of several Confederate soldiers.

In this same period, a place upriver was home to a small community of Cherokee settlers seeking a new homeland. Claude McCrocklin, an avocational archeologist from Shreveport, Louisiana, identified the site in the 1990s, but little has been done since then. Drexler and Taylor helped expand the story of this settlement by tracing out the history of the community during its brief (one year) stay on the Red River. In 1819, following an armed confrontation between white settlers and a band of Native Americans representing several tribes, the Cherokee settlement was attacked by the Arkansas Territorial Militia, who forced the Cherokees to move to the Mexican state of Texas.

### **Pea Ridge and Other Civil War Projects**

Of course, the station maintained its interest in Civil War battlefields, completing analysis of the collections recovered from Prairie D'Ane battlefield, near Prescott, and develop-

ing preliminary interpretations. We believe that this research identified the location of one of the U.S. artillery battles during the first day of fighting, which will allow us to place other units, both U.S. and Confederate, on the battlefield and better understand the size and structure of the battlefield landscape, which will help the efforts to mark and preserve the battlefield as it develops as a basis for heritage tourism in Nevada County.

This station also took on an increased role this year in completing the Survey's four-year contract with the National Park Service at the Pea Ridge battlefield in Benton County. With the fieldwork completed, ARAS-SAU worked with the ARAS-UAF station to further the analysis of this large, multi-project research program. The report is scheduled to be done and submitted by early next year, offering a huge step forward for the archeology of Pea Ridge.

### **Records & Collections Management**

SAU generously accords our research station a large space in the basement of the Bruce Center. This winter, we built within this space by adding walls around our collections area, significantly improving security and providing better climate control. This was made possible by funds given to the SAU Foundation by Mary Shinn, grandmother of SAU alumnus and former Survey employee Anthony Clay Newton. We are very grateful that Mrs. Shinn's bequest made this long hoped for addition possible.

Drexler and Taylor worked on scanning and transcribing Cynthia Weber's 1970s manuscript on the analysis of the M. R. Harrington collection from Arkansas at the Heye Foundation in New York City. They also continued implementing a cataloging system for station collections.

As part of an ANCRC grant awarded to ARAS to update curation of collections, Drexler and Taylor packed and transported collections from past Arkansas Archeological Society Training Programs at Grandview Prairie to the coordinating office in Fayetteville for processing.

### SAU Research Station — Academic & Service Activities

#### Grants, Honors & Awards

- \$780 grant from the Arkansas Archeological Society's Archeological Research Fund for radiocarbon dates from the Holman Springs site 3SV29.

#### Teaching & Higher Ed

- **Department of History, Political Science, and Geography, SAU.** Drexler taught ANTH/SOC1013, Introduction to Cultural Anthropology (9 students) and ANTH/HIST3143, North American Indians (32 students). He also oversaw three Independent Studies. Drexler gave guest lectures on forensic archeology and forensic anthropology to a chemistry class at SAU.
- **Student Committees.** Drexler oversaw completion of one undergraduate honors thesis and one master's thesis at the University of Arkansas. He also served on one additional master's student committee and as chair of one doctoral student committee.
- **Other Service at SAU.** Both Drexler and Taylor served on the steering committee for Southern Arkansas University's new Rural Studies Institute. Drexler led a tour of the Ozmer House for a Rural History class.

#### Professional Service

- **ARAS Committees.** Drexler headed the Digital Data Collection Initiative (DDCI) working group.
- **Professional Organizations.** Drexler concluded his terms as Continuing Education Coordinator and member of the Academic and Professional Training Committee of the Society for Historical Archaeology, and served on the Conference Committee to plan the 2019 annual conference in St. Charles, Missouri. He was elected Arkansas's representative to the Caddo Conference Organization. Along with Emily Beahm (ARAS-WRI), Drexler is part of an initiative within the Southeastern Archaeological Conference to develop a National Science Foundation grant proposal for researching sexual harassment in field school environments and developing methods to protect student safety.
- **Boards and Committees.** Drexler served on the Board of Trustees of the Arkansas Historical Association, heads its Public Education committee, and chaired the Westbrook-Gingles Award Committee.

#### Public Service & Outreach

- **Programs & Presentations.** Taylor gave a paper on the Lost Prairie Cherokee at the Red River Heritage Symposium (25); Taylor had a booth at Frontier Days at Historic Washington State Park with information and activities for all ages (about 100 visitors); Drexler and Taylor gave a talk to the Lions Club in Camden (25) and to the Rotary Club in Camden (25); Drexler and Taylor had a booth at the Prairie D'Ane Civil War Re-Enactment in Prescott, a two-day event (about 250 visitors).
- **K–12.** Drexler and Taylor gave presentations about archeology to middle school students in Bradley, AR (60), and taught "Arkansas Indians" to North Heights Junior High School in Texarkana (30).
- **Media Outreach.** Station staff post regularly to Facebook, Twitter, and Instagram. On their Facebook page 108 posts generated 109,585 impressions, received 15,229 engagements, and earned 207 new followers during the year. On Twitter, 54 tweets received 14,842 impressions and gained 87 new followers. Drexler wrote articles about the 2019 Training Program for the ARAS and AAS websites. Drexler published a blog post about metal detector strategies at Pea Ridge.
- **Advice & Assistance.** Taylor attended meetings of the Nevada County Depot and Museum, the Forestry Planning Committee for Elkins Ferry, and the Camden Expedition Scenic By-Way Steering Committee; Drexler and Taylor attended the Prairie D'Ane Battlefield Planning Committee meeting; Drexler and Taylor assisted the Arkansas Historic Preservation Program and Natural Resources Conservation Service with a field check in Hempstead County near Dooley's Ferry entrenchments (3HE32); Drexler and Taylor visited a Confederate cemetery site in Doddridge at the request of a local resident; Drexler and Taylor interacted with numerous visitors and callers to the station, answering questions about archeology, artifacts, and other matters.

#### Service to the Arkansas Archeological Society

- **Red River Chapter.** Drexler and Taylor help the Red River Chapter, hosting monthly meetings, arranging programs, and providing opportunities for volunteers.
- **Programs & Presentations.** Drexler gave talks to the Ouachita Chapter in Hot Springs (20), the Ko-ko-ci Chapter in Fayetteville (30), and the Red River Chapter in Magnolia (18). Taylor gave talks to the Ark-Homa Chapter in Fort Smith (15) and to the Tunican Chapter in Monticello (12).



- **Training Program.** Drexler directed fieldwork and Taylor directed the lab during the June 2019 two-week Training Program headquartered at UA-Cossatot in De Queen. The program comprised excavations at the Lockesburg Mounds site and laboratory analysis of Holman Springs site collections from 1985 and 1986 Training Programs. There were four public talks during the Program, one of which was livestreamed, with over 400 viewers.

**Volunteer Hours**

- Volunteers contributed 8068 hours to station research projects in the field and laboratory during 2018–2019, including 3,976 hours contributed by Arkansas Archeological Society members at the Training Program.



## Arkansas State University Research Station, Jonesboro

**T**he ARAS-ASU Research Station is located on the Arkansas State University campus in Jonesboro, where the station archeologist teaches in the Department of English, Philosophy, and World Languages. The ASU research station territory includes 17 counties of northeastern Arkansas. American Indian cultural development from 12,000 BC to historic times and early Euroamerican settlements are represented in the archeological record. Among the well-known sites are the Dalton period Sloan site—the oldest known cemetery in North America—and the King Mastodon, which was featured in *National Geographic* magazine. A large number of sites date from the scientifically critical transition that occurred about 12,000 years ago between the Ice Age (Pleistocene) and modern (Holocene) climatic regimes. Geographically, the ARAS-ASU station territory incorporates the eastern border of the Ozark Plateau and the vast lowland areas of the Mississippi River basin and its tributaries. It thus provides ideal natural laboratories for the study of diverse adaptations in Arkansas prehistory.

**Juliet Morrow** (Ph.D., Washington University in St. Louis, 1996) is the Survey's Research Station Archeologist for ASU/Jonesboro, and Research Professor of Anthropology for the Department of Anthropology, University of Arkansas Fayetteville. She came to the Survey in 1997, from a position with the Office of the State Archeologist of Iowa's Highway Archeology Program, and had worked for various private research firms and the U.S. Army Corps of Engineers. Morrow's background in earth sciences provides expertise in geoarcheology, geomorphology, and site formation processes. Much of her archeological research has focused on the Paleoindian period and multidisciplinary studies of hunter-gatherer lifeways, stone tool technology, and Pleistocene/Early Holocene ecology.

**Brandy Dacus** (M.S., The University of Memphis, 2011) served as Station Assistant at ARAS-ASU from April 2016 through the end of 2018. After graduating from Middle Tennessee State University, she worked in cultural resource management. While a graduate student, she had the opportunity to co-instruct several field schools at the Castalian Springs and Kincaid Mound centers. Her research interests include leadership strategies, architecture, and iconography of late prehistoric Mississippian societies in the Southeast.

**Sarah Stuckey** (B.S. in Physics, Arkansas State University, 2013) has been ARAS-ASU Station Assistant since January 2014. She had worked as a volunteer at the ASU station for several years prior. Her senior capstone project, under Morrow's direction, explored the use of FTIR (Fourier transform infrared spectroscopy) for sourcing Burlington chert, an important lithic raw material that was quarried from many locations in the midcontinent.

In the photo, Julie Morrow examines stratigraphy at the Old Town Ridge site, 3CG41.



A great deal of the station's recent research has focused on documenting evidence of Arkansas's earliest inhabitants, the Paleoindian cultures who entered this area some 13,000 years ago. Few undisturbed Paleoindian sites have been found and even fewer excavated, so most of our knowledge so far comes from studying distribution of artifacts, tool-making technologies, and changes in land use.

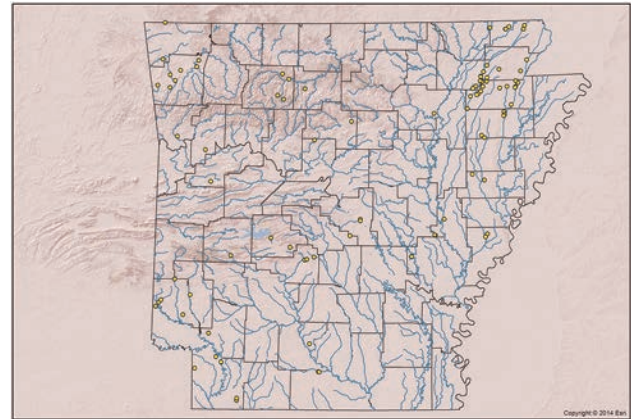
### Arkansas Paleoindian Database (APD)

The oldest excavated sites in Arkansas are those of the Dalton culture. Sloan, Brand, and Lace are the most well-known. To date, there are no excavated early Paleoindian sites of the Clovis or Gainey techno-complexes or cultures. But there are 300 documented fluted and unfluted Clovis-era points and several localities with high potential for single component Paleoindian sites such as Ed Reed in northwest Arkansas and the Jonesboro area. There are also Clovis-era megafauna sites, some of which have been excavated such as the King Mastodon site dated to ca. 14,100 cal BP and a paleollama excavated from southeast Missouri dated to ca. 12,850 cal BP. Clovis points occur in all physiographic regions of Arkansas but more have been found in northeast Arkansas because of modern agricultural practices and research focus. Clovis and Gainey points are found only rarely in the Ozarks and Ouachita Mountains because of the lack of intensive agriculture. Clovis artifacts from the Ed Reed locality in northwest Arkansas, from Baxter County in the north-central part of the state, and from the Ouachita Mountains in the west-central part of the state are evidence of early occupations in forested highlands.

Geomorphic processes also bias our sample of Paleoindian sites. Many sites may be buried beneath alluvium in the Delta and stream valleys of the highland landform regions. A few cultural resource management projects have produced Paleoindian artifacts. Lithic material distributions indicate that until about 12,500 years ago the Mississippi River was a boundary. Clovis and Gainey points in the APD are made from lithic resources found only on the west side of the Mississippi River. Pelican points, found throughout the Delta, are similar to points in the southeast US and South America.

The diversity of fluted and non-fluted Paleoindian point types in Arkansas indicates it is the crossroads between the southeast and the southwest and between the Deep South and the Midwest. From a geographic perspective, the state is ideally suited to study the sources of morphometric variation and Paleoindian land-use. Future work will hopefully include data recovery from a site with in situ deposits that contain geochemically datable material.

In January 2018 we began generating comparable morphometric data and lithic material identifications on Dalton artifacts from ARAS and private collections. With future expansion of the APD we can continue to refine our typology, model the tempo of changing point styles and Paleoindian use of the landscape. We plan to continue recording attribute data on points using traditional and 3D scanning technology. Twenty-one



A map of fluted Paleoindian points in Arkansas with site-level provenience (as of 2017). Image by ARAS.

years working with both private and institutional collections in Arkansas give us the impression that Dalton point frequencies exceed the total number of combined Paleoindian point types (Clovis, Gainey, Pelican, etc.) by 1000x in Arkansas. For researching Paleoindians and descendant cultures, there's no end in sight in Arkansas.

### Ozarks Paleoindians

We began the APD project by placing Paleoindians within regional contexts but over the last year we expanded our focus to include the entire Ozark Mountains region, which necessitated gaining access to several other state archeological databases. The Ozarks is a region of rugged terrain that extends over all or part of 93 counties in four states: Missouri, Arkansas, Oklahoma, and Kansas. The total area is approximately 50,000 square miles or approximately the size of Florida. Geographic features that distinguish the Ozarks as a region are flat-topped summits, steep valleys mantled with oak-hickory-pine forests, rockshelters, caves, and other karstic features. Karst features include streams, springs, caves, sinks, cedar glades, and natural bridges. The dominant rocks are limestone and dolomite bedrock that host a wide variety of chert types. Chert occurs as nodules and beds in bedrock exposures, as residuum, and as secondary deposits in stream beds.

The highest elevations in the region are in the Boston Mountains of Arkansas, where extensive uplands reach to heights of more than 2,000 ft (610m). A few summit areas in extreme western Newton County exceed 2,500 ft (726m). The variegated landforms and relief are the result of many factors, including differential resistance to weathering and erosion of two adjoining rock masses, the structural tilt of the rock layers, the porosity of the rocks, and stream erosion. The St. Francois Mountains lie in the eastern Ozarks, south of St. Louis, Missouri. Knobs of granite and siliceous volcanic rock flows are continuously revealed by weathering and erosion.

Rhyolites of the St. Francois Mountains were used predominantly in the Late Archaic but their earliest recorded use

Dalton tool kit from the Brand site in Arkansas. Photo from Smallwood et al. 2019.

is by Clovis people at the Martens site in St. Louis County. One Clovis point from southeast Missouri in ARAS collections is made of rhyolite, most likely from the St. Francois Mountains of east-central Missouri. The largest well-known Clovis sites lie at the edges of the Ozarks. Despite the low visibility of sites in the interior, there are isolated Clovis, Gainey, and Dalton points and several assemblages recorded in the interior river basins and uplands. At a continental scale, the Ozarks is a major lithic supply zone and contains thousands of square kilometers of ecotonal habitat. Data suggest that the reservoir for Paleoindian variation is in the midcontinent, an area that is also the hearth of the earliest plant domestication in North America. So far there are over 700 fluted points (including Clovis, Gainey, and Dalton) and other Paleoindian era tools in the Ozarks Database and it is growing every week.

### The King Mastodon Project

The King Mastodon paleontological site was discovered in northeast Arkansas in 1999 when mastodon (*Mammuth americanum*) cranial elements were uncovered by dredging contractor Mr. George King in Little Bay Ditch. The site is located southeast of Jonesboro in drainage networks that were part of a braided stream system during the Late Pleistocene. Morrow found more mastodon elements while monitoring the site that summer, including more cranial fragments, axial and limb elements, and tusk fragments. Other taxa collected include long-nosed peccary, white-tailed deer, numerous small mammals, pig, cow, bison, coyote, dog, various birds, turtle, snake, frog, various fish, bivalves, and gastropods. Many of these specimens were found in the spoil pile created by dredging. The stratigraphy of the site consists of lenses of gray clay of Late Pleistocene age, overlain by Holocene aged sand, which underlies approximately 30 feet of tan sand and ditch spoil. Dentin from the mastodon jaw found at the site dates to approximately 14,100 calendar years ago based on three radiocarbon assays.

The cranium is heavily damaged and is unusual in that the two alveoli for the tusks are of greatly differing sizes. The right alveolus and premaxilla appear normal and the left is abnormal. Recently Morrow teamed up with Dr. Andy Grass (New York Institute of Technology College of Osteopathic Medicine, at ASU) to conduct an in-depth study of this pathology. Andy is a ground sloth expert from Iowa. The opening to the left tusk alveolus is very small, only approximately 5cm wide, and shows signs of bone growth around its margin, as well as on the ventral side of the premaxilla near the base of the alveolar cavity. Reduced and malformed tusks, including sometimes small supernumerary tusks, have been observed in African elephants



due to infection and abscess of the alveolus. The left maxillary molars of the King specimen are also broken, leading to the possibility that the infection may have spread, but the breakage may also be due to ditch cleaning machinery (drag line) skimming over the bones.

The damage or infection to the left alveolus may have happened when the animal was a juvenile, but the size of the right alveolus shows that it lived for quite some time afterwards. More research is necessary, including comparisons with other mastodons, to determine if this infection was the cause of death.

### Dalton Research

Three goals were accomplished concerning Dalton research at the ASU research station: Sarah Stuckey documented 270 Dalton points for the Dalton Database; Morrow answered the question “What is a Sloan Point” for the Survey’s website (see below); and Morrow’s collaboration with Dr. Ashley Smallwood (University of Kentucky-Louisville) resulted in a poster presentation at the annual meeting of the Society for American Archaeology, which was held in Albuquerque, New Mexico.

Coauthored with archeologists Thomas Jennings and Charlotte Pevny, the latter study shows the multifunctionality of Dalton points by microscopic examination of use wear traces. Dalton culture emerged and spread throughout the trans-Mississippi south during and after the Younger Dryas climatic episode, about 12,850 years ago in the Southeast, when megafauna were nearly extinct, faunal communities were reorganizing,



and coastal environments were changing. Compared to earlier Paleoindians, Dalton hunter-gatherer adaptations included intensive settlement of previously sparsely inhabited landscapes and increased reliance on more local resources. There was also a significant technological shift in the role of the hafted projectile point/knife (“point” for shorthand) to be a more multifunctional tool.

About 12,000 years ago, early Paleoindian technology evolved into Dalton hunting technology through a series of modifications to the blade portion of the points. Specifically, they fashioned teeth-like serrations and resharpened their point blades on only one face of one edge, rather than on both faces of both edges as their ancestors did. Archeologists call this resharpening treatment “alternate beveling.” The functions of serrations and alternate beveling have been debated since at least the late 1900s. Determining the functions of these points is critical for understanding how humans adapted to glacial-like conditions and the extinction of megafauna at the end of the Pleistocene. In this study, Morrow and colleagues used experimentation to help interpret use wear traces on archeological Dalton points. From this, they could consider changes in point functionality within the broader context of Dalton lithic technology and adaptations to the emerging Holocene environment.

Dalton flintknappers crafted lanceolate shaped points with concave bases that often show signs of basal thinning and point blades that are variable in form. Dalton points were serrated, serrated and steeply beveled, just beveled, burinated, or blunted and flaked into endscrapers which could be hafted. There have been different explanations of this variation. Dan Morse proposed that variation in Dalton point shapes was due to progressive resharpening and changes in point use over time. Albert C. Goodyear described this progression with stages: point forms were initially serrated (Initial Stage); as resharpening of serrated edges progressed, the blade became more beveled (Advanced Stage); and finally, continuous resharpening resulted in long-tapered blades (Final Stage). Dan Morse thought the jagged edges of serrated Daltons may be advantageous for butchering deer. In this scenario, beveling was caused by repeated resharpening of the blade margin, and points with tapered blades are thought to be drills or punches. In contrast, Mike O’Brien and Ray Wood of the University of Missouri suggested that Dalton point makers initially manufactured points with distinct blade characteristics (e.g., beveling, serrations, and long tapered blades) by design. They compared the range of variation in shapes and sizes of modern archery equipment to argue that all Dalton point shape variants were designed to be used as projectiles, perhaps for different purposes.

Morrow and colleagues made replicas of Dalton points and hafted them to help determine how these serrated and beveled points were used by ancient Native Americans. The replicas form a reference collection for future research. Three experiments were conducted: 1) projectile impact experiment; 2) butchering experiment; and 3) drilling experiment. For

the point impact study, six Dalton replica points (three with serrated blades and three with serrated and beveled blades) were hafted as darts and thrown with an atlatl at a hog carcass. Results of over 60 impacts were documented with photographs and descriptive notes. For the butchering experiment, one serrated and beveled replica was used to cut strips of meat for 5,000 strokes. For the drilling experiment, one narrow-bladed beveled point was used to drill leather for 4,000 strokes.

The experimental tools were cleaned by approved methods and compared microscopically to 11 representative Dalton points from the Brand site that had good context for studying use wear. Photomicrographs were taken at 100x, 200x, and 500x magnifications. Of the 11 Brand site points, two show evidence of cutting and three show evidence of impact and cutting. Thus, the Brand points with serrations and bevels were used as knives and projectiles. This use wear evidence supports the idea that variation in Dalton point blade morphology is a product of multifunctionality and resharpening, as suggested by Dan Morse and Al Goodyear in separate research studies. Two points with long-tapered blades seem to have been repaired at the base, perhaps to correct for use damage to the haft area or to redesign the points as tools other than projectiles or knives. Wear on these points suggests they were used as perforators in their final stage, but likely were used for other purposes earlier on. Future experiments will explore the functions of other re-shaped and specialized Dalton tools.

### “What is a Sloan Point?”

Morrow published “What is a Sloan Point” on the ARAS website and later in the Arkansas Archeological Society newsletter *Field Notes*. This article tells about one of Arkansas’s most famous prehistoric artifact types.

Named for Frank Sloan of Jonesboro, Arkansas, Sloan points are large thin bifaces made sometime between about 12,500 and 11,500 years ago. The original specimen was found at the Sloan Dalton site (3GE94) in Greene County, Arkansas, excavated in 1974 by the Arkansas Archeological Survey. Sloan points and Dalton points were made by hunter-gatherers who probably moved seasonally within large extended family based territories across much of the eastern two-thirds of central North America. Many other large Dalton points were also recovered from the Sloan site, but most of these are quite a bit smaller than a Sloan point. It is the Sloan point’s association with other Dalton points at the Sloan site that provides this point type’s relative age and cultural affiliation.

Sloan points are not simply large Dalton points, they are unusually large (“hypertrophic”) hafted bifaces that probably had symbolic meaning, but also could have been functional. Sloan points are much wider and longer than the average Dalton point and their overall outline shape is parallel-sided to triangular. They have a comparatively shallow concave base and the flaking pattern is typically collateral to the midline of the biface over transverse percussion with pressure thinning. They resemble some smaller Daltons in the way they were made.



At least two dozen other Sloan points have been found in the Central Mississippi Valley. Most of them are made of white chert that may derive from the Burlington Formation; however, large cobbles of Burlington chert also occur in the Pliocene Upland Complex Gravels of Crowley's Ridge in northeast Arkansas. Dalton people may have preferred Burlington chert because of its color, high quality, and knappability (the ease with which the stone could be chipped to a desired shape). Research shows Dalton knappers may have preferred these white cherts not only for their knappability but also because they were available in large piece sizes. For highly mobile hunter-gatherers, large tools made from large chert pieces were like an insurance policy because they had longer use-lives. When they broke, the fragments could be recycled.

Sloan points are probably a hold-over from the Clovis era when hypertrophic bifaces were routinely made and cached for future use and also placed into graves, perhaps offered to the gods or spirits. Sloan points may be a material expression of the notion that Dalton groups in different regions could rely on each other in hard times. We know from the archeologi-

Sloan point from the Sloan site in northeast Arkansas. Photo by Jane Kellett, copyright by Arkansas Archeological Survey.

cal record that Dalton foragers gathered, perhaps annually, at special places where Sloan points and other hypertrophic Early Archaic period bifaces have been recovered.

Sloan points, as well as other very large bifaces, have been regarded as ceremonial objects but in addition to any ritual purposes they served, they were also useful tools. If they were used, either by Dalton people themselves, or by later groups, we don't yet know exactly how. None of the reported Sloan points exhibit impact fractures so they probably didn't function as spear points. Bones of cervids (elk and deer), fish, and birds recovered from several Dalton sites indicate people were hunting and fishing. Dalton people probably also ate easily processed plant foods like nuts and berries, but it's unlikely that Sloan points were used to process any of these foods.

One of the reasons why Morrow thinks Sloan points were possibly used as knives is based on a study she conducted in 2010. She used replicated Dalton points on a variety of animal tissues (bone, skin, flesh) to create use wear and then compared the traces on the replicas to use wear traces on the Dalton points. There was polish on the lower portion or haft area as well as rounded and polished lateral margins of the biface blade on the Sloan point. This might represent manufacturing traces, but is more likely from use.

Another reason Morrow thinks Sloan points could have been used as knives, though not necessarily by the Dalton people who made them, is evidence of knife wear on three probable Sloan point fragments she has examined that come from different sites in Arkansas.

One of the reasons for Morrow's interest in Sloan points is curiosity about the Dalton culture and technology. Stylistically, it's very different from Clovis, Folsom, Gainey, and other Paleo-Indian stone working technologies, but organizationally, Dalton stone working is not all that different from their ancestors. Their technology was designed to help them gather resources to make it through the winter, ensure that they kept in contact with their kin in other regions, and find suitable mates. With Sloan points, they appear to be propitiating the spirits by burying them ceremoniously at special gathering places. This propitiation may have been practiced in accordance with a seasonal round that brought people from different regions together at sacred places on the landscape when certain heavenly bodies such as planets, stars, constellations, and the Milky Way were in observable alignments.

### Wolf House Monitoring Project

Located high on a bluff overlooking the confluence of the White and North Fork rivers, the Wolf House is a very large two-story log structure that is the oldest public structure in Arkansas. Built in 1829, the imposing structure is called the Wolf House for its owner and builder, Major Jacob Wolf. Initially





Monitoring construction of ADA pathway at the Wolf House, looking south. ARAS-ASU photo.

it served as the county courthouse for what was then Izard County, Arkansas Territory. Many of Arkansas's historic leaders visited the courthouse between 1829 and 1834, when the courthouse was moved to another location. Jacob Wolf's family occupied the house until his death in 1863, and people continued to visit Major Wolf and his family there. The house was a major center of activity that included an inn, blacksmith shop, woodworking shop, and store. Baxter County purchased the Wolf House in 1999 and restored the structure with funding from the Arkansas Historic Preservation Program. The building was reopened to the public in the spring of 2002.

In March the overseers of the Wolf House property needed assistance with installation of an Americans with Disabilities Act compliant pathway along the east side of the property as well as two light posts along the west side of the property behind the house. The 1.5 meter wide pathway extends from the entrance of the main house to the parking lot. The project included a small overlook area and several other places where earthmoving activities were necessary. The monitoring produced seven artifact concentrations which were flagged and documented. Artifacts recovered from concentrations along the pathway include brick fragments, metal objects (a horseshoe, iron nails, and iron fragments), historic ceramics (stoneware, blue transfer print, black transfer print), bottle glass (clear, amethyst, brown, molded glass), including a possible patent medicine bottle fragment, mussel shell fragments, unidentified animal bone fragments, and several pieces of Native American debitage from manufacturing/maintaining stone tools. Three areas of interest were identified by soil color and texture differences and these corresponded spatially to anomalies on images produced by Dr. Jami Lockhart (ARAS-CSP), who performed geophysical survey. These anomalies may reflect natural disturbances from trees, burrowing animals, or possibly the activities of people who visited or lived at the Wolf House locality.

### Western Lowlands

With help from ASU students and Jonesboro community volunteers, Sarah Stuckey and Brandy Dacus completed the

artifact inventory of the Graddy site, 3CY258. Morrow helped Dacus prepare a presentation summarizing the site investigation and processing for the Arkansas Archeological Society's annual meeting in September 2018. Approximately 56 features were present at the site when it was leveled. Artifacts recovered included several different types of pottery in terms of materials added to the clay prior to forming vessels (temper) and surface treatment after the pottery vessel was formed but not yet fired. Pottery types present include plain and sand-tempered cord-marked wares and plain shell-tempered wares, as well as Varney Red Slipped. Varney Red Slipped ceramics are a horizon marker for the Early and Transitional Mississippian in the Central Mississippi Valley, ca. AD 800–1050. Archaic through Middle Woodland period chipped stone points that functioned as hafted bifaces/knives found at the site during the ARAS investigation as well as in local collections from the site indicate that the Graddy site was a favored locale for over 10,000 years. Small amounts of daub/fired clay and some faunal remains (mammal, fish, bird) recovered from the site indicate the presence of semipermanent dwellings, perhaps with interior hearths.

### Larry Billings Collection

Larry Billings' collection represents a significant source of information from this region, as sites are continuously destroyed by the action of the White River rising and falling due to the hydroelectric dam upstream from Cotter, Arkansas. Photos and information on the Paleoindian and Dalton artifacts have been added to the Arkansas Paleoindian Database. Morrow returned Mr. Billings' collection to him in November 2018. Stuckey integrated data on the Dalton points in the Billings collection into the Ozarks database. Morrow made a field visit to the Bruce Creek site, a Mississippi period site, in the Fall of 2018. Undecorated ceramic sherds collected from the Bruce Creek site by Billings indicate Native Americans occupied the site between AD 900 and 1300.

### New Point Form

Morrow designed a chipped stone recording form for generating morphometric and nonmetric observations of all types of projectile points. Accompanying the form is a detailed list of instructions and illustrations digitized by Stuckey. This was done in anticipation of the Ozarks database. Future focus will be on recording not only Dalton points but the corpus of variants that result from copying errors and technological innovations. Documentation of these points will facilitate a more accurate evolution of point and knife styles, which in turn facilitates understanding of coupled human-natural ecosystems across the landscape.

### ASU Research Station — Academic & Service Activities

#### Teaching & Higher Ed

- **Teaching & Advising.** Morrow taught ANTH 3203, Introduction to Archeology (18 students) during the 2018–2019 academic year at ASU. Morrow advised 5 ASU students and 2 local high school students about classes and archeology degrees, and several other students about volunteering at the ASU station. Morrow also advised a University of Arkansas student on her Senior Honor's thesis research, and one student at SUNY-New Paltz.
- **Other Campus Assistance & ASU Museum.** Morrow conferred with ASU Museum Director Dr. Marti Allen regarding museum plans for 2019–2020. She answered multiple email queries about artifacts in the ASU Museum collections, sites, and information on collectors and museum advisors in Arkansas. Morrow conducted an Artifact ID event during Arkansas Archeology Month and gave a presentation about current Paleoindian research at the ASU Museum.

#### Professional Service

- **Peer Review.** Morrow reviewed works submitted to the journals *Geoarchaeology*, *Lithic Technology*, and *PaleoAmerica*.
- **Professional Organizations.** Morrow served on the Annual Meeting Program Committee for the 2018 annual meeting of the Society for American Archaeology (SAA); she was a discussant for a symposium on Paleoindian at the 2018 SAA annual meeting.
- **Committees.** Morrow served as a member of the ARAS Publications Committee.

#### Public Service & Outreach

- **Programs & Presentations.** Morrow and Stuckey assisted at two Artifact ID events at Parkin State Park (21) and another at the new Hampson State Park Museum at Wilson (8). Stuckey aided Delta Gateway Museum's Artifact ID event (16). Brandy Dacus assisted at one Artifact ID day at Parkin State Park (18).
- **Historic Cemeteries Initiative.** Morrow answered queries regarding historic cemeteries and added several new historic cemeteries in northeast Arkansas.
- **K-12.** Morrow and Stuckey designed a booth for Career Day at Hardy High School (450). Morrow served as judge for the Northeast Arkansas District Science Fair in the categories of Earth and Atmospheric Sciences and Geology and Oceanography. Stuckey spoke to students at West Side High School about archeology and past projects by the ARAS-ASU research station (35 students and teachers). Brandy Dacus was job shadowed by a student from a Jonesboro middle school. Morrow was job shadowed by a student from Wynne High School. Morrow aided a boy scout with his archeological merit badge.
- **Media Outreach.** The ARAS-ASU station maintains three Facebook pages (NE Arkansas Cemetery Research, Central Mississippi Valley Chapter of the Arkansas Archeological Society, and ARAS-ASU Research Station) and one website. Visits on the Facebook pages totaled 795.

#### Service to the Arkansas Archeological Society

- **Programs & Presentations.** Morrow gave public talks to the Three Rivers Chapter in Mountain Home (25), and the Central Mississippi Valley Chapter in Jonesboro (20). Dacus gave a presentation to the Central Mississippi Valley Chapter in Jonesboro (20). There were two presentations by ARAS-ASU at the annual meeting of the Arkansas Archeological Society: a poster on Paleoseismology at Old Town Ridge by Morrow, Cox, Stuckey, and Dacus; and a paper on the Graddy site by Dacus, Morrow, and Stuckey.
- **Central Mississippi Valley Archeological Society.** Morrow continued to arrange guest speakers for the monthly meetings and to provide guidance. Brandy Dacus managed membership and t-shirt sales for the Chapter until November 2018. Morrow made announcements for meetings and Stuckey assisted with promotion. Volunteer opportunities are provided in the station lab and field projects.
- **Training Program.** Stuckey assisted the Basic Excavation class at the 2019 Training Program in De Queen.

#### Volunteer Hours

- Volunteers contributed 327 hours to station research projects in the field and laboratory during 2018–2019.





# Coordinating Office





**The Survey Director, George Sabo III, Ph.D.**

**George Sabo III** (Ph.D., Michigan State University, 1981) was appointed Director of the Arkansas Archeological Survey in 2013 after a national search. He first joined the Survey as ARAS-UAF Research Station Archeologist in 1979. He eventually earned the title of Professor of Anthropology in the University of Arkansas, Fayetteville Fulbright College of Arts and Sciences, where he taught undergraduate and graduate level courses for nearly thirty years, served on numerous graduate student committees, was the Department's Director of Graduate Admissions for two years, and continues to serve as Co-Director of the interdisciplinary Environmental Dynamics Ph.D. Program. Prior to accepting the position in Arkansas, Sabo spent nine years doing archeological research in the Upper Great Lakes and the Canadian Arctic, and held a position as assistant to the State Archeologist of Michigan while attending graduate school. His work in northwest Arkansas has included mound excavations in the western Ozarks, the cultural landscapes and interpretation of rock art sites, studies of historic pioneer farmsteads, the ethnohistory of Arkansas Indians, especially the Caddo, environmental history, and development of interactive digital educational resources. In addition to many articles and book chapters, he is the author of the Survey's popular history of Arkansas Indians (*Paths of Our Children*), and coauthor of *Arkansas: A Narrative History*, published by the University of Arkansas Press.

Dr. Sabo's goals for the organization include supporting all staff members as they pursue the Survey's mission in their individual and collegial capacities, strengthening and developing cooperative research projects that maximize the strengths of the ARAS staff by working across research station territories and making use of cost-share agreements and collaborative research funding, an initiative to inventory, digitize, and preserve decades of ARAS records and documentation, improving our ability to serve the educational community, stabilizing job descriptions in an employee handbook, and revitalizing the ARAS publications program.

In the photo, Dr. Sabo (right) and Michael Evans (ARAS-UAF) record Total Station data at Pea Ridge in 2018.



## Teaching & Higher Ed

• **George Sabo III**, Survey Director since 2013 and **Professor of Anthropology**, serves as **Co-Director of the Environmental Dynamics Interdisciplinary Ph.D. Program**, which is part of The Graduate School and International Education at the University of Arkansas. In 2018–2019, Dr. Sabo served on 8 Anthropology Department and Environmental Dynamics Program M.A. and Ph.D. student committees.

- Sabo served on the UAF Anthropology Department Personnel Committee.
- Sabo served on the University of Arkansas System eVersity Academic Governance Council.
- Sabo presented one guest lecture, “The Agency of Language in Osage and Quapaw Culture,” to a University of Arkansas Department of World Languages, Literatures, and Cultures class (16 students).
- Sabo participated in the UAF Anthropology Department annual spring semester open house (100+ visitors).
- Sabo participated as a subject matter expert in the University of Arkansas System’s Project One.

## Professional Service

- Sabo reviewed a book manuscript for Louisiana State University Press.

## Public Service & Outreach

- Sabo presented “What is Archeology” to a visiting 4H group (13 students and 6 parents/supervisors) and to the Rogers AR Explorers (9) and Rogers Historical Museum staff (3). He presented “Indians of the Ozarks” at the Siloam Springs Museum (12).
- Sabo (and other ARAS staff) gave presentations to the Quapaw Nation Heritage Tour at the ARAS coordinating office (43 participants).
- Sabo presented a teacher workshop on Caddo Indian Plant Use in Nacogdoches, Texas (25 teachers and participants).
- Sabo presented “Technology in Archeology” to Gifted & Talented students and teachers at the Tyson Center on the UAF campus (300 attendees).
- Sabo presented “The Archeology of Story-Telling” to the Ko-ko-ci Chapter of Arkansas Archeological Society in Fayetteville (30), and to the Ark-Homa Chapter of AAS in Fort Smith (6).
- Sabo led tours of ARAS and UA Museum Collections for the Washington County Historical Society (20) and for a group of US Forest Service Heritage Resource Technicians (40).
- Sabo participated in Celebrate Archeology Day at the ARAS coordinating office for Archeology Month (440 visitors).
- Sabo participated in the Caddo Festival and Symposium at Sam Noble Museum, University of Oklahoma (100+ participants).

Sabo teaching a Caddo Cultural Heritage workshop for teachers in Nacogdoches, Texas. Caddo Indians are one of Arkansas’s four indigenous Native American communities. The workshop is held yearly at the Caddo Mounds Historic Site, but was moved this year due to the devastating tornado that destroyed the visitors’ center there.



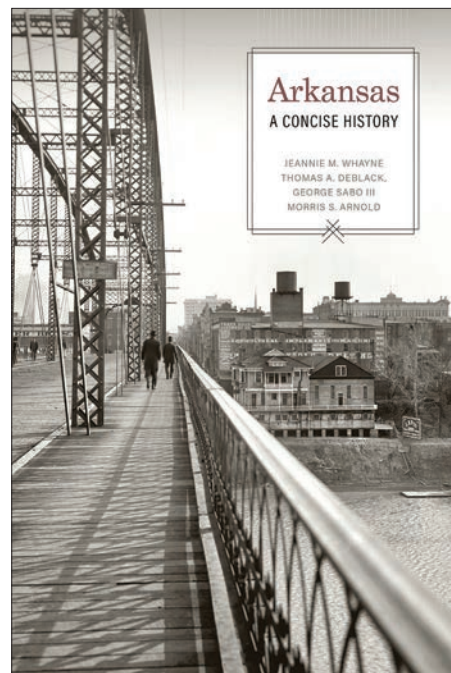
### Grants & Scholarly Activities

- Sabo is a co-Principal Investigator (with Claire Terhune, Wenchao Zhou, Paul M. Gignac, and Haley D. O'Brien) on "MRI: Acquisition of a micro-computed tomography system for advanced imaging and inter-disciplinary multi-user access for the University of Arkansas and the US Interior Highlands (National Science Foundation Grant for 2017–2020; \$687,161) and serves on the University of Arkansas MICRO Lab advisory board; <https://micro.uark.edu>
- Sabo is co-Principal Investigator (with Kathryn Sloan, Michael Pierce, Kim Sexton, Robert Cochran, David Fredrick, Sean Teuton, and Eric Funkhouser) on "Arkansas Stories of Place and Belonging" (University of Arkansas Chancellor's Discovery, Creativity, Innovation, and Collaboration Fund grant for 2018–2019; \$88,735). Program activities this year included presentations on the Archeology of Story-Telling at Giffels Auditorium (30 participants; 4/26/19) and at Spiro Mounds State Archaeological Site (50 participants; 4/27/19), both featuring a 3D virtual reality interactive software application on The Archeology of Story-Telling at the Spiro Ceremonial Center, developed in collaboration with the University of Arkansas Tesseract Center for Immersive Environments and Game Design.
- Sabo received a \$73,000 grant from The Roy and Christine Sturgis Charitable and Educational Trust for purchase of a Breuckmann 3D structured light scanning system for ARAS's new Digital Imaging Lab.

### Other Activities

- On March 21, 2019 Sabo joined State Archeologist, Dr. Ann Early, and Arkansas Archeological Society President, Hope Bragg, at the State Capitol for the Governor's proclamation of Arkansas Archeology Month and to present this year's Archeology Month poster to Governor Hutchinson.
- Sabo recorded a video interview with Dr. John H. House, who retired from the Arkansas Archeological Survey in 2018 after 40 years of service. Dr. House's career encompassed our organization's history and cultural memory, and much of the cumulative progress of modern archeology in Arkansas. This video was shown at the 2018 meeting of the Arkansas Archeological Society.

*Arkansas: A Concise History* is the first paperback edition of the coauthored single volume narrative history of the state. It was published by University of Arkansas Press in 2019.





## Looking Into Things, by George Sabo III

During the past year, the MicroCT Imaging Consortium for Research and Outreach (MICRO) was established at the University of Arkansas to provide the scientific community with access to state-of-the-art micro computed tomography (micro CT or  $\mu$ CT) technology. The MICRO lab is built around a Nikon XT H 225 ST system, acquired with grant funds provided by the National Science Foundation. Led by Professor Claire Terhune (Anthropology), the project co-PIs are George Sabo (Arkansas Archeological Survey) and Wenchao Zhou (Mechanical Engineering) from the University of Arkansas and Professors Paul Gignac and Haley O'Brien (Anatomy and Cell Biology) from Oklahoma State University Center for Health Sciences.

MicroCT imaging uses x-ray technology to produce high-resolution two- and three-dimensional renderings of the external surface and internal structure of a wide range of objects, including archeological, biological, engineered material, geological, paleontological, and other kinds of specimens. The Nikon system we acquired is capable of producing image resolutions to micro (1–100 microns) and nano scales (<1 micron) for objects no larger than 21 cm in diameter and 50 cm in height, and weighing up to 50 kg.

Target items are positioned on a rotating stage within the shielded microCT chamber. The specimen is then automatically rotated for a series (typically, several thousands) of x-rays that produce a set of 2D images produced in a TIFF format. The resulting set of images, representing internal variations in density and referred to as a “TIFF stack” is then read into a computer program that uses mathematical algorithms to generate a 3D representation. Other computer programs can then be used to analyze the 3D model and produce various kinds of visualizations customized to specific research needs. More information on the lab and the process is available on the MICRO project website (<https://micro.uark.edu>).

MicroCT imaging offers great potential for archeological investigations. Applications include examinations of surfaces bearing written text on ancient desiccated scrolls that cannot be unrolled, study of the internal structure of ancient animal and plant remains retrieved from archeological contexts, and investigations of the internal structure of a wide variety of artifacts including ceramics, basketry, and woven fabrics.

Though we are just beginning to examine archeological specimens from Arkansas, some interesting results have been acquired from our initial experiments.

Arkansas Archeological Society member Jim Rees has been studying musical instruments preserved in archeological contexts for several years, and in his examination of specimens in the University of Arkansas Curation Facility at the Survey's coordinating office, he discovered an ancient South American ceramic figurine that produced a distinctive whistling tone when blown through the orifice protruding from the back of the figurine's head. We scanned the object to find out if the

interior contained any special air chambers or other means to divert the flow of air. Imaging of the interior produced using visualization software revealed a partially blocked portion of the upper orifice just behind the head (Figure 1).



Figure 1. South American figurative clay whistle.

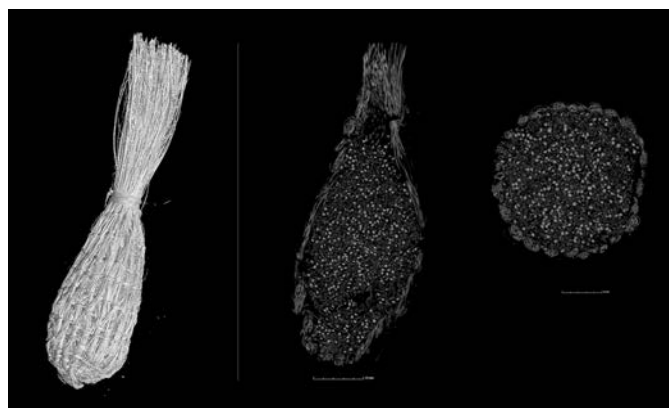


Figure 2. Replica seed bag filled with chenopodium seeds.

Elizabeth T. Horton, research station archeologist at Toltec Mounds State Park and the Survey's paleoethnobotany specialist, has long been interested in a small bag of ancient plant seeds retrieved from 1932 University of Arkansas Museum excavations at Edens Bluff Shelter in Benton County, Arkansas. Woven of rattlesnake master fibers, the bag contains nearly a liter of domesticated *Chenopodium berlandieri* seeds, along with an undetermined amount of *Rudbeckia* seeds (sunflower family) radiocarbon dated to ca. AD 20 (<http://archeology.uark.edu/artifacts/edensbluffseedbag/>). MicroCt scans of this specimen will produce the first comprehensive view of the bag's contents, an opportunity not otherwise possible without great risk to the artifact's integrity. Given the necessity of producing a successful scan on a first attempt, in an effort to minimize trips from the artifact's safe and secure home location to the MICRO lab (across campus) and back, Dr. Horton produced a smaller facsimile version—woven of rattlesnake master fibers and filled with wild *Chenopodium* seeds—for test scanning. The results, shown in Figure 2, suggest exceptional promise.

This article appears in *Field Notes, Newsletter of the Arkansas Archeological Society* 405:11–13 and on the ARAS website <https://archeology.uark.edu/learn-discover/current-research/micro-ct/>.



## The State Archeologist, Ann M. Early, Ph.D.

The duties of the State Archeologist involve all aspects of public archeology, from site reporting to liaison with public agencies to public education and outreach programs. These activities include preservation planning, review of nominations of archeological properties to the National Register of Historic Places, and establishing guidelines for archeological research in the state. Information on state laws pertaining to archeological sites in Arkansas is available from this office. The State Archeologist also oversees the Survey's collections and records management programs, cooperative relationships with the Arkansas Archeological Society, and educational outreach activities including Publications.

**Ann M. Early** (Ph.D., University of Massachusetts – Amherst, 1973) is a Research Associate Professor of Anthropology for the University of Arkansas, Fayetteville Department of Anthropology, and is the second person to serve as State Archeologist for Arkansas. She was hired to the position in 1999 after 27 years as Station Archeologist at the ARAS-HSU Research Station in Arkadelphia. Early is the author of numerous books and articles on Arkansas archeology. Her research has focused on human ecology in the uplands of the Trans-Mississippi South, Caddo Indian cultural traditions and relationships, Caddo pottery design and typology, and the effects of Euroamerican cultural perceptions on popular images of the past. As State Archeologist, she has been active in historic cemetery preservation initiatives, among many other projects.

In the photo, Dr. Ann Early (on the left) works with volunteer Pat Corbin, who has contributed hundreds of hours to ARAS projects in the lab. Photo Rachel Tebbetts (ARAS).



A number of Dr. Early's research projects begun in the last fiscal year were carried on or completed. These involved Legacy Collections both in ARAS custody and in the Gilcrease Museum in Tulsa, Oklahoma, work that was in line with the current ARAS initiative to inventory, archive to modern standards, and complete analysis of research projects undertaken over the last 50 years. The long-standing review of the Lemley Collection and other Arkansas pottery vessels in the Gilcrease Museum in Tulsa was completed in October, just short of two years since the project began. The 3200 vessels in the review received additional curation information and were cross-referenced to discovery sites in the Survey's archeological site database. Early also completed analysis of the 1970 Johnny Ford site (3LA5) collections and began preparing a new report of the project and its significance, particularly on the unique and remarkable cremation cemetery discovered during the project and never fully reported.

With the assistance of a small corps of student and citizen scientist volunteers, Early began an inventory and analysis of collections from the Hays Mound site (3CL6), a prehistoric Caddo mound center that was the subject of a National Park Service funded salvage excavation in 1971. That fieldwork was led by Dr. Cynthia Weber who produced a draft report before leaving the Arkansas Archeological Survey in 1972. After nearly 50 years of additional research on ancestral Caddo sites and collections throughout the Trans-Mississippi South, Weber's project can still offer new insights, but needs reanalysis.

Early continued work on the clean copy of the "Caddo Pottery Design Pattern Book," a compendium of 2000 pottery designs drawn from whole pottery vessels in dozens of archival collections. This project is still far from finished, but will eventually be a reference work for research projects and public interpretations of Caddo art and craft heritage.

Early undertook or completed a number of writing projects during the year. She expanded a paper about pre-contact Caddo saltmaking in Arkansas that was given at the 2nd International Salt Conference in Los Cabos, Mexico into a chapter for an edited book, *The Archaeology of Salt in Eastern North America and the Caribbean*, currently at the University of Alabama Press. Early and Dr. Mary Beth Trubitt (ARAS-HSU) coauthored a chapter on the prehistoric pottery made in the Ouachita River

Basin in Arkansas for an edited book on Caddo ceramics. That volume is currently under review at Louisiana State University Press. In preparation for that writing project, Early inventoried the University of Arkansas Museum collection from the 1963 and 1964 excavations at the Powell Mound (3CL9), a prehistoric Caddo site that was subsequently inundated by the formation of De Gray Lake in southwest Arkansas, and reviewed and archived about 750 photographs of Caddo pottery collected by M. R. Harrington in 1917 in the Little Missouri River valley and currently housed in the National Museum of the American Indian in Washington, D.C. Cynthia Weber photographed these vessels in 1973 after leaving Arkansas, but the photos have not been integrated into accessible archives until now.

In preparation for a publication on Caddo ceramics at the Carden Bottoms village site in the Arkansas River Valley, Early reviewed about 1000 photographs and other records of whole pottery vessels taken at the National Museum of the American Indian, the Gilcrease Museum, and the University of Arkansas Museum Collection Facility during the ARAS four-year Carden Bottoms project that was funded by a major grant from the National Endowment for the Humanities awarded in 2009. Dr. George Sabo III and Dr. Jami Lockhart of the Arkansas Archeological Survey and Dr. Andrea Hunter of the Osage Nation were the co-directors of the Carden Bottoms project.

In response to increased interest in the Elaine Massacre on the eve of the 100 year anniversary of the event and its aftermath, Early has been gathering information about the event and consulting with historians and preservationists in and outside Arkansas. She worked with Dr. John House and Dr. Robert Scott, ARAS-UAPB archeologists who visited sites alleged to have been associated with the massacre and recorded information provided by local citizens of Earle and Helena who are involved in preparing for commemoration events.

In response to contacts with numerous colleagues, Early has conducted smaller research activities and shared information about analytical issues concerning prehistoric ceramics with researchers in Arkansas and elsewhere in the Caddo area. She also gathered data about protohistoric mound sites in eastern Arkansas and about the age of full-grooved axes in Arkansas at the request of colleagues.

### Academic & Service Activities

#### Teaching & Higher Ed

- Early was a member of one Anthropology M.A. thesis committee; the thesis was successfully finished and defended at the end of the academic year.
- Early supervised a graduate student intern from UALR who spent 180 hours learning aspects of collection and records management.
- Early assisted three students at other institutions with questions about documentary and collection resources.
- Early agreed to be an external reviewer of a professional colleague's eligibility for full professorship at another institution.

#### Professional Service

- **Organizations.** National Association of State Archeologists (outgoing Vice President).
- **Committees.** ARAS Web Steering Committee.
- **Service.** Early responded to requests for assistance from 72 professional colleagues regarding preservation issues; and from 27 professional colleagues regarding public outreach and resource management issues. These included contacts with archeologists, land managers, Tribal officials, and CRM firms in Arkansas and in other states. Early reviewed Suzie Pryor Award essays for the Arkansas Historical Association and Arkansas Women's History Institute, and judged projects at the NW Arkansas Regional History Day.
- **Peer Review.** Early reviewed contributions for the CALS online *Encyclopedia of Arkansas*, and for the journal *The Arkansas Archeologist*.

#### Public Service & Outreach

- **Boards & Commissions.** Arkansas State Review Board for Historic Preservation (Vice Chair); Arkansas Genealogical Society (Board member and historian); Arkansas Women's History Institute (Board member).
- **Public Outreach.** Early responded to 41 requests from the public for assistance with preservation issues and 61 requests from the public for assistance with cemeteries, artifacts, and other archeological issues. These included contacts and activities with landowners, private citizens, members of the business community, and other groups of non-archeologists in Arkansas and in other states. She wrote one essay and coauthored another for the Artifact of the Month series on the ARAS website. She gave a public presentation on the Art and Science of Caddo Pottery at the Shiloh Museum in Springdale (audience 30), and a lecture about Indians of Arkansas to a group of Historic Deerfield Museum trustees, also at the Shiloh Museum (audience 20). Early assisted in giving a tour of the ARAS and UA Museum facilities to a group of 43 Quapaw Nation elders, and another tour to silent auction winners at a Historic Arkansas Museum Gala (2 people).
- **Arkansas Archeological Society.** Early taught Beginners Orientation two times to new volunteers at the Training Program in De Queen, Arkansas. She gave talks on the Art and Craft of Caddo Pottery to the Ouachita Chapter in Hot Springs (25) and to the Ko-ko-ci Chapter in Fayetteville (35).

#### Records & Collections Management

- Supervised the analysis of the Hays Mound 1971 Salvage Excavation collection.
- Reviewed and/or commented on several records and collection management issues including return of State of Mississippi archeological collections to their current repository in Jackson, MS; advised on the inventory and donation of Mike Wilson's collection to ARAS; facilitated repatriation of a collection from a New York state museum to Arkansas; transfer of Arkansas State Parks artifacts from the ARAS curation center to Jacksonport State Park; advised the ARAS registrar on various requests for information and site access/use of AMASDA data; facilitated return of human remains from the Memphis medical examiner to the ARAS NAGPRA coordinator.
- Reviewed all Section 106 letters, Corps of Engineers permit applications, and contract reports pertaining to Arkansas.
- Reviewed and granted requests for use of Survey photographs and publication references to publishers and exhibit preparators.
- Worked on rules guiding use of photographs with children in public outreach activities.

#### Volunteer Hours

- Citizen scientists including Arkansas Archeological Society and student volunteers contributed 349 hours to collection management and research projects under Early's supervision during 2018–2019, including 180 hours contributed by a graduate student intern from UALR.



## A Salt Processing Pan, by Mary Beth Trubitt and Ann M. Early



Reconstructed salt pan (JEC Hodges Collection, 1977-1/X-473, ARASHSUD\_N28928, photo by M. B. Trubitt and C. Cinotto).

In the Joint Educational Consortium's (JEC) Hodges Collection is a large flat-bottomed shallow pan with very thick walls (1.2 cm thick), made of clay tempered with coarse mussel shell. With about half the vessel reconstructed, we can see it has a straight, outsloped rim and a circular, flat base. Its opening is an estimated 50 cm in diameter, and it stands about 13.5 cm in height. While we have no locational information for this vessel (Accession 1977-1/X-473), it is the most complete salt pan known from southwest Arkansas. It represents an important Caddo period industry [<https://archeology.uark.edu/who-we-are/50moments/saltmaking/>]. Caddo Indians in southwest Arkansas used these large shallow pans to boil brine from local saline springs to make salt. They traded salt to other tribes beginning around AD 1100.

It is likely this artifact originally came from 3HS110, the Barkman Salt Works, named after Arkadelphia settler Jacob Barkman, who built a salt production furnace here around 1839. Also in the JEC Hodges Collection, curated by the Arkansas Archeological Survey's Henderson State University Research Station, are two large salt pan rim sherds provenienced to 3HS110. Arkadelphia amateur archeologist Vere Huddleston remarked on the quantities of salt pan sherds littering the surface at the time of his 1943 visit, and collected "a sack full of sherds." Dr. and Mrs. Hodges later purchased Huddleston's collection. During his 1939 Ouachita Valley Survey, Harvard University archeologist Philip Phillips' assistant visited the Barkman Salt Works, describing two brackish salt lakes.

Fragments of large, thick-walled, flat-bottomed shallow vessels with several shapes have been found at other saltmaking sites in southwest Arkansas. During salvage excavations at Hardman (3CL418) as part of highway construction near Arkadelphia, thousands of small fragments from broken salt pans were found mixed in with household debris. Caddo Indians living at Hardman were intensively processing salt during the Mid-Ouachita phase (ca. AD 1400–1500), and continued this activity into the Social Hill and Deceiper phases (AD 1500–1700) of the Mississippian period.

Philip Phillips conducted test excavations at Bayou Sel (3CL27) in 1939, some of the earliest excavations in the Ouachita River valley. Fragments of salt pans were found in the lowest stratum during this and later excavations, indicating that saltmaking began here as early as the East phase (ca. AD 1100–1400). Some of the earliest pottery in this region to be tempered with mussel shell, rather than grog (crushed bits of fired clay), were these salt pans. Using mussel shell to temper the clay produced a pot that would withstand heating over a fire. The Caddo were fortunate to live near brine seeps that were strong enough to make salt by open burning.

Salt was a desired ingredient for Mississippian period farmers. Most Indian tribes and nations could not make salt themselves and had to obtain it by trade. Saltmaking made the Caddo important partners with the French in the colonial period. In the late seventeenth century, the French built trading forts in the Red River valley to trade with the Caddos.

One emphasis for the 2019 Arkansas Archeological Society Training Program [was] laboratory analysis of ceramics from Holman Springs (3SV29), a Caddo salt production site in Sevier County. This will provide us the opportunity to document salt production and pottery manufacturing practices in the Little River valley, and make comparisons with different regions of the Caddo area.

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A version of this article appeared in the "Artifact of the Month" series on the ARAS website <https://archeology.uark.edu/artifacts/salt-processing-pan/>.



The Survey Registrar, Teka McGlothlin

## Managing the State's Archeological Site Files

The ARAS registrar's office oversees the reviewing and encoding of site forms, project reports, slides, black & white photos, accession paperwork, evaluating and curating new archeological collections, both contract and donations, and encoding the paperwork associated with collections.

The **AMASDA** (Automated Management of Archeological Site Data in Arkansas) database is a dynamic research tool that is linked to a geographical information system (GIS) and records archive. Maintaining the daily influx of data is vital to keeping this resource current. This year **444 new sites** were recorded, bringing the total for the state of Arkansas to **49,750**. Additionally, **354** previously recorded sites (revisited by various persons during the year) were reviewed and encoded. New archeological projects numbered **162** this year, bringing the total projects listed in AMASDA to **7,368**. Finally, **16** archeological collections were submitted, reviewed, and accepted for curation.

## Arkansas Archeological Survey Site File Activity, 2018–2019

New Sites Recorded	444	Total no. of sites in Arkansas site files: 49,750
New Data for Known Sites	354	
Access to Records	258 online access 133 AMASDA subscribers 15 students & researchers 13 Agency & 47 Contractor 8 on site contractor visits	
Total Information Requests	2500	
Collections Accessioned	16	
New Projects in AMASDA	162	Total no. of projects in AMASDA: 7368

In the photo, ARAS Registrar Teka McGlothlin (right) and Assistant Registrar Sarah Shepard (center) show 3D scanner technology to visitors at Celebrate Archeology Day.



The Survey registrar's office is responsible for reviewing, processing, and curating all archeological site data in Arkansas. The Registrar manages and maintains all paper, photographic, microfilm, and electronic records of archeological sites, projects, and collections; oversees encoding of all new and updated site information in the various digital databases; and assists and regulates access to records and collections by government agencies, private firms, professional colleagues, and students engaged in archeological research in Arkansas. The office also maintains a research library and a map library, and participates in the Survey/UA Department of Anthropology student internship program.

**Lela Donat** (M.A., University of Arkansas, 1992) became Survey Registrar in 1994, after three years as Assistant Registrar and a previous 17-year career in nursing, and retired from the Survey at the end of December 2018 (see p. 4 of this Report). Her degree specialization was bioanthropology. Donat is proficient in the use of database applications and has archeological and bioanthropological field and laboratory experience in Arkansas and Chile. We will miss her institutional knowledge, but more than anything her cheerful personality and welcoming attitude.

**Teka McGlothlin** (M.A., University of Arkansas, 2014) was promoted to Registrar in January 2019 after serving ably as Assistant Registrar since July 2014. She had worked in the office since 2008, beginning as an undergraduate student, and continuing while she completed her Master's degree. McGlothlin's studies focused on antebellum historical archeology, cultural interaction and settlement, and the use of ArcGIS as a way to represent patterns in archeology. She serves on the Digital Data Collection Initiative (DDCI) working group.

**Sarah Hunt Shepard** (M.A., University of Arkansas, 2016) was promoted to Assistant Registrar in January 2019 after two years as Research Assistant. She had served in the office since 2014 on various projects including scanning technical reports and mapping projects. In addition to working on AMASDA and collections management, Sarah continues to maintain the Survey's compliance with the Native American Graves Protection and Repatriation Act.

#### Students:

**Michelle Rathgaber**, who completed her Ph.D. in Environmental Dynamics at the University of Arkansas in 2019, assisted in compiling a digital artifact inventorying process.

#### Hourly:

**Madelyn Rose** (B.A. in Anthropology and Art History, University of Arkansas, 2018) has worked with the registrar's office since 2015. Prior to that she worked with the University of Arkansas Museum collections. Her current project is helping with the ANCRC grant and inventorying collections. She was supported this year by ANCRC grant 19-003. Madelyn also assisted in developing procedures to implement a digital inventory.

### Assistance to Researchers & Agencies

Another major function of the office is assisting private archeological contractors, state and federal agencies, University of Arkansas faculty, staff, and students, the 10 ARAS research stations, and others performing legitimate research in the state.

The office fielded approximately **2,500 requests for site information** during FY 2018–19 (most by email, but also by telephone, and in person visits). These inquiries included requests from the Arkansas Department of Transportation, the State Historic Preservation Office, the U.S. Army Corps of Engineers (Memphis, Vicksburg, and Little Rock Districts), the Natural Resources Conservation Service, and the Ozark-St. Francis and Ouachita National Forests. In the course of the year, the registrar's office also assisted about **47 private firms** doing research in Arkansas. A list is provided on page 89.

As of July 2015, contractors may have access to AMASDA Online. The current fee schedule is \$50 per project or \$1200

per year. An "Access to Records" form must be submitted for each project. The fees help pay for updates to servers and equipment for the AMASDA database to keep it functional and continue its serviceability to our various users. For the 2018–2019 fiscal year, we had **258** single project requests with **128 paid per-project** and **5 annual subscriptions**. There were **8 in-office** contractor research visits.

The office assisted **15 students and guest researchers** on various projects: Swannee Bennett (Historic Arkansas Museum), three decade-long investigation of the work of artisans and artists working in Arkansas from the 18th through mid 20th centuries; Paige Ford (University of Oklahoma), Neosho Phase dissertation; Kevin Eads (National Park Service), Pea Ridge and Leetown; Chris Fletcher, Pulaski County archeological landscapes; Patrick Solomon (ANCRC), giant river cane in Arkansas; Lawrence McElroy (Historic Cane Hill Museum), Boonsboro Pottery/Men of Earth: an exhibition of historic

Northwest Arkansas potteries; Natalie Mueller (Cornell University), bluff shelter research; Kayden Dennis (University of Arkansas), Smith Communities of Practices; Curtis Morris (Shiloh Museum), Breckenridge exhibit; Mary Phelps (St. Louis School), 3D exhibit; Breanna Wilbanks (University of Arkansas), Healing by Women's Hands – St. Anne's MA thesis; Kathryn Bryles (University of Arkansas at Little Rock), Internship records access; Carolyn Y. Kent (Arkansas TOTA), Blackfish Lake research; Lydia Rees (University of Arkansas), bluff shelter MA research; David G. Anderson (University of Tennessee), archeological site research.

### Teaching Service

The registrar's office conducts tours of its facilities for students enrolled in classes at UAF during the academic year, and for visiting groups of K–12 students from around the state. The Survey employed UA undergraduate student Madelyn Rose in the registrar's office. Madelyn received her B.A. in Anthropology and Art History in 2018. UA Environmental Dynamics Ph.D. candidate Michelle Rathgaber was also supported in the registrar's office this year.

### NAGPRA Functions

The office has worked to achieve and maintain NAGPRA compliance with the Survey's collections, with the following accomplishments this year:

- Notices of Inventory Completion and Correction Notices forthcoming for the JEC Hodges collection from the HSU station.
- Assisting outside agencies with NAGPRA compliance and information: Arkansas Department of Transportation, Ar-

kansas State Parks, University of Arkansas Department of Anthropology, U.S. Army Corps of Engineers, University of Arkansas Museum, Missouri Department of Transportation, U.S. Forest Service, University of West Florida, West Tennessee Regional Forensic Center.

### Current Projects

**3D Scanner.** Using an Artec Spider 3D scanner, the Registrar's office has begun an initiative to digitally archive artifacts for the purpose of public accessibility and online presentation. The Survey also acquired a 3D printer that has been used to create replicated artifacts for exhibits and public outreach.

**Digitization of Records.** A few years ago, the Survey embarked on a project to ensure the survival of our 50 years of site documentation and excavation records. Kathleen Cande visited all the research stations to assess what records existed, what had been backed up as duplicates at the coordinating office and what hadn't, and what existed only on paper as opposed to a digital version. This was presented in a summary document. This year we completed digitizing station records from ARAS-WRI, began digitizing the station records at ARAS-HSU and slides from the coordinating office, and began scanning records from ARAS-UAPB.

### Collections Curation & Records Management

**Inventory Management of Curated Artifacts.** The office continued maintenance of an inventory control database to provide the location of the artifacts in the curation room. This database is classified by row, bay, and shelf of container. Inventory will have the ability to be searched or sorted by location, accession number, project name, and/or site number.

Madelyn Rose working in the lab on a rehabilitated collection. Photo Rachel Tebbetts.





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**The registrar's office provided assistance to the following firms, groups & agencies during 2018–2019**


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**Federal**

US Army Corps of Engineers – Memphis, Little Rock,  
Vicksburg, and St. Louis Districts  
Federal Emergency Management Agency (FEMA)  
Natural Resources Conservation Service, Little Rock  
Bureau of Land Management, Department of the Interior  
U.S. Forest Service

- Ouachita National Forest
- Ozark-St. Francis National Forests

**State**

Arkansas Department of Transportation  
Arkansas Historic Preservation Program/Department of  
Arkansas Heritage  
Arkansas Army National Guard

**American Indian Tribes**

The Cherokee Nation  
United Keetowah Band of Cherokee  
The Osage Nation  
The Quapaw Tribe of Oklahoma

**Out of State Museums & Universities**

Missouri State University

**Private Firms**

- Afendras Archaeology, LLC
- American Resources Group
- Archaeological Consultants, Inc.
- Benchmark Environmental Consultants
- Blanton and Associates
- Burns & McDonnell, Inc.
- CBRE, Inc.
- C Dimensions
- Cardno
- Cojeen Archeological Services

- Cultural Resource Analysts, Inc.
- EBI Consulting
- Enercon
- Environmental Corporation of America
- Environmental Research Center of Missouri
- ERM
- Flat Earth Archaeology, LLC
- Garver
- GRA Vitae, LLC
- HDR, Inc.
- Historical Research Associates
- Integrated Environmental Solutions, LLC
- Jacobs Engineering Group
- JP Archaeological Consultants
- Mead & Hunt, Inc.
- Merjent
- Michael Baker International
- Midsouth Cultural Resource Consultants
- New Fields, LLC
- Paleowest/WSA, Inc.
- Panamerican Consultants, Inc.
- Potomac-Hudson Engineering
- Quality Services, Inc.
- RGA, Inc.
- SEARCH, Inc.
- SCI Engineering, Inc.
- SWCA Environmental Consultants
- Stantec Consulting Services
- Tejas Archaeology
- Terracon
- TerraXplorations, Inc.
- Tetra Tech, Inc.
- TER, LLC
- Tower Engineering Professionals
- TRC Environmental Corp.
- TriLeaf Corporation
- Wood Environment and Infrastructure Solutions



### Sponsored Research Program

**T**he Sponsored Research Program (ARAS-SRP) coordinates externally funded research across the ARAS organization based on grants, contracts, and cost-share agreements. Projects range in scope from field documentation of cultural resources in Arkansas, to information and collections management activities, to assisting with the study and interpretation of sites on state and federal lands in Arkansas. With their wide-ranging skill sets, including archival research, all phases of archeological fieldwork, flotation and soil sample processing, survey and precision mapping, geophysical imaging, production of CAD and other computer graphics, historic and prehistoric artifact analysis, data interpretation, and report writing, SRP staff members are invaluable contributors to station research projects, emergency excavation operations, grant-funded research, specialized laboratory and computer tasks, cost-share projects, consulting, and public outreach. To date, the Survey has completed more than 1000 externally funded projects with SRP staff as crucial contributors. SRP service to the university community includes assistance to faculty and providing field and lab training and employment opportunities for students.

**Kathleen H. Cande** (M.A., University of Arkansas, 1984) is a Survey Research Associate. Her specializations include historical archeology, material culture, archival research, the colonial Southeast, collections management and curation, and prehistoric lithic analysis. Cande also coordinates the Survey's historic cemetery research and preservation program, acting as primary point-of-contact for inquiries about cemetery related projects, and is the Archeology Lab Supervisor at the coordinating office. She joined the Survey in 1987.

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Madelyn Rose and Michelle Rathgaber use the new tablet-based digital cataloging system to record inventory information under a grant from ANCR (ARAS Project 19-03). Photo Rachel Tebbetts (ARAS).



SRP staff continue to provide assistance to state and federal agencies, local municipalities, cemetery groups, and private citizens requesting information or assistance with site evaluation and artifact identification. Staff also provide support for several ARAS research projects. External funds supporting ARAS projects and activities are administered by Fiscal Administration staff at the coordinating office.

Kathleen Cande focused on cemetery research along with genealogical and historical research into more than 60 early nineteenth century sites in Lawrence and Randolph counties. She continues to compile materials and information on cemeteries to be added to the ARAS website. These include a full list of cemeteries in Arkansas listed on the National Register of Historic Places, a compilation of burial places for prominent African Americans, burial locations for Revolutionary War veterans in Arkansas, and cemeteries listed on the Arkansas Register of Historic Places.

Cande also works with the ARAS registrar's office and state-wide research station staff on collection inventory and document archive activities. She collaborates with ARAS staff, Arkansas State Parks, regional historical centers, and the University of Arkansas Center for Advanced Spatial Technologies (CAST) on development of public outreach and education programs. Cande serves as the ARAS cemetery research coordinator, providing assistance to individuals and preservation groups across the state. She supervises the main archeology lab at the coordinating office, typically supporting a wide variety of concurrent artifact collection inventory and analysis projects.

### Historic Cemetery Preservation Initiative

During 2018–2019 the Survey had 40 contacts from local, state, and federal officials, preservation groups, and the general public seeking information or assistance about cemeteries in 16 counties. Regrettably, the Survey cannot provide help to everyone, but we do our best.

In February, Cande was interviewed by Jacqueline Froelich of KUAF radio for a story on African American cemeteries in Arkansas that aired on the "Ozarks at Large" program.

As part of Arkansas Archeology Month, Cande participated in Celebrate Archeology Day on March 30 at the ARAS coordinating office in Fayetteville. She distributed brochures and information on cemetery preservation to the general public.

### Early Arkansas Settlement Study

Cande is building on a 2003 survey of early historic sites in Lawrence and Randolph counties by Skip Stewart-Abernathy and Larry Porter of the ARAS-WRI station. In the past year she has assembled much additional genealogical and historical data to supplement information on site forms prepared by Stewart-Abernathy. This new information places a network of early nineteenth century residences and plantations within the larger context of frontier expansion into Arkansas Territory. She has also duplicated field notes and other project records from the 2003 project for submission to the ARAS registrar.

### ARAS Records Inventory Project

Kathleen Cande continued scanning original excavation maps from the ARAS-ASU station with the assistance of John Samuelsen (ARAS-CSP). She is also creating photo records for black and white prints and color slides created by Arkansas Tech station archeologist Daniel Wolfman in the early 1970s. These are related to Wolfman's work with archaeomagnetic dating of samples from sites in Arkansas. She continues to rebox Sponsored Research Program administrative records to improve accessibility and update information required for registrar's office files.

### Central Lab Supervision

Cande supervises the main archeology lab in the coordinating office building in Fayetteville, keeping it orderly and well supplied. She monitored and maintained our supply of archival-quality artifact and sample storage containers in relation to several large-scale, ongoing collection inventory projects.

### Other Sponsored Research Projects

#### Expanding ARAS 3D Digital Imaging Lab

ARAS Director George Sabo III received a \$73,000 grant from The Roy and Christine Sturgis Charitable and Educational Trust for purchase of a Breuckmann 3D structured light scanning system for ARAS's new Digital Imaging Lab. The equipment was added to our existing Artek hand-held 3D scanning system and Creativity 3D printer. The Digital Imaging Lab is used to create 3D digital artifact models and printed facsimiles for a variety of research, teaching, and public outreach applications. Additional information is presented in the Director's section of this Report.

#### Preserving and Presenting Arkansas History through Artifacts (ARAS Project 19-03)

Funded through a \$24,314 grant from the Arkansas Natural and Cultural Resources Council, ARAS central lab staff Dr. Michelle Rathgaber, Madelyn Rose, and Katherine Bryles, supervised by registrar's office staff Teka McGlothlin and Sarah Shepard, upgraded the inventory catalog for four major ARAS artifact collections containing more than 135,000 artifacts. The collections are from the Albertson Shelter, Saltpeter Cave, Goldsmith Oliver II mitigation, and the River Mountain Pumped Storage project. Inventory information was documented using our newly developed tablet-based, digital cataloging system that stores artifact collection information in a series of databases maintained and backed-up on ARAS servers. The project team also added digital images of artifacts possessing temporally or culturally diagnostic features, and scanned select objects in the Survey's new 3D Digital Imaging Lab. All collections are now re-packaged and re-boxed in containers meeting modern curation standards, and are readily accessible for ongoing research projects. The project team is creating a short web presentation detailing the primary accomplishments of the project.

## **Archeological Inventory of Pea Ridge National Military Park (ARAS Project 16-06)**

Dr. Jami Lockhart (ARAS-CSP) and Dr. Carl Drexler (ARAS-SAU) continued management of Year 4 activities following the passing of co-PI Dr. Jamie Brandon (ARAS-UAF). Year 4 activities entail completion of minor fieldwork operations, lab inventory and analysis of artifacts and collections gathered during project field investigations, and final report production. The overall project is funded by a \$115,595 cooperative agreement with the National Park Service. Additional details are found in the CSP, SAU, and UAF sections of this report.

## **Jacob Wolf House (ARAS Project 18-05)**

Mike Evans and Jared Pebworth (ARAS-UAF) and Sarah Stuckey (ARAS-ASU) conducted mapping and monitor-

ing of utilities installation areas as a follow-up to geophysical investigations of the Jacob Wolf House grounds last year under the direction of Dr. Jami Lockhart (ARAS-CSP), as part of a \$12,371 cooperative agreement with the Department of Arkansas Heritage. Additional information is provided in the CSP and UAF sections of this report.

## **NSF Doctoral Dissertation Grant (ARAS Project 18-06)**

John Samuelson (ARAS-CSP) completed isotopic analysis of human and animal tooth samples and associated sediment samples from the Crenshaw site in the Red River Valley of southwestern Arkansas. The project is supported by a \$14,750 doctoral dissertation improvement grant awarded by the National Science Foundation. Additional details can be found in the Highlights section of this Report.

## **Grants, Contracts & Cost-Share Agreements in FY 2018–2019**

<b>ARAS Project No. &amp; Name</b>	<b>Source</b>	<b>Budget</b>
<b>Extensions</b>		
16-06 Pea Ridge National Military Park (extended 4th year)	NPS	\$115,595
18-05 Wolf House (extended 2nd year)	DAH	\$12,371
18-06 Doctoral Dissertation Improvement Grant	NSF	\$14,750
<b>New</b>		
19-02 Expanding ARAS 3D Digital Imaging Lab	Sturgis	\$73,000
19-03 Preserving and Presenting Arkansas History	ANCRC	\$24,314
<b>Total (2018–2019 new funds only)</b>		<b>\$97,314</b>

ANCRC = Arkansas Natural and Cultural Resources Council  
 DAH = Department of Arkansas Heritage  
 NPS = National Park Service  
 NSF = National Science Foundation



## SRP Academic & Service Activities

### Professional Service

- **Advice & Assistance.** Cande provided scans of slides on cemetery research at Mammoth Spring State Park and excavations at Davidsonville to Marlon Mowdy, director of the Jacob Wolf House Site. She wrote a response to Kim Urban of the North Carolina Office of State Archaeology about historic cemeteries in the AMASDA database.
- **Organizations.** Cande serves as Gulf States current research editor for the Society for Historical Archaeology. She attended the Arkansas Historical Association annual meeting in Stuttgart. Cande serves on the Board of Directors of the Washington County Historical Society and is Corresponding Secretary.
- **Committees.** Kathleen Cande is a member of the ARAS Web Steering Committee.

### Public Service & Outreach

- **Programs & Presentations.** Kathleen Cande gave two talks as part of the Old Statehouse Museum's Brown Bag Lunch Series on cemetery research by the Survey (20) and on Davidsonville archival research (8). Cande assisted with a tour at the coordinating office lab for visiting members of the Quapaw Tribe (43) and took part in Archeology Day at the coordinating office (440 visitors).
- **Organizations.** Kathleen Cande is a member of the Arkansas Historical Association, Arkansas Genealogical Society, Friends of the Arkansas State Archives, and the Missouri Historical Society.
- **Cemetery Preservation Initiative.** Cande serves as coordinator of the Survey's historic cemetery research and outreach to individuals and local organizations involved with cemetery preservation. She presented information about cemetery preservation to the public at "Celebrate Archeology Day" in March, responded to phone calls, and completed site forms for several cemeteries nominated to the National Register of Historic Places.
- **Other Outreach.** Cande authored three web articles for the Artifact of the Month series on the ARAS website (see Appendix 1): "Jackfield Ware Teapot Handle"; "Ashcroft Brand Steam Pressure Gauge"; and "A Leather Pouch from Historic Davidsonville and Its Contents." Cande participated in Park Day and Statehood Day with the Washington County Historical Society. She assisted Marlon Mowdy of Jacob Wolf House with information for a conference paper.



Ashcroft brand steam pressure gauge from the West Memphis Boat Wrecks site, featured in an "Artifact of the Month" web series article written by Kathleen Cande. (<https://archeology.uark.edu/artifacts/ashcroft-pressuregauge/>)



## Computer Services Program

The Survey's Computer Services Program is responsible for all electronic information management, including systems administration, computer operations, equipment, research, instruction, and user support, throughout the organization. Our pioneering computer database for archeological site information (AMASDA) is one of the most comprehensive such applications in the country. We have worked to integrate the different data structures and digital tools being used in archeological research and cultural resource management today. This approach includes geographic information systems (GIS), relational database management systems, and exploratory data analysis. CSP provides online access to AMASDA for qualified subscribers and is working to provide web-enabled database access (password-protected where appropriate) for agencies and firms that manage cultural resources in Arkansas. Our educational websites respond to public interest and to agency and research needs. Our archaeogeophysical program maintains a full complement of remote sensing technologies for near-surface prospection on prehistoric and historic sites.

**Jami J. Lockhart** (Ph.D., Environmental Dynamics, University of Arkansas, 2007) holds the title of Archeologist and Director of Archaeogeophysical Research within ARAS. He is Research Associate Professor in the University of Arkansas Department of Anthropology, and Cooperating Faculty in the Fulbright College Environmental Dynamics Ph.D. Program. His research specializations include integrated data management, GIS, archaeogeophysics, and human-environmental inter-relationships through time. He joined the Survey in 1988.

**Deborah Weddle** (B.A., Anthropology, University of Arkansas, 1993), Research Associate, is the Survey's Information Technology support and Internet applications specialist. Her specializations include web application development, Information Technologies, and the use of multimedia technologies for education.

**John Samuelsen** (M.A., University of Arkansas, 2009) is currently a Ph.D. candidate in Anthropology at UAF and is a Survey Research Assistant. His specializations include Caddo archeology, stable isotope analysis, geophysics, databases, GIS, digital storage, web application development, and computer applications in archeology. He is the Survey's server administrator, administers Survey databases, and assists with all the websites and development of online resources.

Above, geophysical equipment and posters set up in the CSP lab in preparation for visitors to Celebrate Archeology Day. Photo Deborah Sabo (ARAS).



Our Computer Services Program serves technological and computer-related research needs across the Arkansas Archeological Survey, in the state program and in grant supported or cost-share funded projects, as well as contributing to service and outreach efforts.

### Basic Services

Deborah Weddle's time is dedicated to Information Technology support and Front-End Web Development for the organization. She oversees IT life cycle management and assists with personal computer operations. She is responsible for computer procurement, inventory, and administration; computer repairs and upgrades; software license management and deployment; and end user support for all ARAS staff. She also manages the CSP Computer Lab which houses several PC and Mac workstations, a batch slide scanner, tabloid flatbed scanner, networked color laser printer, and microfilm scanner.

Weddle designs and manages the ARAS main website, as well as the "Gathering Gardening and Agriculture" 5th Grade Curriculum website, the "Sloan" website (a web-based artifact image catalog supplementing the *Sloan: A Paleoindian Dalton Cemetery* book reprint), and various other web development projects. She heads the Survey's quarterly Web Steering Committee meetings, and is the initial point-of-contact for public inquiries via the websites.

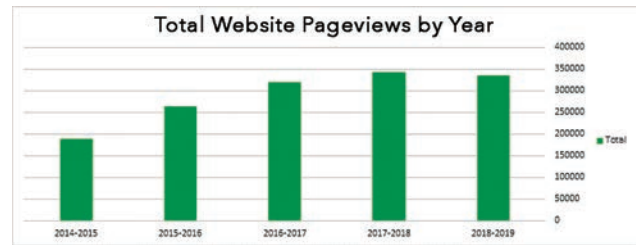
Weddle regularly takes courses in web development, SEO, graphic design, and Information Technology support through the University of Arkansas's online training library, and attends outside web development seminars and local WordPress Meet-ups whenever possible.

John Samuelsen continued to maintain the ARAS servers (arkarcheology, arasbackup, and arasremote), databases, backup system, the AMASDA database, some other smaller databases, the AMASDA Online website, our various educational websites (see below), and the large format printer and scanner. Samuelsen will be working with the registrar's office to outline the goals of a long-term project to create a database that can retrieve information through an online interface associated with AMASDA Online.

The CSP team continues to work with University of Arkansas Information Technology Services to resolve issues that arise as the University moves to system-wide collaborative software.

### Arkansas Archeological Survey Website

The Survey's main website ([archeology.uark.edu](http://archeology.uark.edu)) showcases the wide variety of work ARAS archeologists and staff do in support of our core missions of research, preservation, and education. Information about educational outreach activities, new discoveries, current research, publications, and teaching resources are updated regularly, and operational guidelines and forms needed by public officials, developers, and professional archeologists working in our state are easily accessible from the home page. Links to media coverage of the Survey's activities are highlighted, and a statewide calendar of archeology-related

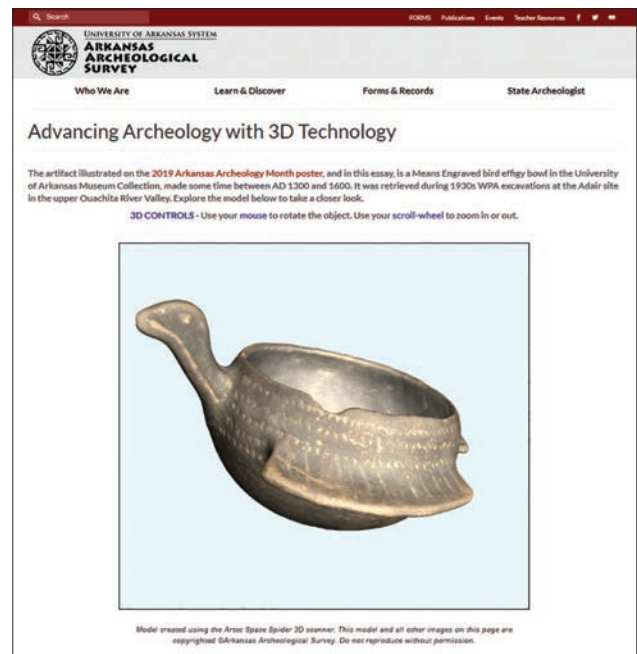


Total website pageviews over several years. Graphic by John Samuelsen.

events helps members of the public find and join in activities and learn more about the state's rich heritage. Web articles this year highlighted women's history, Black history, and Native American heritage, and explored exciting new topics like advancing archeology with 3D technology. A new Research Series publication, *The Mazique Site (22Ad502)*, was issued and made available for purchase directly from the ARAS website via our new CashNet online payment system. Visitor traffic to the website increased by 9.65% in FY2019, with 116,266 pageviews made by 18,137 unique users.

### 3D Models on the Web

The acquisition of a high resolution 3D scanner and 3D printer by ARAS in 2018 has enabled us to create three-dimensional models of artifacts. These models provide detailed and manipulatable images of objects that are rarely on public view, and are invaluable tools for education and research. Two such objects, scanned by our staff in the Registrar's Office, were published on the ARAS website in the spring of 2019. The first



3D model of a bird effigy bowl produced with our Artec Space Spider scanner; screen shot from our website.

New Zoom Room set-up makes presentations and video conferencing easier and more reliable. Photo Rachel Tebbetts (ARAS).

was a Means Engraved bird effigy bowl dating between AD 1300 and 1600, found at a site in the Ouachita River valley. This digital rendering and a narrative of the scanning process was published in the web article “Advancing Archeology with 3D Technology.” The famous “resting warrior” figurine from the Spiro Ceremonial Center was the second interactive model published on the ARAS website. This significant but seldom viewed Native American artwork can now be examined online.

### Artifact of the Month Web Series

A new series was launched in 2018 to highlight historic and prehistoric artifacts that tell us something unique and important about Arkansas history and culture. This series proved so popular that it was continued into 2019. Some of the featured artifacts include the Sloan point from northeast Arkansas, a sixteenth century trade bead from Parkin that has been linked to the Hernando de Soto expedition, a quartz crystal Clovis point found near Hot Springs National Park, and an early nineteenth century leather pouch from Historic Davidsonville that contained coins, straight pins, and a copper button and thimble.

### Online Payment System

The ARAS and the University of Arkansas CashNet team worked together in 2018 to establish a secure method for processing credit card payments. The resulting product implementation, launched in September 2018, has greatly simplified AMASDA subscriptions and curation payments processing. It also provides a standalone Publications Catalog website (<https://commerce.cashnet.com/UARKARAS>) for individuals wishing to purchase ARAS titles online. The catalog is accessible from the Publications section of the ARAS website.

### New Zoom Room

In May 2019, Weddle oversaw modernization of the ARAS coordinating office’s conference room to a state-of-the-art presentation space and Zoom Room videoconference facility. As the project head, Weddle researched all available options with an eye toward long-term return on investment, obtained competitive bids from regional AV contractors, coordinated equipment installation, and facilitated training of coordinating office staff in the new technology. This conference space is one of only a handful of Zoom Rooms within the University System, and is used by the UA Museum as well as ARAS personnel. The upgraded facility quickly proved its value when it enabled several Fayetteville-based personnel to “virtually” attend a two-day staff meeting at Winthrop Rockefeller Institute in Morrilton. ARAS Room 119 in Fayetteville is now equipped with the following technologies:



- Biamp Devio SCR-25 videoconferencing hub
- 2 ceiling-mounted beamtracking microphones
- Wall-mounted LG 65 inch 4K monitor
- Atlas FAP 33T in-ceiling speakers
- Minnray UV-510A 12X Pan Tilt Zoom USB camera with wall mount
- Zoom Room software license
- Apple iPad Zoom Room console
- Dell SFF computer and digital presentation remote
- Mobile floor lectern

### Educational & Research Websites

The Survey has several educational websites linked onto our main flagship website. Deborah Weddle and John Samuelsen combine talents to continuously update and maintain the ARAS online environment, assisting the writers and content developers in presenting an effective product. Part of web maintenance included upgrading WordPress, themes, plugins, and sometimes creating custom code fixes. New websites are also being developed.

- **Indians of Arkansas** <http://arkarcheology.uark.edu/indiansofarkansas/index.html> is designed for the public and for students and educators, and contains both academic and indigenous perspectives on American Indian history. It received 73,000 pageviews and 33,000 sessions.
- **Rock Art in Arkansas** <http://arkarcheology.uark.edu/rockart/index.html> is designed for public education on the prehistoric rock art of Arkansas with articles, picture gallery, classroom ideas, and a searchable database of images and information. The site had 27,000 pageviews and 7,700 sessions. Emily Beahm (ARAS-WRI) is working to reorganize and update *Rock Art*.

These two sites are most popular during the school year, indicating use by students and teachers for learning exercises and classroom preparation about Arkansas history and Arkansas Indians. Content is a group effort, but is mostly created and updated by George Sabo (ARAS Director). These websites have garnered well over one million hits since their creation.



- **Arkansas Novaculite: A Virtual Comparative Collection** <http://archeology.uark.edu/novaculite/index.html>, developed by Mary Beth Trubitt (ARAS-HSU), was launched in 2014 with a grant from the Arkansas Humanities Council. It had over 10,000 pageviews and 6,000 sessions this year. Trubitt continuously updates this site, which presents resources for researchers and students interested in Ouachita Novaculite, a stone that was used over millennia for tool-making and trade, and related quarry and workshop sites.
- **Bluff Shelters of the Arkansas Ozarks** <https://archeology.uark.edu/ozarkbluffshelters/> was written by Lydia Rees (graduate student in the UAF Department of Anthropology and ARAS research assistant). Development of this website, presented primarily for general interest audiences and students, was supported by a grant from Arkansas Natural and Cultural Resources Council. In 2017 Rees received an award for Outstanding Achievement in Preservation Education from Preserve Arkansas. The website has seen steady traffic.
- **Sloan: A Paleoindian Dalton Cemetery** <http://archeology.uark.edu/sloan/> was completed in October 2017 to serve as an online companion to the reprint of *Sloan: A Paleoindian Dalton Cemetery in Arkansas* by Dan F. Morse (University of Arkansas Press, January 2018). This website presents almost 2000 high-quality color photographs by former ARAS photographer Jane Kellett in multi-view galleries keyed to tables in the book. Images are watermarked to prevent unauthorized use, but a Publication Request Form to obtain reprint permission is available on the website. Visitor traffic to the Sloan website increased by 12% over last year, with 5,831 pageviews from 968 users.

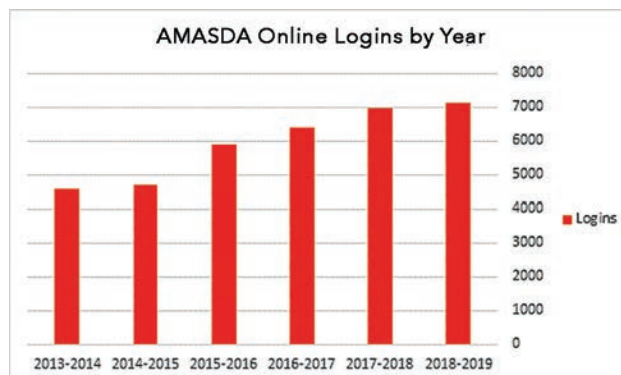
- **Gathering Gardening and Agriculture: A 5th Grade Social Studies Curriculum** (<http://archeology.uark.edu/gga/>) is a grant-funded website and its associated teaching materials were developed by ARAS archeologists Jodi Barnes, Emily Beahm, and Elizabeth Horton in early 2017. Teachers across the state utilize this resource to help meet state requirements. Visitor traffic to the Gathering, Gardening, and Agriculture website this year totaled 844 pageviews from 476 users.

### AMASDA Database & Backup Systems

Samuelsen administers a centralized and redundant backup system for the digital information created by the ARAS organization. AMASDA and the arkarcheology server, and the new arasbackup server, are backed up nightly. The File Share folder, backed up nightly, now has 15.4 TB of data, 3,603,166 files, and 149,477 folders currently backed up. In addition, 6.6 TB of data is currently in use for system backups. This is a 22% increase in the size of the file sharing portion of the data over the last year. The server also has full system backups. The arasremote server is housed at the University data center, which allows for a total system backup in a remote location. This is to protect our data in a worst case scenario.

### AMASDA Online

Samuelsen continued to provide support for the ARAS registrar's office and anyone else needing help with the AMASDA Online website and AMASDA database. Individuals logged in over 7,122 times this year (a 2% increase) to retrieve 558,757 records related to archeological sites and projects in Arkansas. The web traffic on AMASDA Online was 85,623 pageviews. Samuelsen also fixed various issues with AMASDA as they occurred and performed occasional custom queries of the database and GIS analyses of archeological site data upon request.



AMASDA Online log-ins by year. Graphic by John Samuelsen

### Archaeogeophysical & GIS Research Projects

Archaeogeophysical remote sensing has revolutionized archeological methodology and has become an integral part of research design and cultural resource management. These technologies offer nondestructive reconnaissance that can save time and expense by focusing excavation efforts for the most beneficial result. The Survey endeavors to remain at the forefront of this development.

**Dr. Jami Lockhart** coordinates and directs all of the Survey's GIS and archaeogeophysical research across the state, both ARAS projects originating at the various research stations and projects funded by grants or cost-share agreements with other agencies. In this capacity, he contributes original research as principal investigator, and collaborates with colleagues on research design and project reports. He also provides support for students and serves on University of Arkansas thesis and dissertation committees.

#### Pea Ridge National Military Park

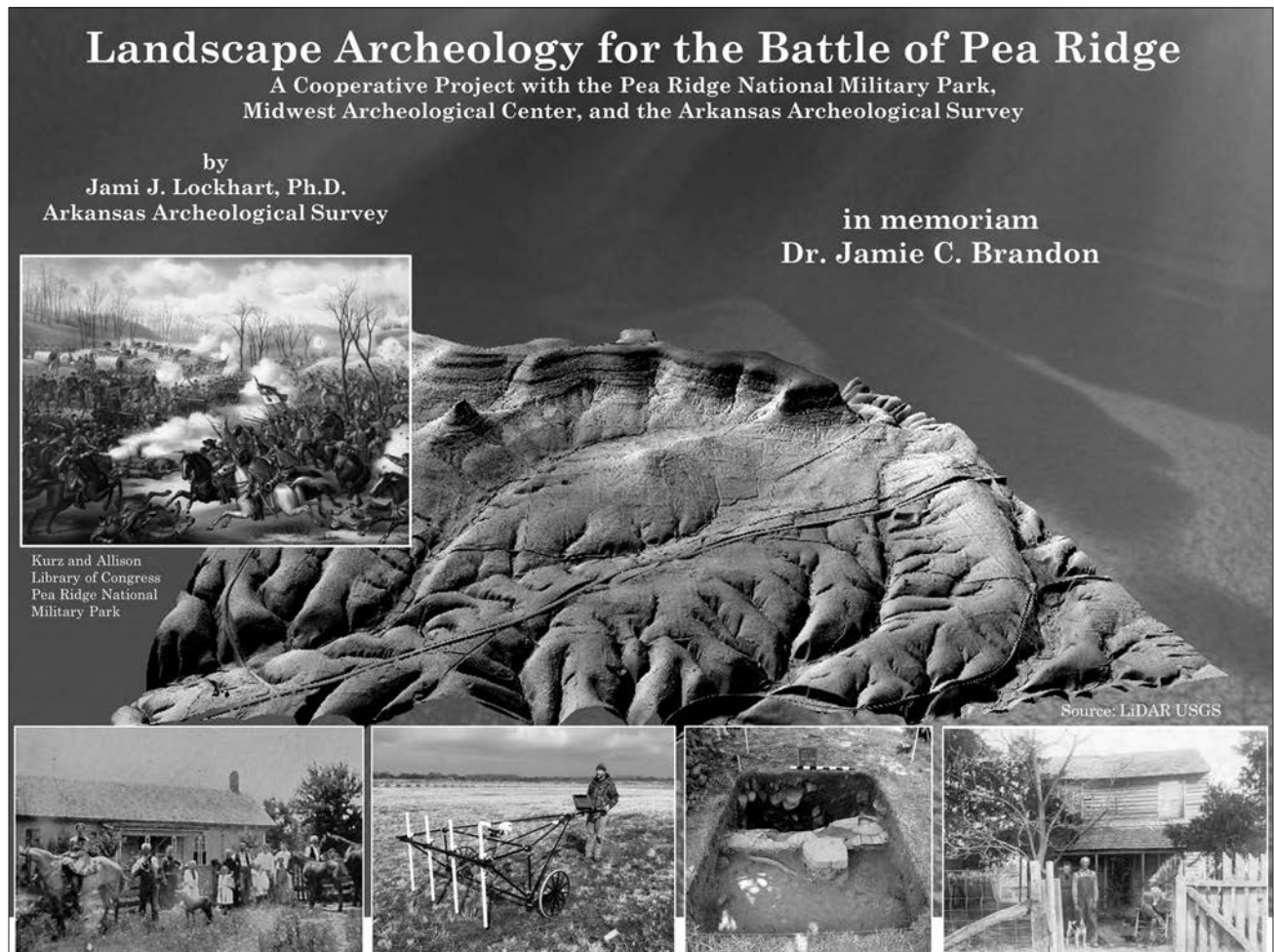
The Survey has pursued a four-year project to conduct an archeological inventory within Pea Ridge National Military Park. The areas studied are associated with the March 1862 Civil War battle at Pea Ridge, Arkansas, which was one of the most significant actions of the war in this region. The project is a collaboration between the Arkansas Archeological Survey and the Midwest Archeological Center of the National Park Service, organized under the federal Cooperative Ecosystem Studies Units (CESU) program. Lockhart serves as co-PI for the project (along with Dr. Jamie Brandon, ARAS-UAF, and Dr. George Sabo III, ARAS Director). Dr. Carl Drexler (ARAS-SAU) assumed Dr. Brandon's role upon Brandon's death in December 2018. Other project participants include Michael Evans and Jared Pebworth (ARAS-UAF), Jerry Hilliard (ARAS-UAF, retired), and John Samuelsen (ARAS-CSP).

- Lockhart continued to implement a GIS-enabled methodology currently being used at the Civil War battlefield-related Leetown Hamlet, Foster's Field, and Clemens Farmstead. The multidisciplinary methodology is being used to compile, georeference, integrate, overlay, and interpret multiple information formats. The data include archival sources, historic maps, historic and modern aerial photographs, conventional photos, and LiDAR. The resulting integrated data are fundamental to locating specific archeological features and interpreting the battle, and are being used to organize the archeological excavations.
- Working with Michael Evans and Jared Pebworth (ARAS-UAF), Lockhart directed high-resolution gradiometry survey of Foster's Field and Clemens Farmstead to locate archeological features, which include former structures and associated artifacts contemporaneous to the 1862 battle. The work established the efficiency and efficacy of the Survey's gradiometer cart paired with real-time centimeter-level GPS spatial accuracy for broad-area coverage. More than 26 acres of high-resolution data were developed.
- Lockhart has begun integrating all of the data types collected and compiled during the four years of the project in order to provide a unified interpretation of the Civil War-era cultural landscape at Pea Ridge. This includes processing high-resolution LiDAR data to develop highly accurate digital elevation models (DEMs) for the entire battlefield area. The DEMs will be used to locate contemporaneous transportation networks as portrayed in eye-witness and subsequent accounts of the battle. The LiDAR data are being complemented with historic and modern photo interpretation, multisensor geophysical remote sensing data, archival research, historic map interpretation, and archeological information to contribute to a comprehensive report being prepared as the final element of the four-year cooperative project.



Dr. Jami Lockhart giving a talk about LiDAR technology. Photo Rachel Tebbetts (ARAS).





The Pea Ridge project employs a variety of complementary data sets from different technologies to more fully understand the events of the Civil War battle and the landscape in which it occurred.

### Historic Wolf House

- Working with Mike Evans and Jared Pebworth (ARAS-UAF), Lockhart collected and processed remote sensing data for the ca. 1830 home and courthouse presided over by Jacob Wolf. Lockhart wrote a report that has been submitted to Arkansas State Parks. Information in that report will be used to direct precision excavations for other site features, including an 1830s family cabin, cook's house, kitchen, slave quarters, and barn.

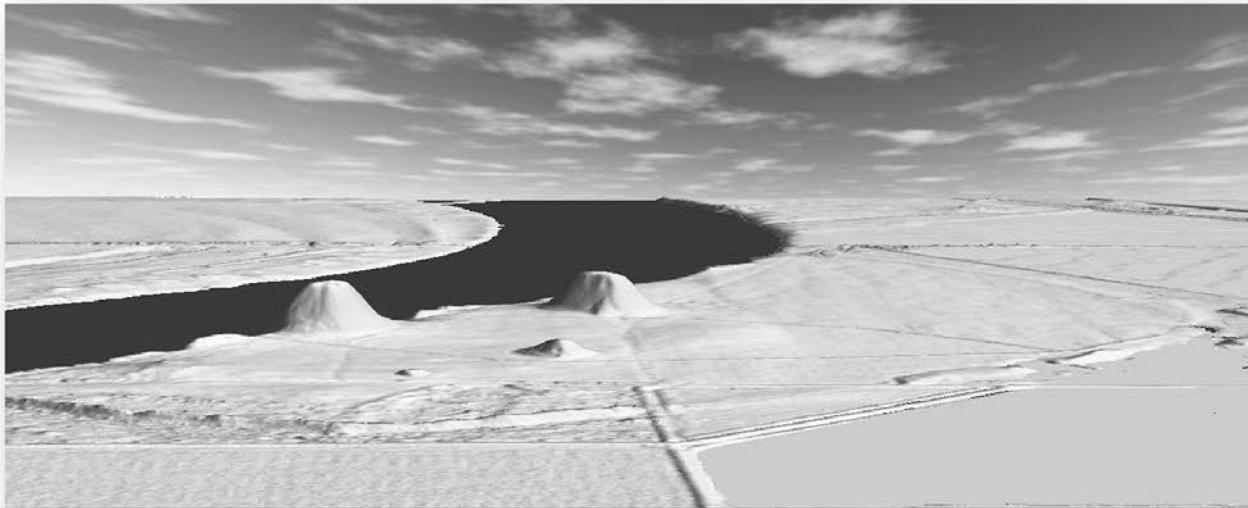
### Prairie Grove Civil War Battlefield

- Lockhart (with co-PI Dr. George Sabo and the ARAS-UAF research station) developed methodology and plans for future archeological remote sensing and reconnaissance of the Borden House battlefield vicinity at Prairie Grove State Park.

### Osotouy Unit, Arkansas Post

- Lockhart (with co-PIs Dr. Dawn Bringelson, Dr. John House, and Tim Mulvihill) continued research associated with a comprehensive archeological investigation of the Osotouy Unit of Arkansas Post National Memorial as part of collaborative research between the Midwest Archeological Center (MWAC) and Arkansas Archeological Survey (ARAS). Lockhart directed multisensor remote sensing, as well as development and interpretation of "bare-ground" high-resolution topography from LiDAR. Lockhart also developed a comprehensive GIS database he is using for landscape-scale analysis.

### Perspective Visualization – Toltec Archeological Mounds State Park (view from south to north)



#### Toltec Mounds Archeological State Park

- Lockhart has developed LiDAR images for Toltec Mounds Archeological State Park that provide highly accurate topography, shaded relief, and perspective views of known features and newly discovered information.

#### Manley-Usrey (3MS106)

- Lockhart continued to work with Ph.D. candidate Michelle Rathgaber to correct and interpret coverage of gradiometry data at this site. The 2018 data reveal the location of additional prehistoric houses and features, as well as possibly contemporaneous earthquake liquefaction features. (Rathgaber successfully defended her dissertation in the Fall of 2019.)

#### Protohistoric Landscape of Northeast Arkansas

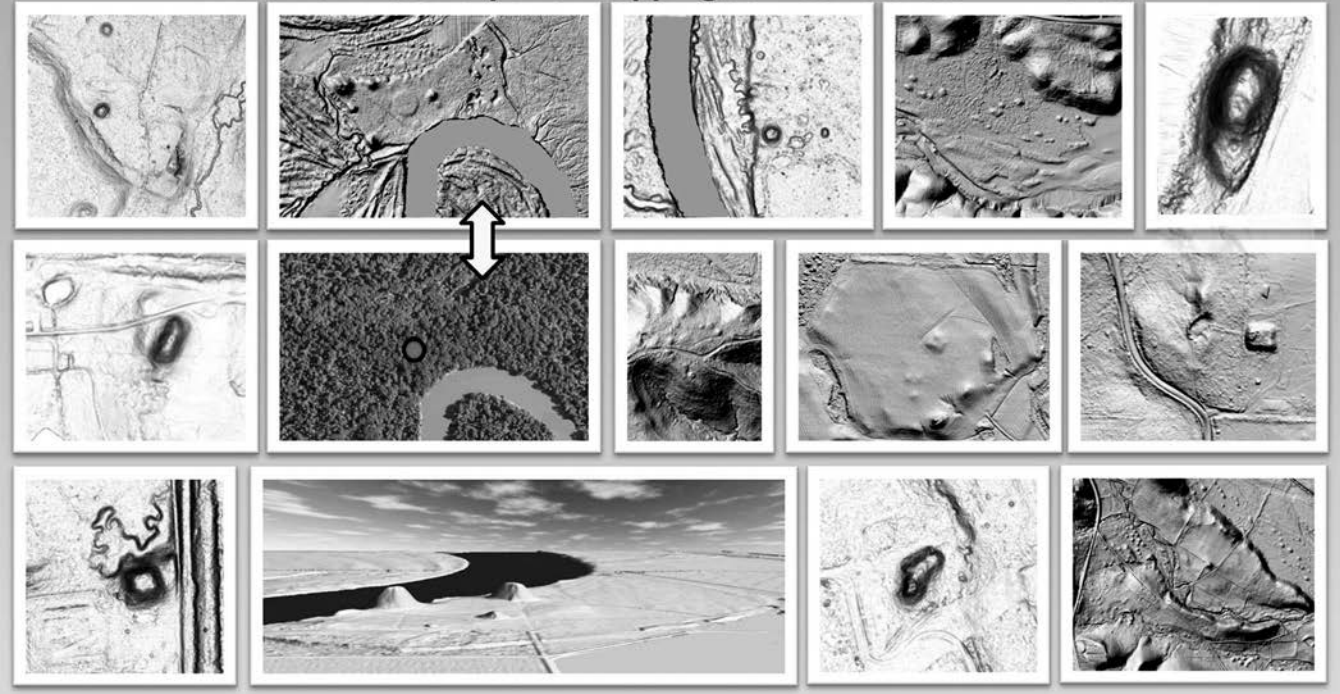
- Lockhart is continuing research examining settlement patterns that distinguish a late prehistoric/protohistoric landscape in the Central Mississippi Valley. At the cultural landscape-scale, a statewide archeological site database is being used within a GIS framework to examine contemporaneous site distributions as they relate to the physical geography of the study area. Historic maps, aerial photography, digital elevation modeling, geomorphology, and GIS-driven data integration are being employed to interpret a dynamic cultural landscape located at the epicenter of initial Native American-European contact west of the Mississippi River. The results of the research were presented at the 2019 annual meeting of the Society for American Archaeology in Albuquerque, NM.

#### Spiro Mounds, Oklahoma

- Lockhart is continuing his research at the Spiro Mounds, where he and his Arkansas (Sabo, Mulvihill, Samuelsen) and Oklahoma (Hammerstedt, Regnier, Livingood) colleagues have collected multisensor geophysical data used to precisely locate archeological features at one of the most important prehistoric sites in North America. Most recently, Lockhart has processed “bare-ground” LiDAR data as part of the comprehensive GIS database he has developed for the site. These data have been used to develop the most accurate and detailed map of the site to date, and are providing insights into otherwise undetectable minute topographic variations, providing the potential for identifying previously undiscovered prehistoric earthworks.

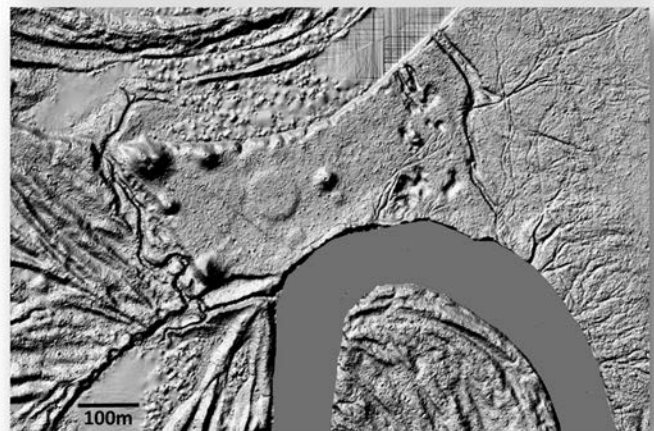
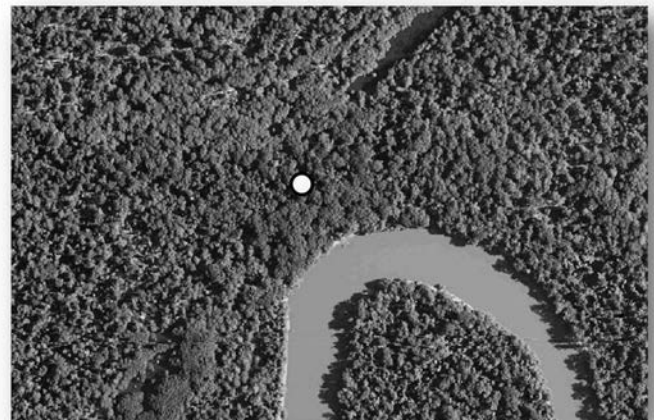


### LiDAR for Discovery and Mapping at Mound Sites in Arkansas



These illustrations show how LiDAR generated imagery is aiding discovery and mapping of archeological sites and features. Bare-earth LiDAR efficiently reveals potential archeological structures on forested landscapes. LiDAR is a surveying method that uses laser light directed at the ground surface to generate images (compare the name to “radar” which uses sound waves). LiDAR generated data can be developed to produce highly detailed 3D maps and landscape visualizations.

### Bare-Earth LiDAR for Forested Archeological Sites



### Computer Services Program – Academic & Service Activities

#### Grants, Honors & Awards

- Lockhart was promoted from Associate Archeologist to Archeologist, effective July 1, 2019.
- \$2,000 from the Ozark National Forest as part of a renewal for a Master Participating Agreement. Lockhart developed a pilot project to illustrate the efficacy and efficiency of GIS modeling and LiDAR data development for the Big Piney Ranger District.

#### Teaching & Higher Ed

- **UAF Department of Anthropology.** The CSP staff and program engage on a regular basis with undergraduate and graduate students at UAF and other campuses, giving demonstrations and tours of equipment and facilities, assisting with research projects, and providing training. Tours are also provided to visiting scholars with the Department's Stigler lecture series.
- Lockhart serves as Research Faculty (Associate Professor) in the UA Department of Anthropology and Cooperating Faculty in the UA Environmental Dynamics Ph.D. Program. In FY2019 he served on graduate committees at UAF for John Samuelsen (Ph.D., Anthropology), Michelle Rathgaber (Ph.D., Environmental Dynamics), and Jeremy Menzer (Ph.D., Environmental Dynamics). Rathgaber successfully defended her dissertation in the Fall of 2019.
- Lockhart assisted UA Environmental Dynamics Ph.D. students Seth Price and Jeremy Menzer with data collection at Pea Ridge National Military Park, and at the Woolsey site 3FR48 on Ozark National Forest, respectively.
- Samuelsen assisted other graduate students with AMASDA, isotope projects, and projects involving ArcGIS and the AMASDA database, and taught a session Dr. Wesley Stoner's Archaeometry class.

#### Professional Service

- **Assistance & Advice.** Lockhart worked with Pea Ridge National Military Park Superintendent Kevin Eads (on methodology for processing and interpreting LiDAR data); with U.S. Forest Service (Ozark National Forest); with Dr. Scott Hammerstedt (about gradiometry work in Florida as part of OU field school); and with Drs. George Sabo, Scott Hammerstedt, and Amanda Regnier (to develop a ground-penetrating radar methodology for distinguishing prairie mounds from cultural features); he developed plans for multivariate predictive modeling using LiDAR data as part of a cooperative agreement with Ozark National Forest; provided LiDAR imagery and interpretations identifying Civil War features in the Cross Hollows vicinity of Benton County; and provided LiDAR imagery and interpretations identifying rifle pits in the Sugar Creek area of the Battle of Pea Ridge. Samuelsen provided assistance to Dr. Adriana Potra, UA Department of Geosciences, with the Stable Isotope Lab and the mass spectrometer; and assisted UA Anthropology Department faculty with computer-related issues. Samuelsen maintains the large format printer/scanner at ARAS; he helps print posters for conference presentations or other needs, and provides training; he also assists the UA Museum with scanning and printing projects.
- **Organizations.** Lockhart is President of the Caddo Conference Organization. Samuelsen served as student representative for the Caddo Conference Organization.
- **ARAS Committees.** Lockhart chairs the ARAS Personnel Committee. Weddle, Lockhart, and Samuelsen are members of the ARAS Web Steering committee; Weddle leads the committee. Samuelsen is part of the ARAS Digital Data Collection Initiative (DDCI) working group.

#### Public Service & Outreach

- **Programs & Presentations.** Lockhart provided demonstrations of archaeogeophysical remote sensing equipment and resulting data at the ARAS "Celebrate Archeology Day" in Fayetteville during Arkansas Archeology Month (440 visitors); taught a seminar on "Remote Sensing in Archeology" for OSHER Lifelong Learning Institute in Fayetteville; and gave talks at Shiloh Museum of Ozark History in Springdale and Military Officers Association of America in Fayetteville (audiences about 130). Weddle presented her collection of antique hand fans during Shiloh Museum's Cabin Fever Days (150 visitors) and an article about her collection was published in the NWA edition of the *Arkansas Democrat-Gazette*.
- **NWA Open Space Plan.** Lockhart serves on the Northwest Arkansas Open Space Plan Steering Committee. As GIS and archeological consultant, he assists in land-planning activities aimed at preserving and conserving hundreds of the most significant archeological sites in the fastest growing area of the state and nation. He was featured in an NWA Open Space promotional video. NWAOSP has played a role in successful efforts to preserve cultural landscapes, including: Fitzgerald Station (standing structures associated with the Butterfield Overland Stagecoach route); Centennial Park (former property of Hugh A. Dinsmore, nineteenth century Ambassador to Korea, U.S. Congressman, and early UA Trustee); Conservation easements in the Cross Hollow area (Civil War encampment); and other efforts in progress.



- **Assistance & Advice.** Lockhart provided assistance and advice to the National Park Service (Arkansas Post National Memorial, Pea Ridge National Military Park, Midwest Archeological Center); U.S. Forest Service (Ozark National Forest); and Arkansas State Parks. He planned an exploratory gradiometry survey at the site of the Old Meeting House in Historic Cane Hill in northwest Arkansas. With Mike Evans (ARAS-UAF) he conducted remote sensing near Georgia Flat Cemetery to locate potential Civil War dead from nearby Camp Jackson. He discussed a film documentary project about civilian life at the time of the Battle of Pea Ridge with Mr. Greg Mayfield of the Pea Ridge Military State Park Foundation. Weddle provided identification, condition assessment, and curation advice for an extensive hand fan collection at the Rogers Historical Museum (Rogers, Arkansas) over the summer of 2019, and will continue to consult with their Collections Manager on future projects and exhibits.
- **ARAS Website.** Samuelsen works to expand and maintain the Survey's web presence.
- **Media Outreach.** Samuelsen's NSF-supported dissertation research was featured on the University of Arkansas News-wire, and in an article in the Arkansas *Democrat-Gazette* that was picked up by the Associated Press and shared in newspapers across the country. He was interviewed for a program on National Public Radio.
- **FANA.** Fan Association of North America is a non-profit organization that promotes research, education, conservation, and exhibition of hand fans. Weddle is currently in her second term on FANA's Board of Directors, has served on the Grants Committee, gives talks on the history of hand fans, and provides assistance with fan identification and conservation to area museums and historical societies. She also manages FANA's website and social media channels.

#### Service to Arkansas Archeological Society

- **Programs & Presentations.** Samuelsen presented a public talk to the Central Mississippi Valley Chapter in Jonesboro (20). Lockhart presented a public talk to the Ko-ko-ci Chapter in Fayetteville (30).
- **Annual Meeting.** Samuelsen operated the meeting room technology.



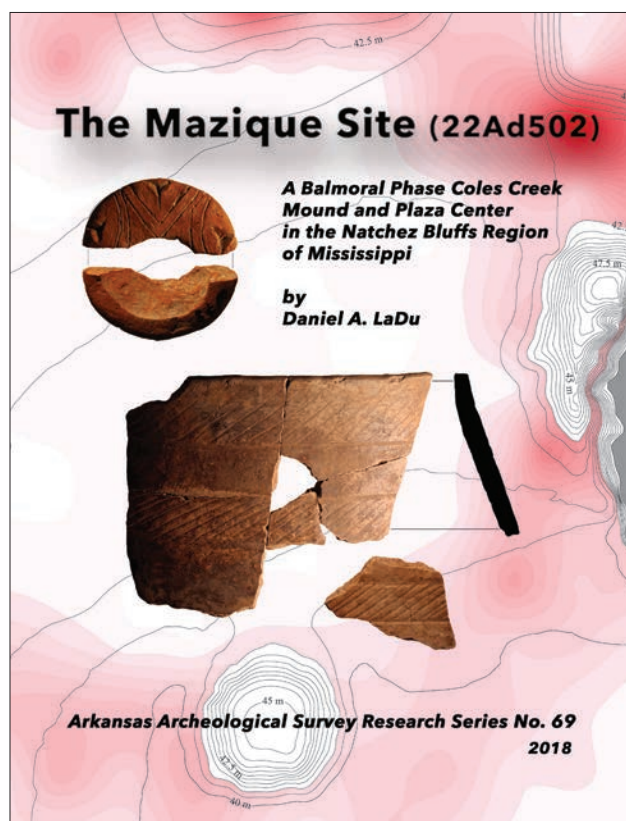
The reorganized publications program continued on course with Dr. Jodi Barnes (ARAS-UAM) in her final year as committee chair. The committee manages the submission and review process. Deborah Sabo is publications editor. She works with authors to prepare accepted manuscripts for publication, doing all final editing, book design, layout, and file preparation for the printer. Deborah performs other editorial tasks for ARAS at the coordinating office and for all ARAS colleagues as needed.

#### Online Sales Option

ARAS-CSP and financial staff worked with the University of Arkansas CashNet team in 2018 to establish a secure method for processing credit card payments. The resulting product implementation, launched in September 2018, includes a stand-alone Publications Catalog website (<https://commerce.cash-net.com/UARKARAS>) for individuals wishing to purchase our books online. Deborah Sabo provided text of book abstracts and book cover images for the eCommerce page and proofread the content. The catalog is accessible from the Publications section of the ARAS website. Rachel Whitman has oversight of Publications sales and inventory. This new system has made the process much simpler and more efficient for individual customers and for ARAS staff fulfilling orders.

#### Latest Publications

*The Mazique Site (22Ad502), A Balmoral Phase Coles Creek Mound and Plaza Center in the Natchez Bluffs Region of Mississippi* by Daniel A. LaDu, currently with the University of Southern



The manuscript for RS69 was acquired from the Mississippi Department of Archives and History. It presents an important analysis for understanding the Coles Creek/Plaquemine transition.



The Survey's Publications Program consists of three series: the Research Series, Technical Papers, and Popular Series present the results of Survey research projects and submissions from other qualified authors to a wide range of audiences, from professional scholars and students to public school teachers, government officials, and the general public. A Publications Committee reviews submissions internally and mediates an external review process. Program staff all have additional responsibilities in other capacities at the Survey. The Publications Program generates its own revenue for printing and equipment. <http://archeology.uark.edu/learn-discover/publications/>

**Publications Committee for 2018–2019:** Jodi Barnes (Chair), Elizabeth Horton, Juliet Morrow, and Deborah Sabo (ex officio). The three-person Committee has a rotating membership, with the senior member each year serving as Chair.

**Deborah Sabo** (M.A., Michigan State University, 1978) is **Publications Editor**. She has been at ARAS since 1999.

Prior to that she was a part-time Instructor in the University of Arkansas Department of Anthropology and worked with several UA faculty as Assistant Editor of the journals *Arctic Anthropology* (18 years) and *The Plains Anthropologist* (six years). Sabo oversees the archive of publication masters and assists with queries about our catalog. She is (*ex officio*) a permanent member of the ARAS Publications Committee. For the Research Series this year she oversaw complimentary distribution of the new RS69. For the Popular Series, she completed editing, design, and layout for *Ouachita Mountains Archeology* (PS06), and began layout work on *Ways of Our Ancestors* (PS07). *Wooden Boats and Blue Lines* (PS08) made progress with permissions for several illustrations thanks to assistance from Emily Beahm. Sabo's additional major yearly commitment is to compile, edit, design, and distribute the Survey's Annual Report. This project is comparable to production of a volume of collected papers. Sabo also provides editorial service and advice to ARAS colleagues for articles or any written product upon request. As a member of the ARAS Web Steering Committee she participated in meetings to discuss improvements to the Survey's website, contributed content, and copy-edited articles submitted to the website by other ARAS staff. This included all entries submitted for the Artifact of the Month series, as well as Current Research or Dispatches from the Field sections. Sabo also coauthored one entry for the Artifact of the Month. In 2018 Sabo proposed and helped organize the Survey's first ever recognitions of Black History Month and Women's History Month. For outreach, Sabo edits and updates educational and informational flyers, and helps to create new ones as needed. She also designs and produces the Program for the Arkansas Archeological Society's Annual Meeting, edits and produces reports for the SRP program, and contributes editing services to other ARAS staff member projects as needed. She is the editor of the Arkansas Archeological Society Newsletter, *Field Notes*, published six times per year, and serves on the Society's Executive Committee.

**Rachel Whitman** (ARAS Assistant Director for Financial Affairs) handles all the financial aspects of the Publications Program, including inventory management, sales invoicing, and accounting. She was instrumental in developing the new online ordering system with the UA CashNet Team.

Mississippi), was published in 2018 as Research Series No. 69. LaDu employs a detailed study of ceramics from shovel tests and excavations to assess which of two models of Plaquemine origins best accounts for the evidence at Mazique: External Stimulus or Internal Development. He concludes that the two models express complementary forces within an interaction sphere communication network.

### ARAS Books Get Good Reviews

Research Series No. 68, *The Battle Mound Landscape: Exploring Space, Place, and History of a Red River Caddo Community in Southwest Arkansas*, by Duncan McKinnon, was reviewed by Jeffrey Girard in the journal *American Antiquity* 84(4):766–767. Girard writes:

This report is a superb example of combining previously unpublished field research carried out more than a half century ago with up-to-date

geophysical techniques to produce a body of information that will be fundamentally important in future research in the Caddo area and the U.S. Southeast. It is an excellent addition to the high-quality volumes in the Arkansas Archeological Survey's Research Series.

Research Series No. 69, *The Mazique Site (22Ad502), A Balmoral Phase Coles Creek Mound and Plaza Center in the Natchez Bluffs Region of Mississippi*, by Daniel A. LaDu, was reviewed by Timothy Schilling in the journal *Mississippi Archaeology* (Vol. 52). Schilling compliments the substance of the book, as well as the production values of Research Series. "Despite being technical and highly nuanced at times, [the book] would hold the interest of a general reader," which is a rare praise for a site report. Schilling finds agreement with LaDu's overall conclusions and offers remarks for needed development of better chronological control in the archeology of the Lower Mississippi Valley.

### Forthcoming Popular Series

Three Popular Series books for general audiences were in development during 2018–2019. Throughout much of the year, Deborah Sabo worked on preparing *Ouachita Mountains Archeology* by Mary Beth Trubitt (ARAS-HSU), which is scheduled for publication in late 2019 or early 2020. This book presents an overview of archeology in the Ouachita Mountains (Ouachita and Little River valleys), told mainly from the findings of two major long-running projects carried out by Trubitt at the ARAS-HSU research station.

*Ways of Our Ancestors: Prehistoric Indians of Arkansas*, written by ARAS Director George Sabo III, is a summary of cultural development in Arkansas from about 13,000 years ago until the arrival of Europeans. Sabo has completed minor revisions to the text, and new illustrations are being developed.

A discussion of riverine boat wreck sites in Arkansas, written by retired ARAS-WRI Research Station Archeologist Skip Stewart-Abernathy, is based in part on popular public lectures he has delivered around the state. With help from Emily Beahm, progress has been made in securing remaining permissions for images to be used in this volume.

### Sales & Distribution

Publication sales and distribution numbered 672 volumes in all series. This is again a decline from last year's totals, and again incorporates a number of volumes (58) given away as complimentary copies—books distributed to colleagues, teachers, reviewers, libraries and archives, students, and books contributed to the Student Paper Prize at the Southeastern Archaeological Conference. Most of the complimentary copies again represented obligatory distribution of our newly published RS69. We have been hopeful that the new online storefront will help improve sales to individual customers, and indeed the process is now simple and convenient. However, it remains for our Program to continue development of new titles. We have done well in the past five years for a small publishing program, but it is still the case that most of our catalog consists of older books.

Our bestselling book continues to be RS44 (*Standards for Data Collection from Human Skeletal Remains*) with 217 units distributed this year (3 complimentary, 214 sold). Sales of this textbook fluctuate from year to year according to when courses are taught. Our Popular Series books (*Paths of Our Children: Historic Indians of Arkansas* and *Rock Art in Arkansas*) remained



Selling books at a conference. Photo Marilyn Knapp (ARAS).

stable and again improved slightly. In addition, several printed copies of the Gathering, Gardening, and Agriculture 5th grade curriculum workbook were given away to teachers.

Staff sold books this year at the annual meeting of the Arkansas Archeological Society, the summer Training Program, the Caddo Conference, and Northwest Arkansas History Resource Fair (\$439.69 in total sales). We provided 7 volumes (\$169 value) as our contribution to the SEAC Student Paper Prize, and distributed 41 complimentary copies of the new Research Series No. 69 to Library of Congress, to authors and reviewers, and to various offices and libraries around the state.

### Books On the Web

Out-of-print volumes in the SWDO (Southwest Division Overview) and CNPO (Central & Northern Plains Overview) series produced under contract for the U.S. Army Corps of Engineers in the 1980s and 1990s are still used by agency land managers, contractors, and graduate students. These books were placed on the ARAS website as free PDFs. We continue to offer for sale hard copies of several volumes in these series that are still available.



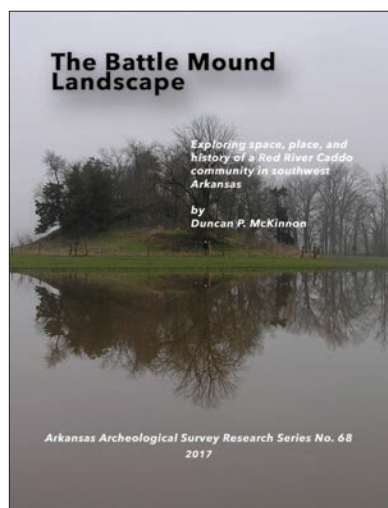
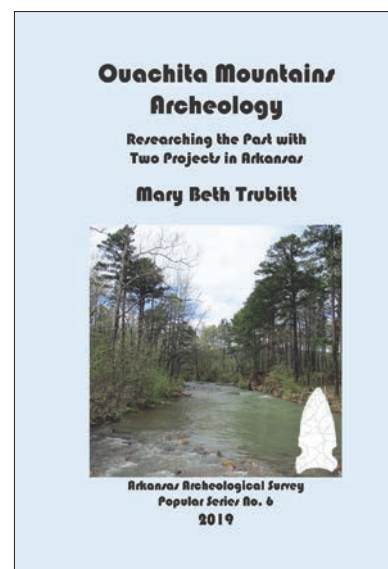
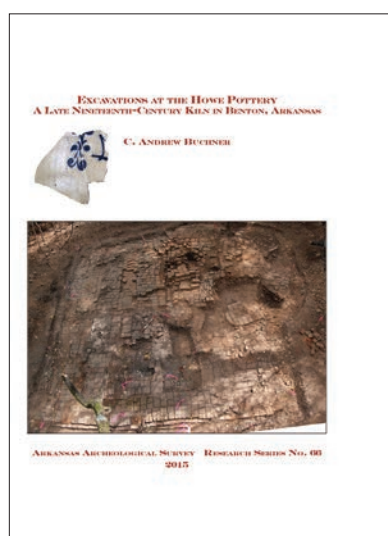
## Publication Sales and Distribution for 2018–2019

No. of Titles	Research Series <sup>1</sup> (69)	Research Reports <sup>1</sup> (32)	Popular Series <sup>2</sup> (3)	Technical Papers <sup>2</sup> (2)	Total (106)
Sold	415	0	179	20	614
Free	51	0	6	1	58
Total	466	0	185	21	672

1 reflects the total number of titles, but not all are currently available; "Research Reports" has been discontinued

2 reflects the number of titles currently in print

## ARAS Research Series Volumes Published Since 2015 & Forthcoming Popular Series







## Photographic and Graphic Arts Support

Photographic and graphic arts support at the Survey includes a darkroom and desktop computer graphic arts facilities. Visual documentation is an essential part of archeology for research, publication, archives, and records management. The research stations, the registrar's office, SRP, the publications program, and the various outreach activities all benefit from the productions of this office.

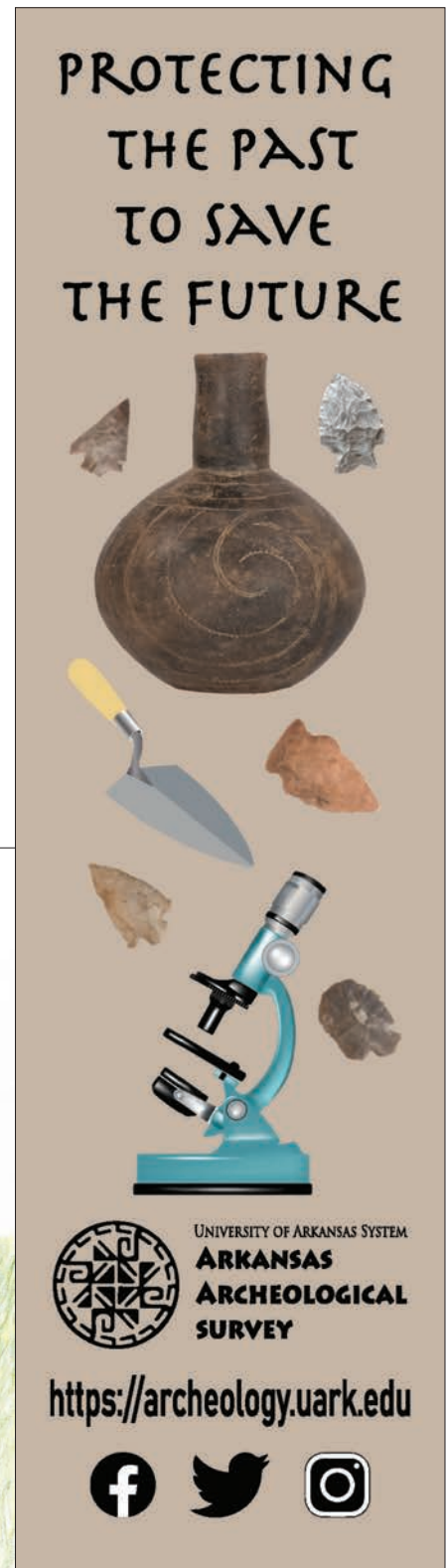
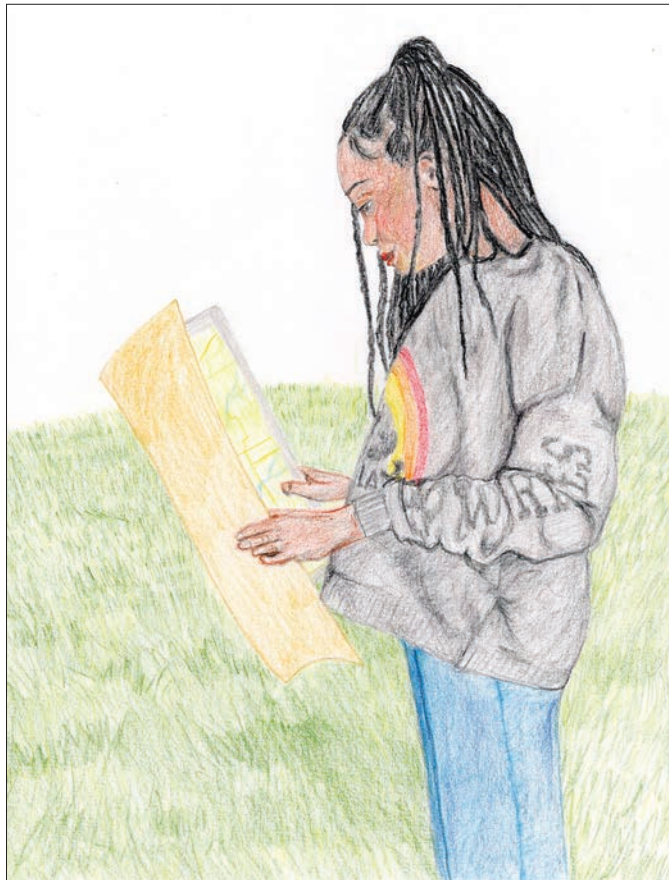
**Rachel Tebbetts** took over the Commercial Graphic Arts position at the beginning of fiscal year 2018–2019. She has successfully settled into her role and very much enjoys being part of the Survey staff. Ms. Tebbetts maintains an archive of 35 mm black and white negatives and digital camera images. She prepares maps, figures, illustrations, and photographic plates for Survey publications, research, staff publications, presentations, and public outreach. She photographs artifacts and various Survey and Society functions and catalogs the photo records. Ms. Tebbetts served on the Web Steering committee and has given graphic and photographic support for the Survey website. She designed and prepared the Archeology Month poster and some new bookmarks to give away at outreach events. She is also currently engaged in projects creating original illustrations for Survey publications that are in development.

Above, Rachel Tebbetts' illustration of Paleoindians crossing Beringia, for a forthcoming volume in the ARAS Popular Series.



**2018–2019 Graphic Artist Activities**

- 24 negatives reproduced for Survey staff and the public to be used for research, publications, or scholarly presentations.
- 993 images scanned from black-and-white photos to be catalogued and uploaded to the server as 378 digitized images from the M. R. Harrington collection.
- 5 maps produced for publication and for public outreach.
- 145 digital photographs of 69 teeth samples were documented and catalogued for NSF research for John Samuelsen.
- 327 digital photographs produced and catalogued of 176 artifacts for NAGPRA.
- 103 digital photographs produced and catalogued of 35 artifacts for staff research, documentation of the Chowning collection, Carden Bottoms, and for use on the website Artifact of the Month feature.
- 217 digital photographs documented and catalogued of two AAS lectures, Celebrate Archeology Day event, and of Dr. Bob Scott and Dr. Michelle Rathgaber's doctoral defenses.
- 60 digitized illustrations produced for publications and research for Drs. Early, Sabo, and Barnes.
- 2 posters produced for the AAS annual meeting and for Celebrate Archeology Day.
- 2 bookmark designs were created and 2000 pieces were printed for public outreach.
- 2 posters and flyers generated for public outreach for activities and teacher workshops.



Artwork by Rachel Tebbetts: above, bookmark; at left, illustration for a workbook.



## Educational Outreach Coordinator

The Educational Outreach Coordinator is responsible for sharing the wonders of Arkansas archeology by way of creating educational and interpretive materials, visiting with the general public and school children, and using hands-on activities at presentations, workshops, and conferences. The Survey created this position to facilitate and organize our increasingly diversified efforts to engage the public and assist Arkansas educators.

**Melissa (Mel) Zabecki** (Ph.D., University of Arkansas, 2009) joined the Survey as the Educational Outreach Coordinator in January 2018. Before that, she served as a Park Interpreter at Parkin Archeological State Park for six years, after teaching various anthropology courses as an adjunct instructor at the University of Arkansas Fayetteville and Fort Smith campuses. She earned her Ph.D. and M.A. in Anthropology from the University of Arkansas, and B.A. in Anthropology from Mount Holyoke College.

In the photo above, Mel Zabecki (on the left) and Emily Beahm (ARAS-WRI station archeologist) greet visitors to a display about pre-industrial technology, showing replicated artifacts for hands-on interest, during Archeology Day at Arkansas Tech University.



Working with Owl Creek students at ARAS-WRI.

Following our first full year with a full-time Educational Outreach Coordinator on staff, Arkansas Archeological Survey is not only meeting goals we have long set to respond to public interest and assist educators in the state, but growing in that arena.

### Teacher Collaboration

This year Zabecki joined a group of three GT (Gifted and Talented) teachers from Fayetteville on a semester-long archeological project to teach their 240 5th and 6th graders as much about archeology as possible. Classroom visits, lesson planning, field trips, and an end-of-semester conference made for a very productive program that can hopefully be repeated by other teachers. The results of the program were presented at the annual GT conference in Little Rock and a few attendees expressed interest in recreating the program at their schools.

Teacher workshops are a way for Zabecki to reach teachers outside of the ARAS home base area. This year, 41 teachers earned six hours of Arkansas Department of Education approved professional development credit at five different Educational Cooperatives from participating in workshops that Zabecki hosted, some with local station archeologists in Arkadelphia, Pine Bluff, De Queen, Helena, and Plumerville. The workshops demonstrate various archeology lessons that the teachers can take back to their classrooms. Printed materials such as informational fliers and lesson plans are distributed to the teachers and some files and photos are shared with them on a Google Drive afterwards. The most exciting workshop was a two-day event that coincided with the Society/Survey Training Program, where the first day was spent at the De Queen-Mena Educational Cooperative, and on the second day the teachers visited the lab and field excavations. It was very successful and Zabecki plans to host a teacher workshop in the area of the Training Program every year if possible.

### Station Collaboration

In addition to working with station archeologists at teacher workshops and supplying them with program props like “trash box archeology” and broken pottery, Zabecki works on special projects with some station archeologists when she is needed. This year, she created an animal bone program with Jodi Barnes (ARAS-UAM) to present at the Behind the Big House program in Little Rock. This program was highly place-based, complete with artifacts and animal bone from local excavations, so the information was extremely relevant

Mel Zabecki offers Survey resources at the Northwest Arkansas History Resource Fair.



to the local students who attended. (See the UAM research station chapter in this Report for more information on this program.)

The other major collaboration was finishing up a six-part homeschool program with Emily Beahm (ARAS-WRI) on plants as food. By request of the homeschoolers, a second series was created on plants as tools, which attracted returning families as well as new ones. The program is very popular and is expected to continue. In the new series, Zabecki and Beahm are collaborating with various guest speakers to come in and share their expertise. There are always hands-on activities and crafts to make the lessons fun and memorable.

### Public Collaboration

Zabecki has increased the Survey presence at community gatherings, libraries, museum talks, and other organized events across the state to promote archeology to the public. Her overarching themes are to teach people that (1) there is an abundance of interesting history to be proud of right here



Marilynn Knapp (ARAS-CO) and Mel Zabecki on the set of the Morning News Today at KFTA to talk about Archeology Month activities. Photo from KFTA.

in Arkansas and (2) archeology is not a treasure hunt, but a systematic science. During 2019, she contacted over 870 people spread across eight different large events. When other activities (with the Arkansas Archeological Society, schools, scouts, special interest groups, etc.) are added in, Zabecki reached out to 4,238 people at 103 different events this year.

### Websites/Social Media

Zabecki administers the Survey's Facebook, Twitter, and Instagram accounts, and contributes to all regularly. She draws from things that are going on at the ARAS coordinating office, and also announces activities at the ten research stations and nine Arkansas Archeological Society chapters, as well as with other entities around Arkansas. All activities are also posted on an online calendar that is accessible to the public on the ARAS website. She continues to organize the Artifact of the Month web series project, requesting submissions from various staff members, and works with Deborah Sabo (ARAS publications editor) and Deborah Weddle (ARAS-CSP) on getting the artifact descriptions and pictures posted in a timely manner. She is also a member of the Web Steering Committee, which meets quarterly to discuss additions and improvements to the website.



### NAGPRA Documentation

While her main job focuses on public archeology and education, Zabecki's archeological specialty is human remains analysis. All of the skeletal material that is subject to NAGPRA documentation is now analyzed by Zabecki and a short report on findings is written up for each collection and kept with the publication records. She also consults weekly with station archeologists, law enforcement, and others to differentiate human from faunal remains.

## Service Activities

### Teaching & Higher Education

- University of Arkansas, online course, Introduction to Biological Anthropology, Fall 2018 (30 students) & Spring 2019 (30 students).
- Arkansas State University Midsouth, online course, Cultural Anthropology, Fall 2018 (8 students) & Spring 2019 (8 students).

### Professional Service

- **Society for American Archaeology.** SAA Public Education Coordinator State Representative for Arkansas.
- **National Association for Interpretation.** Treasurer for NAI Region 6 (term ended January 2019).
- **Arkansas Humanities Council.** Board Member, R.E.A.C.H. Committee and Programs Committee (3-year term began July 2019).
- **Project Archaeology.** State Coordinator.

### Public Service & Outreach

- **State Parks.** Native foods talk at Petit Jean State Park (35); historic artifact identification program at Davidsonville (102); Archeological information station at Davidsonville during public day (59); local artifact identification programs at Devil's Den (300 people); park archeology talk and sandal workshop at Devil's Den State Park (12, combined).
- **Arkansas Game and Fish Commission:** Outdoor Enthusiast Day booth in Fort Smith for Survey/Society, with Marilyn Knapp (ARAS-CO) and Tim Mulvihill (ARAS-UAFS) (179).



- **Community Events.** Table at the Bella Vista Back 40 public day (30); talk for the Bella Vista Community Center on Northwest Arkansas Archeology (100); table at the Firefly Festival at the Botanical Garden of the Ozarks (200); table at the Fayetteville Farmers Market on two Saturdays, with Michelle Rathgaber (180, combined); Tahlequah Archeological Society talk on Native Foods (5); public talk in Lockesburg during the Training Program (15).
- **Libraries.** Bentonville Library rock art program (11) and family day (35); Fayetteville Library after school program on pottery reconstruction (19); Summer Reading 'Universe of Stories' American Indian star stories programs at Horatio and Lockesburg Libraries (25, combined).
- **Museums.** Table at Shiloh Museum History Resource Fair (47); Rogers Historical Museum field trip to Survey (11); talk on Northwest Arkansas Archeology at the museum (45) and family day at the museum (175); Amazeum family day, with Michelle Rathgaber and Marilyn Knapp (125); San Jose Tech Museum (while attending the annual meeting of the American Anthropological Association) technology in archeology table with other panel members (20); Spiro Mounds International Archeology Day event, with Michelle Rathgaber and Jared Pebworth (50).
- **University.** Table at University of Arkansas Department of Anthropology Open House with Jared Pebworth and George Sabo (60); hosted a UA Archeology class for a short tour (20).
- **Private citizens.** Correspondence about three times a month from web queries.
- **K-12.** Four school field trips (78, combined) to the Survey; one job shadow student; off-site Montessori talk plus garden project with multiple visits (30, plus 6–10 per additional visit); three STEM programs (250, combined); career day (91); three general class visits (95, combined); homeschool program at WRI (157, combined contacts).
- **Skype-a-Scientist.** 9 class 'visits' with 117 students in California, Virginia, Washington, and Arkansas.
- **Scouts.** Table at GirlFest in Little Rock with Deanna Holdcraft (55); Bear Scouts (Cub Scouts) visit to Survey with Laurel Lamb (21).
- **4H.** Visit to the Survey (19); programs with Hope Bragg during Open House at Training Program (34).

#### Service to the Arkansas Archeological Society

- **Executive Committee.** Zabecki serves as an ex officio member of the Executive Committee.
- **Archeology Month.** Promotion of archeology month events via online calendar maintenance, public television and morning news appearances, and radio interviews; table at Celebrate Archeology open house in Fayetteville.
- **Training Program.** Helped with registration and potluck; van driver; participated in excavation; outreach to community through library programs and public talk; radio interviews; taught one Beginners Orientation class.
- **Annual Meeting.** Helped produce video for John House's retirement; helped with registration, set up, and clean up; read Jeff Mitchem's paper in his absence; collected and counted ARF auction money.
- **Ko-ko-ci Chapter.** Attends and helps out at monthly meetings; created lab nights once a month for volunteers (between 6 and 8 each month, beginning April 2019) to wash, sort, and analyze artifacts in Fayetteville.
- **Central Arkansas Chapter.** Supplied program files and pottery reconstruction kits to Chapter for local outreach efforts.
- **Programs & Presentations.** Zabecki hosted a gourd workshop at an Arkansas River Valley Chapter meeting in Russellville (5) and gave a public talk to the Ark-Homa Chapter in Fort Smith (15).

#### Volunteer Hours

- Volunteers contributed 79 hours at community events, the annual Training Program, and lab nights.



## Partners in Preservation: Survey & Society

Many ARAS activities are in cooperation with the Arkansas Archeological Society (AAS), an educational organization for interested people of all ages and vocations. The Survey and the Society have a unique and productive relationship based upon common interests of professional and amateur archeologists to protect the archeological heritage of the state, to learn about Arkansas's past, and to present that knowledge to the public. The AAS elects a Board of Advisors who conduct yearly reviews of ARAS goals, accomplishments, and needs. AAS members provide proactive support for the ARAS mission of education, research, and service, and constitute a pool of skilled volunteers without whose help this mission would be much less efficiently carried out. To make the most of this energetic volunteer support, ARAS and AAS jointly manage a Training Program for amateur archeologists. It was the first such program in the country and has served as a model for archeological organizations in other states and around the world. ARAS employs a full-time staff member as liaison with the AAS to facilitate the many aspects of this longstanding relationship, and its benefits to Arkansas's citizens and to knowledge of the past.

### The Arkansas Archeological Society

Arkansas River Valley Chapter, Russellville  
Ark-Homa Chapter, Fort Smith  
Central Arkansas Chapter, Little Rock  
Central Mississippi Valley Chapter, Jonesboro  
Ko-ko-çi Chapter, Fayetteville  
Ouachita Chapter, Hot Springs  
Red River Chapter, Magnolia  
Three Rivers Chapter, Mountain Home  
Tunican Chapter, Monticello

### AAS Officers & Executive Committee, 2019

President: Hope Bragg, Monticello  
Vice Presidents: Jessica Cogburn, Fayetteville;  
Michelle Rathgaber, Fayetteville; Paul Knapp,  
Fayetteville; Sarah Shepard, Fayetteville  
Recording Secretary: Anthony Clay Newton,  
Magnolia  
Chair, Board of Advisors: Gary Knudsen, Russellville  
Editors: Glen Akridge, Fayetteville (Bulletin)  
& Deborah Sabo, Fayetteville (Newsletter)

2019 Training Program participants gather for a crew photo (from ARAS-SAU).



**M**arilyn Knapp became the Survey's research assistant in the role of liaison with the Arkansas Archeological Society beginning in July 2013. She has a B.A. degree in Anthropology from the University of Arkansas and previously worked in the office of the Vice Chancellor for Business Affairs on the UAF campus. She is a long-time member and past president of the Arkansas Archeological Society. Located at the coordinating office in Fayetteville, Knapp is responsible for keeping the Society membership database up to date, assisting the Society's officers, working on logistical arrangements for the summer Training Program, and acting as Field Secretary. Knapp also assists with preparations and logistics for the Society's Annual Meeting. She coordinates many other programs and activities jointly operated by the Survey and Society, such as Archeology Month and other outreach events. She also maintains and manages Society records and archives, coordinates communications among Executive Committee members and arranges meetings, helps with social media and other public education technology, attends public events, manages distribution of the Society's newsletter, coordinates communications about field and lab projects with volunteers, and many other activities.

#### Activities at the UAF

- Knapp disseminates information about archeological learning opportunities and events to the general campus population and helps keep the ARAS coordinating office in touch with the Anthropology Department.

#### Public Service & Outreach

- Knapp assists the Fayetteville Ko-ko-ci Chapter of the Arkansas Archeological Society on a regular basis with planning and set-up for monthly meetings, publicity and media contacts, flyers and posters, moderating the Facebook group, and creating Facebook events for chapter meetings.
- Knapp planned and coordinated two local events for Archeology Month: the March Ko-ko-ci Chapter meeting, and "Celebrate Archeology."
- Ko-ko-ci Chapter's special meeting for Archeology Month was at the Washington County Extension Office, with over 60 in attendance. Dr. Ben Vining presented "Archeological Perspectives on Adapting to Climate Change: Two Examples from Ancient Peru." Knapp also arranged for Mayor Lioneld Jordan to attend and to present a proclamation declaring March as Archeology Month in Fayetteville.
- Celebrate Archeology Day, sponsored by the ARAS coordinating office, had booths and demonstrations about archeological methods, artifacts, and interpretations. The event was combined with a UA Museum Collections Open House, and welcomed over 440 visitors.
- Melissa Zabecki, Educational Outreach Coordinator, and Marilyn Knapp were interviewed on two radio stations about Archeology Month events held in the NW Arkansas region. They recorded two Open Mic sessions that were aired throughout March on Fayetteville Public Television. They also appeared on a morning news show and on an afternoon talk show on local television. Each of the local events had their own Facebook event pages and professional radio advertising through the locally owned KXNA station, which aired over 120 spots throughout March.
- Knapp and Zabecki (along with Tim Mulvihill, station archeologist for ARAS-UAFS) attended the Outdoor Enthusiasts Fair in Fort Smith and had 180 visitors at their booth, and Holcomb Science Night in Fayetteville, where 40 students and parents stopped by their table. At both events, information on Arkansas archeology, the Survey, and the Society was provided.



Marilyn Knapp at Training Program headquarters (UA-Cossatot) during summer 2019. Photo by Rachel Tebbetts (ARAS).

### Service to the Arkansas Archeological Society (AAS)

- **General Duties.** Knapp maintains the membership records, deposits funds, manages mailing of the newsletter, keeps brochures updated and stocked, and acts as general liaison between Society members, officers, and Survey staff.
- **Chapters.** Knapp conducted annual Chapter compliance updates and facilitated Ko-ko-ci Chapter meetings and provided assistance to all Chapters as needed.
- **Executive Committee.** Knapp attends all meetings of the Society's Executive Committee as Liaison, assists the President in developing agenda items, maintains contact information, helps disseminate information to Committee members, and sets up the teleconference equipment.
- **Training Program.** Knapp did much of the logistical planning and administered the Training Program, including registration of participants, assisting with scheduling, working with the University of Arkansas – Cossatot staff, making arrangements for seminars, labs, and campground needs, evening talks, social activities, set up and break down, and all other activities as needed. She also worked to promote the program via social media, including a Facebook event page that reached over 1,800 users.



Left to right: Society President Hope Bragg, State Archeologist Ann Early, Governor Asa Hutchinson, and Survey Director George Sabo III at the State Capitol Building. The group of archeologists presented the Governor with a framed Archeology Month poster and received the Governor's Proclamation of March 2019 as Arkansas Archeology Month. Photo supplied by the Governor's office.

### AAS Board of Advisors

A Board of Advisors consisting of three members for each Survey research station is elected by the Society membership at large. BOA members meet yearly with their respective station archeologists, discuss the functions and needs of the research stations, and help ensure that the cooperative relationship between Survey and Society moves forward productively. Society member Gary Knudsen is Chair of the BOA Committee.

### AAS Chapters

The Arkansas Archeological Society's total membership now averages around 500. Chapters across the state work closely with the Survey archeologists in their areas. Chapters have monthly meetings with a guest speaker or other program that is open to the public. Survey archeologists are frequent presenters and often also serve as newsletter editors and program organizers. Survey research stations host volunteer work sessions in the laboratories, and Society members participate in Survey field and lab projects throughout the year.

### AAS Volunteers

Many ARAS research projects in the field and laboratory depend on volunteers, mostly Society members, plus students and others. Altogether, **volunteers contributed 12,337 hours** to archeological projects across Arkansas in 2018–2019, including 3,976 hours at the Training Program. This citizen participation demonstrates the level of interest and support for archeology.

### AAS Archeological Research Fund

The Society began awarding grants from its Archeological Research Fund in 1989. The fund is composed of donations and money obtained in fund-raising raffles. Interest in the account is distributed as grants to projects in which Society members have participated.

This year's grant requests totaled \$4,075 and ARF had \$3,200 available. The executive committee authorized some additional funds and all requests were granted. Grant recipients, announced at the 2018 annual meeting in Fayetteville, were Jodi Barnes (ARAS-UAM), \$1,400 for analysis of faunal



remains at Brownlee House and Lakeport Plantation; Carl Drexler and Fiona Taylor (ARAS-SAU), \$780 for radiocarbon dating at Holman Springs 3SV29; Mary Beth Trubitt (ARAS-HSU), \$595 for radiocarbon dating on materials from the Dragover site 3MN298; and Breanna Wilbanks (AAS), \$1,300 for a M.A. thesis research trip to North Carolina for records on the Sisters of Mercy mission site in Fort Smith.

### AAS Annual Meeting

The 2018 meeting was held September 21–23 in Fayetteville. There were 95 registrants. Marilyn Knapp was the Program and Arrangements Chair. Of the 13 scheduled papers, 11 were presented or co-presented by ARAS staff. The keynote speaker, Dr. William Lees (University of West Florida, Florida Public Archaeology Network), spoke on “The Parallel Yet Converging Lives of Public and Conflict Archaeology.” Deborah Sabo (ARAS) designed and managed printing of the meeting program.

### AAS Publications

The Society has two publications, a bimonthly newsletter, *Field Notes*, and an annual bulletin, *The Arkansas Archeologist*. Articles for the bulletin are subject to external peer review. Deborah Sabo (ARAS Research Assistant and publications editor) is the editor of *Field Notes*. The newsletter prints short articles about archeological research in Arkansas, information about the Society’s statewide activities and business matters, announcements, obituaries, and occasional book reviews. Society member (and past President) Glen Akridge of Fayetteville is editor of *The Arkansas Archeologist*. Volume 57 was distributed to 2018 members in 2019. *The Arkansas Archeologist* is abstracted and indexed by ANTHROPOLOGICAL LITERATURE and EBSCO PUBLISHING, INC.

Several Society Chapters distribute their own newsletters (primarily electronic) with regional news and announcements, plus there is a statewide email list to notify members when volunteers are needed for projects.

State Archeologist Ann Early gives an Archeology Month talk in Hot Springs sponsored by the Ouachita Chapter of the Arkansas Archeological Society. Photo by Mary Beth Trubitt (T032019).



### Archeology Month – March 2019

Archeology Month is a multifaceted public education concept to promote awareness and appreciation of Arkansas archeology. The theme each year is *Celebrate Archeology* which allows for flexibility in programming. Marilyn Knapp sends out a Call for Programs, creates a printed events brochure, and works with the poster volunteer(s) on design and printing. Two FPTV Open Mic segments aired for local events, plus an extended interview about Archeology Month on local NPR affiliate stations. Marilyn manages a mailing list of the free Archeology Month materials and supplies updated information for the web page.

The poster, supported by the Bill Jordan Public Education Fund of the Society, was designed and created this year by Rachel Tebbetts, Graphic Design Artist (ARAS) and featured a composite image illustrating how Arkansas archeologists are using 3D technology. An accompanying educational article by Teka McGlothlin and Sarah Shepard on the ARAS website provided further details.

Some 2,925 people attended the 57 scheduled programs at 36 venues across the state, including five museums, six state parks, and other locations such as libraries and nature centers. Events included illustrated talks, exhibits, tours, artifact identification programs, and hands-on activities. Some highlights were “Behind the Big House,” which explored extant slave dwellings and the lives of enslaved people; “Archeology Day” in Fayetteville featuring flintknapping, basketry/weaving, animal bone, 3D technology, and other demonstrations; the Caddo Conference, featuring papers on Caddo archeology and culture with participation of Caddo artisans, singers, and dancers; and the Territorial Arkansas Living History Festival at Davidsonville Historic State Park. Examples of other activities where ARAS staff worked with AAS volunteers include an investigation of a slave cabin to learn about the lives of enslaved people and a booth at the 155th Anniversary Re-enactment of the Battle of Prairie D’Ane. There were a variety of other talks, demonstrations, and outreach events.

### “Society Dig”: The ARAS/AAS Training Program

This program is co-managed with the Arkansas Archeological Survey. Every year in June a two-week field school is conducted at an archeological site. The site is chosen according to criteria of ongoing research interests within ARAS, educational potential, and logistical needs. The program requires extensive preparation by Survey staff, along with volunteer Society members, beginning months in advance. Field and laboratory work are supervised by Survey staff, other professionals, and experienced Society members. Survey archeologists and other qualified individuals also teach a series of five-day seminars on various archeological topics during the Training Program. The Survey stations devote years to analyzing the material collected during the summer “Digs,” usually with help from Society volunteers. Training Program participants must be members of the Arkansas Archeological Society. Ages eight and up are welcome, but children under 18 must be accompanied by a registered adult participant. The Training Program is our most visible outreach activity and has been widely imitated throughout the United States.

### The 2019 Training Program: Holman Springs/Lockesburg Mounds

#### Fieldwork and Lab Work

The Training Program is a collaboration between the Arkansas Archeological Survey and the Arkansas Archeological Society. The 2019 program built on work that was done at two previous Training Programs at the Holman Springs site (3SV29) in the 1980s. It was a great opportunity for volunteer members of the Society to move this older project forward, as there was unfinished work to be done with the excavated collections. Participants also contributed to some of the first systematic archeological work on a site known as Lockesburg Mounds (3SV48) that had not been researched by professionals, yet is possibly one of the most important sites in the region.

Sixty Society members registered for the June Training Program, along with 18 ARAS staff (Jodi Barnes, Emily Beahm, Carl Drexler, Ann Early, Katy Gregory, Elizabeth Horton, Marilyn Knapp, Jeff Mitchem, Tim Mulvihill, Larry Porter, Michelle Rathgaber, George Sabo, Robert Scott, Sarah Shepard, Sarah Stuckey, Fiona Taylor, Mary Beth Trubitt, and Mel Zabecki). Director of the project was Dr. Carl Drexler (ARAS-SAU).

Holman Springs is a large Caddo saltworks in far western Sevier County. The Society did initial tests there in 1984, then held Training Programs at the site in 1985 and 1986. The Holman Springs site used to have two mounds on it, composed almost entirely of broken pottery, which yielded thousands and thousands of pottery sherds that had never been analyzed. A major focus of this year’s Training Program was to process the 1980s collections, sorting plain from decorated sherds, and to develop the analytical databases that will be used to finish the ceramics analysis. Approximately 90,000 pottery sherds were processed by Society volunteers!

Fieldwork at Lockesburg Mounds focused on the large mound that had been very heavily damaged by artifact hunters back in the 1980s. The plan for this site was to (1) document

the extent of the destruction and (2) cut profiles in the damaged sections to understand the construction sequence of the mound. The data we obtained gives us information about chronology, site structure, and its connections with other sites in the region.

#### Training & Seminars

Training Program participants work under supervision of professionals. What they learn helps prepare them for additional volunteering at lab and field projects throughout the year. Interested participants may also enroll in classroom and “field



Mary Beth Trubitt (ARAS-HSU) teaching the Caddo Ceramics seminar to Training Program participants in the lab. Photo by Rachel Tebbetts (ARAS).



school” seminars for more intensive learning. Newcomers are encouraged, but not required, to take the “basic” seminars that provide an introduction to fieldwork and laboratory processing. All newcomers must attend an in-depth beginner’s orientation class. Seminars taught at the “dig” this year were Basic Excavation (taught by Emily Beahm), Basic Lab (taught by Katy Gregory), Caddo Ceramics (taught by Mary Beth Trubitt), Mapping (taught by Tim Mulvihill), and Paleoethnobotany (taught by Elizabeth Horton). A teachers’ workshop was conducted by Mel Zabecki, which introduced teachers from surrounding communities to archeology and ways that they can incorporate it in their classrooms.

The University of Arkansas – Cossatot provided facilities for classrooms, the lab, evening programs, and the Training Program headquarters. Their cooperation and support were invaluable to making this year’s program a reality. Visitors had an opportunity to tour the lab on a Saturday mid-way through the “dig” during a scheduled open house. The community was also invited to evening programs where speakers shared information on local archeological topics.

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At right: teacher workshop participants sift dirt at the Lockesburg Mound excavation site. Below: Society members work on the excavation trench on the side of Mound A at Lockesburg to learn about stratigraphy, how the mound was built, and the extent of past damage by vandals. Photos by Rachel Tebbetts (ARAS).



### Administrative & Accounting Staff 2018–2019

#### **Assistant Director for Fiscal Affairs**

**Rachel Whitman**

**Rachel Whitman** has been with the Survey since 2015 as Assistant Director for Fiscal Affairs. In this role, she works with the Director on annual budget preparation and is responsible for day-to-day management of all fiscal matters. As the chief fiscal officer, she is responsible for all financial reports submitted to the UA System Office, Arkansas Department of Higher Education, and University of Arkansas-Fayetteville Division of Finance and Administration. She administers the financial portions of Survey grants, travel, and purchasing. She also serves as the Arkansas Archeological Survey building executive. Rachel provides fiscal affairs training to the employees of the Survey at the annual staff meeting, such as how to properly fill out required forms, and information about changing university policies and procedures. Rachel currently serves as Treasurer on the board of the Arkansas Association of College and University Business Officers (AACUBO) and regularly attends conferences and meetings of the organization. She received her Master's in Business Administration from Southern Arkansas University in December 2016.

#### **Fiscal Support Specialist**

**Nancy Smith**

**Nancy Smith** has been with the Survey since November 2014, initially as an Administrative Assistant. She moved to her current position as Fiscal Support Specialist in November 2017. Nancy works hand in hand with Rachel Whitman, performing a variety of fiscal related tasks such as hourly and work-study payroll reporting, leave reporting, vehicle fleet management and reporting, capital property accounting, travel processing, and procurement. She processes accounts payable invoices of all Purchase Orders and Purchase Card transactions for all the ARAS research stations and the coordinating office. Registrations for 16 assigned motor pool vehicles and their records are maintained and reported to the university and state. Nancy assists in the process of capital property accounting, ensuring property is tagged and accounted for as required by the university. When the equipment is no longer of use to the Survey she initiates the process to surplus and dispose of the equipment within the university system operations.

#### **Administrative Specialist II**

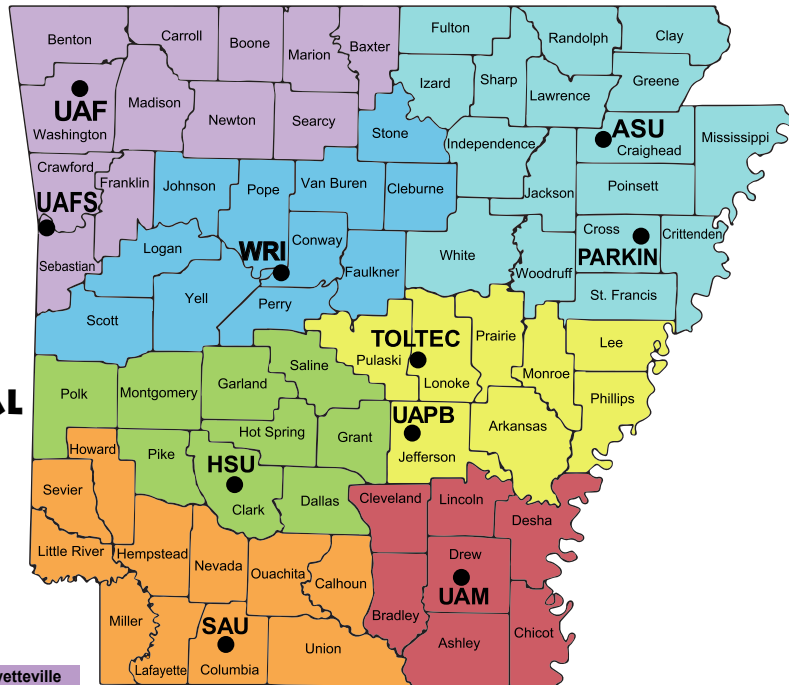
**Laura Kowalski**

**Laura Kowalski** has been with the Survey since May of 2019 as an Administrative Specialist II. She has educational degrees in Business Administration and Veterinary Science Technology. She comes to the Survey from New York with a background in Corporate Retail and Animal Welfare. In her role, Laura is responsible for duties such as scanning and uploading records for the AMASDA database, ordering supplies, and greeting and directing members of the public to the appropriate Survey personnel.



## How to Contact the Arkansas Archeological Survey

<http://archeology.uark.edu>



### UAF: University of Arkansas, Fayetteville

Dr. Jessica Kowalski, Station Archeologist  
2475 N. Hatch, Fayetteville, AR 72704  
(479) 575-3556, [jkowalsk@uark.edu](mailto:jkowalsk@uark.edu)  
Jared Pebworth, Station Assistant  
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Mike Evans, Station Assistant  
Email: [mmevans@uark.edu](mailto:mmevans@uark.edu)

### UAFS: University of Arkansas, Fort Smith

Tim Mulvihill, Station Archeologist  
Email: [tim.mulvihill@uark.edu](mailto:tim.mulvihill@uark.edu)  
UA Fort Smith Research Station  
Echoes Building #204  
5210 Grand Avenue, P.O. Box 3649  
Fort Smith, AR 72913-3649  
(479) 788-7812

### Toltec Mounds Archeological State Park

Dr. Elizabeth Horton, Station Archeologist  
Email: [ethorton@uark.edu](mailto:ethorton@uark.edu)  
490 Toltec Mounds Road  
Scott, AR 72142-9212  
(501) 961-2420  
Katherine Gregory, Station Assistant  
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### UAPB: University of Arkansas, Pine Bluff

Dr. Andrew Beaupre, Station Archeologist  
Email: [abeaupre@uark.edu](mailto:abeaupre@uark.edu)  
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106-C Rust Tech - 1200 University Ave.  
Pine Bluff, AR 71601  
(870) 535-4509  
Dr. Robert Scott, Station Assistant  
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### University of Arkansas-WRI

Dr. Emily Beahm, Station Archeologist  
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Petit Jean Mountain  
1 Rockefeller Drive  
Morrliton, AR 72110  
(501) 727-6250 or 1-866-972-7778  
Larry Porter, Station Assistant Email:  
[lporter@uark.edu](mailto:lporter@uark.edu)

### ASU: Arkansas State University, Jonesboro

Dr. Juliet Morrow, Station Archeologist  
Email: [jemorro@uark.edu](mailto:jemorro@uark.edu)  
ASU-Jonesboro  
P.O. Box 820  
320 University Loop West Circle  
ASU Museum, Rm 168  
State University, AR 72467  
(870) 972-2071  
Sarah Stuckey, Station Assistant  
Email: [sdstucke@uark.edu](mailto:sdstucke@uark.edu)

### Parkin Archeological State Park

Dr. Jeffrey M. Mitchem, Station Archeologist  
Email: [jmitchem1@yahoo.com](mailto:jmitchem1@yahoo.com)  
P.O. Box 241  
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September 2019

For the ARAS Director, State Archeologist, and  
all Coordinating Office units (Registrar, CSP,  
SRP, Society Liaison, Educational Coordinator,  
Publications, Graphic Artist):

Arkansas Archeological Survey  
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Fayetteville, AR 72704  
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### Appendix 1. Reports & Publications by ARAS Staff during 2018–2019\*

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ARAS Staff

2019 Jamie Chad Brandon, 1971–2018. *Field Notes, Newsletter of the Arkansas Archeological Society* 406:11–12.

Barnes, Jodi (editor)

2018 Thematic Issue, Intimate Archaeologies of World War II. *Historical Archaeology* 52(3).

Barnes, Jodi

2018 “Madonna Del Prigioniero Prega Per Noi”: An Intimate Archaeology of a World War II Italian Prisoner of War Camp. *Historical Archaeology* 52(3):569–571.

2018 Intimate Archaeologies of World War II: An Introduction. *Historical Archaeology* 52(3):539–543.

2018 Nails, Tacks, and Hinges: The Archeology of Construction of Camp Monticello, a World War II Prisoner of War Camp. *Southeastern Archaeology* 37(3):169–189.

2018 Sulphur Springs Site (3AS1/5). Letter report submitted to F&W Forestry. Arkansas Archeological Survey, UAM Research Station, Monticello.

2018 Archeology of Women’s Lives at the Brownlee House. Arkansas Archeological Survey (website), <https://archeology.uark.edu/womens-lives-brownlee-house/>.

Barnes, Jodi, and Don Bragg

2019 Partnering for Forest and Cultural Resource Management: Lessons from the Sulphur Springs Site (3AS1/5). *Field Notes, Newsletter of the Arkansas Archeological Society* 408:3–11.

Bottoms, Bryan, Adriana Potra, **John R. Samuelsen**, and Stephen Schutter

2019 Geochemical Investigations of the Woodford-Chattanooga and Fayetteville Shales: Implications for Genesis of the Mississippi Valley-type Zn-Pb Ores in the Southern Ozark Region and Hydrocarbon Exploration. *American Association of Petroleum Geologists Bulletin* 103:1745–1768. doi:10.1306/12171818101.

Cande, Kathleen

2018 Jackfield Ware Teapot Handle – July Artifact of the Month. Arkansas Archeological Survey (website), <https://archeology.uark.edu/artifacts/jackfieldware-teapot-handle/>.

2019 A Leather Pouch from Historic Davidsonville and Its Contents – March Artifact of the Month. Arkansas Archeological Survey (website), <https://archeology.uark.edu/artifacts/davidsonville-leather-pouch/>.

Cande, Kathleen, and Skip Stewart-Abernathy

2018 Ashcroft Brand Steam Pressure Gauge – September Artifact of the Month. Arkansas Archeological Survey (website), <https://archeology.uark.edu/artifacts/ashcroftpressuregauge/>.

Drexler, Carl G.

2019 Jayhawkers, Bushwhackers, and Lay-Out Gangs: Archaeology and Asymmetric Warfare in the Trans-Mississippi Confederate Home Front during the American Civil War. In *Partisans, Guerillas, and Irregulars: Historical Archaeology of Asymmetric Warfare*, edited by Steven D. Smith and Clarence R. Geier, pp. 127–139. University of Alabama Press, Tuscaloosa.

Drexler, Carl G., and Fiona M. Taylor

2019 Renewing Research on Holman Springs (3SV29), a Caddo Saltworks in Western Arkansas. *Caddo Archeology Journal* 29:251–254.

Early, Ann M.

2019 Quartz Crystal Clovis Point – June Artifact of the Month. Arkansas Archeological Survey (website), <https://archeology.uark.edu/artifacts/quartzclovis/>.

Horton, Elizabeth T.

2018 “Walk a Mile in Their Shoes” – A Woven Shoe from the Ozark Plateau – June Artifact of the Month. Arkansas Archeological Survey (website), <https://archeology.uark.edu/artifacts/wovenshoe/>.

2018 The Toltec Mounds Owl Effigy – December Artifact of the Month. Arkansas Archeological Survey (website), <https://archeology.uark.edu/artifacts/owl-effigy/>.

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\* ARAS authors are shown in boldface for works coauthored with non-ARAS colleagues



House, John

2018 A Stone Figurine from Jefferson County – August Artifact of the Month. Arkansas Archeological Survey (website), <https://archeology.uark.edu/artifacts/stone-figurine/>.

2019 Green Novaculite Carved Pendant – February Artifact of the Month. Arkansas Archeological Survey (website), <https://archeology.uark.edu/artifacts/pendant/>.

Jeter, Marvin D., Robert J. Scott, and John H. House

2020 Possible Cahokian Contacts in Eastern and Southeastern Arkansas. In *Cahokia in Context: Hegemony and Diaspora*, edited by Charles H. McNutt and Ryan Michael Parish. University of Florida Press, Gainesville. (available for pre-order)

McGlothlin, Teka

2019 Cherokee Syllabary Type – January Artifact of the Month. Arkansas Archeological Survey (website), <https://archeology.uark.edu/artifacts/cherokee-syllabary-type/>.

McGlothlin, Teka, and Sarah Shepard

2019 Advancing Archeology with 3D Technology. Arkansas Archeological Survey (website), <https://archeology.uark.edu/3d/>.

Meyers, Maureen S., **Elizabeth T. Horton**, Edmond A. Boudreaux, Stephen B. Carmody, Alice P. Wright, and Victoria G. Dekle

2018 The Context and Consequences of Sexual Harassment in Southeastern Archaeology. *Advances in Archaeological Practice* 6(4):275–287. <https://doi.org/10.1017/aap.2018.23>.

Mitchem, Jeff, and Mel Zabecki

2018 Tiny Bead, Big Story – November Artifact of the Month. Arkansas Archeological Survey (website), <http://archeology.uark.edu/artifacts/parkinchevronbead/>.

Morrow, Juliet E.

2018 The Sloan Point from 3GE94 in NE Arkansas – October Artifact of the Month. Arkansas Archeological Survey (website) <https://archeology.uark.edu/artifacts/sloan-point/>.

2019 On Fluted Point Morphometrics, Cladistics, and the Origins of the Clovis Culture. *PaleoAmerica* 5(2):191–205.

Morrow, Juliet E., Sarah D. Stuckey, and Brandy Dacus

2018 Points Formerly Typed as Sedgwick “PFTAS”: A New Point Type for Northeast Arkansas. *Field Notes, Newsletter of the Arkansas Archeological Society* 404:6–11.

Pebworth, Jared, and Michelle Rathgaber

2019 An Interesting Bowl from Northeast Arkansas. *Field Notes, Newsletter of the Arkansas Archeological Society* 409:3–5.

Sabo, Deborah

2019 Review of “A Little History of Archaeology,” by Brian Fagan. *Field Notes, Newsletter of the Arkansas Archeological Society* 407:10.

Sabo III, George

2018 Review of *The Caddos and their Ancestors: Archaeology and the Native People of Northwest Louisiana*, by Jeffrey S. Girard. *Arkansas Historical Quarterly*, Vol. LXXVII, No. 4 (Winter 2018), pp. 398–400.

2018 Looking Into Things. *Field Notes, Newsletter of the Arkansas Archeological Society* 405:11–13.

2018 Looking Into Things. Arkansas Archeological Survey (website), <https://archeology.uark.edu/learn-discover/current-research/micro-ct/>.

2019 Resting Warrior Figurine. Arkansas Archeological Survey (website), <https://archeology.uark.edu/restingwarrior3d/>.

Sabo, George III, and Leslie C. Stewart-Abernathy

2019 1893 Columbia Exposition Badge Frame – May Artifact of the Month. Arkansas Archeological Survey (website), <https://archeology.uark.edu/artifacts/columbiaexpobadgeframe/>.

Shapiro, Gary

2019 Rivers as Centers, Rivers as Boundaries: Florida Variations on a Mississippian Theme. (1986 paper presented at SAA, edited for publication by Mark Williams and Jeffrey M. Mitchem.) *The Florida Anthropologist* 71(1):7–12.

Simbo, Christophe W., Adriana Potra, and **John R. Samuelsen**

2019 A Geochemical Evaluation of the Genetic Relationship between Ouachita Mountains Paleozoic Rocks and the Mississippi Valley-Type Mineralization in the Southern Ozark Region, USA. *Ore Geology Reviews* 112:103029. doi:10.1016/j.oregeo-rev.2019.103029.

Trubitt, Mary Beth

- 2018 In Memory of Darrell Van Smith (1938–2018). *Field Notes, Newsletter of the Arkansas Archeological Society* 403:11.
- 2018 Archaeology in Fairmont City: Results of the West Cahokia Project. *Illinois Archaeology* 30:167–187.
- 2018 The Prehistory of the Clark County Region: Caddo Indians and their Ancestors. *Clark County Historical Journal* 2018:9–21.
- 2019 Is Cooper Boneware the Earliest Pottery in the Trans-Mississippi South? *Field Notes, Newsletter of the Arkansas Archeological Society* 406:3–8.
- 2019 Caddo Pottery from Eight Sites in the Middle Ouachita River Valley. *Caddo Archeology Journal* 29:5–194.
- 2019 A Preliminary Comparison of Two Caddo Mound Sites in Southwest Arkansas. *Caddo Archeology Journal* 29:195–204.
- 2019 Archiving our History, Publishing Results: Current Research at the Arkansas Archeological Survey's Henderson State University Research Station. *Caddo Archeology Journal* 29:258–260.
- 2019 Book Review of *The Caddos and Their Ancestors: Archaeology and the Native People of Northwest Louisiana* by J. S. Girard. *The Journal of Southern History* 85(2):409–410.

Trubitt, Mary Beth, and Ann Early

- 2019 A Salt Processing Pan – April Artifact of the Month. Arkansas Archeological Survey (website), <https://archeology.uark.edu/artifacts/salt-processing-pan/>.

Tuttle, M. P., L. W. Wolf, K. Dyer-Williams, P. Mayne, R. H. Lafferty, K. Hess, M. E. Starr, M. Haynes, **J. Morrow, R. Scott**, T. Busch, P. Villamor, J. Dunahue, **M. Rathgaber**, K. Tucker, C. Karrenbauer, and C. Moseley

- 2019 Paleoliquefaction Studies in Moderate Seismicity Regions with a History of Large Events. Report prepared for the Office of Nuclear Regulatory Research, US-NRC, Washington, DC (NUREG/CR-7257).

Whayne, Jeannie M., Thomas A. DeBlack, **George Sabo III**, and Morris S. Arnold

- 2019 *Arkansas: A Concise History*. University of Arkansas Press, Fayetteville.

### Appendix 2. Papers, Symposia & Workshops by ARAS Staff during 2018–2019\*

Barnes, Jodi

- 2018 Tonics, Bitters, and Other Curatives: An Archeology of Health at Hollywood Plantation. Paper presented at the annual meeting of the Arkansas Archeological Society, Fayetteville AR.
- 2019 The Archaeology of Reproductive Oppression at Hollywood Plantation. Paper presented at the 117th annual meeting of the American Anthropological Association, San Jose CA.
- 2019 Symposium co-organizer, with Stacey L. Camp, for “Health and Inequality in the Archaeological Record,” annual meeting of the Society for Historical Archaeology, St. Charles MO.
- 2019 Tonics, Bitters, and Other Curatives: An Archaeology of Health at Hollywood Plantation. Paper presented at the annual meeting of the Society for Historical Archaeology, St. Charles MO.
- 2019 Panel co-organizer, with Ayana Flewellen, for “Black Lives Matter: The Fight Against Intersectional Operations of Oppression within Historical Archaeology,” annual meeting of the Society for Historical Archaeology, St. Charles MO.

**Barnes, Jodi**, and Rachel Patton

- 2019 Behind the Big House: The Challenges of Interpreting Race and Slavery through Living History. Paper presented at the 2019 conference of the Arkansas Living History Association and Association for Living History, Farm, and Agricultural Museums, Little Rock AR.
- 2019 Behind the Big House. Historic Arkansas Museum, Little Rock AR.

Brandon, Jamie

- 2018 Preliminary Results from the 2018 Excavations at Pea Ridge National Military Park. Paper presented at the annual meeting of the Arkansas Archeological Society, Fayetteville AR.

Cande, Kathleen H.

- 2018 Living Among the Dead: Documenting Cemeteries in Arkansas. Paper presented at the Brown Bag Lunch Series, Old Statehouse Museum, Little Rock AR.

\* ARAS authors are shown in boldface for works coauthored with non-ARAS colleagues



- 2019 Davidsonville, Arkansas: Frontier Settlement or Mercantile Powerhouse? Paper presented at the Brown Bag Lunch Series, Old Statehouse Museum, Little Rock AR.
- Dacus, Brandy A., Juliet E. Morrow, and Sarah D. Stuckey
- 2018 The Graddy Site (3CY258): A Mississippi Period Village Site in Clay County, Arkansas. Paper presented at the annual meeting of the Arkansas Archeological Society, Fayetteville AR.
- Drain, L., C. Huneycutt, T. Slattery, and **M. Zabecki**
- 2019 Archeology Adventures in Arkansas. Paper presented at the annual A.G.A.T.E. Conference, Little Rock AR.
- Drexler, Carl G.
- 2018 Excavating KOCOA: The Past, Present, and Future of American Conflict Archaeology's Favorite Tool. Paper presented at the Fields of Conflict Conference, Foxwoods CT.
- 2018 Beep, BeEp, BeEEP, BEEEEEP!!! Battlefield Archaeology and the Camden Expedition of 1864. Paper presented at the 17th Annual South Central Historical Archaeology Conference, Arkadelphia AR.
- 2019 Dissecting the Leviathan: Living History, Memory, and the Civil War in Modern America. Paper presented at the 2019 conference of the Arkansas Living History Association and Association for Living History, Farm, and Agricultural Museums, Little Rock AR.
- 2019 Variability in Caddo Saltmaking, 1000–1700 AD. Paper presented at the 2019 conference of the Louisiana Archeological Society, Shreveport LA.
- Drexler, Carl G., and Fiona M. Taylor
- 2018 Fog of War: The Archeology of the Hale Tract of the Battlefield of Prairie D'Ane. Paper presented at the annual meeting of the Arkansas Archeological Society, Fayetteville AR.
- 2019 Lost in the Little River Region: Preliminary Notes on Lockesburg Mounds. Paper presented at the 61st Caddo Conference, Conway AR.
- Evans, Mike, and Jared Pebworth
- 2019 Experimental Archeology: The Replication of Prehistoric Tools and Weapons for Research and Public Education. Presented at the Searcy County Historical Society.
- Homa, D., J. Kantner, M. McCoy, S. Miller, M. Searcy, and **M. Zabecki**
- 2018 Anthropologies and the Environment: Technology as Outreach in Education. Marcie Venter, organizer. Panel discussion at the 117th annual meeting of the American Anthropological Association, San Jose CA.
- Horton, Elizabeth T.**, Maureen Meyers, Edmond A. Boudreaux III, Stephen Carmody, Alice Wright, and Victoria Dekle
- 2018 What Happens in the Field? Results of the SEAC Sexual Harassment Survey. Plenary Session, 75th Southeastern Archaeological Conference, Augusta GA.
- Lockhart, Jami J.
- 2018 Updating Our Archeological Site Maps. Paper presented at the annual meeting of the Arkansas Archeological Society, Fayetteville AR.
- 2019 Updating Maps for Caddo Sites in Arkansas. Paper presented at the 61st Caddo Conference, Conway AR.
- Lockhart, Jami J., and Timothy S. Mulvihill
- 2019 Crossing the Mississippi: A Landscape of First Encounters. Paper presented at the 84th annual meeting of the Society for American Archaeology, Albuquerque NM.
- Mitchem, Jeffrey M.
- 2018 On Nueva Cadiz Beads. Paper presented at the 75th Southeastern Archaeological Conference, Augusta GA.
- 2019 Fertilizing the Fields at the Parkin Site in Northeast Arkansas. Paper presented at the annual meeting of the Mississippi Archaeological Association, Oxford MS.
- 2019 Two Archaeological Snapshots of the Hernando de Soto Expedition. Paper presented at the 71st annual meeting of the Florida Anthropological Society, Crystal River FL.
- Mitchem, Jeffrey M.**, and Jessica Fleming Crawford
- 2018 Preserving Sites in Arkansas for 37 Years and Counting. Paper presented at the annual meeting of the Arkansas Archeological Society, Fayetteville AR.

**Morrow, Juliet E.**, Randel T. Cox, and **Sarah D. Stuckey**

2018 Paleoseismology at Old Town Ridge. Paper presented at the annual meeting of the Arkansas Archeological Society, Fayetteville AR.

2018 Paleoseismology at Old Town Ridge (3CG41). Poster presentation in invited session “Innovation in Public Archeology” at the 75th Southeastern Archaeological Conference, Augusta GA.

2019 Paleoseismology at Old Town Ridge. Paper presented at the 84th annual meeting of the Society for American Archeology, Albuquerque NM.

Mulvihill, Timothy

2018 Update on Archeological Research at the Drennen-Scott and Willhaf Houses, Van Buren, Arkansas. Paper presented at the annual meeting of the Arkansas Archeological Society, Fayetteville AR.

**Mulvihill, Tim, George Sabo III, Jami J. Lockhart**, Jessica Crawford, and **Larry Porter**

2019 The Preservation of Cavanaugh Mound 3SB3. Poster presented at the 61st Caddo Conference, Conway AR.

Potra, Adriana, Laura Ruhl, **John R. Samuelsen**, and J. Dodd

2018 Legacy lead from past mining activity and gasoline additives: evidence from lead isotopes and trace element geochemical studies in the Arkansas River and White River basins, southern Ozark Region. Paper presented at the Goldschmidt Conference, Boston MA.

Roades, Sean, **Juliet Morrow**, and Christopher Gillam

2019 After the Ice Age in the Ozarks. Paper presented at the 84th annual meeting of the Society for American Archaeology, Albuquerque NM.

Sabo, George III

2019 The Archeology of Story-Telling at the Spiro Ceremonial Center. Paper presented at the 61st Caddo Conference, Conway AR.

Scott, Robert J.

2018 The Greens Island Site (3BR1): A Multicomponent Mound Site in Southern Bradley County. Paper presented at the annual meeting of the Arkansas Archeological Society, Fayetteville AR.

Simbo, Christophe, Adriana Potra, and **John R. Samuelsen**

2019 The Paleozoic Sedimentary Rocks of the Ouachita Mountains and Ozark Region and their Genetic Relationship to the Mississippi Valley-Type Mineralization in the Southern Ozark Region: Insights from Radiogenic Pb Isotope and Trace Element Studies. Paper presented at the Prospectors & Developers Association of Canada Conference, Toronto.

Smallwood, Ashley, Tom Jennings, Charlotte Pevny, and **Juliet Morrow**

2019 Explaining Shifts in Dalton Paleoindian Adaptation at the End of the Pleistocene through Usewear and Technological Analyses. Poster presented at the 84th annual meeting of the Society for American Archaeology, Albuquerque NM.

Taylor, Fiona M., and Carl G. Drexler

2018 Diving into the Salt Marsh: Analyzing Holman Springs (3SV29), A Caddo Salt-Processing Site. Paper presented at the annual meeting of the Arkansas Archeological Society, Fayetteville AR.

2019 An Update on the Holman Springs Site: Past, Present, and Future Research. Paper presented at the 61st Caddo Conference, Conway AR.

Trubitt, Mary Beth

2018 A Stratified Sequence of Projectile Points from the Jones Mill Site (3HS28). Poster presented at the annual meeting of the Arkansas Archeological Society, Fayetteville AR.

2018 Discussant for symposium, “Implementing and Assessing Iconographic Methods and Theories,” Bretton Giles and Erin Phillips, organizers. 75th Southeastern Archaeological Conference, Augusta GA.

Trubitt, Mary Beth, and Chelsea Cinotto

2018 Test Excavations at Two Antebellum Houses in Arkadelphia. Paper presented at the 17th Annual South Central Historical Archeology Conference, Arkadelphia AR.

**Trubitt, Mary Beth, Chelsea Cinotto**, and Rae’Shawn Jones

2019 Update on the Hodges Collection of Native American Artifacts at Henderson State University. Paper presented at the 61st Caddo Conference, Conway AR.

Trubitt, Mary Beth, and John Samuelsen

2018 Crowdsourcing Research on Novaculite Artifact Distribution. Poster presented at the 75th Southeastern Archaeological Conference, Augusta GA.



## Photo Identifications & Credits

**Most photographs used in this report are ARAS images, with identification in the captions. Further information for some images is provided as follows:**

Cover	Emily Beahm (ARAS-WRI) excavating at the Lockesburg Mounds site during the Training Program; ARAS photo by Rachel Tebbetts. Back cover image of John House in 2001 at the Wallace Bottom site; ARAS-UAPB photo.
p. i	Dr. Bob Scott (ARAS-UAPB) and Fiona Taylor (ARAS-SAU) mapping looter pits at the Sulphur Spring site in Ashley County; photo by Jodi Barnes (ARAS-UAM).
p. ii	Ceramic sherd from Historic Washington (ARAS-SAU photo); Caddo pottery from the Arkadelphia area, part of the 1969 Alford donation to ARAS-HSU (photo by Mary Beth Trubitt); Jerry Hilliard and Jared Pebworth in the ARAS archeology lab (photo by Jamie Brandon).
p. 1	View of 2010/11 excavations at Carden Bottoms taken from a boom lift; ARAS photo by Leslie Walker.
p. 2	Tablescape: prehistoric Ozark ceramics being sorted in the ARAS-UAF lab; photo by Jamie Brandon.
p. 3	John House receives the McGimsey Preservation Award from Hope Bragg (President of Arkansas Archeological Society) in 2018; photo by Marilyn Knapp.
p. 4–5	Staff photos by ARAS photographers Jane Kellett and Rachel Tebbetts, or supplied by the staff member.
p. 20	Entrance to the Plum Bayou Garden at Toltec Mounds State Park; photo by Elizabeth Horton (ARAS-Toltec).
p. 26	View of the Parkin Mound, Parkin Archeological State Park. Photo by Chuck Haralson, Arkansas State Parks, courtesy of Arkansas Department of Parks & Tourism.
p. 30	Michael Evans and Jared Pebworth at Searcy County Historical Society, photo by James Johnston.
p. 36	Participants in mapping class at the 2019 training program; ARAS-UAFS digital photo DSC_1712, 2018, by Tim Mulvihill.
p. 40	New fence on the Native American Woodland Period Teaching Garden at the ARAS-WRI station; photo by Emily Beahm.
p. 46	John House with donor Mike Wilson at the Esther D. Nixon Library in Jacksonville; photo from John House (ARAS-UAPB).
p. 52	Jodi Barnes leads a tour at Hollywood Plantation; photo from Jodi Barnes (ARAS-UAM).
p. 58	Visitors to the Caddo Center open curation exhibit space on the HSU campus; photo from Mary Beth Trubitt ARASHSUD_C1237.
p. 64	View of Holman Springs; ARAS-SAU digital photo by Carl Drexler.
p. 70	Julie Morrow examines the soil profile in a trench at the Old Town Ridge site 3CG41; ARAS-ASU IMG_4469.
p. 78	ARAS Director George Sabo with Michael Evans at Pea Ridge; ARASHSUD_8659.
p. 86	ARAS Registrar Teka McGlothlin and Assistant Registrar Sarah Shepard at the coordinating office's Celebrate Archeology outreach event in Fayetteville; photo by Rachel Tebbetts.
p. 94	Geophysical equipment set up in the CSP lab in preparation for visitors to Celebrate Archeology Day during Archeology Month; photo by Deborah Sabo.
p. 104	Tools of the editor's trade; photo by Deborah Sabo.
p. 114	Participants in the 2019 training program at De Queen, Arkansas; ARAS-SAU digital photo IMG_0222.

