

39th Annual **Kentucky Heritage Council** Archaeology Conference Abstracts

"I Wanna Go Home, They Need Me:" Archaeological Investigation of German POW Camp D-D, Fort Campbell, KY

By: Ronald Grayson and Nichole Sorensen-Mutchie (Fort Campbell Cultural Resources Program)

Abstract:

From 1943-1946, Fort Campbell housed three separate German POW camps. An early cursory examination assumed all sub-surface archaeological deposits were destroyed by camp demolition and subsequent land use. A closer examination of documentary evidence from engineering plans and subsequent aerial images indicated that portions of the Camp may still be intact. Initial small-scale investigations confirmed intact deposits from the camp's occupation. Larger excavations have been conducted to gather data about this often overlooked and rarely excavated site type. Analysis is ongoing; however, there are some preliminary conclusions that can be drawn.

When and Why was Maize (Zea mays) Eaten in the Midwest US: Using Maize and Deer (Odocoileus virginianus) Stable Isotope Data to Test a Niche Construction Hypothesis and the "Canopy Effect"

By: Renée M. Bonzani, Bruce L. Manzano, Matthew J. Davidson, Dalton Gauri, Jack White, Ashley Whitten, Alex Reis, Lisa Guerre, Thomas Royster, and Andrea Erhardt (University of Kentucky, Western Kentucky University)

Abstract:

This paper presents results of ongoing research about when maize (*Zea mays*) first appeared in the Midwest US and why it took so long to become a human food staple. This study examines the garden niche construction hypothesis, which proposes that inadvertent maize baiting of deer (*Odocoileus virginianus*) in Middle and Early-Late Woodland Period gardens preceded intensification of maize cultivation during the late-Late Woodland. This hypothesis is tested using carbon isotope values from deer faunal remains from sites in Kentucky ranging from the Middle Woodland to Fort Ancient time periods. This hypothesis was not verified although one deer sample did indicate mixed C3 and C4 consumption. The data does provide long term information on deer territorial feeding and human hunting behaviors including those indicated by the "canopy effect" identified in the faunal bone

isotope studies. To help add further information on these issues, carbon isotope and AMS dating were conducted on a carbonized kernel fragment to verify the identification and date of early Late Woodland maize at the Dreaming Creek Site (15Ma97) in Kentucky.

Using Human Remains Detection Dogs as an Emerging Method to Find Unmarked Prehistoric and Historic Burials

By: Jennifer Jordan Hall, Cheryl A. Johnston, Kevin R. Schwarz, Andrea D. Crider, and Taylor J. Bryan (KYK9 Search and Reunite Services, LLC, Grave Matters Consultancy Group, LLC, and ASC Group, Inc.)

Abstract:

Remote sensing techniques, including magnetic survey and ground penetrating radar, are commonly used in archaeology as part of cultural resource management projects. We propose using a complimentary, unconventional remote sensing technique to locate human remains on archaeological sites: human remains detection (HRD) dogs. Dogs (*Canis lupus familiaris*) have been used with increased frequency to locate human remains in forensic settings, particularly since the 9/11 terrorist attacks. Only recently have they been used to locate ancient human remains. Specialized HRD dogs have been tested on Iron Age sites in Croatia and California. Now we have successfully utilized this modality at a Fort Ancient village site in the Ohio Valley, which dates from AD 1050-AD 1275. The specialized HRD dog has found numerous burials that were not detected by other modalities. Our results suggest that using these specialized HRD dogs in archaeological prospection is uniquely beneficial from a variety of perspectives. We will discuss the benefits of this search modality along with guidelines for proper site preparation.

Not-So-Great Expectations – Investigations at the Killer Tree Rock Shelter (15JA122), Jackson County, Kentucky

By: Jon C. Endonino (Department of Languages & Cultural Studies, Anthropology, and Sociology, Eastern Kentucky University)

Abstract:

Presented here are the results of the 2021 ECU archaeology field school at the heavily looted Killer Tree rock shelter in Daniel Boone National Forest, Jackson County, Kentucky. Looting and extensive roof fall limited space for excavation and greatly tempered expectations for finding intact and significant archaeological deposits. Testing demonstrated that, despite extensive damage, areas with stratigraphic integrity, features, and preserved organic material remained. Components identified span the Early Archaic

through historic periods. Once again, despite the appearance of extensive destruction, looted rock shelters retain integrity and important data, serving as both a case study and cautionary tale for CRM professionals.

Archaeological Approaches to Kentucky's Mineral Spring Resorts

By: Sara Deurell (Corn Island Archaeology, LLC)

This presentation examines the archaeological potential of nineteenth century health spas in the state of Kentucky. Compared to the number of sites in the state (71), very little archaeological investigation of mineral spring resorts has been conducted. The importance of these sites to Kentucky's early tourist economy, lifeways, and culture makes them an excellent area of study for local, regional, and national historical trends. They can provide an archaeological perspective on 19th and early 20th century health care, as well as the evolution of land use in relation to preservation of features and artifacts associated with the resort hotel era. Case studies based on reconnaissance surveys of specific Kentucky resorts will be included.

From Feast to Forest: Impacts of Shell Middens on Plant Communities

By: Alexander M. Metz and Katharine V. Alexander (Department of Anthropology, University of Kentucky)

Abstract:

The anthropogenic soils of prehistoric shell middens are often associated with distinctive floral communities in relation to the surrounding landscape. Although Archaic shell middens are a well-documented occurrence in Kentucky's Green River region, no studies have investigated the impact of these features on plant communities and the possible implications for archaeological research. We review case studies from other regions demonstrating how shell-bearing deposits impact site flora. We then discuss the possible implications of this work for small-scale environmental changes in the Kentucky Green River Shell Mound Archaic. These changes may have influenced past people-plant relationships through the process of niche construction and contributed to the formation of these sites as 'persistent places.' This provides the basis for our plans to investigate the impacts of prehistoric shell middens on plant communities at the Indian Hill site in Edmonson County and Site 15HE160 in Henderson County.

Community Engagement in Cultural Resource Management at Mammoth Cave National Park

By: Edward Jakaitis (National Park Service), Carolyn Mikowski (University of

Massachusetts, Boston), Dr. Katie Algeo (Western Kentucky University) and George Crothers (University of Kentucky)

Abstract:

The Old Hotel Site (MACA-611/ 15ED452) is the second of three major tourism lodging developments that have been at the main Historic Entrance to Mammoth Cave. Constructed in 1925 and razed in 1979, the archaeology of the site was evaluated as a potentially significant resource of early 20th century tourism. To prepare for planned developments of the area where the Old Hotel once stood, cultural resource specialists at Mammoth Cave National Park teamed up with volunteers to conduct an archaeological investigation in July and August of 2021. During this investigation, 15 features were uncovered including a poured concrete basement, surface drain, and post holes as well as diagnostic materials including coins, tableware, glass, bricks, and personal items like buttons. These features refined our original understanding of the hotel that was based on historic documentation and revealed how the ground surface has been modified and managed since at least the 1920s. Although this investigation was conducted as part of legal requirements ahead of construction, it was implemented as a public archaeology project which created the opportunity for students and volunteers to learn and engage with the National Park's history in a physical way. This project shows the benefits of conducting multi-faceted cultural resource management that integrates professionals, students, and community members by creating fieldwork opportunities to develop archaeological skills and builds a community of CRM advocates. The success of the excavations at the Old Hotel Site can serve as a model for CRM as inclusive archaeology that engages the public while ensuring the fulfillment of legal requirements.

Preliminary Results of a Procrustes Analysis Investigating Stone Toolmaking at the Canton (15Tr1) and Lawrence (15Tr33) Sites, Trigg County, Kentucky

By: Vanessa N. Hanvey (University of Kentucky)

Abstract:

Intensively occupied during the Early to Middle Archaic periods, the Canton (15Tr1) and Lawrence (15Tr33) sites have similar dates of occupation and activities represented within excavated deposits. Though the sites are situated close to one another within the lower Cumberland River watershed, the connection between the people who occupied each site remains unclear. Extensive lithic deposits representing all stages of tool manufacture were identified at both sites, and previous lithic analyses show that similar raw materials were being accessed. To investigate the relationship between the people who occupied the two sites, this research explores the practice of stone toolmaking represented within each assemblage. This paper presents the preliminary results of a Procrustes analysis of the "Kirk-Like" hafted bifaces.

Multi-Method Analysis of the Webb Museum Trough: A Case Study in Employing Heritage Sciences to Illuminate the Stories of Historical Artifacts

By: Katharine Napora, George Crothers, Lisa Guerre, Philip Mink, and Laura Waldman (University of Kentucky)

Abstract:

The Webb Museum of Anthropology at the University of Kentucky holds in its collections a large wooden trough which oral history indicates functioned as a component of the early 19th century saltpeter mining system in Mammoth Cave, Kentucky, which was operated largely by enslaved persons. Using an array of heritage science methodologies, including radiocarbon wiggle-match dating, dendrochronological (tree-ring) dating, and scanning electron microscopy-energy dispersive x-ray spectroscopy (SEM-EDS) as well as an analysis of the oral and written history of the trough and Mammoth Cave, we explore the trough's provenance and role. This case study illustrates the value of archaeological science methods to historical archaeology as well as to the study and curation of under-analyzed artifacts.

Stalking Cassis sp. (Helmet shells) in the Archaeological Record of Eastern North America

By: Cheryl Claassen (Appalachian State University)

Abstract:

Cassis shells are a rare occurrence in the archaeological record. Three species are found in sites, *C. flammea*, *C. tuberculata*, and *C. madagascariensis*, living from N.C to Brazil. Helmet shells were deployed as coverings over cremains, as grave goods, and as sources of pendants. The earliest occurrences are those at Zimmerman in NW Ohio, in a Glacial Kame context, in the Adena mound at Dover, Ky, and in Qualls Cave Tennessee. Middle Woodland use of *Cassis* sp. is pronounced in burial mounds along the Illinois River. They are also found in Tennessee River Copena burials particularly in Marshall County Alabama. Pendant manufacture is documented among Florida's Belle Glade people at this time, simultaneous with the initial occupation of the Antilles, in the *Cassis* heartland. Mississippians on the upper Tennessee River continued the use of *Cassis* shells as vessels. If you know of Kentucky examples, please send them.

Evaluating the Maximum Entropy Method for Site Predictive Modeling in Daniel Boone National Forest

By: Jacob Ray, Thomas Jennings, Ashley Smallwood, and Andrea Guaghan (University of Louisville)

Abstract:

Site predictive modeling has become a core tool in managing cultural resources. In this presentation we explore the suitability of maximum entropy (maxent) in ArcGIS as a tool for the creation of archaeological site prediction surfaces. An analysis of Late Archaic/Woodland site locations in Daniel Boone National Forest is performed using maxent. Maxent successfully identified known archaeological site locations and identified the most influential environmental variables associated with the sites. We conclude that maxent offers unique advantages over other prediction surface methods where quantification bias may be present or complex relationships between environmental variables may be difficult to evaluate.

Pioneer Textiles Video: The Virtual Living Archaeology Weekend Video Series

By: The Kentucky Organization of Professional Archaeologists

Abstract:

Pioneer Textiles describes the tools, techniques, and historic-era traditions of processing flax and wool into yarn and fabric in eastern Kentucky. Viewers learn how archaeological and archival sources document textile use and production, providing insights into the region's roots in Western European textile traditions. Living Archaeology Weekend demonstrator JoAnn Oborski, a spinner and weaver, describes the methods and materials Kentucky's pioneers and their descendants used to turn flax and wool into textiles using spinning wheels and looms. Historic archaeologist Wayna Roach explains how archaeological and archival sources document textile use and production, providing insights into eastern Kentucky's textile traditions.

Southeastern Archaeology Conference Discussion

Led By: Karen Stevens

If you are interested in having Kentucky host another SEAC, join this exploratory meeting! Topics will include dates, host city, and ideas for hotels, reception areas, and Saturday tours.