

EARTHWATCH INSTITUTE FIELD REPORT

Project Title: Moundbuilders on the Mississippi

Principal Investigator (s): Dr. John Kelly and William Iseminger

Position/Affiliations: (Kelly) Instructor, Washington University, St. Louis, MO;

(Iseminger) Assistant Site Manager, Cahokia Mounds State Historic Site, Collinsville, IL

Research Site(s) (geographic location, include coordinates if known, e.g. Lat/Long):

Cahokia Mounds State Historic Site, Collinsville, Illinois, USA; Latitude 38 deg, 39 min. 14 sec.

north; Longitude 90 deg, 3 min, 43 sec west

Local Management Status of the Research Site(s) (e.g. National Park, RAMSAR Site, World Heritage Site, IBA etc.):

Managed by the Illinois Historic Preservation Agency as a State Historic Site; also a UNESCO World Heritage Site and a US National Historic Landmark

Scientific names of primary species being studied: NA

Key Research Objectives (5-8 brief bullet points):

- Pursue through excavations the location of a palisade wall trench running east-west at the northeast corner of the area enclosing the central ceremonial precinct
- Complete excavation and mapping of archaeological features identified during the previous (2004) Earthwatch Expedition project
- Open new units to identify the possible location of a bastion associated with the wall
- Identify and excavate other archaeological features in our units associated with habitational use of the same area
- Conduct soil coring in the area to identify natural and man-made deposits and changes in landforms through time
- Process artifacts and other materials recovered during the excavations

Date this report was completed: October 26, 2005

SECTION I: RESEARCH

Data Collection and Results

We continued excavations in the area where we worked with crews in 2004 and completed the excavation and mapping of several critical features, clarifying the relationship between some of them.

Progress

Several new units were opened up to the west of the 2004 units in an attempt to locate the E-W trench and the possible location of a bastion associated with the palisade wall, but neither was

evident in these units, so the wall may have veered off in another direction or we may have just missed it.

Several habitational features (a possible pit house, refuse pits, and midden areas) were exposed and explored.

Dr. Julieann Van Nest conducted coring tests in the area of our project, revealing information about soil horizons and deposits, erosional wash and other geomorphological features.

Throughout the sessions, crew members washed and sorted artifacts from the excavations and learned how to do flotation processing of feature soils.

Summary of Results

We opened several 1x2 meter units 23 meters west of our 2004 units, as this is about where we anticipated the E-W trench would still be present and approximately where a bastion should be located. Finding a bastion with a particular form would help identify which of the four constructions of the palisade we were following. However, the new units did not reveal either the palisade trench or a bastion, so it is possible the wall may veer off or turn in another direction or there may be some type of interruption in its trajectory in this particular location. Nonetheless, we did find a number of features in these units that are apparently associated with habitation use of this part of the site, including what appears to be a large midden area with cultural debris (pottery, chert, limestone, animal bone); plus, there were several locations with high concentrations of debris or refuse. There was one narrow trench in the approximate location where we anticipated the palisade, but it was too narrow and shallow to be a palisade.

We also completed the excavation or exposure of several features in the 2004 units that we had reopened for this year. One large feature we believe to have been a house basin from the Emergent Mississippian period (circa AD 900-1000) that had later been filled with village debris. What became apparent this season was that another large basin feature was later dug in this same area, perhaps to obtain soil for mound construction or other purposes, and this basin was also filled with a lot of village debris. Some of it was occasionally burned, as was evident in several bands of charcoal and ash in the fill that were exposed in a deep cross-section excavated through these features to expose vertical profiles of the banded deposits. This basin intruded into the same area as the house basin and superimposed it. This same large basin fill may be what was observed in a unit two meters to the west, which has similar bands of charcoal and ash and artifact concentrations. However, since the two-meter area between the units was not excavated, the connection between the two cannot be verified at this time. The E-W palisade trench cuts through both of these units and associated features, indicating it postdates these other features and was one of the last things constructed in this area.

The volunteers worked in the lab several times, processing materials recovered from the excavations. They learned to identify and sort the various types of pottery, bone, shell, chert, stone and charred plant remains. They also worked with Dr. Patti Wright at the archaeology lab at the University of Missouri-St. Louis, where they learned how to process soils using the flotation process. Also, Dr. Julieann Van Nest was on site for about a week using a drill rig to extract soil cores from the general area of our excavations. She is still analyzing the cores but initially was able to identify several natural and man-made deposits, and the volunteers were able to observe the coring operation.

Significance/Benefits of Research

- Local (in the area of the research site): This project has provided more information about the utilization of this portion of the Cahokia site over the time span of several cultural phases, especially several patterns of use and re-use of the area for different purposes, especially a change from primarily residential use to one of defensive use (the palisades). The unsuccessful location of the palisade trench/bastion in the new units may indicate the palisade took a different route than anticipated. Analysis of the floral and faunal remains will provide additional data about how the Mississippians exploited their environment for wild foods compared to those that were cultivated and how those strategies changed through time.
- National: Information gathered from both the palisade trench and residential features allows a comparison with similar features at contemporary sites throughout the east and southeast US that were part of the Mississippian interaction sphere.
- International: Archaeological excavations at the Cahokia site always attract visitors and publicity related to the project provides opportunities for international visitors to observe the work at America's premier archaeological site and to spread the word to their countrymen. Also, work on Cahokia's defensive system (the palisades) allows for comparison to defensive works world-wide as well as comparison with ancient societies elsewhere.

Contributions to Sustainability

Again, the studies of the flora and fauna assemblages will provide information about the availability and exploitation of certain resources, changes in these patterns through time, and the impact that the dense populations of Cahokia and surrounding settlements may have had on the local environment and their ability to support and feed these populations with the available resources.

Dissemination of Results

- Scientific papers
 - since the analysis of materials is still in progress, no formal publications have been developed yet. Project summaries will be submitted to the Illinois Historic Preservation Agency once the analyses have been completed. Future Earthwatch digs in this same area will add to the database for future publication in a professional journal, possibly in *Illinois Archaeology*, the professional journal of the Illinois Archaeological Survey.
- Management plans and reports (
 - The Illinois Historic Preservation Agency and the State Treasurer's office are in the process of developing a new master management plan for Cahokia Mounds, which will include summaries of archaeological research at the site, including the East Palisade projects conducted through Earthwatch. This will help contribute to the interpretation of the site and its culture history.
- Presentations
 - A program on recent research at the Cahokia site was presented to the Greater St. Louis Archaeological Society with about 25 people in attendance; programs on the history of Palisade research at Cahokia, including the Earthwatch digs, were given to several Elderhostel groups, with close to 100 people in attendance.
- Popular articles or films
 - Reports will be presented in popular publications, such as the *Cahokian*, newsletter of the Cahokia Mounds Museum Society; in *Illinois Antiquity*, newsletter of the Illinois Association for Advancement of Archaeology, and possibly a future edition of the occasional journal, *Rediscovery*, from the latter organization.

- Books, chapters, illustrations
 - Material is being gathered for a publication on Palisades in this area. No definite timeframe at this time.

SECTION II: VOLUNTEERS

Volunteer Tasks and Accomplishments

- a) How did the volunteers contribute ideas, skills, expertise and motivations beyond that which you anticipated?
-Several of the volunteers had prior experience on excavation projects, either through Earthwatch or some other organization. Those prior skills were helpful in carrying out some of their tasks with minimal direction. All seemed highly motivated and several were quite industrious in their handling of the sometimes tedious earthmoving process.
- b) How have volunteers helped you to achieve your research or educational objectives? Please give specific and quantitative measures of the volunteers' contribution to your data collection.
-Even though we did not find the anticipated palisade trench or bastion in the new units, sometimes such "negative evidence" is helpful in understanding site layout and usage. That said, the amount of material and number of features examined during the sessions has helped us to better understand the utilization of this part of the Cahokia site through time. At least 16 features (pits, houses, trenches, artifact concentrations, etc) were examined, as well as midden areas, producing thousands of artifacts (mostly fragments of pottery, stone tools, animal bone, limestone and sandstone pebbles, etc.) that are the result of the extensive and intensive use of this area for residential purposes before the palisades were built. A detailed analysis of this material will provide information about changing use patterns through time, as well as a comparative sample for collections from other similar research projects.

Project Development

- a) What logistical or scientific challenges have you encountered in the past season and how will you address them during the next field season?
-A better effort will be made to explain some of the strategies and procedures, especially record keeping and mapping, so that volunteers have a better understanding of the importance of these activities. Most were very effective in mapping and excavation, but more direction needs to be provided in other documentation, such as daily forms and records.
-Logistical problems centering around meals will be clarified and resolved for next season
- b) Have you used any additional methods/strategies to meet your research objectives? If so, please describe them.
-We have tried to introduce volunteers to various specialists when they are available, such as the use of soil coring, specialized lab techniques, use of surveying instruments, etc.
- c) How will you develop your research in the coming field season?
-It will basically be a continuation of some of the past two seasons' work in this area. Possibly, other field crews may also focus some of their work in this area as well, to expose more Palisade features and get a better understanding of the confusing configuration of Palisade trenches in this area. We hope to place units at strategic locations to better follow the known location of the Palisade into the unknown areas. We also hope to do more environmental/ecological activities, such as examining the upland forest areas to better understand the resources for timber acquisition for Palisade construction and the impact this may have had on the environment. Logistical coordination problems with a specialist this past season prevented the utilization of this aspect of the project.

Educational Opportunities

- a) Does your project directly or indirectly involve the following groups in your research topic?

- Local communities: Not as part of the research topic but it does provide an opportunity for visitors to observe archaeological excavations in progress.
- Students: University students often help with the analysis of the material remains from the excavation
- Early career scientists: other archaeologists doing research on Palisades, Indian warfare, or other comparative studies sometimes utilize information from this project
- Other groups: Boy Scouts working on their Archaeology merit badge also assisted with this project during several weekends during the summer. The Cahokia Archaeological Society helped wash artifacts from the dig before their monthly meetings.

Understanding the Conservation of a Sustainable Environment

-They begin to understand how a large population, such as that at Cahokia, would have impacted their environment through the “extensive” cutting of trees for Palisade construction, how that would impact local flora and fauna, runoff and subsequent erosion, and how building such walls several times indicates a continuing need for defense and the implications that has about warfare and conflict.

Partnerships

- The Powell Archaeological Research Center (PARC)
- The Central Mississippi Valley Archaeological Research Institute (CMVARI)
- The Cahokia Mounds Museum Society (CMMS)
- The Cahokia Archaeological Society (CAS)
- Boy Scouts of America (BSA)
- Washington University (WU)
- Illinois State Museum (ISM)

-PARC and CMVARI provided laboratory facilities and personnel to assist with lab processing and assistance in the field, equipment and other logistics; CMMS provided occasional refreshments on hot summer days and will summarize the project in their newsletter; CAS assisted with washing artifacts and invited volunteers to attend their meetings and programs; BSA had close to 100 boys working on their Archaeology merit badge work on the excavation project. WU has provided supplies and Xeroxing of forms as well as student help. Dr. Michael Wiant of the ISM provided use of their vehicle for coring.

-PARC/CMVARI will house the materials from the excavations until analyses are completed and will make maps and other research data available to other researchers. CMMS will generate articles explaining the project, probably during the winter 2005-2006 issue. A program summarizing the project will be presented to CAS within the next 6 months. Numerous Scouts will earn their merit badge as a result of assisting with excavations, surveying and washing of artifacts from this project. WU students will assist in the analysis.

Acknowledgements:

Cahokia Mounds State Historic Site
 Cahokia Mounds Museum Society
 Illinois Historic Preservation Agency
 University of Missouri-St. Louis
 Central Mississippi Valley Archaeological Research Institute
 Powell Archaeological Research Center
 Cahokia Archaeological Society
 Dr. Patti Wright

Dr. Julieann Van Nest
Dr. James Brown
Boy Scouts of America (William Meister)
Washington University, Department of Anthropology
Illinois State Museum