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**Mission Statement:** *The Division of Historic Preservation and Archaeology promotes the conservation of Indiana's cultural resources through public education efforts, financial incentives including several grant and tax credit programs, and the administration of state and federally mandated legislation.*

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## INTRODUCTION

Per state statute (Indiana Code 14-21-1-12), one of the duties of the Division of Historic Preservation and Archaeology (DHPA) is to develop a program of archaeological research and development, including the publication of information regarding archaeological resources in the state. This journal is one of the ways the DHPA addresses that mandate. In addition, Indiana's *Cultural Resources Management Plan 2005 to 2011* (DHPA 2005:32) also lists educating the public about Indiana's prehistoric and historic Native American cultures and identifying, and studying Native American, African-American, and other ethnic and cultural heritage resources, as ways to accomplish several preservation goals. Indiana's archaeological resources range from precontact sites dating as early as 10,000 B.C. to historic sites related to a large variety of cultural groups until relatively recent times. Precontact sites such as earthworks, hunting and gathering camps, food processing areas, tool workshops, and villages are found. Historic sites include forts, cabins, homesteads and farmsteads, trails and transportation sites, towns, and industrial, urban, and business sites.

We are pleased to offer this volume containing articles on a broad range of archaeological and anthropological topics. This document contains articles related to projects and research funded in part by Historic Preservation Fund (HPF) grant monies (see <http://www.in.gov/dnr/historic/3671.htm>). Archaeology is happening regularly in Indiana, and all of these articles provide the reader with various insights into many important sites, theories, and projects. We are fortunate that a considerable amount of interesting archaeological projects are currently being conducted in Indiana, and a large number of articles were submitted to the journal. Thus, two numbers are planned for Volume 5 of *Indiana Archaeology*. This is the first number of Volume 5, and the second is planned for availability by the end of the year.

For those who may not be familiar with some archaeological terms, a helpful glossary of some of these general terms is included in the back of this journal. To also aid the non-archaeologist reader, a general overview of prehistoric time periods may be found at the end of this volume. Additional archaeological outreach documents, including *Early Peoples of Indiana*, may be accessed at [www.IN.gov/dnr/historic](http://www.IN.gov/dnr/historic). For those readers who may not be familiar with the authors and editors of the volume, biographical information is provided. Feel free to access our Indiana archaeological travel itinerary (<http://www.in.gov/dnr/historic/files/travelsarchaeo.pdf>) if you would wish to visit an archaeological site. The DHPA also urges you to participate in the annual Indiana Archaeology Month each September. This September (2010) is the 15<sup>th</sup> anniversary of a statewide celebration of the science of archaeology in our state. If you have an interest in providing a voluntary financial donation to contribute to archaeology in our state, consider the Archeology Preservation Trust Fund (<http://www.in.gov/dnr/historic/5897.htm>).

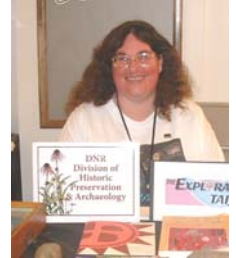
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## ABOUT THE EDITORS AND AUTHORS

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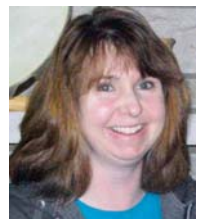
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## INVESTIGATING A STRUCTURE AT THE STRAWTOWN ENCLOSURE (12H883)

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Currently, the Strawtown enclosure is the remnant of a Late Prehistoric, earthen embanked, ditched, and palisaded village near Strawtown in Hamilton County, Indiana. Once approximately 90 m in diameter with an exterior ditch, the circular embankment is still visible as a slight rise in most of its circumference; the exterior ditch is also discernible (Figures 1 and 2). The enclosure, on a terrace overlooking the White River, had been known since the nineteenth century (Brown 1884; Cox 1879; Helm 1880), but under the twentieth-century ownership of a previous landowner, a large area of land along the White River was not available for archaeological investigation. In 2000, a 650-acre parcel was purchased from the landowner's estate with the intention of preserving the area's rich natural and cultural history. Long-term plans for development include a reconstruction of a Native American village, based on the occupation of the enclosure during the years A.D. 1200 to 1400. Since archaeological investigations began at the Strawtown enclosure, a major goal has been the identification of a structure, which can provide information relating to ethnic affiliation and to family and community organization, as well as aid in the park reconstruction.

During the early years of planning, efforts to survey the entire 650-acre property and evaluate its archaeological resources resulted in the identification of 144 archaeological sites. These sites represent the entire range of human habitation of central Indiana, from the Paleoindian period to the historic era, but with an intensive utilization during the Late Prehistoric period after the rise of maize agriculture. Two important Late Prehistoric sites, the Strawtown enclosure (12H883) and the Castor Farm site (12H3) already have been listed on the National Register of Historic Places, and other sites within the property are eligible as well.



Figure 1. The Strawtown enclosure, view northwest.



**Figure 2. The Strawtown enclosure, view southwest.**

Archaeological investigations (McCullough 2005; McCullough et al. 2004; White et al. 2002, 2003) at the Strawtown enclosure have established that it was an intensively occupied, palisaded village inhabited for over two and a half centuries (ca. A.D. 1200 to 1450). A full range but unknown number of features is present: ringing a nearly empty central plaza were activity areas, such as one for lithic reduction (Arnold et al. 2007), a habitation area (Arnold et al. 2007) with hearths and storage pits (White et al. 2003) filled with refuse, and midden areas, postmolds and postholes, and human interments (White et al. 2003), all encircled by a palisaded embankment and exterior ditch. Deep storage pits extended over two meters below plowzone, and several gallons of charred corn were recovered from one such “underground silo;” an articulated dog burial and large deer skull fragments were recovered from another (White et al. 2003: 135-138, 140-142). Superpositioning is extensive, and multiple lines of postholes indicate many episodes of rebuilding and repair. Despite these discoveries, no house or domestic structure was identified (McCullough 2005; McCullough et al. 2004).

Most notably, pottery from three cultural groups—Anderson phase Fort Ancient, Western Basin Tradition, and Oneota-like Taylor Village—has been recovered from midden contexts within the Strawtown enclosure (White et al. 2002). These three distinct Late Prehistoric archaeological populations were all at some distance from their cultural homeland, and all three followed a sedentary lifestyle with a reliance on maize. Both the Western Basin Tradition, centered in the lower Maumee River valley (Cochran 1980; McCullough 2003; Mohow 1987; Moore 1987; Stothers and Pratt 1981; Stothers and Schneider 2003), and the Anderson phase

Fort Ancient peoples, from southeastern Indiana and southwestern Ohio (e.g., Essenpreis 1982; Heilman et al. 1988; Henderson 1992; McCullough 2000), practiced swidden or slash-and-burn cultivation, shifting field and village locations as nearby resources and soil fertility were depleted (McCullough 1997). The Oneota populations, commonly associated with northern Illinois and southern Wisconsin (Griffin 1943; Overstreet 1997), also followed a sedentary settlement system, often cultivating wetland edges and exploiting prairie and woodland resources. The Taylor Village site, an Oneota occupation, is located in the vicinity across the river from the Strawtown enclosure.

Distinguishing the occupation sequences evident within the enclosure, both temporally and culturally, is a complex undertaking due to the intensive occupation of a confined area, which resulted in numerous rebuilding and superpositioning episodes. Understanding the cultural interactions among the three groups whose material remains are found there is equally complicated. Generally, inferring cultural patterning requires household-level data, such as that gained from domestic structures, but the identification of domestic structures within the enclosure remained elusive. Structures provide information relating to family, community organization, and ethnic affiliation. Such information can serve to clarify patterns of cultural interaction, based on household-level patterning, found among the Late Prehistoric societies who inhabited central Indiana.

Investigations at the Strawtown enclosure were conducted during Indiana Archaeology Month for three weeks each year in 2006 through 2008, with the explicit research goal of locating a domestic structure (for areas within the Strawtown enclosure excavated to date, see Figure 3). In 2006, additional geophysical survey of the enclosure in the southeastern quadrant indicated a possible house basin, as well as a possible line of posts alongside the central plaza area. Although the line of posts proved to be geological anomalies, a small lithics-related activity area was found in that area, and a corner of a domestic structure was located in the final days of the investigations. This was the first domestic structure identified within the enclosure, and further excavations were undertaken in 2007 (McCullough 2008) and 2008. The following section describes the 2008 Archaeology Month excavations but includes the 2007 efforts.

## **2008 Investigations**

The structure basin identified within the Main Block during the final days of the fall 2006 excavation was the focus of most of the excavations during the 2008 field season. The Main Block excavation, expanded in 2007, was further expanded to the west, north, and south, exposing the western edge of the structure and many more postholes (see Figure 3). Despite these expansions, the southern and northern parts of the structure have yet to be identified and this task is the goal of future investigations at Strawtown.



12-H-883  
 Locations of Excavation Units  
 2001 to 2008 Field Seasons

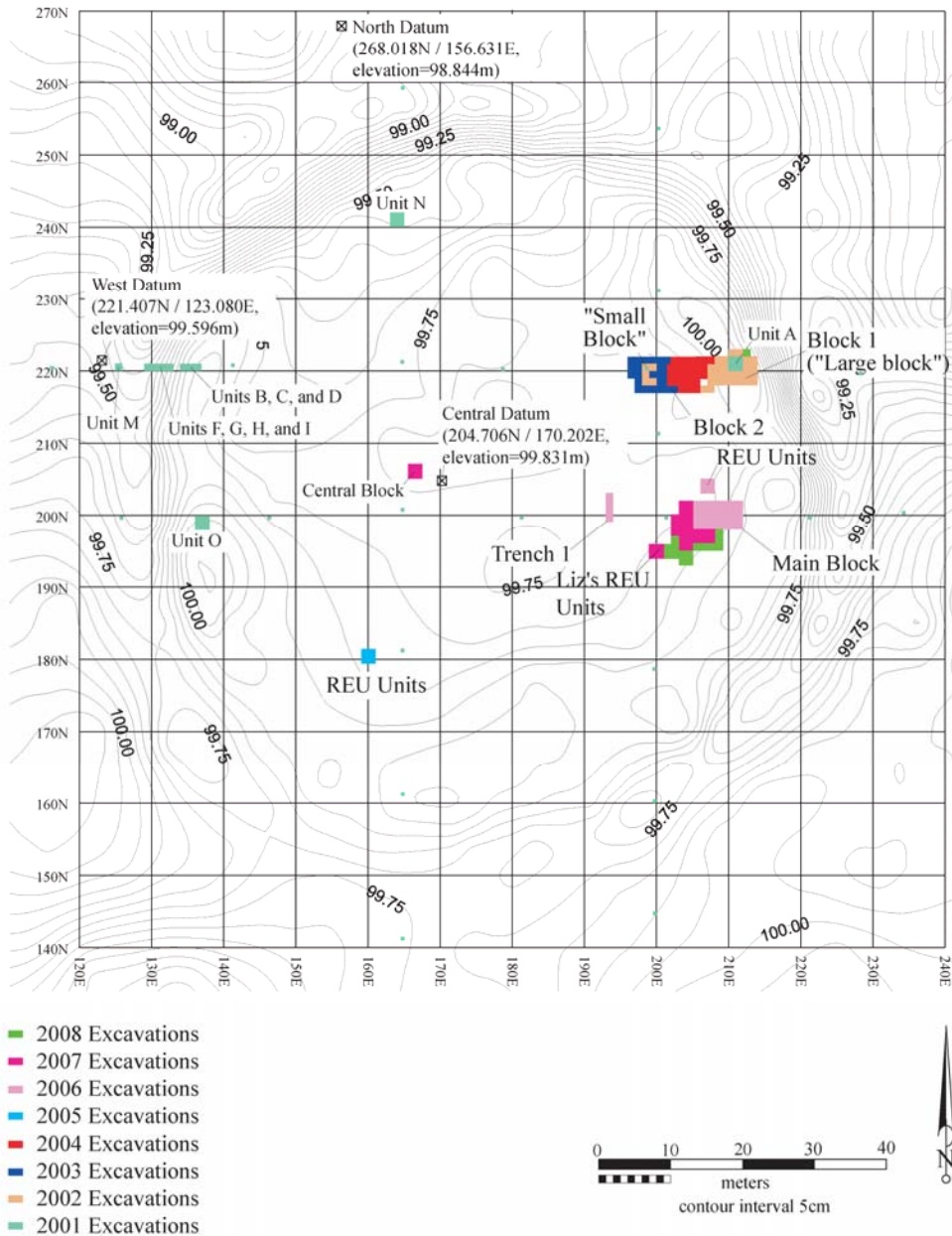


Figure 3. Excavations by IPFW-AS to date within the Strawtown enclosure.

In 2007, expansion to the west and deeper excavation within the 2006 Main Block revealed a wall-post pattern set in and around a shallow structure basin (Figure 4), designated Feature 49, although the structure still needed to be exposed to the south. The 2008 excavations extended between E199 and E209, south of the N195 line (Figure 5). However, because several units opened during 2007 were only excavated to the base of Level 3, these units were excavated more deeply before the structure could be identified clearly.



**Figure 4. Photograph showing western boundary of structure basin (Feature 49) at base of Level 3 in 2007. (Note basin profile along west and south wall in 2006 Main Block.)**

Even though the entire structure cannot yet be discerned, some general observations can be offered. There is a clear north line (highlighted in red), with the possible resetting or replacement of some posts, about one m south of the north wall of the Main Block (see Figure 5). A possible eastern edge (highlighted in green) of the structure is visible in Units 97, 100, and 103 (see Figure 5). Interior to this line (west) is a second line of posts (highlighted in yellow) that may represent an interior bench and/or support posts (see Figure 4). A similar configuration is observable along the western portion (highlighted in blue), which may be a double row of posts or a rebuilding episode with two possible openings or entryways (see Figure 5). One (labeled A) is located in Unit 164 as part of the interior line of posts (see Figure 5). The second (labeled B) is located in Unit 139 and may be associated with the exterior line of posts (Figure 6; see Figure 5). These breaks in the line of posts may represent openings for two different structures or a rebuilding episode of a single, large structure. A second interior line (highlighted in orange) somewhat mirrors the upper northwest corner of the structure with posthole 7-67 in Unit 130 to posthole 7-12 or 57 in Unit 119, possibly representing an interior bench and/or support posts (see Figure 5). A similar convergence of interior and exterior posts (highlighted in gray) can be observed in the eastern lines and what appears to be an interior screening wall or a superimposed structure possibly extending from postholes 8-52 or 8-123 in Units 165 and 167 to postholes 7-60 or 7-61 in Unit 92 (see Figure 5). A second line (also highlighted in gray) oriented north-

south just a meter to the east extends from posthole 8-86 in Unit 158 to posthole 8-14 in Units 141 and 142 and may represent an interior screen or divider (see Figure 5).

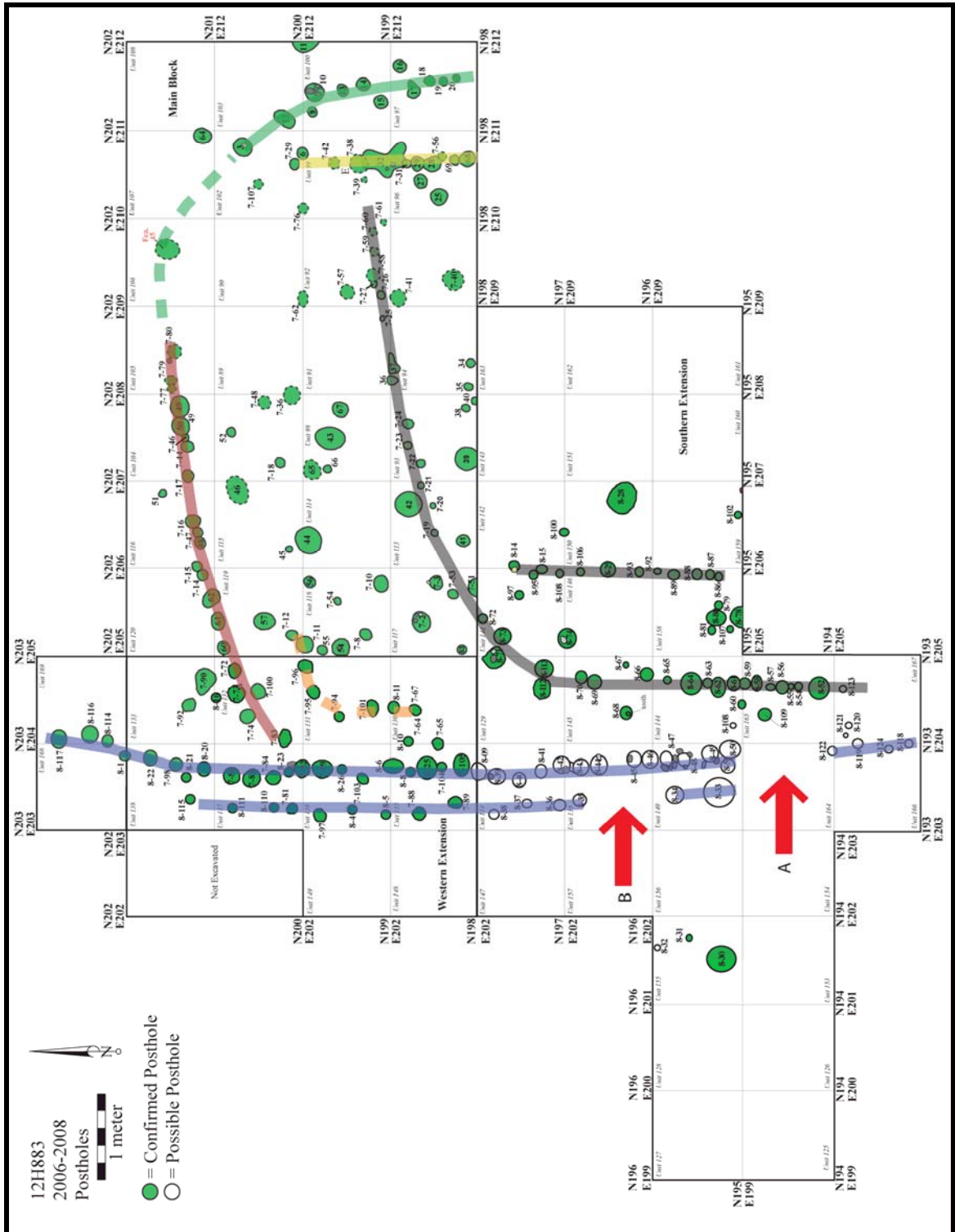


Figure 5. Plan map of the Main Block at the base of Level 4 showing possible structure outlines.





**Figure 6. Photograph of the Main Block, south extension, showing possible opening or entryway into the structure, highlighted in white.**



Since the beginning of the investigations of the Strawtown enclosure, one of the questions has been how structure walls were constructed. The IPFW-AS has long suspected that the structures' walls were made of wattle and daub, or clay impressed into either woven branches or mats of smaller plant fibers, because numerous small pieces of burnt soil have been recovered over the years of excavation within the enclosure. However, other processes besides house construction can leave burnt soil on an archaeological site, such as prepared hearth fragments or incidental burning.

During the 2008 investigation, several pieces of burned soil that clearly indicate use as structural material were recovered (Figure 7). The daub had apparently fallen into the fill of a hearth feature (Feature 63), which helped preserve the larger pieces intact. Several show fibrous impressions in the burnt soil with the opposite sides flattened. One appears to have a light-colored wash on the flattened side.



**Figure 7. Photographs of burnt soil showing fibrous impressions and flattened sides.**

Several superpositions related to the basin structure are evident also in the Main Block (Figure 8). Two prepared hearths (Features 35 and 42) had postholes cutting through them, indicating that the features either predate the construction of the structure, or predate a later modification to the structure, or that the posts are related to a later structure superimposed on this one. In addition, Feature 36 was an intensively burned area interpreted as a hearth (see McCullough 2008), but it is possible this burning could have been an unintentional fire on the floor of the basin structure. No postholes were identified protruding into this feature, but two large “support” posts (7-40 and 7-41) containing cultural material, including grit-tempered pottery, were found underneath the burned soil. This stratigraphy suggests that Feature 36 formed while the structure was in use or that there was a fire that left traces in the eastern portion of the basin. Feature 33, which was a large Oliver phase storage pit with a Taylor Village component (or shallow basin) covering the top, appears to be superimposed over the northeast corner of the structure (see McCullough 2008). As the upper portion of this feature was excavated in plan, a few posts became visible under the edge of the original Feature 33 Complex. Feature 51 had two superimposed postholes intruding through it. Postholes 7-67 and 8-11 appear to postdate the feature and may be remains of an interior bench and/or support posts. Two other features (Features 56 and 62) containing Taylor Village components were superimposed over two postholes (8-35 and 8-105) associated with the exterior line of posts in the western portion of the Main Block. Other superpositions west of the E202 line are shown to be related to a large feature (Feature 47), possibly representing another house basin. It is unknown at this time whether this is a house structure because only a small portion of this area has been investigated, but it does not appear to be associated with the large structure observed in the Main Block (see Figure 8).

The complexity of untangling this intensive use and re-use of the spaces within the enclosure can be seen in Figure 8. Pieces of ceramic or stone artifacts from different units or levels were also found to fit together, or refit. When these refits, or pieces from a single artifact, are found in different locations, it is an indication that significant scattering and earth moving has occurred on the site, as well as a way to see which locations were open at the same time. The refit tables (Tables 1 and 2) illustrate relations among many features and levels.

Table 1. 2008 Chipped Stone Artifact Refits.

Catalog number	Provenience
08.1/500 08.1/513	Unit 154, Level 1 Unit 154, Level 2
08.1/1496 08.1/1537	Unit 164, Level 2 Unit 164, Level 3
08.1/1858 08.1/2471	Unit 166, Level 2 Unit 164, Feature 62, West ½

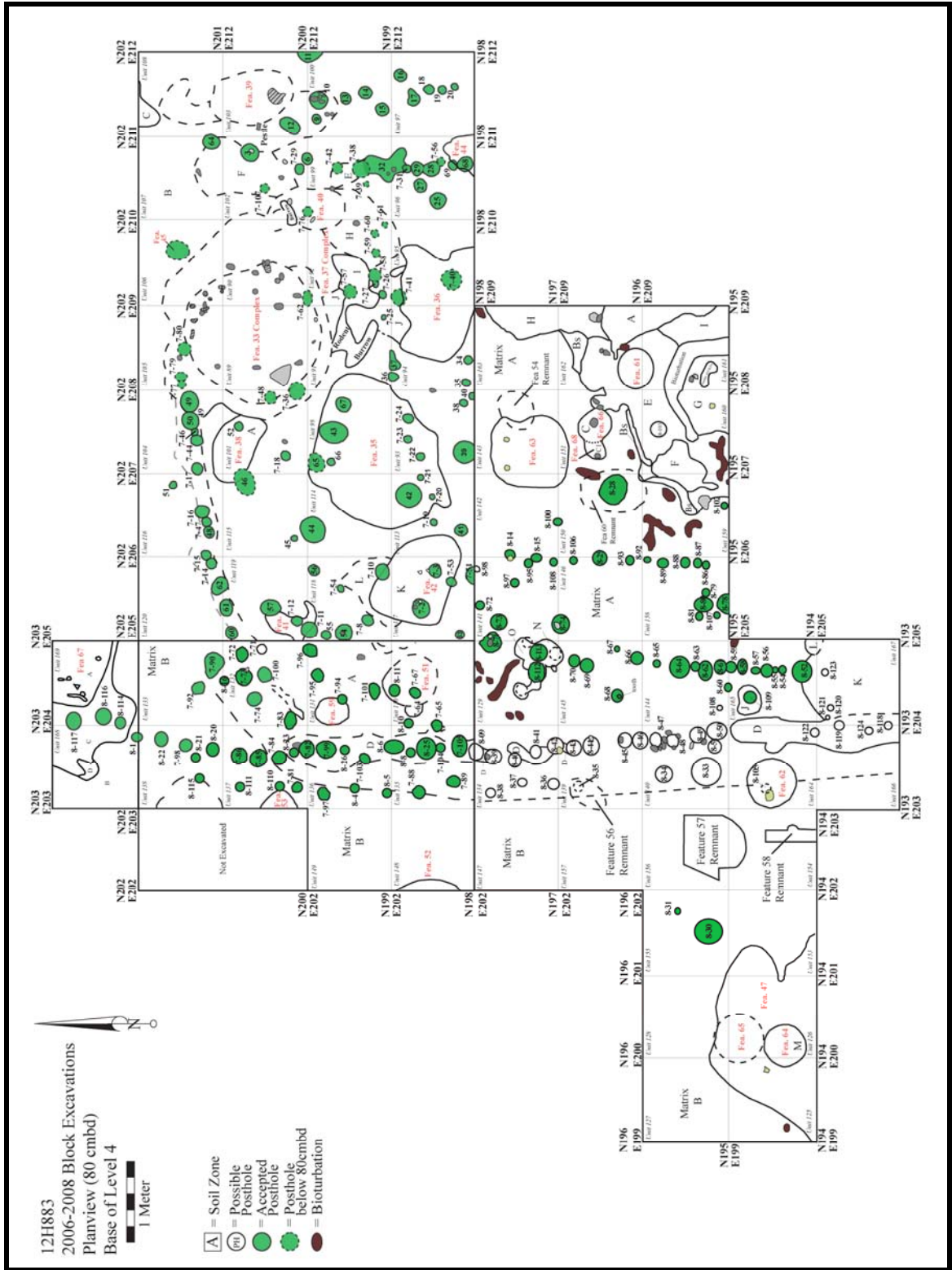


Figure 8. Plan map of the Main Block at the base of Level 4, showing superpositioning, 2006-2008.

Table 2. 2008 Ceramic Artifact Refits.

Catalog number	Provenience
08.1/1325 08.1 /1325 08.1/1325	Unit 159, Level 3 Unit 162, Level 2 Unit 162, Level 3
08.1/952 08.1/954 08.1/1082	Unit 159, Level 3 Unit 159, Level 3 Unit 160, Level 3
08.1/552 08.1/1010	Unit 154, Level 2 Unit 159, Level 4, Zones M and I
08.1/948 08.1/3248	Unit 159, Level 3 Unit 146, Level 4, Zone H
08.1/215 08.1/853	Unit 143, Level 4, Zone E Unit 158, Level 4, Zone A
08.1/1878 08.1/1908	Unit 166, Level 3 Unit 166, Level 4, Zone A, A1
08.1/195 08.1/3221	Unit 142, Level 4, Zone E Unit 142, Level 4, Zone E
08.1/1085 08.1/1115	Unit 160, Level 3 Unit 160, Level 4, Zone I
08.1/1828 08.1/1881	Unit 166, Level 2 Unit 166, Level 3
08.1/1739 08.1/1830	Unit 165, Level 4, Zone A, Feature 49 Unit 166, Level 2
<i>08.1/1690</i> <i>08.1/1741</i>	<i>Unit 165, Level 3</i> <i>Unit 165, Level 4, Zone A, Feature 49</i>
<i>08.1/2343</i> <i>06.98/3693, Various</i>	<i>Unit 143, Feature 54, East 1/2</i> <i>Unit 89, Level 6, Feature 33</i>
<i>08.1/2348</i> <i>06.98/3647, Various</i>	<i>Unit 143, Feature 54, East 1/2</i> <i>Unit 89, Level 5, Feature 33</i>
<i>08.1/2448</i> <i>06.98/3693, Various</i>	<i>Unit 161 &amp; 162, Feature 61</i> <i>Unit 89, Level 6, Feature 33</i>

\*Note: Italicized refits represent Taylor Village shell-tempered ceramics.

## Occupation History

Investigations over the last few years at the enclosure and at other sites in its vicinity have provided both a better temporal ordering of the groups within the area, as well as a better understanding of their characteristics. Moving from the peripheries of their respective territories, Great Lakes and Fort Ancient peoples were interacting in the Strawtown area by the early 1200s. Although contact within such a frontier or borderland zone can be hostile or violent, a range of responses is possible, based on such variables as population numbers, economic organization, power asymmetries, and shared cultural traits. In the absence of definitive archaeological evidence (Marcus 1994) for violent conflict among groups in central Indiana, some level of intermingling or inclusive interaction and cultural creativity among the Great Lakes and Fort Ancient populations is increasingly well documented.

Survey and investigations have established that people with a tradition of Western Basin pottery styles were living in small hamlets and farmsteads throughout the bottomlands surrounding the enclosure for a century or so before A.D. 1200 (Figure 9). These people, like most migrants, did not transplant the full range of Western Basin cultural characteristics, such as mortuary practices, identified along the Maumee River, and in fact developed an expanded set of cultural responses to the new conditions along the White River. The Western Basin-derived cultural expression in central Indiana is distinctive enough to be designated the Castor phase (McCullough 2005). At site 12H3, some distance northwest of the Strawtown enclosure, is a large, Castor phase, palisaded village with paired, semi-subterranean communal structures unlike anything known in northeastern Indiana or northwestern Ohio. These unprecedented structures and the palisaded village are, however, distinguished by Western Basin-style ceramics.

By about A.D. 1200 (see Figure 9), people with a cultural tradition most like Middle Fort Ancient were occupying the Strawtown enclosure (Drooker 1997; Henderson 1992). In terms of radiocarbon dates, ceramic assemblages, features, and site structure, the Strawtown enclosure is most similar to the contemporaneous Anderson phase of Middle Fort Ancient (A.D. 1200-1400). Middle Fort Ancient villages were larger, more nucleated sites than Early Fort Ancient villages. With structures arranged around a central plaza, they were circular, planned, and more permanent, having multiple zones of activity within them (Drooker 1997). Many also have thick midden deposits and large storage/refuse pits. Although the placement of activity zones, which included refuse disposal, residential, mortuary, and storage/food preparation areas, may vary, Middle Fort Ancient villages were all broadly similar (Henderson and Pollack 2004). The Strawtown enclosure follows this pattern, with a central plaza surrounded by concentric activity zones. The structure delineated by the 2008 excavations is also similar in construction to those documented in Middle Fort Ancient settlements (e.g., Heilman et al. 1988; Pollack and Henderson 2000; Sharp and Pollack 1992). As with the Western Basin peoples, the full range of Fort Ancient cultural expression is not present at the enclosure, but the distinctive, guilloche-decorated ceramics and settlement pattern were retained.

Even though the Strawtown enclosure ceramics are dominated by Fort Ancient sherds, both Fort Ancient and Great Lakes impressed wares are found in association in feature context (Cantin et al. 2003; McCullough 2005; McCullough et al. 2004; White et al. 2002). This co-occurrence of two ceramic traditions in central Indiana was first noted by Griffin (1943) and designated "Oliver." Later, investigations at the Bowen site (Dorwin 1971) established Bowen as the Oliver phase type site, with its well-documented co-occurrence of Fort Ancient and Western Basin-like ceramics. Currently the Oliver phase can best be described as a sedentary, village-

dwelling society that settled along the drainages of the east and west forks of the White River between about A.D. 1200 and 1450. Based on recent radiocarbon dates, the Strawtown enclosure is one of the earliest, if not the earliest, Oliver site in Indiana (McCullough et al. 2004). The Strawtown area is most likely foundational in the origins of the Oliver phase, where both groups were interacting by A.D. 1200.

Although the initial Late Prehistoric occupation of the Strawtown enclosure was by Oliver phase peoples, or Middle Fort Ancient-like groups interacting in central Indiana with Castor phase peoples (McCullough 2005), the Oliver phase occupation was succeeded by Oneota-like peoples. The recovery of shell-tempered Taylor Village pottery has consistently been from the upper levels of the deposits at the Strawtown enclosure. This stratigraphic relationship was first observed during the earliest excavations at Strawtown (White et al. 2002, 2003) where Features 1 and 2 (Oliver phase) were overlain with Taylor Village ceramics mixed in a densely packed pile of bone. A similar situation was identified in Feature 7, where only sand/grit-tempered Oliver phase pottery was recovered beneath a mixed shell-tempered and grit-tempered pottery zone (with a high density of bone). Other smaller cache pits containing Taylor Village pottery and bone were identified, such as Feature 5, which was clearly superimposed on top of Oliver phase deposits (White et al. 2003).

During the 2008 investigations, five features (Figure 10) were identified containing Taylor Village ceramics mixed in with a variety of faunal remains. Feature 61 was superimposed over an area near the southeastern portion of the Main Block southern extension that was not fully investigated. Features 54 and 64 were superimposed over Oliver phase features, and Features 56 and 62 were located near the exterior line of posts, superimposed over postholes. The deposits associated with the basin structure (Feature 49) also exhibited the upper Taylor Village, lower Oliver relationship, although not as clearly as with the superpositioning over the deep storage pits. Even though shell-tempered pottery was present in the lower portion of the basin fill, the Taylor Village ceramics were eroded and relatively low in quantity compared to those in the overlying deposits. A quantitative analysis of the ceramics confirmed this relationship, as did an analysis of materials recovered from postholes excavated in 2006 through 2008, which demonstrated that all but one posthole were not associated with the Taylor Village component.

The stratigraphic relationship of the enclosure strongly suggests that the Oneota occupation on the enclosure postdates the Oliver occupation. The pattern of Oneota discard appears to be one of infilling the depressions left on the site after its abandonment by Oliver peoples, since the majority of the Taylor Village ceramics and faunal material has been recovered from above large Oliver storage pits. The deep storage pits (some over 2.5 m deep) and house basins (i.e., Feature 49) would either have not been filled completely or could have settled as organic materials decomposed. The presence of depressions on the site after the Oliver abandonment suggests a relatively rapid reuse, although the radiocarbon dates from Oliver contexts in the enclosure and those associated with Taylor Village are not refined enough (see Figure 9) to identify separate occupations, further suggesting that the succession was relatively quick.

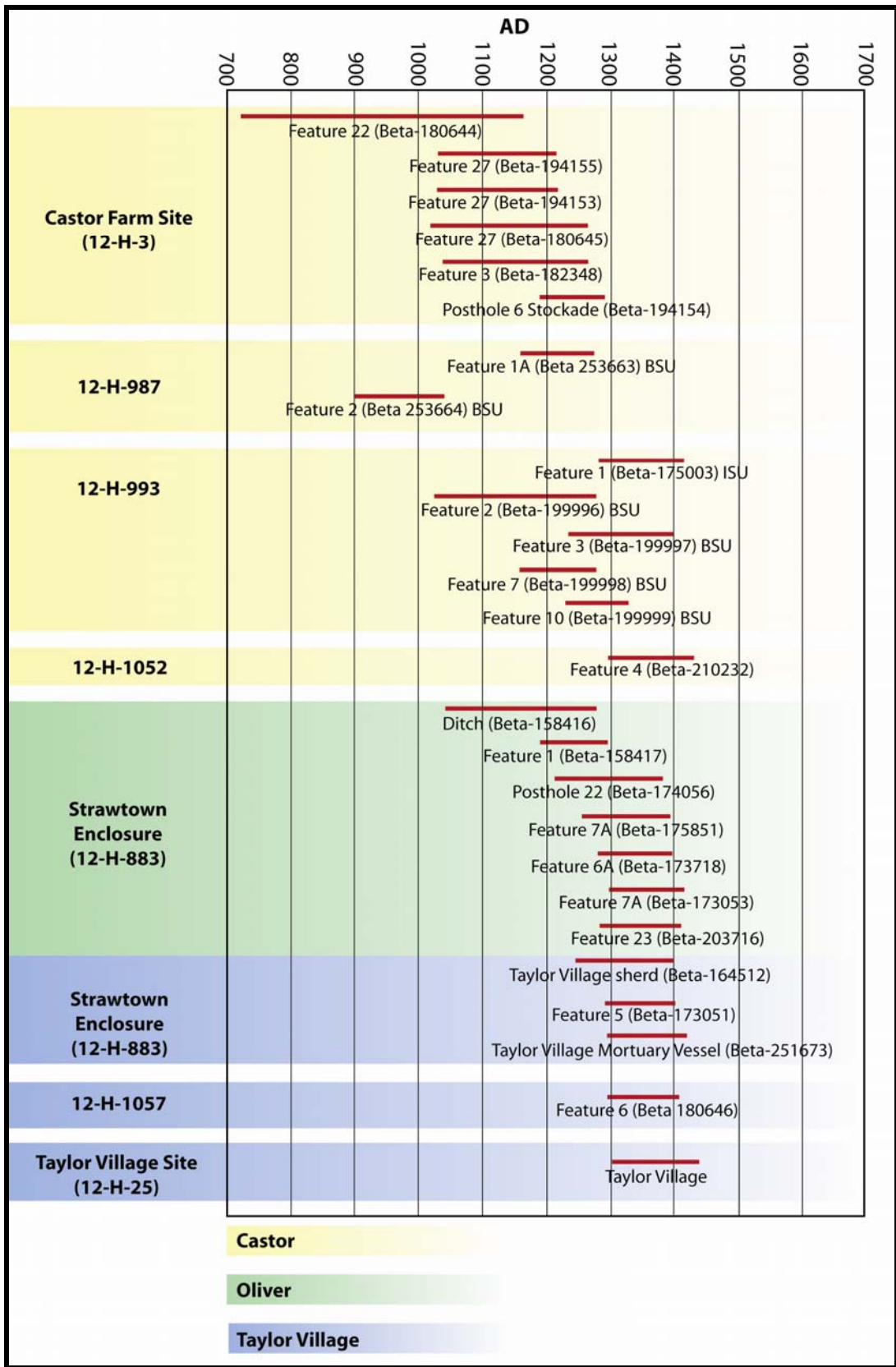


Figure 9. Radiocarbon dates (calibrated at 2 sigma) from Late Prehistoric sites near Strawtown, Indiana.



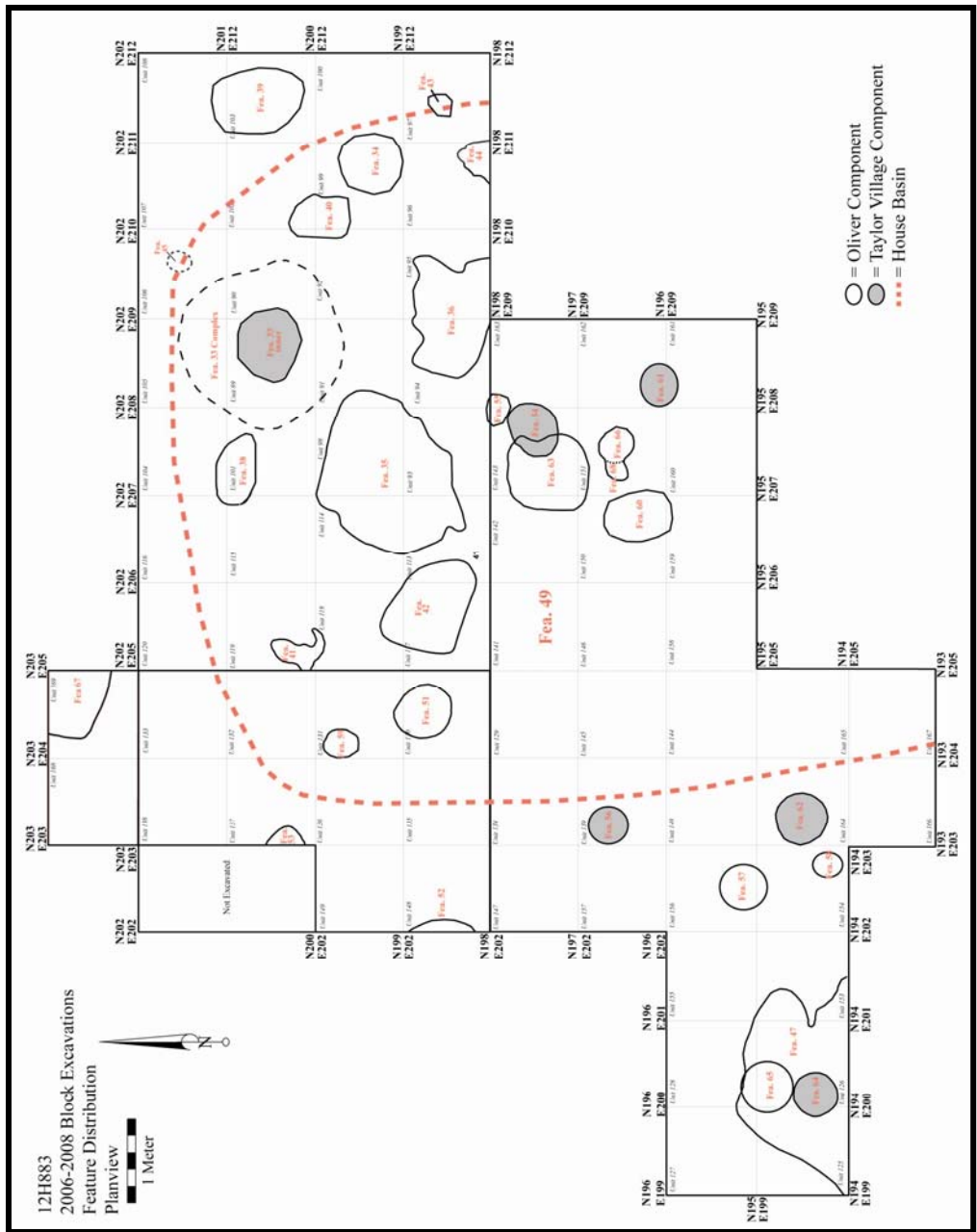


Figure 10. Plan map of the Main Block showing feature distribution.

The successional occupation of an Oliver village fits with the overall distribution of Taylor Village materials in central Indiana. Taylor Village pottery was recovered with Castor materials in feature context at site 12-H-1057, a small habitation site in the vicinity of the enclosure. Further, these materials have been found together in a few contexts on the Castor Farm site, most recently in a semi-subterranean domestic structure discovered during the summer 2007 Research Experience for Undergraduates program. Thus, the Castor phase both predates and is contemporary with the presence of the Oliver phase in Indiana, but the later Castor phase peoples also maintained at least some type of interaction with the Taylor Village population. What is not evident thus far is any interaction between Oliver groups in central and southern Indiana and the Taylor Village people (McCullough 2000). Evidently, the mechanisms that

brought together and blurred the boundaries between populations associated with the Fort Ancient and Western Basin traditions—creating the Oliver phase in the thirteenth century—were no longer applicable by the fourteenth century when this Oneota-related population settled in the Strawtown area.

## References Cited

- Arnold, Craig A., Colin Graham, Scott Hipskind, Dorothea McCullough, Robert G. McCullough, and Mariah Yager  
2007 Archaeology in a Public Venue at the Strawtown Enclosure (12-H-883): 2006. *Reports of Investigations* 701. IPFW Archaeological Survey, Indiana University-Purdue University at Fort Wayne, Fort Wayne.
- Brown, Ryland T.  
1884 Geological and Topographical Survey of Hamilton and Madison Counties, Indiana. In *Indiana Department of Geology and Natural History Fourteenth Annual Report*, Indianapolis.
- Cantin, Mark, John A. Schwegman, David N. Holycross, and C. Russell Stafford  
2003 Geoarchaeological Investigations of the Taylor Property near Strawtown, Hamilton County, Indiana. *Technical Report* 34. Indiana State University Anthropology Laboratory, Terre Haute.
- Cochran, Donald R.  
1980 An Archaeological Assessment of Fox Island County Park. Unpublished Master's thesis, Department of Anthropology, Ball State University, Muncie.
- Cox, Edward Travers  
1879 Antiquities. *Eighth, Ninth, and Tenth Annual Reports of the Geological Survey of Indiana, Made during the Years 1876-77-78*, pp. 121-153. Indianapolis Journal Co., Indianapolis.
- Dorwin, John T  
1971 *The Bowen Site: An Archaeological Study of Cultural Process in the Late Prehistory of Central Indiana*. Indiana Historical Society Prehistory Research Series IV. Indianapolis.
- Drooker, Penelope B.  
1997 *The View from Madisonville: Protohistoric Western Fort Ancient Interaction Patterns*. Memoirs 31. Museum of Anthropology, University of Michigan, Ann Arbor.
- Essenpreis, Patricia S.  
1982 The Anderson Village Site: Redefining the Anderson Phase of the Fort Ancient Tradition of the Middle Ohio Valley. Unpublished Ph.D. dissertation, Department of Anthropology, Harvard University, Cambridge, Massachusetts.
- Griffin, James Bennett  
1943 *The Fort Ancient Aspect: Its Cultural and Chronological Position in Mississippi Valley Archaeology*. University of Michigan Press, Ann Arbor.
- Heilman, James M., Malinda C. Lileas, and Christopher A. Turnbow (editors)  
1988 *A History of 17 Years of Excavation and Reconstruction: A Chronicle of 12th Century Human Values and the Built Environment*. Dayton Museum of Natural History, Dayton, Ohio.
- Helm, Thomas B.  
1880 *History of Hamilton County, Indiana, with Illustrations and Biographical Sketches of Some of Its Prominent Men and Pioneers*. Kingman Brothers, Chicago, Illinois.

- Henderson, A. Gwynn (editor)  
 1992 *Fort Ancient Cultural Dynamics in the Middle Ohio Valley*. Monographs in World Archaeology 8. Prehistory Press, Madison, Wisconsin.
- Henderson, A. Gwynn, and David Pollack  
 2004 Middle Fort Ancient Circular Village Organization. Paper presented at the annual meeting of the Society for American Archaeology, Montreal, Canada.
- McCullough, Robert G.  
 1997 Swidden Cultivators of Central Indiana: The Oliver Phase in a Context of Swidden Agriculture and the Implications of Regional Climate Change. *Indiana Archaeology* 1:54-114.  
 2000 The Oliver Phase of Central Indiana: A Study of Settlement Variability as a Response to Social Risk. Unpublished Ph.D. dissertation, Department of Anthropology, University of Southern Illinois, Carbondale.  
 2003 Cultural Interaction along the West Fork of White River during the Late Prehistoric Period. In *Facing the Final Millennium: Studies in the Late Prehistory of Indiana, A.D. 700 to 1700*, edited by Brian G. Redmond and James R. Jones III, pp. 141-171. Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology, Indianapolis.
- McCullough, Robert G. (editor)  
 2005 Late Prehistoric Archaeology of a Frontier. *Reports of Investigations* 502. IPFW Archaeological Survey, Indiana University-Purdue University at Fort Wayne, Fort Wayne.  
 2008 Archaeology in a Public Venue at the Strawtown Enclosure (12-H-883): 2007. *Reports of Investigations* 803. IPFW Archaeological Survey, Indiana University-Purdue University at Fort Wayne, Fort Wayne.
- McCullough, Robert G., Andrew A. White, Michael R. Strezewski, and Dorothea McCullough  
 2004 Frontier Interaction during the Late Prehistoric Period: A Case Study from Central Indiana. *Reports of Investigations* 401. IPFW Archaeological Survey, Indiana University-Purdue University at Fort Wayne, Fort Wayne.
- Marcus, Joyce  
 1994 Introduction. In *Tribal and Chiefly Warfare in South America*, edited by Elsa M. Redmond, pp. v-vii. Studies in Latin American Ethnohistory and Archaeology, vol. 5. Memoirs 28. Museum of Anthropology, University of Michigan, Ann Arbor.
- Mohow, James A.  
 1987 The Archaeological Resources of the Maumee River Valley, Allen County, Indiana. *Reports of Investigations* 22. Archaeological Resources Management Service, Ball State University, Muncie.
- Moore, Mark W.  
 1987 The Archaeological Resources of North-Central Allen County, Indiana. Manuscript on file, Glenn A. Black Laboratory of Archaeology, Indiana University, Bloomington.
- Overstreet, David F.  
 1997 Oneota Prehistory and History. *The Wisconsin Archeologist* 78(1-2):250-296.

- Pollack, David, and A. Gwynn Henderson  
2000 Insights into Fort Ancient Cultural Change: A View from South of the Ohio River. In *Cultures before Contact: The Late Prehistory of Ohio and Surrounding Regions*, edited by Robert A. Genheimer, pp. 194-227. Ohio Archaeological Council, Columbus, Ohio.
- Sharp, William E., and David Pollack  
1992 The Florence Site Complex: Two Fourteenth-Century Fort Ancient Communities in Harrison County, Kentucky. In *Current Archaeological Research in Kentucky: Volume Two*, edited by David Pollack and A. Gwynn Henderson, pp. 183-218. Kentucky Heritage Council, Frankfort, Kentucky.
- Stothers, David M., and G. Michael Pratt  
1981 New Perspectives on the Late Woodland Cultures of the Lake Erie Region. *Midcontinental Journal of Archaeology* 6(1):91-121.
- Stothers, David M., and Andrew M. Schneider  
2003 Implications of the Wolf Phase Dispersal of Terminal Western Basin Tradition Populations into Northern Indiana during Late Prehistory. In *Facing the Final Millennium: Studies in the Late Prehistory of Indiana, A.D. 700 to 1700*, edited by Brian G. Redmond and James R. Jones III, pp. 172-200. Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology, Indianapolis.
- White, Andrew A., Dorothea McCullough, and Robert G. McCullough  
2002 An Archaeological Evaluation of Late Prehistoric Village and Subsistence Patterns in North-Central and Northeastern Indiana. *Reports of Investigations* 216. IPFW Archaeological Survey, Indiana University-Purdue University at Fort Wayne, Fort Wayne.
- White, Andrew A., Robert G. McCullough, and Dorothea McCullough  
2003 Archaeological Investigations at Two Late Prehistoric Earthen Enclosures in Indiana. *Reports of Investigations* 301. IPFW Archaeological Survey, Indiana University-Purdue University at Fort Wayne, Fort Wayne.

## **INVESTIGATIONS AT THE YANKEETOWN SITE (12W1)**

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### **Introduction**

The Yankeetown Phase of the Lower Ohio Valley is recognized as the first population in the region to rely on maize-based horticulture. Although recognized since the early 1950s, this culture remains poorly understood. The “type site” for the phase, the Yankeetown site (12W1), has been difficult to access for professional archaeologists and has suffered substantial losses from erosion and looting. In 2003, permission from the landowners granted access to the Indiana State Museum (INSM), who then began carrying out survey work at the site. Information gained during these investigations allowed museum staff to gain further access to the site for a more intensive survey and testing project. In 2008, with support from the U.S. Department of the Interior, National Park Service’s Historic Preservation Fund, administered by the Indiana Department of Natural Resources, INSM carried out riverbank surveys, geophysical testing, and excavations at the site. The primary goals of the project were to gain an understanding of the site’s organization and to systematically test remote sensing data.

### **Environment**

The Yankeetown site is located in a geomorphically dynamic region of Southern Indiana defined in part by the continual flooding and natural meander of the Ohio River. To a large extent, dams, constructed on the Ohio River during the late 1960s, have altered how the river affects the topography; however, a general sense of what the prehistoric environment would have been, including the available resources, can still be recognized. Situated within the floodplains of the Wabash Lowland Physiographic region (Schneider 1966:48), the site sits on what is locally referred to as “the bottomlands.” The topography is dominated by floodplain forests and depressions, natural levees, point bars, drainage channels, and stream terraces. Mudflats, backwater sloughs, and swamps, resultant from the flooding and the river meander, also mark areas within this lowland topography (Petty 1966:276; Redmond 1990:163).

The vegetation is dominated by the oak-hickory type and includes hickory, white oak, black oak, and black walnut. The region also supports many plant species more commonly found to the south, although they are found much more infrequently today. These species, such as the bald cypress and pecan, give the area a markedly southern character (Deam 1931; Green 1984:427; Petty 1966:274-288). Numerous edible water plants, such as American lotus and arrow arum, edible shrubs and herbaceous plants including goosefoot and marsh elder, and fruits such as mulberry, pawpaw, and persimmon would have been available resources from the surrounding areas (Green 1984:441; Redmond 1990:165).

A variety of animals inhabited this lowland topography, although many did so on a seasonal basis only. Archaeological evidence exists from the Yankeetown site indicating the native people's exploitation of many species, including deer, elk, turkey, raccoon, beaver, turtle, and many species of fish, including freshwater drumfish (Blasingham 1965:17; Dorwin and Kellar 1968:30-33; Garniewicz 2003: unpublished catalog; Vickery 1970:75-77).

Another important natural resource afforded by the regions floodplain topography is the earth itself. The soils present at the Yankeetown site are fertile alluvial soils dominated by Huntington silt loam (Shively 1979; Ulrich 1966:68). This fertile soil has proven to be exceedingly good at supporting efforts to grow crops such as maize, for both prehistoric and modern farmers (Redmond 1990:212). It is currently unknown exactly how important maize was in the diets of the Yankeetown Phase people, but the simple fact that they were Indiana's earliest maize growers may attest to the region's abilities to support such an endeavor.

## **Background**

Indiana University archaeologist Glenn Black worked at the Angel Mounds site in Evansville, Indiana during the late 1930s. During this time, a local collector showed him some uniquely decorated ceramics which had not previously been described in the archaeological literature. Black began making trips to the banks of the Ohio River and amassed a collection of artifacts from the site, which would later be recognized as site 12W1, the Yankeetown site. His continued investigations from 1939 through 1950 revealed multiple occupations at the site beginning with a pre-ceramic component up through a Middle Mississippian component. Black was able to place his unique ceramics chronologically by their stratigraphic position just below the Mississippian, shell-tempered pottery (Blasingham 1953:19; Redmond 1990:3).

By the early 1950s, Yankeetown was identified as an archaeological unit based primarily on a ceramic assemblage with particular stylistic traits, which included notched applied fillets and thin line incising (Griffin 1952: Figure 205; Maxwell 1952:187). This assemblage became the subject of focused research in 1953 by Emily Blasingham, who analyzed the collected ceramic material and created a typology for their identification. The following year, Hilda Curry wrote the first publication concerning the Yankeetown Phase. Based on a survey by Frances Martin, William Rude, William Merimee and Glenn Black (April 26, 1950) as well as her own survey done in August of the same year, Curry's publication described the Yankeetown Phase in Southwestern Indiana (Curry 1954).

Ten years later, in preparation for the construction of large dams along the Ohio River, the National Park Service sponsored salvage excavations at the Yankeetown site along the riverbank where there would be the most impact from the damming (Blasingham 1965; Dorwin 1967; Dorwin and Kellar 1968; Vickery 1970). Although the information gained was greatly influential in the Yankeetown site's inclusion in the National Register of Historic Places in 1979 (Site #79000026), these excavations were the last to be carried out by professional archaeologists at the Yankeetown site.

Research on the Yankeetown Phase continued in the mid-1980s with work by Brian Redmond. Redmond (1990) used Blasingham's ceramic typology, adding suggestions for refinement as he expanded his study to encompass broader issues concerning Yankeetown Phase cultural adaptations. As the salvage operations included only preliminary, general descriptions



of selected artifacts, the research studies by Blasingham and Redmond have been the primary references on Yankeetown Phase artifact assemblages and both were primarily focused on vessel ceramics.

## Research

The archaeological field component of the project was carried out from May of 2008 through the end of September, 2008. The early focus was on intensively surveying and testing features that had been exposed along the riverbank (Figure 1). This work gave a clear picture of the site's boundaries along the east-west axis, which helped focus the survey research area. Geophysical survey of this delineated area was then conducted. This showed numerous areas of potential archaeological significance. Eight of these areas were tested through excavation.

The final part of the project was to analyze and interpret the artifacts recovered. Little information has been published regarding Yankeetown Phase artifact assemblages. Although the current project did not recover vast quantities of material, numerous large rim sherds were recovered, with particular attention paid to their conservation and classification.

## Riverbank Survey and Excavations

Both natural and cultural activities have caused rapid erosion along the Ohio River cut bank at the site. Annual flooding and the natural meander of the river have altered the riverbank through time. Following the completion of the dams constructed along the river during the late 1960s, flooding became more problematic and waves caused by barges contributed to further erosion.



**Figure 1. Excavating at the riverbank.**

Based on erosion rates over the past 40 years, the site is expected to be completely lost within the next 30 years. When INSM archaeology staff first visited the site in 2003, large blocks of the bank were collapsing into the river. Additional cracks eight feet back from the bank indicated that further collapse was inevitable. During the 2008 field season, the current edge of the bank was mapped, and when compared to the 1964 topographic map, the cut bank had progressed an additional 100 feet into the floodplain.

The annual flooding along the river bank will eventually destroy the site. However, the eroding cut bank also reveals a unique opportunity to view the geomorphology of the site as a relatively perfect cross-section. During the current project, this cross-section revealed Late Archaic through Yankeetown Phase occupations and a clustering of the exposed Yankeetown features within a narrowly defined area. Absent in the cut bank was evidence of Mississippian occupations. Heavy amounts of Mississippian shell-tempered ceramics and associated pits and middens have been previously reported during earlier surveys (Blasingham 1953:23; Redmond 1986:4). None were found during the current project.

All exposed features found during the riverbank survey were documented through scaled drawings and photographs. Select features were then excavated, based on a sampling of feature types, stratigraphic position, chronology, and accessibility. Features were excavated by stratigraphic levels if present or in ten cm levels if no stratigraphy was visible.

Thirteen features were identified and mapped. Four features were located quite low along the cut bank and were identified as Late Archaic features. Two of the Late Archaic features lacked substantial amounts of artifacts, but contained burnt soil and fire-cracked rock indicating their use as hearths or cooking features. The third Late Archaic feature was a mass of charred river cane that was eroding out of the bank. The final Late Archaic feature lacked good definition and was identified as an area of sheet midden that was composed mostly of charcoal flecks. These four features were mapped but not further tested; however, a large chunk of the river cane was salvaged and brought back to the INSM for further analysis. Radiocarbon analysis on this material gave a calibrated date of 1690-1500 B.C.

Only one feature was identified as Early Woodland. It contained a large portion of an Early Crab Orchard vessel. This is a thick-walled, flower-pot shaped vessel with impressions on the exterior that were likely created by a cord-wrapped dowel (Figure 2). Recovered as it was eroding out of the bank, there was not enough associated carbonized material to obtain a C14 date.

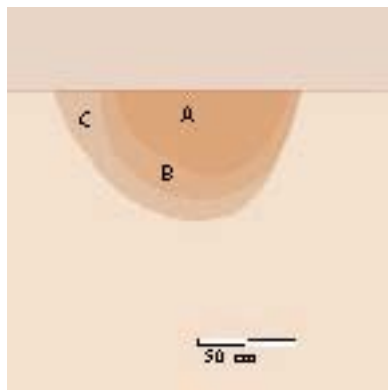


**Figure 2. Early Crab Orchard sherds. The rim sherds are at top.**

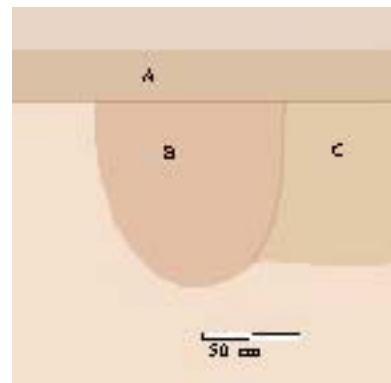
The remaining eight features were identified as Yankeetown. One of these, Feature 2, proved to be a thick area of midden that could not be delineated. The boundaries of the midden extended to the east and west, and artifact concentrations were higher towards the top of the deposit.

The seven features that exhibited strong definition were quite similar and somewhat non-descript. Previous excavations at the site reported bell-shaped pits, narrow straight-sided pits, and basin-shaped pits (Dorwin and Kellar 1969; Vickery 1970). The current project, however, only located basin-shaped pits. Whereas the bell and narrow-sided shapes can indicate use as storage pits, the wide-topped/rounded-bottomed basin shapes do not lead towards any definitive conclusion regarding function. One possible interpretation is that they served as food preparation pits, but this is tentative at best. Only a single feature had a well-defined use episode as a cooking pit as evidenced by *in situ* burned soil.

Although all of the excavated Yankeetown pit features are generally basin-shaped, a substantial degree of variation does exist and can be exemplified by comparisons between Features 1 and 4. Feature 1 was a relatively shallow, basin-shaped pit. Excavations revealed that it was repeatedly excavated, used, and then subsequently filled. Zones A, B, and C, shown in Figure 3, represent these usage/fill zones. The relatively high amounts of artifacts present in the fill indicate that the pit had been filled in with the debris from another pit or dense village midden material. Zone B contained high amounts of burned soil indicating that it may also have been filled with debris from cleaning out a cooking pit.



**Figure 3. Profile of Feature 1.**



**Figure 4. Profile of Feature 4.**

Feature 4 was substantially deeper and narrower than Feature 1. This pit appears to have been excavated and filled in a single episode. In Figure 4, Zone A is waterborne silt and Zone C is a transitional zone between this feature and another adjacent feature. Zone B is the entirety of Feature 4 and it contained a tremendous amount of midden material, including the most ceramic vessel sherds excavated from a riverbank pit feature during the current project.

Although the function of these Yankeetown features was difficult to interpret, their depth and location gave clues towards understanding the site's organization. Yankeetown features along the cut bank were fairly shallow, and the tops of the associated surface midden deposits began at depths between 0 and 50 cmbs. The shallowest example was the midden above Feature 1, which was clearly visible at the surface. The midden above Features 8 and 9 was also quite shallow, beginning 20 cm below the surface. Feature 2, (shown in Figure 5 after excavation),

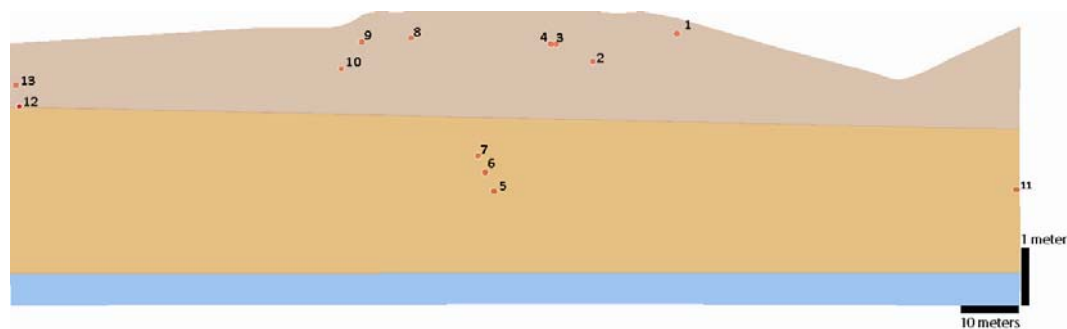
was interpreted as thick sheet midden beginning 90 cm below the surface. On top of this thicker lens was 50 cm of general (less dense) surface midden. Midden above Features 3, 4, and 10 began less than 50 cm below the surface.



**Figure 5. Feature 2.**

Feature 13 was the deepest Yankeetown Phase feature, with midden deposits beginning at approximately 60 cmbs. Although the discrepancy between this and the depths of the deposits for Features 3, 4, and 10 seem slight, it highlights an important relationship. Mapping proved that Features 1, 2, 3, 4, 8, 9, and 10 were located on a slightly elevated ridge, while Feature 13 was not (Figure 6, below).

The riverbank survey and testing clearly show a clustering of Yankeetown features in an area of higher elevation. Analysis of artifact densities also reveals that these features held a substantial amount of artifactual material. Nearly 40% of the ceramic vessel material recovered during the entire project was recovered from these features. Most of the remaining 60% was recovered from the two pit features associated with the structure in Unit E (discussed in the text below).



**Figure 6. Shown in the diagram above of the riverbank's cross-section, Yankeetown features are numbers 1, 2, 3, 4, 8, 9, 10, and 13; Feature 12 is Early Woodland; and Archaic features are numbers 5, 6, 7, and 11. The location of Yankeetown features is concentrated at an area of higher elevation.**

### *Remote Sensing*

Having narrowed down the research area via the riverbank survey, a grid of forty-two 20m x 20m units, covering a total of 4.15 acres, was prepared for the purpose of conducting a geophysical survey. Conducted by the Indiana-Purdue University, Fort Wayne Archaeological

Survey (IPFW-AS), the goal of the survey was to help identify the site's organization through locating features and structures. Results of the survey revealed numerous areas of potential archaeological significance.

While the magnetometer was successful in locating areas to test, it was not successful in developing a map that could provide information on site organization. The ability of the magnetometer to pick up relatively deep anomalies as well as an inability to discriminate ferrous materials in the plow zone resulted in a magnetometry map that was packed with potential features. No boundaries to the potential site were noted on the magnetometry map; however, there were a series of magnetic highs beginning at the riverbank where Features 1-10 occur and continuing in a wide curve in a northeasterly direction.

This curved area of magnetic anomalies appears to be a slightly elevated area within the floodplain. This may have been caused by vertical accretion from a small point bar deposit or other undulating feature along an old Ohio River meander. From the observations of both the cut bank deposits and the magnetometry results, it may be likely that Yankeetown village occupations were focused along this relatively high elevation.

### *Ground Truthing*

Time and resources allowed for eight high potential areas to be excavated. Combined, these areas covered a total of 34 square meters. The excavated units included two trenches, trenches A and F, which were positioned over linear anomalies; five 2 x 2 meter excavation units, Units B, C, D, E, and O, which were positioned over discrete anomalies; and a single 1 x 2 meter unit, Unit H, which was also positioned over a discrete anomaly.

The excavation of Units C and H illustrated the limitations of geophysical surveys at the project area. In Unit H, at approximately 60 cmbs, Yankeetown surface midden material began to appear in the unit as well as wood outlined with a distinct red halo. The unit was expanded to further evaluate the potential feature (the unit was initially a 1 x 1 meter small test unit, which was then expanded to a 1 x 2 meter unit). Upon further excavation and re-evaluation, the red halos were interpreted as deposition of insoluble iron around root casts. Other units contained similar depositions and it is likely that they represent the base of historic alluvium at approximately 65 cmbs. A calibrated date of A.D. 1800 was obtained from similar material at the same general level from Unit O.

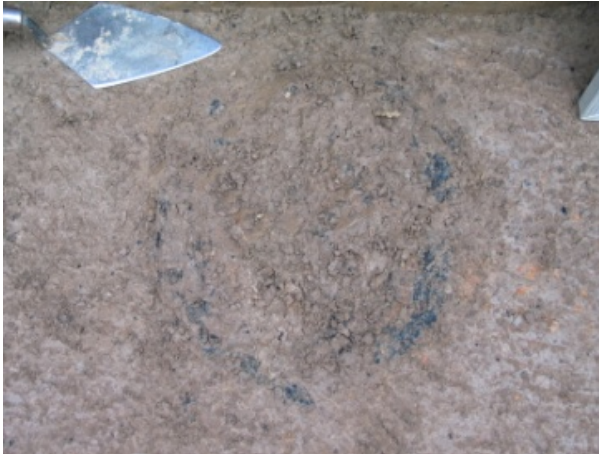
Unit C was positioned over an exceptionally strong, discrete anomaly. At approximately 60 cmbs Yankeetown Phase surface material began to appear in the unit. Continued excavation revealed areas of intense *in situ* burning. Remnants of burned logs continued past a depth of two meters; however, excavation was stopped at this point. This intense burning predates the Yankeetown occupation and appears to be natural burning rather than a cultural feature. The burning pattern reflects a random arrangement of large and small branches as well as tree nuts and other vegetation. The patterning is consistent with an interpretation of a prehistoric logjam or drift pile that caught fire. Areas which were waterlogged resulted in the abundant charcoal and the intense burning of dry timbers resulted in the firing of surrounding soil.

Units A, B, C, F, and H did not contain features; however, they did exhibit Yankeetown Phase surface midden material, albeit at relatively low amounts. All excavated units revealed that the stratigraphy of the excavation area was fairly even and that the depth of Yankeetown Phase material began at approximately 60 cmbs. Very little material was recovered above this level.



Features, as well as the greatest amount of artifactual material, came from Units D, E, and O, which were directly adjacent to one another. Units D and E were positioned over extremely strong, discrete anomalies that were similar to that for Unit C. In contrast to Unit C, these were clearly the result of cultural activity. Unit O was placed between Units D and E as more and more material became apparent within those units.

In Unit D, three distinct features were exposed and recovered. The first, exposed at approximately 80 cmbs along the western edge of unit, was a concentration of charred corn with kernels still on the cob (Figure 7). Cobs were aligned with the exterior edge of the feature. The feature was 20 cm wide and 10 cm deep and was pedestalled for removal as a block and taken back to the lab for intensive analysis. At 100 cmbs the outline of two other features became apparent. One feature, along the northern half of the unit, had an inverted bell shape. Like most Yankeetown features, its function is unknown. The other feature, which was present in the southeastern half of the unit, was a large, shallow cooking feature that had been filled with trash (Figure 8).



**Figure 7. Corn 'cache.'**



**Figure 8. Cooking pit feature.**

Approximately 3.5 meters to the south of Unit D is evidence of a structure in Unit E. Evidence for this structure was visible as a rectangular basin, which was surrounded, and partially filled with burned daub. This structure would have been very difficult to detect had it not burned prehistorically. There were no indications of trenches or post-molds, and it was not until the excavation of a distinct zone that the outline of a perfect 90 degree angle was detected and excavated to reveal a shallow basin. Although time would not permit expansion of the unit to completely excavate the structure and determine its overall size, enough of the feature was excavated to determine that it was a relatively ephemeral structure.



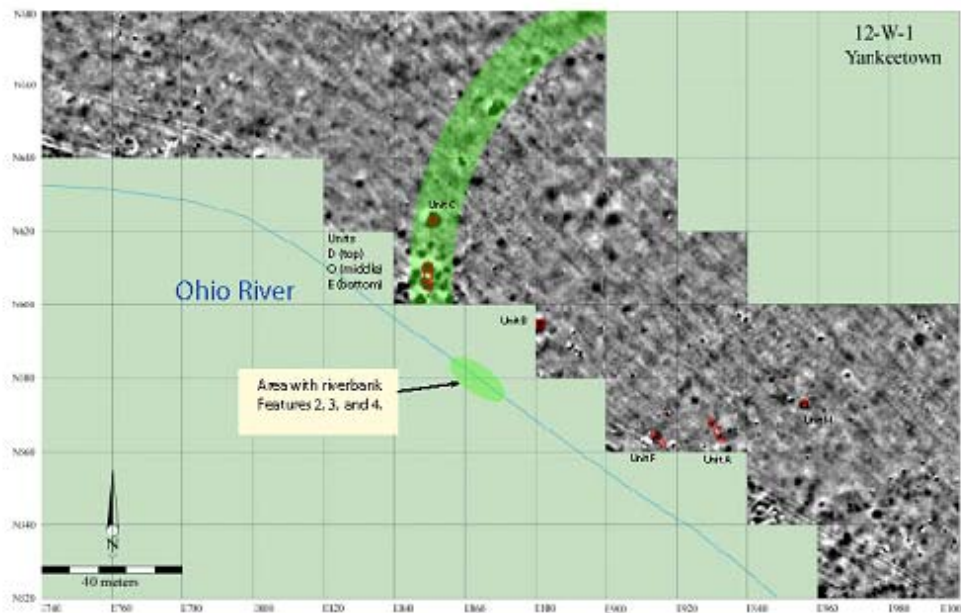
**Figure 9. House basin in Unit E. In the corner is a single broken vessel (Figure 14, below).**

## Results

Material from the riverbank survey suggests that Late Archaic populations frequently exploited this riparian environment; however, there are no indications for substantial long-term settlement on the floodplain itself. Features are primarily in the form of hearths or diffuse midden, and appear to be associated with cooking and processing activities. This is suggested by the high incidence of burning associated with these features as well as the occurrence of fire-cracked rock. The absence of bone, and in some features floral material, is likely the result of poor preservation. Feature 11 is an anomalous feature that consisted entirely of charred river cane. This cane gave a C14 date for the Late Archaic horizon, which is (calibrated) 1690-1500 B.C.

Early Woodland populations appear to have utilized this locale more intensively than Late Archaic populations. The old land surface between 110 and 130 centimeters below the modern surface frequently yields Early Crab Orchard sherds and associated materials. Unfortunately, the 2008 riverbank exposure did not expose well-preserved Early Woodland features. Consequently, the pattern of distribution with regard to these occupations along the riverbank is currently unknown.

The current project identified key patterns for the Yankeetown Phase occupations. Although the Yankeetown paleosurface exhibits only slight variations in elevation, there is a pronounced increase in the intensity of occupation at the higher elevations. Magnetic anomalies as well as the riverbank survey and excavations revealed that clustered riverbank features are located along a naturally occurring floodplain ridge. This ridge extends outward in a northeasterly direction to incorporate Units E, D, O, and C (Figure 10).



**Figure 10.** Shown highlighted in green, the magnetometry map indicates that these clustered riverbank features coincide with a series of anomalies which have been interpreted as a slightly elevated floodplain ridge. Units E, D, and O, which contained evidence of a structure with surrounding features, also occurred along this floodplain ridge.

Table 1, below, compares the elevations (based on a base elevation value of 500) of the Yankeetown midden deposits between floodplain ridge units and those not located along the ridge. Although a seemingly slight variation, the 10-14 cm difference may have created a favorable difference in this riparian environment.

Table 1. Elevation of Yankeetown midden.

<b>Floodplain Ridge Units</b>	<b>Other Units</b>
Unit D = 499.62	Unit F = 499.52
Unit O = 499.66	Unit A = 499.52
Unit E = 499.66	Unit H = 499.53
Unit C = 499.60	Unit B = 499.54

The intensity of these occupations is also evidenced by the 30 cm thick (on average) midden deposits as well as numerous features. It would appear from these data that the Yankeetown occupations may have been focused along the floodplain ridge and that Yankeetown occupations were loosely organized homesteads arranged in a linear fashion on areas of higher elevation.

Artifact and feature densities appear to correlate with the elevation of the Yankeetown paleosurface. Within the research area, evidence of intensive use by Yankeetown inhabitants was present where the paleosurface had the highest elevation and was therefore closest to the modern land surface. In contrast, the midden deposits were widespread across the entire study area, including Unit B, where there was no magnetic anomaly. Although this paleosurface midden did not exhibit an extensive quantity of artifactual material, it was visually distinct through both a change in texture and in its darker color.

The midden material recovered from units not located along the ridge was initially believed to be associated with the village; however, analysis of the current research indicates that it may have been associated with horticultural fields that would have surrounded the occupied area on the floodplain ridge. Although the intensity of agricultural activity amongst Yankeetown populations is currently unknown, it is certainly possible that corn and other crops were grown in tended fields immediately adjacent to the living areas of the site. If these anthropogenic soils were the result of fields being subjected to annual burnings and limited dispersal of refuse, they may serve as an indicator of Yankeetown agricultural activity.

The association between Yankeetown occupations and higher elevations may also shed light as to the complete absence of Mississippian material. The current data suggest that the area excavated is only a remnant of a much larger ridge, probably with a more intensively occupied area at the higher elevations, which were lost as the Ohio River cut into the bank. It is believed that the Middle Mississippian component of the site which is detailed in early reports may have been completely eroded by the Ohio River.

### *Project Area Chronology*

Table 2, below, lists the range of radiocarbon dates for the Yankeetown Phase material obtained during the current project. This date range is somewhat later than the A.D. 800-1100 (Redmond 1986) range that is commonly used for the Yankeetown Phase. These new dates are significant because the latter dates, particularly those in the A.D. 1040-1260 range, overlap with the Angel 1



or Stephan-Steinkamp Phase which has been radiometrically dated to between A.D. 1050 and 1200 (Hilgeman and Schurr 1990).

Table 2. Chronology.

<b>Calibrated Date</b>	<b>Context</b>
A.D. 1040-1240	Feature 20 (corn cache), Unit D
A.D. 1040-1260	Feature 22, Unit D
A.D. 890-1020	Feature 21, Unit D
A.D. 980-1160	Riverbank Feature 8
A.D. 1040-1260	Yankeetown Surface Midden, Unit 0

### **Artifact Analysis**

The following artifact descriptions are abbreviated; however, comprehensive descriptions are provided in the final report (Garniewicz 2009). Approximately 15,051 artifacts, not including fragments (<1/4 inch), were excavated during the 2008 field season by the Indiana State Museum (INSM). For analysis, these were divided into artifact classes: vessel sherds, daub/waste clay, chert debitage, tool (of any material type), adornment (of any material type), fire-cracked rock, flora, and bone (unmodified). By density, the vessel class was the most represented, followed by daub, then FCR. Only 11 tools were recovered along with small amounts of chert debitage and flora. Bone was particularly problematic. In the current project area, bone was not well preserved and frequently appeared as bone-meal staining in the soil. Previous work by INSM archaeologists along the riverbank excavated features from which well preserved bone tools, including a serving utensil made from the *os penis* of a raccoon, were recovered.

Ceramic vessel sherds are well represented, which created an ideal situation. Little information has been published concerning Yankeetown Phase ceramics. Publications by Blasingham (1953) and Redmond (1990) have remained the sole sources for identifying and understanding the ceramic assemblages. The relative abundance of vessel material collected during the current project gave an opportunity to begin a comprehensive ceramic study. An additional 4,000+ vessel sherds had been recovered by INSM during survey/salvage investigations between 2003 and 2008 (currently unpublished). It is hoped that these earlier collections can be incorporated into a larger study focused on the diversity of Yankeetown vessel forms and decorative styles that is clearly present.

#### *Vessel Ceramics*

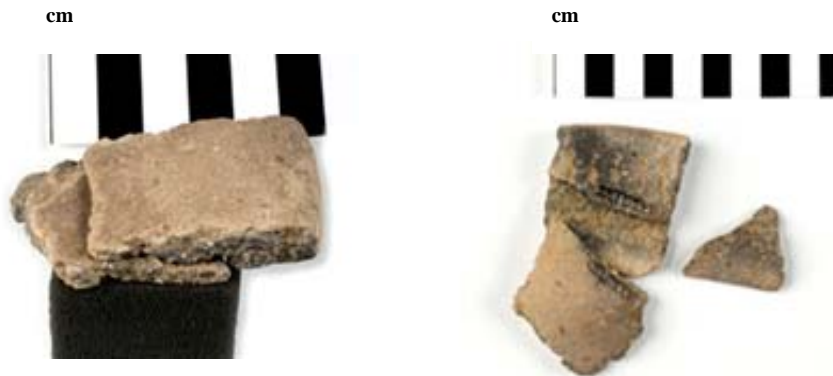
Yankeetown Phase vessels have proven to be a unique regional expression of ceramic vessel production. Unfortunately, few samples of large vessel portions exist in any collection and complete vessels are extremely rare. This lack of comparative data makes realizing the functionality of the vessels cumbersome, yet it also highlights the need for acquiring more material, and generating a systematic means of identification.

Vessels were created using the coiling method, although no good examples of coil breaks were noted from this collection of 7,151 sherds. The only type of temper noted from this

collection was grog. Minimal amounts of sand/grit were also commonly present, although rarely (n=9) to any significant degree. The inconsistency of its inclusion, the amounts in which it was found, and the fact that it was not confined to any particular vessel type confirms that sand/grit in the temper was accidental, perhaps from natural inclusions in the clay.

Collars were an important aspect of vessel manufacture, and most vessels, including bowls, jars, and pans, had collars. Rather than being applied, or added to the vessel, these collars were created by folding down clay from the lip down the exterior surface of the rim. On some sherds, the collar was very thick, while on others it was thin and barely recognizable except in cross-section, having been well blended. Some of the bowl, jar, and pan rims also had a much smaller fold over the interior of the vessel rim. This was probably the result of smoothing out the rim and pinching the excess clay over the lip on the interior of the vessel.

These collars may have assisted in transporting and/or suspending the vessel. It may also have had a somewhat negative effect. The numerous sherds recovered displaying fractures at this junction may indicate that it was, structurally, a weak spot in the vessel (Figure 11). This may explain the use of tool impressions at this juncture, which might have served to pin down the folded-over collar.



**Figure 11. Common fracture zone on Yankeetown Phase ceramics.**

Decorations on Yankeetown pottery were created via tool impressions, thin-line incising, and appliqué. Tool impressions on the lip and/or the neck were the most commonly employed motif and were present on vessels with or without other forms of decoration. Some tool impressions could be readily identified as being linear stamped, bar stamped, or crescent stamped. Other stamping appeared much more irregular and had shapes that could be defined as transitional between linear, crescent, and bar shaped. This was probably caused by smoothing or by applying the stamp to clay that was too wet to hold the shape. Tools used would have included fingernails and sharp-edged straight or curved implements. Impressions with a thicker dowel tool were also used, but were limited to placement on the lip only.

Thin-line incising was a much-used decorative motif. The neck and shoulders of vessels were incised in patterns consisting of parallel lines filled-in with oblique incised lines (Figure 14, top). Referred to as “Yankeetown Incised,” (Blasingham 1953:64) this particular incising pattern created a zoning motif that had the effect of outlining geometric shaped plain areas around the vessel’s neck and shoulders.

The least represented decorative motif in this collection as well as in other collections is the appliqué. Small, thin ribbons of clay were applied to the vessel’s surface and then tool impressed, possibly to both adhere the clay to the vessel wall and as a decorative element (Figure

14, bottom). The resulting pattern is referred to as “fillet appliqué” (Blasingham 1953:63). Some of the sherds have footprints left behind from the appliqué that has spalled off. Others show clear boundaries of the appliqué–vessel body in cross-section. The designs typically created are linear bands around the vessels upper neck or geometric designs using numerous ribbons throughout the neck and shoulder.

The decorative elements present give clues towards the degree of variation seen in Yankeetown Phase ceramics, but do little in realizing the forms and functions. To facilitate an evaluation regarding form and function, rim sherds equal to or greater than four square centimeters were further assessed. The result was the identification of a minimum of 202 vessels that could be identified as jar, bowl, or pan forms. Descriptions of each are presented in the text below and in Table 3.

Tables 3A and 3B list the vessels recovered during the current project. Although most of the vessel portions were too small to be identified beyond that of a non-specific bowl, jar, or pan form (Table 3A), specific form identifications were possible on 28 larger vessel portions (Table 3B). These specific identifications utilize research by Brian Redmond (1990) who described vessel forms and their possible functions based on his assessment of three Yankeetown Phase ceramic assemblages. Most of the larger portions recovered during the current project were clearly comparable to Redmond’s assessed vessels. The forms and proposed functions listed are based on Redmond’s analysis with minor additions/alterations to accommodate newly identified forms, specifically the miniature bowl and thick-walled pan (Redmond 1990:113-153).

Table 3A. Recovered Vessels: Non-Specific Forms.

<b>Form</b>	<b>Count</b>	<b>Major Decorative Element</b>
Jar	116	76% exfoliated, 20% Yankeetown Incised, 4% Fillet Appliqué
Bowl	17	94% exfoliated, 6% Fillet Appliqué
Pan/dish	41	55% exfoliated, 45% plain

Table 3B. Recovered Vessels: Large Vessel Portions/Reconstructions.

<b>Form</b>	<b>Count</b>	<b>Major Decorative Element</b>	<b>Proposed Function</b>
Small Jar	1	Fillet Appliqué	Cooking
Large Jar	1	Fillet Appliqué	Cooking
Large Jar	4	Yankeetown Incised	Storage/ cooking
Small Jar	1	Yankeetown Incised	Cooking
Small Jar	2	Plain	Storage/ cooking
Rounded Bowl	1	Fillet Appliqué	Cooking, heating, serving
Rounded Bowl	4	Plain/Plain Lip	Cooking, heating, serving
Large Bowl	1	Plain/Impressed Lip	Preparation/ serving?
Miniature Bowl	1	Plain	Cooking
Thick-Walled Pan	12	Plain	Cooking pan

With little material available to study, earlier analysis looked towards identifying vessel types based on their primary decorative attributes (Blasingham 1953). Although this provided an important analytical framework, added material from subsequent research has illustrated that associations between vessel form and decoration are quite loose. Important general trends, however, do exist: the placement of decoration of any type on the rim, neck, and shoulders rather than the body; the tendency of bowls/pans to be more minimally decorated and not inclusive of “Yankeetown Incising;” and the frequency of tool impressions around the neck of most vessels, around the lip of bowls, and around the lip of castellation areas of jars (jars without castellations have thus far proven to be plain lipped).

Cooking pans were the most abundant. One pan, reconstructed to be roughly  $\frac{1}{4}$  complete, displays an interesting “wok-like” shape that is potentially characteristic of a distinct vessel form (Figure 13). All twelve vessels listed as thick-walled pans were comparable and had orifice diameters at about 56 cm (average); however, there were slight variations in profiles and it is likely that some of these pans are more dish-like. Interestingly, portions of these large vessels that were large enough to encompass areas near the bottom show a heavy degree of fresh temper exposure often associated with heavy scouring. Evidence of soot and charring was noted also on pan sherds.

The remaining vessel material would have served a variety of tasks from cooking to serving. The large jars (Figure 14), with their wide necks and flared rims would have been ideal for cooking as well as carrying and covering for storage (Redmond 1990; Rice 1987). The rounded bowls (Figure 15) may have been quite multifunctional, serving as cooking, food preparation, and serving vessels. Unfortunately, the rounded bowl sherds in the current collection are quite small; however, some of the profiles indicate that their shape may be comparable to an example (shown in Figure 12) excavated during a previous excavation by Indiana State Museum staff. Other rounded bowl forms have been recovered that are elongated gourd-shaped. This form has been identified and described from other collections (Blasingham 1953:46).



**Figure 12. Rounded bowl recovered during earlier testing. This undecorated bowl is rather unique as cordmarked sherds are fairly infrequent in Yankeetown Phase ceramic assemblages.**

Figure 13. Examples of pans. The image to the right is approximately ¼ of a wok-shaped Yankeetown Thick-Walled Pan. The vessel is one of the few pan fragments that are void of tool impressions around the neck. The vessels shown directly below have also been identified as pans.



Figure 14. Examples of large jars. Large jars were identified with either Yankeetown Incised (left) or Fillet Appliqué (below) decoration. Castellation (far left and below) is common and is consistently embellished with tool impressions on the lip.







**Figure 15. Examples of bowls. Bowls tended to be more minimally decorated with simple tool impressing at the lip (above), or single/double bands of appliqué placed around the interior and/or exterior of the rim (right). The exception is shown at upper right. This vessel had intricate fillet appliqué patterning that extended upward under the lip, which is rare for both Yankeetown Incised and Fillet Appliqué patterning.**

### Other Artifacts Collected

Although not abundant, the current excavations also recovered a number of adornments (non-utilitarian items) and tools. Adornments recovered include ceramic discs, beads, and figurine fragments (Figure 16). The four beads recovered were made of balls of untempered clay that were perforated through the center. Three of the four beads are circular and slightly flattened, giving them a somewhat irregular shape. The fourth bead is more cylindrical and elongated in shape. These perforated ceramic beads were most likely adornments sewn onto clothing or suspended around the neck.

The unperforated clay discs, which have been interpreted as gaming pieces, are grog tempered with a slightly concave/convex shape. Created from the bodies of broken vessels, they have been ground along their rims. Although this grinding makes them distinctive from typical body sherds, it is possible that more gaming pieces exist in this and other Yankeetown Phase collections, but have been mistaken for unmodified body sherds.

Fragments of two figurines were excavated. Made from grog-tempered clay, the two legs are cylindrical in shape and are broken-off at the thigh. One leg includes the foot while the other is broken-off just above the foot. The size and shape of the two limbs are distinctive and it is unlikely that they belonged to the same figurine. One of the legs could possibly be a type of vessel lug; however, lugs of this large size are not recorded from any Yankeetown ceramic collections.



**Figure 16. Adornments.**

Relatively few artifacts classified as a tool were recovered during the current project, and one of the more interesting of these was recovered from a Late Archaic feature. Shown in Figure 17, this sandstone/siltstone weight was recovered near riverbank Feature 7. The weight has two incised lines that cross in the center. The lines extend over the sides of the weight, but stop before the back surface. The back has been ground-out to a concave shape, which may have made it ideal for use as an atlatl weight or net sinker.

**Figure 17. Grooved weight.**



Groundstone tools, including three pitted stone and three hammerstones were recovered from Yankeetown Phase contexts. Yankeetown chipped stone tools included six Fort Ancient points (Figure 18), four Madison points (Figure 19), five Humpback knives (Figure 20), five bifaces, and two edge-modified flakes.

The raw material used for the points came from southern Indiana. Well represented cherts include Holland, Lead Creek, and Wyandotte. Only one example of a non-local chert, Flint Ridge, was identified. The most abundant type of chert utilized was river pebble chert. River pebble cherts, or gravel cherts, are identified by Cantin as admixtures of different chert types (Cantin 2008:27). The exploited gravel chert utilized at the Yankeetown site is a light tan to brown color with a smooth (“glacial”) tannish brown cortex. Heat-treating of this chert greatly alters the matrix, turning the exterior a deep, metallic red color and the interior various hues of

pink and red banding. Interestingly, only one point, a Fort Ancient point, was made from river pebble chert while four out of the five humpback knives were made from the type.



Figure 18. Fort Ancient points.



Figure 19. Madison points.



Figure 20. Humpback knives.

Over 1,500 pieces of structural daub were recovered. 70% of this total was recovered from Unit D, and the remaining total was from Units 0 and E. The location, as well as the levels in which they were found places the daub in association with the house basin in Unit E. These pieces of structural daub were identified by their flattened surfaces and twig impressions. One fragment was fabric impressed (Figure 21).

A highlight of Yankeetown research is the occurrence of corn. This research recovered small amounts of charred kernels within pit feature contexts. No corn was found within general surface midden contexts. Charred cob fragments were only recovered from a single feature within Unit D. Shown in Figure 7, these cobs were aligned with the exterior edge of the feature



(possibly a decomposed container?). The feature was excavated in a block and delivered to the INSM conservation lab for intensive analysis.



**Figure 21. Fabric impressed daub.**

## **Conclusions**

The Yankeetown Phase in the Ohio River Valley is an integral part of Midwestern prehistory, yet it has remained one of the least understood. The great majority of information currently recorded for the Yankeetown site has resulted from salvage operations. Although not ideal, the pending destruction of the site necessitates that this trend, at least in part, continue and that future investigations involve recording and salvaging eroding riverbank features. The loss of the Mississippian components of the site may have already been an unfortunate result of the erosion.

Although salvaging riverbank features was a major component of the current project, the added opportunity to engage in more controlled excavations expanded the research potential. With the ability to include ground-penetrating radar and the excavation of eight test units, the site could be placed within a broader research context. The result was the development of a preliminary working hypothesis regarding the organization of the Yankeetown site.

The Yankeetown Phase occupation that was investigated during the current project was located along a slightly elevated floodplain ridge. The excavated Yankeetown features, including evidence of a structure and the salvaged cut bank features, were clustered in a linear pattern along this single floodplain ridge. Areas adjacent to the ridge contained only minimal amounts of surface midden material. These adjacent areas may have been ideal locations for horticultural plots.

Although this somewhat intriguing pattern was recognized for the current project, a tremendous amount of further testing is needed to validate it as a reasonable pattern for Yankeetown Phase floodplain village settlements. Continued work at the Yankeetown site will allow us to test this hypothesis, further elaborate on how the site is organized, and generate more artifactual material. The ability to posit larger inquiries that may help define how the Yankeetown site fits within the larger cultural context of the Ohio River Valley depends on recovering and identifying greater amounts of raw data.

## References Cited

- Blasingham, Emily J.  
1953 Temporal and Spatial Distribution of the Yankeetown Cultural Manifestation. Unpublished Master's thesis, Dept. of Anthropology, Indiana University, Bloomington.  
1965 *Excavations of Yankeetown (12 W 1)*. Unpublished report submitted to the National Park Service. Loyola University, Chicago.
- Cantin, Mark  
2008 Provenience, Description, and Archaeological Use of Selected Chert Types of Indiana. *Technical Report No. 05-01*. Indiana State University Anthropology Laboratory, Terre Haute.
- Curry, Hilda J.  
1954 *Archaeological Notes on Warrick County Indiana*. Indiana Historical Bureau, Indianapolis.
- Deam, Charles C.  
1931 *Trees of Indiana*. Indiana State Department of Conservation. Indianapolis.
- Dorwin, John T.  
1967 *Archaeological Salvage of the Yankeetown Site*. Unpublished report Submitted to the National Park Service. Indiana University, Bloomington.
- Dorwin, John T., and James H. Kellar.  
1968 *The 1967 Excavations at the Yankeetown Site*. Unpublished report submitted to the National Park Service. Indiana University, Bloomington.
- Garniewicz, Rexford C.  
2009 *Archaeological Investigations at the Yankeetown Site (12W1)*. Indiana State Museum, Indianapolis.
- Green, Thomas J.  
1984 The Presettlement Vegetation of Posey and Gibson Counties, Southwestern Indiana. In *Experiments and Observations on Aboriginal Wild Plant Food Utilization in Eastern North America*, edited by P.J. Munson, pp. 427-458. Indiana Historical Society Prehistory Research Series VI(2).
- Griffin, James B.  
1952 *Archaeology of the Eastern United States*. University of Chicago Press, Chicago.
- Hilgeman, S. L., and M. R. Schurr  
1986 Ceramics and Chronology at the Stephans-Steinkamp Site (12 Po 33): The 1986 IU/GBL Field School Excavations. Paper presented at the Annual Meetings of the Indiana Historical Society, Indianapolis.
- Justice, Noel  
1987 *Stone Age Spear and Arrow Points of the Midcontinental and Eastern United States*. Indiana University Press, Bloomington.
- Kelley, John J., A. Williams, and S. J. Ozuk  
1989 *The Range Site 2: Emergent Mississippian, Dohack, and Range Phase Occupations*. University of Illinois Press, Urbana-Champaign.
- Lindsey, Alton A., Damian V. Schmelz, and Stanley A. Nichols  
1969 *Natural Areas in Indiana and Their Preservation*. Indiana Academy of Science, Indianapolis.

- Martin, George, and Francis Martin  
 n.d. Unpublished survey notes and maps on file at the Glenn A. Black Laboratory of Archaeology. Bloomington.
- Maxwell, Moreau S.  
 1952 The Archaeology of the Lower Ohio Valley. In *Archaeology of the Eastern United States*, edited by James B. Griffin, pp. 176-189. University of Chicago Press, Chicago.
- Petty, R. O., and M. T. Jackson  
 1966 Plant Communities. In *Natural Features of Indiana*, pp. 264-296, edited by Alton A. Lindsey. Indiana Academy of Science, Indianapolis.
- Redmond, Brian  
 1986 A Study of Yankeetown Phase Settlement Patterns in the Lower Ohio Valley. *Report of Investigation 86-84*. Glenn A. Black Laboratory of Archaeology, Indiana University, Bloomington.  
 1988 A Stylistic Analysis of Yankeetown Phase Ceramics from the Yankeetown Site (12 W 1), Warrick County, Indiana. Paper Presented at the Annual Meetings of the Indiana Historical Society, Indianapolis.  
 1990 The Yankeetown Phase: Emergent Mississippian Cultural Adaptation in the Lower Ohio River Valley. Unpublished Ph.D. dissertation, Indiana University, Bloomington.
- Rice, Prudence M.  
 1987 *Pottery Analysis: A Sourcebook*. The University of Chicago Press, Chicago and London.
- Schneider, Allan F.  
 1966 Physiology. In *Natural Features of Indiana*, pp. 40-56, edited by Alton A. Lindsey. Indiana Academy of Science, Indianapolis.
- Shively, Jerold L.  
 1979 *Soil Survey of Warrick County, Indiana*. United States Department of Agriculture, Soil Conservation Service, in cooperation with the Purdue University Agricultural Experiment Station. Washington, D.C.
- Ulrich, H.P.  
 1966 Soils. In *Natural Features of Indiana*, pp. 57-90, edited by Alton A. Lindsey. Indiana Academy of Science, Indianapolis.
- Vickery, Kent D.  
 1970 *Excavation of the Yankeetown Site, 1968 Season*. Unpublished report submitted to the National Park Service. Indiana University, Bloomington.

## INVESTIGATIONS AT 12-AL-505, A WESTERN BASIN TRADITION SITE ALONG THE MAUMEE RIVER IN ALLEN COUNTY, INDIANA

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Although northeastern Indiana is included by archaeologists in the area dominated by the Western Basin Tradition during the Late Woodland/Late Prehistoric period (e.g., Schneider and Cameron 2004:7; Stothers and Bechtel 2000; Stothers and Schneider 2003:176), only a limited number of such sites have been professionally investigated in Allen County (Cochran 1980, 1987; Mohow 1987; White et al. 2002). The Western Basin Tradition is generally understood to be an in situ development out of Middle Woodland populations ranged around the western edge of Lake Erie, from southwestern Ontario through southeastern Michigan and northeastern Indiana to northwestern Ohio. First described on the basis of sites in Michigan (e.g., Fitting 1965), David Stothers has refined and synthesized the Western Basin Tradition to include four sequential phases throughout the region: Gibraltar phase (ca. A.D. 500-750); Riviere au Vase (ca. A.D. 750-1000); Younge (ca. A.D. 1000-1200); and Springwells (ca. A.D. 1200-1300) (e.g., Stothers 1978, 1995; Stothers and Bechtel 2000). Unlike Sandusky Tradition peoples farther east along the shore of Lake Erie, Western Basin Tradition populations “never achieved a formal village lifestyle, and while there is evidence of maize agriculture, it does not appear to have been more than a supplement to an economy based on fishing, hunting, and gathering” (Stothers and Schneider 2003:173). At best, “semi-sedentism” was achieved during the Late Prehistoric Younge and Springwells phases, when “warm weather hamlets with interior, as opposed to lacustrine or riverine, locations were favored. . . . During the winter, populations shifted to cold weather campsites located in the upland interior” (Stothers and Bechtel 2000:24). Beginning about A.D. 1200, Wolf phase Sandusky Tradition peoples began displacing Springwells people, forcing them farther to the west, and by A.D. 1300 “there are no Springwells phase sites east of the Maumee River valley” (Stothers and Schneider 2003:173).

In Indiana, Western Basin Tradition ceramics have been reported in the northeastern counties (e.g., Cochran 1980, 1987; Mohow 1987; Moore 1987; Schurr 1991), primarily in riverine settings, and as far west as the Fifield site (Faulkner 1972) and elsewhere in the Kankakee valley (Schurr 1993). These ceramics also have been associated with earthen enclosures recorded in northeastern Indiana (Black 1936; White et al. 2002, 2003). In central Indiana, Western Basin-like ceramics are also well documented, but they are found in sites that reflect dense occupations along the White River floodplains in Hamilton County. At least one palisaded village (12-H-3) approximately 10 acres in extent is known (Cantin et al. 2003; McCord 2006; McCullough 2005, 2007). These groups along the White River have been designated the Castor phase (McCullough 2005), because they differ from their northeastern neighbors in their densely populated settlements and the variety and frequency of decorations on their ceramics. After about A.D. 1200 these Western Basin-derived, or Castor phase ceramics, are found in central and southern Indiana in association with Middle Fort Ancient, grit-tempered ceramics. This co-occurrence of ceramic styles in both surface collections and archaeological contexts has been called the Oliver phase, and it persisted along both forks of the White River for

another two centuries or so (Bush 2004; Dorwin 1971; Griffin 1943; McCullough 2000; Redmond and McCullough 2000).

In an effort to understand the population dynamics of the Western Basin peoples of Indiana during the Late Prehistoric period, the Indiana University-Purdue University Fort Wayne Archaeological Survey (IPFW-AS) undertook investigations at three known Western Basin sites to document settlement types, subsistence strategies, material culture, and variability in Allen County, midway between the Western Basin heartland and the creative reworking of that tradition into the Castor phase along the White River floodplains in Hamilton County, Indiana. This article documents the investigations at one of these sites, 12-AI-505.

## **Background**

Site 12-AI-505 is a multicomponent site situated in Allen County, Indiana. It is located on a gently sloping, elevated terrace on the south bank of the Maumee River in a field currently in cultivation. Soils consist of the Eel-Martinsville-Genesee soil association (Kirschner and Zachary 1969: General Soils Map), which contains nearly level to moderately sloping, deep well-drained and fine textured soils on bottom lands and stream terraces. The site was first recorded in 1985 by James Mohow of the Archaeological Resources Management Service (ARMS) at Ball State University and Dave Diaz, a local artifact collector (site form, SHAARD, DHPA). During the initial survey of the site, abundant artifacts were recovered, and mussel shell was observed in some areas but was believed to be naturally deposited. Later, however, two concentrations of mussel shell were reported (Figure 1): one on the east edge of the site on the slope of the terrace (Feature A), and the other closer to the river on top of the terrace (Feature B). Feature B was reported in the spring of 1986 by Diaz as a newly exposed concentration of mussel shell likely related to a cultural feature beneath plowzone. The following year, Donald Cochran (1987) led another investigation of site 12-AI-505, which consisted of a single unit excavation to try to locate an intact deposit below plowzone at Feature B.

Cochran's excavation of Feature B did locate an intact "midden rich" circular stain in the sterile subsoil. The feature extended only 10.5 cm into the subsoil but contained several artifacts including Late Prehistoric diagnostic ceramics of the Western Basin Tradition and a Madison triangular projectile point. Also, a corrected radiocarbon date of A.D. 1241 was obtained from charcoal recovered from Feature B. After calibration this radiocarbon date ranged from A.D. 1150 to A.D. 1300. In the spring of 1987, Diaz reported that additional mussel concentrations were observed on the ground surface, and Cochran recommended that the site be investigated further.

## **Archaeological Investigations**

Archaeological investigations and excavations were conducted by IPFW-AS personnel under the direct supervision of Dr. Robert G. McCullough, Principal Investigator, and Scott Hipskind, Field Supervisor, between November 2008 and April 2009. The investigations consisted of a geophysical survey, which was accomplished in the fall (November 9-10, 2008), and excavations, which were started in the spring (March 6, 2009). Excavations were planned to



begin after the geophysical survey, but they were postponed until spring because hunting season had begun. In the spring, excavations were delayed by flooding from heavy rainfall (Figure 2). All project documentation is curated at the IPFW-AS under accession number 1843.

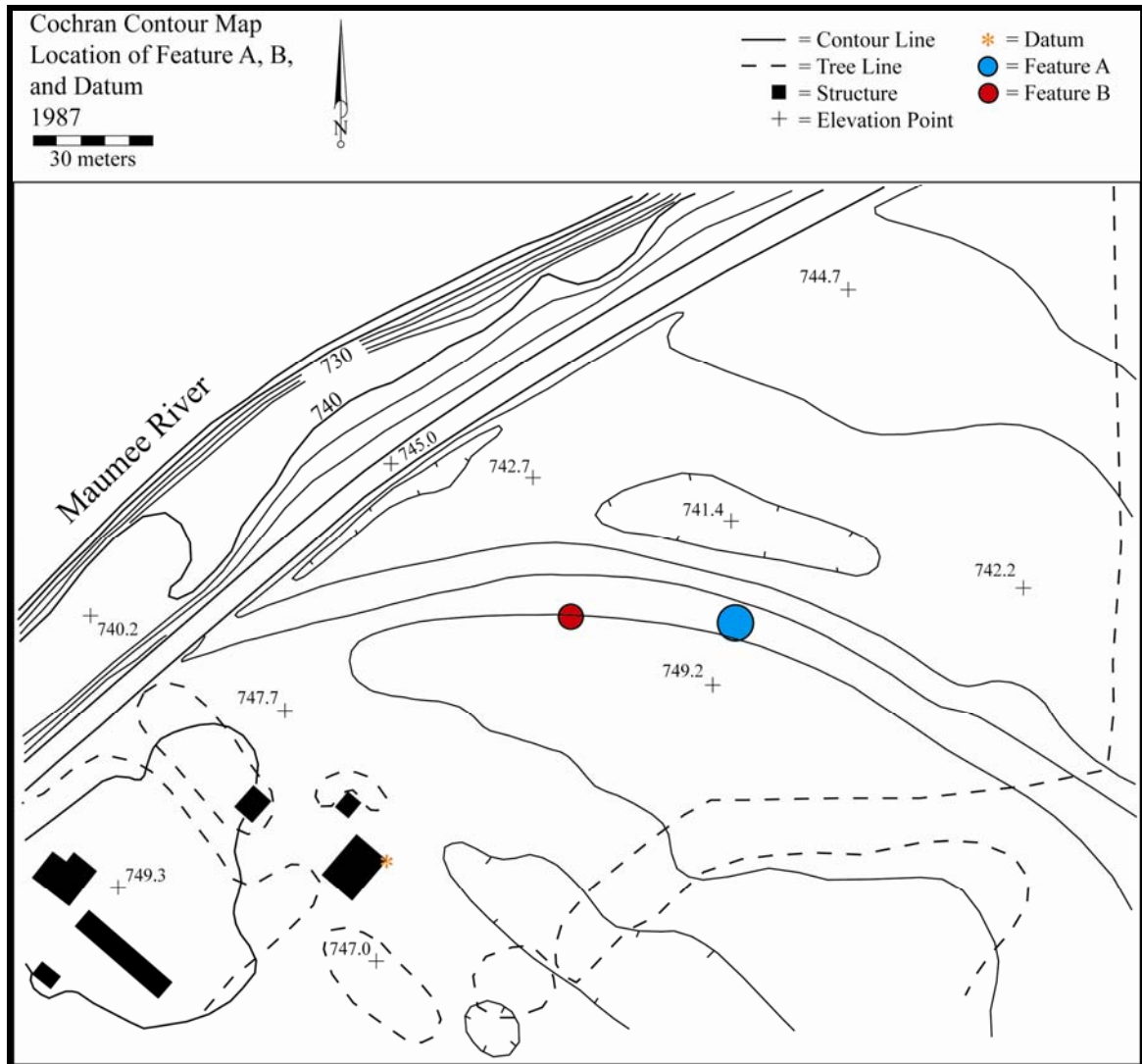


Figure 1. Contour map of 12-AI-505 and locations of Features A and B (adapted from Cochran 1987).

### *Magnetic Survey*

Before excavations were started, a geophysical survey was performed over a large portion of the site, but primarily on the most elevated portion of the terrace. This survey consisted of magnetic testing using a Bartington 601-2 gradiometer with the goal of locating intact subsurface anomalies which may be cultural in origin. Using an electronic total station, a new site grid was created for the survey as well as for the excavations (Figure 3). Two new reference points, consisting of nails at the base of the telephone poles in the agricultural field to the south of the site, were used to keep the site grid consistent throughout the geophysical survey and the

excavations. Using the new grid, a total of seventeen, 20 m by 20 m grid squares were laid out, and magnetic data were collected north to south in 50-cm transects with samples recorded every 12.5 cm. The results of this survey located abundant anomalies contained within the soil (Figure 4). Many of the large dark or light anomalies with irregular outlines and low nanoTesla values near 0 nT were determined non-cultural, caused by natural variations in the subsoil. In addition to these anomalies, a number of other large and small dipolar anomalies with very high nanoTesla values and strong black with adjacent bright white were ruled out as being caused by historic metal in the plowzone. Out of the remaining anomalies, 27 were suspected to be culturally produced (see Figure 4). These anomalies had nanoTesla values ranging from 3.5 to 20.9 nT, and their coordinates were recorded for further testing with an Oakfield core.



**Figure 2. Photograph of flooding on site 12-AI-505, March 11, 2009.**

### *Coring*

For each of the 27 anomalies, an Oakfield core sample was taken from the middle of each anomaly, and then four other core samples were taken 50 cm to the north, south, east, and west, and the depths of stratigraphic levels as well as the presence of intermediate zones and charcoal were recorded. Most the core samples found no apparent cause for the anomalies seen in the data. Some intermediate zones were observed but were considered plow scars if no artifacts or charcoal were observed in any of the other core samples. Out of the 27 anomalies, only three, Anomalies E, D, and P, were selected for ground-truthing. All five of the core samples from Anomaly E contained a shallow intermediate zone, and light charcoal flecking was observed in two core samples. In Anomaly D, three of its core samples contained a shallow intermediate zone, and light charcoal flecking was observed in one. Anomaly P was chosen for further testing

because one core sample contained a deep intermediate zone, and light charcoal was observed in two other samples. Anomaly P also was chosen for its location near Feature A (Cochran 1987). When this survey began, Feature A was easily observed on the ground surface; however, it is now mostly obscured by soil deposited from the latest flood episode at the site.



Figure 3. New site grid and geophysical survey area for site 12-AI-505.

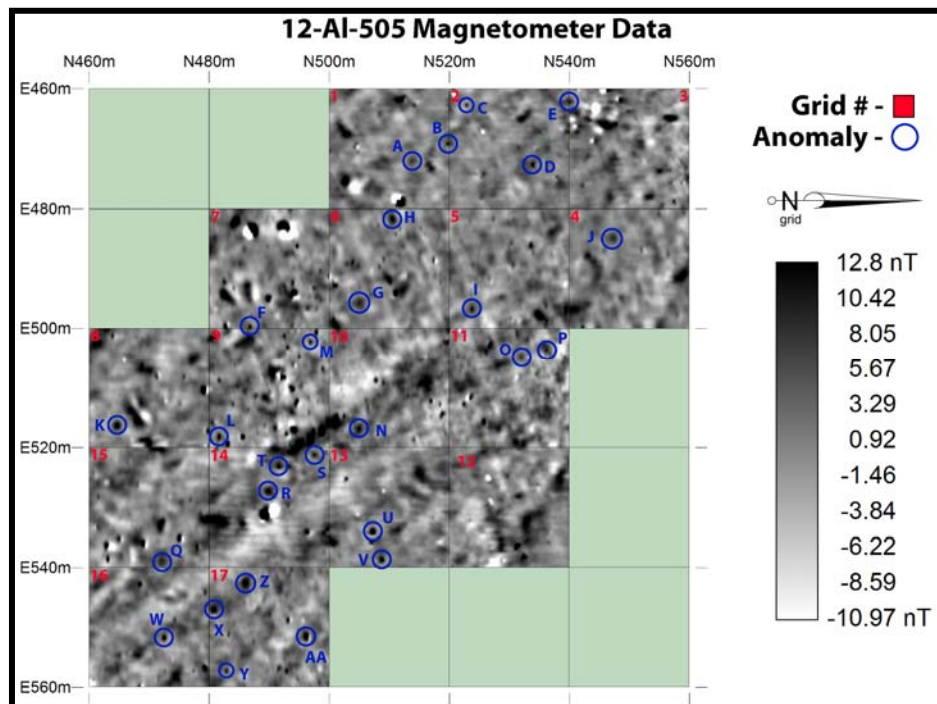


Figure 4. Magnetometry data and suspected cultural anomalies.

## Excavations

Excavations consisted of five hand-excavated 2 m by 2 m units, which were excavated until the base of the plowzone was reached. In each unit, a 50 x 50 cm plowzone sample was removed from the northeast corner and passed through 1/4" screen. The remaining portions of the units were removed by thin shovel scraping, and all artifacts encountered were collected. Each unit was given its own datum and all depths were taken from below datum. In total, five units were excavated: Units 1-3 were excavated to ground-truth anomalies observed in the data from the magnetic survey; Unit 4 was excavated as a control in a magnetically quiet area away from any anomaly; and Unit 5 was placed west of Unit 3 over some exploratory core samples that contained intermediate zones, charcoal, and a small sherd. Units 3 and 5 were located just to the south of the surface Feature A on top of the terrace (Figure 5).

Although both historic and prehistoric materials were recovered from Unit 1, the cause of Anomaly E was apparently a thin layer of darker organic soil at the base of the plowzone. As in Unit 1, a small quantity of both prehistoric and historic material was recovered in Unit 2, but Anomaly D was caused by a thin layer of darker organic soil at the base of the plowzone. Unit 4,



**Figure 5.** Locations of Unit 1 (orange), 2 (yellow), 3 (red), 4 (green), and 5 (dark blue), as well as surface Features A (light blue circle) and B (red circle) recorded by Cochran (1987).

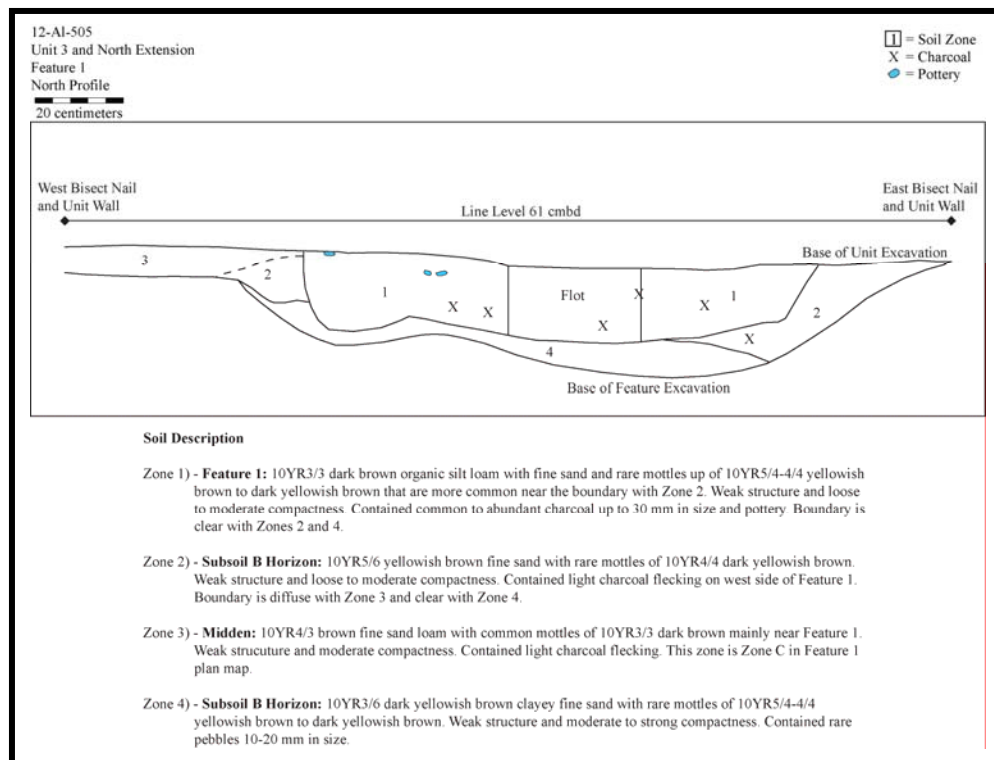


the control unit, did not have the thin layer of darker organic soil seen at the base of the plowzone in Units 1 and 2, but did contain a number of artifacts, suggesting that this thin dark layer was the likely cause of Anomalies D and E and that the amount of artifacts contained in the plowzone had little or no effect on the magnetic data. Unit 3, however, located three features, and Unit 5, two features. These are discussed in more depth below.

### *Feature 1 (Unit 3 and Extensions)*

Unit 3 began as a 2 m by 2 m unit, but three extensions were excavated in order to investigate features and cultural zones (see Figure 5). Three features (Features 1, 2, and 4) were discovered during the excavation of Unit 3 and its extensions. Unit 3 located the cause of Anomaly P, which was either Feature 1, the midden zone (Zone C), or the combination of the two. Feature 1 and the midden zone are discussed below.

Feature 1 was first observed at the base of Level 1 (58 cmbd) as a semicircular dark organic stain that extended 65 cm into the unit from the north wall and was about 120 cm wide at the wall, necessitating expansion of the unit north. Once exposed, Feature 1 was more ovate than circular, stretching approximately 1.5 m southwest to northeast and 1.3 m northwest to southeast. Feature 1 was bisected and excavated in two levels. In profile (Figure 6), four zones were present: Feature 1 (Zone 1); two sterile subsoil zones (Zones 2 and 4); and a cultural midden zone (Zone 3). The prehistoric function of Feature 1 is unknown, but it was likely a storage and/or refuse pit situated on the east boundary of the midden zone. Artifacts from Feature 1 are summarized in Table 1.



**Figure 6. Profile drawing of the north wall of Feature 1, Unit 3 and north extension.**

The midden zone was bisected along with Feature 1, which exposed a profile displaying how Feature 1 was related to this midden zone (Zone 3 in profile, see Figure 6). Based on the profile, Feature 1 was superpositioned on the northeast edge of this midden zone, which became very thin near its boundary with Feature 1.

Table 1. Artifacts Recovered from Feature 1.

Primary	Artifact		Attribute	N	Mass (g)
<b>Lithics</b>	chert debitage			19	2.6
	FCR (fire cracked rock), chert			5	26.0
	FCR, nonchert			62	630.6
<b>Ceramics</b>	body sherd	grit	cordmarked	6	41.1
	body sherd	grit	fabric roughened	3	35.8
	body sherd	grit	plain	1	1.3
	body sherd	grit	unid	1	1.4
	body sherd	sand/grit	cordmarked	4	10.0
	body sherd	sand/grit	unid	2	5.2
	neck sherd	grit	plain	1	2.7
	neck sherd	sand/grit	cordmarked	1	13.3
	rim sherd	grit	fabric roughened	1	11
	nondiagnostic	sand/grit		114	37.0
			<b>Total</b>	220	818

### Feature 2

To further investigate the midden zone, another 1 m by 2 m unit was excavated to the west of Unit 3 and its north extension. At the base of Level 1, two sterile subsoil zones, the continuation of midden zone, and Feature 2, a small, circular organic stain 40 cm in diameter, were discernible. Feature 2 was located within the midden zone and contained moderate charcoal up to 10 mm, pottery sherds, bone, shell, and lithic debris (Table 2).

Table 2. Artifacts Recovered from Feature 2.

Primary	Artifact		Attribute	N	Mass (g)
<b>Lithics</b>	chert debitage			77	9.0
	FCR, nonchert			4	33.4
<b>Ceramics</b>	body sherd	grit	fabric roughened	1	4.4
	nondiagnostic	grit/sand		27	15.8
			<b>Total</b>	109	62.6

In profile (Figure 8), Feature 2 had a round base with a diffuse boundary with the dark brown midden zone and extended down to 85 cmbd.

Feature 2 was a small, probably single-use, refuse pit that was superpositioned on top of the midden zone. Seen in the profile on the south edge of the feature were numerous stacked or piled small mussel shells, which were in turn mixed with abundant small tertiary flakes. Out of the total of 77 pieces of lithic debitage recovered from Feature 2, 20 pieces were of high quality fine-grained chert that was light gray and looked very similar to Wyandotte chert; 49 pieces were



of an unidentified medium quality, mostly white chert with specks of blue gray and blotches of light brown; and the remaining 8 pieces were of random unidentified chert.

Feature 2 was radiocarbon dated because it was the most intact feature. Charred nut shell returned a conventional radiocarbon age of A.D. 1390 +/- 40. The 2-sigma calibration yields two radiocarbon dates, A.D. 1300 to 1370 and A.D. 1380 to 1430. The lower of the two radiocarbon date ranges is close to the calibrated date range of A.D. 1150 to 1300 obtained from Feature B by Cochran (1987), but these new dates extend the occupation another century or so.



**Figure 8. Photograph of west profile wall of Feature 2, Unit 3, west extension.**

#### *Feature 4*

After all cultural soils were excavated from the west extension, Feature 4 was visible under the midden zone in the northwest corner (Figure 9), extending from 64 to 90 cmbd, and appeared to be a small pit of an unknown function and with moderate charcoal.



**Figure 9. Photograph of Feature 4 in the north and west profile wall of the west extension of Unit 3.**

To expose Feature 4, a northwest extension was laid out and began as an offset 1 m by 1 m unit. At the base of Level 1 of the northwest extension, the midden zone stretched all the way to the west wall and had a boundary with sterile subsoil on the east side. In the north portion of the northwest extension, the midden zone became mixed with very dark grayish brown remnant plowzone. At the base of Level 2, Feature 4 stretched all the way to the west and north wall and had a clear boundary with sterile subsoil on its east edge and in the northwest corner. The excavation of Feature 4 started with a trench 50 cm wide, which was removed from north to south through the center of the feature to document any stratigraphy present within the feature. Two profiles of Feature 4 (Figure 10) were exposed by the center trench excavation, but no stratigraphic levels were seen in either the east or west profile. In the east profile, Feature 4 extended from 67 to 87 cmbd, and in the west profile Feature 4 extended from 69 to 108 cmbd. Feature 4 was likely a darker lens of the midden zone with a higher density of artifacts (Table 3). Its amorphous zones and irregular boundaries suggest that it was not an intentional construction but more accidental, functioning as a large dumping zone for refuse.

**Table 3. Artifacts Recovered from Feature 4.**

<b>Primary</b>	<b>Artifact</b>		<b>Attribute</b>	<b>N</b>	<b>Mass (g)</b>	
<b>Lithics</b>	chert debitage			25	7.0	
	FCR, nonchert			33	1270.1	
	rock, manuport			2	0.1	
Historic	coal			2	0.6	
<b>Ceramics</b>	body sherd	grit	cordmarked	10	85.3	
	body sherd	grit	fabric roughened	9	62.4	
	body sherd	grit	unid	6	14.3	
	body sherd	sand/grit	cordmarked	2	8.7	
	body sherd	sand/grit	unid	3	5.2	
	neck sherd	grit	fabric roughened	4	43.3	
	neck sherd	grit	plain	1	1.9	
	rim sherd	grit	unid	1	3.0	
		nondiagnostic	sand/grit		76	33.6
				<b>Total</b>	174	1535.5



**Figure 10. Photographs of east (top) and west profile walls (bottom) of Feature 4 center trench, northwest extension of Unit 3.**

### *Feature 3 (Unit 5 and Extensions)*

Unit 5 (see Figure 5) began as a 2 m by 2 m unit placed over exploratory core samples to the west of Unit 3. Two dark organic zones were encountered during the excavation of Level 1, and at the base of Level 2, Feature 3 and Feature 5 possessed clear boundaries with sterile subsoil, but neither was completely exposed. A north extension was excavated to expose the rest of Feature 3, and one to the southwest was excavated to expose the rest of Feature 5.

Feature 3, which was covered by the remnant plowzone in the base of Level 1, was a large ovate stain in plan, about 120 cm east-west and about 175 cm north-south (Figure 11).



Feature 3 was bisected from north to south, with the west half removed first. In profile, Feature 3 had a round, but wavy base with rodent burrows exiting at the bottom. The feature contained no stratification and extended from 50 to 76 cmbd. The prehistoric function of Feature 3 is unknown, but it was likely a storage and/or refuse pit. Materials recovered from Feature 3 are summarized in Table 4.



Figure 11. Photograph of Feature 3 in Unit 5 and north extension, base of Level 2 (50 cmbd).

Table 4. Artifacts Recovered from Feature 3.

Primary	Artifact		Attribute	N	Mass (g)
<b>Lithics</b>	chert debitage			7	2.3
	FCR, chert			1	1.1
	FCR, nonchert			7	73.3
Historic	ferrous unidentified fragment			2	0.9
<b>Ceramics</b>	body sherd	grit	cordmarked	4	13.3
	body sherd	grit	fabric roughened	2	35.5
	body sherd	grit	unidentified	4	6.5
	body sherd	sand	unidentified	1	1
	body sherd	sand/grit	cordmarked	1	2
	rim sherd	grit	plain, combination decoration	1	2.5
	rim sherd	grit	cordmarked	1	8.8
		nondiagnostic	sand/grit		27
			<b>Total</b>	58	158.3

### Feature 5

Once completely exposed, Feature 5 was ovate, stretching approximately 100 cm east to west and 70 cm north to south. Feature 5 was bisected from east to west, and the north half was excavated until the base of the feature was reached. In profile (Figure 12), Feature 5 had a round, but wavy base, contained no stratification, and extended from 50 to 77 cmbd. Shell was also present in the profile. Materials recovered from the feature are summarized in Table 5. The prehistoric function of Feature 5 is unknown, but it was likely a storage and/or refuse pit.



Figure 12. Photograph of the south profile wall of Feature 5 in Unit 5 and southwest extension.

Table 5. Artifacts Recovered from Feature 5.

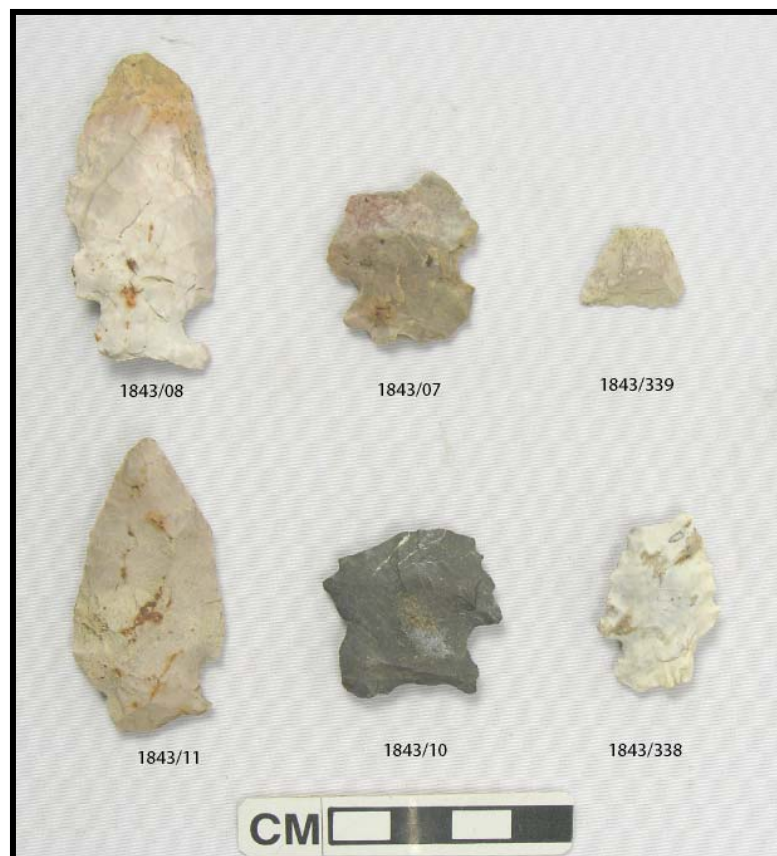
Primary	Artifact	Attribute	N	Mass (g)
Lithics	chert debitage		1	0.1
Ceramics	body sherd	grit	1	1.3
	nondiagnostic	grit/sand	1	0.1
Total			3	1.5

### Cultural Materials

In addition to the coring and unit and feature excavations, artifacts were recovered from the surface of site 12-AI-505. Abundant harvest litter and vegetation across the site precluded a systematic pedestrian survey, although artifacts were observed on the surface in small clearings

in the harvest litter or vegetation, as well as in a small area where a tree had been dragged across the site. These artifacts were flagged for piece plotting with the electronic total station on the new site grid, but the rising floodwaters threatened to cover up these artifacts with sediment. To save these artifacts from being buried by flood-born silt, they were collected together, but their locations remained flagged. The floodwater took about a week and a half to recede, and when it was gone, a large part of the site nearest the river was heavily eroded and abundant artifacts were exposed. The eroded soil had been deposited mainly in the area where the surface artifacts collected earlier were found along the edge of the terrace. The remaining portions of the site, however, were still in the same condition as before the flood.

Unlike the artifacts from feature context, surface-collected and plowzone materials indicated a multicomponent site. No diagnostic bifaces were recovered from feature context. Instead, a Late Woodland triangular point, a possible Middle Woodland point, and Early and Middle Archaic points, and a possible Late Archaic point (Figure 13) were surface collected, mainly from the flood-scoured, southwestern portion of the site. Also among the artifacts exposed by the floodwaters were fragments of historic twentieth-century artifacts such as glass, ceramics, and metal tools like wrenches and nails. One outbuilding mapped by Cochran in 1987 was no longer extant, and the historic material was probably plow scatter from its demolition, as well as related to the ongoing occupation at the nearby farmstead.



**Figure 13. Top row, left to right: Middle Archaic Raddatz Side Notched point; probable Middle Woodland Snyders Cluster point; Late Woodland triangular point base. Bottom row, left to right: possible Late Archaic Brewerton Corner Notched Cluster point; Early Archaic Kirk Corner Notched Cluster point; possible Late Archaic Merom Cluster point.**



In total, materials recovered from 12-AI-505 included 1,280 prehistoric and historic artifacts. Prehistoric artifacts included 567 ceramics, 218 pieces of debitage, 17 chipped stone tools, 1 pitted stone and 2 manuports, and 413 pieces of fire-cracked rock. There also were an uncounted number of nonhuman bone (410.8 g) fragments, mussel shell (248 g), and floral (197.5 g) remains. A historic assemblage from subsurface contexts totaled 62 artifacts, in addition to 80.3 g of coal and/or cinders. These historic materials, like the surface scatter, were of very-late-nineteenth and twentieth-century origin and most likely were associated with demolition and dumping episodes by the farm residence occupants.

The ceramics recovered from 12-AI-505, however, were all consistent with those known from Western Basin Tradition sites in the region, as well as those recovered from Castor phase sites in central Indiana (McCullough 2005, 2007; Schneider 2000; Schneider and Cameron 2004; Stothers 1995; Stothers and Bechtel 2000). This pottery is mostly grit-tempered with tool, cordage, or cord-wrapped dowel types of decoration. Usually, the design motifs and decorative techniques encompass a great deal of diversity. Surface treatments on undecorated vessels are usually cordmarked or fabric roughened, and with smooth/plain surfaces being less common. Cordmarking is usually the most common. Rim profiles are usually straight or curved toward the inside (cambered). Some Great Lakes impressed vessels exhibit a variety of peaks (castellations) and segmented-rim forms. Decorative placement is found exclusively on the rim and lip and not on the neck of the vessel. The Great Lakes impressed vessels typically have tall rims, and the rim often displays a wedge-shaped collar or a wide, flat strip of clay added to the exterior surface on which the decoration is placed (McCullough 2000, 2007; Schneider 2000).

The ceramic assemblage recovered from 12-AI-505 included rim sherds ( $n = 12$ ), neck sherds ( $n = 17$ ), body sherds ( $n = 128$ ), and sherds too small ( $< 1/2''$ ) to classify ( $n = 410$ ). It was sand and/or grit tempered, with mostly textured exterior surfaces (Table 6). Among sherds larger than  $1/2''$  ( $n = 157$ ), approximately 87.3 percent ( $n = 137$ ) were grit tempered, 12.1 percent ( $n = 19$ ) a combination of sand and grit tempered, and 0.6 percent ( $n = 1$ ) sand tempered. Observed surface treatments included cordmarking, fabric roughening, and smoothing (plain).

Table 6. All Sherds Recovered from 12-AI-505 Compared by Surface Treatment and Temper.

Temper	<1/2"	Cordmarked	Fabric roughened	Plain	Unidentified	Total
grit	--	52	37	9	39	137
sand/grit	410	--	--	--	--	410
sand	--	--	--	--	1	1
sand + grit	--	10		1	8	19
<b>Total</b>	410	62	37	10	48	567

Decoration was only observed on four sherds (Figure 14). A body (1843/05) and a neck sherd (1843/06) exhibited a possible incised decoration. Both sherds were small fragments and, based on the color, temper, and paste, were from the same vessel. The incised line was faint and it is possible that this does not represent intentional decoration. Two rim sherds exhibited decoration typical of Western Basin styles, but the interior surfaces were missing on both. One rim sherd (1843/350) exhibited a small collar with a line of jab-and-drag decoration executed

with a cord-wrapped dowel implement. The presence or absence of a castellated shape and the type of lip treatment could not be observed because that portion of the rim is missing. The other decorated specimen (1843/245), from Feature 3, revealed two small horizontal lines of cord-wrapped dowel impressions on a short, thin collar. The upper horizontal line has small circular punctations placed within the upper line. A portion of the lip was present and exhibited small cord-wrapped dowel impressions.



Figure 14. Decorated sherds from 12-AI-505.

## Discussion

The 2009 investigations at 12-AI-505 investigated a wide area of the site and helped further our understanding of the Western Basin Tradition populations in northeastern Indiana. For example, the new radiocarbon date shows an unexpected length of occupation of at least two centuries at this site. Botanical analysis revealed a maize-based subsistence economy, as well as one utilizing starchy-seed plants like lambsquarter or goosefoot (chenopodium).

Excavations consisted of five units which primarily tested the highest elevated portion of the site. These units were placed near two surface features (A and B) recorded by Cochran (1987) and were excavated to test the geophysical data and ascertain whether cultural subsurface features were present. The units did identify causes for the anomalies in the geophysical data, and five features and an odd irregular midden zone were exposed in Units 3 and 5. Materials from these features provided information on the subsistence system, as well as established a temporal period for the site.

Artifacts were also recovered from every unit, and both historic and prehistoric materials were recovered. The plowzone contained abundant artifacts, and screened samples of the plowzone provided densities of artifacts in the plowzone across the site. Fire-cracked rock was usually the most common prehistoric artifact (second after chipped stone in Unit 2), and coal and/or cinders was the most common historic artifact in all the units. Out of the total of artifacts recovered from the plowzone, the northwest extension of Unit 3 contained the most prehistoric ceramics; Unit 1 contained the most chipped stone; the original 2 m by 2 m of Unit 3 contained the most fire-cracked rock; Unit 4 contained the most faunal remains (modern pig bones); the north extension of Unit 5 contained the most floral remains; Unit 5 contained the most historic ceramics; Unit 1 contained the most glass; Units 2 and 4 contained the most metal; and Unit 4 had the most coal and/or cinders. Every unit excavation contained at least one piece of prehistoric ceramic, fire-cracked rock, chipped stone debitage, historic ceramic, glass, metal, and coal and/or cinders. The presence of prehistoric pottery in every unit provides evidence that there likely was not just one habitation of Late Woodland/Late Prehistoric peoples here, but several over a long period, considering the long time span provided by the radiocarbon dating. Also, the few decorated rim sherds recovered from the 2009 investigations of the site possessed characteristics of Late Woodland/Late Prehistoric, Western Basin Tradition styles.

The materials attained from the features included primarily prehistoric artifacts, with some small fragments of historic artifacts that were likely displaced by rodent activity. The varying densities of artifacts recovered from the features were relative to the size of the features themselves. Typically, the bigger and deeper features contain more artifacts than smaller features, but this was not the case for the features that were excavated at this site. Feature 1, the deepest circular pit feature, contained the highest amounts of prehistoric ceramics, fire-cracked rock, and floral remains. Feature 2, the smallest feature, contained the highest amount of chipped stone debitage. Lastly, Feature 5 contained the highest amount of faunal remains (including mussel shell from the top of Feature 5, which was excavated with the plowzone). However, if Feature 4 is just a lens of the midden zone (Zone C), as is suspected, then combined together the feature and midden would have contained the most prehistoric ceramics, fire-cracked rock, and flora.

The recovery of mussel shell from Features 2 and 5, like the excavation of Feature B (Cochran 1987), gives evidence that mussels were an important part of the subsistence strategy

of the inhabitants of the site. Other animals would have been part of this subsistence system, but bone preservation was poor. More information on the subsistence system of the inhabitants of site 12-AI-505 was provided by the botanical analysis of the flora recovered from the flotation samples and 1/4" screening of Features 1 through 5. The charcoal from tree species indicated an exploitation of both floodplain and upland species, such as beech, ash, hickory, elm, walnut, maple, and white oak. Subsistence data were sparse but were what would be expected from a maize-based subsistence economy. Supplemental small amounts of maize were recovered from all contexts. Plants that were cultivated for their starchy seeds, before corn became widespread, were also represented. An erect knotweed seed (*Polygonum erectum*) was recovered, as well as a specimen that was either chenopodium or amaranth, from Feature 4. A portion of a tobacco seed was recovered from Feature 2. An unusual item was a carbonized poison ivy seed. The specimen probably arrived in the belly of a bird taken by the site inhabitants (Leslie Bush, personal communication 2009).

The odd irregular midden zone discovered in Unit 3 is quite perplexing. It contained a high number of prehistoric artifacts, and it seems to be related in some way to Features 1, 2, and 4. Feature 1 seems to have been superpositioned on the eastern edge of this midden zone. Feature 2 was definitely superpositioned on the midden zone with the boundary between the two zones, based only on a slight color change and the presence of artifacts. Feature 4, however, seems to be buried by the midden zone on the south edge of the feature. This suggests that the midden zone was superpositioned on Feature 4, but the irregular nature of Feature 4 was very similar to the midden zone. It makes sense then that Feature 4 was really just a darker organic lens of the midden zone itself. The ceramic refits support this view. Exactly how this midden zone was produced is not understood, but it may have been a ground surface trash or refuse area created by inhabitants of the site which was later buried by natural processes.

Artifacts collected from the ground surface included a wide range of stone tools and several sherds of prehistoric ceramics. The stone tools included hafted bifaces, refined bifaces, unrefined bifaces, nonformal unifaces, formal unifaces, and a pitted stone. The prehistoric ceramics included nondiagnostic sherds, body sherds, neck sherds, and rim sherds. Most of the lithic tools recovered from the ground surface, as well as one prehistoric ceramic fragment were found in the southwest portion of the site near the edge of the agricultural field. Most of the prehistoric ceramics recovered from the ground surface, as well as a few stone tools, were found in the area around Feature A (Cochran 1987). The hafted bifaces recovered from the surface are of particular importance, because they provide information on other temporal periods at the site. All of the hafted bifaces recovered from the surface of site 12-AI-505 were found near a deflated field edge and included projectile points diagnostic of the Early Archaic, Middle Archaic, and Late Prehistoric time periods. Some of the more damaged and unidentified hafted bifaces included two more Late Archaic projectile points and a possible Middle Woodland projectile point. This concentrated area of projectile points seems to pinpoint where inhabitants from earlier temporal periods occupied the site, but the fact that these points came from plowzone that had been scoured by floodwaters may mean that this was the only area where these points could be seen on the ground surface.

## References Cited

- Black, Glenn A.  
1936 *An Archaeological Survey of Allen County, Indiana*. Allen County-Fort Wayne Archaeological Society, Fort Wayne.
- Bush, Leslie L.  
2004 *Boundary Conditions: Macrobotanical Remains and the Oliver Phase of Central Indiana, A.D. 1200–1450*. University of Alabama Press, Tuscaloosa.
- Cantin, Mark, John A. Schwegman, David N. Holycross, and C. Russell Stafford  
2003 Ge archaeological Investigations of the Taylor Property near Strawtown, Hamilton County, Indiana. *Technical Report 34*. Indiana State University Anthropology Laboratory, Terre Haute.
- Cochran, Donald R.  
1980 An Archaeological Assessment of Fox Island County Park. Unpublished Master's thesis, Department of Anthropology, Ball State University, Muncie.  
1987 Appendix C: Testing of Four Sites on the Maumee River in Indiana. In *The Archaeological Resources of the Maumee River Valley, Allen County, Indiana*, by James A. Mohow, pp. 199-215. *Reports of Investigations 22*. Archaeological Resources Management Service, Ball State University, Muncie.
- Dorwin, John T.  
1971 *The Bowen Site: An Archaeological Study of Cultural Process in the Late Prehistory of Central Indiana*. Prehistory Research Series 4 (4). Indiana Historical Society, Indianapolis.
- Faulkner, Charles H.  
1972 The Late Prehistoric Occupation of Northwestern Indiana: A Study of the Upper Mississippi Cultures of the Kankakee Valley. *Prehistory Research Series 5(1)*. Indiana Historical Society, Indianapolis.
- Fitting, James E.  
1965 Late Woodland Cultures of Southeastern Michigan. *Anthropological Papers 24*. Museum of Anthropology, University of Michigan, Ann Arbor.
- Griffin, James Bennett  
1943 *The Fort Ancient Aspect: Its Cultural and Chronological Position in Mississippi Valley Archaeology*. University of Michigan Press, Ann Arbor.
- Kirschner, F. R., and A. L. Zachary  
1969 *Soil Survey of Allen County, Indiana*. Soil Conservation Service, U.S. Department of Agriculture, Washington, D.C.
- McCord, Beth  
2006 Archaeological Subsurface Reconnaissance: Koteewi Park Lake, Hamilton County, Indiana. *Reports of Investigation 70*. Archaeological Resources Management Service, Ball State University, Muncie.
- McCullough, Robert G.  
2000 The Oliver Phase of Central Indiana: A Study of Settlement Variability as a Response to Social Risk. Unpublished Ph.D. dissertation, Department of Anthropology, University of Southern Illinois, Carbondale.  
2007 Castor Phase Peoples of Central Indiana. Paper presented at the symposium, Filling the Black Hole: Current Research in Indiana Archaeology, at the annual

- Midwest Archaeological Conference, University of Notre Dame, Notre Dame, Indiana, October 6, 2007.
- McCullough, Robert G. (editor)
- 2005 Late Prehistoric Archaeology of a Frontier. *Reports of Investigations* 502. IPFW Archaeological Survey, Indiana University-Purdue University at Fort Wayne, Fort Wayne.
- Mohow, James A.
- 1987 The Archaeological Resources of the Maumee River Valley, Allen County, Indiana. *Reports of Investigations* 22. Archaeological Resources Management Services, Ball State University, Muncie.
- Moore, Mark W.
- 1987 *The Archaeological Resources of North-Central Allen County, Indiana*. Manuscript on file, Glenn A. Black Laboratory of Archaeology, Indiana University, Bloomington.
- Redmond, Brian G., and Robert G. McCullough
- 2000 The Late Woodland to Late Prehistoric Occupations of Central Indiana. In *Late Woodland Societies: Tradition and Transformation across the Midcontinent*, edited by Thomas E. Emerson, Dale L. McElrath, and Andrew C. Fortier, pp. 643-683. University of Nebraska Press, Lincoln.
- Schneider, Andrew M.
- 2000 Archaeological Reflections of the Western Basin Tradition in the Maumee River Valley of Western Lake Erie, with Special Emphasis on Ceramic Analysis. Unpublished Master's thesis, Department of Anthropology, University of Toledo, Ohio.
- Schneider, Andrew M., and Erica L. Cameron
- 2004 *Phase III Archaeological Data Recovery of the Singer Site (12De266), DEF-CR134-1.5 (PID 15741), Delaware Township, Defiance County, Ohio*. Mannik and Smith Group, Toledo, Ohio.
- Schurr, Mark R.
- 1991 An Archaeological Assessment and Field Reconnaissance of the Lake and Moraine Region in LaGrange County, Indiana. *Reports of Investigations* 91-2. Glenn A. Black Laboratory of Archaeology, Indiana University, Bloomington.
- 1993 Woodland and Early Historic Settlement Patterns in the Kankakee Drainage of LaPorte County, Indiana. *Reports of Investigations* 93-1. Archaeology Laboratory, Department of Anthropology, University of Notre Dame, Notre Dame, Indiana.
- Stothers, David M.
- 1978 The Western Basin Tradition: Algonquin or Iroquois? *Michigan Archaeologist* 24(1):11-36.
- 1995 The "Michigan Owasco" and the Iroquois Co-Tradition: Late Woodland Conflict, Conquest, and Cultural Realignment in the Western Lower Great Lakes. *Northeast Anthropology* 49:5-41.
- Stothers, David M., and Susan K. Bechtel
- 2000 The Land Between the Lakes: New Perspectives on the Late Woodland (ca. A.D. 500-1300) Time Period in the Region of the St. Clair-Detroit River System. In *Cultures before Contact: The Late Prehistory of Ohio and Surrounding Regions*,



edited by Robert A. Genheimer, pp. 2-51. Ohio Archaeological Council, Columbus.

Stothers, David M., and Andrew M. Schneider

2003 Implications of the Wolf Phase Dispersal of Terminal Western Basin Tradition Populations into Northern Indiana during Late Prehistory. In *Facing the Final Millennium: Studies in the Late Prehistory of Indiana, A. D. 700-1700*, edited by Brian G. Redmond and James R. Jones III, pp. 172-200. Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology, Indianapolis.

White, Andrew A., Dorothea McCullough, and Robert G. McCullough

2002 An Archaeological Evaluation of Late Prehistoric Village and Subsistence Patterns in North-Central and Northeastern Indiana. *Reports of Investigations* 216. IPFW Archaeological Survey, Indiana University-Purdue University at Fort Wayne, Fort Wayne.

White, Andrew A., Robert G. McCullough, and Dorothea McCullough

2003 Archaeological Investigations at Two Late Prehistoric Earthen Enclosures in Indiana. *Reports of Investigations* 301. IPFW Archaeological Survey, Indiana University-Purdue University at Fort Wayne, Fort Wayne.

# **ARCHAEOLOGICAL INVESTIGATIONS AT THE HOBBS' KNOB (12M266) AND TAYLOR TEN (12H987) SITES, MADISON AND HAMILTON COUNTY, INDIANA**

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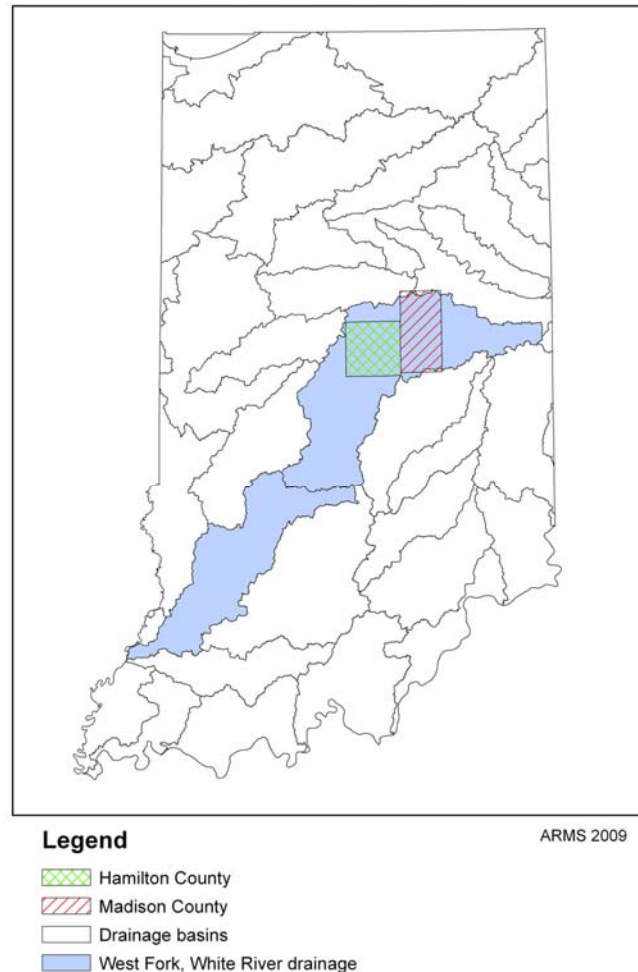
## **Abstract**

The Archaeological Resources Management Service (ARMS) [now Applied Archaeology Laboratories] at Ball State University conducted a FY2008 Historic Preservation Fund Grant to investigate and nominate two prehistoric habitation sites in the Upper White River drainage to the National Register of Historic Places. The two sites, Hobbs' Knob (12M266) and Taylor Ten (12H987), have provided important information on prehistoric settlement in the Upper White River drainage, however information on the integrity of deposits was lacking. The project was designed to recover the additional information necessary to complete National Register nominations for these two important sites. The project also recovered data to explore the relationships of Late Woodland/Late Prehistoric populations.

## **Introduction**

The Archaeological Resources Management Service (ARMS) at Ball State University proposed a FY2008 Historic Preservation Fund Grant to investigate and nominate two prehistoric habitation sites, Hobbs' Knob (12M266) and Taylor Ten (12H987) in the Upper White River drainage (Figure 1) to the National Register of Historic Places (NRHP). The fieldwork for this project was carried out by the 2008 Ball State University Archaeological Field School. Previous investigations in the Upper White River valley have helped to define the precontact use and settlement of floodplain and terrace landforms (Brinker 1984; Cantin et al. 2003; Carmany 2002; Conover 1988; Cree et al. 1994; Ellis 1982; Hixon 1988; McCord 2005; McCord and Cochran 2003; McCullough 2005; McCullough et al. 2004; White et al. 2002, White et al. 2003). This research has resulted in increased site data, construction of regional chronologies, compilation of site and artifact densities, assessments of the potential for buried sites, and settlement pattern models. While these projects have provided substantial archaeological information, only four archaeological sites from the Upper White River drainage have been nominated to the Indiana Register of Historic Sites and Structures (IRHSS) or National Register of Historic Places (NRHP). Those listed on the NRHP consist of Mounds State Park (12M2), nominated as a district for the Middle Woodland enclosure complex and the Historic Bronnenburg Farm; the Middle Woodland Fudge Enclosure (12R10); the Late Woodland/Late Prehistoric Castor Farm village (12H3); and the Late Prehistoric Strawtown enclosure (12H883). Approximately 1,558 sites, structures or districts in Indiana are currently listed on the NRHP, and archaeological sites comprise only 3% of the listings ([www.nr.nps.gov](http://www.nr.nps.gov)). Obviously, archaeological sites are underrepresented in the NRHP and the Upper White River drainage, comparatively, is nearly

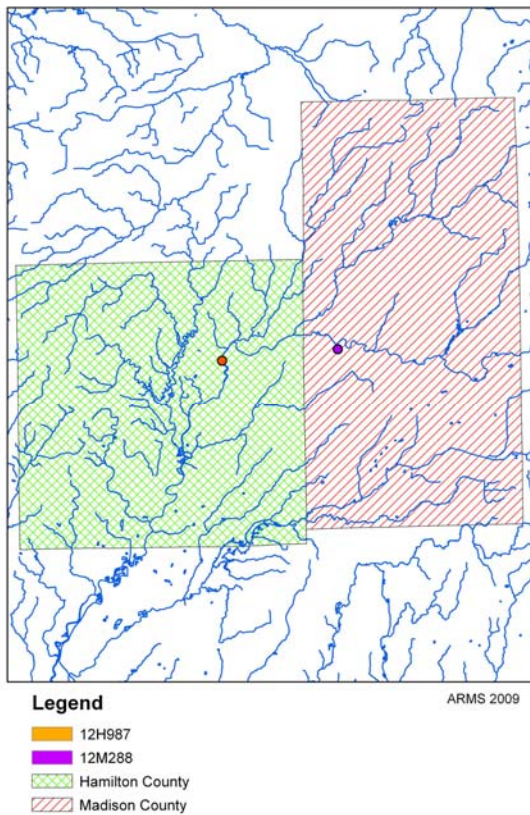
invisible. The goal of this project was to investigate and nominate two additional archaeological sites to the NRHP.



**Figure 1. The location of Hamilton and Madison counties within the West Fork, White River drainage.**

The Hobbs' Knob site (12M266) was discovered during an HPF grant sponsored archaeological survey that investigated 650 acres in the Upper White River valley in Madison County (Conover 1988). The site is located in western Madison County on an upland terrace knoll overlooking a wide expanse of the White River floodplain to the northeast (Figure 2). Early Archaic through Late Woodland artifacts are known from the site. The site is unique in the region as it contains a large quantity of prehistoric pottery in an upland setting, while most pottery is found in floodplains along the White River. An examination of the ceramics from the site links the pottery style to both Ft. Ancient ceramics (Griffin 1966) [distinguished by a design added to the neck of the jar that is termed guilloche. The design is typically two curved bands that interlace in a pattern around and open center.] and Bowen styles (Dorwin 1971) [Bowen ceramics are also recognized by designs. Cordage was impressed on the rim of these vessels in diagonal, chevron, or other patterns.]. The relation of these ceramics styles together, termed the Oliver Phase, has been an area of intensive investigation by McCullough (2000, 2005).

Investigations of the Hobbs' Knob site were undertaken to further the understanding of settlement systems of the Late Woodland/Late Prehistoric era and further our understanding of approximately 9,000 years of human occupation in central Indiana.



**Figure 2. Locations of Hobbs' Knob and Taylor Ten sites.**

The Taylor Ten site (12H987) was discovered in 2002 during a HPF grant sponsored archaeological survey (McCord and Cochran 2003). The site is located in northeastern Hamilton County on a large expanse of White River floodplain (Figure 2). Diagnostic artifacts recovered from the site included an Early Archaic point fragment, a Middle Woodland Snyders point, and several Triangular Cluster points. One of the pottery rims recovered was possibly related to the Middle Woodland period. Other pottery recovered from the site was related to an intensive Late Woodland/Late Prehistoric occupation documented in the vicinity (McCord 2005; McCord and Cochran 2003, McCullough 2005; McCullough et al. 2004; White et al. 2002, 2003). It was anticipated that Late Woodland/Late Prehistoric features analogous to those encountered at Castor Farm (12H3) (McCullough 2005; McCullough et al. 2004; White et al. 2003) and 12H993 (McCord 2005) would be present at this site. The site also contains a Middle Woodland component that may provide information from a habitation area. In contrast to the Middle Woodland ceremonial sites in the region, virtually nothing is known from habitation sites.

Several regional research questions were pursued during this project. From archaeological work in Hamilton County, the Hobbs' Knob and Taylor Ten sites are within a locality that served as a fluid cultural frontier since late Paleoindian times (McCord and Cochran 2003; White et al. 2003). Both sites contained multiple components, and the cultural and

chronological relationship between the components at each site were examined. The relationship of the sites was compared also to the regional prehistory of the Upper White River drainage.

## **Background**

To understand the natural and cultural setting of Hobbs' Knob (12M266) and Taylor Ten (12H987) a review of regional environmental and archaeological information was undertaken. The Upper White River drainage basin is defined for this report as that area of Indiana drained by the upper reaches of the West Fork of the White River above the Marion and Hamilton county line (Figure 1). The drainage basin is within the east central region of Indiana and within portions of Randolph, Delaware, Madison, Hamilton, Henry, Tipton, Clinton and Boone counties. This basin contains approximately 1,209 square miles above the Marion and Hamilton County line (Hoggart 1975).

The bedrock of the Upper White River drainage contains mainly Silurian limestone, dolomite, and shale, with Ordovician shale and limestone and Devonian limestone on the western edge of the basin (Chen and Caturvedi 1992; Gefell 1983; Gutschick 1966:5; Shurig 1974). Limestone bedrock is noted as outcropping along the West Fork of the White River near Clare and Strawtown, on Fall Creek above Geist Reservoir and on Stony Creek east of Noblesville (Gefell 1983:17).

Chert has been identified in the glacial till in the region (Gooding 1973:13-14). Fall Creek chert has been reported from gravel deposits in Hamilton and Madison counties (Cochran 2002, 2005, 2007; Cree 1991; Hixon 1988; Stephenson 1984), and Liston Creek chert was recorded being plowed out in a cultivated field along Stony Creek (Cree 1991). A potential source of Jeffersonville chert was also reported along the White River in the southern part of Hamilton County (Angst 1994). Quartzite containing small fragments of Fall Creek chert has been identified in gravel deposits in Hamilton County (Cochran 2005).

The Upper White River drainage lies within the Tipton Till Plain physiographic division of Indiana, a member of the Till Plain Section of the Central Lowland Province of the United States (Schermerhorn 1967:83). The Tipton Till Plain has been redefined as the Central Till Plain Region and subdivided into physiographic sections (Gray 2000). The Hobbs' Knob and Taylor Ten sites are within the New Castle Till Plains and Drainageways section that is characterized as a relatively featureless plain of low relief dissected by a crisscross pattern of meltwater features (Gray 2000). Tunnel valleys fed the West Fork of the White River, several tributaries of the East Fork of the White River and the several forks of the Whitewater River (Gray 2000).

The surface topography of the Upper White River drainage varies from flat and gently undulating to broadly rolling. The areas of greatest relief occur along the White River and its main tributaries when gently rolling outwash terraces meet old glacial meltwater channels resulting in abrupt changes in elevation. The landforms present within the drainage are floodplains and terraces, ridge/end moraines, till plains, outwash plains, lacustrine plains, eskers/kames, and muck and peat depressions (Chen and Caturvedi 1992; Gefell 1983; Shurig 1974). The Hobbs' Knob site is located on a terrace knoll along the White River valley and the Taylor Ten site is on the floodplain of the White River.

The Hobbs' Knob site is within the Fox-Eel soil association that consists of nearly level to strongly sloping soils on terraces and floodplains (Schermerhorn 1967:4). The soil type mapped at Hobbs' Knob is the Fox silt loam, 2 to 6% slopes, moderately eroded (FoB2) (Schermerhorn 1967:map sheet 41). This soil is found on gently sloping terraces.

The soil association documented for Taylor Ten is Shoals-Genesee. It is characterized by deep, nearly level, somewhat poorly drained and well drained, medium textured soils that formed in alluvium on floodplains (Hosteter 1978:4). The soil types at Taylor Ten include the nearly level, well drained Ross loam (Ro) and the nearly level, well drained Genesee silt loam (Ge) (Hosteter 1978:map sheet 23). Both of these soils are found on floodplains and formed in alluvium.

### **Summary of Late Woodland/Late Prehistoric Period in Central Indiana**

The natural setting of the Upper White River drainage demonstrates a hospitable environment for human occupation. This period in Central Indiana shows an adaptation to a more focused economy based on corn horticulture. Village sites with separated activity areas occur. Sometimes villages had palisades or timber walls that surrounded the village. Along with corn or maize horticulture, beans and squash also become important, and the cultivation of native crops declines. Triangular shaped points are the only projectile form used. Different archaeological cultures from this period are recognized primarily from the type of ceramics they produced. Other components are documented at Hobbs' Knob and Taylor Ten, but both sites were intensively occupied during the Late Woodland/Late Prehistoric periods. Three Late Woodland/Late Prehistoric archaeological phases are important to understanding the cultural setting of the Hobbs' Knob and Taylor Ten Sites: Albee, Oliver and Castor. Also mentioned in the discussion below are Fort Ancient, Western Basin, Riviere au Vase, Younge, Fisher and Oneota. These are also LateWoodland/Late Prehistoric archaeological units that occur in other regions of the Midwest and had influence in the Central Indiana area.

#### *Albee Phase*

The Albee Complex was first recognized and defined by Howard Winters (1967) from survey data in the Wabash valley in Illinois and Indiana. The only distinctive artifact in the complex was a cordmarked, grit-tempered jar with a wedge-shape rim. All the other artifacts associated with the complex were also present in other Late Woodland assemblages. Following Winters' (1967) definition, the Albee Complex became an accepted term for identifying Late Woodland artifacts and sites, particularly in the Wabash valley. Halsey (1976) expanded the definition of the Albee Complex to the Albee Phase and included it as part of the early Late Woodland Wayne Mortuary Complex of the Eastern Woodlands. Halsey (1976) identified two phases of the Wayne Mortuary Complex in Indiana: the Walkerton Phase in northern Indiana and the Albee Phase across the remainder of the state.

After 30 years of research, the Albee Phase remains little more than an Indiana/Illinois variation of a generalized Late Woodland artifact assemblage that occurred throughout the Eastern Woodlands (McCord 2005). Although numerous sites are associated with the Albee Phase, it is a poorly defined manifestation (Anslinger 1990; Schurr 2003). Most of the



information available on the Albee Phase comes from mortuary sites, mixed multicomponent habitations, and surface collections. Although the Albee Phase is an accepted and common archaeological unit in Indiana overviews (Kellar 1983, Redmond and McCullough 2000; Swartz 1981), the definition is untested with data from a representative sample of excavated habitation sites. Excavations at the Morell-Sheets site in west central Indiana helped to clarify some of the problems with the Albee Phase (McCord and Cochran 1994). The Morell-Sheets site assemblage provided the largest sample of data from a habitation with contextual information from a virtually unmixed Albee component(s). The site provided specific data on Albee Phase chronology, ceramics, lithics, and floral and faunal exploitation (McCord and Cochran 1994). The features and midden spanned the range of the Albee Phase providing a radiocarbon sequence between A.D. 800 and 1200 (calibrated A.D. 800 to 1300).

Our current characterization of the Albee Phase places it between approximately cal A.D. 800 and 1300, but internal variation in artifacts and mortuary practices have been recognized within this 500 year period (Cochran et al. 1988; Halsey 1976; Havill et al. 2003; McCord and Cochran 1994; Schurr 2003; White 1998). The distribution of Albee Phase sites ranges across most of Indiana and eastern Illinois (Halsey 1976; McCord and Cochran 1994; McCullough 2000; Schurr 2003; Winters 1967) and variation in the material culture from different regions has been recognized (Halsey 1976; Havill et al. 2003; McCord and Cochran 2003; Schurr 2003). While the wedge-shaped, collared, grit tempered sherds that are typically embellished with tool or corded impressions are distinctive of Albee, numerous artifacts have been associated with the Albee Phase. Other artifacts include Triangular Cluster points, Commissary knives, shell beads, copper beads, slate gorgets, copper gorgets, bone awls, antler drifts, antler arrow points, bone whistles or flutes, antler or bone hooks, antler harpoons, bone needles, bone beamers, modified deer phalanges, modified animal jaws, raccoon bacula tools, modified turtle carapace, graters, perforators, lamellar blades, endscrapers, chipped stone adzes, bipolar cores, ceramic pipes, straight base platform pipes, and sandstone abraders (Anslinger 1990:51; Cochran et al. 1988:48-65; Halsey 1976:559-582; Kellar 1983:50; McCord and Cochran 1994:9-12; Tomak 1970, Winters 1967:60, 68-69). Albee settlement patterns indicate that the cemeteries and habitation sites are typically associated with the valleys of major drainages (Anslinger 1990:51). It appears that cemeteries and habitations were associated, but spatially segregated with the habitation sites occurring on the valley floor and cemeteries occurring along upland or terrace edges (Cochran et al. 1988; McCord and Cochran 2003; Tomak 1970). At least some of the valley floor habitations were semi-sedentary or seasonal occupations focused on horticulture (McCord 1998, 2001; McCord and Cochran 1994). Albee sites are likely dispersed into the uplands also, but distinguishing Albee sites from other aceramic Late Woodland/Late Prehistoric sites is not currently possible since the Triangular Cluster points are common throughout. Subsistence practices included the cultivation of Eastern Agricultural Complex plants (little barley, maygrass and knotweed) and maize, in addition to wild plants. Animal remains identified have been dominated by white-tailed deer, but turtle, porcupine, wapiti, beaver, raccoon, turkey and mussels are present.

The Albee Phase is still ill-defined as an archaeological unit. Numerous problems in defining the regional variation, internal chronology, relationships to other archaeological units, settlement patterns, and settlement systems occur under the definition. To help clarify Albee, it was proposed that only cord- and fabric marked wedge-shaped collared ceramics that frequently have decoration be considered indicative of the Albee Phase (McCord 2005).

## *Oliver Phase*

The Oliver Phase was first identified from sites in the Indianapolis area where surface collections contained a mixed assemblage of ceramics with suggested affinities to Fort Ancient, Oneota, and Great Lakes Woodland wares (Dorwin 1971; Griffin 1966; Helmen 1950; McCullough 1991, 2000; Weer 1935). Determining the cultural relationship and interaction of these materially different populations has been a source of archaeological investigations for several decades. Weer (1935) and Householder (1941, 1945) were the first to publish on sites containing this mixture of ceramics and ponder the relationships between Woodland cultural groups and Fort Ancient cultural groups. Griffin (1966) addressed the mixture of ceramic styles in *The Fort Ancient Aspect*, concluding that the material was basically Woodland with elements of Fort Ancient. Helmen's (1950) work at the Oliver Farm site was the first intensive comparison of ceramics and he defined several pottery types including Oliver Cordmarked and Oliver Cordmarked and Incised. Oliver Cordmarked and Incised were related to Anderson and Madisonville Fort Ancient influences in addition to Fisher. Other Unclassified types were related to ceramics from the Younge and Riviere au Vase sites in Michigan and sites in northern Ohio. A few miscellaneous sherds showed both Woodland and Fort Ancient decorative styles on the same sherd. Dorwin's (1971) work with excavated materials from the Bowen site became the type site for the Oliver Phase. He expanded Helmen's (1950) ceramic type description, defining several of the *Unclassified types* as a Bowen series including: Bowen Cordmarked with Cord Impressed, Punched and Plain varieties; Bowen Sharply Everted Rim; Bowen Fabric Marked; and Bowen Collared with Cambered and Straight varieties. While the Oliver series ceramics were still recognized as related to Anderson and Madisonville Fort Ancient, the Bowen series was related to Canton Ware and Madison Cord Impressed of Wisconsin and northern Illinois. The Bowen site analysis showed that both the Oliver series and the Bowen series co-occurred in the same features.

Robert McCullough has a long history of investigating the Oliver Phase (Arnold et al. 2007; McCullough 1991, 2000; McCullough and Wright 1997; McCullough et al. 2004; Redmond and McCullough 1993, 1996, 2000; White et al. 2002, 2003). McCullough's (1991) reanalysis of the Bowen site confirmed that the Oliver and Bowen ceramics do occur in the same feature, but the different ceramic traditions were concentrated in different parts of the site and were predominantly spatially separated. Currently, interpretations of the Oliver Phase rely on the migration of several cultural groups attracted to the White River drainage for its agricultural potential (McCullough 2000; McCullough et al. 2004). Middle Fort Ancient (A.D. 1200 to 1450) populations most closely related to Anderson Phase are hypothesized to have migrated into the White River drainage carrying some, but not the full range, of Fort Ancient cultural practices (McCullough et al. 2004:24). The other population is related to the Springwells Phase (A.D. 1200 to 1300) of the Western Basin tradition, based on the Great Lakes impressed decorative styles. Due to differences in ceramic vessel form and placement of the decoration, in addition to cultural differences such as mortuary practices, this population is not perceived as a wholesale migration (McCullough et al. 2004). In contrast, Stothers and Schneider (2003) support the notion of a Springwells migration to the White River following their dispersal by the Wolf Phase. While the derivation of these two contrasting ceramic traditions is still contested, the co-occurrence of Oliver series (Fort Ancient style) and Bowen series (Great Lakes Impressed style) is considered the defining characteristic of the Oliver Phase (McCullough 2000; McCullough et al. 2004:33). The blending of motifs that occurs by the mid-14<sup>th</sup> century is

interpreted as a more complete merger of the two groups (Bush 2004:39; McCullough 2000; McCullough et al. 2004:31).

It was recognized in Early Oliver contexts that the Fort Ancient and Great Lakes Impressed styles did not occur together on the same vessel. The sole occurrence of Great Lakes Impressed styles on the ceramics are now associated with the recently defined Castor Phase (McCullough 2005:162-167). This phase will be discussed in more detail below.

Aside from characterizations concerning ceramics, the Oliver Phase has recently been described, as an “elastic” concept (McCullough et al. 2004:28-32). The Oliver Phase dates between A.D. 1200 and 1450 along the drainages of the east and west forks of the White River. It is described as a sedentary, village dwelling society that were farmers. Settlements with Oliver Phase components are diverse, with examples of nucleated circular villages that can sometimes be surrounded by wooden stockades and ditches, examples of linear settlements along natural levees, as well as examples of small dispersed farmsteads on low terraces or higher floodplain elevations. Domestic structures, although rare, consist of subrectangular bent pole or circular wall trench and post construction. Mortuary activities occur in habitations, and no separate Oliver Phase cemeteries have been identified (McCullough 2000; McCullough et al. 2004).

Material culture associated with the Oliver Phase has many commonalities with other Late Woodland/Late Prehistoric cultures in the Midwest. Artifacts include: Triangular Cluster points, hump-backed knives, flake tools, few endscrapers, a few ground stone tools including sandstone abraders, pitted stones, grinding stones and small celts, and an extensive bone and antler tool technology including beamers, awls, fish hooks, antler arrow points, and antler flakers (McCullough et al. 2004:31). Shell hoe technology has not been identified, but a scapula hoe is reported at the Bowen site (McCullough et al. 2004:31). Pottery styles, as discussed above, typically occur on globular jars. A few bowl forms are also noted in Oliver Phase assemblages. Pottery pipes have also been documented, but pottery disks are rare (McCullough et al. 2004:31).

In terms of subsistence, the Oliver Phase people were horticulturists with subsistence supplemented by hunting and gathering (Bush 2004; Garniewicz 1996; McCullough et al. 2004). Corn was an important crop. Other cultivated or possibly cultivated crops included beans, tobacco, squash, little barley, chenopod, amaranth, maygrass and possibly sunflower. Other plants common on most sites were hickory, black walnut, hazelnut, blackberry, sumac, purslane, and grape family. In comparison with Fort Ancient and Mississippian plant use, the Oliver Phase sites cluster together, but not in exclusive groups, as there is overlap with Fort Ancient and Mississippian use. Oliver Phase faunal use relied primarily on mammals - in particular white tailed deer, with smaller amounts of fish, birds, and reptiles.

By the 14<sup>th</sup> and 15<sup>th</sup> centuries, Oliver Phase ceramics have also been found in association with Oneota groups (McCullough et al. 2004:33). A few Oliver Phase sherds have been associated with Smith Valley complex sites and Taylor Village ceramics. These associations continue to be explored in the Strawtown area.

### *Castor Phase*

The Castor Phase was recently defined from growing information that predates accepted Oliver Phase occupations and consists of only Great Lakes Impressed ceramics (McCullough 2005:162-167). There was growing evidence that several sites, at least in the Upper White River drainage, contain only the Great Lakes Impressed (Bowen series) ceramics without the presence of Fort Ancient styles. Notable sites include Moffitt Farm (12H6/46), Castor Farm (12H3) and 12H993.

Based on radiocarbon evidence and seriation of the ceramics (McCullough et al. 2004:188-210), it seemed clear that Great Lakes Impressed ceramics were well established in the Upper White River drainage prior to any Fort Ancient influences (McCord 2005:202).

The new designation for the Castor Phase suggests that the roots of the phase are within the Western Basin Tradition from peoples in the Maumee River Drainage (McCullough 2005:162). The most noted similarity between Castor and Western Basin are the similarities of ceramic decorative motifs. Castor Phase ceramics are related in particular to Riviere au Vase and Macomb series that occur in the Younge and Springwells phases (A.D. 1100 to 1300). However, vessel morphology and other decorative elements differ. Mortuary practices are also seen as similar, but with significant differences. The settlement patterns for Castor differ from Western Basin. Castor Phase occupations have large village areas with outlying farmsteads in close proximity. In addition, at Castor Farm a palisaded village and two large paired basin houses have been discovered. The Castor Phase dates generally range between cal A.D. 1020 and 1400. The Castor Phase is currently defined within Hamilton and northern Marion counties (McCullough 2005:162-167).

### **Hobbs' Knob**

Investigations at Hobbs' Knob (12M288) included a controlled surface collection, a magnetometer survey, and the excavation of nine hand excavated units. The original survey of the site recovered artifacts ranging from Early Archaic through Late Woodland (Conover 1988:68-69; ARMS files). The Late Woodland/Late Prehistoric occupation was the most intensive and based on ceramics was related to the Oliver Phase. The 2008 investigation recovered nearly 900 artifacts. Diagnostic points from the Early Archaic, Late Archaic, and Late Woodland periods were recovered (Figure 3). The points fit the original survey reports (Conover 1988:68-69), but this investigation did not recover any materials from the Middle Archaic, Early or Middle Woodland. The main Late Woodland/Late Prehistoric component at Hobbs' Knob is similar to characterizations of both Oliver Phase village and small habitation types (Redmond and McCullough 2000:668). The site is large (over 1 hectare) and has concentrations of both lithic and ceramic materials described for villages, but lacks intact features (Redmond and McCullough 2000:668). Small habitations are depicted as temporary base camps that could support a range of subsistence activities for small, dispersed, family groups, but lack intensive food storage or cooking activities (Redmond and McCullough 2000:668). Hobbs' Knob may be best viewed as a large habitation site that lacks intact features. The occupation was likely seasonal and repeated by small groups.



**Figure 3. Points recovered from the surface of Hobbs' Knob.**

The Hobbs' Knob site is important in understanding the precontact era of central Indiana. The site was occupied repeatedly over the last 9,000 years. Its proximity to both upland and floodplain resources, chert resources and the commanding view of the river valley made this location very advantageous to precontact occupation. The surface and plowzone data provide us with the age of occupations. The density of material recovered from the site is one of the highest recorded for the Upper White River drainage. But the lack of intact deposits hinders the ability to discern the types of activities that occurred at the site. The concentration of pottery outside of the valley floor indicates an unusual Late Woodland/Late Prehistoric settlement pattern for the Upper White River drainage. The site was likely reoccupied by small groups of Oliver Phase populations on a seasonal basis. Without intact features, further interpretation of this multicomponent site is limited. The project investigated approximately 6.5 % of the total site area with a controlled surface collection and gradiometer survey. Only 0.04% of the site area was excavated. The sample investigated was small and intact features may exist elsewhere in the site area. The lack of known integrity prevents the nomination of the Hobbs' Knob site to the National Register of Historic Places at this time.

### **Taylor Ten**

Investigations at Taylor Ten (12H987) included a controlled surface collection, a magnetometer survey, the excavation of nine hand excavated units, and the excavation of five cultural features. Early Archaic, Middle Woodland, and Late Woodland/Late Prehistoric occupations are reported from the 2002 surface survey of Taylor Ten. The 2008 investigation only recovered data from the Late Woodland/Late Prehistoric occupations of the site. Over 3,800 lithic and ceramic artifacts and over 3,500 fragments of animal bone were recovered. The gradiometer data suggested that additional features are present at the site. Artifacts and radiocarbon dates indicated Albee Phase, Castor Phase, and Oliver Phase components (Figures 4 & 5). The Late

Woodland/Late Prehistoric deposits were not stratified but were mixed in the midden-filled features and plowzone. The majority of the material recovered is associated with the Castor Phase reported between cal A.D. 1000 and 1400. The radiocarbon dates derived from two features were between cal A.D. 900 and 1040 and cal A.D. 1160 and 1270.



Figure 4. Triangular points from Taylor Ten.

Figure 5. Large Castor Phase vessel sherd from Taylor Ten.



Five cultural features were recorded at Taylor Ten. One of the features was a small smudge pit approximately 30 cm in diameter. The original use of the other four pit features is somewhat ambiguous. The four pits were each approximately one meter in diameter and 70 cm and one meter deep. These pits may have originally been used for storage, but seasonally high water tables may have been a deterrent for such a purpose. The secondary use of the four features was for refuse disposal. Activities at Taylor Ten, suggested by the features and feature contents included subsistence activities of farming corn, gathering wild plants, and hunting. Cooking activities likely occurred given the high percentage of burned animal bone recovered, but the



feature types do not indicate how the cooking occurred. The smudge pit indicated animal hides were being smoked and processed (Binford 1967). Lithic production occurred at the site, but formal tools were not disposed of in the same pattern as debitage. Ceramic vessels were likely used for cooking and storage. The subsistence data recovered from Taylor Ten was typical of other Late Woodland/Late Prehistoric subsistence practices recorded in the region. Hunting of deer was supplemented with elk, small mammals, turkey and other birds, snapping turtle, and fish. Corn was an important crop supplemented with nuts and a few wild crops.

The Castor Phase component is dominant at the Taylor Ten site. Castor Phase settlement is not well defined at this point, but McCullough (2005) notes Castor Phase occupations have large village areas with outlying farmsteads in close proximity. The Castor Farm site (12H3) would be indicative of a large Castor Phase village with large communal basin structures, stockade walls and numerous feature types (McCullough 2005). Large earth ovens documented at site 12H993 suggest a special communal function of the site, perhaps related to green corn ceremonies (McCord 2005). One of the best known ceremonies documented for horticultural Native Americans was a first fruits or green corn ceremony (Witthoft 1949:4-5). Green corn ceremonies were typically held when the corn first became available for food and served as renewal festivals to offer thanks for the gifts of foods, pray that good fortune would extend into the future, and hope that winter would not arrive until the crops were harvested (Witthoft 1949). Common elements of green corn ceremonies included: communal involvement, though men and women had different roles; multi-day observance (four days was most typical); dancing; singing; feasting; extinguishing old fires and lighting new fires; and cleansing or cleaning of the ceremonial area (Witthoft 1949).

The data recovered from Taylor Ten provides another component to Castor Phase settlement patterns. Taylor Ten did not provide any evidence of residential structures, but the midden found in storage/refuse pits indicates a substantial occupation. Smudge pits have not been reported from other Castor Phase sites. Seasonality information derived from the faunal analysis suggests late fall and early spring occupations. The site was likely reoccupied over several years as evidenced by the span of radiocarbon dates and the intrusion of one feature into another. Based on the portion of the site investigated, it appears that Taylor Ten represents a seasonally occupied farmstead.

This project investigated approximately 3.9% of the total site area of Taylor Ten through an intensive surface exploration and gradiometer survey. Only .026% of the site was excavated, but intact cultural deposits were recovered. Most of the material recovered is associated with the Castor Phase dating between A.D. 1000 and 1400. A few Albee Phase and Oliver Phase pottery sherds were also recovered, documenting a multicomponent use of the site. Five cultural features, representing two feature classes, were documented. Significant information to help refine the Castor Phase and data to help explore the relationship of contemporaneous Late Woodland/Late Prehistoric populations was obtained from Taylor Ten. The site may contain further information to explore models of migration or change within indigenous populations occurring during the Late Woodland/Late Prehistoric period in central Indiana. The site is determined to be eligible for listing on the State and National Registers of Historic Places.

## Regional Relationships

The project created an opportunity to explore the relationships between the Late Woodland/Late Prehistoric Albee, Castor, and Oliver Phases. The Oliver and Albee Phases were only superficially present at Taylor Ten with the occurrence of a few diagnostic ceramic sherds. But, it once again raises the issue of Late Woodland/Late Prehistoric relationships. Defining the relationships between these archaeological units has implications for understanding the complex Late Woodland/Late Prehistoric sequence in Indiana. It is becoming clear that a unilineal evolutionary, normative model of cultural change cannot be applied to the Late Woodland/Late Prehistoric archaeological period. The problems of defining phases or complexes or other archaeological units in Indiana are not unique. In summarizing recent studies of the Late Woodland across the Midwest, McElrath et al. (2000:10) stated:

The Late Woodland was a world of shifting centers and peripheries, a cultural landscape marked by a series of continuous population and uneven cultural developments . . . [that] witnessed an intermixing of agriculturists and hunter-gathers; areas with fairly sedentary, perhaps even fortified settlements abutting zones traversed by shifting populations; people using fixed communal mortuary facilities coexisting with others who practiced mortuary customs that are archaeologically invisible.

Hundreds of Oliver Phase sites have been documented in the east and west forks of the White River drainage from surface and excavated situations (McCullough et al. 2004:33). Bowen series ceramics currently identified as Great Lakes Impressed styles (cf. McCullough 2000), directly associated with pottery types including Oliver Cordmarked and Oliver Cordmarked and Incised (Helmen 1950) related to Anderson and Madisonville Fort Ancient, are the defining diagnostic artifacts for the Oliver Phase (Dorwin 1971; McCullough 1991, 2000; McCullough et al. 2004). Currently, interpretations of the Oliver Phase rely on the migration of several cultural groups attracted to the White River drainage for its agricultural potential (McCullough 2000, McCullough et al. 2004). Middle Fort Ancient (A.D. 1200 to 1450) populations most closely related to the Anderson Phase are hypothesized to have migrated into the White River drainage carrying some, but not the full range of Fort Ancient cultural practices (McCullough et al. 2004:24). The other population has been related to the Springwells Phase (A.D. 1200 to 1300) of the Western Basin tradition, based on the Great Lakes Impressed decorative styles. Due to differences in ceramic vessel form and placement of the decoration in addition to cultural differences such as mortuary practices, this population is not perceived as a wholesale migration (McCullough et al. 2004). In contrast, Stothers and Schneider (2003) support the notion of a Springwells migration to the White River following their dispersal by the Wolf Phase. While the derivation of these two contrasting ceramic traditions is still contested, the co-occurrence of Fort Ancient style and Great Lakes Impressed style is considered the defining characteristic of the Oliver Phase (McCullough 2000; McCullough et al. 2004:33). The blending of motifs that occurs by the mid 14<sup>th</sup> century is interpreted as a more complete merger of the two groups (Bush 2004:39; McCullough 2000; McCullough et al. 2004:31). Assimilation processes are not considered to be part of the dynamic in the early or middle portions of the

Oliver Phase, but are recognized as a possibility for the end of the Oliver Phase being absorbed into the Fort Ancient aggregation (McCullough et al. 2004:223).

The Castor Phase was recently defined from growing information that predates accepted Oliver Phase occupations and consists of only Great Lakes Impressed ceramics (McCullough 2005:162-167). Notable sites with Great Lakes Impressed style ceramics include Moffitt Farm (12H6/46), the Bosson site (12Ma4) Castor Farm (12H3), and 12H993. A few Fort Ancient sherds have been reported at the Bosson site (McCullough 2000:311-316) and at Castor Farm, but mixing of the styles on one vessel does not occur. Based on radiocarbon evidence and seriation of the ceramics (McCullough et al. 2004:188-210), it seemed clear that Great Lakes Impressed ceramics were well established in the Upper White River drainage prior to any Fort Ancient influences (McCord 2005:202). The new designation for the Castor Phase suggests that the roots of the phase were within the Western Basin Tradition (McCullough 2005:162). The most noted similarity between Castor and Western Basin are the similarities of ceramic decorative motifs. Castor Phase ceramics are related in particular to Riviere au Vase and Macomb series that occur in the Younge and Springwells phases (A.D. 1100 to 1300). While it is clear that there is a separation of Castor and Oliver Phases, the origin of the Castor Phase from the Western Basin Tradition is more speculative. The derivation of these ceramics as Younge or Springwells Phase of the Western Basin is contested. The Younge Phase of the Western Basin dates between A.D. 1000 and 1200, but there is no evidence that this population dispersed (eg. Stothers and Schneider 2003). The Springwells Phase dates between A.D. 1200 and 1300, which is too late to explain a migration of people into central Indiana. Currently, it appears that an established population utilizing Great Lakes style ceramics was in central Indiana by A.D. 1000. In essence, the Castor Phase ceramics are similar to other Great Lakes ceramics but are regionally distinctive. They may not necessarily be derived from one particular group or style. Many similarities of material culture and stylistic attributes have been documented across the Midcontinent (Seeman 1992). Cord decorated ceramics occur across the Great Lakes region. Although geographically removed from the Great Lakes, a Cordage Horizon (A.D. 650 to 800) has been recognized in the Upper Mississippi Basin (Benn and Green 2000:453). This Cordage Horizon is followed by a collared tradition (A.D. 950 to 1100) that is still decorated with corded designs (Benn and Green 2000:469).

The occurrence of both Albee and Castor Phase ceramics at sites like Taylor Ten may indicate a prior Albee presence or a contemporary relationship where both ceramic populations utilized the area, but in different ways. Winters (1967) related Albee Phase ceramics to northwestern types found in the Illinois River Valley and southern Wisconsin. More specifically, Albee Phase ceramics have been related most closely with Starved Rock Collared (Hall 1962) and Aztalan Collared (Baeris and Freeman 1958; McCord and Cochran 1994:61-63; Winters 1967:88). Just as the Bowen series ceramics fit into a widespread ceramic tradition occurring in the Great Lakes region, so does Albee pottery (Douglas 1976; Halsey 1976). Fitting (1968:23) recognized a widespread cordmarked collared horizon in the early Late Woodland period. In discussing Spring Creek Collared ceramics, he related them as similar to sherds at the Riviere au Vase site, Dillinger Cordmarked and Canton Ware of Illinois, Albee Cordmarked of the Wabash Valley in Indiana and Illinois, Madison Cord Impressed near Chicago, and Mahoning Cordmarked of Ohio (Fitting 1968:23-24). All of these types have both collared and the uncollared variants, with the uncollared forms appearing earlier (Fitting 1968:24). Emerson and Titelbaum (2000:420) echo this collared ware horizon and place the distribution in eastern Iowa, northern Illinois, southwestern Michigan, southern Wisconsin, and Indiana.

Arguing against migration models, the Albee and Castor Phases may represent the adoption of widespread ideas from indigenous populations contributing to cultural change. As noted for the eastern prairies (Brown and Sasso 2001), long-term cultural integrity is becoming a favored position in contrast to over-simplistic replacement models used to explain cultural change. In researching the same issue of the origin for the Kekoskee Phase (A.D. 800 to 1200) of southwestern Wisconsin, Salkin (2000:532) favored a gradual adoption of cultural traits by local Late Woodland populations over a migration model. Throughout the Great Lakes region, populations adopted the use of collars in ceramic vessel design (Emerson and Titelbaum 2000; Douglas 1976; Fitting 1968; Halsey 1976).

It also appears that the Albee, Castor, and Oliver Phases were utilizing the same territory at least in central Indiana. How this territorial sharing was negotiated is an avenue for future research. Perhaps the populations were using the territory in different ways, but floral and faunal analyses do not suggest a major difference in subsistence. Perhaps, the Albee Phase is more concentrated in northwestern Indiana, and only used central and eastern Indiana on an occasional basis. The occurrence of several contemporary ceramic styles in one geographic area is not unique. Maples Mills Cord Impressed ceramics, a derivative of Canton Ware, have been reported at sites with collared ceramics similar to Albee Cordmarked (Esarey 2000:392). Madison Wares and collared ceramics have been documented together at sites in Wisconsin and, in at least one case, the collared styles increased in frequency later in time (Birmingham and Eisenberg 2000:104).

Since evolutionary models do not fit the relationship of Late Woodland/Late Prehistoric populations, other potential models were explored. Some researchers have used ethnographic accounts of different Native populations utilizing the same territory to create models that allow for the existence of two or more contemporary archaeological units in the same region (Douglas 1976; Fitting 1970; Holman and Kingsley 1996). Fitting (1970) recognized that the Chippewa, Miami-Potawatomi and Ottawa each had different patterns of land use and seasonal movement. This information was applied to a Great Lakes Late Woodland model of multiple and articulated settlement-subsistence strategies that were in operation simultaneously in the same region to explain the presence of different archaeological units (Fitting 1970). Using data of Ojibwa, Ottawa, and Potawatomi cooperation through territorial sharing in risk buffering, Holman and Kingsley (1996) suggested that this same pattern of territorial sharing occurred in early Late Woodland populations in Michigan.

The cultural-historical models that explain regional development are too rigid to capture fluid Late Woodland cultures, and it appears impossible to identify what a culture would emulate before or after it was present when evolutionary trends are not in effect. Because the Albee, Castor, and Oliver Phases are part of a widespread Late Woodland tradition, it is difficult to define particular phases or cultures and establish boundaries given the extensive degree of interaction and borrowing of ideas that undoubtedly occurred (Anslinger 1990:51). Clay (2002:165) also addresses the issue of defining Woodland cultures that have similar patterns across broad geographic areas and that tend to fragment under scrutiny into fluid groups of people. He recognizes the failure of regional stages based on cultural-historical units to adequately address “cultural pluralism” (Clay 2002:166). Future work will have to explore how territories were exploited by different, contemporaneous archaeological groups to fully understand the Late Woodland/Late Prehistoric period of central Indiana.

## Conclusions and Recommendations

The project was designed to investigate and nominate two prehistoric habitation sites in the Upper White River drainage to the National Register of Historic Places. The two sites, Hobbs' Knob (12M266) and Taylor Ten (12H987), had provided important information on prehistoric settlement in the Upper White River drainage, however, information on the integrity of deposits was lacking. The project goal was met for the Taylor Ten site but not for Hobbs' Knob. As often happens, the project resulted in the recovery of some anticipated and some unexpected information.

The Hobbs' Knob site was occupied repeatedly over the last 9,000 years, but most intensively during the Late Woodland/Late Prehistoric Oliver Phase. The density of material recovered from the surface and plowzone is one of the highest recorded for the Upper White River drainage. The concentration of pottery outside the valley floor indicates an unusual Late Woodland/Late Prehistoric settlement pattern of the Upper White River drainage. However, the project encountered no intact sub-plowzone deposits within the area investigated, and so far, the apparent lack of integrity prevents the nomination of the Hobbs' Knob site to the National Register of Historic Places at this time.

The investigation of Taylor Ten confirmed the presence of a significant Late Woodland/Late Prehistoric habitation. Five cultural features were documented by the project and over 3,800 lithic and ceramic artifacts and over 3,500 fragments of animal bone were recovered. Most of the material recovered is associated with the Castor Phase dating between A.D. 1000 and 1400. A few Albee Phase and Oliver Phase pottery sherds were also recovered documenting a multicomponent use of the site. The subsistence data recovered from Taylor Ten was typical of other Late Woodland/Late Prehistoric subsistence practices recorded in the vicinity. Hunting of deer was supplemented with elk, small mammals, turkey and other birds, snapping turtle, and fish. Corn was an important crop supplemented with nuts and a few wild crops. The gradiometer data suggested that additional features were present at the site. Based on the portion of the site investigated, Taylor Ten was a seasonally occupied farmstead. The presence of Albee and Oliver Phase artifacts at Taylor Ten suggested that data was present to help explore the relationship of contemporary Late Woodland/Late Prehistoric populations. The site is also a component of the settlement system that can help refine the newly designated Castor Phase. The site was determined to be eligible for listing on the Indiana Register of Historic Sites and Structures and National Register of Historic Places.

[Editors' note: The Taylor Ten site was listed in the National Register of Historic Places on 12/24/09.]

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## References Cited

- Angst, Michael G.  
1994 An Archaeological Survey of Fayette County. *Reports of Investigation* 40. Archaeological Resources Management Service, Ball State University, Muncie.
- Anslinger, Michael  
1990 The Akers Site: A Late Woodland Albee Phase Burial Mound in Warren County, West Central, Indiana. *Technical Report* 10. Indiana State University Anthropology Laboratory, Terre Haute.
- Arnold, Craig R., Colin Graham, Scott Hipskind, Dorothea McCullough, Robert McCullough, and Mariah Yager  
2007 Archaeology in a Public Venue at the Strawtown Enclosure (12-H-883):2006. *Reports of Investigation* 701. IPFW Archaeological Survey, Indiana-Purdue University at Fort Wayne, Fort Wayne.
- Baeris, David A., and J. E. Freeman  
1958 Late Woodland Pottery in Wisconsin as Seen from Aztalan. *Wisconsin Archaeologist* 39 (1):35-61.
- Benn, David W., and William Green  
2000 Late Woodland Cultures in Iowa. In *Late Woodland Societies: Tradition and Transformation across the Midcontinent*, edited by Thomas E. Emerson, Dale L. McElrath, and Andrew C. Fortier. University of Nebraska Press, Lincoln and London.
- Binford, Lewis R.  
1967 Smudge Pits and Hide Smoking: The Use of Analogy in Archaeological Reasoning. *American Antiquity* 32 (1):1-12.
- Birmingham, Robert A., and Leslie E. Eisenberg  
2000 *Indian Mounds of Wisconsin*. University of Wisconsin Press, Madison.
- Brinker, Ruth  
1984 An Archaeological Survey of Late Archaic Sites in Central Indiana. Glenn A. Black Laboratory of Archaeology, Indiana University, Bloomington.
- Brown, James A., and Robert F. Sasso  
2001 Prelude to History on the Eastern Prairies. In *Societies in Eclipse: Archaeology of the Eastern Woodlands Indians, A.D. 1400 -1700*, edited by David S. Brose, C. Wesley Cowan and Robert C. Mainfort, Jr. Smithsonian Institution Press, Washington.
- Bush, Leslie  
2004 *Boundary Conditions: Botanical Remains of the Oliver Phase, Central Indiana, A.D. 1200-1450*. The University of Alabama Press, Tuscaloosa.
- Cantin, Mark, John A. Schwegman, David N. Holycross, and C. Russell Stafford  
2003 Geoarchaeological Investigations of the Taylor Property near Strawtown, Hamilton County, Indiana. *Technical Report* No. 34. Indiana State University Anthropology Laboratory, Terre Haute.
- Carmany, Karstin  
2002 *Phase Ia Archaeological Field Reconnaissance: Proposed Hamilton County Park Near Perkinsville in Hamilton County, Indiana*. Landmark Archaeological and Environmental Services, Inc., Sheridan, Indiana.

- Chen, Wei-Yao, and Arvind Caturvedi  
 1992 *Engineering Soils Map of Randolph County, Indiana*. United States Department of Agriculture, Soil Conservation Service, Washington D.C.
- Clay, R. Berle  
 2002 Deconstructing the Woodland Sequence from the Heartland: A Review of Recent Research Directions in the Upper Ohio Valley. In *The Woodland Southeast* edited by David G. Anderson and Robert C. Mainfort, Jr., pp. 162-184. University of Alabama Press, Tuscaloosa.
- Cochran, Donald R.  
 2002 Analysis of Lithics from 12-H-3 and the Strawtown Enclosure. In An Archaeological Evaluation of Late Prehistoric Village and Subsistence Patterns in North-Central and Northeastern Indiana, by Andrew A. White, Dorothea McCullough, and Robert G. McCullough. *Reports of Investigation* 216, IPFW Archaeological Survey, Indiana-Purdue University at Fort Wayne, Fort Wayne.  
 2005 Lithic Analysis. In Investigations in the Upper White River Drainage: The Albee Phase and Late Woodland/Prehistoric Settlement, by Beth K. McCord. *Reports of Investigation* 65. Archaeological Resources Management Service, Ball State University, Muncie.  
 2007 Chert. In A Profile of Till Plain Archaeology: A Survey of Hancock County, Indiana, by Beth McCord. *Reports of Investigation* 71. Archaeological Resources Management Service, Ball State University, Muncie.
- Cochran, Donald R., Lisa Maust, Eric Filkins, Mitch Zoll, Sharon Staley, and Ronald Richards  
 1988 The Heshel Site: A Late Albee Cemetery in East Central Indiana. *Reports of Investigation* 24. Archaeological Resources Management Service, Ball State University, Muncie.
- Conover, Diana  
 1988 A Reconnaissance Level Survey of the Valley Corridor of the Upper West Fork of the White River in Madison County, Indiana. *Reports of Investigation* 32. Archaeological Resources Management Service, Ball State University, Muncie.
- Cree, Donald  
 1991 An Archaeological Database Enhancement Project: A Survey of Hamilton and Marion Counties, Indiana. *Reports of Investigation* 31. Archaeological Resources Management Service, Ball State University, Muncie.
- Cree, Donald W., Randy Gaw, Gerald Waite, Lisa Palyo, and Donald R. Cochran  
 1994 Historic and Prehistoric Contexts in the Tipton Till Plain. *Reports of Investigation* 36. Archaeological Resources Management Service, Ball State University, Muncie.
- Dorwin, John T.  
 1971 The Bowen Site: An Archaeological Study of Culture Process in the Late Prehistory of Central Indiana. Indiana Historical Society *Prehistory Research Series* 4(4). Indianapolis.
- Douglas, John G.  
 1976 Collins: A Late Woodland Ceremonial Complex in the Woodfordian Northeast. Unpublished Ph.D. Dissertation, Department of Anthropology, University of Illinois at Urbana-Champaign.

- Ellis, Gary  
 1982 *An Archaeological Survey of the Conner Prairie Tract, Hamilton County, Indiana.* Manuscript on file, Archaeological Resources Management Service, Ball State University, Muncie.
- Emerson, Thomas E., and Anne R. Titelbaum  
 2000 The Des Plaines Complex and the Late Woodland Stage of Northern Illinois. In *Late Woodland Societies: Tradition and Transformation across the Midcontinent*, edited by Thomas E. Emerson, Dale L. McElrath, and Andrew C. Fortier. University of Nebraska Press, Lincoln and London.
- Esarey, Duane  
 2000 The Late Woodland Maples Mills and Mossville Phase Sequence in the Central Illinois River Valley. In *Late Woodland Societies: Tradition and Transformation across the Midcontinent*, edited by Thomas E. Emerson, Dale L. McElrath, and Andrew C. Fortier. University of Nebraska Press, Lincoln and London.
- Fitting, James E.  
 1968 The Spring Creek Site, 20Mu3, Muskegon County, Michigan. In *Contributions to Michigan Archaeology*, edited by James E. Fitting, John R. Halsey, and H. Martin Wobst. Anthropological Papers, No. 32., University of Michigan Museum of Anthropology, Ann Arbor.  
 1970 *The Archaeology of Michigan.* Natural History Press, Garden City, New York.
- Garniewicz, Rexford C.  
 1996 Appendix D. Analysis of Faunal Remains. In Excavations at the Cox's Woods Site (12Or1), A Late Prehistoric Oliver Phase Village in the Pioneer Mothers Memorial Forest, Orange County, Indiana. Edited by Brian G. Redmond and Robert G. McCullough. *Research Reports* No. 17. Glenn A. Black Laboratory of Archaeology, Indiana University, Bloomington.
- Gefell, E.M.  
 1983 *Engineering Soils Map of Hamilton County, Indiana.* Purdue University, West Lafayette.
- Gooding, Ansel M.  
 1973 Characteristics of Wisconsin Till in Eastern Indiana. Department of Natural Resources Geological Survey Bulletin 49. Bloomington.
- Gray, Henry  
 2000 Physiographic Divisions of Indiana. Indiana Geological Survey Special Report 61. Indiana University, Bloomington.
- Griffin, James B.  
 1966 *The Fort Ancient Aspect: Its Cultural and Chronological Position in Mississippi Valley Archaeology.* Anthropological Papers 28, Museum of Anthropology, University of Michigan, Ann Arbor.
- Gutschick, Raymond C.  
 1966 Bedrock Geology. In *Natural Features of Indiana.* Alton A. Lindsey, editor. Indiana Academy of Science, Indianapolis.
- Hall, Robert L.  
 1962 *The Archaeology of Caracajou Point.* The University of Wisconsin Press, Madison.

- Halsey, John R.  
 1976 The Bussinger Site: A Multicomponent Site in the Saginaw Valley of Michigan. Unpublished Ph.D. Dissertation, Department of Anthropology, University of North Carolina, Chapel Hill.
- Havill, Lorena M., Andrew A. White, and Kimmarie A. Murphy  
 2003 Skeletal Biology and Cemetery Use at the Albee Mound, Bucci, Shaffer and Shepherd Sites. In *Facing the Final Millennium: Studies in the Late Prehistory of Indiana, A.D. 700 to 1700*, edited by Brian G. Redmond and James R. Jones, III. Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology, Indianapolis.
- Helmen, Vernon  
 1950 The Cultural Affiliations and Relationships of the Oliver Farm Site, Marion County, Indiana. Unpublished Master's thesis, Department of Anthropology, Indiana University, Bloomington.
- Hixon, James L.  
 1988 An Archaeological Assessment of the Strawtown Site and the Immediate Vicinity. Unpublished Master's thesis, Department of Anthropology, Ball State University, Muncie.
- Hoggart, Richard E.  
 1975 *Drainage Areas of Indiana Streams*. Water Resource Division, U.S. Department of the Interior Geological Survey.
- Holman, Margaret B., and Robert G. Kingsley  
 1996 Territoriality and Societal Interaction During the Early Late Woodland Period in Southern Michigan. In *Investigating the Archaeological Record of the Great Lakes State, Essays in Honor of Elizabeth Baldwin Garland*, edited by Margaret B. Holman, Janet G. Brashler and Kathryn E. Parker. New Issues Press, Western Michigan University, Kalamazoo.
- Hosteter, William D.  
 1978 *Soil Survey of Hamilton County, Indiana*. U.S. Department of Agriculture, Washington D.C.
- Householder, J. C.  
 1941 Surface Pottery from Marion County Indiana. *Indiana Academy of Science Proceedings* 50:29-32. Indianapolis.  
 1945 The Oliver Farm Site. *Indiana Academy of Science Proceedings* 54:29-32. Indianapolis.
- Kellar, James H.  
 1983 *An Introduction to the Prehistory of Indiana*. Indiana Historical Society, Indianapolis.
- McCord, Beth K.  
 1998 An Archaeological Assessment of Three Unique Woodland Sites in Henry County, Indiana. *Reports of Investigation* 52. Archaeological Resources Management Service, Ball State University, Muncie.  
 2001 Recovery of Two Features at the Jarrett Site (12-DI-689), Delaware County, Indiana. *Reports of Investigation* 57. Archaeological Resources Management Service, Ball State University, Muncie.

- 2005 Investigations in the Upper White River Drainage: The Albee Phase and Late Woodland/Prehistoric Settlement. *Reports of Investigation* 65. Archaeological Resources Management Service, Ball State University, Muncie.
- McCord, Beth Kolbe, and Donald R. Cochran
- 1994 Morell-Sheets: An Albee Phase Habitation. *Reports of Investigation* 38. Archaeological Resources Management Service, Ball State University, Muncie.
- 2003 An Archaeological Survey of the Taylor Property at the Strawtown Prairie, Hamilton County, Indiana. *Reports of Investigation* 64. Archaeological Resources Management Service, Ball State University, Muncie.
- McCullough, Robert G.
- 1991 A Reanalysis of Ceramics from the Bowen Site: Implications for Defining the Oliver Phase of Central Indiana. Unpublished Master's thesis, Department of Anthropology, Ball State University, Muncie.
- 2000 The Oliver Phase of Central Indiana: A Study of Settlement Variability as a Response to Social Risk. Unpublished Ph.D. dissertation, Department of Anthropology, Southern Illinois University at Carbondale.
- McCullough, Robert G., editor
- 2005 Late Prehistoric Archaeology of a Frontier. Contributions by Leslie L. Bush, Scott Hipskind, Adam Lauer, Dorothea McCullough, R. Brian Somers, Andrew A. White and Mariah Yager. *Reports of Investigations* 502. IPFW Archaeological Survey, Indiana University-Purdue University at Fort Wayne, Fort Wayne.
- McCullough, Robert G., Andrew A. White, Michael Strezewski, and Dorothea McCullough
- 2004 Frontier Interaction During the Late Prehistoric Period: A Case Study from Central Indiana. *Reports of Investigation* 401. IPFW Archaeological Survey, Indiana-Purdue University at Fort Wayne, Fort Wayne.
- McCullough, Robert, and T. M. Wright
- 1997 An Archaeological Investigation of Late Prehistoric Subsistence-Settlement Diversity in Central Indiana. *Research Reports*, No. 18. Glenn A. Black Laboratory of Archaeology, Indiana University, Bloomington.
- McElrath, Dale L., Thomas E. Emerson, and Andrew C. Fortier
- 2000 Social Evolution or Social Response? A Fresh Look at the "Good Gray Cultures" After Four Decades of Midwest Research. In *Late Woodland Societies: Tradition and Transformation across the Midcontinent*, edited by Thomas E. Emerson, Dale L. McElrath, and Andrew C. Fortier. University of Nebraska Press, Lincoln and London.
- Redmond, Brian G., and Robert G. McCullough
- 1993 Survey and Test Excavation of Late Prehistoric, Oliver Phase Components in Martin, Lawrence and Orange Counties, Indiana. *Reports of Investigation* 93-13. Glenn A. Black Laboratory of Archaeology, Indiana University, Bloomington.
- 1996 Excavations at the Cox's Woods Site (12Or1), A Late Prehistoric Oliver Phase Village in the Pioneer Mothers Memorial Forest, Orange County, Indiana. *Research Reports* No. 17. Glenn A. Black Laboratory of Archaeology, Indiana University, Bloomington.
- 2000 The Late Woodland to Late Prehistoric Occupations of Central Indiana. In *Late Woodland Societies: Transformation across the Midcontinent*, edited by T. Emerson, D. McElrath and A. Fortier. University of Nebraska Press, Lincoln.



- Salkin, Philip H.  
 2000 The Horicon and Kekoskee Phases: Cultural Complexity in the Late Woodland Stage in Southeastern Wisconsin. In *Late Woodland Societies: Tradition and Transformation across the Midcontinent*, edited by Thomas E. Emerson, Dale L. McElrath, and Andrew C. Fortier. University of Nebraska Press, Lincoln and London.
- Schermerhorn, Edward J.  
 1967 *Soil Survey of Madison County*. U.S. Department of Agriculture, Washington, D.C.
- Schurr, Mark R.  
 2003 The Late Prehistory of Northwestern Indiana: New Perspectives on an Old Model. In *Facing the Final Millennium: Studies in the Late Prehistory of Indiana, A.D. 700 to 1700*, edited by Brian G. Redmond and James R. Jones, III. Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology, Indianapolis.
- Seeman, Mark F.  
 1992 Woodland Traditions in the Midcontinent: A Comparison of Three Regional Sequences. *Research in Economic Anthropology*, Supplement 6:3-46.
- Shurig, D. G.  
 1974 *Engineering Soils Map of Delaware County, Indiana*. United States Department of Agriculture, Soil Conservation Service.
- Stephenson, Ranel P.  
 1984 The Archaeological Resources of the Upper White River Drainage with Emphasis on the Woodland Period. *Reports of Investigation 12*. Archaeological Resources Management Service, Ball State University, Muncie.
- Stothers, David M., and Andrew M. Schneider  
 2003 Implications of the Wolf Phase Dispersal of Terminal Western Basin Tradition Populations into Northern Indiana During Late Prehistory. In *Facing the Final Millennium: Studies in the Late Prehistory of Indiana, A.D. 700 to 1700*, edited by Brian G. Redmond and James R. Jones, III. Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology, Indianapolis.
- Swartz, B. K., Jr.  
 1981 *Indiana's Prehistoric Past*. University Publications, Ball State University, Muncie.
- Tomak, Curtis H.  
 1970 Aboriginal Occupations in the Vicinity of Greene County, Indiana. Unpublished Master's thesis, Indiana University, Bloomington.
- Weer, Paul  
 1935 Sweeping a Prehistoric Floor. *Indiana History Bulletin* 12 (5). Indianapolis.
- White, Andrew A.  
 1998 Early and Late Albee Mortuary Components in West Central Indiana. *Indiana Archaeology* 2(1):70-143.
- White, Andrew A., Dorothea McCullough, and Robert G. McCullough  
 2002 An Archaeological Evaluation of Late Prehistoric Village and Subsistence Patterns in North-Central and Northeastern Indiana. *Reports of Investigation* 216.

IPFW Archaeological Survey, Indiana-Purdue University at Fort Wayne, Fort Wayne.

White, Andrew A., Robert G. McCullough, and Dorothea McCullough

2003 Archaeological Investigations at Two Late Prehistoric Earthen Enclosures in Indiana. *Reports of Investigation* 301. IPFW Archaeological Survey, Indiana-Purdue University at Fort Wayne, Fort Wayne.

Winters, Howard D.

1967 An Archaeological Survey of the Wabash Valley in Illinois. *Reports of Investigation* 10. Illinois State Museum, Springfield.

Witthoff, John

1949 Green Corn Ceremonialism in the Eastern Woodlands. *Occasional Contributions from the Museum of Anthropology of the University of Michigan*, No. 13. University of Michigan Press, Ann Arbor.

## **THE COLLIER LODGE ARCHAEOLOGICAL SITE: WHY IT BELONGS ON THE NATIONAL REGISTER OF HISTORIC PLACES**

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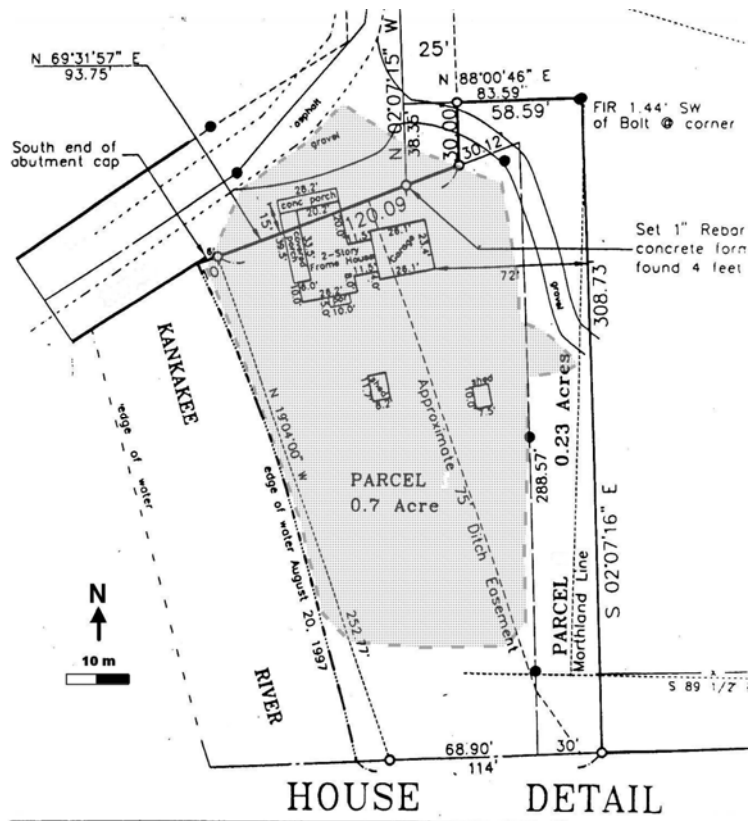
*The Collier Lodge site (12Pr36) is a relatively small archaeological site with an unusual time depth and high density of archaeological features. It is located in Porter County, Indiana at a historically important location that provided one of the few places the Kankakee Marsh could be easily crossed. Archaeological investigations have shown the site contains artifacts and features that can be used to address a host of research questions about the prehistoric and historic archaeology of northwestern Indiana. As an unplowed site with intact prehistoric and historic cultural deposits, the Collier Lodge site provides an 11,000 year long archaeological record that at this time appears to be unique in northwestern Indiana. This article tells why the Collier Lodge site is eligible for inclusion in the National Register of Historic Places. [Editors' note: Since submission of this article, the site was listed in the National Register of Historic Places].*

The National Register of Historic Places is a list of buildings, sites, objects and districts that are significant to American history (National Park Service 1997). Properties listed on the Register help us understand the history and cultural foundations of our country. When people think of places that might belong on the National Register, they usually think of places that are associated with historic events, important persons, or buildings that are good examples of particular architectural styles. All of these things are criteria that can qualify a location or building for inclusion in the Register. However, there is a fourth criterion for significance that is less well known. Archaeological sites that “have the potential to provide important information about prehistory or history” (National Park Service 1997:1) can also be included on the National Register. For an archaeological site to be significant, it must have intact archaeological deposits that archaeologists can use to learn about past events and activities. The Collier Lodge (12Pr36) is just such an archaeological site.

A site is nominated to the National Register by submitting a nomination form and supporting documents (such as maps, photographs, etc.). The nomination tells where the site is located, describes the site, and explains why it is eligible for the National Register (National Park Service, 1997).

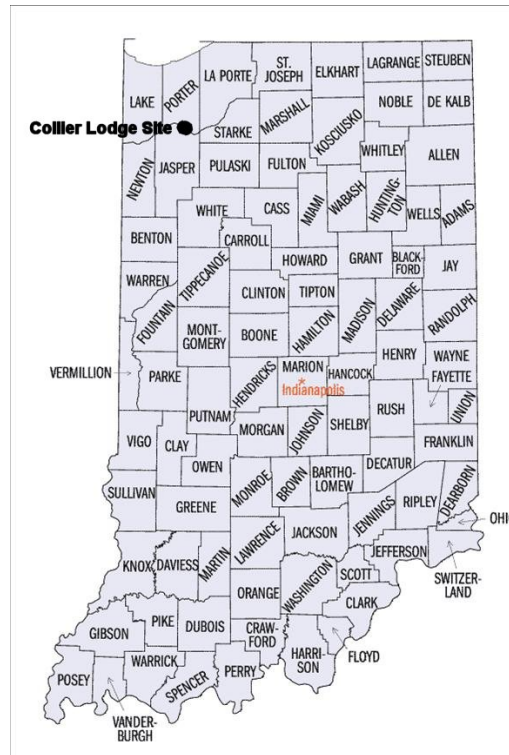
### **The Site and Its Location**

The Collier Lodge site (12Pr36) contains a total area of approximately 1 acre located adjacent to the standing Collier Lodge building (Figure 1) in southern Porter County, Indiana (Figure 2). The site is an open site, has never been plowed, and is now a grassy lawn. The Collier Lodge building still stands on the river bank on the northwestern edge of the site.



**Figure 1. Site map showing structures (2003) and the extent of archaeological deposits (shaded).**

The site is located on a sand ridge on the north side of a relict channel of the Kankakee River. The river was first channelized between 1906 – 1917 to drain the vast marsh that the river ran through (Meyer 1936). Before the marsh was drained, it was a distinctive and highly productive ecosystem that dominated northwestern Indiana. For the entire prehistory of the site, and for most of its history, the site’s proximity to the river and the marsh was a major attraction. From a geological perspective, the site is located in the Kankakee Outwash and Lacustrine Plain physiographic zone of northwestern Indiana (Schneider 1966). The zone is a flat inter-morainal valley formed by glacial melt water to create a broad floodplain bordered by gently sloping outwash plains. The extremely flat valley became the marsh. During the last 12,000 years, the sandy soils of the zone were reworked by wind to create sand plains and dunes. The sand ridge that the site is located on was probably formed in this way during the late Pleistocene or early Holocene (sometime between 12,000 - 14,000 B.C.). The soil at the site is Plainfield sand, an excessively well-drained sandy soil formed in outwash drift. The soil is fairly well suited for human habitation but is too well drained to be good for agriculture (Furr 1982).



**Figure 2. The Collier Lodge site on the Kankakee River in Porter County, Indiana.**

### *When the Site was Occupied*

Artifacts from the site span almost the entire range of Indiana’s prehistory and history, from the Early Archaic (ca. 8000 B.C.) up through the recent past (as recent as the 1980s). Occupation dates have been established by cross-dating the types of prehistoric and historic artifacts found at the site, and by literature searches for the nineteenth century and later. Prehistoric features (a feature is a group of artifacts that are associated together or distinctive soil patterns produced by human behavior) have been identified that date to the Early Woodland (1000 – 200 B.C.), portions of the Upper Mississippian period (A.D. 1400 - 1500), and the Historic period (from about A.D. 1840 and throughout the entire nineteenth century). In addition to the features that have already been completely excavated, features dating to the Upper Mississippian period, the Pioneer period (A.D. 1840 – 1880), the Hunting Lodge period (during the later nineteenth century) and early twentieth century have all been identified at the site and are still being investigated. Artifacts and their archaeological contexts can be used in combination to learn about the past.

### *Who Lived There*

Schurr (2006) provides background for the different people and cultures that occupied the site at different times. Prehistoric Native American use of the site began with highly mobile Early Archaic hunter-gatherers who probably used the site briefly and seasonally around 8000 B.C. This trend continued throughout the Archaic and into the Early Woodland period (ca. 800 B.C.)



when Marion phase seasonal camps may have been occupied for longer periods, a trend that continues throughout the Woodland period. Artifacts show that Woodland period occupants included people of the Middle Woodland Goodall tradition (ca. 250 B.C. to A.D. 350, a regional variety of Hopewell) who were followed by, or evolved into, as yet poorly understood, Late Woodland occupants of the region. The Late Woodland pottery at the site shows that the people who made it were closely related to the late Albee people of central Indiana (McCord and Cochran 2003). Maize horticulture was perhaps first practiced near or on the site at that time. During the Upper Mississippian period (after A.D. 1050), people having a local variety of the widespread Oneota culture used the site for the intensive processing of marsh resources. Unknown Native Americans of the Protohistoric period, who probably evolved into historically known Native American tribes, used the site sporadically during the seventeenth and eighteenth centuries. The Potawatomi are the first historically known occupants. They were replaced by the Euroamerican settler J. Sherwood and his family, some of the first Euro-Americans to settle in what is now Pleasant Township, Porter County. Other notable nineteenth century occupants include George Eaton (operated first licensed ferry), Enos Baum (built first permanent bridge) and the Collier family (built Collier Lodge).

#### *Likely Appearance of the Site during the Period of Occupation*

In the early nineteenth century, at the time of the Government Land Office (GLO) survey, the original vegetation on the site probably consisted of herbaceous ground cover and oak timber, bordered by thick stands of swamp timber and the marsh to the south (Meyer 1936). This is probably also how the site appeared throughout prehistory when it was periodically used as a temporary camp and resource processing site. In the early nineteenth century, and for an unknown time before that, the Kankakee River formed the western boundary of the site where the relict channel of the river still remains today.

In addition to offering a high area with well drained soils immediately adjacent to the Kankakee Marsh, the site was situated at one of the few points where it was relatively easy to cross the Kankakee Marsh because outwash ridges converge on this location from both the north and the south. The crossing was known as Pottawatomie Ford in the early nineteenth century and has been described as “the most historic spot along the Kankakee in the marsh proper” (Meyer 1936:368). The GLO surveyors noted that several Indian trails converged at the Ford. Before 1830, the site may have supported temporary camps of Potawatomi. Shortly thereafter, a log cabin and ferry were established at the site.

One of the trails leading to the site developed into a road providing the major land link between Michigan City and Logansport (important early nineteenth century trading locations with access to water transport). The modern Baum’s Bridge Road continues to follow the same path. During the middle of the nineteenth century, the site supported a sawmill and the river was used to transport logs downstream. In the last quarter of the nineteenth century, the site was used as a hunting and fishing camp by sportsmen and may have contained small shacks for gear and landing places for boats. During the last decade of the nineteenth century, the Collier Lodge building was built, the former cabin was demolished, and the site continued to be used by sportsmen. During the early twentieth century the Collier Lodge served as a small country inn and general store. It was primarily a residential property for the remainder of the century and fell out of use before being acquired by the Kankakee Valley Historical Society (KVHS) in 2003.

### *Current and Past Impacts*

In order to be eligible for the National Register, an archaeological site must have integrity. That means that the artifacts and features at the site must not have been destroyed or badly disturbed by human activities or natural processes (such as erosion). Because the site has been occupied throughout the historic period up until the recent past, there is a strong possibility that at least some of the deposits could have been destroyed by human activity (for example, by the construction of buildings). Several very recent structures that do not help contribute to our understanding of past use of the site stood there up until 2003, but have since been removed (Figure 1). Prior to the 2005 field season, a concrete pad that had been the foundation of a garage occupied the area immediately to the east of the lodge. It is thought that the pad was poured in 1975. It was removed prior to the 2005 season, opening a new area for geophysical surveys and excavation. The ground surface of the former pad area consisted of sand with very little vegetation, along with scattered chunks of broken concrete and historic metal scrap. Two sheds located to the southeast of the lodge were also removed in 2005. Geophysical surveys and shovel probing have determined that an area to the south of the Lodge contains a septic field that was probably created during the twentieth century.

### **Archaeological Investigations**

Archaeological investigations are necessary to determine whether or not a site is Register-eligible. Such investigations usually proceed in phases. The first phase is when the site is discovered and officially recorded. If the site seems promising, additional investigations such as test excavations or geophysical surveys may be conducted to determine what kind of archaeological deposits might be present. If intact deposits are found or suspected, more extensive excavations to collect artifacts and record features provide the data needed to reconstruct past activities at the site and to explore a variety of research questions.

#### *The First Professional Investigation*

The first professional documentation of the site occurred in 1932 by J. Gilbert McAllister (1932) based on fieldwork conducted in 1931. The site was the last one identified during his survey of Porter County. It was given a number (Site 36) that was later translated into an official Indiana state site number of 12Pr36 (the “12” stands for Indiana, the “Pr” indicates Porter County, and the “36” means the site was the thirty sixth site recorded in the county). At that time, it was one of only two sites in the county known to produce prehistoric pottery. A brief visit to the site by McAllister (1932:33) produced fifteen small potsherds, two stone points, and many pieces of debitage (waste from the manufacture of stone tools). Most of the pottery was grit tempered, but one sherd “. . . not tempered with grit appears to have been tempered with a material which has disappeared, . . . There are cell-like cavities remaining and the cross section shows it to be flakey in appearance rather than granular.” Today this sherd would be easily recognized as a piece of shell-tempered pottery characteristic of the Upper Mississippian period (after about A.D. 1100).

McAllister also noted that the landowner had found several burials in the immediate vicinity and that one was in a sitting posture. In 1963 Charles Faulkner assigned the Indiana

state site number 12Pr76 to the burials that were found at the site and reported that they were found “just off the porch of the Colliers [sic] Store” (Faulkner 1963). Recent investigations (below) indicate that 12Pr76 is contiguous with the location that McAllister called Site 36, and the two site numbers therefore reference the same site.

### *Recent Investigations*

The site has been the location of an on-going archaeological project conducted by the University of Notre Dame and the Kankakee Valley Historical Society. Results of all field investigations from 2003 through 2005 have been reported in a single volume (Schurr 2006). More recent investigations are summarized here and will be reported in full in a report under preparation (Schurr 2010). The field investigations have included geophysical surveys, shovel probe surveys, and excavations.

### Geophysical Surveys

Geophysical surveys use remote sensing methods to explore what is buried beneath the surface without excavation. Several different types of geophysical surveys were conducted at the site over several years. The surveys used four different instruments that included two gradiometers (a Geoscan FM36 and a Bartington Grad601), a soil resistivity system (Geoscan RM15 with a twin probe array using two different probe spacings 0.5 and 1 m), and a ground penetrating radar (GPR) unit (Mala Ramac system with a 500 MHz antenna). All surveys were indexed to the site grid established in 2003. The gradiometer is a magnetic instrument that measures very small changes in the Earth’s magnetic field. The soil resistivity surveys measure how well the ground conducts electricity. The ground penetrating radar sends a radar wave into the ground and records return waves that indicate buried objects or changes in soil types.

Magnetic surveys with both instruments were conducted with sample intervals of 0.25 m (in the east-west direction) and transect intervals of 0.5 m (in the north-south direction). The results of the magnetic survey (Figure 3) clearly revealed the foundation of a building that once stood at the site to the north and east of the lodge. The foundation is revealed by a magnetic signal that looks like four bright dots arranged in a square centered on grid coordinate E 93 N 98 (upper right). This was probably the footprint of a small cottage that is depicted in a photograph of the front of the Collier store taken in the 1930s (Figure 4). In addition to the cottage footprint, many strong bi-polar magnetic anomalies characteristic of iron are present, an expected result for a densely occupied historic site. The two bright anomalies in the lower left are septic tanks (or perhaps a septic tank and drywell) that serviced the lodge in the twentieth century (these anomalies are at grid coordinates E 42 N 58 and E 43 N 65). The prominent anomalies along the southern edge of the survey are scattered historic trash from an informal dump in that location.

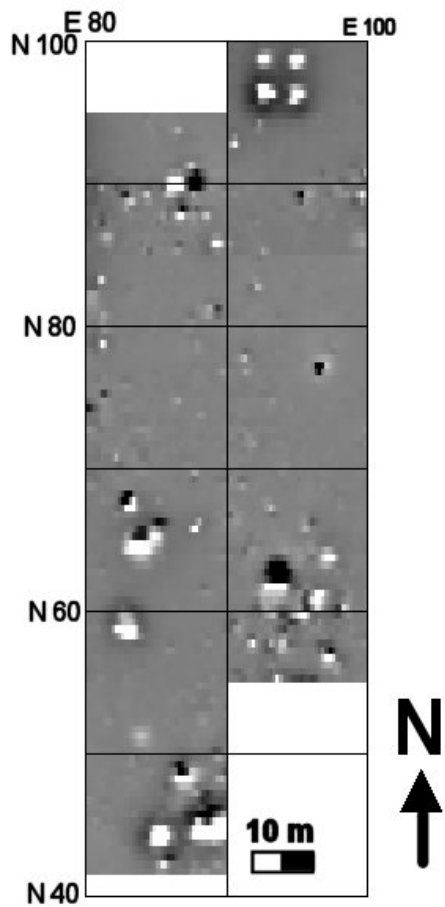


Figure 3. Geomagnetic survey map.



Figure 4. Photograph of the front of the Collier Lodge in 1925 showing the Cottage (background) whose foundation is shown in the geomagnetic survey map (the square anomaly at the top right, Figure 3.). Photograph courtesy of John Hodson, Kankakee Valley Historical Society.

The soil resistivity surveys used a twin probe array with 0.5 and 1 m probe spacings along sample and transect intervals of 1 m. The maps produced by the two resistivity surveys (with the 0.5 m and the 1 m probe spacings) are very similar, although the wider probe spacing produced a survey with fewer noise spikes (Figures 5a and b). The resistivity maps show the former location of a metal shed as a clearly defined square anomaly with slightly lower resistance (the prominent dark square anomaly in the center of the image). In this case, the lower resistance is characteristic of disturbed soil which is loosely packed. Otherwise, the areas with the thickest midden correlate with the lowest soil resistivities (darker gray tones). Later excavations showed that the soil profiles in the units along the E 90 line correlate very well with the soil resistivity surveys, with deeper midden profiles correlating with lower soil resistivity. This is caused by the higher moisture retention capabilities of the midden soils, as their darker color reflects higher humus content. As moisture is necessary for electrical conduction in soils, that in turn translates to lower soil resistance.

A very limited GPR survey covering an area of 11 by 13 meters was conducted in 2008 to help guide that year's excavations. The GPR survey (Figure 6) clearly showed a drainage pipe (dark linear anomaly in the lower left corner of survey), dense concentrations of historic artifacts (dark areas in the upper left), and an area of prehistoric midden sealed under historic deposits (center right, centered on grid coordinate E 87 N 82).

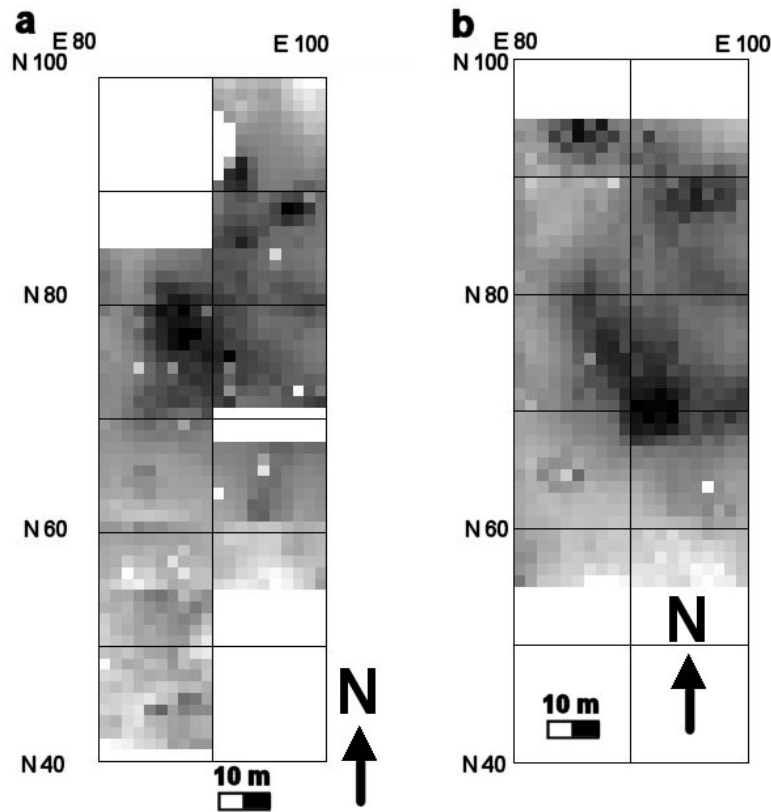


Figure 5. Soil resistivity survey maps: a. 0.5 m probe spacing; b. 1 m probe spacing.

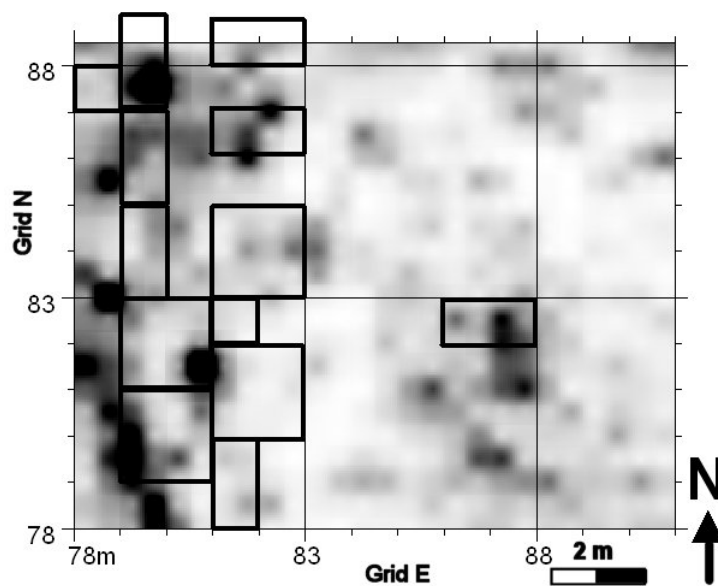
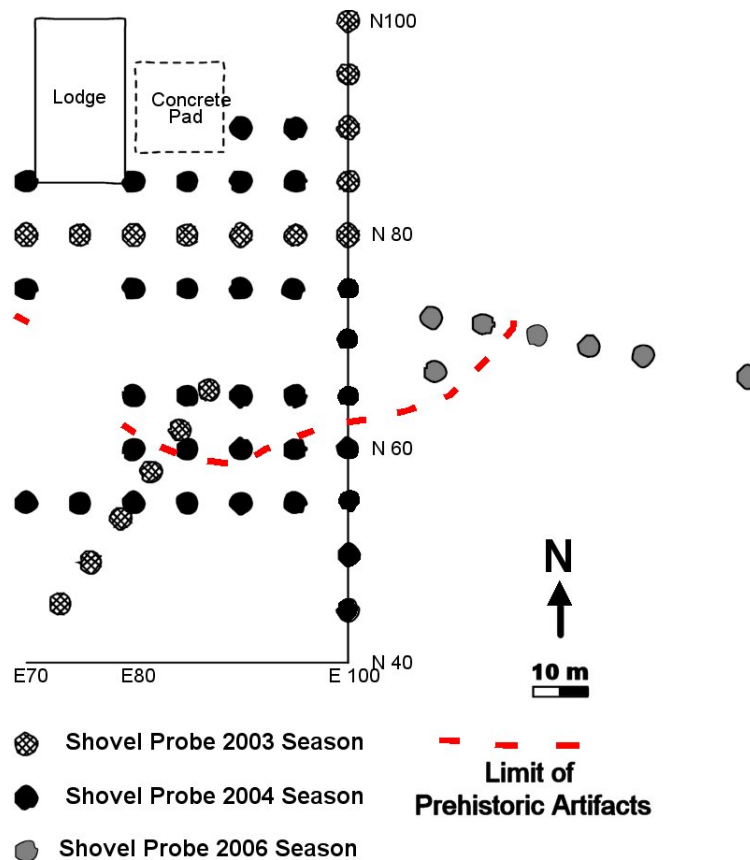


Figure 6. Ground penetrating radar survey grid with excavation units.

### Shovel Probe Surveys

Shovel probing is an excavation technique that provides information about the distribution of artifacts and the site and the types of soils and other deposits that are present. Small shovel holes are placed across a site on a gridded pattern and the artifacts and soils in each probe hole are examined. In 2003 and 2004, shovel probes were placed across much of the site at 5 m intervals and additional probes were placed to the east of the core area in 2006 (Figure 7). The contents of all shovel probes were screened through ¼ inch mesh screens and all soil profiles were recorded. Several of the probes were extremely deep. For example, one probe was excavated to a depth of 60 cm below surface without reaching culturally sterile subsoil. A one inch soil coring tool placed into the probe floor revealed that cultural deposits probably extended to a depth of about 1 m below surface in this portion of the site. Such deep cultural deposits are rarely encountered in northwestern Indiana. Upper Mississippian sherds were found in several of the shovel probes, including one very large rim sherd with an everted rim and broadly trailed decorations that is similar to the types Koshoning Bold (Hall 1962) or Fifield Bold (Faulkner 1972). This style of pottery is characteristic of the early Upper Mississippian period prior to about A.D. 1300. The recovery of such a large sherd (approximately 10 cm wide) suggested that prehistoric features were present at the site. The shovel probes also confirmed McAllister's (see above) surface collection of an Upper Mississippian sherd.





**Figure 7. Locations of shovel probes.**

Shovel probes with deep cultural deposits showed that portions of the site were stratified, with historic artifacts within the top 20 to 30 cm of the soil lying over prehistoric sherds, chert flakes, and fire-cracked rock (FCR). Shovel probes placed to the east of the site core area in 2006 determined that prehistoric materials (especially Late Woodland ones) and historic artifacts extended 15 m to the east of the eastern limits of the site previously defined by the resistivity surveys.

The artifact distributions and soils found in the probes suggested that the prehistoric occupations are concentrated in a midden area spanning a roughly circular area at least 35 m in diameter, correlated very well with the results of the resistivity surveys, although the shovel probes identified artifacts in disturbed contexts that extended about 15 m to the east of the core midden area. Removal period (A.D. 1795 – 1840) artifacts were concentrated in a small area on the eastern edge of the site (Moye 2007). Late nineteenth and twentieth century artifacts are ubiquitous. Bone preservation at the site was exceptionally good. Taxa preliminarily identified in the faunal assemblage include both large and small mammals, reptiles, birds, and fish, with many fragments appearing to have come from prehistoric contexts. Charcoal pieces and fragments collected during screening showed that the deposits also contain botanical evidence about past activities at the site and suggested that flotation recovery techniques would be profitable. While large pieces of wood charcoal were also collected, many coal fragments are present, and they might make radiocarbon dating difficult.

## Excavations

Archaeological excavation is the ultimate method for understanding what is present at a site. Excavations are conducted with well established and carefully designed methods. In Indiana, excavations for artifacts or features that were made or modified before December 31, 1870 require an approved plan from the Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology. The plan application explains why the excavations are being conducted and how they will be done. Beginning in 2004, and in each year thereafter, excavations were conducted at the site for three weeks every summer under the supervision of Mark R. Schurr, University of Notre Dame. The work was largely done by experienced KVHS members supplemented with undergraduate and graduate students. In total, 26 units with a total surface area of 50 m<sup>2</sup> were opened between 2004 and 2008 (Figure 8), sampling about five percent of the 960 m<sup>2</sup> core area of the site midden as defined by the resistivity surveys.

### Results of the Excavations

The excavation units contained 36 features. These ranged from amorphous stains that might be faint prehistoric features of unknown function (or refilled rodent burrows or root runs), to Upper Mississippian roasting pits (Figure 9), one rock-lined roasting pit (Figure 10), a brick hearth from a fireplace (Figure 11), an early nineteenth century fur-processing feature, various refuse deposits from the late nineteenth century, and a large, deep stratified feature that may be the in-filled cellar of an early nineteenth century structure (Figure 12).

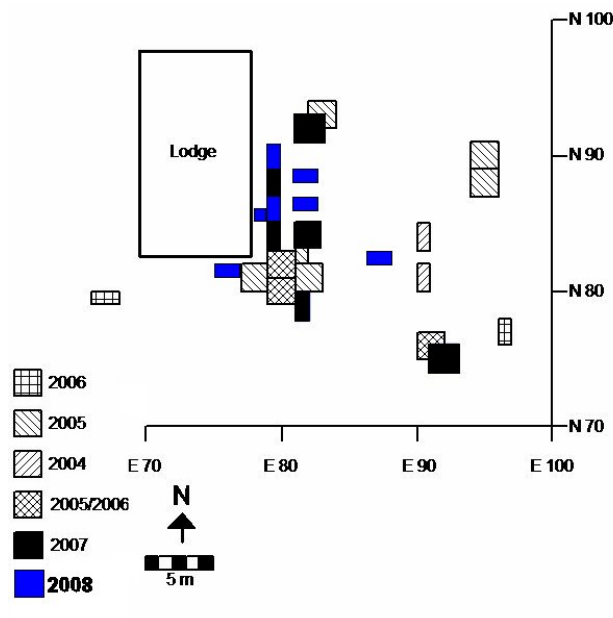


Figure 8. Locations of excavation units (2004 through 2008).



Figure 9. Upper Mississippian roasting pits.



Figure 10. Rock-lined roasting pit.





**Figure 11. Historic brick hearth.**



**Figure 12. Feature 15, a deeply stratified historic pit.**

Based on archaeological investigations, the average density of features in the 26 units (0.72 features/m<sup>2</sup> of unit surface area) that have been excavated to date, and the 960 m<sup>2</sup> minimal estimate of the site's size, the site may contain at least 690 archaeological features (of which approximately 5.2% have currently been documented). This very high density of features shows that Collier Lodge has a high degree of archaeological integrity.

## Artifacts

Excavations have collected over 57,000 artifacts and other samples from all time periods of the site's occupation and of many different material types (Table 1). Every artifact from the site was cleaned, sorted, and identified. Most have been catalogued (given a number and maintained as part of the site collection), but some types of artifacts that are bulky but not too exciting (for example, brick or nail fragments) were counted, weighed, sampled, and discarded. The site collections contain artifacts that span almost the entire range of Indiana's prehistory and history, from the Early Archaic (ca. 8000 B.C.) to the recent past. Table 2 shows the cultural periods that are represented at the site. It is clear that Collier Lodge provides the opportunity to study artifacts from many different time periods from a single locale.

The numerous artifacts include a very wide range of material types. The oldest identifiable artifacts are chipped stone tools dating to the Early Archaic (8000 - 6000 B.C.). The site assemblage includes projectile points and other types of hafted bifaces from all periods, accompanied by many other stone tool types, along with debitage that was produced when stone tools were manufactured or repaired. Other prehistoric artifacts include ground stone items, from utilitarian ones such as grinding stones to ornamental or ceremonial ones such as a gorget, a birdstone, and pipe fragments. In addition to the Upper Mississippian (post A.D. 1050) pottery first found by McAllister (1932), prehistoric pottery from the Early Woodland (ca. 800 – 150 B.C., when pottery first came into use in the region), Middle Woodland (ca. 150 B.C. – A.D. 350, when many mounds were constructed in the valley), and Late Woodland (ca. A.D. 350 – 1050, when maize and the bow and arrow first appeared) periods are also present.

Table 1. Material types present and their abundance.

<b>Material Type</b>	<b>Number</b>	<b>Kilograms</b>
Prehistoric Lithics	1,613	60.121
Prehistoric Ceramics	4,591	5.884
Metal	470	2.179
Fine Earthenwares	2,159	2.851
Coarse Earthenwares	778	2.922
Glass	3,315	5.056
Construction Debris	not counted	69.320
Rocks and Minerals (including FCR)	32,049	210.614
Faunal Remains	21,948	13.670
Charcoal and Coal	not counted	26.915
Plastic and Miscellaneous	234	0.308

Historic ceramics date from the early nineteenth century up until the recent past, and include both fine earthenwares and utilitarian ones (coarse earthenwares or crockery). The historic portion of the assemblage also includes a wide array of glass items (containers, tableware, window glass, buttons, etc.) and metal artifacts of aluminum, brass, copper, iron, lead, silver, and tin. The metal assemblage includes silver and brass Fur Trade era items, a diverse array of iron and brass hardware of all types and periods, metal tableware and kitchen utensils, and hunting equipment and fishing tackle. Construction debris include brick fragments, mortar and plaster. The assemblage also contains numerous charcoal samples and a very large

assemblage of animal bone from both prehistoric and historic features representing the remains of wild animals indigenous to the region (mammals, fish, birds and reptiles) and domesticates (cow, horse, pig, chicken and dog). The large and complex assemblage is suitable for many different kinds of research projects.

Table 2. Regional prehistoric phases present at the site.

<b>Date</b>	<b>Cultural Period</b>	<b>Phase Name</b>
A.D. 1678	Protohistoric (trade goods)	Unknown
A.D. 1650		<i>Huber*</i>
A.D. 1500 A.D. 1400	Upper Mississippian	Fifield (early Huber)
A.D. 1200		<i>Early Fisher*</i>
A.D. 1100		undefined Albee variety
A.D. 700	Late Woodland	Walkerton
A.D. 400		Laporte
A.D. 200	Middle Woodland	Goodall
A.D. 1		<i>Stillwell*</i>
200 B.C.		North Liberty
400 B.C.	Early Woodland	Un-named
700 B.C.		Peterson
Ca. 2000 B.C.	Late Archaic	Un-named
Ca. 4000 B.C	Middle Archaic	Un-named
Ca. 8000 B.C	Early Archaic	Un-named

\* Phase not identified at site.



## Historic Significance

For archaeological sites, historic significance is determined by the types of research questions that can be addressed. The investigations at Collier Lodge have shown that the site contains intact stratified archaeological deposits and features dating back to at least 1000 B.C. Prehistoric artifacts from the site represent most time periods over the last nine to ten thousand years and historic artifacts span the full range of historic occupations in northwestern Indiana, beginning as early as the late seventeenth century, and extending up to the recent past. Prehistoric archaeological features documented at the site include two different types of roasting pits and small features whose functions are unknown. Historic features include the remains of a fireplace, post molds, and what is now thought to be a cellar, mark the location of a previously undocumented structure, probably an early nineteenth century cabin. Concentrations of animal bones from the early nineteenth century indicate furs were processed at the site. The site is clearly a candidate for the National Register of Historic Places based on the scale of the intact deposits and their potential for exploring research questions about human activities and adaptations adjacent to the Kankakee Marsh over the last three millennia.

In addition to having a very high density of features and artifacts, Collier Lodge is the only site in northwestern Indiana that has produced the full sequence of prehistoric ceramics in the region from excavated contexts. Durable artifacts such as those made of stone, ceramics, or metal can be used to study technology, trade networks, economic status, culture contact, and the spatial distribution of different types of activities within the site and the region. Faunal and floral preservation are both excellent, so that a host of subsistence, economic, and environmental questions can be addressed.

Meyer (1936) defined four historic periods that could be better understood via the archaeological data from Collier Lodge. The periods were the “Pottawatomie’s Kankakee” (prior to A.D. 1840), the “Pioneer’s Kankakee” (1840 – 1880), the “Rancher and Recreationist’s Kankakee” (1880 -1910) and the “Reclamationist’s and Resorter’s Kankakee” (1910 – 1936). All of these periods are represented in the archaeological record of the Collier Lodge site. Fur trade (prior to A.D. 1795) and Removal period (A.D 1795-1840) artifacts can be used to discover what activities the Potawatomi engaged in at the site. The Pioneer’s Kankakee is represented by the remains of a cabin, domestic debris, and animal bones, and it is therefore possible to use the site’s archaeological record to learn more about the mixed economy that exploited a variety of resources.

The Rancher and Recreationist’s Kankakee is extremely well-represented in the archaeological remains, and presents an especially interesting topic for research. The hunting lodges that emerge on the landscape in the vicinity in the 1870s are the most historically significant aspect of late nineteenth and early twentieth century use and occupation of the Collier Lodge site. Their appearance is a part of widespread cultural phenomenon of increased interest in leisure activities during the Victorian era. Victorian leisure has been a topic of interest to historians and historical archaeologists alike (see Gelber 1999; Grover 1993; Rose 1994; and Rumble 2006 as examples) but these studies have tended to focus on urban settings. The Collier Lodge site is a non-urban, non-residential locus of activity, which constitutes a virtually unstudied aspect of Victorian America.

“Leisure” was more than simply a way of spending non-work time, but rather served as important opportunities for asserting social, economic, ethnic, and gendered identities. Hunting

and fishing brought wealthy urban socialites into contact with the local rural farmers and entrepreneurs, who served as their guides. Gates (1998:200) asserted that hunting “sport for the late Victorians was seen as a contest between a human’s canniness, intelligence, and prowess, on the one hand, and an animal’s instincts and strength, on the other. It was also a means of upward social mobility. Well-to-do middle-class people gained prestige by participating and excelling in upper-class blood sports.” Although the sportsmen were affluent elites of Anglo-European extraction and from long-established, well-respected families (including notables such as President Benjamin Harrison and General Lew Wallace), their guides were agrarian-class and at least some of whom were first generation immigrants (such as James M. Pugh, who emigrated from Wales in 1851). The differences in roles between hunter and guide were significant reflections of larger social and cultural differences between the visitors to the Kankakee Marsh and local residents. The Kouts Centennial Program (Anonymous 1965:111) observed, “Many times parties were given at the club houses to which local citizens were invited. There for the first time these early settlers saw the fine linens, gleaming cut glass, and silver and other appointments common to gracious living in the home of these wealthy sportsmen.” These parties served as important occasions through which to assert their status as urban elite. Future archaeological research questions could include assessing if and/or how material practices of local people (such as choices of ceramic tea and table wares) were influenced as a result of interactions with these “outsiders.”

Leisure is also integral to gender relations of the era. The activities of men and women were highly regulated and based on what was deemed “proper” for them respectively. Ideals of domesticity emerged before the mid-nineteenth century and codified new cultural roles for men and women that persisted through the turn of the twentieth century. Whereas men were expected to be authoritarian, economically-successful providers for their families, women became increasingly relegated (at least ideologically) to the domestic sphere, where their roles as wives and mothers were emphasized (e.g., Beecher 1841; see also Cott 1977; Giele 1995:36; Ryan 1985; Sklar 1973:136). Gates (1998:145) observed that “Middle-class women, in particular, were encouraged to impart moral instruction, and not just to children. Deemed appropriate civilizers of men, women in the domestic sphere functioned as counterbalances to the dog-eat-dog world of public life in which men ordinarily moved.” Consequently, leisure for men often consisted of outdoor activities, such as hunting and fishing. Yet for women, leisure time frequently incorporated needlework, baking, and other tasks that helped the matron of a household create a warm and serene home for her husband and children (Matthews 1987:18).

By the 1890s, outdoor leisure for women was increasingly accepted, particularly fishing (Gates 1998:206). It is interesting to note that the nature of sporting leisure at Baum’s bridge changed over time and follows a parallel pattern. In the 1870s, hunting and fishing were exclusively male pursuits along the Kankakee. However, by the second decade of the twentieth century, men and women were enjoying time along the river. The Logansport Journal-Tribune in 1913 reported, for example, that “Mr. and Mrs. George Manring, Rolla and Miss Daley Manring, Mr. and Mrs. Harry McQuade and Henry Newby are home from Baum’s bridge, five miles south of Kouts on the Kankakee river, where they spent a week. The fish were not biting during the first part of the week, but the last three days they got hungry ... It was not the gentlemen of the party who caught all the fish, either. . . . They brought home enough fish to supply the neighbors.”

The archaeological deposits at the Collier Lodge site have the potential to contribute to our understanding of Victorian leisure activities in a non-urban, non-residential setting. The

artifacts and archaeological features (such as the cottage foundation identified by geophysical survey) could also be used to learn more about rural activities during the era of the Reclamationist's and Resorter's Kankakee (1910 – 1936). During this period, the Collier Lodge made the transition from a sporting resort to a country store and small scale hotel, continuing the mixed economy so characteristic of earlier eras.

In combination, the theme of Victorian leisure in a rural setting is an excellent example of what is known as a “historic context” – a particular theme (leisure activities), in a specific place (rural northern Indiana in the Midwest), and a particular time (the late nineteenth century).

## **Conclusion**

The archaeological data from the Collier Lodge site clearly have the potential to provide new insights into human life on the Kankakee over an unusually long span of time. In addition to what is already known about the site, approximately 95% of the site's archaeological deposits remain unexplored. The site contains numerous artifacts and intact features that can be used to explore historic contexts such as changes in human adaptation to the Kankakee Marsh from the prehistoric through historic periods, and rural Victorian leisure. Placing the site on the National Register of Historic Places offers a number of potential benefits to the property owner and the Kankakee Valley Historical Society. These include increased recognition and appreciation for the property, consideration in the planning of Federal projects, making property owners eligible for tax benefits, and access to Federal grant assistance (National Park Service 1997:i).

Any person or organization can nominate a site to the National Register of Historic Places. The Division of Historic Preservation and Archaeology maintains a webpage with helpful information and links to useful resources (Division of Historic Preservation and Archaeology 2009). Those with information about sites they feel belong on the National Register can contact the DHPA for more information.

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## References Cited

- Anonymous  
1965 *Kouts Centennial Program, 1865-1965*. Manuscript on file with the Valparaiso Public Library, Valparaiso.
- Beecher, Catherine  
1841 *The Treatise on Domestic Economy for the Use of Young Ladies at Home and at School*. T. H. Webb & Company, Boston.
- Cott, Nancy F.  
1977 *The Bonds of Womanhood: 'Woman's Sphere' in New England, 1780-1835*. Yale University Press, New Haven, Connecticut.
- Division of Historic Preservation and Archaeology (DHPA)  
2009 National and State Registers. Electronic document, <http://www.in.gov/dnr/historic/3654.htm>, accessed May 20, 2009.
- Faulkner, Charles H.  
1963 Archaeological site form for 12Pr76, copy on file, Archaeology Laboratory, University of Notre Dame, Notre Dame.  
1972 The Late Prehistoric Occupation of Northwestern Indiana: A Study of the Upper Mississippi Cultures of the Kankakee Valley. *Prehistory Research Series* Vol. 5(1), Indiana Historical Society, Indianapolis.
- Furr, G. F., Jr.  
1982 *Soil Survey of Porter County, Indiana*. United States Department of Agriculture, Soil Conservation Service, Washington, D.C.
- Gates, Barbara T.  
1998 *Kindred Nature: Victorian and Edwardian Women Embrace the Living World*. University of Chicago Press, Chicago.
- Gelber, Steven A.  
1999 *Hobbies: Leisure and the Culture of Work in America*. Columbia University Press, New York.
- Giele, Janet  
1995 *Two Paths to Equality: Temperance, Suffrage, and the Origins of Modern Feminism (Social Movements Past and Present)*. Twayne Publishing, New York.
- Grover, Kathryn  
1993 *Hard at Play: Leisure in America, 1840-1940*. University of Massachusetts Press, Amherst.
- Hall, Robert L.  
1962 *The Archaeology of Carcajou Point: With an Interpretation of the Development of the Oneota Culture in Wisconsin*. University of Wisconsin Press, Madison, Wisconsin.
- Logansport Journal-Tribune*  
1913 "They get the fish." Page 3, column 3, September 3.
- Matthews, Glenna  
1987 *'Just a Housewife': The Rise and Fall of Domesticity in America*. Oxford University Press, Oxford and Cambridge.

- McAllister, J. G.  
 1932 The Archaeology of Porter County. *Indiana History Bulletin* 10(1). Historical Bureau, Indiana Library and Historical Department, Indianapolis.
- McCord, Beth K., and Donald R. Cochran  
 2003 The Morrell-Sheets Site: Refining the Definitions of the Albee Phase. In *Facing the Final Millennium: Studies of the Late Prehistory of Indiana, A.D. 700 - 1700*, edited by Brian G. Redmond and James R. Jones, III, pp. 32-60. Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology, Indianapolis.
- Meyer, Alfred H.  
 1936 The Kankakee 'Marsh' of Northern Indiana and Illinois. *Papers of the Michigan Academy of Science, Arts and Letters* 21:359-396.
- Moye, Patricia  
 2007 An Analysis of Historic Ceramics at the Collier Lodge Site. Unpublished Honor's thesis, manuscript on file, Department of Anthropology, University of Notre Dame, Notre Dame.
- National Park Service  
 1997 How to Complete the National Register Registration Form, National Register Bulletin. Electronic document, <http://www.nps.gov/history/nr/publications/bulletins/nrb16a/>, accessed May 22, 2009.
- Rose, Anne C.  
 1994 *Victorian America and the Civil War*. Cambridge University Press, Cambridge.
- Rumble, Victoria  
 2006 *Outdoor Recreation and Leisure in 19th Century America*. Thistle Dew Books, Florence, Alabama.
- Ryan, M.  
 1985 *The Empire of the Mother: American Writing about Domesticity, 1830-1860*. Harrington Park Press, New York and London.
- Schneider, A. F.  
 1966 Physiography. In *Natural Features of Indiana*, edited by Alton A. Lindsey, pp. 0-56. Indiana Academy of Science, Indianapolis.
- Schurr, Mark R.  
 2006 *Archaeological Investigations at the Collier Lodge Site (12 Pr 36)*. Vol. 2006-1, Archaeology Laboratory, Department of Anthropology, University of Notre Dame, Notre Dame.  
 2010 *Archaeological Investigations at the Collier Lodge Site (12 Pr 36): The 2006 through 2009 Field Seasons*. Archaeology Laboratory, Department of Anthropology, University of Notre Dame, Notre Dame.
- Sklar, K. K.  
 1973 *Catharine Beecher: A Study in American Domesticity*. W. W. Norton and Company, New York and London.

**ARCHAEOLOGICAL INVESTIGATIONS IN THE UPPER WABASH RIVER  
VALLEY: A 2009 SURVEY IN HUNTINGTON, MIAMI AND WABASH COUNTIES,  
INDIANA**

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**Abstract**

The Archaeological Resources Management Service (ARMS) [now Applied Archaeology Laboratories] at Ball State University conducted a data enhancement project for threatened archaeological resources in the Little River and Wabash River valleys in Miami, Wabash and Huntington Counties, Indiana, for a FY2008 Historic Preservation Fund Grant (Grant #21719-13). Approximately 791 acres (320 hectares) of agricultural land were surveyed and 467 new archaeological sites were recorded. The survey recovered 10,237 prehistoric artifacts and 556 historic artifacts from fourteen locations within the Little River and Wabash River valleys. All periods, including Paleoindian, Early Archaic, Middle Archaic, Late Archaic, Early Woodland, Middle Woodland and Late Woodland/Late Prehistoric components, were documented from the precontact era. The average site density recorded for the project area for precontact sites was one site per 1.7 acres. The highest artifact densities were encountered in survey areas with expansive sections of Genesee (Gessie) soils. This soil is a well drained floodplain soil. The project suggests that precontact populations used the Wabash River valley and its tributary valleys for long-term settlements as well as short-term extractive camps. Site duration was most intensive at areas where chert and food resources would have been concentrated.

In addition to the pedestrian survey, limited excavations were conducted for two mounds recorded in the vicinity of J. Edward Roush Lake: Big Bangs (12-Hu-25) and Little Bangs (12-Hu-26) mounds. The project was conducted under ARPA permit #DACW27-4-09-010 and DHPA approved plan #2008026. The limited excavations documented that Big Bangs (12-Hu-25) and Little Bangs (12-Hu-26) contained intact deposits. The recovery of a Triangular Cluster biface and a radiocarbon date between cal A.D. 420 and 600 indicated a late Middle Woodland to early Late Woodland time period for the construction of the mounds. While the temporal affiliation of the mounds was better defined by the project, the cultural affiliation of the mounds was still ambiguous. From a regional perspective, no identified cultural groups have been named for this period in the Upper Wabash drainage. The two mounds are the only currently known surviving examples of mounds in the Upper Wabash drainage. The mounds provided a unique opportunity to further explore the settlement system of Middle Woodland/Late Woodland populations and offered a rare opportunity to examine the ceremonial and ritual aspects of the inhabitants of the area. The mounds were determined eligible for listing on the State and National Registers of Historic Places.

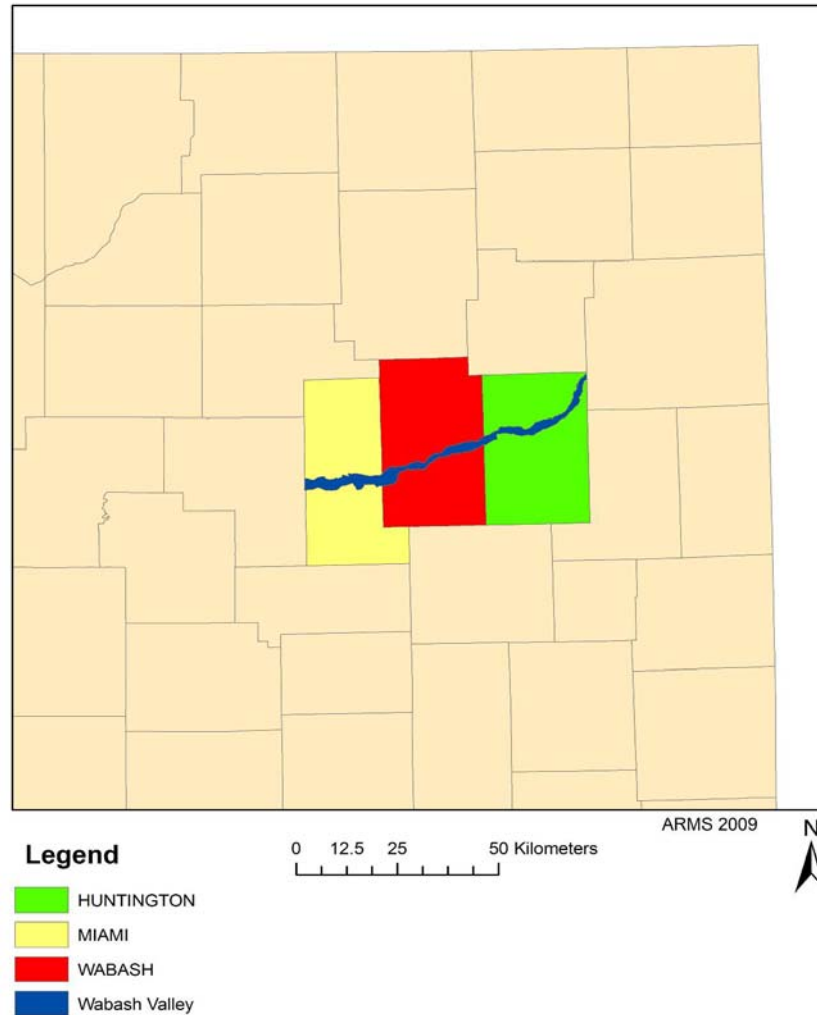


## Introduction

The Archaeological Resources Management Service (ARMS) at Ball State University conducted a FY2008 Historic Preservation Fund Grant to investigate unsurveyed and threatened portions of the Little River and Wabash River valleys in Huntington, Miami and Wabash counties, Indiana and to conduct limited excavations at Big Bangs and Little Bangs mounds and the unnamed mound 12-Hu-27 in Huntington County (Figure 1). Gravel mining within the Little River and Wabash Rivers may have already destroyed many State and/or National Register eligible sites. The goal of the current project was to document resources in especially threatened portions of the valleys. The project involved a pedestrian survey of approximately 791 acres of agricultural land. The goals of the project were to investigate previously unsurveyed portions of the Little River and Wabash River, refine settlement patterns of the precontact and early Euro-American era and increase Indiana's site database.

For the proposed pedestrian survey, valley settings were targeted that have not been previously surveyed in Huntington, Miami and Wabash counties. Specifically, the areas targeted included the Little River valley in Huntington County, the Richvalley area of the Wabash River in Wabash and Miami counties, and areas just east of Peru in Miami County. These areas were selected for the expansive sluiceway valley combined with recent river terraces (Gefell 1985: map). Within these valleys extensive outwash deposits occur (Gefell 1985:25). The area within and around the Little River and the Wabash River valleys are seriously threatened by gravel mining. This project was directed toward enhancing the archaeological data that is threatened by mining in the region and it expands further on the extensive research that has been conducted in the Wabash River valley (Anuszczyk and Cochran 1984; Cochran and Buehrig 1985; Cochran and James 1986; Holsten and Cochran 1986; James and Cochran 1986; Kellar 1963, 1964a, 1964b; Wepler 1982; Wepler and Cochran 1982, 1983a, 1983b). These projects have provided substantial archaeological information, but they have suggested that the Upper Wabash drainage is an environmentally distinct region that is somewhat different from other parts of the Tipton Till Plain.

Additionally, the limited excavations at Big Bangs and Little Bangs mounds were undertaken in an attempt to place the mounds within a regional context as the context was unclear (Wepler and Cochran 1983a, 1983b). Big Bangs and Little Bangs mounds were partially excavated in 1963 (Gerald 1964). Unfortunately the excavations were not backfilled. Since the mounds are located on federal Corps of Engineers property that is managed by the Indiana Department of Natural Resources, several agencies were involved in the completion of this project. The impetus behind the limited excavations was to provide data on State and/or National Register eligibility and to seek a means for preserving any intact portions of the mounds.



**Figure 1. The Wabash Valley in Huntington, Miami and Wabash counties within the state of Indiana.**

## **Background**

To provide a framework for interpreting the data collected during this project, a review of the natural and cultural setting was undertaken. The background information presented in this report includes environmental and archaeological information concerning the Upper Wabash River valley.

### *Natural Setting*

The project area is located in the Upper Wabash River valley in central Indiana within Huntington, Miami, and Wabash counties (Figure 1). The research universe is approximately 40,265 acres in size, which includes all of the Little River and the portion of the Wabash Valley

within Huntington, Miami and Wabash counties. For the proposed research, areas threatened by gravel mining were targeted west of Peru, Indiana, south of Richvalley, Indiana, and east of Huntington, Indiana.

The Upper Wabash River valley lies within the Tipton Till Plain physiographic division of Indiana, a member of the Till Plain Section of the Central Lowland Province of the United States (Gefell 1985:12; Shurig 1970:11, 1972:12). The Tipton Till Plain has a nearly flat to gently rolling topography which is crossed by several end moraines created during the Wisconsin Glaciation (Wayne 1966:34). However, the end moraines within the area are so low and poorly developed that the Tipton Till Plain is generally characterized as “virtually featureless” (Schneider 1966:49).

A more specific recent categorization (Gray 2000) denotes the Upper Wabash River valley lies within the Bluffton Till Plain physiographic division of Indiana, a member of the Central Till Plain Region. The Bluffton Till Plain section is characterized as a relatively flat landscape with a concentric series of end moraines crossing the landscape (Gray 2000).

The Upper Wabash River valley cuts into the local relief ranging from 90 feet in Huntington County to 100 feet in Miami County (Gefell 1985:12; Shurig 1970:11-14, 1972:12-14). The predominate topography in which the Upper Wabash River valley cuts into consists of ground moraine with areas of ridge moraine. The most notable is the Mississinewa ridge moraine. As stated above, the topography of the Upper Wabash River valley itself consists of flood plain and terrace (Gefell 1985:21-22; Shurig 1970:8, 1972:8).

### *Cultural Setting*

The natural setting of the Upper Wabash River valley demonstrates a hospitable environment that would have followed the retreat of the glaciers. Site components indicate that Native Americans have inhabited the region from the Paleoindian period through the historic period. The most frequently identified cultural affiliation has been Late Archaic followed by the Early Archaic and Late Woodland periods. In addition to a long record of precontact occupation, the Upper Wabash River valley has a rich history.

The first Euro-Americans to make their way to the Upper Wabash River Region were French explorers and fur trappers. Jeremiah Cox was the first recorded Euro-American settler within the area, purchasing the first land parcel within the area now known as Wabash County in 1827 (Ridenour 1982:xviii). The Wabash River drew both Native Americans and Euro-Americans due to its use as a transportation and trade route and the abundant natural resources found along the floodplains and uplands. Trade between Native Americans and Europeans thrived in this area, as evinced by sites such as 12-Hu-1022 and the Aussom Cabin site (Bubb 2005; Mann 1996). Beginning with the Treaty of Greenville in 1795, several treaties signed by historic tribes of the area, the Miami in particular, ceded the land of the Upper Wabash drainage to the United States Government. In accordance with the treaty agreements several areas along the river were designated reservation lands, but by the 1840s all the land along the river was United States Property and open for Euro-American settlement (Ridenour 1982:xviii). In 1832 work began on the Wabash and Erie Canal, beginning in Fort Wayne and extending down to the Ohio River. The canal created a shipping route from the Great Lakes to the Ohio River. Many small towns, such as Peru, Richvalley, and Huntington, found along the Upper Wabash River banks, grew as the canal laborers settled in the area (Bash 1914; Bodurtha 1914; Robertson 1976).

Archaeological investigations in the Upper Wabash River valley have been predominantly oriented toward surface surveys and only a small percentage of sites have been tested or excavated. Major surveys have been conducted within and around the current research universe and include portions of the drainage basins of the Maumee, Mississinewa, Salamonie and Wabash Rivers. The major surveys performed within the region consist of a survey of the Mississinewa Reservoir (Wepler 1982), a survey of the Salamonie Reservoir (Wepler and Cochran 1982), two surveys of the Huntington Reservoir (Wepler and Cochran 1983a, 1983b), a survey of Miami occupations (Wepler 1984), an archaeological survey of the Upper Wabash River drainage (Anuszyk and Cochran 1984), an archaeological survey of the Wabash Moraine (Cochran and Buehrig 1985), a survey of Paleoindian and Early Archaic sites (Holsten and Cochran 1986), surveys in the Maumee drainage basin (Jeske 1992, 1996), and two surveys of Paleo-Indian sites within Northeastern Indiana (White 2005, 2006). Excavations within the region but outside of the current research universe that have been performed consist of an archaeological assessment of a portion of Fox Island County Park (Cochran 1980), archaeological investigations at the Peru Industrial Park (Burkett et al. 1984), the All Seasons Site (Cochran and James 1986), and mitigation of three multicomponent sites in the Upper Wabash, in Cass County (Angst 1997). Larger contract oriented work within the survey area includes excavations at the Richardville/LaFontaine house (Cochran 1990; Zoll et al. 2000), excavations at the Diefenbaugh site (Bamann and Baldry 1996), and a survey of a corridor through Wabash and Huntington counties for the relocation of US 24 (Zoll et al. 1991).

## **Archaeological Survey**

### *Introduction*

Approximately 792 acres (320 hectares) of agricultural land were surveyed by pedestrian transects during this project. The survey sampled 496.1 acres (200.7 hectares) of floodplain, 143.5 acres (58.1 hectares) of outwash terrace, 118 acres (47.8 hectares) of till plain, 21.3 acres (8.6 hectares) of lake plain, 6.5 acres (2.6 hectares) of peat, and 6.9 acres (2.8 hectares) of eolian soils. The field survey was executed using pedestrian transects spaced at 10 m intervals. The survey interval was reduced to 5 m when artifacts were encountered. The areas surveyed by pedestrian transects had between 40% and 95% ground surface visibility. All artifacts were collected and bagged by site specific provenience. All artifacts were taken to the ARMS laboratory for processing, identification, and analysis. Artifacts were cleaned, classified and catalogued. Diagnostic point types were classified using Justice (1987). Lithic raw materials were identified by comparison with reference samples and published descriptions on file in the ARMS laboratory (Cantin 2005). All chert identifications were made microscopically at 10X or greater.

### *Results*

The Little River and Upper Wabash River valleys were sampled from fourteen agricultural fields and 467 new archaeological sites were recorded (12-Hu-1260 to 1335, 12-Mi-610 to 870, and 12-Wb-851 to 980). The survey documented human occupation of the Upper Wabash River

valley from Paleoindian through the Historic period. The precontact settlement in the valley can be characterized as a combination of small, short-term extractive camps, and long term-possible camp and/or potential village sites. Some sites in the valley were repeatedly occupied throughout the pre-contact era. Chert resources in addition to animal and plant resources attracted people, and it is certain that plant cultivation occurred within portions of the valley. Genesee (Gessie) soils dominate the floodplain and settlement appeared to favor the highest, and therefore best drained, portions of the Genesee (Gessie) soils.

### *Artifacts*

The project recovered 10,237 prehistoric artifacts and 556 historic artifacts (Table 1). The majority of prehistoric artifacts consist of lithic debitage. The edge modification of several hundred flakes indicates the debitage could function as expedient tools. The majority of formal tool types were projectile points dating to the Paleoindian through the Late Woodland/Late Prehistoric periods (Table 2). Other chipped stone tools consist of endscrapers, graters and a possible adze. Figures 2 - 4 provide examples of the diagnostic prehistoric artifacts recovered.

<b>Prehistoric</b>	No.	<b>Historic</b>	No.
Unmodified flake	9344	Ceramics	307
Edge modified flake	225	Container glass	172
Core	208	Canning lid liners	7
Bipolar	29	Flat glass	2
Bifaces	230	Button	4
Endscrapers	11	Horseshoe	1
Graver	4	Metal, unidentified	1
Points and point fragments	139	Nail	2
Block	11	Washer, iron	1
Other chipped stone	8	Electrical insulator	40
Other chipped stone, possible adze	1	Coal	1
Prehistoric grit temper pottery body	5	Fencing staple	1
Prehistoric grit temper, cord marked pottery	1	Doll pieces (porcelain)	2
Burned bone	20	Waterbury Co. bronze button	1
		Mammal bones	11

Table 2 Projectile Points by Period	
Cultural Period	Projectile Point types and count
Paleoindian	Agate Basin (1), Late Paleoindian fluted (1)
Early Archaic	Decatur (1), Kanawha (2), Kirk Corner Notched (4), LeCroy (1), Palmer (2), St. Charles (1), Thebes (3), unidentified Early Archaic (3)
Middle Archaic	Godar (1), Godar endscraper (1), Raddatz side notched (3)
Late Archaic	Brewerton (2), Brewerton Corner Notched (2), Brewerton Corner Notched endscraper (3), Brewerton eared notched (1), Buck Creek Barbed (1), Karnak (2), Karnak stemmed (1), Lamoka (3), Late Archaic Stemmed Cluster (2), Late Archaic Stemmed Cluster endscraper (1), Matanzas (4), Motley (1), Riverton (4), Table Rock (3), unclassified Late Archaic (1)
Early Woodland	Dickson Cluster (1), Kramer (1)
Middle Woodland	Middle Woodland expanding stemmed (1), Snyders (1), Snyders endscraper (1)
Late Woodland/ Late Prehistoric	Triangular points (34), Commissary knife (1), Jack's Reef Corner Notched (1)



**Figure 2. Diagnostic artifacts from Survey Area 10: a) Snyders hafted endscraper (12-Mi-821); b) Middle Woodland expanding stemmed (12-Mi-830); c) Jack's Reef Corner Notched (12-Mi-853b); d, e, f, g) Triangular Cluster points (in order 12-Mi-837, 836, 853b, 833); h) Late Archaic Stemmed Cluster (12-Mi-860); i) Late Archaic Stemmed cluster hafted endscraper (12-Mi-821); j) Brewerton eared notched point (12-Mi-855); k) Table Rock point (12-Mi-851); l) Karnak Stemmed point (12-Mi-853c); m) Matanzas point (12-Mi-852a); n) Godar point (12-Mi-812); o) Godar hafted endscraper (12-Mi-858); p) unidentified Early Archaic point (12-Mi-821); q) Thebes point (12-Mi-853a); r) St. Charles point (12-Mi-858); s) Palmer point (12-Mi-852b); t) Decatur point (12-Mi-852b).**





Figure 3. Diagnostic prehistoric artifacts from Survey Area 9: a, b) unidentified point (in order 12-Mi-656, 649); c) unidentified point (12-Mi-656); d, e, f) Lamoka points (in order 12-Mi-655, 725, 656); g) Motley point (12-Mi-684); h) Kirk Corner Notched point (12-Mi-685); i) unidentified Early Archaic point (12-Mi-678); j) Raddatz side notched point (12-Mi-737); k, l) Brewerton Corner Notched hafted scraper (both 12-Mi-663); m) Karnak point (12-Mi647b); n) Riverton point (12-Mi-655a).



Figure 4. Diagnostic artifacts from Survey Area 14, 12-Wb-980: a) Triangular Cluster point; b) grit tempered pottery body; c) Snyders point; d) Table Rock point.

## Chert

The chipped stone artifacts were dominated by Liston Creek chert (90.72%) (Table 3). Unknown cherts made up the next most frequent chert type. Most of these cherts were what Cantin (2005) defines as gravel cherts. These cherts were locally available eroding from outwash, till and sorted in stream gravels and bars.

Attica chert was the next highest identified material. Attica chert outcrops significantly downstream (>75 km) from the survey areas. Including Attica chert as an exotic, cherts from down the Wabash and further west into Illinois (Burlington, Dongola) made up seventy-nine percent of exotic cherts. Cherts from southern Indiana and Ohio each made up nine and eleven percent respectively. However, because Attica is a special case and is located within the same drainage basin as the survey areas, the numbers have been calculated to exclude Attica from the totals as well. Under this method the exotic materials are almost evenly distributed as coming from Ohio (40%), Southern Indiana (31%) and Illinois (28%). No cherts associated with the Great Lakes region, such as Bayport chert, were discovered during the survey.

Aside from Liston Creek chert, the closest chert resource to the project area is Kenneth chert. Kenneth chert is available in bedrock exposures and creek beds less than 20 km from the western end of the research universe. Kenneth chert is considered to be a “good-quality chert occurring in a chert poor section of the state” (Cantin 2005:31). Kenneth chert is also an easily identified chert during sorting. It is interesting to note then that Kenneth chert is such a small amount of the identified chert within the survey at only 0.13% of the total.

Chert	No.	%	Chert	No.	%
Attica	75	0.73%	metaquartzite	2	0.02%
HT Attica	2	0.02%	Middle Jeffersonville	1	0.01%
HD Attica	1	0.01%	orthoquartzite	5	0.05%
Burlington	8	0.08%	slate	6	0.06%
Dongola	1	0.01%	unknown	757	7.42%
Flint Ridge	3	0.03%	HT unknown	46	0.45%
fossiliferous	3	0.03%	HD unknown	5	0.05%
Kenneth	13	0.13%	Upper Mercer	8	0.08%
Liston Creek	8972	87.89%	Wyandotte	8	0.08%
HT Liston Creek	256	2.51%	HD Wyandotte	1	0.01%
HD Liston Creek	33	0.32%	Zaleski	2	0.02%
HT= heat treated HD= heat damaged					

## Sites

Of the 467 archaeological sites recorded during the survey, 400 had unidentified prehistoric components (Table 4). The identified precontact components consisted of Paleoindian, Early Archaic, Middle Archaic, Late Archaic, Early Woodland, Middle Woodland, and Late Woodland/Late Prehistoric. Twenty-eight sites had historic components.

Component	No.	Comment
Unidentified Prehistoric	400	17 multicomponent (Historic)
Paleoindian	2	0 multicomponent
Early Archaic	16	3 multicomponent
Middle Archaic	5	1 multicomponent
Late Archaic	24	7 multicomponent
Early Woodland	2	1 multicomponent
Middle Woodland	3	2 multicomponent
Late Woodland/Late Prehistoric	26	4 multicomponent
Historic	28	21 multicomponent (Prehistoric)

The frequency of identified components encountered in the project area was somewhat different than that previously noted for the till plain of east central Indiana (Cochran 1994; McCord 2005, 2007). Late Woodland/Late Prehistoric component sites were the most commonly encountered, followed by Late Archaic and Early Archaic. Paleoindian, Middle Archaic (non-Matanzas), Early Woodland and Middle Woodland were encountered in low frequency, but these components are more uncommon in the Till Plain region.

#### *Historic settlement*

Results from the survey were not able to elucidate historic Native American or early Euro-American settlement within the study area. No artifacts were discovered that were definitively from historic Native American occupations and only a few dated to an early Euro-American time period. Only 28 sites with Historic components were discovered and most of these were small scatters of less than 10 artifacts that often occurred with precontact artifacts.

Only one survey area located between the Mississinewa River and the Wabash River contained sites with substantial historic assemblages that had early historic dates between 1800 and 1850. Two possible historic Miami village locations were recorded within the survey area (Wepler 1984; Worthington 1824). The area was part of the Godfroy Reserve, and it was the home of Francis and Gabriel Godfroy (Rafert 1996:120). The area was historically important for the Miami, but no direct evidence of a Miami occupation was recorded from this survey. Several sites with early historic artifacts were recommended for further work in this area.

#### *Density*

The density and distribution of sites are important for modeling and prediction. The project documented a very high density of archaeological sites, with an average of 1 site per 1.7 acres and an average density of 12.94 artifacts per acre surveyed. Table 5 demonstrates site density by landform. The outwash terrace had a very high density. A comparison to other valley studies within the region is presented in Table 6. Compared to regional densities the project had the second highest site density documented for the region (Table 7).

Landform*	Acres Surveyed	No. Sites	Sites per Acre
Floodplain	496.1	298.5	1.7
Outwash Terrace	143.5	115	1.2
Till Plain	118.0	49.5	2.4
Lake Plain	21.3	4	5.3
Peat	6.5	0	NA
Eolian	6.9	1	6.9

\* sites covering two landforms were split in half between those landforms

Area	Acres Surveyed	Sites per Acre	Artifacts per Acre
White River Valley (McCord 2005)	155	3.97	7.45
Upper Wabash River (Wepler and Cochran 1983a)	262	1.06	26.7
St. Joseph River Valley (Jeske 1992)	2830	50	0.05
St. Mary's River Valley (Jeske 1996)	2011	15.3	1.3

Survey Area	Acres	No. Sites	Sites per Acre	No. Artifacts	Artifacts per Acre
Area 1 (Little River Valley)	50.6	39	1.3	469	9.3
Area 2 (Till Plain)	66.6	17	3.9	58	0.9
Area 3 (Till Plain)	15.4	7	2.2	27	1.8
Area 4 (Little River Valley)	30.5	13	2.3	71	2.3
Area 5 (Wabash Valley)	37.7	26	1.5	159	4.2
Area 6 (Alluvial Fan in Wabash Valley)	71.1	5	0.1	52	0.7
Area 7 (Outwash Terrace Wabash Valley)	11.4	0	0.0	0	0.0
Area 8 (Outwash Terrace Wabash Valley)	35.7	19	1.9	56	1.6
Area 9 (Wabash Valley)	174.3	102	1.7	2652	15.2
Area 10 (Wabash Valley)	59.1	65	0.9	2195	37.1
Area 11 (Wabash Valley)	79.0	64	1.2	2011	25.5
Area 12 (Wabash Valley)	89.0	42	2.1	992	11.1
Area 13 (Wabash Valley)	63.7	68	0.9	1069	16.8
Area 14 (Sand Dune Wabash Valley)	6.9	1	6.9	1040	150.7

The site and artifact densities recorded for the Wabash River valley support the interpretation of repeated mixed short-term and long-term settlement in the valley. Site duration was probably the most intensive at areas with substantial quantities of fire-cracked rock, while areas with substantial quantities of lithic debris and low amounts of fire-cracked rock most likely were utilized as extractive camps. Site and artifact densities along the Little River, with the exception of a few sites, appeared to be short-term camps. Site and artifact densities for the Wabash River valley indicate more intensive and longer duration occupations.

## Excavations at Big Bangs and Little Bangs

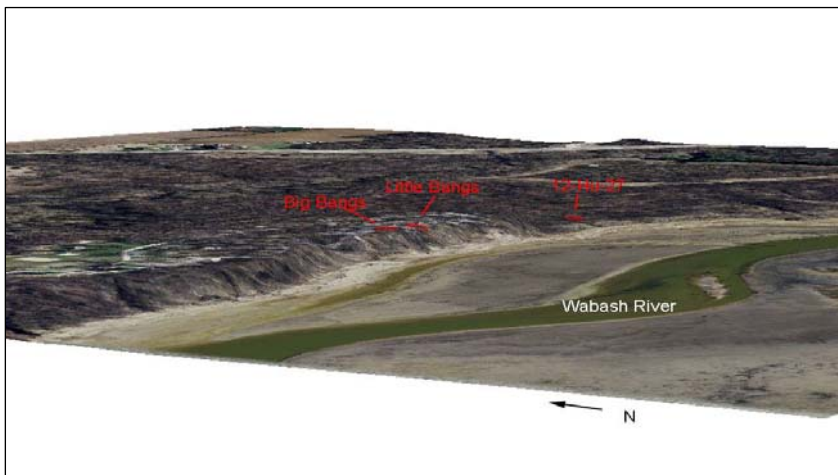
### *Introduction*

Limited test excavations were conducted at Big Bangs (12-Hu-25) and Little Bangs mounds (12-Hu-26). The primary objectives of the mound project were to document exposed sections of the mounds, recover data, backfill the mounds in order to better protect and conserve the sites, and to nominate them to the State and National Registers.

### *Background*

The first report of mounds in the Upper Wabash drainage in Miami, Wabash and Huntington counties appeared in old land survey notes. An ancient mound was reported in 1823 by T.G. Noble east of Warren in Huntington County. The site area, designated as 12-Hu-902, was investigated by ARMS staff in 1989, but no evidence of a mound was found (Indiana Historic Sites and Structure Inventory-Archaeological Sites). Two mounds (12-Wb-517 and 518) were reported in survey notes in Wabash County, but these are located in the Eel River drainage outside of the grant project area. The only other mounds reported in the Upper Wabash valley in Miami, Wabash and Huntington counties are from more recent archaeological investigations. The Big Bangs and Little Bangs mounds (12-Hu-25 and 26), and 12-Hu-27, an unnamed mound, (Figure 5) were recorded during the 1963 IU survey of the Huntington Reservoir prior to inundation (Gerald 1964; Kellar 1964a).

The Big Bangs and Little Bangs mounds were partially excavated in 1963, and 12-Hu-27 was tested (Gerald 1964). The regional context for the mounds was unclear to Gerald (1964:18-20) and other researchers (Wepler and Cochran 1983a, 1983b). No human remains were found in the mounds. Structurally, Big Bangs mound consisted of primary, secondary, and tertiary mound construction. Little Bangs was found to have only primary and secondary construction episodes. Few artifacts from both mounds were reported. Cord-marked ceramics and points were related to the Late Woodland Michigan Owasco (Gerald 1964:18-19). The structure of the mounds was related to Hopewell Ginther Mound in Ross County, Ohio (Gerald 1964:19). Unfortunately, the excavations were not backfilled and exposure has caused deterioration (Wepler and Cochran 1983b:120) (Figure 6).



**Figure 5. View of the Wabash Valley showing the location of Big Bangs, Little Bangs and 12-Hu-27.**





**Figure 6. A 1982 photograph (top) and 2008 photograph (bottom) of Big Bangs.**

Big Bangs (12-Hu-25) (after Gerald 1964)

Big Bangs was reported as 40' (12 m) north-south by 50' (15 m) east-west and 4' (1.2 m) tall. The mound had been potted in the center and a trench was evident on the western side. The mound was cleared of trees and excavated on a 10' (3 m) grid. Standing balks were left between



each square excavated. The excavation was conducted in both natural and arbitrary levels of 12” (0.30 m). Figure 7 shows the plan of the excavations. Figure 8 shows the profile of the mound.

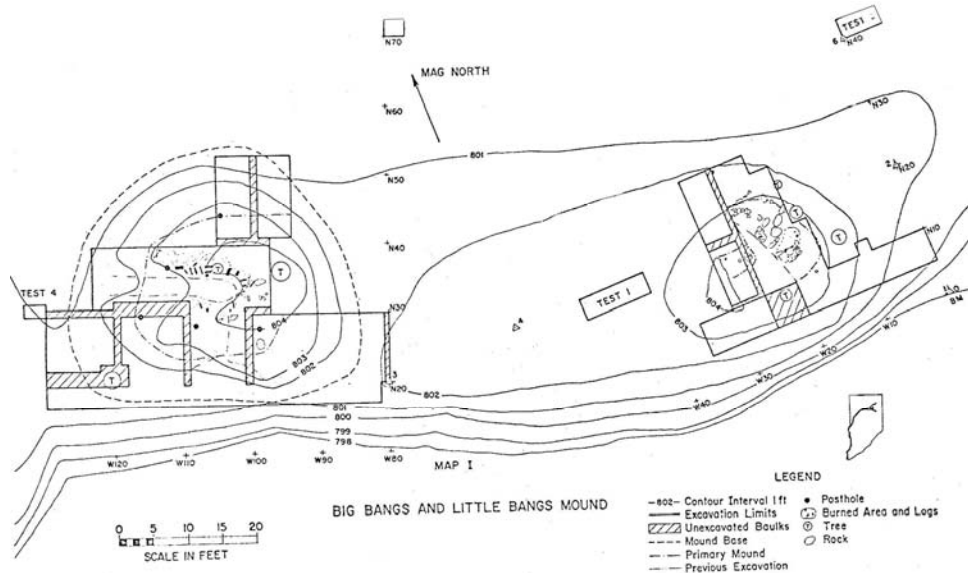


Figure 7. Gerald's (1964) plan map of Big Bangs and Little Bangs.

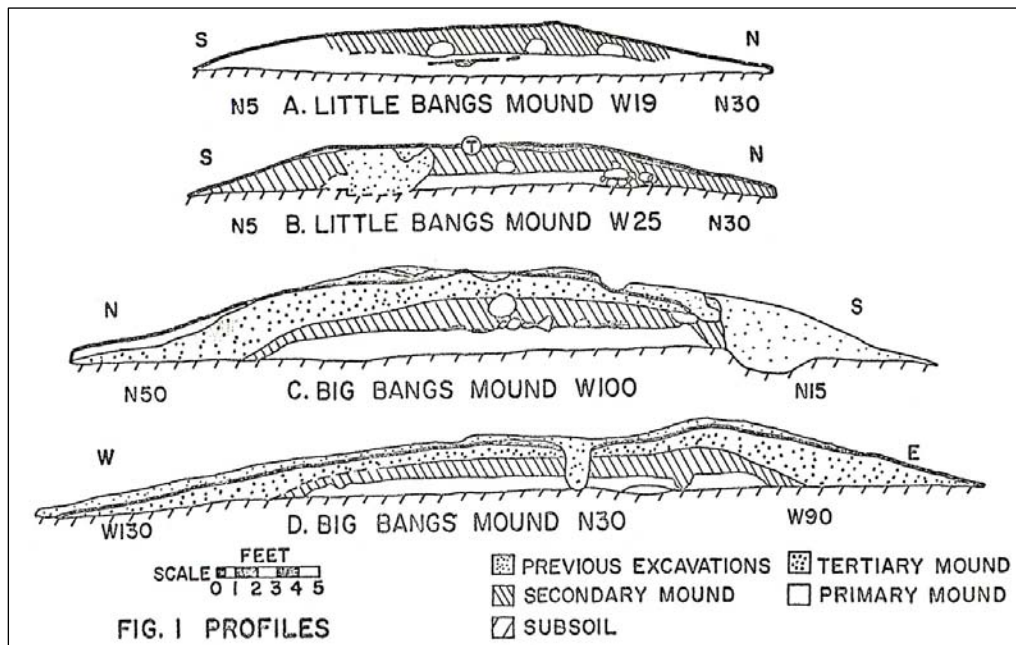


Figure 8. Gerald's (1964) profiles of Big Bangs and Little Bangs.

The primary mound consisted of a flat platform of fine consolidated loess containing charcoal flecks and flint chips. The platform was approximately 20' (6 m) east-west by 22' (6.7

m) north-south. It was between 0.5' and 1' (0.15 and 0.30 m) in height being thickest at the center. A rim at the edge of the platform was noted on the south side. No humus was encountered between the primary mound and the natural yellow-orange clay that the platform was built on. The primary mound apparently blocked and filled in a small natural drainage. Within the primary mound, four post holes and a stake hole were reported. Artifacts, including pottery, were reported from the primary platform.

In the central area, on top of the primary mound, a layer of burned logs was documented. The layer ranged between 0.1 and 0.5' (0.03 and 0.15 m) thick. Fire-cracked rocks were found scattered across the remainder of the primary mound. They did not occur in the layer of logs. Large limestone rocks marked the edges of the log deposits and were placed on top of the logs. No large limestone rocks were found in the central area, but the area had been previously disturbed by pothunters. Burned red earth was found on the primary platform under the logs on the north side.

Over the large rocks and burned logs, the secondary mound layer had been placed. The secondary mound fill was between 0.5' (0.15 m) at the periphery to 1.25' (0.38 m) at the center of the mound. The secondary fill was described as a yellow loess or fine sandy dust. Artifacts were found in this fill. This secondary mound capped and extended beyond the primary mound edges. One post mold was found extending into the subsoil adjacent to the edge of primary mound under the secondary mound fill.

Big Bangs also had a tertiary mound. The soil was reported as a mix of orange crumbly clay and white sandy loess. This construction episode did not contain any artifacts. A humus zone, no more than 4" (0.10 m) covered the surface of the mound. The humus zone was thicker around the base of the mound, due to erosion.

#### Little Bangs (12-Hu-26) (after Gerald 1964)

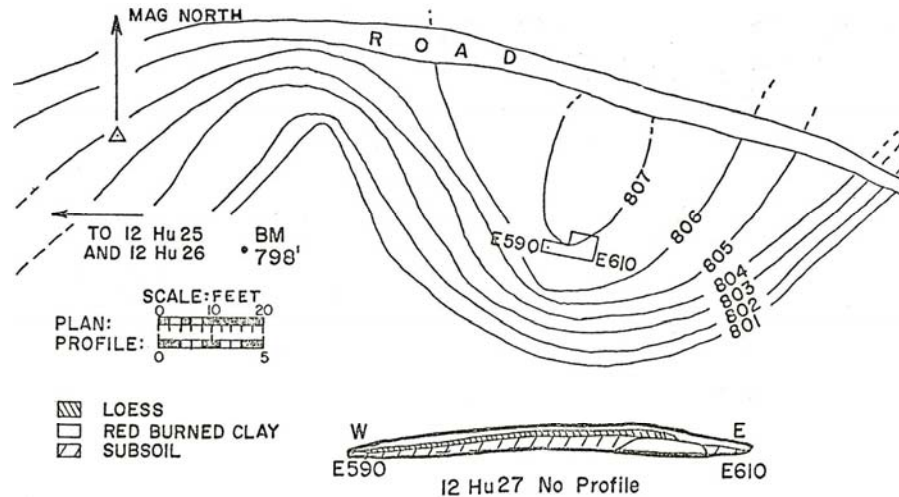
Little Bangs was reported as 25' (7.6 m) north-south by 30' (10 m) east-west and 3' (1 m) tall. The mound was potted with many shallow excavations. The mound was also cleared of trees and excavated on a 10' (3 m) grid. Figure 7 shows the plan of the excavations and Figure 8 shows the profile of the mound. Little Bangs was constructed in a similar manner to Big Bangs, except it did not have a tertiary mound.

The primary mound was not as hard or as white as Big Bangs. It was only defined in a limited area, due the previous disturbance. There were areas of intensive burning on the primary platform under the burned logs. On the north side of the primary platform a rock wall approximately 3' (1 m) long and 1.13' (0.34 m) in height was recorded. Flint chips, scrapers and one point were reported from the primary mound.

The secondary mound was apparently similar to Big Bangs. Artifacts consisting of tool debris were reported. No formal tools or pottery were identified. A humus layer covered the mound.

## 12-Hu-27 (unnamed mound)

Mound 12-Hu-27 was given only a cursory description by Gerald (1964:3). Figure 9 shows the contour map, location of the excavation and profile of the unit reported. The mound was described as a remnant that was almost entirely removed at an earlier date. The profile shows an area of red, burned clay. No artifacts were reported from the excavation.



MAP II. 12 HU27

**Figure 9. Gerald's (1964) plan and profile of 12-Hu-27.**

### *Excavation*

The original intent for the project was to re-excavate five old units and clean the profile walls with as little new excavation as possible. While areas previously excavated were evident, the walls of the units were too severely slumped to re-open and actually have any profile. Our units were placed near old units, but within intact portions of the mounds. To minimize the destruction of intact portion of the mounds, the units were 50 cm wide and between 1.5 and 2 m long. Three units were excavated in Big Bangs and two were excavated in Little Bangs. Each unit was excavated in 10 cm arbitrary levels until sterile subsoil was encountered. All excavated soil was screened through 6.4 mm mesh. Site 12-Hu-27 was mapped but not investigated during this project due to time constraints. It is unclear if this site is actually an artificially constructed mound.

### *Results*

A total of 688 prehistoric artifacts were recovered from the test excavations of Big and Little Bangs mounds: Big Bangs = 527 artifacts and Little Bangs = 161 artifacts. Gerald (1964:13-14) reported few artifacts from both mounds stating only 50 specimens were catalogued. However, the artifact collection curated at the Glenn A. Black Laboratory of Archaeology at Indiana

University contained over 700 artifacts. The disparity between Gerald's comments and the curated collection may be attributed to what she considered artifacts. Only tools such as scrapers, drills and points were discussed by Gerald in her report of the excavation. Lithic debris may not have been considered. From the small test excavations made during this project a large amount of lithic material occurred in both mounds.

The lithic material occurred in all of the cultural zones tested. Due to the 10 cm arbitrary levels used in the excavation methods, the level and cultural zone did not neatly correspond. However, an overall pattern between the primary mound and secondary mound fill could be compared from Units 1 and 2 in Big Bangs. From Unit 1, 52 artifacts were assigned to the primary mound episode and 108 were found in the secondary mound episode. Unit 2 echoes this pattern with 112 artifacts from the primary mound and 183 artifacts from the secondary mound. The primary and secondary mound deposits sampled were similar in volume and the secondary mound fill contained more artifacts than the primary mound fill.

Of the 688 lithic artifacts recovered during the excavation, 650 (94.4%) were manufactured from local Liston Creek chert. Other unidentified materials included 2 (0.3%) of Attica chert, 1 (0.1%) of Wyandotte chert and 1 (0.1%) of quartzite. The remaining 35 (5.1%) artifacts were from unknown cherts. Only 18 (2.6%) artifacts were either heat-treated or heat-damaged.

#### *Excavation Summary*

The test excavations conducted at Big Bangs and Little Bangs confirmed some of Gerald's (1964) comments on the mound construction and contents. However, a few differences were encountered. The first obvious difference is in the quantity of artifacts recovered. Gerald (1964:13-14) noted that artifacts were rare, but this was certainly not the case. Lithic debitage was frequently encountered. Formal tools were rare. The second difference is in the mound structure. The layer of burned logs and fire-cracked rock described by Gerald to occur on the top of the primary mounds was not confirmed by the test excavations. This could be due to the placement of our units. However, Units 1 and 2 in Big Bangs indicate the fire-cracked rock were incorporated into the fill of the primary mound. A layer of burned wood was not encountered, but rather an organic horizon. This may represent a break in the construction of the mound and the formation of an A-horizon before the secondary mound was constructed.

While the temporal affiliation of the mounds was better defined by the project, the cultural affiliation of the mounds is still somewhat ambiguous. The recovery of a Triangular Cluster point and a radiocarbon date between cal A.D. 420 and 600 indicates a late Middle Woodland to early Late Woodland time period for the construction of the mounds. From a regional perspective, no identified cultural groups have been named for this period in the Upper Wabash drainage.

## Discussion

### *Site Density*

In the current study not only was site distribution tracked by landform and cultural period, but the amount of surface area covered by individual sites was used to demonstrate the percentage of utilized surface by landform (Table 8). For example, five small lithic scatters on a given landform may utilize a smaller portion of the landscape than one large lithic scatter on another landform. The percentage of utilized landscape may provide a further refined perspective of just how settlement occurred within the research universe.

Landform	Acres Surveyed	Site Acreage	Percent of Coverage
Floodplain	496.1	50.7	10.24%
Outwash Terrace	143.5	8.5	5.75%
Till Plain	118.0	2.7	2.22%
Lake Plain	21.3	0.33	1.55%
Peat	6.5	0	0.00%
Eolian	6.9	6.9	100.00%

Sites on the outwash terrace occurred with a greater frequency at one site per 1.2 acres surveyed than sites on the floodplain at one site per 1.7 acres surveyed. However, sites on the floodplain covered almost double the percentage of the surface area. The floodplain and outwash terrace accounted for 97% of the artifacts recovered during the survey, but only made up 80% of the area surveyed. This means that artifacts occur at 9.2 times the frequency on the floodplain and outwash terrace than they do on other landforms within the research universe. In the current survey 8,960 artifacts were recovered from the floodplain and 1,238 on the outwash terrace. As a percentage of the total area surveyed it appears that artifacts are found at two times the frequency on the floodplain as on the outwash terrace.

### *Landform Chronology*

Precontact settlement within the research universe appears to be similar to that seen in other surveys within the till plain region of Indiana. Late Woodland, Late Archaic, and Early Archaic dominate the diagnostic assemblage. Diagnostic artifacts from the Paleoindian, Middle Archaic, Early Woodland and Middle Woodland are much rarer. The total diagnostic artifacts for the survey area, listed by the landform they were discovered on, are included in Table 9.

Landform*	Floodplain	Outwash	Till Plain	Lake Plain	Eolian
Paleoindian	1	1	0	0	0
Early Archaic	11	3.5	0.5	1	0
Middle Archaic	2	1	1	0	1
Late Archaic	19.5	3.5	0	0	0
Early Woodland	1	1	0	0	0
Middle Woodland	2	0	0	0	1
Late Woodland	24	1	0	0	1

\* sites covering two landforms were split in half between those landforms

The valley environment, which includes outwash, floodplain, and eolian soils, is a domestic focus. Assuming the density of artifacts reflects the intensity of occupation and use of the valley, with over nine times the frequency of artifacts, it is by far the most heavily utilized portion of the research area. Also, the amount of valley surveyed makes it likely that patterns within the chronology can be seen as meaningful. It is noted that diagnostic artifacts were much more likely to occur within the valley, even accounting for the higher percentage of valley survey. Only five of the 79 diagnostic artifacts recovered were from outside the valley. In other words, although the valley made up roughly 80 percent of the surveyed area, it accounted for 94 percent of the diagnostic artifacts. Based on the current study, it appears that Late Woodland people were utilizing the valley much more heavily than other studies have demonstrated. Middle and Early Woodland sites were limited to valley settings (the eolian landform was within the valley). Late Archaic sites also favored the valley setting, although they occurred over a greater number of environments than any other period. Middle Archaic sites occurred infrequently, but occurred outside the valley with the same frequency as within. Early Archaic sites favored the valley setting, as did Paleoindian sites.

Till plains have patterned, small lithic scatters indicative of short-term extractive/hunting/gathering camps. Without unique resources, i.e. permanent wetlands, the till plain remains an important procurement area, but not one where large, dense, long-term occupation was occurring. The till plain appears to be utilized in all time periods, although the Early and Middle Woodland periods certainly are focused more strongly on the valley. In the current study diagnostics within the till plain were limited to the Early and Middle Archaic. However, the amount of till plain surveyed was not large enough to draw conclusions pertaining to settlement by prehistoric period.

The lake plain makes up such a small portion of the area surveyed that it is difficult to make any assessment of the landform. It appears, based on other till plain surveys (McCord 2007), that the lake plain would be expected to have a lower density of site use than the surrounding till plain because of the poorly drained nature of the soils. However, it was assumed that the lake plain may represent a unique resource within the survey area and that lake plain margins may demonstrate an increase in site density. An area along the lake plain margin with some of the highest relief from the lake bed was surveyed to test this hypothesis. What was found did not demonstrate an increase in land use around the lake plain margin, although this may be attributable to sampling. The Patton soil that made up the lake plain is classified as a mesic typic Haplaquolls. The USDA NRCS (1999: 563) states that “most of the [aquolls] have had a vegetation of grasses, sedges, and forbs” and that they develop in dominantly wet



conditions. These wet environments are typically rich in biodiversity, which could favor settlement. It was also assumed that this ancient lake may have been extant during the Paleoindian through Middle Archaic periods and may have been a different but equally productive environment. The only diagnostic artifact recovered from around the lake plain margin was from the Early Archaic. Again, too small of a sample was conducted to draw conclusions for the settlement chronology of this landform.

### *Late Woodland Settlement*

Late Woodland/Late Prehistoric settlement in the upper Wabash River valley appears to be more patterned than other surveys (Cochran and Anuszczyk 1984; Cochran and Beuhrig 1985; Holsten and Cochran 1986; Jeske 1992, 1996; Wepler and Cochran 1982, 1983a, 1983b; White 2005, 2006) have demonstrated. The numbers of identified Late Woodland/Late Prehistoric artifacts in the current survey total thirty five. In the till plain region of Indiana, Late Woodland/Late Prehistoric is typically the third most commonly identified component in sites after Late Archaic and Early Archaic (Cochran 1994). On the current survey Late Woodland/Late Prehistoric was the most commonly encountered. This may be because the current survey focused so heavily on the valley setting.

Floodplain settings made up 63 percent of the surveyed area but accounted for 97 percent of the identified Late Woodland/Late Prehistoric artifacts. In multiple other surveys (Cochran and Anuszczyk 1984; Jeske 1992, 1996; McCord and Cochran 2003; Wepler and Cochran 1982, 1983a, 1983b), including portions of the Upper Wabash River and the White River, Late Woodland/Late Prehistoric sites were not as heavily concentrated in the valley. In the Huntington Reservoir survey, 65 percent of Late Woodland/Late Prehistoric sites were found in the valley (Wepler and Cochran 1983a:100). At the Strawtown Prairie on the White River Late Woodland/Late Prehistoric sites were almost evenly distributed between the floodplain, outwash terrace and till plain (McCord and Cochran 2003). In a comparison of surveys conducted on the Wabash Moraine in the Upper Wabash River valley, it was noted that Late Woodland/Late Prehistoric only accounted for seven percent of the identified components (Cochran and Buehrig 1985: 26). This analysis of till plain regions within the research area helps to confirm that the normally abundant Late Woodland/Late Prehistoric artifacts are conspicuously limited outside of the valley setting.

It is unknown at this time why there is such a heavy concentration of Late Woodland/Late Prehistoric artifacts within the valley. Other anomalous trends have appeared in the Upper Wabash River valley with respect to the Woodland Period. Little pottery has been recovered during survey within the Upper Wabash River valley. Where pottery has been recovered does not fit the trends noted within other drainages in the state (Cochran 1985; Stephenson 1984). Ross soils seem to correlate strongly with the presence of pottery within the Upper White River drainage, but Ross soils are almost absent from the Upper Wabash River valley except in the form of alluvial fan formations in Miami County. It does appear that in the limited locations where Ross soils occur pottery is encountered (Cochran 1985), but the correlation is not as strong as within the White River valley. It is difficult to refine the settlement system within the Late Woodland with evidence limited to surface surveys. Excavation data is needed to further our understanding of Late Woodland/Late Prehistoric settlement systems.

### *Chert*

Chert resources within the survey area predominantly appeared to conform to previous studies (Cochran and Anuszczyk 1984; Cochran and Buehrig 1985; Holsten and Cochran 1986; Jeske 1992, 1996; Wepler and Cochran 1982, 1983a, 1983b; White 2005, 2006). Liston Creek, a locally available resource (Cantin 2005), dominated the artifact assemblage. Very little of the recovered material was definitively exotic to the region, and it was fairly evenly split among eastern, western, and southern source areas, the exception being Attica chert which is located downstream from the survey area. Additionally, very little Kenneth chert was recovered during the survey, though the material is located near the research area. No full analysis of Kenneth chert use has been conducted, but circumstantial evidence suggests it was not utilized until the Late Archaic (DeRegnaucourt and Georgiady 1998).

### *Mounds*

Big Bangs and Little Bangs do not appear to be related to the mounds and enclosures from east central Indiana in the Upper White River and Whitewater River drainages. The earthworks from east central Indiana are related to the Middle Woodland New Castle Phase (McCord 2006:106-108). The sites from east central Indiana date between cal 250 B.C. and A.D. 350. The New Castle Phase sites typically contain diagnostic artifacts relating to the Adena and Hopewell complexes (McCord and Cochran 2000). New Castle Phase mounds typically contain human remains, and fewer numbers of lithic debris are reported (McCord and Cochran 2000).

The Bangs mounds do not appear to be related to mounds and enclosures in adjacent counties in the Maumee drainage basin. Early histories note several mounds and earthworks. Several of the sites in this region have been attributed to the Western Basin Tradition (Stothers 1999:194-211; White et al. 2003). The tradition consists of four sequential phases dating between A.D. 500 and 1300. Western Basin mounds contain human remains.

The Bangs mounds appear to be a regionally distinct phenomena. Occupation in the Upper Wabash drainage during the Middle Woodland/Late Woodland transition is documented, but not well represented. Site 12-Hu-935, the Moore Site, had an uncorrected radiocarbon date of A.D. 460 ± 60 from a circular pit filled with fire-cracked rock (Zoll et al. 1991:74). Undecorated body sherds were recovered from the Moore site (Sherman and Plunkett 1999:103-104) that appear similar to those described by Gerald (1964:13-14) from Big Bangs. The All Seasons site, 12-Mi-224, also produced an uncorrected radiocarbon date of A.D. 380 ± 60 from a charcoal concentration (Cochran and James 1986). The site also contained ceramics that could be similar to those recovered from Big Bangs. The ceramics from the Moore site and the All Seasons site were both related to ceramic traditions from the Great Lakes region, but neither was attributed directly to the region. Other excavation data from the time period and the region is severely lacking, but diagnostic artifacts from the Middle Woodland/Late Woodland period have been recovered from numerous surface sites in the Upper Wabash drainage.

While the mounds appear unique to the region, they are within known Middle Woodland/Late Woodland settlement for the region. In a general sense, the mounds fit a pattern of mound building continuing in the late Middle Woodland/Late Woodland period (eg. Wayne Mortuary Complex, Halsey 1976). Based on current evidence, Big Bangs and Little Bangs are more similar to mound building traditions for the Great Lakes region than to traditions from central Indiana (Halsey 1976).

The intent of the construction for both mounds did not include the incorporation of human remains. Of course, the category of “ceremonial activities” has long been associated with earthwork sites (eg. Squier and Davis 1848; Webb and Snow 1945). These activities may have included ceremonies conducted for world renewal, creation, death and rebirth, rites of passage, reincorporation, production of ceremonial objects, feasting, renewing and creating kinship ties, and ancestor worship (Brown 1997; Carr 2005; DeBoer 1997; Hall 1997; Miller 2001; Romain 2000; Seeman 1979). In the basic sense, Big Bangs and Little Bangs would have been a place of gathering as a labor force was necessary to construct the mounds. Traditional activities recorded from historic sources when people gather together include social gatherings, dances, singing, trade, celebrations, games, gambling and story telling (Brown 1997; DeBoer 1997; Miller 2001). While the exact nature of Big Bangs and Little Bangs was not identified by this project, the location of the mounds was important to people living in the Upper Wabash drainage.

### **Conclusions and Recommendations**

This project targeted archaeological resources in the Little River and Upper Wabash River in Huntington, Miami, and Wabash counties, Indiana. The project area was selected for its expansive valley combined with recent river terraces that contain extensive outwash deposits. The area within and around the Little River and Wabash River valleys are seriously threatened by gravel mining. The goals of the project were to investigate previously unsurveyed portions of the valleys, refine settlement patterns of the precontact and early Euro-American era, and increase Indiana’s archaeological site database.

Approximately 792 acres of agricultural land were surveyed during this project and 467 new archaeological sites were recorded. Precontact era components were identified from 460 sites and historic components were identified from 28 sites. The survey recovered 10,237 prehistoric artifacts and 556 historic artifacts. Most of the precontact sites were unidentified by cultural period, but every prehistoric cultural period was documented. Fifty-one sites were recommended for further assessment or testing. An additional 287 sites were recommended for additional surface archaeological assessment.

The survey resulted in the re-discovery of some distinctive characteristics of the Wabash Valley. It was noted that Late Woodland settlement was much more focused within the valley than within the nearby White River or Maumee drainages. Data recovered suggests long-term occupations within the valley with short term extractive camps within the uplands. The Paleoindian, Early Woodland and Middle Woodland sites occurred in low frequency. The dearth of pottery from surface sites within the Wabash Valley continues to defy adequate explanation. Too few historic sites were encountered to elucidate historic Native American or early Euro-American settlement within the study area.

The average site density recorded for the project area for precontact sites was one site per 1.7 acres. This density was one of the highest in the region, and only surpassed by survey conducted at the Huntington Lake. The highest artifact densities were encountered in survey areas with Genesee (Gessie) soils. This soil is a well drained alluvial soil.

The project suggests that precontact populations used the Wabash valley and its tributary valleys for multiple purposes, including long-term settlement. Site duration was most intensive on well drained alluvial soils near the river channel. The continued lack of pottery from the

valley is an intriguing problem that bears further research. Excavation will be required to determine settlement systems of the Woodland period in the Upper Wabash.

It was also determined that Big Bangs (12-Hu-25) and Little Bangs (12-Hu-26) contain intact deposits. Data was recovered to further our understanding of the construction of the mounds and to determine the historic context. The two mounds are the only currently known surviving examples of mounds in the Upper Wabash drainage. The mounds also provide a unique opportunity to further explore the settlement system of Middle Woodland/Late Woodland populations and offer a rare opportunity to examine the ceremonial and ritual aspects of the inhabitants of the area. The mounds were nominated for listing on the State and National Registers of Historic Places.

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## References Cited

- Angst, Michael  
1997 Mitigation of the Three Multicomponent Sites in the Upper Wabash, Cass County, Indiana. *Reports of Investigation* 45. Archaeological Resources Management Service, Ball State University, Muncie.
- Anuszczyk, Edmond, and Donald R. Cochran  
1984 An Archaeological Survey of the Upper Wabash Valley. *Reports of Investigation* 13. Archaeological Resources Management Service, Ball State University, Muncie.
- Bamann, Susan E., and Susan E. Baldry  
1996 Archaeological Excavations at the Diefenbaugh Site (12-Hu-396): Prehistoric and Historic Occupations in the Upper Wabash Valley, Huntington County, Indiana. *Report of Investigation* 95IN0077-P3r01. Landmark Archaeological and Environmental Services, Inc., Sheridan.
- Bash, Frank Sumner  
1914 *History of Huntington County, Indiana: A Narrative Account of Its Historic Progress, Its People, And Its Principal Interests*. 2<sup>nd</sup> edition. The Lewis Publishing Company, Chicago, Illinois.
- Bodurtha, Arthur L.  
1914 *History of Miami County, Indiana: A Narrative Account of Its Historic Progress, Its People, And Its Principal Interests*. 2<sup>nd</sup> edition. The Lewis Publishing Company, Chicago, Illinois.
- Brown, James A.  
1997 The Archaeology of Ancient Religion in the Eastern Woodlands. *Annual Review of Anthropology* 26(465-485).
- Bubb, Louis  
2005 The Aussom Cabin: An Early Nineteenth Century Residence in Huntington County, Indiana. Unpublished Master's thesis. Department of Anthropology, Ball State University, Muncie.
- Burkett, Frank, Diana Conover, and Donald Cochran  
1984 Archaeological Investigations at the Peru Industrial Park. *Reports of Investigation* 17. Archaeological Resources Management Service, Ball State University, Muncie.
- Cantin, Mark  
2005 Provenience, Description, and Archaeological Use of Selected Chert Types of Indiana. *Technical Report* No. 05-01, Indiana State University Anthropology Laboratory, Terre Haute.
- Carr, Christopher  
2005 Salient Issues in the Social and Political Organizations of Northern Hopewellian Peoples. In *Gathering Hopewell*, edited by Christopher Carr and D. Troy Case, pp. 73-118. Kluwer Academic/Plenum Publishers, New York.
- Cochran, Donald R.  
1980 An Archaeological Assessment of Fox Island County Park, Allen County, Indiana. *Reports of Investigation* 4. Archaeological Resources Management Service, Ball State University, Muncie.

- 1985 Ceramics from 12-We-240 and Ceramic Sites in the Upper Wabash Drainage. Manuscript on file at Archaeological Resources Management Service, Ball State University, Muncie.
- 1990 Excavations at the Richardville/LaFontaine House. *Reports of Investigation* 26. Archaeological Resources Management Service, Ball State University, Muncie.
- 1994 Prehistoric Settlement in the Tipton Till Plain. In *Historic and Prehistoric Contexts in the Tipton Till Plain*, pp 2-9. *Reports of Investigation* 36. Archaeological Resources Management Service, Ball State University, Muncie.
- Cochran, Donald R., and Edmond Anuszczyk
- 1984 An Archaeological Survey of the Upper Wabash River Valley. *Reports of Investigation* 13. Archaeological Resources Management Service, Ball State University, Muncie.
- Cochran, Donald R., and Jeanette Buehrig
- 1985 An Archaeological Survey on the Wabash Moraine: A Study of Prehistoric Site and Artifact Density in the Upper Wabash Drainage. *Reports of Investigation* 15. Archaeological Resources Management Service, Ball State University, Muncie.
- Cochran, Donald R., and Mary Lou James
- 1986 Interim Report: 1985 Excavations at the All Seasons Site. *Reports of Investigation* 20. Archaeological Resources Management Service, Ball State University, Muncie.
- DeBoer, Warren R.
- 1997 Ceremonial Centers from the Cayapas (Esmeraldas, Ecuador) to Chillicothe (Ohio). *Cambridge Archaeological Journal* 7(2):225-253.
- DeRegnaucourt, Tony, and Jeff Georgiady
- 1998 *Prehistoric Chert Types of the Midwest*. Occasional Monographs Series of the Upper Miami Valley Archaeological Research Museum, No. 7. Western Ohio Podiatric Medical Center, Greenville, Ohio.
- Gefell, E. M.
- 1985 *Engineering Soils Map of Huntington County, Indiana*. Purdue University, West Lafayette.
- Gerald, Virginia Gould
- 1964 *Excavations of the Big Bangs and Little Bangs Mounds*. 1964 Huntington Reservoir Project Huntington, Indiana. Indiana University, Bloomington.
- Gray, Henry H.
- 2000 *Physiographic Divisions of Indiana*. Indiana University, Indiana Geological Survey Special Report 61, Bloomington.
- Hall, Robert L.
- 1997 *An Archaeology of the Soul: North American Indian Belief and Ritual*. University of Illinois Press, Urbana, Illinois.
- Halsey, John R.
- 1976 The Bussinger Site: A Multicomponent Site in the Saginaw Valley of Michigan. Unpublished Ph.D. Dissertation, Department of Anthropology, University of North Carolina, Chapel Hill.



- Holsten, Jeffery, and Donald R. Cochran  
 1986 Paleo-Indian and Early Archaic in the Upper Wabash Drainage. *Reports of Investigation* 19. Archaeological Resources Management Service, Ball State University, Muncie.
- Indiana Historic Sites and Structures Inventory  
 1989 Site Form for 12-Hu-902. On file at Archaeological Resources Management Service, Ball State University, Muncie.
- James, Mary Lou, and Donald R. Cochran  
 1986 An Archaeological Survey of Jay County, Indiana. *Reports of Investigation* 18. Archaeological Resources Management Service, Ball State University, Muncie.
- Jeske, Robert J.  
 1992 The Saint Joseph River Valley: A Systematic Archaeological Survey in Allen and DeKalb Counties, Indiana. *Report of Investigations* 2. Indiana-Purdue University Fort Wayne, Northeast Indiana Archaeological Survey, Fort Wayne.  
 1996 The Saint Marys River Valley: A Systematic Archaeological Survey in Allen and Adams Counties, Indiana. *Report of Investigations* 5. Indiana-Purdue University Fort Wayne, Northeast Indiana Archaeological Survey, Fort Wayne.
- Justice, Noel D.  
 1987 *Stone Age Spear and Arrow Points of the Midcontinental and Eastern United States*. Indiana University Press, Bloomington.
- Kellar, James H.  
 1963 Appraisal of the Archaeological Resources in the Mississinewa, Salamonie and Monroe Reservoirs. Department of Anthropology, Indiana University, Bloomington. Manuscript on file, Archaeological Resources Management Service, Ball State University, Muncie.  
 1964a Prehistory in the Salamonie and Mississinewa Reservoir Areas, Indiana. Department of Anthropology, Indiana University. Manuscript on file, Archaeological Resources Management Service, Ball State University, Muncie.  
 1964b Appraisal of the Archaeological Resources of the Huntington Reservoir Area, Wabash River, Indiana. Department of Anthropology, Indiana University. Manuscript on file, Archaeological Resources Management Service, Ball State University, Muncie.
- Mann, Rob  
 1996 Archaeological Excavations at the Ehler Site (12-Hu-1022): An Early 19<sup>th</sup> Century Miami Habitation Site Near the Forks of the Wabash, Huntington County, Indiana. *Report of Investigation* 95IN0062-P3r01. Landmark Archaeological and Environmental Services, Sheridan.
- McCord, Beth K.  
 2005 Investigation in the Upper White River Drainage: The Albee Phase and Late Woodland/Prehistoric Settlement. *Reports of Investigation* 65. Archaeological Resources Management Service. Ball State University, Muncie.  
 2006 The Fudge Site: A New Look at an Ancient Monument, Randolph County, Indiana. *Reports of Investigation* 67. Archaeological Resources Management Service, Ball State University, Muncie.

- 2007 A Profile of Till Plain Archaeology: A Survey of Hancock County, Indiana. *Reports of Investigation* 71. Archaeological Resources Management Service. Ball State University, Muncie.
- McCord, Beth Kolbe, and Donald R. Cochran
- 2000 A Survey of Collections: An Archaeological Evaluation of Eight Earthworks in Eastern Indiana. *Reports of Investigation* 58. Archaeological Resources Management Service, Ball State University, Muncie.
- 2003 An Archaeological Survey of the Taylor Property at the Strawtown Prairie, Hamilton County, Indiana. *Reports of Investigation* 64. Archaeological Resources Management Service, Ball State University, Muncie.
- Miller, Jay
- 2001 Instilling the Earth: Explaining Mounds. *American Indian Culture and Research Journal* 25:3(161-177).
- Rafert, Stewart
- 1996 *The Miami Indians of Indiana: A Persistent People 1654-1994*. Indiana Historical Society Press, Indianapolis.
- Ridenour, James M.
- 1982 *Indiana Historic Sites and Structures Inventory, Interim Report Wabash County*. Historic Landmark Foundation of Indiana, Indianapolis.
- Robertson, Linda
- 1976 *Wabash County History Bicentennial Edition 1976, Wabash, Indiana*. Walsworth Publishing Company, Marceline, Missouri.
- Romain, William F.
- 2000 *Mysteries of the Hopewell: Astronomers, Geometers and Magicians of the Eastern Woodlands*. University of Akron Press, Akron, Ohio.
- Schneider, Allen F.
- 1966 Physiography. In *Natural Features of Indiana*, edited by Alton A. Lindsey, pp. 40-56. Indiana Academy of Science, Indianapolis.
- Seeman, Mark F.
- 1979 Feasting with the Dead: Ohio Hopewell Charnel House Ritual as a Context for Redistribution. In *Hopewell Archaeology: The Chillicothe Conference*, edited by David S. Brose and N'omi Greber, pp. 39-46. Kent State University Press, Kent, Ohio.
- Sherman, David L., and Jeffery A. Plunkett
- 1999 Archaeological Excavation at the Moore Site (12-Hu-935): A Multi-component Site Near the Forks of the Wabash, Huntington County, Indiana. *Report of Investigations* 95IN0072-P3r01. Landmark Archaeological and Environmental Services, Inc., Sheridan.
- Shurig, D. G.
- 1970 *Engineering Soils Map of Wabash County, Indiana*. Purdue University, West Lafayette.
- 1972 *Engineering Soils Map of Miami County, Indiana*. Purdue University, West Lafayette.
- Squier, E. G., and E. H. Davis
- 1848 *Ancient Monuments of the Mississippi Valley*. Smithsonian Contributions to Knowledge Series. Bartlett & Welford, New York.

- Stephenson, P. Ranel  
 1984 The Archaeological Resources of the Upper White River Drainage with Emphasis on the Woodland Period. *Reports of Investigation* 12. Archaeological Resources Management Service, Ball State University, Muncie.
- Stothers, David M.  
 1999 Late Woodland Models for Cultural Development in Southern Michigan. In *Retrieving Michigan's Buried Past*, edited by John R. Halsey. Bulletin 64, Cranbrook Institute of Science. Bloomfield Hills, Michigan.
- United States Department of Agriculture, Natural Resources Conservation Service  
 1999 Soil Taxonomy: A Basic System of Soil Classification for Making and Interpreting Soil Surveys. *Agriculture Handbook* 436, Washington, D.C.
- Wayne, William J.  
 1966 Ice and land. In *Natural Features of Indiana*, edited by Alton A. Lindsey, pp. 21-39. Indiana Academy of Science, Indianapolis.
- Webb, William S., and Charles E. Snow  
 1945 The Adena People. *Reports in Anthropology and Archaeology* Volume 6. University of Kentucky Press, Lexington.
- Wepler, William R.  
 1982 Final Report on the 1980-81 Mississinewa Reservoir Survey. *Reports of Investigation* 5. Archaeological Resources Management Service, Ball State University, Muncie.  
 1984 Miami Occupation of the Upper Wabash Drainage: A Preliminary Study Unit. *Reports of Investigation* 16. Archaeological Resources Management Service, Ball State University, Muncie.
- Wepler, William R., and Donald R. Cochran  
 1982 An Archaeological Survey of the Salamonie Reservoir. *Reports of Investigation* 7. Archaeological Resources Management Service, Ball State University, Muncie.  
 1983a An Archaeological Assessment of Huntington Reservoir: Identification, Prediction, Impact. *Reports of Investigation* 10. Archaeological Resources Management Service, Ball State University, Muncie.  
 1983b An Archaeological Survey of the Huntington Lake Shoreline. *Reports of Investigation* 9. Archaeological Resources Management Service, Ball State University, Muncie.
- White, Andrew A.  
 2005 Paleoindian Chronology and Technology in Northeastern Indiana. *Reports of Investigation* 501. IPFW Archaeological Survey, Indiana University-Purdue University at Fort Wayne, Fort Wayne.  
 2006 The Northeastern Indiana Paleoindian Project: 2005-2006 Season. *Reports of Investigations* 601. IPFW Archaeological Survey, Indiana University-Purdue University at Fort Wayne, Fort Wayne.
- White, Andrew A., Robert G. McCullough, and Dorothea McCullough  
 2003 Archaeological Investigations at Two Late Prehistoric Earthen Enclosures in Indiana. *Reports of Investigation* 301. IPFW Archaeological Survey, Indiana-Purdue University at Fort Wayne, Fort Wayne.

Worthington, James

1824 Survey Notes of Township 27 North, Range 4 East. General Land Office Survey Notes for Miami County, Indiana. Microfilm on file, Archaeological Resources Management Service, Ball State University, Muncie.

Zoll, Mitch, Kari Carmany, Rebecca Sick, and Kimberly Zunker

2000 Excavation at the Former Location of the Richardville/LaFontaine House, Huntington, Indiana. *Reports of Investigation* 59. Archaeological Resources Management Service, Ball State University, Muncie.

Zoll, Mitch, Donald R. Cochran, and Beth Cree

1991 Relocation of US Highway 24, Wabash/Huntington Counties, Indiana. *Reports of Investigation* 30. Archaeological Resources Management Service, Ball State University, Muncie.

## GLOSSARY OF ARCHAEOLOGICAL TERMS

### **A-horizon soil**

The upper layer of soil, nearest the surface.

### **Anthropology**

The study of humankind, with particular emphasis on its cultural and biological adaptations.

### **Archaeology**

The anthropological study of past lifeways, cultures, and cultural processes through the investigation of material remains left behind by humans.

### **Artifact**

Any portable object made, used, and/or modified by humans. Or, more generally, any evidence of human behavior. Common prehistoric artifacts found archaeologically include spear points, arrowheads, knives, chipped or broken stone debris, ground stone axes, grinding stones, mortars and pestles, awls, adzes, gouges, pottery, clothing and ornamental pins, decorative items and ornaments, scraping tools, hammerstones, bone fishhooks, stone perforators, and beads.

### **Associations**

The relationships of artifacts and features at a site, based on provenience and context.

### **Atlatl**

A spearthrower.

### **Avocational archaeologist**

A person who participates in archaeology but does not practice it as a profession. Avocational archaeologists may volunteer to work with qualified professional archaeologists, and many take courses and gain substantial experience in archaeological methods and techniques. Others may be involved in archaeology as a hobby. Generally, avocational archaeologists subscribe to a preservation ethic to protect archaeological resources and to responsibly and legally preserve and study information from sites.

### **B.P.**

Before present. By professional agreement present was established to be A.D. 1950 based on radiocarbon dating. For example, 1000 B.P. means 1000 years before A.D. 1950 or A.D. 950.

### **Castellation**

Castellations provide relief to a vessel rim or opening. This practice often results in a series of “points” around the rim and produces a squared, instead of round vessel opening.

### **Celt**

An ungrooved axe. Celts may be made of pecked and ground stone, or hammered copper. It is thought that celts appeared in Late Archaic times, and they continue to occur through later prehistory.

**Ceramics**

Pottery vessels or potsherds.

**Chert**

Stone of microscopic or small quartz particles used for the making of stone tools. Some types of chert include flint, agate, and jasper.

**Chiefdom**

A non-egalitarian hierarchial social organization with a fixed and permanent role for a chief/leader.

**Collared**

A thickened area present below the rim and above the neck on a clay pottery vessel.

**Complicated stamped**

Decorations of curvilinear or rectilinear design on a paddle stamped into a clay vessel.

**Context**

The position of an artifact or feature in its soil matrix, horizontal, and vertical location, and its relationship with other artifacts and features, related to the behavioral activities which placed it there.

**Cord-impressed**

Impression into a clay vessel surface before firing by a stick wrapped with cord, or cord on the edge of a paddle.

**Cordmarked**

Cordage impressions on a pottery vessel as a result of stamping with a cord-wrapped paddle.

**Core**

A stone which exhibits one or more flake scars, showing that it has been used as a raw material for flintknapping.

**CRM**

Cultural resource management. The protection, preservation, and recovery of information from archaeological sites, under federal and state laws. Universities and private archaeological companies often are hired to conduct CRM archaeology mandated under federal or state statutes.

**Culture**

A system of shared, learned, symbolic human behavior for adaptation to our natural and social environment. Culture may be thought of as a system composed of interrelated parts or subsystems, where a change in one part affects or influences the other parts. Subsystems interrelated with culture include technology, communication (and language), demography, psychology, economics, sociological organization, beliefs and values, subsistence, settlement, environment, etc.



**Excavation**

The systematic recovery of archaeological deposits through the removal and screening of soil. These can be either test excavations or large-scale data recovery excavations.

**Fabric-impressed**

Impressions of woven fabric in the surface of a pottery vessel.

**Feature**

Non-portable evidence of past human behavior, activity, and technology found on or in the ground. Prehistoric features commonly include fire pits and hearths, burned earth and clay, trash and garbage pits, post molds, evidence of house floors or basins, storage pits, clusters of artifacts (e.g., chipped and broken stones, caches of projectile points, ceramics or pottery sherds), human and animal burials, clusters of animal bone, earthworks (such as mounds and circular enclosures), petroglyphs and pictographs, and middens.

**Flake**

A byproduct of flintknapping, toolmaking, use, or other human activities, resulting in a fragment of stone detached from a parent stone. Often, a flake has evidence of purposeful removal, including a bulb of percussion, ripple marks, a striking platform, etc.

**Gorget**

Decorative object worn on the chest.

**Grog tempered**

Ceramics tempered with fragments of crushed pottery.

**Lithics**

Stones used or modified for human activities such as the manufacture of prehistoric tools, cooking, hunting, etc.

**Microtools**

Small tools predominately of stone manufactured and used to perform certain tasks.

**Midden**

Cultural refuse or deposition built up at a site.

**Multicomponent**

An archaeological site with occupations from more than one culture or time period.

**Petroglyphs**

Naturalistic or symbolic representations or depictions carved into stone.

**Pictographs**

Pictures or drawings painted on rocks, cave walls, stone outcrops, or rockshelters.

**Prehistory**

Human activities, events, and occupations before written records. In North America, this primarily includes Native American prehistoric cultures, but does not imply that these cultures did not have long, rich, and varied cultural and oral histories and traditions.

**Protohistory**

Protohistoric cultures can be defined as those prehistoric groups developing or continuing directly into early recorded history, some associated with early historic artifacts.

**Provenience**

The horizontal and vertical location of an artifact at a site.

**Red Ochre**

Late Archaic-Early Woodland culture with burial practices, usually in mounds, involving the use or placement of red ochre (a red hematite pigment).

**Shell-tempered**

Ceramics (pottery) tempered with fragments of crushed shell.

**Site**

The presence or occurrence of one or more artifacts or features indicates an archaeological site. An archaeological site is an instance of past human behavior or activity, where humans conducted some activity and left evidence of it behind, on or in the ground. Some common prehistoric site types include artifact caches, villages and camps, cemeteries, burials, workshops (e.g., stone debris from flintknapping activities), quarries, and earthworks (mounds, embankments, enclosures, fortifications, etc.).

**Stratigraphy**

Horizons, strata, or layers of soil deposited at a location, where the deepest strata were deposited the earliest, and the more recent layers deposited higher in the stratigraphic sequence.

**Survey**

The systematic discovery, recovery, and recording of archaeological information such as site locations, artifacts, and features by visually inspecting the surface of the ground if the soil is visible. Or, the use of shovel probes, cores, and/or augers near the surface, if surface visibility is restricted or poor. Termed Phase I in CRM investigations.

**Test excavation**

Systematic excavation of a representative portion or percentage of a site to evaluate and determine its nature and extent, what information is present, whether there are intact or in situ deposits present, and the degree of disturbance to the site, often to determine whether it is eligible for the National Register of Historic Places. Termed Phase II in CRM.

**Wyandotte**

A type of dark blue-gray chert found in southern Indiana.

For those with access to the Internet, the following sites also provide opportunities to access definitions for additional archaeological terms:

<http://saa.org/public/resources/glossary.html>

<http://www.nps.gov/archive/efmo/parks/glossary.htm>

## PREHISTORIC INDIANS OF INDIANA

Note- The word prehistory is a technical term used by archaeologists to indicate information about cultures before written records were kept - - in North America at first by Europeans and people of Old World descent - - in that area. It does not imply by any means the cultures described did not have long, rich, and varied cultural and oral histories and traditions. All of the cultures certainly did.

### **Paleoindians:**

Paleoindians are the first known people who lived in the Americas, including Indiana. They lived here during the last stages of the last glacial advance, or ice age, and the early part of a changing environment and climate that began to look like the one we now have in modern times. These people occupied the area now known as Indiana some 12,000 years ago, and lasted until about 10,000 years ago.

These early peoples probably lived in small groups of related individuals who moved around a lot, hunting large game animals, including some now extinct, such as the Mastodon, a large elephant-like creature. They also relied upon the gathering of wild plants to eat for their survival. Their population was very low.

The Paleoindians had very well-made stone tools, made out of a type of stone archaeologists call chert, which is a fine-grained rock that breaks a little like glass when hit by hard materials like another rock or a piece of deer antler. The tools they made by chipping, flintknapping, and flaking included long spearpoints, cutting and scraping implements, and engraving items. Some of their spear and piercing tools are called Clovis, Cumberland, Quad, Plainview, Hi-Lo, and Agate Basin points.

Evidence of these peoples is often found in Indiana on land near water sources like major rivers and springs, and where chert is found. Little is known about the Paleoindians since they moved around a lot and did not occupy any one place for a very long time. Therefore, they did not leave behind much evidence of their lives in any one place.

### **Archaic Indians:**

American Indians known as the Archaic peoples lived here for a long time: some 6-7,000 years. Although these people did change over time, increasing in population and using new tool types and food preparation techniques, they did share certain general characteristics. These included new types of spear points and knives, with various types of notches and stems for hafting to wooden handles and shafts. Some of the projectile point types of the Archaic Period are called Kirk, Thebes, MacCorkle, LeCroy, Faulkner, Godar, Karnak, Matanzas, Brewerton, Riverton, and Terminal Archaic Barbed points.

They also used ground stone tools such as stone axes, woodworking tools, and grinding stones. The grinding stones were used to pound, crush, and grind wild nuts, berries, seeds, and other plant foods. They were hunters and gatherers of wild plants and animals, and moved around in

their natural environments by season, often scheduling their movements to coincide with the appearance of foods like nuts, fish, deer, and wild seeds. Over time, they became very selective in what kind of resource they were pursuing.

During the Archaic Period, the spearthrower was used. This consisted of a shaft with a handle, weighted for balance with a ground and smoothed stone, and a hook on the end. A spear was fitted onto the hook, and was thrown with the spearthrower shaft.

Towards the end of the Archaic, more evidence of mortuary activities is found, including human burials with a red pigment coloring remains or grave goods. Burial mounds appear. During the Archaic, the cultures became more different from one another, and more types of artifacts were used. Their settlements became more permanent. One type of settlement was along large rivers, where they discarded large amounts of mussel shells. These sites are called shell middens or "mounds," although they are not really constructed, burial mounds. The general Archaic period ended at about 1,500 B.C., although some Terminal Archaic peoples lived until 700 B.C.

### **Woodland Peoples:**

During the Woodland Period, a number of new cultural characteristics appear. A notable event was the appearance and use of ceramics and pottery vessels. Another significant occurrence was the use and increase of horticulture. A remarkable feature of some Woodland sites is earthen mounds and earthworks, such as embankments. The Woodland peoples persisted for over 1,500 years in Indiana.

During the early portion of the Woodland Period, the pottery was thick and heavy. One early Woodland culture called the Adena people had elaborate mortuary rituals, including log tombs beneath earthen mounds. Projectile points during this time included Adena, Kramer, Dickson, and Gary Contracting Stemmed types.

A little later in time, in the Middle Woodland, there were also elaborate burial rituals, but also long-range trade of exotic goods like mica, marine shells, copper, obsidian, copper axes, drilled wolf and bear teeth, and other goods from region to region throughout the Eastern Woodlands area of North America. Some of these groups were called Hopewell peoples. Their ceramics had all kinds of incised and stamped decorations. During this time, the Woodland Indians were likely organized into groups we might recognize as what we today call tribes. Projectile points from the Middle Woodland include Snyders, Lowe Flared Base, Steuben, Chesser, and Baker's Creek.

The latter part of the Woodland Period is called Late Woodland. In Late Woodland, two important events occur. One is the first appearance of agriculture; that is, intensive cultivation and modification of crops such as corn and squash. Another important occurrence is the appearance of the bow and arrow. Prior to this time, most of the chipped stone tools were either spearheads, knives, engraving tools, or scrapers. In Late Woodland, however, small, triangular points occur which are true arrowheads. One type of these arrowheads is called Madison. Other point types are termed Jack's Reef Pentagonal and Raccoon Notched. Settlement during the Late

Woodland time changed from the earlier more permanent and nucleated villages to a pattern of smaller sites dispersed more over the landscape. In some regions of the state, Woodland groups may have persisted almost until historic times, although in general, the Woodland Period ends at 1,000 A.D.

### **Mississippian Period:**

The Mississippian peoples in Indiana lived in some cases almost until contact with Early European explorers, missionaries, soldiers, and traders. They lived from about 1,000 A.D. until possibly as late as 1650 A.D. A noticeable change during this period is the nucleation of some peoples into large settlements akin to "towns," such as at the Angel Mounds site near Evansville, Indiana. These towns had large public areas such as plazas and platform mounds--like truncated or flat-topped pyramids--where influential or important public individuals lived or conducted rituals. Thus, there was social stratification and ranking of individuals in Mississippian societies. There were probably chiefs and religious leaders. The towns were supported by the harvesting of large agricultural fields growing corn, beans, and squash. People living in sites such as these are termed Middle Mississippian.

Notable artifacts indicating Mississippian settlements include large, chipped stone hoes, and pottery bowls and jars tempered with crushed shell. Straps, loops, and handles for these containers characterize this time period as well. Stone tools include point types known as Madison, Nodena, and Cahokia, and other implements such as mortars, pestles, pendants, beads, anvils, abraders, and other items.

Another less elaborate type of Mississippian society called Upper Mississippian was present in the state, with people living in hamlets and villages. Many of these people lived in northern and southeastern Indiana. They also grew and harvested maize, beans, and squash. One group to the southeast was called Fort Ancient, and lots of shell-tempered vessels with straps are found at these sites. In northern Indiana, incised shell-tempered pottery fragments are found on Upper Mississippian sites that are often located near the beds or former beds of lakes.