EARLY PEOPLES OF INDIANA

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Indiana Department of Natural Resources

Division of Historic Preservation
and Archaeology (DHPA)

James R. Jones III, Ph.D.
and Amy L. Johnson

Revised 2024

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Indiana Department of Natural Resources
Daniel W. Bortner, Director and State Historic Preservation Officer

Division of Historic Preservation and Archaeology (DHPA)
Beth K. McCord, Director and Deputy State Historic Preservation Officer

DHPA Archaeology Staff
Amy L. Johnson, State Archaeologist
Cathy L. Draeger-Williams
Melody K. Pope, Ph.D.
Wade T. Tharp

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James R. Jones III, Ph.D.
Amy L. Johnson

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DNR
Indiana Department
of Natural Resources

For further information contact:

IDNR, Division of Historic Preservation and Archaeology
402 W. Washington Street, Room W274
Indianapolis, Indiana 46204-2739

Phone: 317-232-1646
Email: dhpa@dnr.IN.gov

on.IN.gov/DHPA
www.facebook.com/INdhpa

ABOUT the AUTHORS

JAMES R. JONES III, Ph.D.

Dr. Jones (b. 1949, d. 2023) was with the DHPA from 1987 to August 2014. He served as Indiana State Archaeologist from 1991 to 2014. Jones received his B.A. in Anthropology and English from the University of New Mexico, and his M.A. and Ph.D. in Anthropology from Indiana University. Dr. Jones had substantial experience in precontact and historical archaeology, and his research interests included historical cultures in Indiana.

AMY L. JOHNSON

Ms. Johnson, State Archaeologist, Archaeology Outreach Coordinator and Team Leader for Archaeology, has worked for the Division since 1991. She holds a B.S. and M.A., both Anthropology, from Ball State University. Her main research interests are precontact archaeology (specifically the Adena and Hopewell periods), historic cemeteries, and public outreach regarding archaeological resources and cultural resources laws. Ms. Johnson is Indiana's state network coordinator for the Public Education Committee of the Society for American Archaeology.

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INTRODUCTION

This document was first published by the Division of Historic Preservation and Archaeology (DHPA) in 1999, revised in 2003, and updated and revised again in 2008, 2012, 2016 and 2024. Co-author Dr. James R. Jones III passed away in 2023, and therefore, the revisions reflected in this edition were made by Amy Johnson. This is our most requested archaeology outreach product, and much has been discovered, and learned, since the original. This document is designed to provide an introduction to the rich, varied, and complex nature of the indigenous cultures who once inhabited Indiana, as well as early historic peoples, to inform the reader about the science of archaeology and relate its importance and how and why it is practiced in our state. We hope that this introduction will help further interest in our state's early heritage, and create a desire to inquire in greater depth into archaeology.

The cultures of past people who lived in the area that was to become this state are fascinating in their complexity, achievements, and contributions to Indiana's heritage and history, not to mention cultural and scientific studies of the past. We hope that a better understanding and appreciation of these cultures and their contributions (which are still with us today) will be gained through reading this publication. It is also hoped that some readers will be stimulated enough to pursue further studies of these groups, or even to pursue careers in, and contribute to, the study of the past.

In telling the story of Indiana's past, archaeologists use technical terms at times. Such words and terms are placed in bold in the text, and a glossary is provided for those unfamiliar with the terminology.

IN MEMORIAM

This edition of Early Peoples of Indiana
is dedicated to the memory of

Dr. James R. Jones III

who passed away in August 2023.

OVERVIEW of INDIANA'S PRECONTACT PERIOD

Below is a concise description resulting from archaeological study of the rich **precontact** period, as well as protohistoric and historic periods of Indiana. The term precontact is used by archaeologists to mean human activities, events, and occupations before contact between native people and Euroamericans. The precontact Native Americans had long, rich, and varied cultural and oral histories and traditions. **Protohistory** refers to the transitional time from late precontact period to the time of early contact with Euroamerican cultures, oral histories, and written records. In such a short format, this account is not comprehensive, but it is intended to provide a general, basic background for learning about the **archaeology** (a branch of **anthropology**) of precontact and historic cultures within the state. As our view of history changes, and as new information is brought to light, the picture of our Hoosier heritage will become more complete. Only by understanding our past can we hope to understand ourselves and our rich heritage and appreciate the contributions of the past to our present lives. An understanding of the past helps us to appreciate our archaeological and cultural resources and what they can tell us, leading us to acknowledge that the preservation of these irreplaceable resources for future generations is not only extremely important, but necessary.

PRECONTACT PERIOD of INDIANA

As currently known, the precontact period of Indiana ranges from ca. 10,000 BC to approximately AD 1650 when peoples of European descent began to keep historical accounts of the area. Precontact cultures in Indiana follow the same general cultural sequence, and display similar cultural traits, as those found in the Eastern Woodlands area of the United States. However, given Indiana's location among different Great Lakes-riverine cultural areas, and its geographic and environmental setting bordering the Southeast and the upper Great Lakes area, one would expect, and indeed does find, a number of cultures and historic contexts unique to the state. Some of the latter possess a combination of characteristics of cultures from nearby cultural areas and of similar time frames, while others are unique in the region and beyond.

Paleoindians (ca. 10,000 - 7500 BC)

Based upon current evidence, Paleoindians are thought to be the earliest Native Americans who populated the New World (including the area now known as Indiana) during the end of the last glaciation of the Ice Age. Thus, their adaptations were to cooler and changing climates with different vegetation than today. A study indicates that, given their large territorial ranges and low population, Paleoindians were specialized large-game hunters, although they did also take small game (Waguespack and Surovell 2003:348). Most likely, they were small bands of hunting, gathering, foraging individuals who brought with them a sophisticated tool kit technology for killing and dressing large game, such as caribou, and including some species which are now extinct.

Paleoindian projectile points are lanceolate, and many are consistent or similar in form throughout the Americas, and often are ground at the base for hafting purposes. Their tools are well made, out of good quality **chert** raw materials, and for the most part, exhibit fine workmanship. Common projectile point types found in Indiana include Clovis, Gainey, Hi-Lo, Agate Basin, Cumberland, Quad, Plainview, and, in late Paleoindian times, Dalton (Figure 1). Paleoindian points are present in nearly every county in Indiana (see Tankersley et al. 1990). Other tools include scrapers and long blades.

FIGURE 1

Paleoindian projectile points (courtesy of AAL/BSU).

The Paleoindian occupations in Indiana were of low population density, and often **sites** are short-term, specialized activity areas found near large streams and other major water sources. Often, only surface finds of a few scattered **lithics** are present. Paleoindian sites are also found near chert sources.

An example of a substantial Paleoindian site in Indiana is the Alton site, a **multicomponent** occupation of some time and intensity on a terrace of the Ohio River, near a **Wyandotte** chert source, and yielding many Paleoindian points and other chert tools and manufacturing debris (Kellar 1958:32; Smith 1984:35-38; Tomak 1980:84-90, 1994:117-129).

A study of Paleoindian occupations in the Kankakee area of Indiana notes that Paleoindian chert type usage reflects their territorial movement, particularly distances of source of raw material to discard sites of their stone tools (White 2007:141). From this kind of study, White states: "The data are clearly consistent with a higher mobility during Early Paleoindian times" (2007:143). His study found that later Hi-Lo points were found in a smaller range than that of the Early Paleoindian and Agate Basin groups (2007:143).

Early Archaic (ca. 8000 - 6000 BC)

Early Archaic sites in Indiana are found in most environmental settings, and in much larger numbers than in earlier times. This is due to population increase and because the Early Archaic time period was a time of environmental and climatic change and diversification, becoming more similar to the environmental situation we are familiar with today. Early Archaic peoples were using resources in most of the environmental settings.

Still, Early Archaic peoples were nomadic hunter-gatherers, seasonally exploiting the resources in their environment.

Technologically, there is an increase in the types and variety of Early Archaic tools. The appearance of new hafting techniques is related to the new resources being exploited and the use of a spear thrower or **atlatl**. Hafting techniques include notching and bifurcated bases of spear points and knives. Processing of wild floral resources involved the use of grinding and pitted stones. Projectile point types associated with the Early Archaic include Thebes, St. Charles, Big Sandy Side-Notched, Kirk, MacCorkle, St. Albans, LeCroy, and Kanawha (Figure 2).

FIGURE 2

Early Archaic projectile points (right, courtesy of AAL/BSU).

Studies of raw material types for Thebes and Kirk groups indicate higher quality chert types for Thebes and medium-quality chert types for Kirk (Cantin 1993:1-2). Based upon the raw material studies, Cantin proposed "that Thebes home ranges may have been as much as one order of (drainage) magnitude greater than those of Kirk-users" (1993:3).

A notable Early Archaic site is the Swan's Landing site (12HR304), a tool manufacturing and habitation site (Smith 1986) that has been damaged by looting and river flooding/erosion. Extensive investigations at another archaeological site, 12HR520, revealed a substantial Kirk component and lithic workshop (Stafford and Cantin 2009). This site may be viewed as an early Kirk stone tool factory. At least three Early Archaic ceremonial/mortuary sites are recorded in the state, and two of these sites had cremations and evidence of rituals involving the use of red ochre (Cochran 1997; Tomak 1991). Some research indicates Early Archaic dates possibly extending prior to 8000 BC (Tomak 2016:14-15).

Middle Archaic (ca. 6000 - 3500 BC)

The Middle Archaic is not well-defined or understood in Indiana. This cultural period is associated with a climatic warming trend, and some tools appear which continue in manufacture and use into the Late Archaic. Side notched points are present, and diagnostic projectile points include Stanley Stemmed, Faulkner-Raddatz, Godar, Karnak, and Matanzas (Figure 3). The latter two point types, for example, continue into Late Archaic times.

FIGURE 3

Middle Archaic points (left, courtesy of AAL/ BSU), and Middle Archaic Godar point (right).

Many ground stone tools were used and appear during this time period. Grooved axes and spear thrower weights occur. Middle Archaic settlements appear to have lasted longer, indicating increased sedentism, and occur along major drainages. In a study of Late Archaic in southern Indiana, Stafford and Cantin note that Middle Archaic populations express more mobility than the subsequent Late Archaic populations in the area (2005:44). More evidence of mortuary activities is apparent. Harvesting of resources such as nuts, and possible starchy seed use, are also characteristics.

An example of a Middle to Late Archaic site in Indiana is the Bluegrass site, with evidence of human and dog burials, trash pits, and hearths (Anslinger 1988).

Late Archaic (ca. 4000 - 1500 BC)

There is no clear transition from Middle to Late Archaic, and Late Archaic appears to be a changing continuation of Middle Archaic. Late Archaic peoples appear to show distinguishable cultural or ethnic differentiation or boundaries, from drainage to drainage. These groups show a detailed knowledge of the environment, and likely scheduled their activities according to seasonal changes and resources. Definite evidence of the use of weedy plants such as goosefoot and lambsquarters is known. Late Archaic cultures or groups include French Lick, Bluegrass, Glacial Kame, Early **Red Ochre**, and Maple Creek.

Projectile point types for this time period include Matanzas, Brewerton, Karnak, McWhinney and other stemmed projectile points (Figure 4). Generally, these points are manufactured from local, and lower quality cherts, and there appears to be less concern for quality in craftsmanship or workmanship of projectile point technology.

The number of tool types increases greatly in the Late Archaic, including many varieties of woodworking tools and tools for food processing. Tool types include manos, mortars, grinding slabs, nutting stones, and bone and antler tools (e.g., fishhooks, awls, pins). Ornaments such as beads made of shell, pearls, and copper, pendants, **gorgets**, and hairpins, are also present.

Many site types occur, including shell middens or "mounds," fishing sites, large semi-permanent villages, and cemeteries. Mounds and ritualistic treatment of burials are present in the latter stages of Late Archaic.

An example of a Late Archaic site in Indiana is the McCain site, which yielded information regarding subsistence, settlement, and burials. A shell midden was present at the site (Miller 1941). The McKinley site (e.g., Little 1970) is an example of a large Late Archaic village, now mostly destroyed, from which **avocational archaeologists** recovered substantial information.

FIGURE 4

Late Archaic projectile points (left, courtesy of AAL/BSU), and a Late Archaic Lamoka point (above).

Terminal Late Archaic (ca. 1500 - 700 BC)

This cultural period in Indiana is primarily represented by the Riverton culture, Terminal Archaic barbed projectile points, and transitional Late Archaic-Early Woodland sites (e.g., sites with Turkey-tail points). Characteristics of the Riverton Culture include small projectile points and **microtools** often made of local cherts–including glacial and pebble cherts–termed Riverton and

Merom points. The Riverton occupations may be described as riverine, as sites are found along major rivers and streams such as the Lower Wabash, Ohio, and the White River drainages.

Terminal Archaic barbed points have rather long stems with tangs or barbs on the point. Turkey-tail points and evidence of red ochre ritual and mortuary activities (with copper beads and implements) are also found in the Terminal Late Archaic (Figure 5).

FIGURE 5

Terminal Late Archaic projectile point examples (courtesy of AAL/BSU).

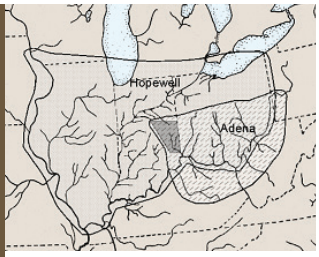
A well-known Riverton site with pit features, midden, large amounts of lithic materials, and house structures–revealed by linear patterns of post molds–is the Wint site, in southeastern Indiana (Anslinger 1986:63-157). Site 12D563, a Riverton site discovered in Dearborn County in 2003, greatly expanded the range of known Riverton sites in Indiana (Jeffrey A. Plunkett, personal communication 2012). This site yielded large numbers of features, Riverton and other earlier Late Archaic points, and some apparently ceremonial burials were present. Investigations at 12T1155, in Tippecanoe County, reveal a site with features and Merom Cluster points in context, indicating a Riverton Culture occupation on the Middle Wabash River (Smith et al. 2012).

Early Woodland (ca. 1000 - 200 BC)

For archaeologists, the somewhat arbitrary differentiation of Early Woodland from Late Archaic groups is based on the appearance of pottery or **ceramics**. Mounds continue to be constructed, with elaboration of ritual and mortuary activity. Mortuary complexes with log tombs and red ochre are found. There is evidence of selection of plants, including gourds and sunflowers, and horticulture. Large bladed projectile points (Figure 6) are diagnostic, including Adena, Kramer, Dickson, Motley, and Gary Contracting stemmed points.

Cultural groups or phases include Adena (Figure 6) and Crab Orchard. Adena sites in Indiana include burial mounds with log tombs and grave goods. The Crab Orchard Phase,

FIGURE 6



General distribution of Adena and Hopewell sites (Cochran and McCord 2001) and some Early Woodland points (right, courtesy of AAL/BSU).

in southwestern Indiana, is characterized by **fabric-impressed ceramics** (see Ruby 1994). An example of an Early Woodland site is the Nowlin Mound (Black 1936; Kellar 1993) with log tombs.

Middle Woodland (ca. 200 BC - AD 600)

Although there is no exact cut off point between Early and Middle Woodland, the latter demonstrates many new and complex characteristics which distinguish it as a distinct cultural period. The Hopewell manifestation of Middle Woodland has been described as a "florescence" of cultural activities, and certainly a complex of inter-regionally related cultural groups with mounds and earthworks complexes, ceremonial and mortuary sites, and hierarchical social organization (indicating tribal groups).

Diagnostic projectile points include Snyders, Chesser, Baker's Creek, Lowe, and Steuben (Figure 7). Some of these points extend into the early portion of Late Woodland as well. Ceramic sherds dating to this period include Havanna, Scioto, Late Crab Orchard, Mann, Allison-Lamotte, and others (Figure 7).

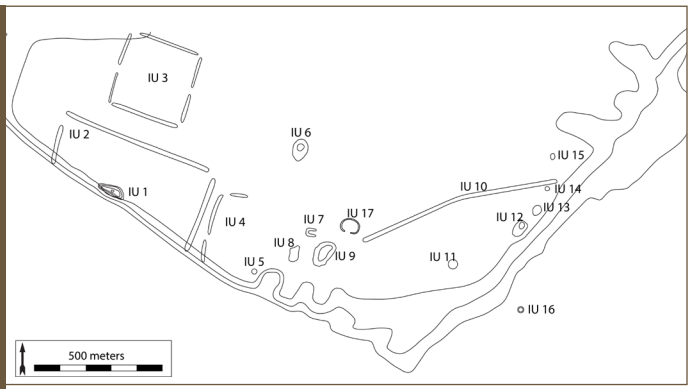
FIGURE 7

Snyders projectile points (left). "Simple Stamped" ceramic vessel from the Mann site of southwestern Indiana (courtesy of The Indiana State Museum and Historic Sites, Charles Lacer Jr. Collection).

Other diagnostic tools include blades and blade **cores**, clay figurines, copper **celts**, panpipes, and platform pipes. Interregional trade networks exchanged galena, copper, mica, shell, and obsidian raw materials and artifacts. In Indiana, some of these sites have astronomical alignments within and between mound complexes (e.g., Cochran 1992; McCord and Cochran 2014:146-150). Mound complexes, such as these, are examples of public and monumental architecture (Cochran and McCord 2019). Horticulture was practiced, and plants such as goosefoot, marshelder, and sunflower were harvested. Cultural and regional expressions of Middle Woodland in Indiana include Mann, Goodall, Crab Orchard, Allison-Lamotte, Worthington phase, and New Castle phase. In 2014, McCord and Cochran redefined the New Castle phase of east central Indiana.

The Mann site, in southwestern Indiana, is an example of an elaborate earthworks and village complex with mounds and embankments (Figure 8). It is a major, unique site with exotic artifacts, including southeastern **complicated stamped** sherds (e.g., Kellar 1979; Peterson 2007a, 2007b; Ruby 1993; Strezewski and Peterson 2019). Noteworthy artifacts from the site include blades and blade cores, copper, cut mica, obsidian, quartz crystals, and clay human figurines (e.g., Greenan and Mangold 2016). This site is one of the largest and most important Middle Woodland sites in the Eastern United States. Another example of Middle Woodland sites in Indiana is the Goodall site (e.g., Mangold 2009; Quimby 1941; Schurr 1997a, 1997b) in northwestern Indiana. This site is a mound group of 22 mounds with strong evidence of interaction with the Illinois River Valley. The Archaeological Conservancy acquired the site for preservation (Gardner 2013).

FIGURE 8



Map of the various mounds and earthworks located at the Mann site (Strezewski 2020:Figure 1).

Late Woodland (ca. AD 500 - 1200)

During the Late Woodland period, a number of new cultural characteristics arise. The bow and arrow appears, with the first arrowheads: small triangular chipped stone projectile points with names such as Madison. Notched points such as Raccoon Side-Notched and Jack's Reef Corner-Notched points are also present (Figure 9). Commissary knives, large triangular knives for cutting purposes, are found. Other artifacts present include hoes for agricultural purposes. Full-scale, intensive agriculture first appears, with maize, beans, and squash being the major foodstuffs being cultivated.

FIGURE 9

Late Woodland points (courtesy of AAL/BSU).

In very general terms, Late Woodland sites continue in time until AD 1000-1200 in areas when Mississippian culture arises, and may continue to as late as ca. AD 1650 in some areas, particularly in the northeastern part of the state.

Late Woodland sites are generally smaller and more dispersed than the preceding Middle Woodland and subsequent Mississippian groups. Mounds are present, but are generally smaller and few appear in large complexes. Large villages are fewer in number.

Ceramics from Late Woodland include thinner, **cordmarked** vessels, some with **collared** or thickened rims, such as Albee and Newtown pottery containers, for example (Figure 10). Late Woodland cultural groups or phases include Yankeetown, Newtown, Allison-Lamotte, and Albee. As mentioned above, in northeastern Indiana, Late Woodland cultural occupations apparently continued until just before contact with historically recorded cultures.

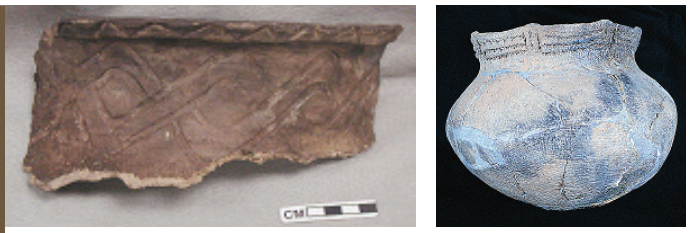
FIGURE 10

An Albee vessel (photo by John Maxwell, DNR; artifact courtesy of MMWC/GBL, now IUMAA).

The Albee Phase or complex is found in northwestern, central, and southwestern (McCord 2005:205) Indiana, and is recognized by the presence of collared or wedge-shaped thickened rims with decoration on the neck, peak of the wedge, or interior portion of the lip. Other Late Woodland manifestations in Indiana include Newtown in the southeastern portion of the state, and Allison-Lamotte, which extends from Middle-Late Woodland. The Yankeetown Phase (see Redmond 1986) is found in extreme southwestern Indiana and exhibits diagnostic incised ceramics, often **grog tempered**. Yankeetown occupations pose interesting questions about cultural connections with the Angel Phase (see below), and connections with Cahokia in Illinois (see Alt et al. 2011:12-13). Another occupation, termed the Oliver Phase (Figure 11), refers to a late precontact "emerging Mississippian" culture that inhabited the White River drainages in central and south-central Indiana (discussed below). Many Yankeetown and Oliver Phase sites have been preserved or investigated under federal laws, state law, or with Historic Preservation Fund grants (e.g., Alt 2010; Garniewicz et al. 2009; McCullough 2005; Trader et al. 2020).

An example of a Late Woodland site in Indiana is the Hesher site, an Albee cemetery with human and dog burials (Cochran 1988). The Van Nuys site is an occupation site related to the Hesher site and another site called the Commissary site (Burkett and Cochran 1984; Burkett and Hicks 1986; Cochran 1988). Another instance of a habitation site is the Morrell-Sheets site (McCord and Cochran 1994). A portion of this site was excavated as part of a highway project, while the rest was avoided and preserved for the future.

FIGURE 11



Oliver Phase sherd (left, McCullough 1991) and vessel (right, photo by John Maxwell, DNR; vessel courtesy of MMWC/GBL, now IUMAA).

Mississippian (ca. AD 1000 - 1650)

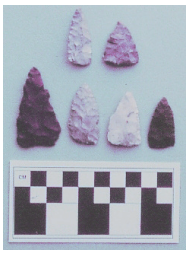
Mississippian peoples include some transitional Late Woodland-Mississippian or emerging Mississippian cultural manifestations as well as various Mississippian groups. Toward the end of the Late Woodland time frame, unique and transitional cultural groups occur, including the Oliver and Yankeetown phases. Oliver Phase (e.g., Arnold et al. 2007; Graham and McCullough 2009; McCullough 1991, 2005; McCullough and Wright 1996, 1997; Redmond and McCullough 1993; White et al. 2003) occupations are best known as nucleated villages, with some ceramics having thickened rims or collars with **cord-impressed** designs, and others with evidence of Fort Ancient characteristics (see below). These "transitional" cultures display both Late Woodland and Mississippian traits.

So-called "classic" Mississippian archaeological sites have characteristics such as platform (truncated) mounds, public and ceremonial architecture, plazas, nucleated villages/towns with nearby hamlets and farmsteads, palisaded settlements, cemeteries, intensive agriculture (maize, beans, and squash), and stratified or hierarchical (non-egalitarian) **chiefdom** levels of social organization. The best known site with such characteristics is the Angel site (see below) in southwestern Indiana.

Artifacts characteristic or diagnostic of Mississippian occupations in the state include **shell-tempered** pottery, pottery with lugs and handles, salt pans, hoes, ladles, effigies, triangular projectile points (Figure 12), and Nodena and Cahokia point forms.

Mississippian cultural occupations in Indiana may be divided into Middle Mississippian and Upper Mississippian groups. Middle Mississippian groups include the Angel Phase (ca. AD 1050-1400), the Caborn-Welborn Phase (ca. AD 1400-1700), and Vincennes groups in southwestern Indiana (Figure 13). The Angel Phase consists of a fortified town and temple mound complex

FIGURE 12



A complete Mississippian hoe made from Dover chert (left, Munson 2008a); triangular projectile points (right).

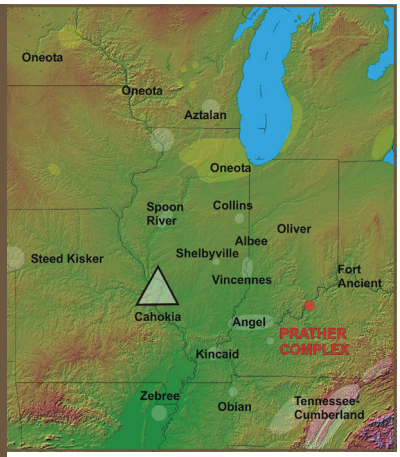
with connections to nearby villages and hamlets, and classic (see above) Middle Mississippian characteristics (see Black 1967). The best known Middle Mississippian site in Indiana is the National Historic Landmark Angel site, in Vanderburgh County (Baumann et al. 2011; Black 1967; Marshall 2011; Peterson 2010). The site was a town with flat-topped mounds and a large plaza, and was tied to nearby hamlets and farming communities. Recent research has identified solar, stellar, and lunar alignments at Angel (see Romain and Herrmann 2022).

The Caborn-Welborn Phase is a later Mississippian expression with smaller, dispersed villages and hamlets (see Munson 1995). Caborn-Welborn yields some evidence of indirect contact with Euroamerican cultures and can be characterized as protohistoric. Researchers have not been able to connect this culture with historically recorded ones in Indiana.

Another Middle Mississippian manifestation, found in southwestern Indiana and in nearby Illinois, is the less well-known Vincennes Culture or phase (Barth 1982; Wells 2008; Winters 1967). Wells dates the Vincennes phase as "between AD 1050 to about 1450-1500" (2008:vii). In 2008, Wells described the phase as follows:

> What archaeologists call the Vincennes phase was a Mississippian sociocultural order cobbled together from the products of negotiated identities between three broad groups: (1) what was likely a very small but unknown number of Cahokian-inspired Mississippian missionaries; (2) transculturated locals who chose and selected what aspects of Mississippian culture they would assume; and (3) the Late Woodland and Upper Mississippian inhabitants of the middle Wabash drainage and neighboring regions [2008:340].

Upper Mississippian groups in Indiana are generally found in the northern, central, and southeastern parts of the state and demonstrate less "classic" characteristics of Mississippian cultures. Upper Mississippian cultural groups in Indiana include Fisher and Huber in northwestern Indiana, and Fort Ancient in southeastern Indiana. Fisher and the later Huber (e.g., Faulkner 1972:149-180) groups exploited wetland and marsh edges in prairie environments, hunted bison, were hunter-gatherers and farmers, and lived in nucleated villages (Faulkner 1972).



Mississippian and Late Woodland manifestations, ca. AD 1100 (Munson et al. 2006:7).

Fisher and Huber sites appear to be related to the Oneota complex or groups associated with the western Great Lakes and the eastern Plains (e.g., Arnold et al. 2007; Brown and Asch 1990; Faulkner 1972; Fowler and Hall 1978; Jeske 1998; McCord and Cochran 2003). Artifacts associated with Oneota include triangular points, and diagnostic pottery vessels with incised or trailed lines that are "globular to elliptical in shape, shell-tempered" (Harvey 1979:43). The Davidson site (Jeske 1998) is recorded as a Huber site in northwestern Indiana. In central Indiana, a local manifestation thought to be related to Oneota is the Crouch site, with many storage pits and indications of the use of wild rice (McCullough and Wright 1997:149, Appendix D:9), situated near a wetland, an environment similar to that described by Faulkner (1972; see above) for Fisher-Huber (Arnold et al. 2007:32). Other central Indiana expressions include the Taylor Village (Arnold et al. 2007:24; McCord and Cochran 2003:32-33), and the Strawtown Enclosure (Arnold et al. 2007; Graham and McCullough 2009; McCullough 2008; McCullough et al. 2004; White et al. 2003).

In the southeastern portion of the state, Fort Ancient occupations occurred. The classic 1943 work by James B. Griffin on Fort Ancient describes Fort Ancient peoples as living in nucleated farming villages, that were circular in shape and surrounded by wooden post stockade walls, along major drainages with large expanses of cultivable floodplain. Moore and Raymer (2014) provided a summary of information pertaining to Fort Ancient groups in southern Indiana. Investigations at the State Line site (12D18/33HA58) and the Guard site (12D29) in Dearborn County are providing new information on the chronology and organization of these village sites (e.g., Schulenburg and Cook 2020, 2021; Schwarz 2021a, 2021b).

FIGURE 14

Unusual incised jar rim sherd from the Prather site (left, Munson 2008b), and Caborn-Welborn sherds (Munson et al. 2004).

At least one Mississippian phase or complex which is less understood is the Prather complex (Figures 13, 14), which lies between, and may exhibit characteristics or influences of, both Angel and Fort Ancient groups (Janzen n.d.). Several researchers (e.g., Munson et al. 2006) have provided much new information regarding this complex. The Prather site, and related sites such as Newcomb and Ana Lynn, may reflect a localized Mississippian culture with minimal outside contact (Jackson 2005; Munson et al. 2006).

Protohistoric (post AD 1400)

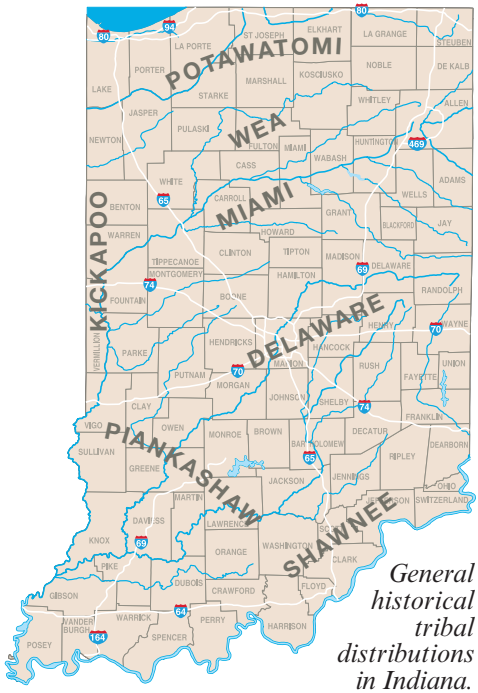
A natural question is which cultural groups arose or continued out of the late precontact occupations in Indiana? Protohistoric cultures are those thought to be ancestral to–or developing into–those cultural groups beginning to be recorded in early historic times. Protohistoric cultures can be defined as those precontact groups developing or continuing directly into early recorded history, some associated with early historic artifacts. They can be seen as transitioning into history through association with historic artifacts, appearing in historical documents, and/or associated or potentially associated with a historically documented tribe or cultural group.

Ideally, a marker of an archaeological site from protohistoric times would be one with sealed or undisturbed deposits containing both precontact and historic artifacts–demonstrating a physical connection between precontact and historic groups. In Indiana, a difficulty in connecting precontact cultures with historically recorded ones is that during the Iroquois wars in the mid-late 17th century, Native American groups were apparently displaced from the area. Thus, there appears to be a "break" between precontact and historic occupations here.

Well-known Native American groups documented in Indiana in the historical record from the late 1600s to the mid-1800s include the Miami, Wea, Piankashaw, Potawatomi, Kickapoo, Mascouten, Delaware, and Shawnee (Figure 15). Brief Winnebago and Wyandot occupations are also reported. Indiana was actually the ancestral homeland to many modern federally recognized Native American tribes that were largely removed from the state through a series of treaties. But, the question of which archaeological cultural groups are related to these tribes from historic and modern times is difficult to answer given the dramatic changes to the material culture and lifeways that European colonization created.

In general, the Miami, and two of their sub-groups or bands–the Wea and Piankashaw–are geographically associated with the Wabash River. The Potawatomi are recorded generally in extreme northern Indiana above the Kankakee River in early times, and later further south to the north side of the Wabash River. Continuing their historical trend of settlement in prairie environments, the closely associated Kickapoo and Mascouten appear in the early 18th century in northwestern Indiana, south of the Kankakee and west of the Tippecanoe rivers, where prairies

FIGURE 15



General historical tribal distributions in Indiana.

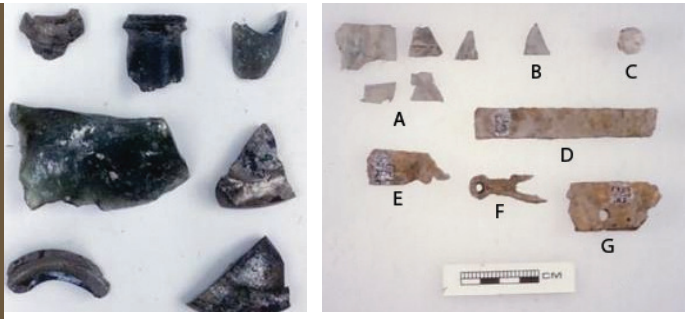
extend from Illinois into Indiana. Delaware are associated with the two forks of the White River, in the late 18th and early 19th centuries in central Indiana. For the most part, the Shawnee are associated with the drainages along the Ohio River in southern Indiana and adjacent states. For tribal distributions, see, e.g., Callender (1978a, 1978b), Callendar et al. (1978), Clifton (1978), Goddard (1978a, 1978b), Lurie (1978), Tucker (1978). These tribes, in early historical times, interacted with, and participated in trade with Euroamerican cultures, and Figure 16 depicts the Miami Chief Pacanne wearing decorative items acquired through this trade.

FIGURE 16

Sketch of Pacanne, a Miami Indian Chief from historical times (courtesy of Houghton Library, Harvard College Library. MS Eng 509.2).

Historic trade goods (Figure 17) have been documented archaeologically at sites with components of at least three defined Late Precontact-protohistoric groups–Caborn-Welborn, Fort Ancient, and Berrien (e.g., Cremin 1996; Drooker 1996; Munson 1995, 1997)–

FIGURE 17



Olive green glass bottle sherds (left) and copper alloy, lead, and iron trade good items (right, MMWC/GBL, now IUMAA) (photos by J.R. Jones III).

indicating some degree of cultural contact with European-derived cultures. However, it is more difficult to associate these groups with specific tribes documented in historical times.

Cremin (1996:408) proposes the Berrien phase of southwestern Michigan and perhaps northern Indiana as antecedent to the Potawatomi. He dates the phase from AD 1400-1600 (1996:383). O'Gorman (2007) questions the correspondence of a historically derived model of the Potawatomi with that of precontact evidence. Fort Ancient sites (Madisonville Horizon, ca. AD 1400-1450 to 1650-1750, Drooker 1997:68-69, quoted in Graham and McCullough 2009:28), in southeastern Indiana and southwestern Ohio, have been suggested as ancestral to the Shawnee (e.g., Drooker 1996; Griffin 1943). The Caborn-Welborn phase (e.g., Munson 1995, 1997; Pollack et al. 1996) in southwestern Indiana, and bordering areas of Kentucky and Illinois, is considered a protohistoric culture, but has not been associated with any known historical groups. Munson and McGill (2008:2) date the phase "from about AD 1400-1650, or somewhat later . . ." Late Precontact sites in northwestern Indiana posited as Fisher or Huber (related to Oneota) have been suggested as ancestral to the Miami or Illiniwek (e.g., Faulkner 1972:178). In evaluating a Huber-Miami connection, Brown (1990:155-159) found evidence lacking.

In short, although cultural groups date from Protohistoric times, no direct evidence of connections with historically recorded tribes have been conclusively demonstrated. This is not to say that connections cannot be demonstrated in the future for Indiana groups. Archaeological sites that are predominantly early historical Native American in our state yield different frequencies and patterns of artifacts than those that are primarily Euroamerican or those villages that were occupied by Native Americans and persons of European background (e.g., Jones 1985, 1987, 1989a, 1989b, 1992). Thus, further studies of Late Precontact and early historical Native American sites and their patterns of artifacts, ecofacts, and features may yet yield ethnic affiliations from protohistory to history. Protohistoric cultures yield to historic cultures leading to studies in archaeology called historical archaeology.

HISTORICAL ARCHAEOLOGY in INDIANA

Historical archaeology is the study of past, sometimes recent, cultures and cultural activities that are expressed in history in some way, whether oral or documentary. Generally, historical archaeologists study the artifacts, features, sites, and patterns of these cultures in relation to what is known historically about them. There are many groups, sites, and topics studied by historical archaeologists, and the topics can be studied in many ways (see Jones 1997). For example, historical archaeologists can study certain cultural or ethnic groups; scholarly or research topics; themes or topics in history and archaeology; historical or cultural periods; archaeological site types (farmsteads, home sites, cabins, canals, schoolhouses, battlefields, forts, churches, early settlements and towns, treaty grounds, etc.); and theoretical subject matter (for examples, see Jones 1997:1-3). In Indiana, archaeology has a strong connection with history, as it grew as a discipline, in early years, with individuals and groups interested in history and archaeology. For example, the Indiana Historical Society, Indiana Historical Commission, and the Indiana Historical Bureau, sponsored and fostered early archaeological investigations in Indiana (Jones and Johnson 2010). One of the interesting characteristics of historical archaeology is that historical archaeological sites are being created (and abandoned) during our lifetimes, although increased development and land use endanger these sites.

For the purposes here, we will consider some examples of historical archaeology in Indiana through types of historical archaeological sites. Further examples can be found in Jones (1997). These can include, but are not limited to: historically known Native American occupations, farmsteads, home sites, cabins, canals, schoolhouses, mills, battlefields, forts, churches, villages and camps, gardens, quarries, parks and cultural landscapes, early settlements and towns, treaty grounds, industrial sites, urban and town sites, rural sites and landscapes, transportation resources, shipwrecks, and occupations and area use by various cultural groups (and their ethnic backgrounds, occupations, societies within which they live, businesses, etc.) (Jones 1996:2-3; 1997:2).

Historical archaeological sites can sometimes be identified through historical records, but also by finding historical artifacts and features. As noted in the Division of Historic Preservation and Archaeology document "Archaeological Sites," historical archaeological features can be:

> evidence of fires and fire pits, ash and charcoal lenses and stains, trash and garbage pits and dumps, middens, postholes, house foundations and other structural remains (e.g., wells, cisterns, fencelines, ditches, canals, landscapes, embankments, mill races, dams, old trails and roads), cemeteries, human burials, and clusters of historic artifacts [Jones 1996:2].

From the same document:

> common historic artifacts found archaeologically include glass (window and container); iron and other metal items and tools; nails; bricks; European and American ceramics or china; metal utensils; clothing items such as buttons, buckles, and leather footwear; worked wood; horse equipage; gun parts; household items such as pins, scissors, and thimbles; furniture hardware; copper/brass and iron kettle fragments; beads and ornaments; farm equipment; etc. [Jones 1996:2].

Figures 17, 18, and 19 show examples of artifacts, including historic glass fragments, copper/brass and iron artifacts, and ceramic (china) sherds.

There have been a number of historical archaeological investigations of early and later Native American sites in Indiana. Some examples of these include investigations or projects associated with the Potawatomi (Secunda and Schurr 2005; Secunda et al. 2002; Schurr 1997c, 1998, 2006); Miami (Cochran 1990; Jeske 1995; Lewis 1977; Mann 1996; Rose 1979, 1981; Sherman 1996; Stillwell 1990; Swartz 1977; Wepler 1984; Zoll et al. 2000), Wea (Dobbs 1975; Jones 1984, 1985, 1987, 1989a, 1989b; Jones and Trubowitz 1987; Strezewski 2008, 2010; Strezewski et al. 2006, 2007; Strezewski and McCullough 2010; Trubowitz 1989, 1992), Kickapoo-Mascouten (Jones 1984, 1992; Jones and Trubowitz 1987; Strezewski and McCullough 2010); and Delaware (McCord 2002; Wepler 1980).

Historic glass bottle artifacts from historical archaeological survey in Fort Wayne (Andres et al. 2008:171).

Several archaeological investigations concerning early fort sites in Indiana have been undertaken. These have included the French Post Ouiatenon in Tippecanoe County (Jones 1984; Kellar 1970; Noble 1983; Strezewski and McCullough 2019; Tordoff 1983); Fort Sackville in Knox County (Tomak 1972); Fort Knox II in Knox County, a territorial fort site (Gray 1988); Fort Harrison, a War of 1812 site (Johnson 2002, 2004), the fort depicted in a historic postcard, Figure 20; and an archaeological reconnaissance investigation to locate the forts Miamis (1722) and Wayne (1794) (Andres et al. 2008).

Historic ceramic (china) sherd artifacts from historical archaeological survey in Fort Wayne (Andres et al. 2008:164).

FIGURE 20

Postcard depicting Fort Harrison War of 1812 military site (from the collection of Amy Johnson).

A Harmonist pottery kiln site in the utopian community of New Harmony, Indiana (Figure 21) has been investigated by the University of Southern Indiana (Strezewski 2011). This is a site that could be considered under the rubrics of town or urban archaeology, an early industrial site, local business, ethnicity, and religion, among others.

FIGURE 21

Photograph of 19th century pottery kiln feature in New Harmony (courtesy of Michael Strezewski, USI).

Industrial archaeological sites (e.g., Figure 22) help us better understand the early Hoosier efforts at brick and tile manufacturing, iron casting, lime burning, leather processing, and more (e.g., Ariens 2020; Bader and Maas 2013; Munson and Munson 2019). An example of a pioneer settlement and early industrial archaeological site is the saw and grain Markle Mill in Vigo County, investigated by Indiana State University (Cantin 2004; Figure 23). John McGregor (1992) designated the site as Vigo County Industrial Site No. 746 in his survey of industrial sites in west-central Indiana. Markle Mill dates from 1816, and the site includes remnants of the mill foundation, arches, walls, ramp, terrace structures, the sluice, millrace, and a dam (Cantin 2004).

FIGURE 22

Archaeologists have recorded and investigated various industrial sites, some from the early 1800s, in our state.

FIGURE 23

Photograph documenting the grain and sawmill site features at the Markle Mill in Vigo County (Cantin 2004:39).

Artifacts recovered from Cantin's investigations included cut nails, bricks, transfer printed and plain whiteware, stoneware, coarse earthenwares, glass bottle sherds, and miscellaneous iron artifacts (2004:47). In 2023, a portion of the dam was recorded and removed due to deterioration from environmental factors (Heimlich 2022). This was an effort to preserve the mill ruins and the rest of the site.

Early settlement and agriculture-related sites are hallmarks of Indiana history and historical archaeological sites. Agriculture–past and present–is an important part of Indiana history, and farmstead sites provide a wealth of information about rural Indiana life. Koeppel (n.d.) states:

> the archaeological study of rural farmsteads can answer important and interesting research questions regarding Indiana's history, the migration of ethnic groups, social change, trade and interaction, social class, and gender. . . . rural farmsteads may not be as commonplace or alike as one might think. Each one tells the unique story of a family that came to Indiana from another state or country, settled in rural locations to pursue the American Dream, and contributed to the larger regional and even international society and economy.

FIGURE 24

Ball State University archaeologists and students excavating at a historic farmstead site at Mounds State Park (courtesy of AAL/BSU).

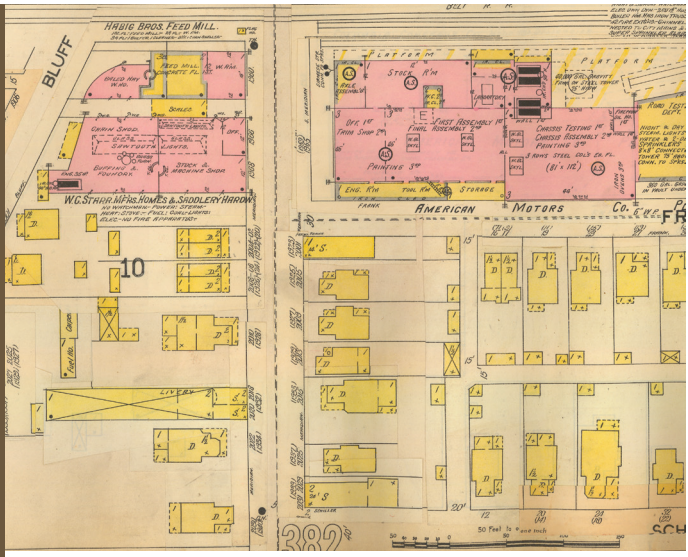
An example of historical archaeology at a historic farmstead site was Ball State University's investigations at the Bronnenberg House in Madison County (McCord 2006; Figure 24).

A Civil War site, early state fairgrounds, and park landscape is depicted in a historical document–in this case a postcard (Figure 25)–in an urban setting in Indianapolis and investigated through several historical/archival research and archaeological projects (Bamann 1997; Gaw 1992; Schneider 2005).

FIGURE 25

Historic postcard depicting a Civil War site and later log structure in a park in Indianapolis (from collection of Amy Johnson).

FIGURE 26



Portion of a Sanborn Fire Insurance map (courtesy of the Indianapolis Sanborn Map and Baist Atlas Collection at the IUPUI University Library, http://ulib.iupui.edu/digitalscholarship/collections/sanbornjp2).

Historical archaeological excavations in urban settings such as towns and cities are often aided with historical maps such as the Sanborn Fire Insurance maps. These maps (example in Figure 26) and others often depict historical use of areas such as former buildings, neighborhoods, businesses, industries, cemeteries, infrastructure, and other evidence of past occupations in cities and towns. Historical archaeology excavations in an urban setting at the J.F.D. Lanier Mansion (Figure 27)–a site beginning in the 1840s–investigated a number of features, including garden areas, foundations, cisterns, a driveway, building episodes, and other features (Wepler 1997).

Transportation-related archaeological sites include, for example, locks and other features of the Wabash and Erie Canal. Sites such as these represent accomplishments of technology and engineering. Figure 28 is a photograph of an excavation unit at the Riley Lock in Vigo County, investigated by Jeffrey A. Plunkett of the archaeology company Accidental Discoveries, LLC.

Investigations at rural schoolhouse sites offer unique archaeological opportunities (Sharkey 2020). Early locations such as these teach us about local communities and the lives of the students and teachers who were part of these important Hoosier places.

FIGURE 27

Excavations at the Lanier Mansion State Historic Site have revealed a network of cisterns, pipes, foundations and more (courtesy of IDNR/Outdoor Indiana magazine).

Research and fieldwork at various sites in the state have contributed to our understanding of African-American settlement patterns, material cultural, urban displacement, and economies (e.g., Laswell and Krieger 2002; Marshall 2019; Mullins 2011; Rotman et al. 1998). The excavations conducted under the direction of James R. Jones III in the mid-1990s in historic Ransom Place in downtown Indianapolis were the first in that neighborhood and were among the few archaeological projects focused on African- American sites in the region at that time. Later, Dr. Paul Mullins conducted many important investigations at African-American sites in Indianapolis (e.g., Mullins 2009, 2011).

These are but a few snapshots of the many types of historical archaeology sites in Indiana, all of which reveal magnitudes of information about the historical cultures and occupations of the area, writing–or with information to be written–regarding unwritten, or incompletely known history and information, and supplying supplementary and new information on Indiana's history and archaeology.

FIGURE 28

Floor of an excavation unit at the Wabash & Erie Canal Riley Lock (12VI917). The floor of the lock chamber, the mitre sill (on the left), and the remains of the gate door (center and on the right) can be seen (courtesy of Accidental Discoveries, LLC).

ARCHAEOLOGY and the EVIDENCE of ARCHAEOLOGY

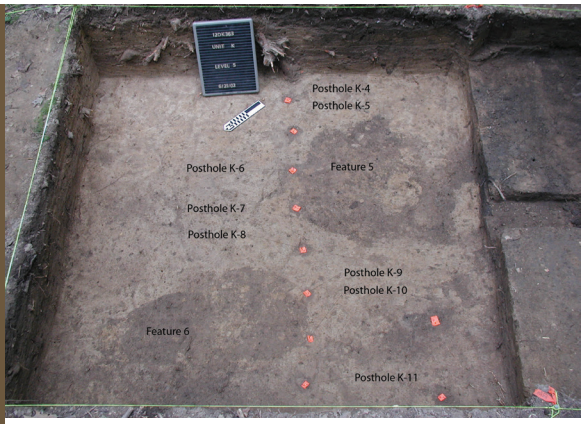
Archaeology is the study of past, recent, and sometimes living **cultures** through the analysis of the material remains they left behind. These remains include **artifacts** and **features** and the **associations** of each to the others. Counts, frequencies, and maps of these through time and space indicate patterns reflecting the unique characteristics and configurations of past peoples or cultures.

From this, you can see that the locations of features and artifacts are all important. Without the precise location, **provenience**, and **context** of the particular artifact or feature, these patterns and cultural arrangements can never be determined by the archaeologist, and the story of the people leaving these behind can never be written. If you do not know what site an artifact came from, it becomes considerably less meaningful in terms of the information it can reveal about the past.

If you are a collector of artifacts, remember that archaeological artifacts are unique and irreplaceable, and the information they hold is invaluable. Thus, it is very important to record their locations and to properly record information about the artifact, its collection, and the site it came from.

As mentioned, there are two basic types of archaeological evidence which indicate the presence of an archaeological site: artifacts and features (Figure 29). Artifacts are evidence of

FIGURE 29



Unit with archaeological features such as postholes identified (White et al. 2003:91).

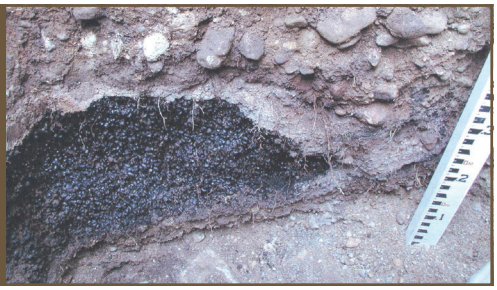
FIGURE 30

Examples of Late Precontact pottery (left) and a variety of precontact artifacts (right).

human behavior, but may be more precisely distinguished from features as any portable object made and/or used by humans. Features are defined as non-portable evidence of past human behavior, activity, and technology. Precontact artifacts and features are Native American in origin and date to a time before recorded history in Indiana, ca. 10,000 BC to perhaps as late as AD 1650-1700. Historic artifacts and features in Indiana generally date after the mid-17th century and refer to peoples of many ethnic and cultural backgrounds, including Native Americans, who lived in and populated the region which later became the state of Indiana.

Precontact artifacts include tools made of materials such as stone, bone, clay, shell, copper, and other–usually natural–raw materials. Some examples are spear points, arrowheads, knives, scrapers, **flakes**, ground stone axes, grinding stones, figurines, mortars and pestles, pottery, bone pins, awls, hammerstones, and beads (Figure 30). Types of historic artifacts can include, as mentioned earlier, glass, bricks, clothing items, household goods such as china, thimbles, pins, tools, and more.

FIGURE 31



A carbonized maize pit feature that has been partially archaeologically excavated (White et al. 2003).

Precontact features include fire pits and hearths, burned earth and clay, trash and garbage pits, post molds, evidence of house floors or basins, storage pits (Figure 31), clusters of artifacts (e.g., chipped and broken stones, ceramics or pottery sherds, caches of projectile points), human burials, animal burials, clusters of animal bone, earthworks (such as mounds and circular enclosures), **petroglyphs** and **pictographs**, and **middens**. Historical features can be house foundations, cisterns (Figure 32), mill races, trash pits and dumps, dams, and others.

FIGURE 32

A brick cistern which was archaeologically investigated in Indianapolis.

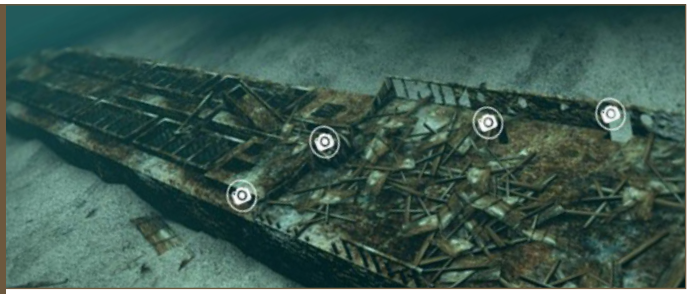
An archaeological site is an instance of past human behavior or activity, where humans conducted some activity and left evidence of it behind. The presence or occurrence of one or more artifacts or features indicates an archaeological site. Features may be recognized by the presence of non-portable evidence of past human activities.

Precontact site types common in Indiana include campsites, villages, chert quarries, cemeteries, artifact caches, tool manufacturing areas, food processing and gathering areas, hunting and butchering sites, lithic scatters, isolated artifact finds, and mounds. Several years ago, the DHPA was awarded a multi-year Preserve America grant to create and supplement an inventory of the state's precontact mounds and earthworks. The project was conducted in partnership with archaeologists at several of the state's universities and other affiliations. As stated in McCord and Cochran (2015:iv), "this inventory resulted in the documentation of 1183 earthwork sites consisting of at least 2100 individual earthworks." This project was entirely a search of records and literature; no fieldwork, survey, or investigation was performed.

Historical archaeology involves investigating site types such as mills, battlefields, forts, churches, quarries, shipwrecks, canals, cemeteries and more. There has been a resurgence of interest in the documentation and protection of shipwrecks (e.g., Beeker et al. 2020; Kaufmann 2013).

Currently, more than 75,000 precontact and historic archaeological sites are documented in Indiana. Some Indiana sites listed in the National Register of Historic Places include: the Early Archaic Swan's Landing site, the Early-Middle Woodland New Castle mounds complex, the Early-Middle Woodland mounds at Mounds State Park, the Middle Woodland Mann site, the Middle Woodland Mount Vernon (GE Mound) site, the Late Precontact Yankeetown site, the Middle Mississippian Angel Mounds site, the Hovey Lake Archaeological District that includes Mississippian to protohistoric Caborn-Welborn sites, the Kethtippecanunk/Van Natta site, a multi-component site dating from Paleoindian through historic time periods, the *Material Service* shipwreck site (Figure 33), and the historic Delphi lime kilns. In 2021, the Fort Ouiatenon Archeological District in Tippecanoe County was designated a National Historic Landmark.

FIGURE 33



The cargo barge Material Service was built in 1929 and sank in Lake Michigan in 1936. Underwater archaeological documentation, specifically photogrammetry, was used to create the 3D virtual wreck tour available on the DNR's website (Indiana Department of Natural Resources n.d.).

Archaeological Methods and Techniques

Before an archaeologist begins to study past cultures and to investigate archaeological sites and the artifacts and cultural deposits they left behind, he or she will spend a lot of time researching what is already known about the particular group or culture of interest, and learn as much as possible about this past research and studies already conducted; what is already known about the site or sites to be investigated; and what is known about the known and recorded sites in the vicinity or region. Details about other factors, such as environment, climate, geology, past vegetation and fauna in the area, hydrology, soils, and other elements, influencing past cultures and their adaptations are also important.

Before and during this process of research, the archaeologist will have developed research questions about the past which he or she wishes to investigate. General questions are sometimes asked, such as who were the people living in an area, what were they like, and what were their everyday lifeways like? Other times, more specific and scientific questions are posed, about human culture in general, or specific cultures, such as asking how did people from the past adapt to their changing surroundings, and how and why did aspects of their culture(s), such as technology, particular beliefs and values, economics, settlement patterns and subsistence, social groupings, and other important aspects of their lives and culture change or adjust through time?

An archaeologist will not investigate, survey, or excavate a site without very detailed research questions and a systematic plan for fieldwork and laboratory analysis of the information that will be recovered. The information, interpretation, and recording of the site, features, and artifacts are what is important. Sites, features, and artifacts are finite in number, and once disturbed, destroyed, or excavated, cannot ever be replaced. The patterns and relationships of these through time and space are most important, so that the archaeologist can view what artifacts, features, and sites are associated at certain times and in certain places. Since the ways people live and behave are patterned, the patterns of archaeological evidence reflect this and allow the archaeologist to reconstruct past lives and behavior. Thus, it is extremely important to record and recover the information from its original location, provenience, and context. If the features and artifacts are removed, disturbed, or destroyed without detailed mapping and recording, then the patterns of the past cannot be determined.

There are two basic methods archaeologists use to discover, investigate, or to recover information from archaeological sites: **survey** (reconnaissance) or controlled **excavation**. The purposes of a survey are to locate sites and to recover preliminary information concerning their boundaries, samples of artifacts, possible occurrences of features or concentrations of artifacts, cultures that once occupied the site, possible dates of the site, and information about the environment such as soils, landforms, and water.

Survey is usually accomplished by walking an area at certain intervals, such as every five or ten meters, looking for evidence of a site. If there is adequate ground surface visibility, such as in a plowed field, artifacts will be seen when encountered. The artifacts are then collected, and the surface of the site is also examined for evidence of any features which may be apparent. Site boundaries are determined by mapping where the artifacts and/or features begin and end. Artifacts from the site are placed in bags labeled with the

FIGURE 34

Archaeologists shovel probing and screening for artifacts at Mounds State Park.

FIGURE 35

Electrical resistivity is just one way to gain subsurface data (courtesy of IPFW Archaeological Survey).

date surveyed, site number, names of crew members, and any other relevant information, so that the archaeologist always knows what site the artifacts came from.

If the surface of the ground is mostly or completely obscured and cannot be seen, the archaeologist may use shovel probes as a technique to look below the surface for artifacts and features. Shovel probes are small holes excavated to find evidence of a site. They are often excavated every 5, 10, or 15 meters on a grid over the entire site (Figure 34). Again, when artifacts or features cease to be discovered by the probes, the site boundaries have been reached. Shovel probes also allow the investigator to obtain evidence of soils and stratigraphy at the site. Occasionally, the archaeologist may take soil samples with coring or augering tools during a reconnaissance. Also, non-invasive techniques, such as ground penetrating radar (GPR), proton magnetometry, electrical resistivity (Figure 35), geographic information systems (GIS), global positioning systems (GPS) and photogrammetry are being utilized more often as part of investigations (Figure 36).

Archaeological excavations are conducted according to a systematic plan and with specific questions and research goals in mind. Excavations may take place after a survey. Before excavations take place, professional research is conducted into what is already known about the site. Research into past archaeological projects conducted in the vicinity and region of the site is completed as well. A knowledge of past cultures present in the area is also necessary.

FIGURE 36

Examples of grave markers which were modeled using structure from motion (SfM) photogrammetry, an imaged-based method to accurately record and document features and artifacts (Drew and Peterson 2023:Figure 4.06). (grave markers are not to scale).

Once a research design has been developed, a site has been chosen for excavation (**test excavations** or large scale excavations), and the site and surrounding region have been researched, a grid system of intersecting points and lines is set up with a surveying instrument, such as a transit or total station, on the site. A coordinate system is developed for the grid so that it is always known where on the site the archaeologist is excavating. Square or rectangular units are laid out on the site in areas where the archaeologist wants to excavate. These units are designated by the coordinate system and large nails, pin flags, or stakes are placed in the corner of each of the units. The grid system and units are referenced to a permanent datum or reference point that can be identified by future researchers at the site.

Excavation is a slow and careful process (Figure 37). Units are systematically dug in levels (either by arbitrary measurements or by stratigraphic or natural levels), and the archaeologist records the position of artifacts and every feature, as well as the depth. When a

FIGURE 37

Large scale excavation block (left, McCullough et al. 2004) and measuring a feature in an archaeological unit.

unit is excavated, everything encountered is systematically recorded and recovered. This information provides the archaeologist with an understanding of the context in which these data are found. This also allows the archaeologist to understand the relationship of the site to other sites in the area.

Before excavation of a unit begins, a wooden or metal screen with standardized size (usually 1/4 inch) metal hardware "cloth" or mesh is set up into which the soil excavated from the unit is placed. Archaeologists then shake the soil through the screen and recover the artifacts left behind. The archaeologist has plastic or paper bags into which he or she places the artifacts recovered. Each bag is labeled by site number and name, unit, level excavated, feature (if present), date, the name of the project, and the names or initials of the individuals excavating the unit. In this way, all artifacts recovered will be able to be referenced to location, exactly where they were found on a site in space (horizontally), and by depth (vertically or through time).

Units are excavated carefully, generally with hand tools-specifically, shovels and trowels. The top of the unit is measured and mapped according to elevation (depth) below a reference point on or near the site and in space on a map of the site. Excavation takes place in levels, often in 10 centimeter increments. Once a level is excavated, the soil screened, and artifacts recovered and placed in labeled bags recording their location, then the floor or base of the unit at that level is hand troweled so that the archaeologist can inspect the base of the level for features or concentration areas of artifacts. Features are often discerned as areas of differences in soil coloration. Sometimes artifacts, evidence of burning, evidence of past digging or disturbance of the soil, or other non-natural evidence are present. A feature may also consist of a concentration of artifacts.

When a feature is encountered, it is mapped, measured (Figure 37), and photographed, no matter where in the level it is discovered. A feature is then numbered and excavated separately. The soil from the feature is excavated, screened, and artifacts recovered and bagged and labeled in separate bags. Sometimes, a flotation sample of soil is recovered from a level or feature, so that smaller artifacts or organic remains can be recovered using finer techniques in the archaeological laboratory.

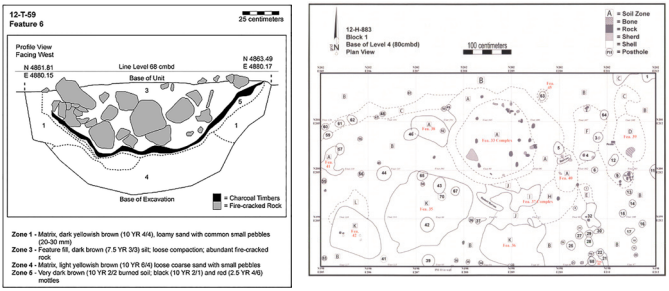
A unit is excavated, level after level, until no more features or artifacts are encountered. This is what archaeologists call "sterile soil," or natural soil without artifacts or cultural deposits.

In excavation, then, artifacts are recovered, the soil from the units is screened so that artifacts may be recovered in that

way, soil samples are taken, detailed notes and measurements are recorded, photographs are taken, and illustrations and maps are made. Even profiles of the soil and **stratigraphy** of the site and the units are mapped and photographed.

Once the excavation is complete, another, even more time-intensive, process takes place. All artifacts and records are taken to a laboratory for inventory, cataloging, and analysis. Laboratory work involves the careful cleaning of artifacts, the cataloging of every item that was discovered, and the analysis of the form, function, and type of every artifact. The dates or age of artifacts are also determined when possible. Artifacts are also counted, photographed and/or illustrated, and often measured. Analyzing this information helps the archaeologist piece together the puzzle of what was happening at the site and why.

FIGURE 38



This detailed profile of an excavated feature (left, Strezewski et al. 2007:104) and plan map (McCullough 2008:65) are the types of data that are included in an archaeological excavation report.

Maps of all units, features, and the overall site are produced in an excavation report (Figure 38). Tabulations of artifacts from units, levels, and features are prepared, so frequencies of artifact types can be studied, and the artifacts compared to those of other sites. All of the fieldwork records, and copies of the report are curated in a laboratory or museum, so that there is a permanent record of the work done at the site. In most cases, the artifacts are curated at these institutions as well, so that they may be viewed or studied at a future time.

After the analyses are completed, the professional report of the findings is written. This report summarizes the results of the excavation, explains the methods used, provides information on all of the artifacts and features which were uncovered, explains

how the specific questions and research goals were addressed, and discusses the relationship of the site to any others in the region. This document is meant to give future researchers and archaeologists a clear understanding of the excavation work at this site, what was learned from it, whether further archaeological work is necessary at the site, and whether the site is potentially eligible for the State or National registers. The report should provide a permanent record of the site and the people who created it. The archaeological report, records of the archaeological investigation, and the artifacts recovered are often all that remains after a site is investigated.

In addition to a professional report, the archaeologist must obtain an official site number and complete an archaeological site form for each site discovered, excavated, or reinvestigated. These forms provide a synopsis of what was found, the site location, and recommendations for the site. This data is entered into a computerized database, the State Historic Architecture and Archaeology Research Database (SHAARD).

Ethics, Standards, and Guidelines

Most archaeological organizations such as the Society for American Archaeology, the Archaeological Institute of America, the Society for Historical Archaeology, and the Register of Professional Archaeologists, have standards and ethics for archaeology. These can be found at the relevant webpages for these groups. Some of these are similar to and may be reflected in the following paragraphs.

Is archaeology important and relevant? One of the aspects of archaeology and anthropology–the study of humankind (of which archaeology is a branch)–is that they are a comparative and historical study of past and present cultures, which imparts a sense of our shared local-to-worldwide cultural connections and diversity, and an appreciation of our differences, similarities, varying histories, and development. Our histories, which archaeology contributes to, provide a sense of societal and cultural identity. Archaeology helps us have a tangible connection with our cultural heritage, past, and each other. Archaeology helps preserve and share information about our heritage. The lessons taught from our past allow us to better understand our present endeavors in our lives and societies. It provides empirical evidence about the past and helps protect the fragile and irreplaceable archaeological resources in our environment and past landscapes. This fosters

a wise planning, management, and "archiving" strategy for the evidence and information about our past. Archaeology conducts logical, theoretical, and systematic scientific studies of the past and how humans adapt to our world through our culture, and how culture works.

Archaeologists are taught that they need to abide by professional ethics in their careers. Members of organizations such as those mentioned above support standards and ethical obligations which are vital to archaeological professionalism. These ethical principals include, but are not limited to, concepts such as: supporting long-term preservation and effective management of sites and collections; giving appropriate credit to the work of other professionals; working toward the preservation and access of records and reports; engaging with the public in a positive manner to share knowledge; recognizing that the commercialization of artifacts contributes to the destruction of the archaeological record, and more. Per state statute, rules implemented for Indiana Code 14-21-1 consider applicable laws, standards, guidelines for the conduct of archaeology and codes of ethics for participation in archaeology.

Professional archaeologists acquire specialized training in archaeology, meet demanding qualifications for their occupation, and meet strict and precise standards for systematic field and laboratory techniques, curation of archaeological artifacts and records, writing reports of their investigations, and providing information to the public. In the best sense, archaeology is for the public, from local to community to regional to statewide, country, and to the world. Everyone and all cultures and societies have an interest in, at some level, and sense of their past and history, providing a shared experience and identity, and providing their unique characteristics and differences to others. It is expected that archaeologists be familar with relevant laws, such as the Native American Graves Protection and Repatriation Act, and professionals should communicate with relevant descendant communities and individuals when working at sites. Collaboration and respect are fundamental elements of successful archaeology.

Archaeologists and many members of the public promote a stewardship mentality, to preserve information from these finite and irreplaceable resources, about our past. If damaged or destroyed by unsystematic digging or "treasure hunting" without documenting and recording precise information from these resources, they, and their information about the past, are lost forever. Stewards of archaeological resources strive to be

wise caretakers and managers of these scarce sites/reserves of information that are disappearing at an alarming rate. Members of the public, our citizens, are our eyes and ears as stewards of archaeological sites–those who remain informed and alert to the protection and promotion or our archaeological heritage.

Becoming an Archaeologist and Archaeology in Indiana

For the student who wishes to have a career in archaeology, it is never too soon to begin studying and taking appropriate courses. If a high school, junior high, or even elementary school student has access to classes involving, for example, history, geology, soil sciences, statistics, computers, Native American studies, or humanities in general, these would be excellent choices.

The training and educational requirements for students will vary with the type of archaeology they choose to go into. Generally, a minimum of a Master's degree is necessary to conduct and complete professional archaeological projects. Most professional archaeologists go on to obtain a graduate degree (either a M.A. or M.S.) usually in anthropology, archaeology, or closely related fields. Generally, to obtain a Master's degree, two years of course work beyond the undergraduate degree is necessary, in addition to experience in fieldwork and completion of a thesis. Some students choose to continue their college educations by obtaining an additional graduate degree in the form of a Ph.D. Generally, pursuing a Ph.D. will take approximately three more years of college beyond the Master's level and will require the completion of a dissertation.

Currently, a number of the universities in Indiana have anthropology/archaeology programs, and some include a graduate program. Students in these programs learn the value of the science of archaeology, the endangered nature of archaeological sites, and the public benefits of archaeology. Sometimes institutions have active cultural resource management programs that allow professionals and students to participate in federally or state-mandated archaeological investigations, as well as archaeological research and grant programs. Information about archaeological programs at the universities in Indiana may be found on their websites.

Educators from many of the Indiana institutions have been awarded Historic Preservation Fund grants from the Division of Historic Preservation and Archaeology (DHPA) to conduct scientific archaeological investigations in Indiana, have assisted the DHPA with the investigations of numerous

"accidental discoveries" of archaeological and human burial sites, and have actively supported and participated in Indiana's annual *Archaeology Month* (formerly *Indiana Archaeology Week*).

In Indiana, professional archaeologists are usually found working in universities, state or federal government, museums, or private businesses. Archaeologists at universities may be professors, researchers, and/or **CRM** archaeologists. Professors predominately teach archaeology to college students, and conduct research into past cultures. These individuals may also be involved in projects where they are hired to conduct archaeological investigations on properties which are slated for development, construction, or extraction (e.g., mining) projects which disturb the ground and which fall under state or federal historic preservation laws. There may be researchers at universities whose duties do not involve teaching, but who conduct archaeological field and laboratory research as employees of a university, or under grants providing monies for research. Professors and researchers may also be affiliated with university museums.

Professional archaeologists working for federal or state agencies are responsible mainly for protecting significant archaeological sites and preserving information from them for the future. They do this under state and federal laws written to protect our national, state, and local heritage. In Indiana, these agencies include the Indiana Department of Natural Resources (IDNR), Division of Historic Preservation and Archaeology (DHPA); IDNR Division of Forestry; the USDA Forest Service; the Natural Resources Conservation Service; the Indiana Department of Transportation; and others. The Indiana State Museum and Historic Sites is preserving, interpreting, and exhibiting archaeological sites and information.

The DHPA is the state's lead agency for protecting and preserving information from Indiana's archaeological heritage. The DHPA holds and maintains the state's official repository of archaeological records and reports, and manages the state's computerized database of archaeological site information (SHAARD). The archaeological staff's primary duty is to review, evaluate, and comment upon federal and state projects that may affect archaeological resources. Among its many other duties are: implementing the state law that provides protection to archaeological sites and human remains, maintaining archaeological standards and guidelines, reviewing and overseeing grant-funded archaeological projects, reviewing National Register nominations for archaeological sites, providing technical assistance

and advice to the public and professionals, and implementing public education initiatives such as the state's largest archaeology outreach event, *Indiana Archaeology Month*.

The DHPA archaeologists sometimes conduct field investigations. Past endeavors include archaeological reconnaissance to inventory and protect archaeological resources on state property in northwestern Indiana, investigation of Late Precontact sites, investigation of a historic contact site, and survey and inventory of sites related to the Revolutionary War and War of 1812 in Indiana. Review and regulation of accidental discoveries of artifacts or human remains under Indiana Code 14-21-1 is another of the DHPA archaeologists' duties.

Becoming Involved in Archaeology and Ways to Help

Once an archaeological site–in Indiana or elsewhere–is destroyed without precise, systematic documentation and recording, it, and the information it contained, is lost forever. As a result, we have to try to learn as much as we can about the evidence left behind by earlier peoples. In 1996, it was stated that "if the present rate of archaeological destruction continues, there may be no more sites to preserve in much of the world in 50 to 100 years" (Stuart and McManamon 1996:29). Citizens interested in preserving information about Indiana's rapidly disappearing archaeological resources can help in a variety of ways.

One of the best and most effective ways for persons to become involved is to familiarize themselves with the people (and resources) in the archaeological community who can help. To start with, learn about the archaeology staff at the DHPA. They are there to serve the public, and one of their main duties is to help the public understand more about their archaeological heritage. The Archaeology Team of the DHPA can provide you with information about recording sites, identifying artifacts, the laws which protect archaeological and human burial sites, and many other topics.

Become involved with an avocational group which supports responsible collecting of artifacts, the proper recording of sites, and the study of archaeology in the state. In the past, members of these groups have participated in grant-funded archaeological projects, have assisted the DHPA with investigations of accidental discoveries of archaeological resources, and have obtained state permits (approved plans) to conduct proper archaeological investigations. Many avocational archaeologists have also participated in *Archaeology Week* or *Month* activities

by attending stewardship classes which promote the proper preservation of the state's archaeological resources.

Volunteering to work on a "dig" or professional excavation is another great way to become involved and gain valuable experience in various archaeological field techniques. Contact the universities and ask if volunteer opportunities would be available with their next summer field school.

Learning more about the laws which protect archaeological and human burial sites in our state will also help. Spread the word, and let other interested people learn more about how resources are protected in Indiana. You can take an active role by "keeping an eye out" for any illegal looting or digging activities. If you see, or know of any illegal digging, contact your local law enforcement officials, or our office, immediately.

Indiana Archaeology Month is also an excellent way to participate. Each year in September, archaeology activities and opportunities such as artifact identification sessions, archaeology presentations, and more are offered for the public. *Archaeology Month* allows the citizens of Indiana to learn more about their archaeological heritage, as well as learn more about the science of archaeology itself (Figures 39, 40). Public archaeology efforts such as these help archaeologists share information with their various audiences in order to foster greater understanding of the science and what is learned about past cultures (Johnson 2009; McGill and Munson 2009).

FIGURE 39

Past Indiana Archaeology Month commemorative posters have featured sites and artifacts from various parts of our state.

FIGURE 40

A DHPA "Archaeology-Tools of the Trade" exhibit at the Indiana State Library during a past Indiana Archaeology Month.

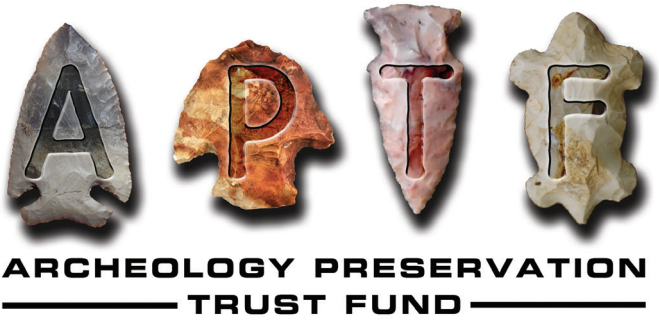
Dr. Henry, Professional Archaeologist, the DHPA's archaeology "mascot," posing with the 20th anniversary logo for the statewide celebration of archaeology in our state.

Learn more about archaeology through books, videos, lectures, and on the Internet. There are many sources of information on the latest trends and topics in archaeology and anthropology. Occasional editions of the *Indiana Archaeology* journal, edited by the DHPA archaeology staff, include various archaeological topics providing information to a wide audience on current archaeological research and sites in Indiana and the Midwest. The volumes are published digitally on the DHPA website. The "Highlighting Hoosier Archaeological Sites: Examples from 92 Counties" Storymap on the DHPA webpage provides the public with examples of archaeological sites/investigations in the state. Also, everyone can follow along on the adventures of the DHPA's archaeology "mascot" Dr. Henry, Professional Archaeologist online at facebook.com/INdhpa (#drhenrydhpa) (Figure 40). Additionally, the DHPA has an online newsletter which the public can sign up to receive.

Keeping up-to-date is important for both the professional and non-professional. For example, contact the National Park Service, national archaeological organizations, or the State Archaeologist for information on ways to keep current.

If you surface collect for artifacts and would like to share with professional archaeologists any site locations you know about, that is another way of helping record valuable information about the past. When the Division of Historic Preservation and Archaeology knows where a site is, it becomes easier to try and afford protection for the site. If no record of a site exists, it is obviously much harder to protect. Thus, keeping accurate and complete records of sites is important, and the individual doing so contributes additional protection for important resources.

FIGURE 41



The Archeology Preservation Trust Fund provides the public with a way to contribute financially to archaeology in Indiana.

If you would like to provide financial support or contribute to archaeology, consider the Archeology Preservation Trust Fund. Section 34 of Indiana Code (IC) 14-21-1 provides that the DHPA may conduct a program with this fund to assist private homeowners who have accidentally discovered an artifact, a burial object, or human remains and who need assistance to comply with an approved plan to excavate or secure the site from further disturbance. The DHPA may receive gifts and grants as sources of monies for the fund.

These are just a few ways to become involved and help. There are many more, but any level of involvement that you choose will undoubtedly be satisfying to you.

The HISTORIC PRESERVATION and ARCHEOLOGY LAW

Indiana has a law which protects archaeological sites. Indiana's Historic Preservation and Archeology Law (IC 14-21-1) protects archaeological artifacts and features, and historic burial sites, regardless of their location on state or private lands. All archaeological artifacts and features dating before December 31, 1870, are protected under this act, as are buried human remains dating before 1940. Other laws cover cemeteries and human remains dating after December 31, 1939.

If someone wishes to surface collect artifacts, they may do so as long as they have permission to be on the property. Artifacts belong to the landowner, so a surface collector must also have permission from the landowner to collect and keep artifacts. If you have an artifact collection, or buy and sell artifacts, be aware that there are penalties, under IC 14-21-1, for a person who knowingly or intentionally receives, retains, or disposes of an artifact, a burial object, or human remains in violation of the statute.

To dig for artifacts dating before December 31, 1870, even on your own land, an approved plan for the excavation must be applied for and obtained from the Division of Historic Preservation and Archaeology. Even professional archaeologists must go through the same process to receive an approved plan to conduct an excavation. This process allows for the controlled, systematic recovery of artifacts and information from sites.

The law also requires that if artifacts, features or human remains are accidentally discovered, work must stop, and the discovery must be reported to the Department of Natural Resources within two working days. When the discovery is reported to the DNR, law enforcement officers and professional archaeologists investigate the discovery and decide on a course of action to protect the site. Any looting or illegal purposeful disturbance to an archaeological or human burial site should also be reported immediately to either the DNR or law enforcement officials.

The law which protects sites in Indiana is one of the strongest of its type in the country. As a result of the passage of this law and increased public awareness of it, important archaeological sites are being investigated and protected. Individuals conducting illegal excavations have been convicted, and the word is out that Indiana does not tolerate disrespect for the past and our irreplaceable archaeological resources.

To learn more about all of these statutes, and find question and answer sheets, visit on.IN.gov/DHPA.

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GLOSSARY of ARCHAEOLOGY TERMS

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 precontact 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. Examples of historical archaeology artifacts are found on p. 21.
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.

Celt	An ungrooved axe. Celts may be made of pecked and ground stone, or hammered copper.
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 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.
Cord-marked	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 laws.

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, social 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 (termed Phase II in CRM investigations) or large-scale excavations (termed Phase III in CRM investigations).
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. Precontact 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. Examples of historical archaeological features are found on p. 21.
Flake	A by-product 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 precontact 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.
Multi-component	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.
Precontact	Human activities, events, and occupations before contact between native people and Euroamericans. The precontact Native Americans had long, rich, and varied cultural and oral histories and traditions.
Protohistory	The transitional time from late precontact period to the time of early contact with Euroamerican cultures, oral histories, and written records.
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 precontact 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.). Examples of historical archaeological sites are found on p. 20.
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 recovery and recording of archaeological information such as site locations and artifacts by visually inspecting the surface of the ground. Termed Phase I in CRM investigations.
Test excavations	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.