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November 2006



LOOKING AT PREHISTORY: INDIANA'S HOOSIER NATIONAL FOREST REGION, 12,000 B.C. TO 1650



By: Noel D. Justice

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Late Archaic Period 4000 – 1000 B.C.
Shell mounds, camps to exploit seasonal foods
Long distance trade
Trend for cooler temperatures



Middle Archaic Period 6000 – 4000 B.C.
Atlatl weights first appear
Hunting and gathering
Height of climatic warming



Early Archaic Period 8000 – 6000 B.C.
Hunting and gathering
Resharpener stone tools for longer use
Climate warms-hardwood forests and prairies



Paleoindian Period ?12000 – 8000 B.C.
End of the Ice Age-climatic warming
Spruce/Fir forests give way to pine and later hardwoods
Hunting of now extinct game animals



Prehistoric Time Periods

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HOOSIER NATIONAL FOREST REGION,
12,000 B.C. TO 1650**

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Looking at Prehistory

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Dear Reader-

As Forest Supervisor of the Hoosier National Forest, I'm pleased you're interested in this book. Here in Indiana we have a wealth of cultural heritage sites. We continue to discover more about past human use of southern Indiana's hill country and are excited to share this overview with you.

In 1992, we published a book, detailing the history of the area, entitled *Looking at History: Indiana's Hoosier National Forest Region, 1600 to 1950*. The book you're holding now is the companion to that earlier work. It focuses on human use of the region during the prehistoric period, prior to use of the written word.

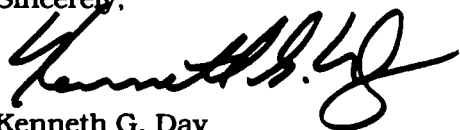
Consider it. We have 400 years of history and perhaps 14,000 years of prehistory. Since the glaciers receded from the area, untold numbers of people have come and gone--changing and adapting to the environmental conditions. Modern archaeological methods and techniques are crucial to our ability to understand as much as possible about what little evidence remains.

As public land managers, we are entrusted with the care of these important non-renewable resources. Because archaeological sites are highly valued resources, numerous federal and state laws have been enacted to protect them from intentional and unintentional damage and destruction. Please help us protect our cultural heritage. If you find artifacts, leave them undisturbed and report their location to the heritage resource specialist in our Bedford office.

The timing of the publication of this book coincides with the 100th anniversary of the U.S. Forest Service and the 100th year of the Antiquities Act. For a century, our agency has been "Caring for the Land and Serving People," and this book dovetails well with our continuing efforts to do both.

Now, we are pleased to present this overview of the prehistory of the Hoosier National Forest region. We hope you enjoy and learn from these pages!

Sincerely,



Kenneth G. Day
Forest Supervisor

Acknowledgements

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Credits

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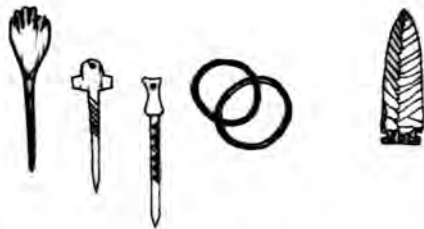
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Note: All artifacts are in centimeter scale.

Looking at Prehistory



Late Archaic Period 4000 – 1000 B.C.
 Shell mounds, camps to exploit seasonal foods
 Long distance trade
 Trend for cooler temperatures



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Prehistoric Time Periods

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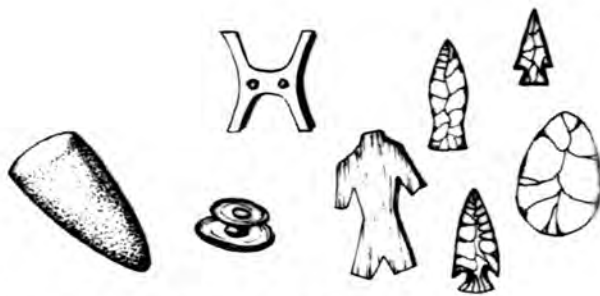
Mississippian Period A.D. 1000 – 1650

Agriculture to support large towns
 Defensive palisades, temple mounds, heavy trade
 Later- large towns abandoned for smaller villages



Late Woodland Period A.D. 500 – 1500

Mound building declines, Larger villages
 Farming and gathering of wild plants
 Hunting and gathering continues



Middle Woodland Period 200 B.C. – A.D. 500

Burial mounds and earthworks
 Long distance trade in ceremonial goods
 Hunting, gathering and growing plants for food



Early Woodland Period 1000 – 200 B.C.

Pottery first appears
 Hunting and gathering using seasonal camps



Prehistoric Time Periods

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Looking at Prehistory: Introduction

Remains of the first Americans are all around us, on the surface and buried in the ground. For perhaps 14,000 years people lived throughout Indiana, taming the wilderness to suit their needs, building homes, raising children, and establishing important cultural traditions long before Europeans came to the region in the mid-1600's.

Though many people today envision the lives of the First Americans as a very simple existence, archaeological research reveals complex societies, vibrant technical and artistic traditions and, moreover, an understanding of the natural world which rivals our own. Lacking all modern conveniences, Native Americans learned the rhythms of the natural cycles of life by experimentation and observation. Knowledge was carried by elders who taught the wisdom of the ages to the new generations using stories and songs. Unlike people today, prehistoric families made almost everything they needed. If they desired goods and raw materials from far away places, they traveled by canoe and overland trails or traded with neighboring tribes to obtain them.

Early peoples who lived within the Hoosier National Forest were little different from people who lived outside the hill country. In fact, many of them came seasonally to the south central Indiana hills to hunt, fish, and collect foods, while living in adjacent areas during other times of the year (Figure 1). Even though the hill country is dissected by deep ravines and ridges and is rugged compared to other parts of Indiana, prehistoric people living in the Hoosier National Forest were never cut-off from their neighbors for any length of time, except perhaps during infrequent heavy snows and floods while enjoying the natural protection and comfort of the many rockshelters (Figure 2). They

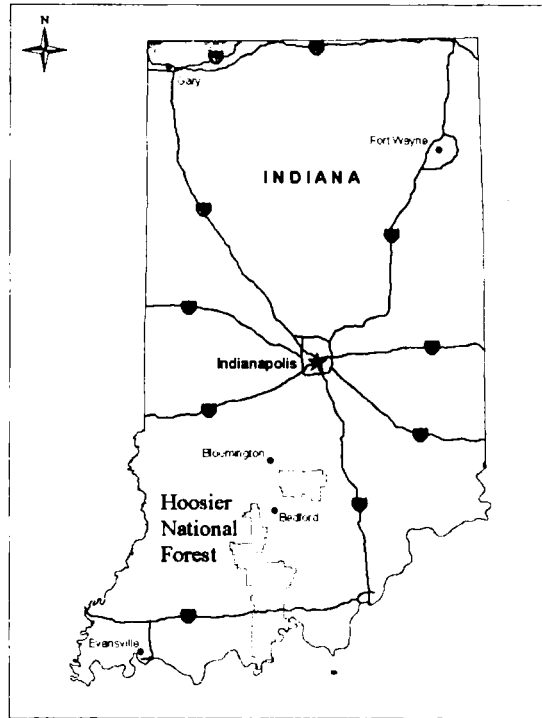


Figure 1: Location of USDA Hoosier National Forest lands within Indiana.

enjoyed access to trade goods from distant places and took part in new social, political and technological developments. The tools and other artifacts that they left behind for us to discover and study often show connections on many levels to other groups who lived over a wide territory of the Midwest.

Within these pages we will explore what is known about prehistoric peoples of the Hoosier National Forest and their cultural traditions, from the time Native Americans first came to southern Indiana until people of European descent arrived and began logging the forest and reshaping the land into family farms.

It is difficult to understand how much people can change over thousands of years, particularly when there is no written record of their lives to document

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Figure 2: Rockshelter showing alcove, sandstone overhang and slope down from the shelter.

what they experienced and achieved. Archaeologists are interested in many things including tools, items of trade, locations of camps and villages, house construction, plant and animal remains, customs of caring for the deceased, as well as a multitude of other small clues from the prehistoric past. Why? Because these are the tangible remains of past human behavior. Without these physical clues and a reliable way to determine their age, it would be nearly impossible to talk about people in the past in any informed manner.

Owing to the humid climate of this part of the country, many of the things prehistoric people made and used regularly from wood, fiber, animal skins, and even bones, disintegrated a long time ago often due to damp and

highly acid soil. Even if some of these happen to be preserved in some unique way, such as dry conditions or special soil chemistry, we are still limited in what we can say confidently about peoples of the past because some important evidence is always missing. For these reasons, archaeologists are like detectives when they collect information from surveys for prehistoric remains on the ground surface and by conducting site excavations. An archaeologist is trained to collect even the smallest bits of evidence, and, for this reason, law enforcement officials often call upon them to look carefully for clues at contemporary crime scenes and collect evidence to help solve mysteries.

The first question often asked upon finding a prehistoric artifact or site is, "how old is it?" Archaeologists today

have many ways of answering this question through years of experience in the careful analysis of archaeological sites and with help from other branches of science.

The excavation of an archaeological site that has been inhabited for thousands of years can reveal a sequence of layers that represent different human occupations in the past. This is termed stratigraphy. If there have been no disturbances to the various deposits, continued excavation uncovers progressively older occupations. Sometimes these occupation layers may be separated by one or more layers of sediment that lack signs of human habitation. These layers of sediment can be the result of rock and soil accumulated during a landslide, rocks fallen from the roof of a rockshelter, silt deposited by a flooding river, or dust blown in by the wind (Figure 3). From such a site, one can readily discern the relative age of the occupations from recent ones, which are closest to the surface of the site, to the oldest, found within the deepest layers in the excavation, along with separations due to natural geological events. While the relative age of each layer is recorded, the actual age of the individual human occupations and geological deposits remains unknown.

Today there are many ways of determining the age of archaeological finds, but radiocarbon (carbon-14) dating is the main technique used by archaeologists. Radiocarbon is a method by which charred material such as wood, nuts and other organic remains is carefully collected from an archaeological site and then sent to a special laboratory for analysis. The laboratory burns the charred material at a high temperature in a controlled environment and counts the amount of carbon-14 atoms in the gas emitted from the sample. The reason this dating technique is considered reliable is because carbon-14 is absorbed by all living organisms from the atmosphere and everything living at the same time contains essentially the same amount of carbon-14. This dating technique was developed in 1950 by Willard Libby, a chemist, who discovered the rate at which carbon-14 disintegrates when an organism dies. By finding out how much carbon-14 remains in a sample, scientists can calculate how many years have passed since death occurred and obtain a statistical age for the sample (Figure 4).

Radiocarbon dates are now known for literally thousands of archaeological sites. The samples have been collected from within burned houses, including



Figure 3: Soil stratification showing alternating layers of sediment deposited during creek flooding episodes. Prairie Creek site, Daviess County. Indiana University field school, 1975.

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charred posts and timbers, as well as fire and storage pits, and occupation layers containing charcoal, charred nuts, and other organic matter. Cultural items such as projectile points and pottery found with samples that have been radiocarbon dated are assumed to date to the same age because of their association. Thus, an archaeologist can often pick up a piece of pottery or a projectile point and, after identifying it, can assign an age because the same or similar items have repeatedly been radiocarbon dated to the same time period.

Archaeologists are always looking for new techniques to employ in archaeological surveys and excavations. We need ways in which to make fieldwork easier, less time consuming and more cost-effective. At the same time, we need to record and assess archaeological sites on the surface and within buried layers of soil with greater accuracy and detail. The crew chief of a typical archaeological survey will be in charge of recording on maps the archaeological sites that are discovered and collecting all the relative data, such as the location and size of the site and any existing features or characteristics of the site (Figure 5). The standard maps for hiking in unfamiliar territory and also for plotting a site's location and configuration in space are available from the United States Geological Survey (e.g. USGS quadrangles). One great improvement for locating sites developed in recent years is Global Positioning Systems or GPS, where a hand-held electronic device is used to record a location by signaling with satellites in space (Figure 6). The location of a site recorded in this manner allows accuracy within a few feet. Perhaps the most important advantage of using GPS data comes years later after the initial survey, when a new field crew is attempting to relocate a site in the hilly terrain of the



Figure 4: One of the first radiocarbon laboratories in the 1950's showing some of the equipment used to process charred wood, bone, and other organic samples from archaeological sites and record the carbon gases emitted from the incinerated samples to determine their age.



Figure 5: Students conducting a controlled surface collection on a Martin County archaeological site. Indiana University field school, 1993.

Hoosier National Forest. With the original notes and readings from the first survey, the recorded GPS coordinates can be entered into a GPS handset and quickly reestablish the exact spot where the site was recorded.



Figure 6: Handset for GPS (Global Positioning System). The system, which is operated by the United States government, allows the user to link with satellites to locate a precise position on the ground. It is perfect for accurately locating archaeological sites or moving through unfamiliar territory with a variety of maps, including USGS quadrangles, that archaeologists often use. Various handsets are available that provide many options from determining altitude to compass bearings, trip mileage, and travel routes, etc. The handset shown is currently used to locate archaeological sites within the Hoosier National Forest.

The first professional archaeologist in Indiana, Glenn A. Black, enthusiastically embraced any new scientific equipment that could be used in archaeological field research (Figure 7). One such piece of cutting edge equipment was the proton magnetometer. As the first to use such a device in North American archaeology, Black began mapping the subsurface architectural features of the Angel Mounds site by recording minute changes in the magnetic field of the soil within the upper archaeological zone that were caused by disturbances within the natural soil of the site (Figure 8). The proton magnetometer made it possible to discern anomalies below the surface that had been created by the prehistoric Mississippian inhabitants as much as 1,000 years ago. This included a large wall that had once fortified the town as well as the locations of houses and other features that were not visible on ground surface (Figure 9).



Figure 7: Glenn A. Black checking a recently excavated concentration of prehistoric Mississippian artifacts and food remains at Angel Mounds State Historic Site. Indiana University field school, 1960.

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Figure 8: Proton Magnetometer in use at Angel Mounds State Historic Site, 1960's. The equipment was heavy and so the main components were installed in a van to transport around the site.

With this early technology, however, the degree of sensitivity was low and it was a slow process to record the data over such a large (100 acre) archaeological site. This technology also did not allow researchers to make critical corrections for variations in magnetic and celestial activity, such as sun spots, which affected the readings from the instruments (Figure 10). Today, magnetometers along with many other types of highly sensitive instruments are often employed in archaeological investigations. All of the equipment and applications for archaeological prospecting come



Figure 9: Excavation of a bastion trench along the outer stockade of Angel site. The stockade once fortified the 100 acre Mississippian town located near Evansville, IN. A proton magnetometer was used to follow and map the stockade and other prehistoric features beyond the areas of excavation. The proton magnetometer recorded high and low electronic signals within the soil that mark the locations where trenches had been dug long ago to insert upright posts for the stockade and also the locations of houses and pits of all kinds. All of the wooden constructions deteriorated with time leaving only stains in the soil and areas of disturbed earth. Circular stains marking the locations of post-molds from the former bastion are obscured in the water and mud from a recent downpour. After sufficient sun to dry the mud, the stains were exposed once again by careful hand-troweling so they could be mapped and recorded. Works Progress Administration (WPA) excavations at Angel Mounds State Historic Site, fall 1940.



Figure 10: Hand instruments used with the proton magnetometer investigations at Angel Mounds. The long device is a probe that was connected to a receiver to transmit signals from the soil to detect prehistoric houses, pits, and other anomalies buried below the ground surface.

under the heading of remote sensing or geophysics. The Glenn A. Black Laboratory of Archaeology carries on the tradition established by Black by continuing to document the subsurface archaeological features over the entire Angel Mounds site using magnetometry (Figure 11).

Subsurface surveys using remote sensing equipment such as gradiometers, ground penetrating radar, as well as electrical resistivity and conductivity meters and other devices, have all been used in conjunction with surface surveys and, in advance of excavations, to find materials such as concentrations of ceramics, fire-cracked rocks, pits, and hearths. Together, these are called features by archaeologists and they often show up as readings of higher than normal magnetism. The data is downloaded onto computers equipped with sophisticated mapping systems such as GIS (Geographic Information Systems) as well as various other programs. Such equipment, including Global Positioning Systems, has been used with success at prehistoric villages, camps, and other sites across southern Indiana.

Archaeologists working within the Hoosier National Forest often employ these techniques and systems (Figures 12-13). For example, in advance of test excavations at Indian Cave by archaeologists from Ball State University in 1998, ground penetrating radar (GPR) was used to make a map of the subsurface contexts of the site which was later used to help guide the test excavations of the site which had been impacted by recreational use and looting. Ground penetrating radar helped to find anomalies in the cave sediments before excavation, thereby affording the researchers the advantage of having some insight into the cultural layers, rock fall, disturbances and various sediments they would encounter (Figure 14).



Figure 11: An excavation of a prehistoric house at Angel Mounds with pit features and artifacts identified with a magnetometer. In recent years, remote sensing with a magnetometer has documented many prehistoric houses and interior stockades that were previously unknown. Indiana University field school, 2005.



Figure 12: Close-up of ground penetrating radar instrument (GPR) with display of anomalies identified by the readings. This equipment was used during investigations at Indian Cave by Ball State University in 1997.

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Figure 13: A ground penetrating radar (GPR) hand unit in use over an archaeological site to transmit readings of anomalies below the ground surface back to a receiver.

Archaeological excavation, no matter how carefully accomplished and recorded, ultimately destroys the contexts of artifacts and features that it discovers. It is, therefore, encouraging that in the near future various remote sensing techniques will be used to record prehistoric cultural phenomena beneath the ground surface with enough precision that large scale and costly excavations will be unnecessary. With the various sampling techniques now in use, a tremendous amount can be gleaned from small test excavations to verify and sample the cultural features discovered using remote sensing (Figure 15).

It is now more important than ever to preserve the cultural integrity of important archaeological sites for the long term. The few remaining archaeological sites must be saved from destruction by development and artifact looting by vandals. It is a federal crime to dig archaeological sites, collect, or disturb artifacts within the Hoosier National Forest or other public and state lands without a permit and an approved research plan. Visitors need to respect



Figure 14: Beginning excavations at the entrance of Indian Cave. Excavations by Ball State University in 1997 and 1998 found evidence of sporadic occupations spanning the Archaic periods. This is one of the few sites in Indiana where small bits of cordage and squash remains have been identified. However, valuable information was lost due to heavy looting in the upper zones of the site. Archaeologists were unable to continue excavations beneath rock fallen from the collapsed roof and so the true depth of the human occupations is unknown.

the law and help preserve cultural and natural resources on public land by reporting acts of vandalism to archaeological sites and other cultural or natural resources. With support from amateur archaeologists and the public, the archaeological record will be preserved for future generations of Hoosiers.

The archaeological record in Indiana spans at least 12,000 years and perhaps as many as 14,000 years. During such a long time whole cultures, including the language and customs, can change many times. New ideas, ways of viewing the world and making a living evolved; some were maintained for a long time while others changed and some were entirely forgotten with the passing of



Figure 15: A small test excavation shows the locations of posts that were once set in the ground as part of a stockade that had long ago surrounded a late prehistoric Oliver phase village. Remote sensing using gradiometer (detects magnetic anomalies) and resistivity equipment (measures a soil's ability to conduct an electrical current) found a number of pits at the site that were rich with artifacts and organic matter. Yet, neither of these devices was successful in detecting the stockade walls.

time. All these cultural changes took place in the wake of people modifying their surroundings, coping with environmental changes, and borrowing from other Native people. Thus, while archaeologists can often say a great deal that is meaningful about these people of the past, we do not know what they called themselves, nor do we know the languages they spoke or the cultural and social groups as they were known to the people themselves.

The terms and names archaeologists use to relate prehistory can be confusing and we will briefly define some of these that will be used within the following chapters. These include "time period", "type", "cluster", "tradition", and "phase".

Various named **time periods** are typically used by archaeologists as a means of dividing a long sequence of time into smaller units so that developments and changes that take place can be more easily discussed (see Prehistoric Times Periods on inside covers). This also allows changes and developments of one period to be compared with another. The Paleoindian and Archaic time periods, for example, connote lifeways only in very broad terms and these were supplied by archaeologists as a way of discussing what is found in the archaeological record. Thus,

The stockade trench was very narrow and filled with only limited amounts of magnetic materials. Resistivity did detect some of the former walls but the surface area thought to contain the trench was miscalculated. Only a small portion of the trench was detected at the end of the area covered with the remote sensing instrument. Indiana University field school at the Clappitt site, Lawrence County, IN, 1991.

archaeologists often refer to Paleoindian or Archaic people(s) or culture(s) as a general way of talking about all human groups living during those time periods. The term "archaic" should not be construed to mean people living during the Archaic period were any less sophisticated or capable than anyone living before or after that time. Many archaeologists simply view the Archaic period as the time after the first Ice Age cultures of the Paleoindian period and before the development of pottery in the Early Woodland period.

Archaeologists define artifact **types** based on what they look like and how they were made. These are often given the name of the site where they were first defined or given a geographic place name within the area where they were first identified. Thus, projectile points and pottery are known by many defined types. These types are used repeatedly by archaeologists when discussing the

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past. **Clusters** are simply groups of projectile point types that date to the same time period, are similar to one another, and have overlapping distributions. The name supplied for the cluster is often that of the best known type within it, which is also often the most common and the one with the widest geographic distribution. By using well-defined type and cluster names for projectile points and pottery types as keys, archaeologists can confidently record the camps and villages of people living over a particular territory, within a given time period, and know many other things about them based on carefully collected evidence. There are a number of books and other reference materials where the reader can get information on all the variations and groupings for prehistoric projectile points and pottery beyond what is covered in the present work.

A **tradition** is a particular way people behave over a period of time. There are many kinds of traditions (e.g. cultural, religious, ceremonial, political, technological, projectile point, ceramic, hunting, trading, agricultural, etc.). A cultural tradition is the broadest and often includes most of the other kinds of traditions within it. In general discussions, the term tradition can often be equated with people recognizing many common themes that separate them from others. For example, the Crab Orchard tradition is defined for the lower Ohio Valley and the known sites are all recognized by particular types of pottery that occur there and not at other archaeological sites outside the area. It is common to also refer to the sites and artifacts as belonging to the Crab

Orchard people or simply Crab Orchard.

The last term I wish to define is **phase**. A named phase is always defined as part of a named tradition. It represents a smaller unit of people within the tradition, and is based on differences in ceramic types, geography, and other things. Many different phases can be contained within one tradition that spread over a large territory. A good example of this is the Mississippian tradition that is marked by many unifying themes, especially the use of crushed shell in the manufacture of pottery that took place all over the eastern United States between about A.D. 1000 and 1650. However, the people living in the numerous Mississippian towns and villages throughout this large region were probably speaking more than one language with many dialects and were doing many different things locally on a regular basis. Yet, just like Americans today, many tangible things were nonetheless shared between them all.

With the establishment of a phase, we often recognize some particular pottery designs and types, organizational structure and distribution not shared by other named phases. It is also appropriate to equate a phase with particular people. Thus, we can speak of the Angel phase people, who established the large Angel Mounds site near Evansville, just as we can talk about Mississippian societies at Cahokia, East St. Louis, Illinois; Moundville, Alabama; or other prehistoric Mississippian towns across the southeastern United States (Figure 16).

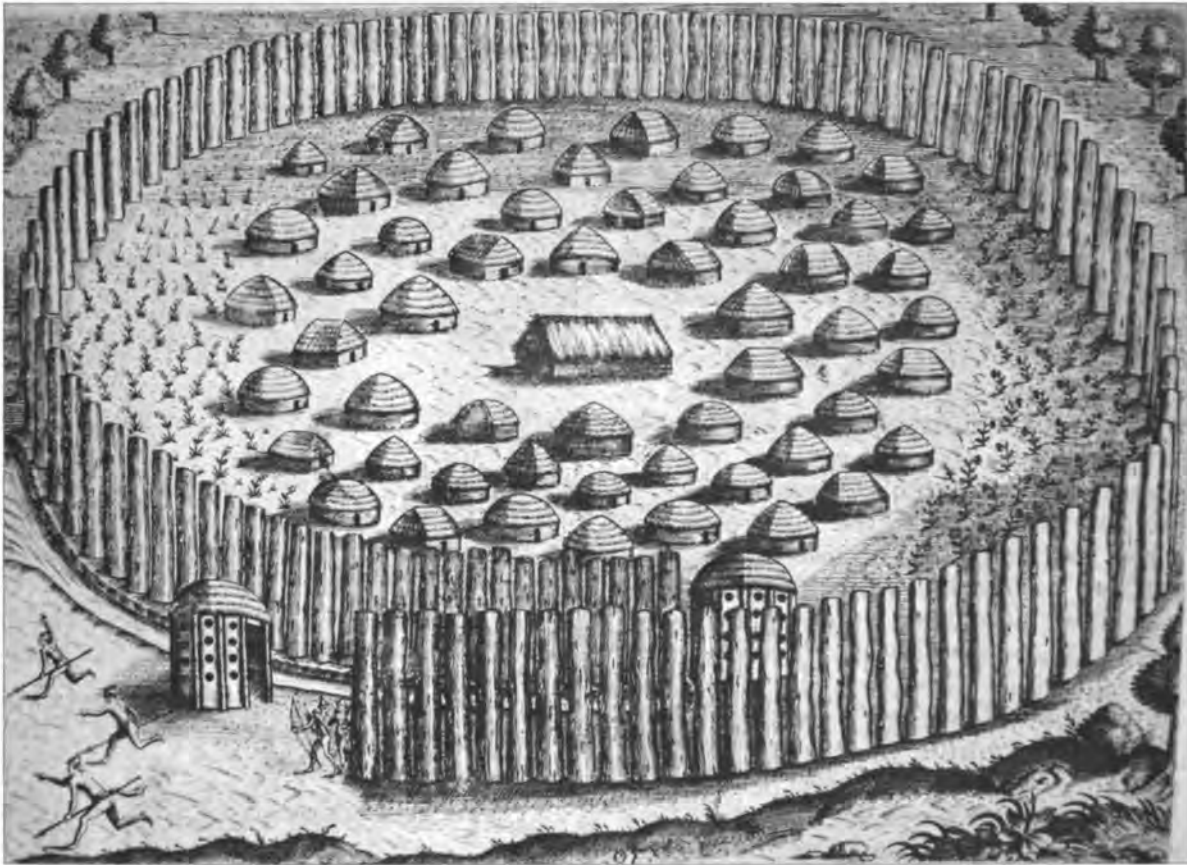


Figure 16: Native town in Florida showing a stockade and houses with thatched roofs. This is an engraving by Theodore de Bry made in 1591 based on paintings that Jacques le Moyne de Morgues had completed soon after his arrival in the New World in 1564 (From Lorant 1946:95).

Looking at Prehistory: Paleoindian Period: ?12,000 to 8,000 B.C.

Paleoindian peoples are represented by several cultures. Scattered sites and tools from many of these have been found in southern Indiana, but most Paleoindian sites are quite small with few tools and other remains to inform on their lifeways.

Clovis culture is the best known of the Paleoindian period and was a successful hunting tradition that emerged from the first peoples to enter the New World from Siberia. The first peoples probably entered North America along the Pacific Coast and through the interior of Alaska thousands of years earlier perhaps when massive glaciers of packed snow were beginning to cover the land causing ocean levels to drop three hundred feet lower than they are today. The Clovis culture developed probably several thousand years after people were already actively exploring the New World. Clovis people apparently lived in small groups and moved their camps frequently in search of game and plant foods.

Clovis hunting camps and tool manufacturing sites are distributed from the Atlantic to the Pacific and from Alaska to Florida across all types of landscapes. The basic Clovis tool kit includes the distinctive Clovis type projectile point, along with large bifacially flaked tools and unifacial blades for butchering game, and side scrapers and end scrapers for cleaning and preparing hides for clothing and shelter (Figures 17-18). They also used bone, antler and ivory for tools made from the animals they killed, but these are not often preserved except in wet sites, such as springs in Florida and Arizona and frozen sites in the Arctic in environments where bacteria and other organisms cannot destroy the evidence. So far, no perishable Clovis artifacts



Figure 17: Clovis and later Paleoindian period Quad and Beaver Lake projectile points from sites in southern Indiana. The Clovis point shown in the lower right was recently recorded and donated to the Glenn A. Black Laboratory of Archaeology.



Figure 18: Tools used during the Paleoindian period. These include an end scraper, side scraper, unifacial butchering knife, and "rat-tail" tool (above) perhaps for hafting into a handle for use as a scraper.

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have been found in Indiana, but many Clovis projectile points and other stone tools have been collected, indicating this part of North America was just as important as other areas for Clovis survival and settlement.

The environment in Indiana at the close of the Ice Age was much colder than today. Studies of pollen preserved in mud and peat in the bottom of ancient ponds and lakes show that spruce and pine forests covered much of the land with intervening open steppe-like grasslands. This environment was home to the mastodon, mammoth, musk ox, ground sloth, caribou, dire wolf, peccary, saber tooth cat and a variety of smaller game animals (Figures 19-20). By about 8,000 B.C., the glaciers that once covered the Midwest had melted back into Canada and basically all of the larger animals were extinct by the time the environment finally changed to the hardwood forest of today. Animals such as the caribou and musk ox still survive in the far north today.

The hill country of south-central Indiana encompassed by the Hoosier National Forest is a very unique part of Indiana (Figure 21). This region is known for its caves, crevices, and other natural traps where now extinct animals entered and eventually died. Their bones accumulated with sediments, leaving an important record of the natural history of the region. Some of these include the Harrodsburg Crevice and Knob Rock Cave in Monroe County and Megenity Peccary Cave in

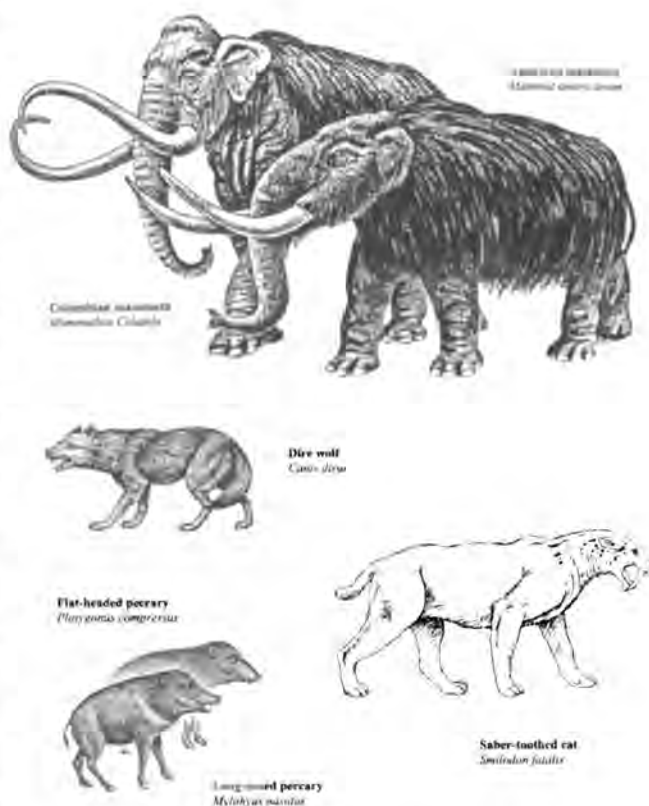


Figure 19: Ice Age Animals including mammoth, mastodon, dire wolf, two types of peccary, and saber-toothed cat. All of these animals went extinct at the end of the Ice Age (Modified from Lange 2002: 95, 106, 161, 167).

Columbian mammoth
Mammuthus Columbi

American mastodon
Mammuthus americanum

Dire wolf
Canis dirus

Long-nosed peccary
Mylohyus nasutus

Flat-headed peccary
Platygonus compressus

Saber-toothed cat
Smilodon fatalis

Crawford County. The remains of giant ground sloth, dire wolf, peccary, saber tooth cat, and other extinct animals have been found in these natural traps and pit caves (Figure 22).

While Clovis kill sites of mastodon and mammoth are known from widely scattered sites in the United States, none have been

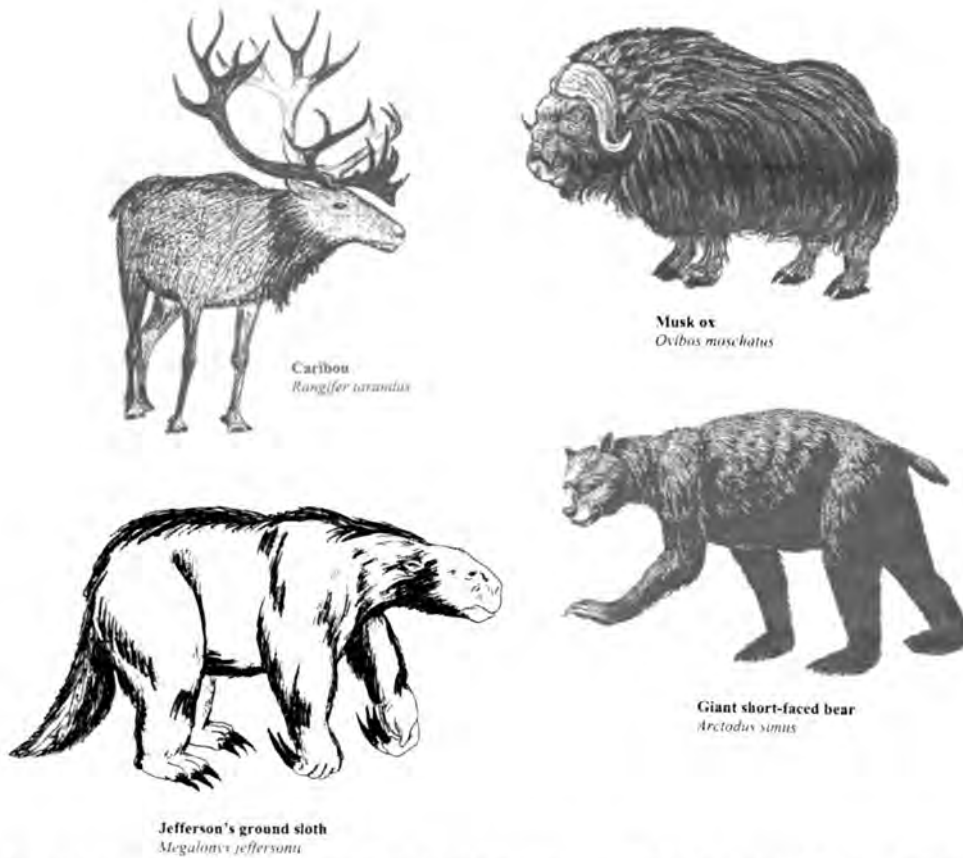


Figure 20 : Ice Age Animals including caribou, musk ox, ground sloth, and giant short-faced bear. The ground sloth and giant short-faced bear went extinct at the end of the Ice Age. Musk oxen and caribou still live in the arctic today (Modified from Lange 2002: 83, 101, 148; and Pielou 1991:145).

- | | |
|---|--|
| Caribou
<i>Rangifer tarandus</i> | Musk ox
<i>Ovibos moschatus</i> |
| Jefferson's ground sloth
<i>Megalonyx jeffersonii</i> | Giant short-faced bear
<i>Arctodus simus</i> |



Figure 21: A small rockshelter overlooking the Salt Creek Valley, Monroe County, IN. Investigations determined the shelter to be a shallow and disturbed accumulation of sediments that contained evidence of sporadic use during the Archaic period. Interestingly, the site also contained small fragments of preserved bone and charcoal. Some of the bone is thought to be Pleistocene in age and could have been left in the shelter by Ice Age predators. Indiana University field school, 1978.

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Figure 22 (left): An entrance to Harrodsburg Crevice now covered by soil and grass (Photo by the author). The crevice extends to an unknown depth and may connect with a large cave system. During the Late Pleistocene (Ice Age), solution cavities formed within the Salem Limestone and some with steep walls became natural traps from which unfortunate animals could not escape.

The Harrodsburg Crevice has produced the remains of fossil animals including saber-toothed cat, peccary, dire wolf, black bear, coyote, and wood rat. Wood rats probably lived within the crevice and may have scavenged and brought in some of the bones. On the other hand, peccaries were large animals and probably were trapped along with saber-toothed cat that sought them as prey. An open grassy landscape with patches of trees probably existed at the time the animals died in the crevice during the period between 40,000 and 10,000 years ago (Volz 1977).

Figure 23 (right): Mastodon bones exposed within the sediments of Prairie Creek, Daviess County, IN. Reports of finding large animal bones by the landowner in 1974 prompted archaeologists to investigate the site. The excitement of perhaps having found a buried Clovis site led to two seasons of excavations where many detailed stratigraphic maps were made of the creek bank deposits and more scattered mastodon bones were unearthed. After careful study of the creek bank, it was concluded that thousands of years of flooding had caused Prairie Creek to cut and refill repeatedly since the Ice Age. The mastodon bones had been moved and scattered by the creek perhaps many times before coming to rest where the archaeologists found them. The few prehistoric tools that were found date to the Middle and Late Archaic periods and these were found in redeposited soils above those containing the mastodon bones. Indiana University field school, 1975.



found so far in Indiana. Kill sites are those that have animal remains with stone tools among bones and sometimes a small campsite where tools were made and resharpened around a fire. The kill site is often at a spring or pond where perhaps the large animals died after being wounded with spears some distance away. Finds of mastodon bones are relatively common in the ponds and gravel pits around the state and we can expect some archaeological surprises in southern Indiana if such finds are reported to the archaeological community before they are disturbed or looted (Figure 23).

At least some of the steep ravines and hollows of the Hoosier National Forest may have been used as natural surrounds by Clovis hunters to trap and kill game and make winter camps that would have been at least partly protected from the wind and cold of the Arctic-like conditions they endured. We know from geological and pollen studies that southern Indiana was not covered by glaciers during the last Ice Age (Wisconsin) between about 19,000 and 13,000 B.C. Even earlier glaciers by-passed the hill country of south-central Indiana providing a unique refuge where ice age plants and animals survived when the rest of Indiana was covered by thick glaciers that had advanced out of Canada and the Great Lakes area (Figure 24). Therefore, at the close of the Ice Age, south-central Indiana was environmentally ahead of the rest of Indiana as the changes



Figure 24: Map of Indiana showing the extent of Ice Age (Pleistocene) glaciations (From W. J. Wayne "Ice and Land" in Lindsey 1966: Fig. 8).

away from Arctic-like conditions slowly gave way to a warmer climate. The kinds of plants and animals that we are familiar with today took the place of the Arctic species earlier here than in northern Indiana.

During the very long process of glacial melting due to the change in climate, the major river valleys such as the Ohio, White and Wabash were formed by carrying large amounts of cold glacial meltwater. The glaciers deposited tremendous amounts of sand, gravel, and soil within the river valleys and across the land. The glaciers also formed the landscape over much of Indiana including the many hills and moraines (e.g. wide, parallel lines of hills marking where glaciers of ice advanced and then melted back). Plowed fields in

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northern Indiana often contain thousands of rounded and flattened rocks of all sizes that were carried down from Canada by the glaciers. Glacial melting also caused tributary streams and lowlands to be flooded creating wide waterways and lakes that eventually shrank and dried as the climate warmed. However, many swamps and lakes that existed when the pioneers settled in Indiana were created during the Ice Age and some remain viable aquatic habitats up to the present time.

The Alton, or Magnet, site in Perry

County is important for our understanding of Paleoindian occupations of the Hoosier National Forest. It is a large and important base camp where many Paleoindian projectile points, including Clovis points, have been found. This site represents a special location where Clovis and other groups lived, manufacturing new spear points and other tools, and probably making homes (Figure 25). From this site, the people geared-up many times for major hunts in the hill country and valleys of southern Indiana and returned again to eat, rest, make and repair clothing and shelters, and make new tools.

The Potts Creek Rockshelter produced a broken Clovis point (Figure 26). The projectile point was found in a small pile of artifacts left on the floor of the shelter by looters after they had severely churned the shallow deposits for prehistoric artifacts. Sadly, such looting behavior has ruined some of the better archaeological sites in the United States and, unless stopped, the last

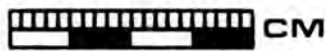


Figure 25 (above and right): Clovis projectile point and blade tools made from Wyandotte chert. The blade tools are pressure retouched on the margins to form edges for cutting meat and scraping hides. These and many other Paleoindian tools have been found on the surface of the Alton (Magnet) site in Perry County, IN (Courtesy of Donald Champion).

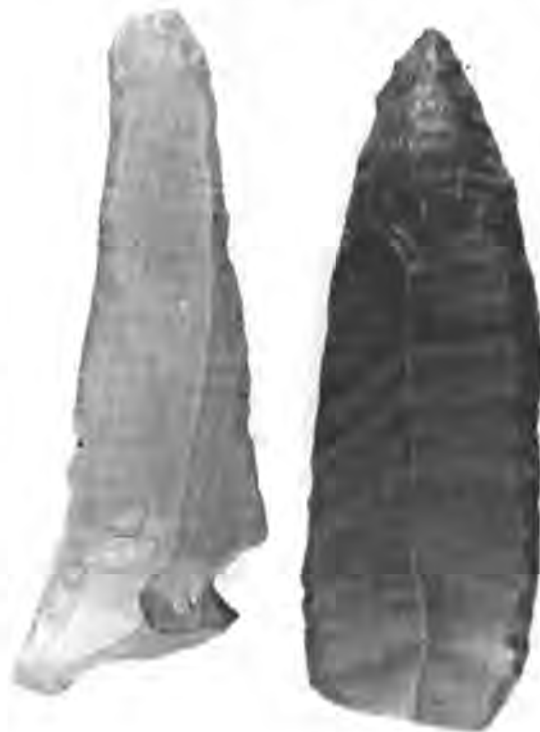




Figure 26: Clovis point base found in looter's spoil pile at Potts Creek Rockshelter. The specimen has an encrustation of calcium carbonate on the break which is common on ancient tools long buried in damp, chemically rich soil. The point is also damaged from the heat of a fire. Perhaps long ago while a Clovis hunter stayed at the shelter for protection from the weather to eat, relax and repair weapons, he cut the sinew binding and discarded the broken base in a campfire and then re-armed a spear with a freshly made Clovis point before leaving to resume hunting. (2 cm scale)

vestiges of data on America's first peoples will be lost forever (Figure 27). There are reports from local persons familiar with the Hoosier National Forest that other Paleoindian projectile points and tools have been collected from other rockshelters as well. Such circumstantial evidence suggests that rockshelters may have been used regularly in south-central Indiana beginning with Paleoindian occupations in the region as temporary homes away from larger base camps.

The archaeological deposits at Rockhouse Hollow Shelter in Perry County are at least eight feet deep and excavations there in 1961 by James H. Kellar, with a permit from the Forest Service, proved that the occupations began during or before the Early Archaic period (Figure 28). Rocks that had fallen from the roof of the sandstone alcove



Figure 27: Archaeologists at Potts Creek Rockshelter discussing the looting damage and how to proceed in the investigation and assessment.

and yellow sandy soils were encountered in the deepest areas excavated at the shelter, but solid bedrock was not recorded in any of the excavation units. Thus, there remains some potential for finding a buried Paleoindian or older occupation within this and other rockshelters. While no bones of Ice Age animals or other remains were found to indicate the age of the early deposits, the results of the excavations prove that the rockshelter was open for occupation and accumulating sediments during this time. It appears when people realized the attractiveness of a particular shelter, they returned for thousands of years thereafter (Figure 29). There is also the distinct possibility that the remains of

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Figure 28: Record keeping during 1961 excavations within Rockhouse Hollow Shelter, Perry County, IN. The test excavations by James H. Kellar demonstrated the deposits were over eight feet deep at the rear of the overhang and the site contained evidence of human occupations spanning 10,000 years.



Figure 29: An early trip to Ash Cave, Perry County, IN. Note the sandstone rocks (break-down) on the floor and slope of the shelter that have fallen from the roof in the course of natural weathering over thousands of years. The decomposition of the rock

ledge is largely due to the variation in weather during the different seasons of the year. Alternating wet and dry and freeze and thaw cycles causes the rock to break off in sheets and blocks following naturally weak cracks and lenses within the rock.

some very ancient rockshelters are now buried and no longer visible on the surface. This happens as a natural evolution of hillsides and rock exposures as soil erosion takes place along with the collapse of rock overhangs. In the early 19th century, farming and clear-cut logging operations also caused severe erosion of the top soil that added to the deposits along steep slopes (Figure 30). Ancient buried rockshelters could exist anywhere along the old ravines of the Hoosier National Forest. While they would be difficult to detect, some could hold the key to the first peopling of Indiana during the Ice Age that may be much more ancient than we presently know (Figures 31-32).



Figure 30: A rockshelter investigated during the 1999 Hoosier National Forest archaeological survey. Note the overhang and slope mixed with soil and rock, fallen from the ceiling and also washed in from the sides of the overhang.

Figure 31: A hill in Perry County showing a large piece of sandstone bedrock on the slope. Untold numbers of pre-historic people may have happened by this place when an ancient rockshelter was still open for habitation. Today, all such remains are probably buried beneath weathering sandstone and soil on the hillside.



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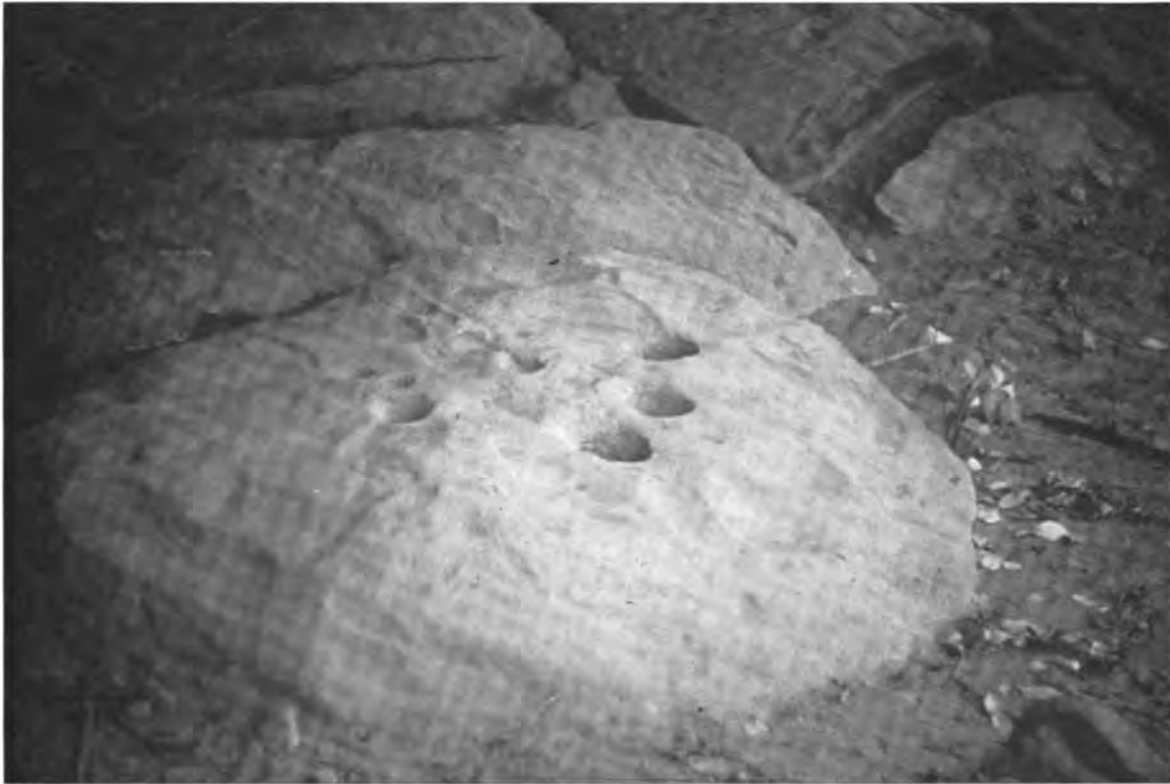


Figure 32: Prehistoric mortars for processing nuts and other foods on the floor of Peter Cave in Perry County, IN. These are often referred to as “bedrock mortars” but they are often large blocks of sandstone fallen from the roofs of caves and rockshelters that may preserve the remains of ancient campsites beneath them.

Looking at Prehistory: Early Archaic Period 8,000 to 6,000 B.C.

The Early Archaic period is a time when hardwood forests and prairies were established in Indiana in response to the warming climate after the Ice Age. Whitetail deer became a primary source of meat for Archaic peoples, along with black bear, elk and many smaller animals that live in Indiana today. In Indiana black bear and elk were finally hunted to extinction by around 1850. Collections housed at the Glenn A. Black Laboratory of Archaeology contain a black bear skull reportedly found near Hazelton, Indiana that exhibits a round hole in the skull, indicating a musket or rifle was used to kill the animal. Bison were numerous and heavily exploited on the central Plains during the Paleoindian and Early Archaic periods, but not in the eastern United States.

Early Archaic people, much like the Paleoindian people frequently changed the locations of their hunting and collecting camps to take advantage of hunting opportunities. Their camps were most often small and only used for a short time. A camp fire or two with some rocks and debris from making tools along with a few broken and worn-out tools is all that many sites contain. While there is no archaeological evidence of structures during the Early Archaic and the earlier Paleoindian period, their homes were probably made with poles and covered with hide, grass, or bark depending on the location of the camp and the available building materials. These remains are so old and scarce that little has survived to help us understand these people and their lives. Early Archaic peoples are no doubt descended from earlier Paleoindian people, but the genetic relationships can only be determined generally because early human remains that can be used for genetic analyses are scarce and widely

scattered. Based on the numerous types of tools and the wide geographic dispersal of these tools, we can be sure that there were numerous individual groups of people, more or less related, but nonetheless distinct in their own right. This same statement applies to what we also know for many later archaeological periods.

Like Clovis and earlier Paleoindian peoples, Early Archaic people frequently revisited chert quarries where large pieces of high quality chert could be used to make projectile points and butchering tools. Early Archaic projectile points are some of the most common and readily recognized tools in prehistory because they are larger than average, were made in large numbers, and were left at thousands of hunting camps spread across the landscape in all areas of Indiana.

The most common Early Archaic projectile points belong to the Thebes and Kirk Corner Notched clusters, but there are several other major clusters of point types that are known for this period (Figure 33). There are many types and varieties that represent different Indian groups that may have spoken different languages and dialects. This is because the tools themselves were manufactured and re-sharpened using unique manufacturing strategies and techniques that were difficult to master and had to be taught to novices who maintained the different manufacturing traditions for generations without significant changes. Thus, it appears even at this early time, there were many Indian cultures that over time only became more numerous and complex.

The manufacturing process begins with controlled percussion on blanks and large flakes struck from cores.

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Thebes cluster points were made mainly with percussion, but Kirk points were made mainly with pressure flaking, which was also used in resharpening cutting edges when the tools became dull from use (Figure 34). Resharpening of Thebes cluster projectile points, on the other hand, is marked by alternate beveling using pressure flaking on

opposite sides of the cutting edge (unifacial), presumably to remove less material while achieving a sharp cutting edge- in order to keep the tools in use as long as possible. Kirk cluster projectile points were nearly always finished with pressure flaking on both faces (bifacial) and this probably created more waste, and required more trips to quarries or

Figure 33: Early Archaic Thebes and Kirk Corner Notched Cluster projectile points. The Kirk points are from archaeological investigations at Swans Landing and Rockhouse Hollow Shelter. The thin, unnotched piece (preform) on the right was made by Kirk knappers. Preforms were sometimes kept for use as hand-held knives or stored with others for later use, when a new spear point or knife was needed to tie securely (haft) to a spear or handle with sinew. Perhaps the preform was lost or forgotten before the owner had a chance to pressure flake the corner notches.



Figure 34: Archaic and Woodland period flint knapping tools made from deer antler. The tips of the antler tines (above) are worn back from repeated heavy use in pressure flaking. Such tools were also used as punches struck with a hammer of antler or stone. The antler section (below) is a baton, or billet, for use as a hammer and percussion flaking. The butt-end is rounded and battered from repeated use in percussion to thin bifaces in the process of making stone tools.

frequent trading to obtain new tools. Notching on Kirk points involved pressure flaking to achieve a narrow notch, whereas Thebes cluster points probably required the use of indirect percussion with a punch along with pressure to create deeper notches in several designs on refined bifaces much thicker than Kirk (Figure 35). All of the Early Archaic projectile point types required strength and expert craftsmanship on the part of the flint-knappers (Figure 36).

The finest raw chert to be found in Indiana is Wyandotte that occurs in western Harrison

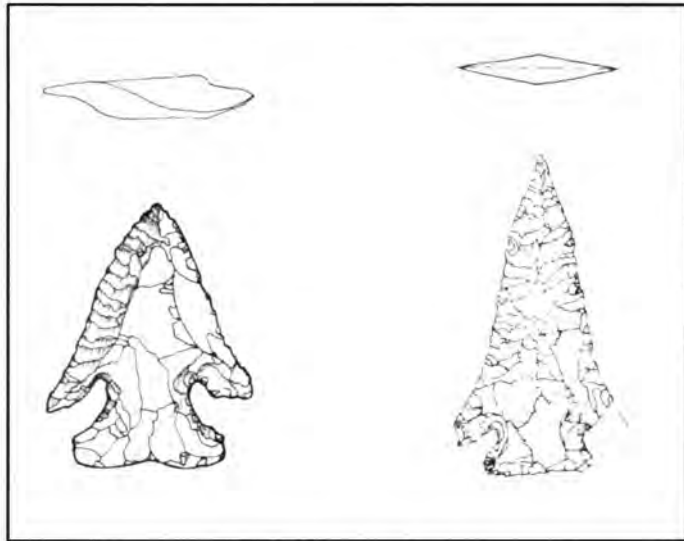


Figure 35 (above): Heavily used and resharpened Thebes and Kirk (Pine Tree) projectile points. When new, both of these points had blades that were much longer and wider. The Thebes point (left) has been resharpened unifacially (one blade edge) with pressure flaking on the left side creating a bevel as shown in the cross section. The Kirk cluster point (right) has been resharpened bifacially (both blade edges) with pressure flaking maintaining an edge in the middle of the cross section. The cross sections show what the specimens look like when oriented vertically and viewed from above (Modified from Justice 1987:Figs. 12j, 14k).



Figure 36: The author demonstrating the use of an elk antler billet for bifacial percussion thinning to make a projectile point during "Discovering Archaeology," Indiana University, 1990's. Photo courtesy of Ms. Jodi Pope-Pfingston.

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and eastern Crawford counties. This chert was perhaps used more frequently than any other in Indiana from Paleoindian times onward. Excavations at sites such as Swans Landing and Caesars, located on the Ohio River, have produced thousands of fine examples of Kirk Corner Notched cluster projectile points made from this chert. The sites show the hunters were expert flint-knappers who apparently created a surplus at quarries, perhaps to be cached for use at base camps for hunting surplus and extra armament, as well as for trade to surrounding groups.

Early Archaic projectile points made from Wyandotte chert have been found on all landscapes, including rockshelters in the hill country of southern Indiana. Excavations at Rockhouse Hollow Shelter in Perry County suggest a limited use of the shelter during the Early Archaic (Figure 37). However, no evidence of houses was found in this rock shelter or any other archaeological sites. No human burials that date to this time have been found in the Hoosier National Forest, although a few Early Archaic burial sites are known in southern Indiana that included the

placement of chipped stone tools and red ocher (e.g. iron oxide) with the deceased. Most likely, the people believed in an afterlife and so the deceased person would need their personal toolkit. Red ocher was apparently highly prized from Paleoindian times onward. It could be ground into a powder, mixed with grease or water to make paint or dusted over a dead body to give back the flush of life.

Kirk peoples may have been more numerous than others during the Early Archaic period with larger families camping at rockshelters and various open sites. If the people who made Thebes type points regularly kept their tools in use longer and Kirk peoples often created a surplus of tools, the number of expended and discarded tools would not be a good indication of the number of people and the amount of time spent at various hunting and base camps. Another important consideration is that the floodplains of the major waterways hide many early human occupations because of yearly cycles of flooding and the resulting deposits of water transported silts. In addition, hillside erosion into valleys has covered many early sites, including rockshelters.



Figure 37: A range of Early Archaic period projectile points and tools. These are from Rockhouse Hollow Shelter and surface investigations in the hill country of southern Indiana.

Even today, sites in these situations remain buried and are known only from bank erosion and deep exploratory trenching.

We know Early Archaic peoples brought deer and various collected nuts to rockshelters and open sites for consumption and made limited use of hammerstones, stone slabs and pitted stones for shelling and grinding nuts and seeds (Figure 38-39). Another potential use for stone hammers and slabs was processing dried deer meat and berries to store for use in late winter when deer are dispersed, the fall store of nuts is about gone, and fresh plant foods of the spring and summer are not yet available. Another tool type used in the Early Archaic is the chipped stone adze that appears to have been used in wood cutting thousands of years before the ground stone grooved axe was invented (Figure 40). While perhaps remaining only for a few weeks at a time while hunting within the hollows and ravines of the Hoosier National Forest, Early Archaic people apparently made regular seasonal use of the hill country while hunting and collecting many miles away during other times of the year. The narrow and rugged hollows and ravines of the hill country would also have been places of refuge in times of trouble and a good place to find protection from winter storms and summer heat, as well as prime locations for camps while hunting in the uplands.



Figure 38: A pitted stone for cracking nuts from the Early Archaic period occupations at the Swans Landing site.



Figure 39: A grinding slab or shallow mortar with single pits placed around the perimeter suggesting multiple uses in grinding seeds and nuts to prepare food.

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Figure 40: Chipped adzes are the first in a long line of wood cutting tools and appear first during the Early Archaic period. These are from Swans Landing (left) and Rockhouse Hollow Shelter.

Looking at Prehistory: Middle Archaic Period 6,000 to 4,000 B.C.

Hunters and gatherers living during this period experienced the time of maximum climatic warming following the Ice Age that extended into the middle of the Late Archaic period. After that, yearly temperatures began cooling, once more becoming like the climate of more recent times. Projectile points such as Godar and Raddatz, belonging to the Large Side Notched cluster, are the main types that mark this period in Indiana (Figure 41). Other types of projectile points are common during this period in the Middle South, the Southeast, and elsewhere but few examples of these southern tool traditions were carried in hunting expeditions as far north as the Ohio River. Except in rare cases, most of the archaeological sites across the Midwest, including Indiana, seldom produce Middle Archaic tools and other remains in large quantities until the latter part of the period when there is less movement of groups of people and longer and more substantial use of base camps.

While the atlatl or spear thrower was probably in use from the earliest human occupation of the Americas and even earlier in Europe (Figure 42), polished stone atlatl weights appear for the first time during the Middle



Figure 41: Large Side Notched projectile points from Rockhouse Hollow and other sites recorded in hill country. Some of these are broken from use while others show heat fracturing from being discarded in campfires. The upper row includes a hafted scraper made from a projectile point (left), a point with a nearly exhausted blade from resharpening, and a drill form made from a projectile point.

Archaic period. During the next 4,000 years, a wide range of styles of atlatl weights are developed in the Ohio Valley that probably mark significant cultural differences between groups of people (Figure 43). These polished stones are ingenious creations and highly decorative in design and finish. These required both time and skill using hard sand grains and hollow tubes to drill straight holes through the centers for mounting on wooden shafts. The tubes were probably made from sections of cane with the sand glued to the ends, in effect making sets of tubular drills. Such precision drilling probably employed the bow and drill to apply torque and consistent motion. Various rock types were selected for atlatl weights. Some of the more common ones include red and green slate, quartz, granite and schist.

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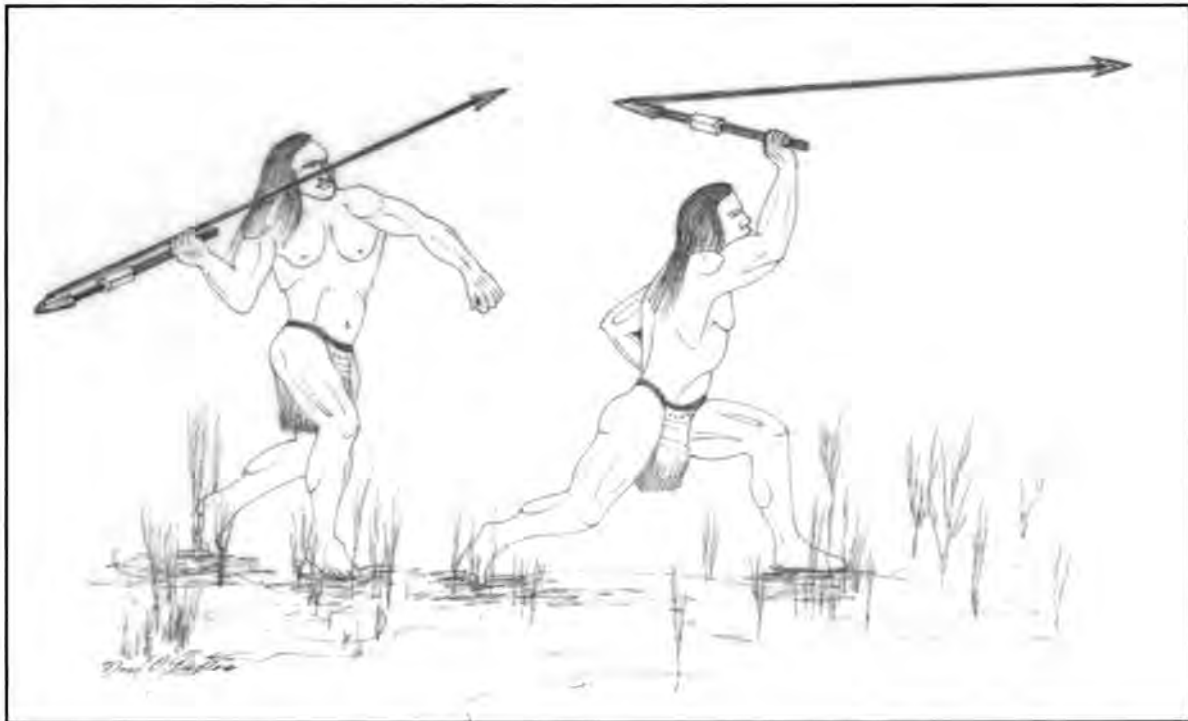


Figure 42: The atlatl in action. Throwing an atlatl requires a secure grip on the spear thrower (atlatl) and spear to keep the two engaged until the spear is cast. On the average, the use of the spear thrower or atlatl improves the ability to cast a spear farther and faster due to the mechanical advantage of lengthening the arm and thereby increasing the amount of thrust and killing power of the weapon.

Feathers were probably added to the spear to increase accuracy. In effect, the ancient spear was essentially a large arrow that only needed to be made smaller when the bow was developed thousands of years later. The atlatl was a shaft of wood with a carved hook often of deer antler to engage a hollowed area in the end of the spear. The handle was also often made from deer antler. A stone weight added to the shaft of the atlatl served as a counterbalance during long hunts when the spear was engaged and was also a way of adding additional thrust. There are many types of atlatl weights during the Archaic period that probably represent different groups of people.



Figure 43: Semi-lunar and “knobbed” atlatl weights made from banded slate and porphyry. These appear in the archaeological record beginning about 6000 B.C. Over the next several thousand years, many different types of atlatl weights or “bannerstones” are developed.

Ground stone tools, often made from granitic cobbles left behind by the glaciers, are common occurrences at this time and are used by all prehistoric peoples after the Middle Archaic period. Grooved axes made by pecking and grinding, rather than flaking, became important tools for girdling trees, splitting logs, breaking firewood, dug-out canoe making, general wood working, and other uses (Figure 44). The appearance of the grooved ax marks a time when people began cutting back the forests to perhaps give nut producing trees more light. This would have also increased the productivity of other wild plant foods. In addition, obtaining firewood would require labor intensive forays at increasing distances from major camps, once the natural deadfall and driftwood was consumed, if ways of killing and felling trees had not been developed. Mortars and pestles, pitted stones and grinding slabs appear in large numbers showing an increase in the use of nuts (especially hickory) and other plant foods (Figure 45). We know that the drier climatic conditions favored the expansion of oak and hickory forests at this time. Deer hunting, along with nut and seed collecting on a seasonal basis, were still the food mainstays along with a host of smaller game and plants. Perhaps mortars pecked into bedrock and large sandstone blocks became popular during this time (Figures 46-47).



Figure 44: Two types of grooved axes made from granite. The axe on the right is fully grooved around the circumference for tying on to a handle. Full grooved axes appear around 5000 B.C. in the archaeological record. The specimen on the left is only $\frac{3}{4}$ grooved leaving a flat spot where a wedge of wood or bone could be inserted to tighten the haft after heavy use of the ax. The latter type is an improvement on the full-grooved ax after it had been in common use for about 2500 years.



Figure 45: Bell pestles of granite and limestone (below) for use in grinding and pulverizing seeds, nuts and other food. The round rocks (above) are chert hammers that were heavily used to batter (peck) and shape granite cobbles to make axes, pestles, and other tools. These probably started out as discarded angular cores from flaking chert to make blades, bifaces, and projectile points. Nearly all of the sharp angles have been removed from repeated battering. The small light and dark spots on one of the pestles is the result of pecking with a chert hammer.

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Figure 46: A prehistoric mortar for grinding nuts, seeds, and other foods battered into a large moss-covered sandstone block that fell from the roof of Celina Rockshelter.



Figure 47: A view of Celina Rockshelter. Excavations by archaeologists from Ball State University revealed the shelter was used for short-term camping beginning in the Early Archaic period and use continued into the Woodland period. Excavations were terminated when breakdown of massive sandstone was encountered at nearly two meters below the surface.

Local chert raw materials of all kinds found near camps within hunting territories were regularly selected for manufacturing projectile points. There was little or no reliance on major chert quarries to supply raw material for flint-knapping needs. For example, at Rockhouse Hollow Shelter the Middle Archaic projectile points are nearly all made from different raw materials obtained locally, with few coming from locations beyond the hill country. Resharpening and reworking the tips of the projectile points is common during this period, indicating the points were regularly recycled as hide scrapers. Atlatl weights, flake debris and many other items were discarded in the rockshelters at this time.

People living in the Midwest during the Middle Archaic period may have been concentrated into smaller areas or, more importantly, may have used the landscape differently than previous people had done for hunting and collecting. At least the evidence indicates there are fewer campsites and fewer tools to mark where they camped compared to those pertaining to the Early Archaic period. Most evidence suggests the environment was not too warm and dry for plants, animals and man to survive. Pollen evidence, on the other hand, suggests the environmental conditions favored plants that flourish in dryer conditions and prairie areas may have experienced less productivity. This may have led people to use more biologically rich areas, such as the Ohio River valley, for major camps without a need to establish many smaller camps any great distance away from the river. There are few signs that camps located in other areas, including smaller tributary streams, were used to any great extent. This conclusion is based upon excavations at sites in the valleys now impounded by Lakes Monroe and Patoka.

The big rivers were apparently shallow enough in the summer months to attract people there to collect mussels and fish, which became very important foods in the subsequent Late Archaic period. There is also an increase in the size of groups of people and a trend for population growth which continues throughout subsequent periods. The evidence for the population increase comes from the recording of larger occupation sites liberally strewn with fire cracked rocks from use in cooking with many fire and roasting pits and more evidence of human deaths and burial ceremony. Perhaps people were living at sites for several months with some year-round occupations of base settlements within environmentally productive zones. Heavily occupied base settlements have numerous fire pits, storage and roasting pits and extensive refuse accumulations called middens. People were no doubt building houses on these midden sites, but these are often impossible to detect in archaeological investigations. Why? Because the trash and all other cultural materials left behind are often mixed by overlapping pits and repeated digging by humans and animals in the soft organic midden soil. In affect, we don't know how big the houses were or how many were located at the base camps.

During this period of higher than normal temperatures and changing habitats in surrounding areas, perhaps the hill country of the Hoosier National Forest was a refuge area, as it probably was at the close of the Ice Age, but especially now that heavy forestation acted to cool the local temperatures. It was probably an attractive place to live, at least on a seasonal basis, to avoid the summer heat by camping in the ravines that open to the Ohio River.

Looking at Prehistory: Late Archaic Period 4,000 to 1,000 B.C.

The Late Archaic period in southern Indiana is represented by numerous archaeological sites, including small camps and large base camps established on a seasonal round that included nearly every type of habitat-- the swamps, creeks, rivers, uplands, and prairie areas. A very substantial Late Archaic occupation took place within rockshelters in the Hoosier National Forest and at many sites scattered along the Ohio River and beyond. Shell mounds, consisting of huge amounts of discarded shells from the freshwater mussel, accumulated at major base camps on all the large streams and rivers along with the bones of fish, fish hooks carved from bone, polished stone atlatl weights, projectile points and

many other tools and artifacts (Figures 48-50, 52). Such sites as Crib Mound in Spencer County, Breeden in Harrison County, and Bono in Lawrence County, are notable shell mound sites (Figure 51).

Highly decorative carved bone pins, pendants, gorgets, bone awls and other tools are commonly preserved in the shell mounds and the drier sediments in the shelters of the region (Figures 53-54). In addition, a few pieces of preserved fiber and sinew cordage that are seldom preserved in archaeological sites have been recovered from investigations of Wyandotte Cave, Indian Cave and possibly Rockhouse Hollow. Late Archaic people living in the hill country collected substantial

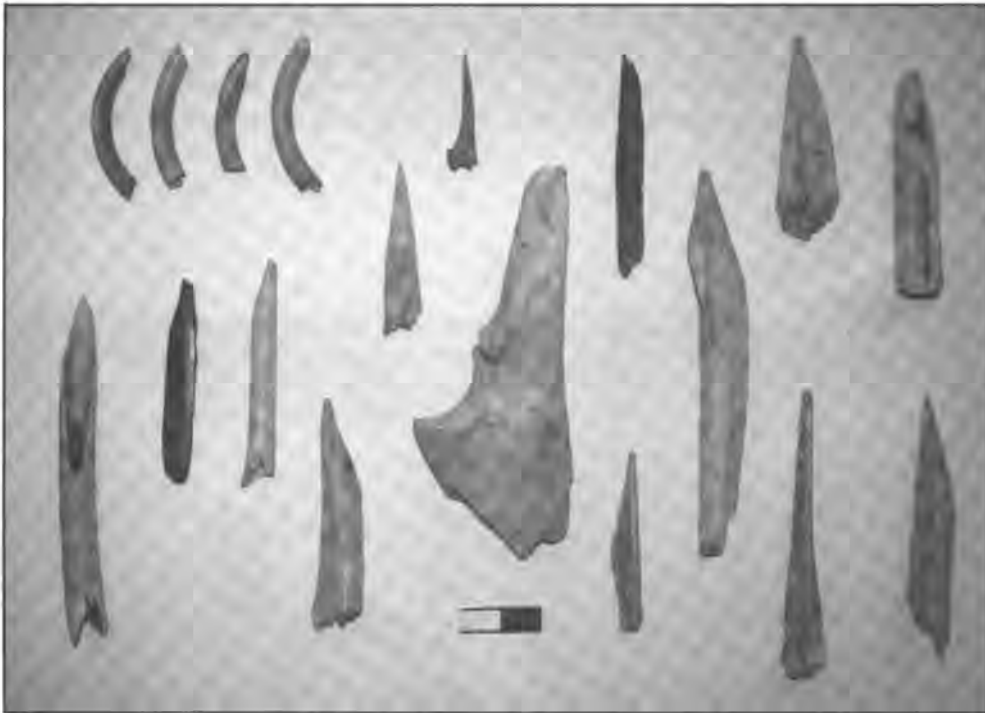


Figure 48: Prehistoric tools made from the bones of deer, fish, birds and other animals. Many of these were used to punch holes for stitching buckskin clothes and hide coverings, as well as weaving, basketry, and many other uses. Rodent incisors made good wood carving tools (upper left). The catfish spine (center) would work well almost without modification as a needle or punch.

Looking at Prehistory

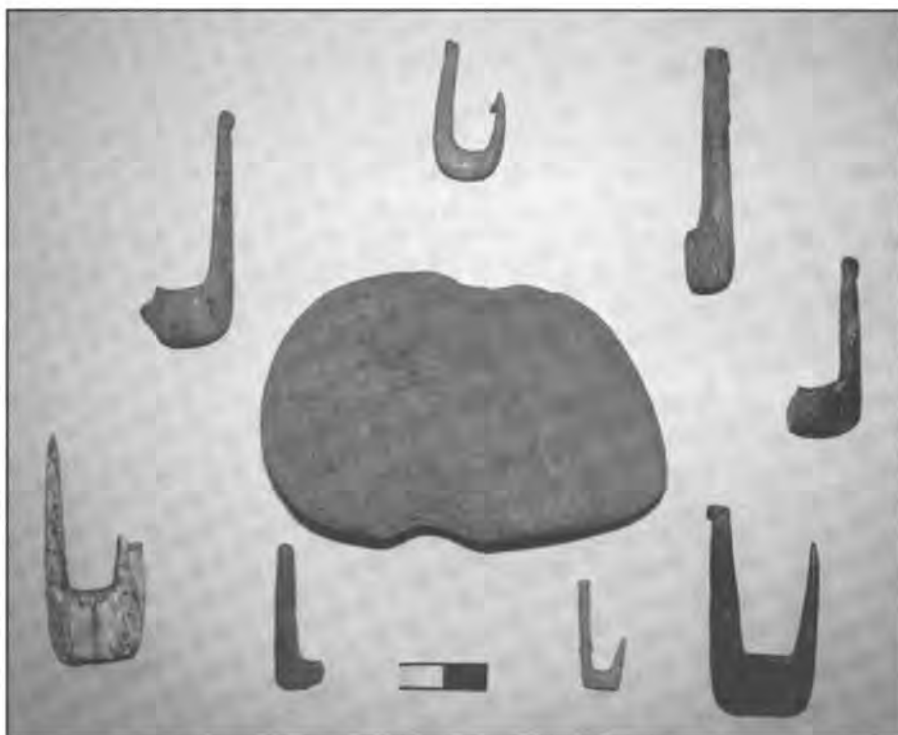


Figure 49: Carved bone fish hooks and a net weight from Crib Mound and the Elrod site, Clark County, IN. While quite suitable for individual angling, such items were probably used in multiple sets and combined in ingenious ways with the use of nets, fish weirs and other equipment. Depending on the time of year, the depth of the water, fishing location, number of fisherman, and the desired catch, everything from

spears to clubs and poisons were probably also typically employed in fishing.

Bone preservation is poor at many prehistoric sites. Great numbers of fish hooks were probably used and left at summer base camps along all the major streams. Unfortunately, over time they deteriorated in the acid soil along with countless other perishable tools and artifacts.



Figure 50: An atlatl handle and hook fragment carved from deer antler recovered from Crib Mound and Clark's Point, Clark County, IN.



Figure 51: An early photograph of Crib Mound as it was being rapidly eroded by the Ohio River. The millions of mussel shells discarded in prehistory helped preserve many otherwise perishable artifacts made from bone and antler.



Figure 52: Middle to Late Archaic period atlatl weights of schist and rose quartz.



Figure 53: Archaic and Woodland period tools made from deer, bird and other animal bones. The antler was partially sawed through with stone tools and then snapped to extract desired pieces. Bone tools are common in all prehistoric time periods but are found only when the soil chemistry and environmental conditions allow bone to be preserved.

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Figure 54: Carved and decorated bone pins and an ornament from Crib Mound. The fine incising was probably done with stone tools and sharpened rodent incisors.



Figure 55: Fresh-water mussel and snail shell from Rockhouse Hollow Shelter, including beads and pendants made from the shell.

numbers of mussels along the shoals of the Ohio and White Rivers that were sometimes carried several miles inland from the river to be disposed of after meals in rockshelters and other camp sites. The Bono site, for example, is located on a bluff top and the mussels had to be carried up the steep hillside to the site where the shellfish were eaten and the shells discarded (Figure 55).

The French Lick and Maple Creek phases are local cultural designations for the Late Archaic period in the region centering on the Patoka Reservoir and along the Ohio River. Karnak, McWhinney, Matanzas and Brewerton Eared projectile points are the dominant projectile point technologies of the time (Figure 56-57). A seasonal round was well established. It consisted of summer and fall base camps at stream confluences along the major rivers and fall and winter hunting camps in rockshelters and various open sites. Matanzas appears to be a smaller continuation of the earlier side notched tradition, whereas the others appear to be unrelated technological



Figure 56: Matanzas and Brewerton Eared projectile points from various sites in the hill country. Many specimens with blunt-ends are unifacially flaked for use as scrapers to clean and dress hides.



Figure 57: Late Archaic Stemmed cluster projectile points from sites in the hill country.

Looking at Prehistory

developments. It remains unknown if the Brewerton Eared technology expands down the Ohio River Valley from the Northeastern United States or if it is only a local variation in the same tradition that produced Matanzas within the central Ohio Valley. There was a heavy emphasis on deer hunting and the collecting and processing of nuts of all kinds (e.g. hickory, acorn, walnut, butternut, chestnut), as well as starchy and oily seeds and some horticulture at this time to boost food production.

Over-hunting of deer along the major rivers may have been a major reason why people began using small tributary streams and uplands over all landscapes. In addition, the problem of rapidly growing local populations

required the use of more land for hunting and collecting to feed more families. Another reason for the widespread use of all landscapes was the active exploration for microhabitats where edible plants of all types grow in profusion. Besides the intensive use of collected nuts for food, we know people all over the Midwest were using seeds and probably greens of all types of edible plants for food and medicine. We know this from soil samples collected from excavations that have been washed carefully to extract small carbonized seeds and other remains (Figure 58) and then later identified (e.g. flotation samples). While the heavy use of nuts is indicated at this time from many open sites and rockshelters, a fragment of



Figure 58: Soil samples recovered during an excavation are being washed through a fine mesh (flotation) to recover charred seeds, nuts, and wood charcoal for later identification. Indiana University field school, 1980. Today we have specialized flotation machines that circulate the water and make the process more efficient and also recover more fragile charred material with less damage.

squash rind was recently recovered from Indian Cave. This site is now added to the small list of archaeological sites in the Midwest where this plant has been identified. Squash was utilized as early as 5,000 B.C. and its importance as food continues to increase until it is finally regular food grown in farms along with other wild and domesticated plants in the Late Woodland and Mississippian periods.

Evidence for the preparation of pits probably with skin liners to boil water with hot rocks is a common theme on Late Archaic base camps in open locations on the landscape. Base camps often have tremendous amounts of fire cracked rocks in the middens. These rocks fractured from the thermal shock of constantly rotating hot rocks in and out of fires to boil water in nut filled containers. Boiling methods presumably increased the volume and efficiency in the process of extracting nut meat and oil from hickory nuts, acorns and other collected nuts to make more food available. This marks an improvement in food production, undoubtedly to feed growing families and larger groups of people (Figures 59-60). The evidence we may have for this at many rockshelters



Figure 59: A large nutting stone with multiple pits to make the work of cracking large volumes of nuts more efficient. Imagine several families involved in transporting collected nuts in baskets back to a seasonal camp where they would crack the nuts using several large nutting stones and stone hammers. They would then boil, parch, and cook the nutmeat for making breads, soups and other foods and also extract the nut oil for various uses. Late Archaic people sought ways to make food production more efficient and began growing and tending wild plant foods. Creating a surplus allowed them to store prepared food for lean times and focus on making craft items for exchange and trade with other groups.



Figure 60: Sandstone abradер and nutting stone from Rockhouse Hollow Shelter. The groove on the abradер was probably a slot where wood and bone tools could be shaped and sharpened.

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is mostly circumstantial, as these sandstone alcoves naturally produced thousands of pieces of rock fallen from the ceilings that could have been readily used for this purpose although some pieces are reddened from burning. In any case, had rounded river pebbles or other foreign rocks been transported to the rockshelters, their presence would be a more obvious testimony to the stone boiling technology at this type of site.

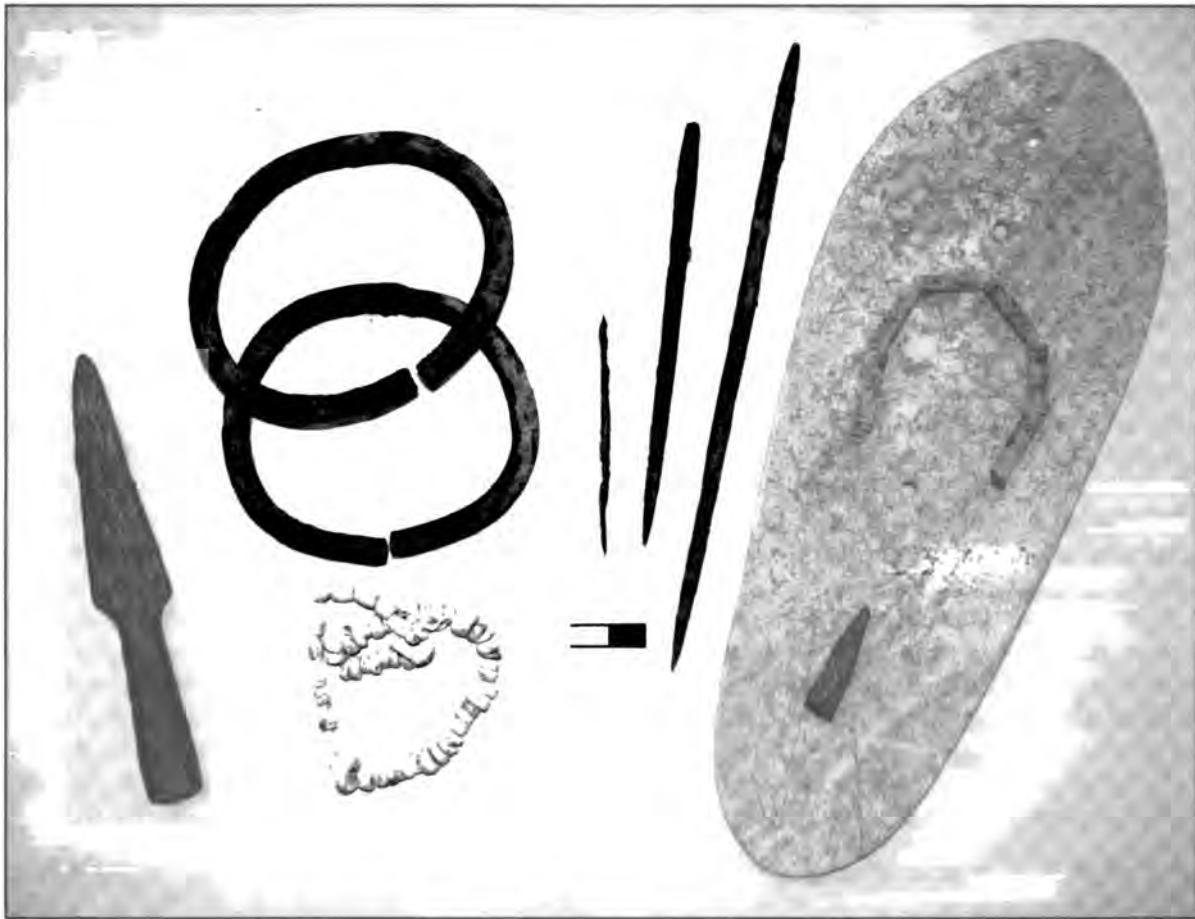
Toward the end of the Archaic, the Riverton and other cultures appear. The Riverton people employed rather small side and corner notched projectile points to arm their spears that were often made from small chert pebbles collected from river gravel. They also left substantial middens of dark organic soil at their base camps testifying to the intensity at which they harvested and processed a wide range of animals and plant foods. The Riverton people, along with other cultural groups, are recognized mainly by the projectile point types they produced such as Buck Creek Barbed, Turkey-tail, and Ledbetter, etc. These

peoples occupied all areas of southern Indiana including the hill country of the Hoosier National Forest (Figure 61).

Beginning about 2,500 B.C. the Late Archaic period in the Midwest is marked by long distance trade in copper, marine shell and other items coming from the Great Lakes and Gulf Coast areas. Although located nearly midway between these source regions, none of the sites within the Hoosier National Forest show evidence of being the final destinations for exotic trade goods, but people in the area probably had a direct involvement in the trade nonetheless. Copper came mostly in the form of beads, bracelets and awls, and less often in lumps of raw copper (Figure 62). Marine shell was often made into beads and other decorative items such as gorgets. Many other kinds of perishable goods could have been used for exchange and payment for moving marine shell, copper, and other articles through tribal territories to destinations many miles away. The perishable goods no longer survive as testimony to the vast exchange network in commodities that



Figure 61: Late Archaic period projectile points including Table Rock cluster, Ledbetter, Buck Creek Barbed, and Riverton cluster types from bottom to top.



must have existed. Some of the trade routes probably utilized the ridge tops for easier movement north to south through the hill country.

One important trade commodity which was made at the Wyandotte chert quarries near Corydon was the Turkey-tail point (Figure 63). Many large sites in the vicinity of Harrison County show intensive industries were active producing numerous thin and finely crafted Turkey-tails for use in a vast trade that distributed them into Ohio, Illinois, Michigan, Wisconsin and Ontario. These are called Turkey-tail "caches" that consisted of several to many fine specimens that were kept together as a group. Excavations of Turkey-tail caches often show the specimens were nested together, suggesting they were bundled for

Figure 62: Copper and shell artifacts. The large shell item is a "sandal-sole" gorget. The copper spear on the left is typical of the Lake Superior region where the copper was mined. Such items, if they were traded south, may have been reformed into beads, awls, and bracelets because few, if any, spears of this type have been found outside of the Great Lakes area.

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safekeeping during transport. Once arriving at their destination, they were not used for everyday tools but, perhaps, kept within their original containers and soon placed in honored graves or buried as offerings to deities in the spirit world. Some of these caches were intentionally broken at the time of burial without the loss of any of the fragments. Turkey-tails were probably a main commodity exchanged for copper lumps, awls, beads and bracelets. Copper articles such as these were making their way south from mines on Lake Superior to destinations to the south in Illinois, Kentucky, and Indiana. One fine Turkey-tail cache is recorded for a site in Orange County which, along with other information, suggests at least some of the finest Turkey-tail caches were destined to be used in local ceremonies never to be traded out of southern Indiana.

Most of the Turkey-tails made at sites in southern Indiana are utilitarian

items that are not of a cache quality. This is true at many sites, even those in the region of Harrison and Crawford counties where the Wyandotte chert is found in abundance. This is because the basic Turkey-tail shape was used as an everyday tool in the local region. Many of them show they were heavily used like other stone tools, with the blades becoming shortened through resharpening and use (Figure 63). Yet, the flint-knappers who crafted the Turkey-tail cache blades were experts at using the methods for controlling the thinning and shaping process and would have required greater than average skill. One suspects that some particular families were noted for their flint-knappers, who may have adopted something like a local cottage industry where expert craftsmen were free from subsistence tasks to devote large amounts of time to manufacturing fine Turkey-tail cache blades for trade.

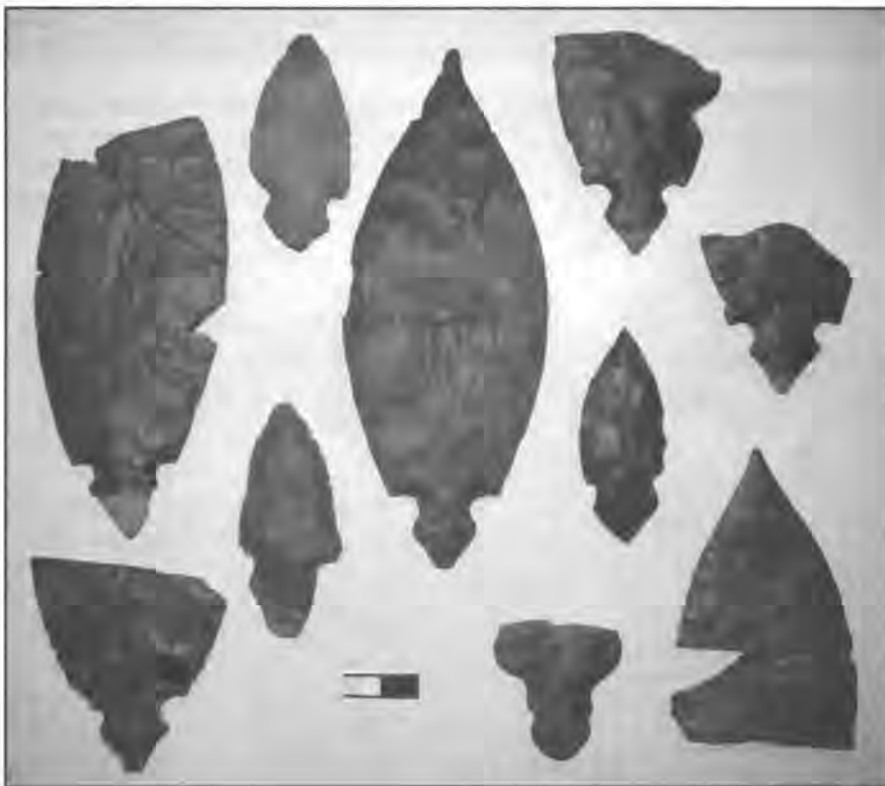


Figure 63: Turkey-tails from sites in the hill country. The larger specimens are reconstructed from fragments surface collected over many years from a site in Orange County that were donated to the Glenn A. Black Laboratory of Archaeology.

Looking at Prehistory: Early Woodland Period 1,000 to 200 B.C.

Artifacts that pertain to this period include projectile points belonging to the Early Woodland Stemmed cluster, Dickson cluster, Motley cluster, and the straight stemmed types within the Saratoga cluster (Figure 64). There are many different Early Woodland cultures. A phenomenon that continues from the Late Archaic period is the making of cache blades made from Wyandotte chert. These were also distributed as trade commodities long distances from the Harrison County area in exchange for copper articles and other exotic raw materials and artifacts (Figure 65).

The most important development that distinguishes the Early Woodland period is the first appearance of pottery that spreads from the southeastern United States to eventually be adopted by all prehistoric peoples in the East. The use of ceramic containers marks a

revolution in storage and cooking technology that arrives in the Ohio Valley around 600 B.C. from the southeastern United States. Some local types of this pottery are known as Sugar Hill, Marion and Fayette Thick. These vessels were thick-walled, heavy and often had flat bottoms and a shape roughly like a flowerpot (Figure 66). These are only known from fragments because no whole vessels have been found anywhere in the Ohio Valley.

Local clay was collected and coarse stones including sandstone, limestone, quartz, rounded pebbles, and sometimes chert or flint were added to the wet clay as temper to add strength and help minimize shrinkage and cracking during drying and firing. Pieces of woven fabric and cordage were pressed into the interior and exterior of the vessel as an aid in manufacture and to help maintain



Figure 64: Various Early Woodland period projectile points from sites in the hill country and beyond.

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the finished shape until the clay dried. The roughened surface may also have served as an aid in holding and moving the vessels after they were fired. These impressions of cords and fabrics are about the only surviving evidence of the weaving and cordage industries that no doubt existed as early as people set foot in North America. The woven fabrics and cords used to form pottery vessels were probably pieces of worn-out clothes and perhaps pieces of rugs and blankets that were re-used one final time before being thrown away. In just a few centuries, the use of cord impressions in various ways on the outside of ceramic vessels becomes a way of also decorating pottery.

Only a few pieces of interior and exterior cord and fabric marked pottery have been found at sites located in the Hoosier National Forest or at large base settlements up and down the Ohio Valley. This probably means only a few ceramic vessels were utilized while cooking and storing foods in a fashion much like previous people had done. This was a time before the making and using of pottery became a common practice. Evidence from sites within the Hoosier National Forest and elsewhere in southern Indiana indicates these people had home ranges extending at least several miles into the uplands for hunting and collecting away from the major stream valleys. Once a small

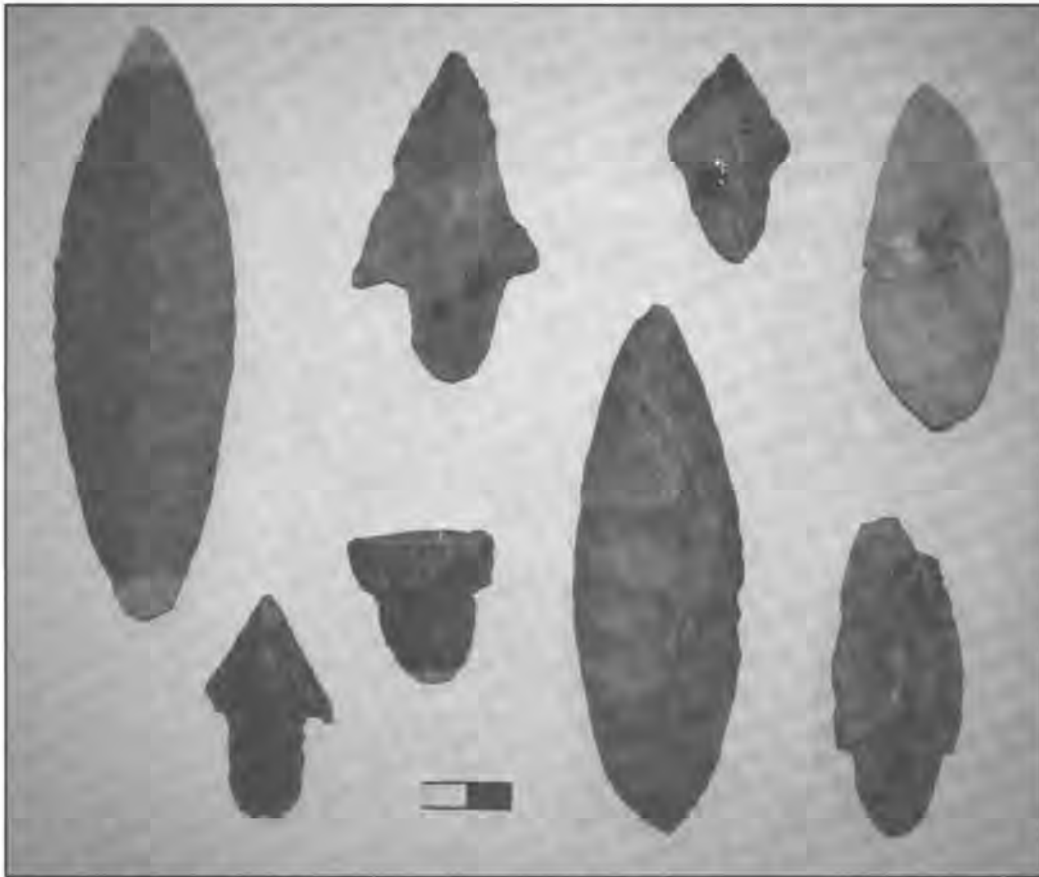


Figure 65: Early Woodland period Adena and other Dickson cluster projectile points. The unnotched specimens are Adena Leaf-shaped Blades that served both as trade items and preforms for making Adena points.

number of the thick and heavy pottery vessels were carried up into the ravines and rockshelters, they probably stayed there until finally broken.

Early Woodland peoples in the central Ohio Valley were probably keeping some gardens in the summer months to cultivate preferred seed plants. The rockshelters within the Hoosier National Forest show substantial amounts of nut shells, indicating nut food was a mainstay along with the hunting of deer, turtles, turkeys, and some smaller animals. Occupations within the hill country were probably often for fall hunting and collecting although substantial numbers of turtle bones in the shelters also suggests the hill country was being used during other times of the year as well.

We know very little about the seasonal movements of these people, or how far from the Ohio Valley they may have traveled on a yearly cycle. We know little to nothing about the types of homes and shelters they used but we can assume they were not substantially different from earlier times. Refuse middens with the remains of numerous fires, pits, burials and trash accumulated over centuries has obscured the signs of architecture so we do not know if these were single family or multiple family dwellings, but both are likely.

While burial mounds constructed over former ceremonial structures are common over much of eastern Indiana and a much wider territory, no such constructions are known for the hill

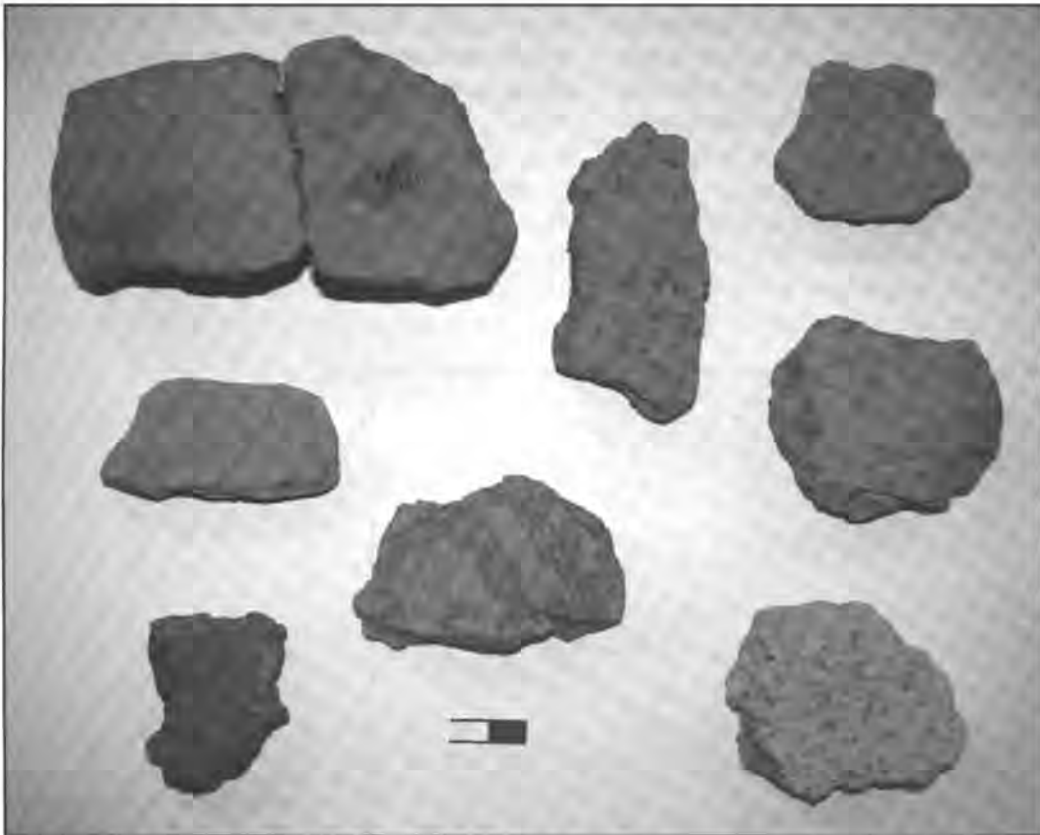


Figure 66: Fragments of Early Woodland pottery from sites within the Hoosier National Forest and the Ohio Valley. These are cord-marked and fabric impressed. A few of these have different woven impressions on the interior and exterior sides.

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country. There are some reports of looted Adena culture mounds in Spencer and Harrison counties along the Ohio River close to the boundaries of the Hoosier National Forest and some may eventually be documented within the forest. The Adena culture is known from a site by that name in Ohio and was one of the first cultures to construct burial mounds with tombs and have elaborate ceremonies for the deceased.

Some of the larger Adena culture sites occur along the Ohio River near the Wyandotte chert source where this resource was heavily exploited for tools and leaf-shaped blades for trade outside the region. Both of these products of the flint-knapping arts were brought to sites in the Hoosier National Forest for use, as they were to other kinds of habitation sites up and down the Ohio River (see Figure 65). Most of the shell mounds formerly occupied during the Late Archaic period have evidence of smaller Early Woodland and later occupations associated with them. These occurred

largely after the shell middens had already been accumulated. We do not know why later people were not as focused on mussel collecting. Did they prefer another type of meat or is there another reason for the change? Several factors together probably account for less mussel collecting. The rivers may have been depleted of mussels because of over-collecting in the Late Archaic period. Perhaps more importantly, the environment of the rivers, such as annual water level and biological factors, made it less likely for large colonies of mussels or shoals to be available for exploitation. Even so, evidence for the use of river resources and fishing certainly continues throughout the archaeological record. This is known not so much by the presence of fishing equipment but, when bone preservation is good, by the presence of fish bones in most middens that accumulated along with many species of animals used for food.

Looking at Prehistory: Middle Woodland Period 200 B.C. to A.D. 500

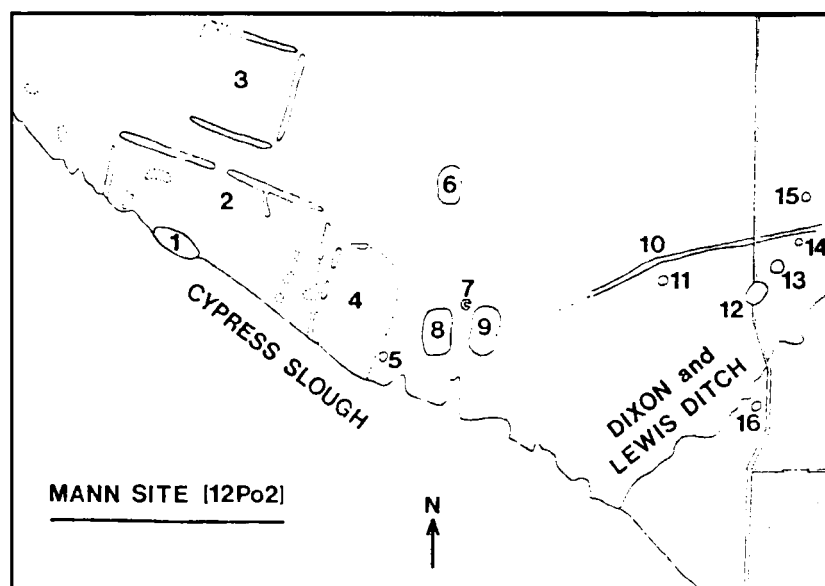
The Middle Woodland period marks a high point in trade and ceremonialism that is unparalleled by anything before or after this time period. Hopewell, named for a site in central Ohio, is a ceremonial and cultural phenomenon that spread throughout the eastern Woodlands early in the period. People began constructing complex burial mounds that included the building of log tombs, earthworks, and the use of goods made from exotic raw materials within burial tombs representing the wealth and status of elite persons. Average community members may never have seen or handled some of the exotic trade goods destined for use in the afterlife. Hopewell ceremonialism and long distance exchange took place between Middle Woodland communities spread over a wide territory.

Middle Woodland period camps and small villages are located over all of southwestern Indiana. They are probably more numerous in the hill country of southern Indiana and the Hoosier National Forest area than the

current data shows, but rockshelters were heavily used early in the period. The Mann site, along with the GE or Mount Vernon Mound, which is named for a location near that town in southwestern Indiana, are the largest and most complex Hopewell sites known in the region. These sites became important ceremonial centers that probably attracted people of different cultural and social affiliations, along with a large variety of exotic goods traded from sources far outside the region (Figure 67). Many other mound sites of Middle Woodland affiliation are probably also located in southwestern Indiana but, they have not yet been recorded (Figure 68). There are some reports of possible Middle Woodland mounds from the region immediately adjacent to the Hoosier National Forest in the Tell City and Harrison County areas along the Ohio River, although very little is documented about them.

The Crab Orchard tradition and the Mann phase represent the most notable Middle Woodland cultures in the region.

Figure 67: A map of the Mann site, Posey County, IN showing the locations of large mounds and earthworks (modified from Kellar 1979:Fig. 14.1).



Looking at Prehistory



Figure 68: Ongoing excavations at Mann site in 1967 by Indiana University to carefully document the prehistoric pits and other features, and also the locations and associations of artifacts being recovered.

Projectile points of the period include those of the Saratoga and Snyders clusters that belong to the Crab Orchard tradition and the Lowe and Copena clusters that belong to the later Mann phase (Figures 69-70). Many styles of ceramic vessels were developed during this period and the incorporation of knives or blades struck from prepared cores is an important addition to the tool kit. Flake blades were probably used for carving wood and fine incising on bone and wooden articles of all descriptions. Other tools characteristic of the Middle Woodland period include celts, which are basically ungrooved axes for cutting and hewing wood (Figure 71), various types of scrapers made from large flakes, mortars and pestles and other grinding stones.

While agriculture within large

prepared fields does not take place until the Late Woodland period several hundred years later, Middle Woodland peoples were cultivating a number of seed producing plants including sunflowers, lambsquarters or goosefoot, maygrass, erect knotweed, little barley and probably a large variety of other plants (see Figure 72). Most of these plants have oily and starchy seeds that could be ground into meal with mortars and pestles to make breads and cakes, or as an additive in other food preparations. Corn makes its first appearance during this time, but it was not grown in any large quantities. Corn, along with the knowledge of how to use it, is ultimately derived from northern Mexico where it was passed on from village to village with ever increasing popularity until finally

reaching the Ohio Valley.

The Crab Orchard tradition is named for Crab Orchard Lake in southern Illinois. This tradition develops within the lower Ohio Valley and extends to include all of southern Illinois and northern Kentucky, up the Ohio River to near the Falls of the Ohio area in Clark County and a short distance up the Wabash River. The first pottery attributed to the Crab Orchard tradition is a coarse, rock-tempered pottery known as Sugar Hill Cord-marked which then gives way to clay-tempered pottery which is the primary ceramic of the Crab Orchard tradition. Clay temper is fired clay that was crushed and may include fragments of broken pots that were crushed and added to fresh clay to form

new ceramic vessels. Later in the Middle Woodland period many types of rock, including crushed quartz, feldspar, limestone, sandstone, as well as sand and clay, were used as tempering agents.

The Crab Orchard people lived in the larger rockshelters of the Hoosier National Forest and left substantial evidence of their presence, including quantities of pot-sherds (e.g. fragments of broken pots) from the large cooking and storage vessels they made and used (Figures 73-74). Rockshelters were probably used for temporary shelter while hunting and collecting in the rugged terrain, although the shelters may have been visited regularly throughout the year and could have



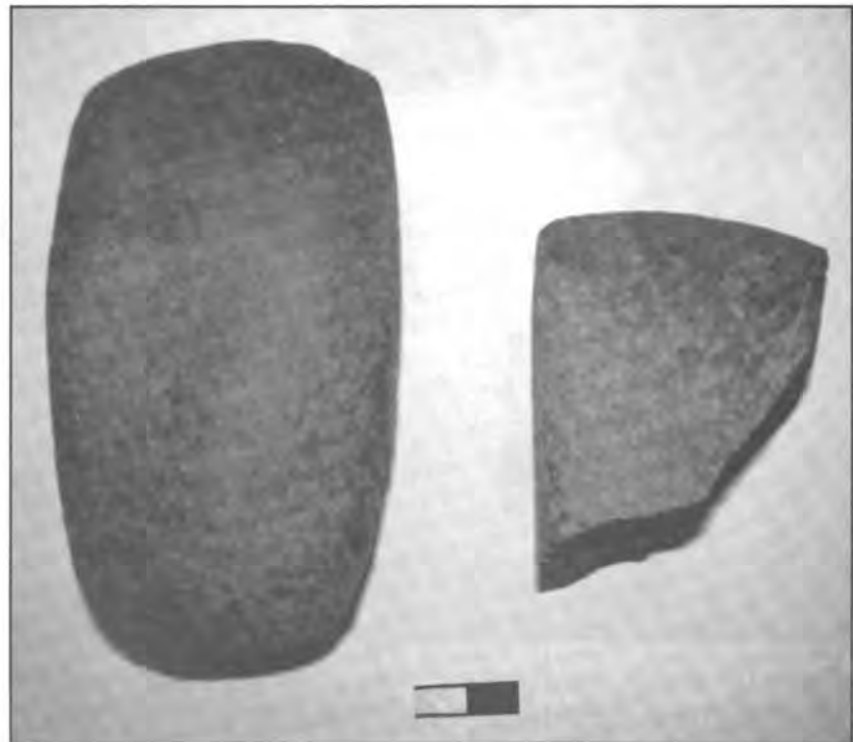
Figure 69: Middle Woodland period Saratoga Expanded Stem and Snyder's projectile points from Rockhouse Hollow Shelter and other sites in the hill country.

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Figure 70: Middle Woodland period Lowe Flared Base and Copena Triangular projectile points from Rockhouse Hollow Shelter and other sites in the Hoosier National Forest.



Figure 71: Celts or un-grooved axes. After several thousand years, the ax was modified to be hafted to a wooden handle without making a groove. Presumably the ax-head was fitted to match a hole cut through the handle.



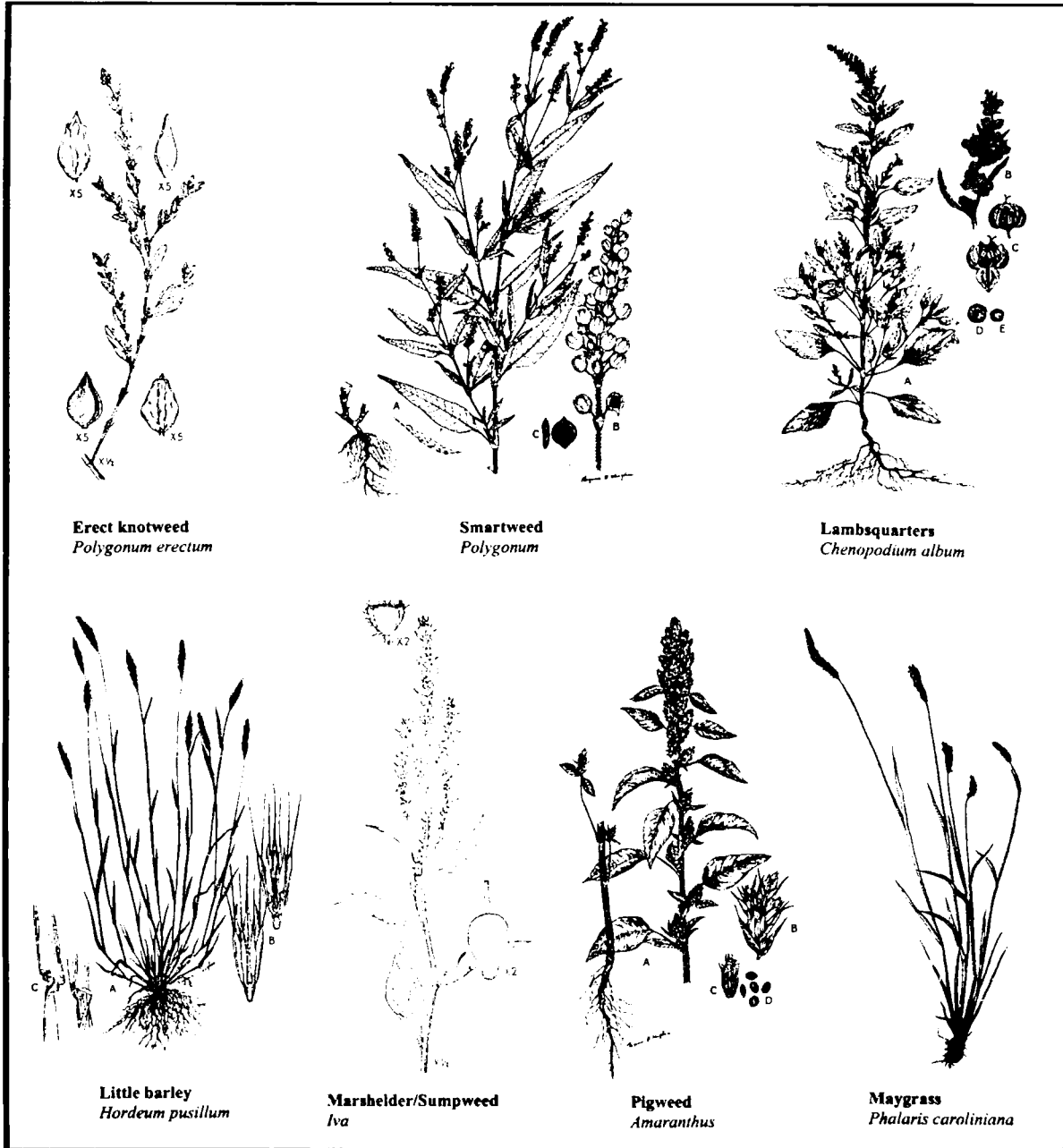


Figure 72: A few wild food plants used in prehistory. There are many species and varieties of food and medicinal plants used by Native Americans today and long ago. Some of the plants identified at archaeological sites apparently went extinct before the present day such as a species of marshelder (*Iva annu*) that was domesticated. The oily seeds of this plant appear in archaeological sites during the Middle Archaic period, and the plant was regularly harvested for its nutritional value along with many others for several thousand years thereafter. The illustrations shown here are modified from several sources (USDA 1971:Figs. 33, 60, 64, 71 with drawings by Regina O. Hughes; Gleason 1952: Vol. II, p. 75, Vol. III, p. 373; Cowan 1978:Fig. 2).

Looking at Prehistory

Figure 73: Pottery belonging to the Crab Orchard tradition from Rockhouse Hollow Shelter.

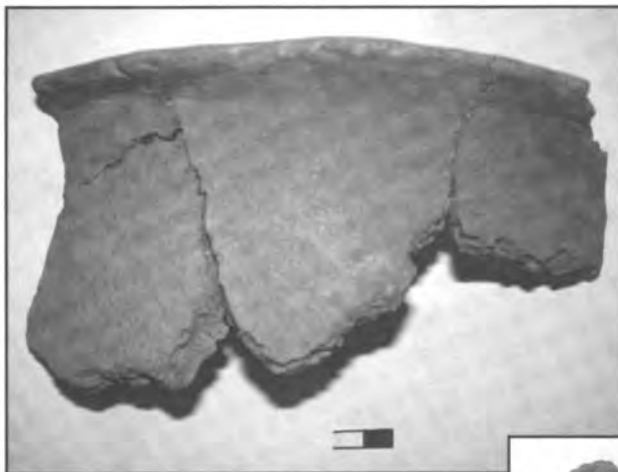
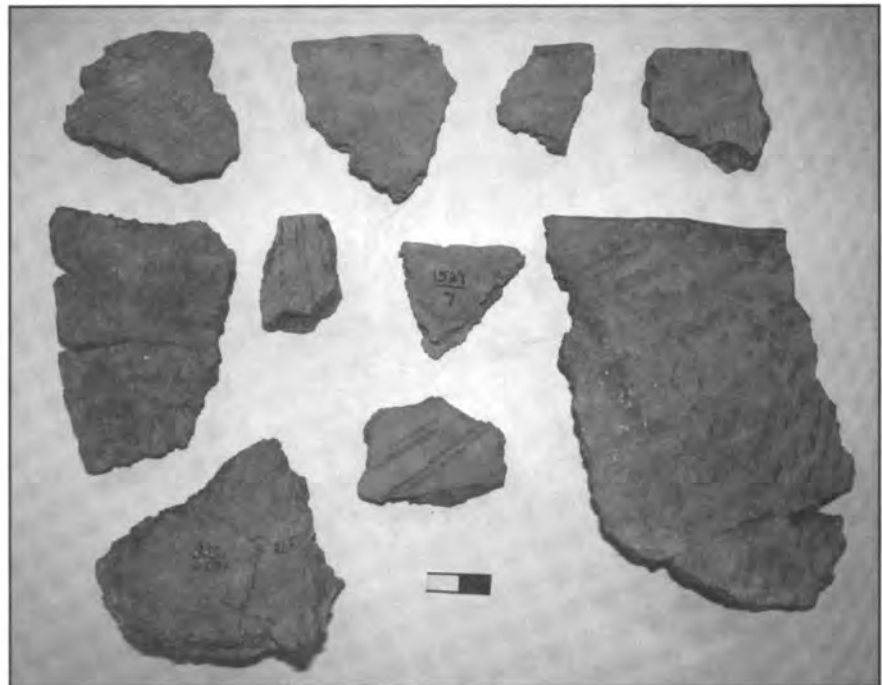
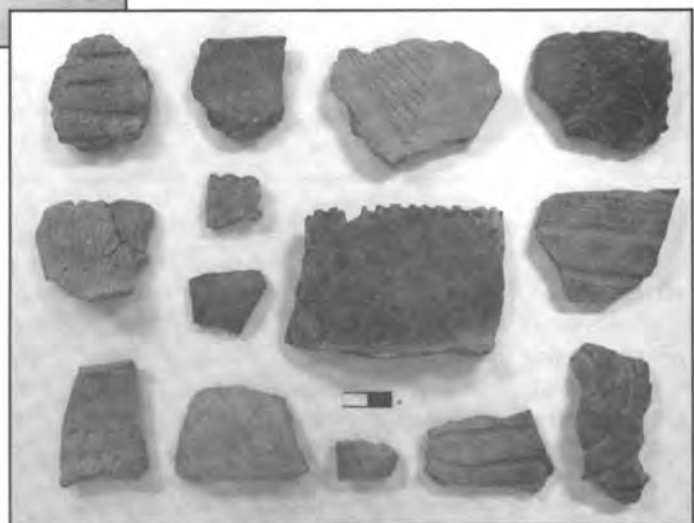


Figure 74: Large rim of a pottery vessel belonging to the Crab Orchard tradition, from Rockhouse Hollow Shelter.

Figure 75: Hopewell and other Middle Woodland period decorated pottery from the Mann site and Rockhouse Hollow Shelter.



been used for several months consecutively as hunters and their families moved back and forth into the hill country from base camps within the floodplains and on the terraces of the Ohio River.

The Mann phase is named for the Mann site located in Posey County that may have initially been established by people of the Crab Orchard tradition. These people were already present in the valley a few centuries before, yet the ceramics at Mann site have many types of temper and designs and some are definitely southern in derivation. For example, ceramic stamping technology and also the Lowe and Copena projectile point technologies appear first in the southeastern United States and their presence in Indiana probably means some groups of people from Tennessee

and Georgia moved north into the Ohio Valley. Among the everyday cord-marked cooking vessels, the Mann site has ceramics with complicated stamping, check stamping, simple stamping and elaborate incising during this time which connects potters to Illinois and Ohio as well as with the southeastern United States (Figure 75). Stamping comes in many complex designs that were carved onto wooden paddles or dried and fired clay stamps that could be pressed or spanked onto the sides of clay vessels still wet from manufacture. The use of stamps enabled the manufacture of pottery with the same precise design (Figure 76). There are many other types of pottery designs that were accomplished with artful hands using various sharp and blunt tools to create designs by punching,



Figure 76: Complicated-stamped and simple-stamped ceramics from the Mann site.



Figure 77: A copper awl with a bone handle from the Cato site, fine-line incised ceramics from the Mann site and later Middle Woodland ceramics from Mann, Rockhouse Hollow, and Allison-LaMotte sites to the north.

dragging or cutting (incising) the surface of the wet clay vessel (Figure 77).

The Allison-LaMotte phase defined for the Wabash Valley north into the Terre Haute area dates to the same time and could be a manifestation of the Mann phase or visa versa. Most of the cultural traits are duplicated, except Allison-LaMotte lacks burial mounds, earthworks and evidence of high ceremonialism. Perhaps the Mann site was also a special center for Allison-LaMotte peoples who lived along the Wabash. Most of the domestic pottery of the Mann phase and Allison-LaMotte is dominated by thin, cord-marked vessels with a variety of tempers added to the fresh clay.

Rockshelter sites in the Hoosier National Forest may not have been used as intensively during the Mann phase as

they were by the earlier Crab Orchard people, since there is much less in the way of pot-sherds we can relate to them. Yet, it is possible that families may have typically carried ceramic vessels with them on their seasonal rounds between sites in the hill country and those scattered over surrounding areas and on the Ohio River. Perhaps the shelters were occupied more often by hunters who left mostly hunting equipment and carried meat and hides back to base camps where their families lived. Middle Woodland trading parties may have also

occupied the rockshelters on their way to and from major Hopewell centers, transporting a variety of exotic and domestic goods. In addition, at least some of the people using the hill country may have taken part in ceremonies at Mann site or the GE Mound or, at least, obtained some of their tools and other artifacts through interaction with people from those sites. The GE Mound was unfortunately severely impacted by looting and we may never know the full importance of the site. Hopefully other Hopewell ceremonial sites will be reported and documented before they are destroyed by construction or looting.

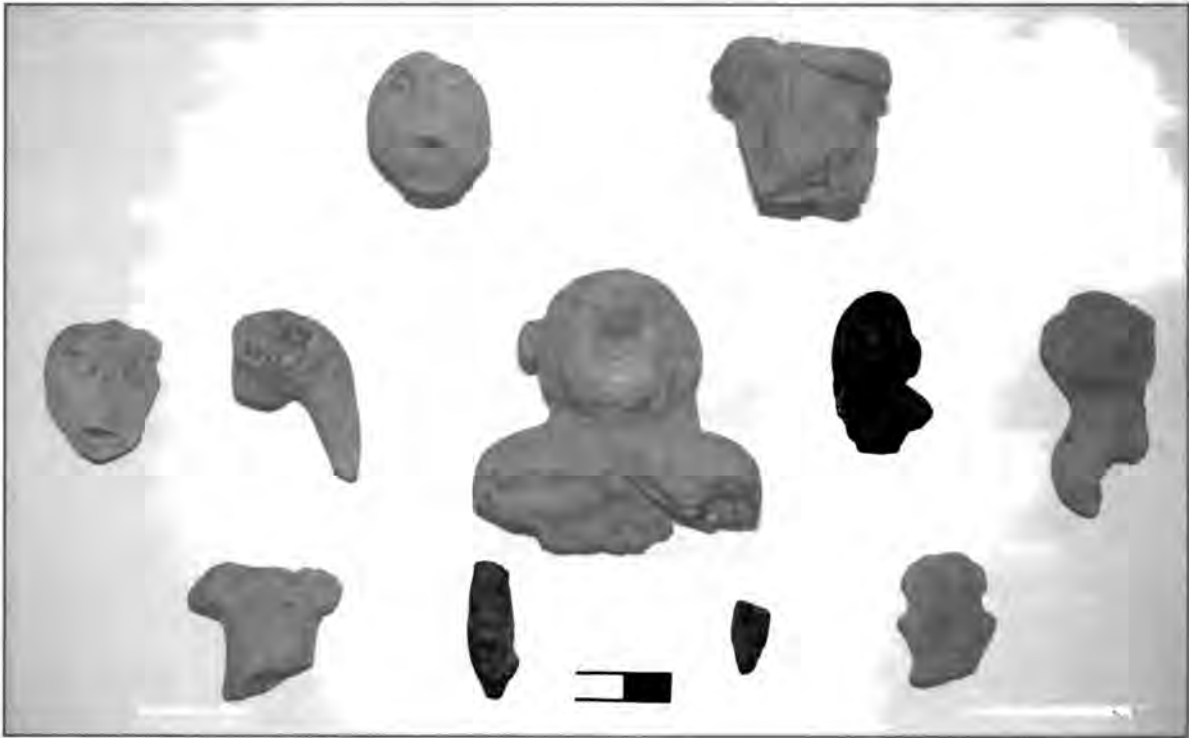
The Mann site and GE Mound were extremely important ceremonial and trade centers that participated in the exchange of grizzly bear teeth and obsidian from the Rocky Mountains along with copper, mica, marine shell, pearls, and exotic cherts from locations all over the eastern United States and the Plains (Figure 78). Gifted craftsmen produced large spear points of obsidian obtained near Yellowstone National Park, quartz crystal obtained from special quarries and caves, and Knife

River flint from the Dakotas. Mica, probably obtained in the Smokey Mountains, was often used to make elaborate cut-outs in the shape of human hands and birds. The Mann site is well-known for the large numbers of finely made human figurines of fired clay that have been found there (Figure 79). Each figurine depicts unique and unusual hair styles used during the Middle Woodland period and many other details including clothing, special postures and facial features. The numbers and kinds of Hopewell ceremonial goods is incredible and testifies to the sophistication of the times and the extent to which people would travel overland and by canoe to obtain special goods for elite persons and ceremonies.

The Middle Woodland people who lived within the Hoosier National Forest left flakes of quartz crystal, fragments of mica, blades of Flint Ridge chert from Ohio and some human figurine fragments. Such finds are highly significant because these were apparently not materials that were used on a daily basis by common people of

Figure 78: Hopewell artifacts made from exotic raw materials including mica, copper, galena (lead crystal), obsidian, quartz, sugar quartz and flint ridge flint. Most of the items are from the Mann site.





the time. The presence of such materials at sites in the hill country testifies that these people were connected to the vast Hopewell trade in exotic goods that took place throughout much of the eastern United States.

Underground caves constitute another type of archaeological site used not for residences by whole families, but by prehistoric explorers and miners who entered the underworld to extract many unusual types of rocks and minerals, along with crystals for medicinal and ceremonial needs. Archaeologists have proven that Wyandotte Cave in Crawford County was explored as early as 2000 B.C. by Late Archaic peoples who left torch fragments for dating and other evidence of their explorations long ago (Figure 80). Later on, during the Middle Woodland period, Wyandotte Cave was the scene of repeated explorations and heavy mining (see Munson and Munson 1990).

Aragonite was quarried from the Pillar of the Constitution within

Figure 79: Hopewell human figurine fragments of fired clay. The two small appendages at the bottom were recovered during the 1961 excavations at Rockhouse Hollow Shelter.

Wyandotte Cave during the Middle Woodland period. Aragonite is a semi-translucent, banded flowstone composed of calcium carbonate that sometimes is the rock that forms stalagmites and stalactites within caves. The remains of stone hammers and antler pry bars have been found, along with fragments of aragonite, charcoal, and ash that were buried within quarry debris around the base of the Pillar of the Constitution. Much of the aragonite was apparently destined to be carved into ceremonial platform pipes and gorgets (e.g. drilled decorative items often shaped like a reel) and traded to far away Hopewell ceremonial centers in Indiana, Ohio, Illinois, Iowa, and Tennessee. A fragment of a carved aragonite pipe was recovered in scientific excavations of

Arrowhead Arch in Crawford County and dated to about A.D. 155. There are also fragments of this material used for ceremonial artifacts in the collections from the Mann site (Figures 81-82). Carbon-14 analysis suggests that aragonite was quarried in Wyandotte Cave during the first centuries of the Christian Era. Such material and the artwork created from it was probably distributed across the Hoosier National Forest en-route to Hopewell ceremonial centers. Many other important substances could only have been obtained by brave spelunkers within the dark recesses of Wyandotte and other caves in prehistory. Some of these are noteworthy and include epsom salts (epsomite), gypsum (also good for carving objects), saltpeter and nitrates, the latter of which were important in early historic time for making gun powder.



Figure 80: The "Pillar of the Constitution" deep within Wyandotte Cave (Courtesy of Gary Berdeaux, photographer, Carol Groves and Cave Country Adventures, 400 E. State Road 64, Marengo, IN).



Figure 81: Middle Woodland period artifacts including cache blades made from Burlington (Illinois), Flint Ridge (Ohio), and Wyandotte chert (southern Indiana), drilled stone gorgets, pipe fragments and a turkey effigy carved from bone. The small and seemingly insignificant curved piece is a pipe fragment made from aragonite that was found in excavation at the Mann site.

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Figure 82: Excavations within the dark alcove of Arrowhead Arch. Indiana University excavations, 1984.

Looking at Prehistory: Late Woodland Period ca. A.D. 500 to 1500

Perhaps two of the most significant occurrences that mark the Late Woodland period are the appearance and wide-spread use of the bow and arrow and an emphasis on growing domesticated crops and other cultigens along with collecting wild plant foods. There is more of a sedentary lifestyle associated with agriculture, but that does not explain why the high ceremonialism of Hopewell comes to an end during the Late Woodland period. A number of distinctive variations in Late Woodland ceramics are diagnostic of the cultures or social groups they represent, but they all include some type of stone or clay tempering. The ceramics, along with other cultural traits, clearly separates them from Mississippian cultures that used shell

tempering in their ceramic technology.

Jack's Reef cluster (early) and unnotched triangular points (late) become widespread during the Late Woodland period (Figure 83). The former emphasis on the Wyandotte chert source for tools greatly diminishes in favor of local sources of chert. Some agricultural implements appear, along with many kinds of cultivated foods and eventually varieties of corn, beans, and squashes are developed and grown intensively at Mississippian sites. There is also evidence for the increased use and size of storage pits to preserve foods for the winter months. A number of Late Woodland phases are known, including Oliver, Albee, Newtown, and Yankeetown. Oliver phase and Yankeetown pottery have been identified



Figure 83: Arrow point variations, drills, end scrapers, and graters. These include Jacks Reef cluster and triangular types from Oliver phase and other southern Indiana sites.

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at camps within the hill country of the Hoosier National Forest.

The Oliver phase people borrowed traits from Fort Ancient tradition people who occupied southeastern Indiana, southern Ohio, and northern Kentucky and also Springwells cultural manifestations that extended into Indiana from the western side of Lake Erie (Figure 84). The Oliver phase is dated from A.D. 1000 to perhaps as late as 1400, overlapping with the Mississippian occupation of southern Indiana.

The Cox's Woods site was occupied by Oliver phase families who built a double-walled earthen enclosure to encircle the site and had a number of

houses in a ring around a central plaza or community area. The site is located near the Pioneer Mothers Memorial Forest on Hoosier National Forest property, protecting one of the few remaining stands of primary forest left in Indiana (Figure 85). Middens of refuse accumulated within the enclosure and the surrounding area from the remains of thousands of meals eaten by people living at the site over an extended period of time. Excavations documented many post-molds, marked by circular stains, following patterns indicating the locations of the houses and also storage pits, hearths, and rock concentrations containing artifacts such as pottery (Figures 86-87). Food remains collected

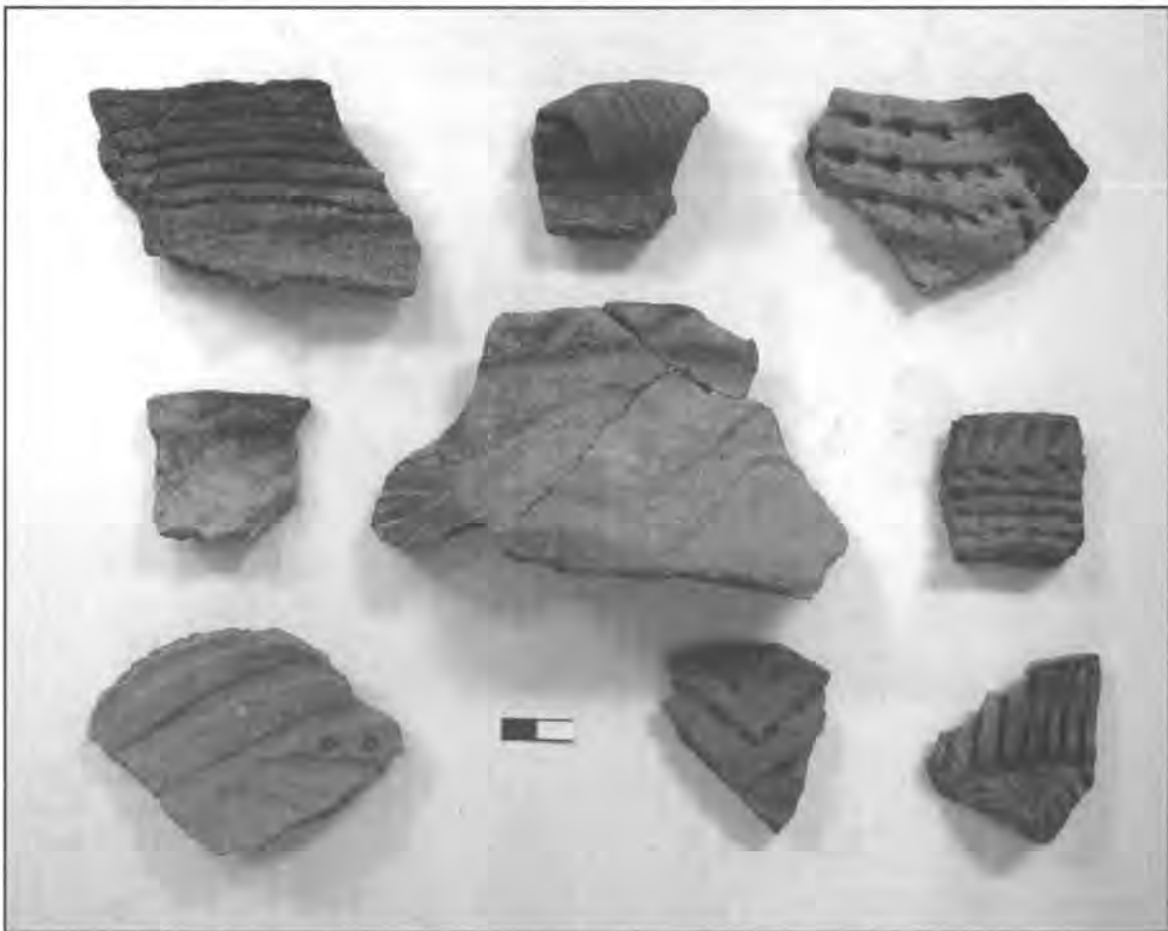


Figure 84: Oliver phase decorated ceramics from the Oliver Farm, Cox's Woods, Clampitt, and Bowen sites.

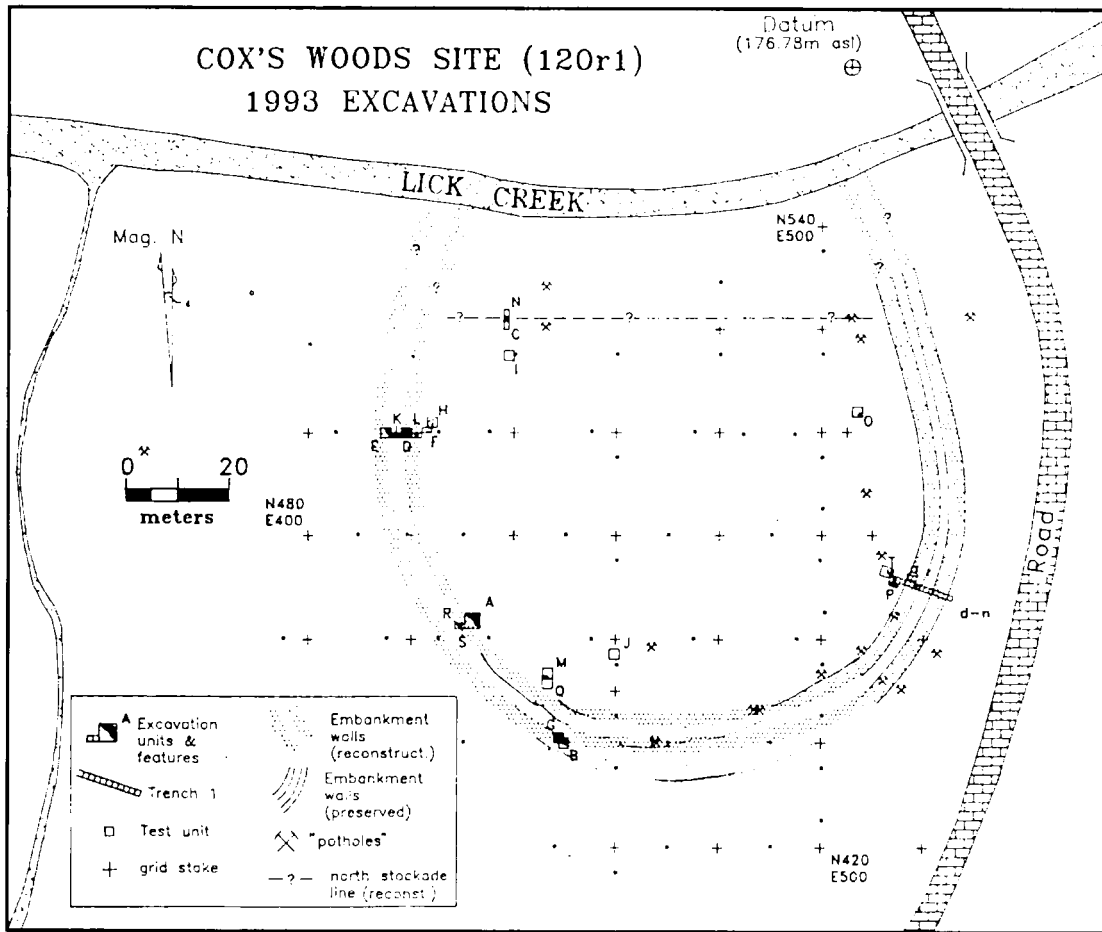


Figure 85: The plan of the Cox's Woods site determined by limited test excavations over selected segments of the site. Indiana University field school, 1993.

by archaeologists show corn agriculture was combined with collected fruits, nuts and seeds and that there were significant amounts of maygrass and little barley cultivated along with the hunting of deer, elk, turkey and other animals.

From archaeological surveys in the vicinity of the site, we know these people also established smaller gardening and collecting camps away from Cox's Woods. This settlement was established in a remote location some distance from the floodplain of the East Fork of the White River and it is suspected that future studies may show Oliver phase village sites in other areas of the Hoosier National Forest. Oliver phase villages located nearby and further north have been investigated in recent years, adding

greatly to our knowledge about these people (Figures 88-90). The presence of Half Moon Spring could have been a factor in the location of the Cox's Woods site, where the people could have extracted salt crystals from the saline waters at the spring for cooking, the preservation of meat and hides, as well as exchange (Figure 91).

Yankeetown phase people lived within an area encompassing the lower Ohio River Valley from southern Illinois and nearby Kentucky, the lower Wabash Valley and into south-central Indiana.

Looking at Prehistory



Figure 86: Ongoing excavations at the Cox's Woods site. Indiana University field school, 1993.

Figure 87 (right): Rim of reconstructed ceramic vessel excavated from the Cox's Woods site.



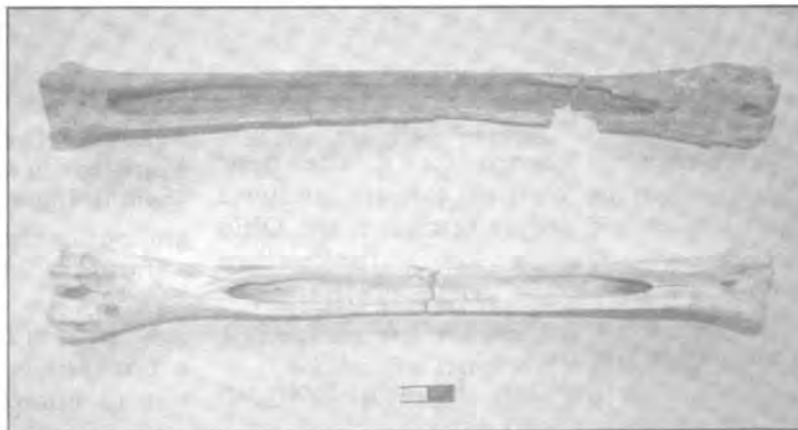
Figure 88: A profile of an Oliver phase village in Morgan County showing a deposit of discarded mussel shells over an old swale in the White River floodplain. Indiana University field school, 1995.

Figure 89: The profile of a large Oliver phase pit feature with artifacts and refuse and food remains. Indiana University field school, 1995.



Figure 90: A large area of pit features exposed and ready for mapping at an Oliver phase site in Johnson County. Indiana University field school, 1995.

Figure 91: Deer bone "beamers" for removing the hair from animal skins from the Oliver phase Clampitt and Bowen sites.



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Figure 92: Deep test excavations at the Yankeetown site, Warrick County, IN by Indiana University in 1967.

The phase is named for a site near Yankeetown in Warrick County, Indiana that was found deeply buried in the Ohio River bank (Figure 92). Yankeetown phase people made some of the more aesthetic pottery designs that are easily identifiable (Figure 93).

Some Yankeetown families took up



Figure 93: Yankeetown phase ceramics from the Yankeetown site and Rockhouse Hollow Shelter (upper left).

residence at Rockhouse Hollow shelter for a limited time around A.D. 900 – 1000. We know this because they left fragments of their distinctive ceramic vessels in the shelter. There are likely to be more sites found in the future within the Hoosier National Forest that were occupied by Yankeetown peoples. One suspects, however, the main use of the hill country by people of the Yankeetown phase may have been in the form of limited hunting and collecting camps in a variety of settings, including rockshelters and open sites. Their larger base settlements and summer gardening camps were established along the floodplain of the Ohio River.

The other Late Woodland groups were dispersed across central Indiana and a wider area that did not expand to any

degree into south-central Indiana. One large rim sherd that was found in excavations within Arrowhead Arch in Crawford County may be significant (Figures 94-95). It can be attributed to either Oliver phase people from the north, or Fort Ancient, Anderson phase people coming from the east near Cincinnati. This is another example of limited use by perhaps single families that probably carried the pottery with them as they moved up into the hill country on hunting and collecting trips. The Albee phase is not well-known outside of central Indiana, within the Wabash and White River drainages. The Newtown phase is apparently restricted to southeastern Indiana.

While the Late Woodland use of the hill country in the Hoosier National

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Figure 94: A profile of the deposits during excavations at Arrowhead Arch by Indiana University in 1984. Note the changes in soil color and consistency marking differences in the human use of the site. The light color of the upper part is due to overlapping ash lenses with rodent burrows. The dark area on the left marks a looter's pit that destroyed valuable information about the sites history.

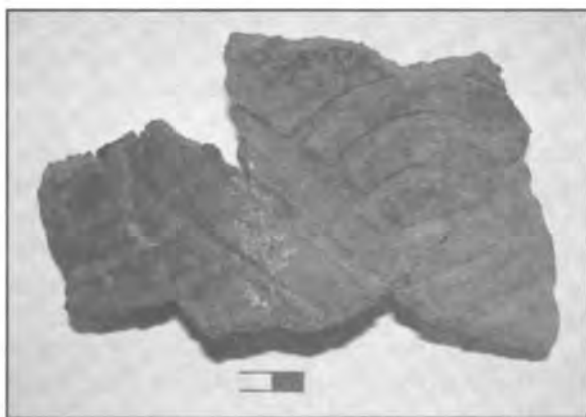
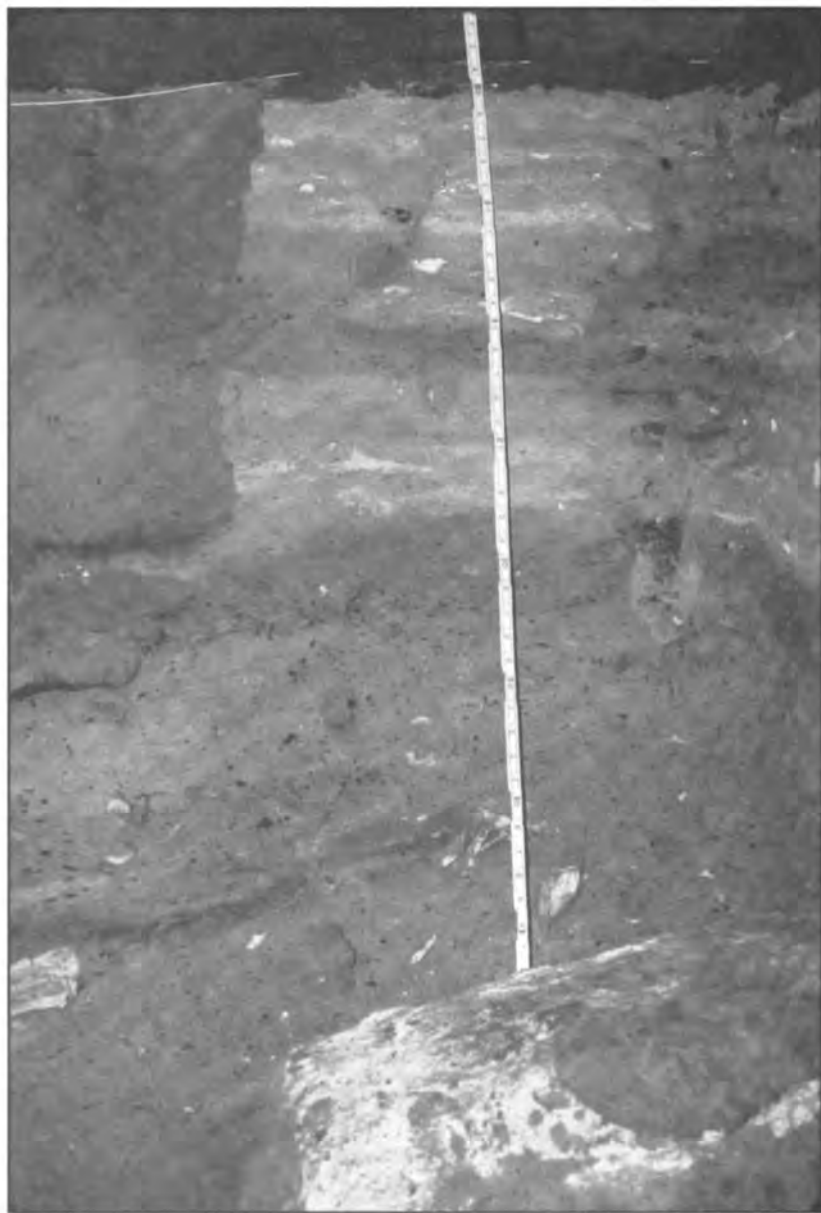


Figure 95: A reconstructed portion of a ceramic vessel recovered from Arrowhead Arch.

Forest may appear to be limited compared to other prehistoric time periods, we must consider that much is still unknown and remains to be documented. Thus, it is imperative that interested persons, avocational archaeologists and professionals collaborate to record information about the archaeology of the wider region. A major effort has been underway in recent years to investigate the many Late Woodland and other cultures that left their remains in Indiana. Laypersons can help save important sites and information about the prehistory of southern Indiana by reporting acts of looting and vandalism and notifying authorities about the existence of archaeological sites. Archaeologists rely on the good faith efforts of the public to tell them about local discoveries so that the information can help clarify what we know about the settlement systems of prehistoric peoples in the Late Woodland period of the hill country and the many cultures that came before and after this time.

While there is a temporal overlap between Late Woodland cultures and those of the Mississippian period, many Mississippian traits, including village organization, mound building, trade and ceremonial habits are substantially different. Long before Mississippian period cultures expanded north from the southeastern United States however, many Late Woodland period cultures had evolved from the local Middle

Woodland cultures and were dispersed throughout much of the Northeast, Great Lakes, and Ohio Valley. We now know that Late Woodland groups continued to occupy a number of areas in Indiana throughout the following Mississippian period, and there appears to have been interaction on a number of fronts between Late Woodland and Mississippian groups, though each apparently retained their own cultural identity. There is evidence at Cahokia in Illinois and other Mississippian centers that groups with traditional Late Woodland cultural affiliation were sometimes incorporated into Mississippian society. One must also consider that such factors as politics, economics, and warfare presented a dynamic situation involving groups being incorporated and later splitting into smaller communities to live again as they once did. Groups splitting away from a major town center could have populated a new area or, when possible, could have returned to an ancestral home their parents and grandparents kept alive in stories of former times. This ebb and flow of cultural associations and population movements probably also took place in Indiana. For archaeologists, the specific details of cultural dynamics are difficult to pin down because of the addition and mixing of artifacts and traits at some archaeological sites that belong to several cultural traditions and bridge two archaeological time periods.

Looking at Prehistory: Mississippian Period A.D. 1,000 to 1650

Temple mound sites of the Mississippian period are scattered along the major rivers in the Midwest and southeastern United States (Figure 96). These were very large towns with platform mounds and plazas for gathering large crowds and places where many families lived and farmed. These were chiefdoms in organization with social stratification (e.g. various classes

of people including households of specialized craftsmen and farmers, etc.) and they were centers of high religious and soci-political importance. The sites were surrounded by palisades for defense against raids from other groups and probably for monitoring special agricultural fields and other reasons (Figure 97). Major towns were connected through trade along the river

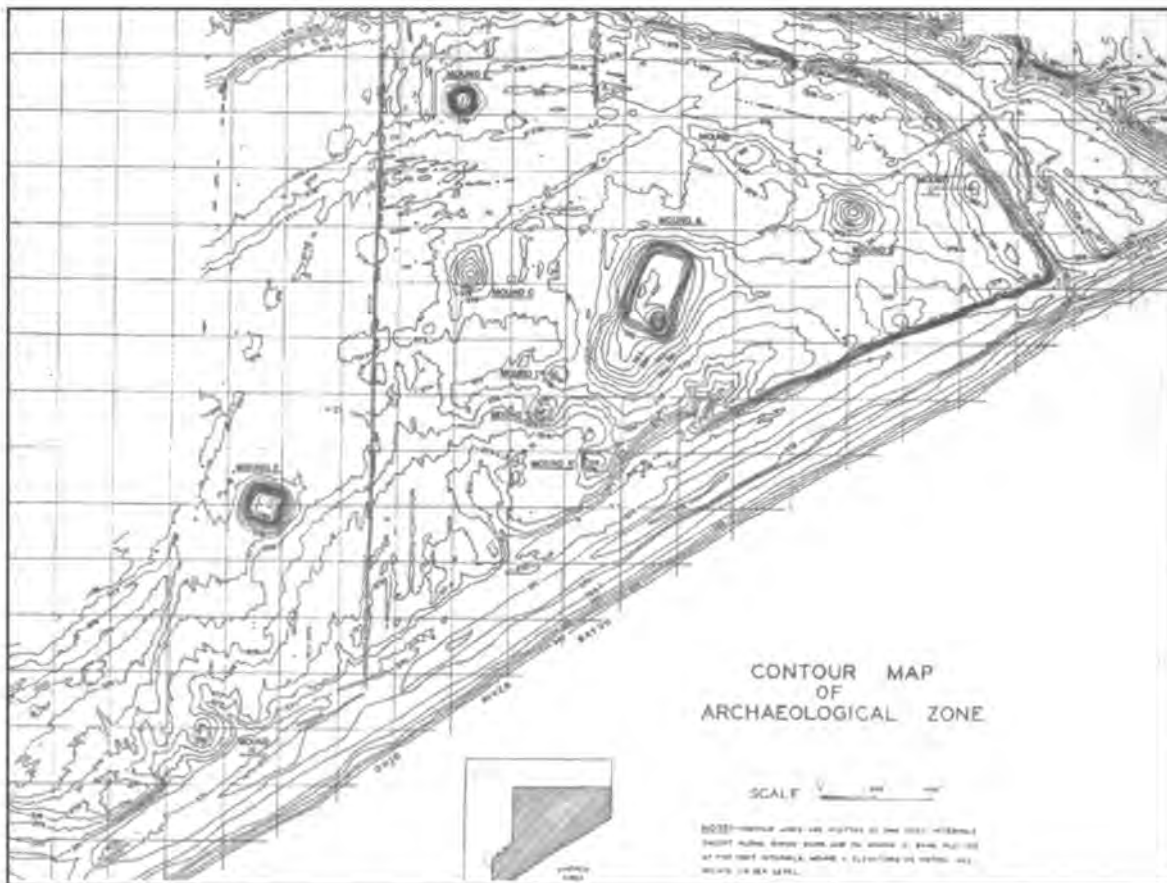


Figure 96: A topographic contour map of Angel Mounds State Historic Site showing the platform mounds and other prehistoric and natural features across this large Mississippian town. A linear elevation that runs to one of mounds (center of the picture) is the remains of a stockade that may have been constructed late in the occupation. If so, the Angel population may have been smaller at that time. This and many other questions remain to be answered about the growth and demise of this prehistoric town (Modified from Black 1967: Fig. 14).

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Figure 97: A reconstruction of the stockade that once surrounded the Angel site.

highways by canoe, as well as by overland routes. Mississippian cultures were dependent on intensive agricultural production and they concentrated on the cultivation of corn, beans and squash. Small family farms and camps were scattered over the countryside that supplied a surplus of produce, collected foods, meat and hides to the larger towns (Figure 98).

Mississippian houses were basically square-shaped, with walls of upright posts set in trenches and then woven with sticks and vines and plastered with mud. The roofs were made of grass thatch (Figure 99). We know these architectural details because frequent fires preserved evidence in the form of charred stains and building materials for archaeologists to record and then reconstruct how the Angel people built their homes. This burning was probably periodic to eliminate bugs and other pests. Other times it was probably the result of raids by other Indian groups

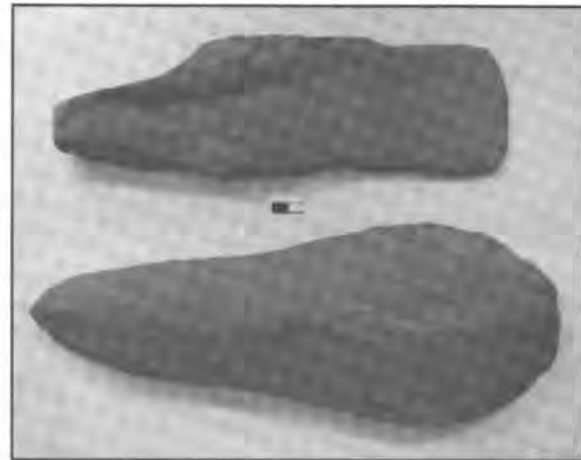


Figure 98: Mississippian hoes. Below is one made of Dover chert traded from quarries in Tennessee. The other is from Rockhouse Hollow Shelter. It was probably used for digging pits and roots while away from a farming camp.

and from lightning as well as household catastrophes. Excavations at Angel Mounds have revealed the locations of numerous houses that were established close to one another within the walls of the town. These are marked by charred rectangular stains found below the ground surface with concentrations of charred fragments of logs, and the preserved impressions of thatch and especially mud or “daub” that was used as plaster on the walls (Figure 100). Some of this evidence comes in the form of unusual objects found in excavations such as dirt-dauber (wasp) nests that

were attached to roofing material and fired when the houses burned. Daub that was composed mainly of clay was also fire-hardened, preserving the impressions of cane and other plant material woven between the upright logs (e.g. wattle) on the walls of the homes (Figure 101).

Angel Mounds is the largest Mississippian archaeological site in Indiana and is the most easterly of the large Mississippian towns that were established up the Ohio River between about A.D. 1000 and 1500 (see Figure 96). The main population of the Angel



Figure 99: A reconstructed Mississippian house at Angel Mounds.

Figure 100: An ongoing excavation of a Mississippian house and surrounding area. The house trenches that once held upright posts are marked by the parallel lines and rectangular stain. The large circular stains are pits filled with organic soils from repeated use for roasting, cooking and storage below the floor of the house. Some of the medium-sized stains mark smaller pits and also post-molds where support posts for the roof were located. Indiana University field school, 1976.



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phase may have descended from the earlier Yankeetown phase people who showed a number of traits that later manifest in the Angel phase. Mississippian villages and towns are often rich in material culture (Figures 102-103). Salt licks were frequented by Mississippian peoples, where they made and left behind many fragments of large ceramic pans (Figure 104) that were employed to evaporate the water and collect salt crystals for a variety of uses in cooking, as well as for preserving meat and animal hides for storage and trade.

Two Mississippian phases appear to be sequential occupations in southwestern Indiana. These include the Angel and Caborn-Welborn phases. Probably unrelated to these

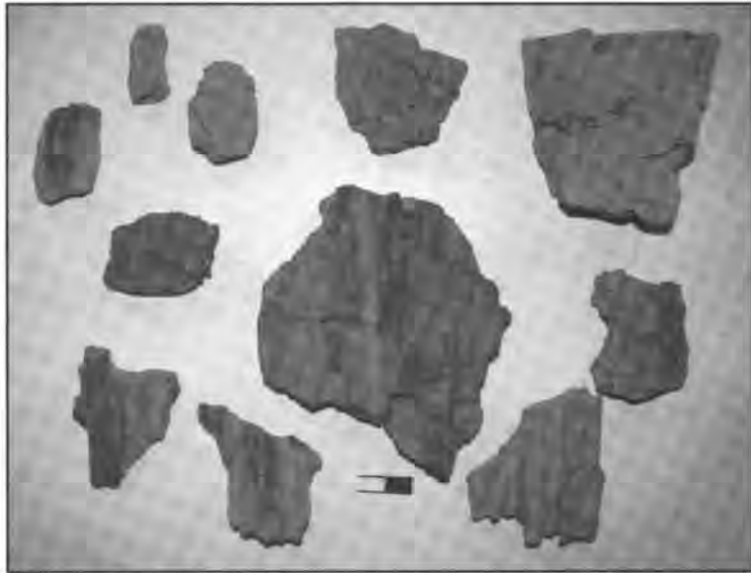


Figure 101: Prehistoric wall plaster "daub" of fired clay that show the impressions of split cane, reeds and other plant fiber used as construction material between the support posts before the walls were plastered with mud. The smaller pieces on the upper left are dirt-dauber nests with fiber and grass thatch impressions. Had the homes at Angel Mounds not been burned, such building materials would not have survived the centuries.

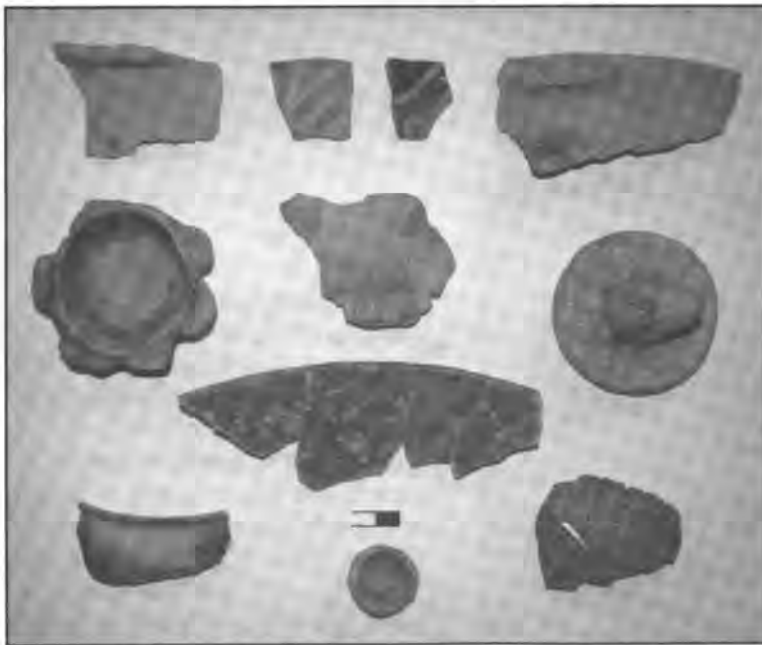


Figure 102: Some variations of shell-tempered Mississippian ceramics including "negative-painted" sherds from Angel Mounds. The paint was applied as a wash over the area decorated with some kind of resist.



Figure 103: Various Mississippian artifacts from Angel Mounds, including pottery disks, fish hooks, a broken bone "beamer", a "labret" for lip or ear decoration, and other artifacts. There is also a chipped chisel with a carefully honed bit for wood working, such as house and wall construction and making dug-out canoes, etc.

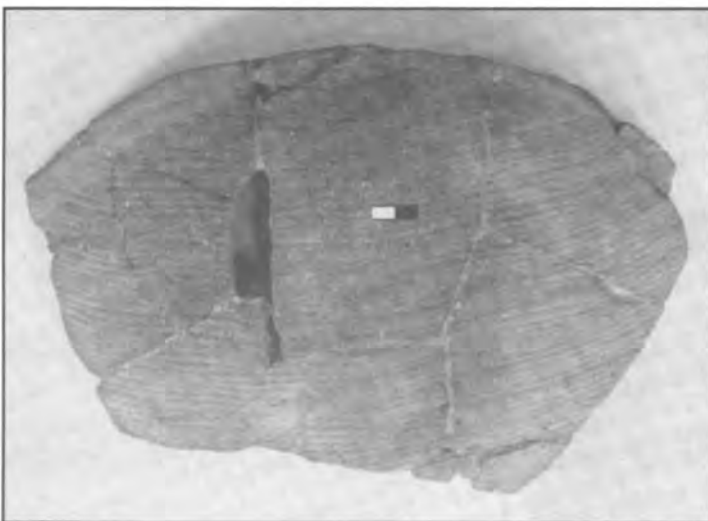


Figure 104: A partial reconstruction of a large Mississippian salt-pan. It is shown from the back to reveal the impression of a fabric employed in the manufacture of the pan.

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is the Vincennes phase located further to the north and west, and the Fort Ancient tradition of southern Ohio that clearly borrowed or adopted shell tempering for ceramics and a number of other practices, but remained committed to their own culture--including leadership and political control. The Falls of the Ohio area also has a Mississippian settlement that is poorly known, although it too was probably a separate political unit at this time.

Caborn-Welborn, with its distinctive decorated ceramics, comes after the Angel phase and dates from about A.D. 1400 to 1700 (Figure 105). It apparently lacked mound centers and had small dispersed settlements centered around the confluence of the Ohio and Wabash Rivers, as there are few identified sites outside of the immediate vicinity of the river valleys. Their territory apparently did not reach east into the Hoosier National Forest region to any extent.

Angel phase settlements required larger territories while still maintaining a close connection to the major rivers. Rockhouse Hollow Shelter was used by Angel phase people who left ample evidence of their presence in many undecorated shell-tempered potsherds deposited within the upper midden of the site (Figure 106). While these people were connected to an

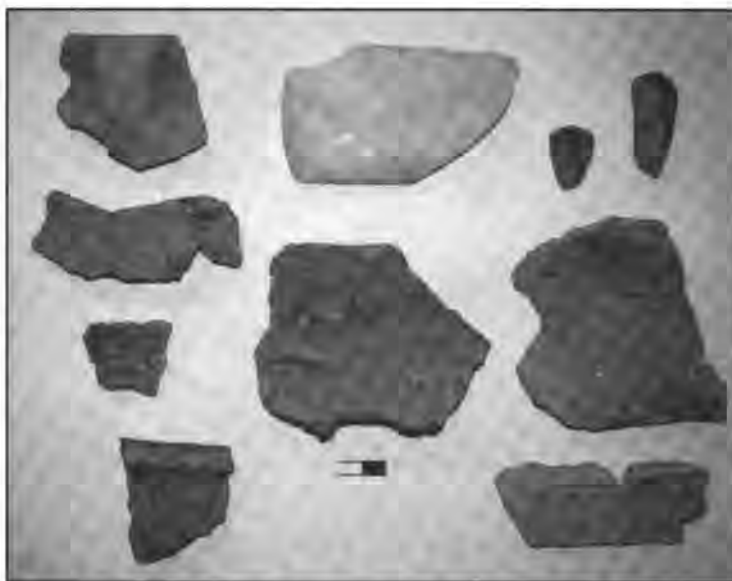


Figure 105: Caborn-Welborn phase decorated ceramics, end-scrapers, and a fine chisel for working wood from Hovey Lake and other sites.

elaborate and sophisticated culture, there are few signs they did anything overly different from the Late Woodland peoples who lived in this and other rockshelters in the hill country. These occupations probably represent fall base camps where hunting expeditions were staged to obtain the meat and hides of deer and other animals to supply the large Angel town located about sixty miles down river. When not engaged in hunting and collecting in the hill country, these people probably lived at or near Angel site and participated in the building and maintenance of houses, stockades, mounds and attended many ceremonies held at that large town (Figure 107).

Early historic records indicate the eastern or "woods" bison made an annual migration across the Hoosier National Forest south of Patoka Lake, between prairies at Vincennes and further west into Illinois and the prairies and salt licks around Big Bone Lick, Kentucky (Figure 108). While this species of bison was exterminated shortly after the arrival of Euroamericans to the area, the bison wore a path across southern Indiana that can still be seen in some places today (Figure 109). This buffalo trace was so substantial at the turn of the century that it became a ready avenue for the first



Figure 106: Mississippian ceramic rim and body fragments (sherds) and a fired clay bead from Angel Mounds and Rockhouse Hollow Shelter.



Figure 107: The famous figurine from Angel Mounds sculpted from a large fluorite crystal. The Mississippian people placed this figure within the upper levels of Mound F at the site. Perhaps this represents the final ceremonial event in the use of the mound.

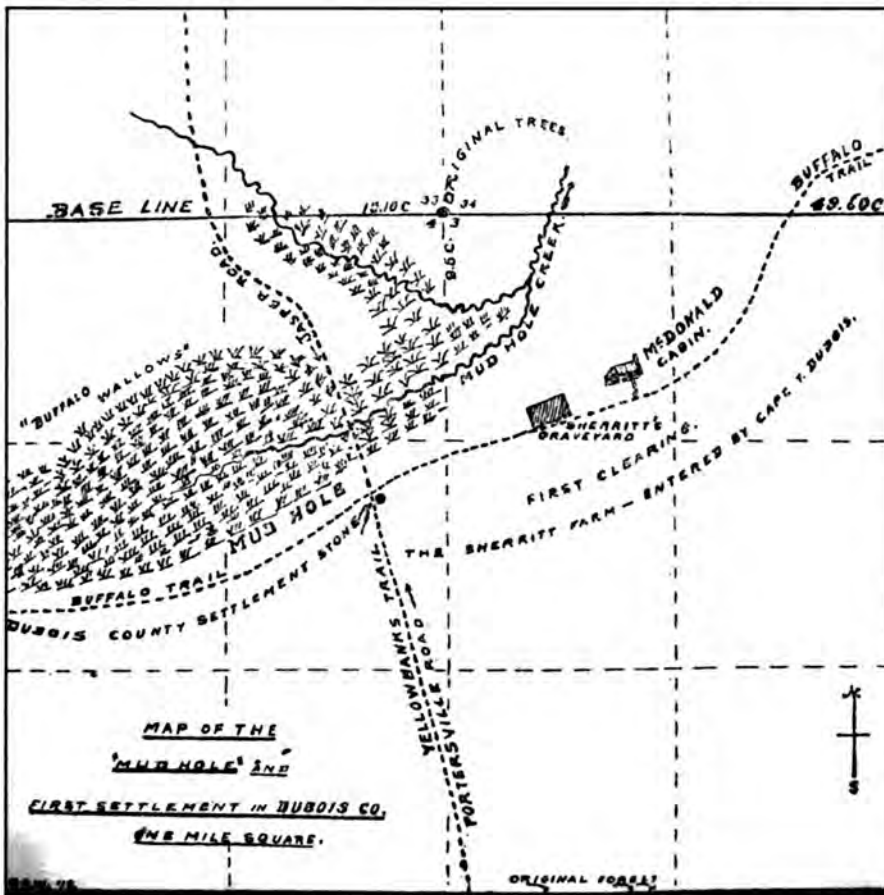


Figure 108: The Buffalo Trace and a mud hole "wallow" as it was mapped and described in the original land survey of Dubois County, IN. Eastern bison bones were occasionally found in the marshes nearby (from Wilson 1919: Plate 5).

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settlers to drive livestock and carry the wagons full of belongings into south-central Indiana.

Historical records suggest bison were numerous, but their remains are very scarce. Only two archaeological sites with more than a few skeletal elements reported as bison have been documented. These are located near Rockport in Spencer County and their association is with 18th century Euroamerican campsites established on the river bank. There are only a few scattered elements of bison bone identified from Mississippian period Caborn-Welborn phase sites in southwestern Indiana and others in Kentucky. There are also a few bones identified as bison from Oliver phase sites and some of them were modified into tools (Figure 110). So far, we have no evidence of prehistoric bison kill sites in Indiana or the surrounding region. Dried meat, hides and bones for tools could have been readily traded far from sites where bison were killed and butchered. A major problem is that the skeletons of modern cattle, oxen, and bison are difficult to distinguish without skulls and other key elements. In

addition, when skeletons are incomplete and fragmentary, the individual bones of elk and other large game can be also confused with bison.

We do not know why bison began regularly crossing south-central Indiana, nor do we know when this change in migration pattern first began. The Falls of Ohio was a crossing for migrating bison and humans, as well as a portage and destination for prehistoric river travelers back thousands of years. Part of the bison trace does cross the "barrens" of Harrison County that was largely treeless when the pioneers first came to the region. Grasslands near and along the trace are also documented by the original land surveyors north of New Albany in Clark County. These and other patches of grassland apparently persisted throughout prehistory and may have been first maintained by the feeding habits and movements of mammoths, mastodons, and possibly prehistoric man that, much later, became an attractive grazing avenue and trace for the annual migrations of bison.

Bison remains from the Rockport sites and others from historic and late prehistoric sites should be included in a



Figure 109: A view of a surviving section of the Buffalo Trace, now heavily forested. Countless animals, prehistoric people, soldiers, American settlers, and travelers passed through southern Indiana using this natural road through the wilderness.

larger study to clarify the identification of bison remains and the archaeological evidence for prehistoric utilization of bison in the Midwest. Such a research project should include archaeological surveys in the vicinity of Buffalo Trace features, attempt to reconstruct the natural history and migration patterns of bison east of the Mississippi River, and also address late prehistoric aboriginal food preferences and hunting practices in Indiana and surrounding states with regard to bison.

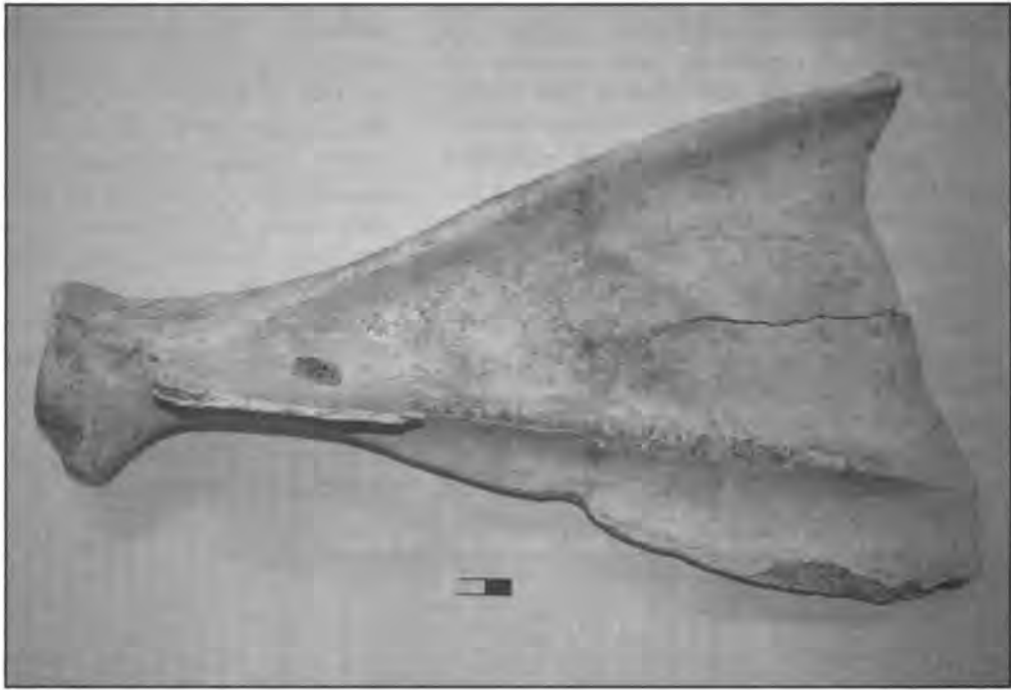


Figure 110: A hoe possibly made from a bison scapula (shoulder blade) from the Bowen site, an Oliver phase village in central Indiana. It is heavily worn from use on the broad end. A bony ridge has been mostly chipped away to tie (haft) the blade to a handle.

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Historic period were made by Europeans, they do not match the known prehistoric types that we are familiar with. Thus, we have a prehistoric archaeological record based on knowledge of traditional Indian artifacts that abruptly ends over only a few decades, when they are overshadowed by artifacts of European manufacture. In addition, these mass-produced items of European trade were made available to many Indian groups over a very wide territory. In Indiana, this dilemma has so far only fostered speculation about a few tribal identities back into prehistory.

While we do not know why, apparently the Angel Mounds village and most, or all, archaeological sites had long been abandoned when the first explorers, traders and missionaries first came into Indiana in the 17th century. Yet, a number of historic Native American groups are repeatedly mentioned as having had settlements within Indiana. The Miami and Potawatomi were apparently more numerous than other groups, having had settlements spread over much of the state (Figures 112-115). Yet, most scholars see language and cultural ties



Figure 112: The Son, a Miami chief. The original is a painting by James Otto Lewis that he completed at the Treaty of Mississinewa, Indiana in 1827. The individual is wearing a series of silver gorgets and arm bands and is holding a war club and metal tipped spear (modified from Lewis 1836).



Figure 113: D-MOUCHE-KEE-KEE-AWH, a beautiful Potawatomi married to Abram Burnett. "... No Pottawatomie squaw equaled her in regard to dress; she was...plated with silver brooches—the very ne plus ultra of an Indian woman's toilette" (modified from Ball 1948: Plate XVIII).

Figure 114: CHAT-O-NI-SEE, a Potawatomi chief. The individual has a silver brooch on his turban and is wearing a presidential medal around his neck. The original is a painting by James Otto Lewis that he completed at the Treaty of Fort Wayne in 1827 (modified from Lewis 1836).





to peoples living in Wisconsin and suggest the Miami and Potawatomi probably migrated from the southwest side of Lake Michigan beginning only as late as the 15th century. In fact, very little prehistoric material culture appears to relate to them in Indiana except perhaps in the northwestern part of the state. Caborn-Welborn sites

Figure 115: WA-BAUN-SEE, a Potawatomi chief (modified from M'Kenney and Hall 1838:107).

around the mouth of the Wabash are known to produce some European trade goods, but no historical documents mention Native Americans in this area.

Historic records also document



Figure 116: PAYTA KOOTHA or "Flying clouds", a Shawnee warrior (modified from M'Kenney and Hall 1836:83).

Shawnee, Delaware, Piankashaw, Kickapoo, and Wyandotte, as well as other groups that were in Indiana only briefly before moving further west. Many scholars think at least some of the villages attributed to the Fort Ancient tradition in southern Ohio can be linked to the Shawnee. We are not so sure about Oliver and Fort Ancient in Indiana, as the sites may represent occupations by more than a single ethnic group. The Delaware and Wyandotte were displaced from original homelands to the north and east and settled, at least for a short time, between the White and Ohio Rivers in southern Indiana (Figures 116-118).

No historic period Native American sites are archaeologically documented, though local histories mention most of the above Indian groups in connection with the writing of the histories of the

nine county area encompassed by the Hoosier National Forest. While little information provided on Native Americans in these histories can be traced to original sources, we can assume that some families related to these larger ethnic groups utilized either the hill country for a short time or crossed through this area while slowly being displaced westward by European settlement.

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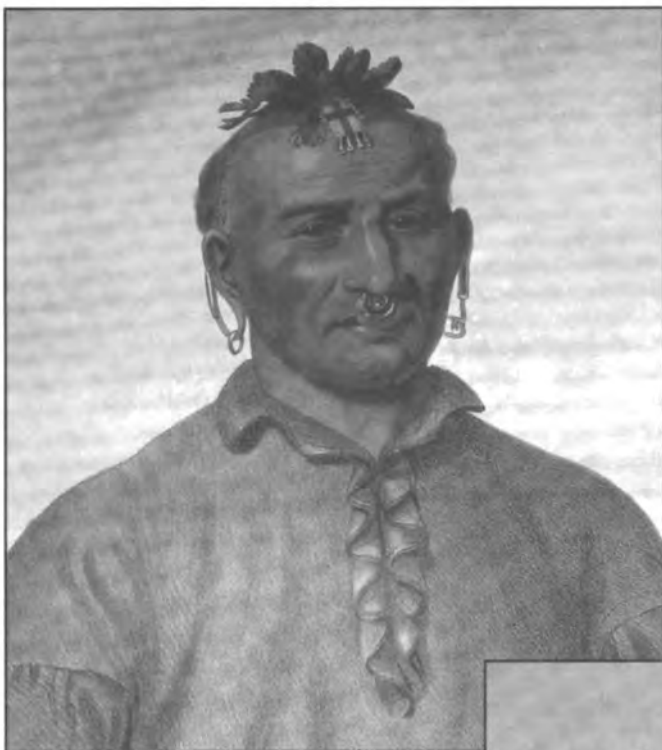


Figure 117: KISH-KALLO-WA, a Shawnee chief (modified from M'Kenney and Hall 1836:15).

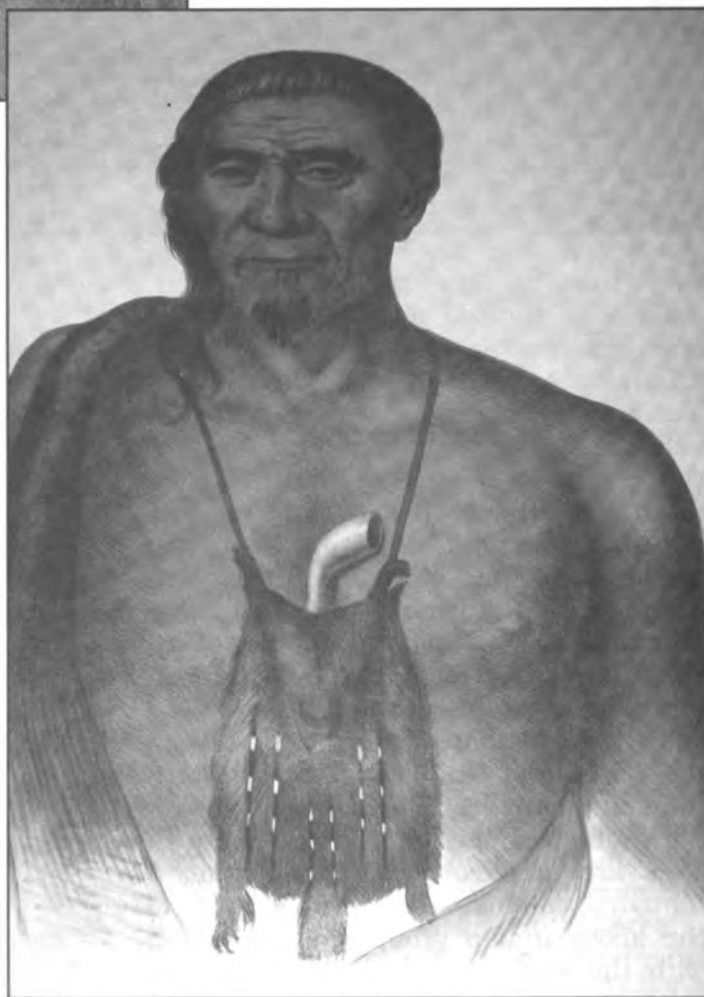


Figure 118: TISH-CO-HAN or "He who never blackens himself", a Delaware chief (modified from M'Kenney and Hall 1836:199).

Looking at Prehistory: The Role of the Public in Archaeological Research

Prehistoric archaeology is the study of ancient human lifeways and cultures that left no written record of their lives. We can only know about them today through the study of the camps and villages (archaeological sites) where they once lived, along with their artifacts and preserved architectural remains that they left behind. Thus, it is vital that these sites be properly recorded and the artifacts from them documented. When artifacts are found such as bones, shells, pits with charcoal and other things, they often represent the remains of an ancient camp site or village. Archaeologists in the state are engaged in a constant effort to record and protect these sites for the future, but without

the help of the public, much of it goes unreported and eventually is destroyed by new housing subdivisions, businesses, roads, bridges, coal mines, pot-hunting or looting (Figures 119-121).

Archaeological sites located in the Hoosier National Forest are protected by federal law and should not be disturbed. If artifacts or other archaeological remains are observed, please report them to the forest archaeologist in Bedford, Indiana. Plot the location on a USGS quadrangle map or other scaled map to pinpoint the location where you made your discovery. The site can then be formally recorded and authorities can locate and monitor the site. By doing this, you may help save a site from



Figure 119: The Slack Farm site in Kentucky seen from the air. This site was the scene of heavy looting which led to arrests and prosecution of several persons and upgrading of the laws protecting archaeological sites in several states (Photo courtesy of Kenny Barkley; from Pollack, Munson, and Henderson 1996).

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Figure 120: Archaeologists work with Native Americans at Slack Farm to assess the looting damage and make assessments of the overall damage and loss of valuable history.

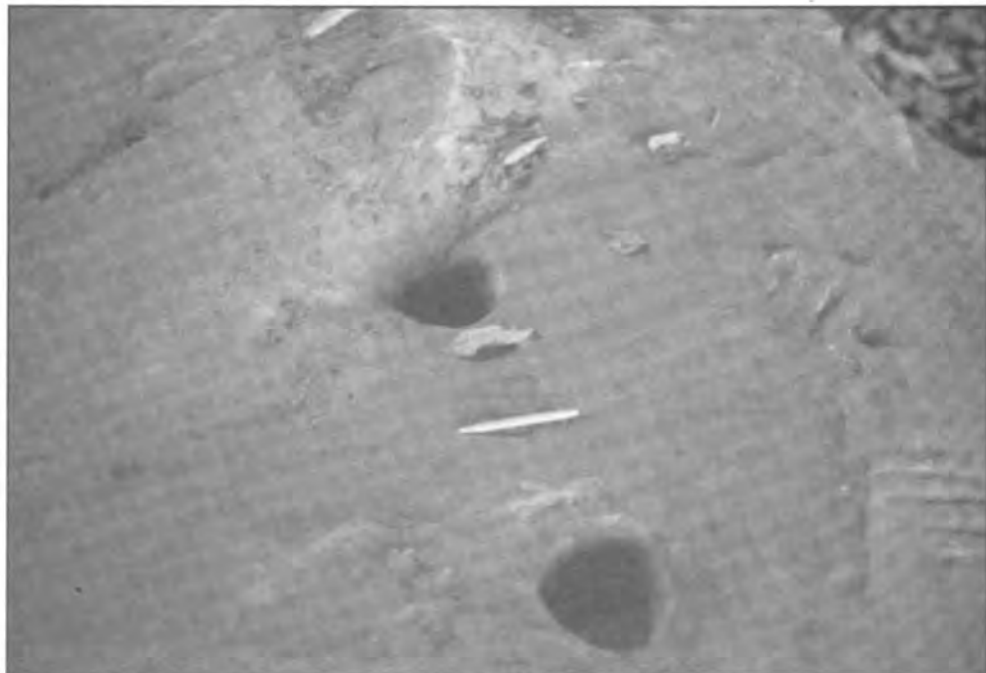


Figure 121: Graffiti damage on prehistoric mortars at Hemlock Cavern Rockshelter.

destruction as it may be highly significant for writing the story of the prehistory of the region (Figures 122-124). Also, please report areas of disturbed earth within the forest that could be the result of vandalism. The penalties for looting are strict. Archaeological investigations, including excavations, are only conducted under professional supervision and only after obtaining a formal permit to do so.

Figure 122 (below): Circular images from the Roll Petroglyph site. These petroglyphs (pecked images in rock) and others were recorded in 1998 and 2001. They were highly weathered and some were barely visible because of river scouring.

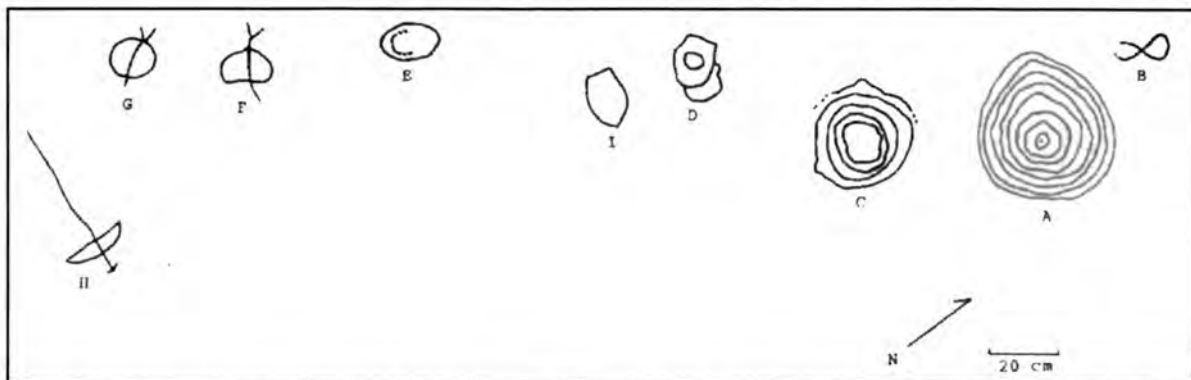
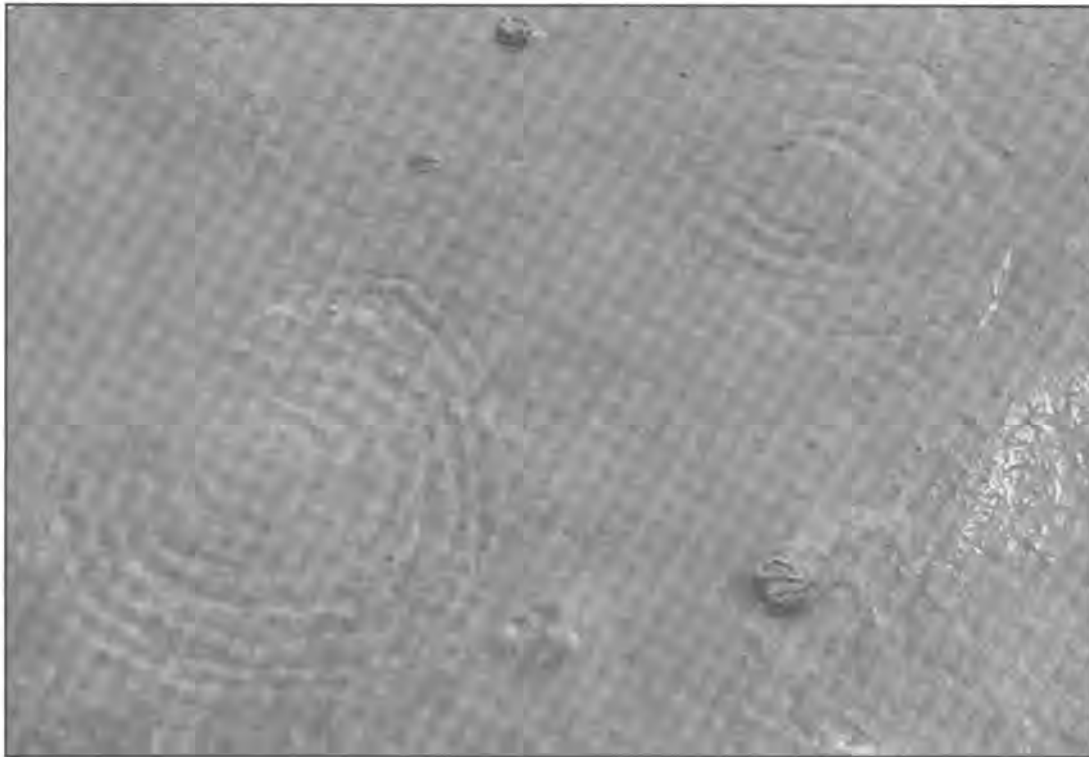


Figure 123: Prehistoric images at the Roll Petroglyph site. These are Late Prehistoric or Historic period images. Image H is commonly interpreted to depict the bow and arrow based on rock art research in other regions of the country.

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Figure 124: A prehistoric pictograph (painting) on the wall of Cedar Bluff Rockshelter. While this and others on the wall are rudimentary, they capture the flow of movement and have character. The one shown here probably depicts a warrior wearing feathers with a shield in one hand and a club or battle ax in the other. It may also be the case that some of the detail was lost to weathering and the use of an atlatl or the killing of an animal or evil spirit cannot be ruled out. The age is unknown, but a later prehistoric time frame is suggested. The art medium is black in color and probably a mixture of several unknown substances.

Archaeological research is regularly conducted in all parts of the state of Indiana by archaeologists connected with the various universities, the Hoosier National Forest, the Department of Natural Resources, and private Cultural Resource Management offices (see listing of offices and organizations below). You can participate in field research by making contact with local archaeologists (Figure 125). Archaeological field schools are conducted each summer by many of the universities which offer solid training in archaeological techniques and theory while granting college credit (Figure 126). There are also a number of avocational archaeological groups in the state that are devoted to proper collecting and recording of archaeological sites and welcome new

members. Members of these groups are often able to help with salvage excavations of endangered archaeological sites, assist in the recording of accidental discoveries, and participate in grant funded archaeological research.

The State Archaeologist's office in the Division of Historic Preservation and Archaeology in Indianapolis is the main clearinghouse for archaeological information in Indiana. That office administers permits and grants for field investigations in all regions of the state and has programs and literature on archaeological research. They provide information on recording archaeological sites, identifying artifacts, laws that protect archaeological sites (including human burials and cemeteries) and much more. The State Archaeologist's

office also sponsors "Archaeology Month" each September which provides an opportunity for professionals and avocational archaeologists to work together to educate the public about archaeology through the many programs and events they sponsor around the state.

Figure 125 (below): Volunteers taking a break while helping archaeologists with an excavation.



Figure 126: Students hard at work in the heat of summer at Angel Mounds. Indiana University field school, 1976.

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Passport in Time: Volunteers are needed across the country

Passport in Time (PIT) is a volunteer archaeology and historic preservation program of the USDA Forest Service. We invite you to work with professional archaeologists and historians on projects including archaeological excavation, rock art restoration, survey, archival research, historic structure restoration, gathering oral histories, or writing interpretive brochures. That's just a small sample! Volunteers have helped us stabilize ancient cliff dwellings in New Mexico, excavate a 10,000-year-old village site in Minnesota, restore a historic lookout tower in Oregon, clean vandalized rock art in Colorado, survey for sites in a rugged Montana wilderness, and excavate a 19th-century Chinese mining site in Hell's Canyon in Idaho. For more information contact your local National Forest or visit **www.passportintime.com**.

Important Federal and State Laws

□ **Antiquities Act of 1906**

Provides for the protection of historic and prehistoric ruins and objects of antiquity located on Federal lands by providing criminal sanctions against destruction of these resources without a permit. www.cr.nps.gov/local-law/anti1906.htm

□ **National Historic Preservation Act of 1966, as amended**

Provides for the designation of State Historic Preservation Officers (SHPO) to administer state preservation efforts. Established the Advisory Council on Historic Preservation as an independent Federal agency. Established procedures for Federal agencies to follow in managing properties. Created the National Register of Historic Places and established procedures for nomination. <http://www.cr.nps.gov/local-law/nhpa1966.htm>

□ **Archaeological Resources Protection Act of 1979, as amended**

Requires a permit for excavation or removal of archaeological resources from public and Indian lands. Permits are issued to qualified researchers. Violations include civil and criminal penalties of two years prison, and \$250,000 fine. http://www.cr.nps.gov/local-law/FHPL_ArchRsrcsProt.pdf

□ **Native American Graves Protection and Repatriation Act of 1990**

Gives provisions for the inadvertent discovery of Native American remains and objects. Requires Federal agencies to inventory all human remains in their control and attempt to determine cultural affiliation for repatriation. http://www.cr.nps.gov/local-law/FHPL_NAGPRA.pdf

□ **National Environmental Policy Act of 1969**

Requires federal agencies to analyze the environmental affects of their actions and disclose those affects to the public. <http://www.nepa.gov/nepa/regs/nepa/nepaeqia.htm>

□ **American Indian Religious Freedom Act**

Protects Native American's rights to exercise their traditional religions. http://www.cr.nps.gov/local-law/FHPL_IndianRelFreAct.pdf

□ **Executive Order 11593**

Directs Federal agencies to take a leadership role in preserving, restoring, and maintaining the historic and cultural environment of the Nation. http://www.gsa.gov/Portal/gsa/ep/contentView.do?P=XAE&contentId=12094&contentType=GSA_BASIC

□ **Indiana Law IC 14-21 Historic Preservation and Archaeology**

Requires that anyone disturbing the ground for the purpose of finding artifacts must do so in accordance with a plan approved by the department. <http://www.in.gov/legislative/ic/code/title14/ar21/>

□ **Indiana Law IC-22-1 Human Remains, Burial Objects, and Artifacts**

A person who disturbs the ground for the purposed of discovering artifacts of burial objects must obtain a permit. A person who disturbs buried human remains or artifacts must cease work immediately and notify the Department of Historic Preservation and Archaeology within two business days. <http://www.in.gov/legislative/ic/code/title14/ar21/>

Archaeological Research Centers and Organizations in Indiana

Hoosier National Forest
811 Constitution Avenue
Bedford, Indiana
(812)275-5987
www.fs.fed.us/r9/hoosier

Indiana Department of Natural Resources
Division of Historic Preservation and Archaeology
402 W. Washington Street, W274
Indianapolis, Indiana 46204
(317) 232-1646
www.in.gov/dnr/historic/

Indiana State Museum
650 W. Washington Street
Indianapolis, Indiana 46204-2725
(317) 232-1642
www.in.gov/ism/

Indiana University
Glenn A. Black Laboratory of Archaeology
423 N. Fess Street
Bloomington, Indiana 47408
(812) 855-9544
www.gbl.indiana.edu/home.html

Indiana University/Purdue University at Fort Wayne
Archaeological Survey
2101 E. Coliseum Blvd.
Fort Wayne, Indiana 46805-1499
(260) 481-6892
www.ipfw.edu/archsurv/home.html

Ball State University
Archaeological Resource Management Service
Muncie, Indiana 47306
(765) 285-5328
<http://arms.iweb.bsu.edu/>

University of Notre Dame
Department of Anthropology
Notre Dame, Indiana 46556
(219) 631-7638
[Www.nd.edu/~anthrol](http://www.nd.edu/~anthrol)

Looking at Prehistory: GLOSSARY

- Archaeology**- the scientific study of material remains of past human life and activities.
- Atlatl**- spear thrower
- Artifact type**- defined by what they look like and how they were made.
- Awl**- needle or punch used in leather or wood working
- Biface**- a tool with at least one edge sharpened on both sides, as opposed to a uniface whose edge is only sharpened (flaked) on one side.
- Cache**- a group of high quality/finely crafted artifacts.
- Celt**- ungrooved axe used for cutting and hewing wood.
- Chert**- a variety of silica containing microcrystalline quartz used to make stone tools.
- Cluster**- groups of projectile points or pottery with similar age and distribution.
- Culture**- socially transmitted behavior patterns, arts, beliefs, institutions and all other products of human work and thought.
- Geophysics**- see remote sensing.
- Gorget**- pendant or throat armor/ornament. Drilled decorative item often shaped like a reel.
- Midden**- deposit of refuse, or garbage.
- Phase**- a smaller unit of people within a particular named tradition.
- Post mold**- a black circular soil stain that is the decomposed remains of a wooden post used in building or other constructions.
- Prehistory**- period of time before the written record, A.D. 1650 in Indiana.
- Remote sensing**- the use of geophysical instruments such as magnetometer and ground penetrating radar to detect subsurface changes which often signal site features or artifacts.
- Sinew**- dried tendons used for sewing and cord making.
- Stratigraphy**- the strata of soil. When undisturbed, the older deposits are found below more recent ones.

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Tradition- particular way people lived over a period of time.

Wattle and daub- a building construction technique using a framework of woven rods and twigs covered and plastered with clay.



Mississippian Period A.D. 1000 – 1650

Agriculture to support large towns
 Defensive palisades, temple mounds, heavy trade
 Later- large towns abandoned for smaller villages



Late Woodland Period A.D. 500 – 1500

Mound building declines, Larger villages
 Farming and gathering of wild plants
 Hunting and gathering continues



Middle Woodland Period 200 B.C. – A.D. 500

Burial mounds and earthworks
 Long distance trade in ceremonial goods
 Hunting, gathering and growing plants for food



Early Woodland Period 1000 – 200 B.C.

Pottery first appears
 Hunting and gathering using seasonal camps



Prehistoric Time Periods



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