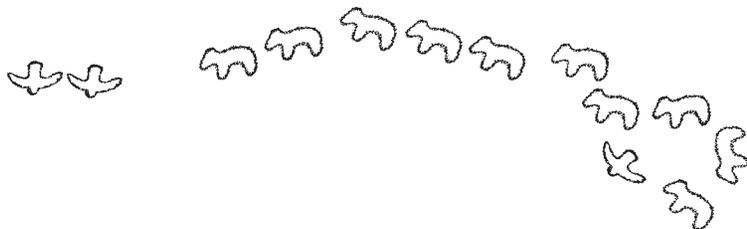


National Park Service
U.S. Department of the Interior

Effigy Mounds National Monument



EDUCATOR'S GUIDE: PRE & POST VISIT



*Compiled by
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Park Ranger
Effigy Mounds National Monument*

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Special Thanks To . . .

Abbey Harkrader

Amber Lenzendorf

Dennis Lenzendorf

School Tour Outline

I. Introduction

- A. Established October 25, 1949 (H. Truman)
- B. Preservation - prehistoric mounds
 - 1. burial
 - 2. ceremonial
- C. Types of mounds
 - 1. conical (round or oval)
 - 2. compound (string of beads)
 - 3. linear (cigar or candy bar shape)
 - 4. effigy - in shapes of
 - a) animals
 - b) birds
 - c) reptiles
- D. Number of mounds in the park
 - 1. 206 total on about 2500 acres
 - 2. 14 completely excavated
 - 3. 21 repair excavated
 - 4. 31 of the 206 are effigy birds or animals
- E. Mississippi Valley
 - 1. Illinois, Iowa, Wisconsin, & Minnesota
 - 2. 10's of thousands
 - 3. less than 1000 left today
 - 4. destruction
 - a) farming
 - b) roads
 - c) logging
 - d) etc.
- F. Time line
 - 1. oldest - 2500 - 3000 years old
 - 2. youngest - 1300 +/- years old

II. 3 Mounds

- A. Woodland Culture
 - 1. Red Ochre group/early woodland
 - a) oldest
 - b) red ochre - crushed iron ore (burial)
 - c) rock points - quite large

-
2. Hopewell group/middle woodland
 - a) from the Ohio area
 - b) flamboyant grave items
 - c) Snyder points
 3. Effigy group/late woodland
 - a) mounds in shapes
 - 1) animals
 - 2) birds
 - 3) reptiles (largest effigy is in Ohio, serpent mound is 1493 feet long - 1/4 of a mile)
 - b) smaller points (triangular)
 - c) start of the bow and arrow period
- B. Family groups
1. size of group
 2. age expectancy
 3. height & weight
 4. gathering for mound ceremony
- C. Burial or Ceremonial site
1. site selection
 - a) savannah/prairie
 - b) outlined “floor plan”
 - c) dug out
 - d) burial pit
 - e) burial platform
 - 1) clay
 - 2) wood
 - f) ceremonial “flat”
 2. construction
 - a) grave or ceremonial offerings
 - 1) copper
 - 2) obsidian
 - 3) red ochre
 - 4) mica
 - 5) points
 - 6) pottery
 - b) fire pit(s)
 - 1) burial
 - 2) ceremonial

-
- c) burials (4 styles)
 - 1) cremation (fragments of charred bone)
 - 2) bundle (bone residue/residual burial)
 - 3) flexed (fetal “flesh” burial)
 - 4) extended (flat out “flesh” burial)
 - d) mound completion
 - 1) gathering near-by soil
 - 2) early spring construction
 - 3) hill top and areas near the river

III. Trail rules

- A. Caution
- B. Outdoor Museum - (leave it here)
- C. Stay together
- D. Teacher/supervisor last
- E. Ranger is first

IV. Basswood tree

- A. Bundle burial in mound #57
 - 1. fabric - woven material
 - 2. copper ornament
- B. Basswood fibers
 - 1. mats
 - 2. baskets

V. Limestone outcropping

- A. Ancient materials source
- B. Driftless area

VI. Stonewall

- A. Caves & rock shelters
 - 1. small family groups
 - 2. summer inhabitants
 - 3. winter temperatures
- B. Daily activities
 - 1. food
 - 2. points
 - 3. pottery

VII. Aspen tree

- A. Changes in forest structure
- B. Changes in forest floor plant life

VIII. Compound mounds

- A. Description of
 - 1. 3 conicals connected
 - 2. difference in age
 - 3. ghost tunnels
 - 4. burial areas within the “conical” sections
- B. Destruction of
 - 1. roadway (logging road)
 - 2. conical #56 by center 3/4 gone - logging road
 - 3. farm land
 - a) last farmed - early 1930’s
 - b) last logged - late 1920’s
 - 4. road dip between 2nd & 3rd “conical”

IX. Effigy “BEAR”

- A. Description of
 - 1. animal effigy - “bear”
 - 2. size
 - 3. right side down (resting on it)
 - 4. heading down river
 - 5. burial areas
 - 6. fire pit area(s)
 - 7. ceremonial mound
 - 8. excavated
- B. Ceremonial Effigies - %
- C. Burial Effigies - %
- D. Great Bear
 - 1. size
 - 2. position
 - 3. ceremonial
 - 4. excavated

X. Conicals to Fire Point

- A. 19 conical mounds
- B. Ridge top - view of river
 - a. importance of the river
 - b. high spots - spirituality

XI. Fire Point

A. View of the river

1. Mississippi

- a) river traffic
- b) clamming
- c) commercial fishing
- d) river depth, floods & island movement
- e) driftless area - Wisconsin side & bluffs

2. historical significance

- a) Pikes Peak State Park
- b) Wyalusing State Park
- c) Wisconsin River
- d) Yellow River

3. towns

- a) Marquette - trains
- b) McGregor - American Pearl Button Company origin
- c) Prairie du Chien
 - 1) Villa Louis
 - 2) Fort Crawford
 - 3) Medical Museum
 - 4) military road to Fort Atkinson
 - 5) Col. Taylor vs Lt. Davis

B. Mound #33 - Fire Point

- 1. size
- 2. clay material
- 3. cremation site
- 4. village site
- 5. artifacts

C. Recap of Woodland Culture

1. Red Ochre - THE EARLY PEOPLE

- a) 2500 years ago
- b) first pottery
 - 1) crude
 - 2) thick-walled
- c) warm season visitors

2. Hopewell - THE MIDDLE PEOPLE

- a) 2000 years ago
- b) came from Ohio
- c) elaborate mortuary system

-
- d) grave items (artifacts)
 - 1) exotic materials
 - 2) jewelry - pendants
 - 3) copper usage - tools
 - 3. Effigy - THE LATE WOODLAND PEOPLE
 - a) 1300 years ago
 - b) distinct shapes (mounds)
 - 1) animal
 - 2) bird
 - 3) reptile
 - c) decorated pottery
 - d) first known use of bow and arrow
 - e) small triangular shaped points
 - f) some horticulture (corn) started
 - D. Return to Visitor Center
 - 1. see the 15 minute film, if not seen
 - 2. visit or revisit the museum to look at artifacts



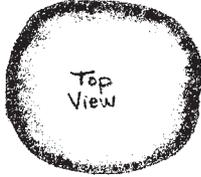
Mound Styles / Cultures

Mound Styles — Woodland Culture

CONICAL - used by Red Ochre, Hopewell, and Effigy.

Red Ochre - 2500 + years ago put RED OCHRE (crushed iron ore) in the burial area

Hopewell - 2000 + years ago.



USAGES

1. ceremonial - no burial(s), fire pit(s) and ceremonial objects
2. burial(s) - located in the center of the mound
 - a. cremation - charred bone fragments on a small clay platform
 - b. bundle - bone burial - many bones “bundled” together and placed in burial pit.
 - c. flexed - flesh burial - knees to the chest and head on the knees and placed in a burial pit on its side.
 - d. extended - flesh burial - “flat-out” burial as we have today and placed in a burial pit.

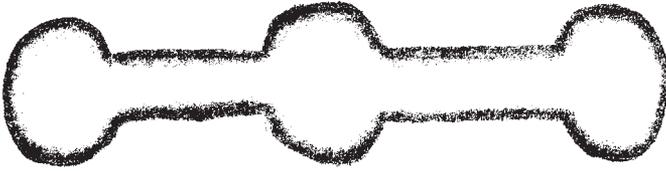
LINEAR - used by the Hopewell group - 2000 + years ago.



USAGES

1. ceremonial - ****same as conical****
2. occasional burial(s) located on the long axis of the mound
****same burial styles as conical****

COMPOUND - a combination of the linear and conical mounds
- used by the Hopewell 2000 + years ago.

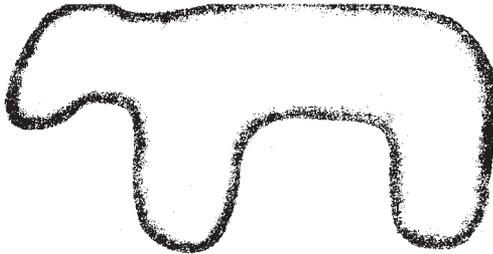


USAGES

1. ceremonial - ****same as conical****
2. burial(s) located within the domes of the mound
****same burial styles as conical****

COMPOUND - connecting “linkage” between the conical domes on the compound and contains nothing.

EFFIGY - in the shape of animals, birds, and reptiles was used by the Effigy Mound group about 1300 years ago.



USAGES

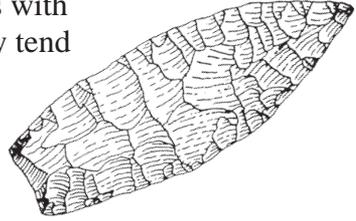
1. ceremonial - ****same as conical****
2. occasional burial(s) located in the heart or brain area
****same burial styles as conical****

Burial vs. Ceremonial mounds

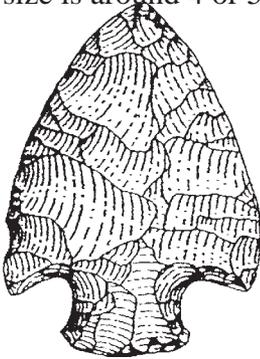
1. About 90 percent of all conicals and compounds are burial mounds, the remaining 10 percent are ceremonial
2. About 25 percent of all linear and effigy type mounds are burial mounds, the remaining 75 percent are ceremonial.

Point styles associated with the Woodland Culture

RED OCHRE points - are broad blades with convex edges and a straight base. They tend to be fairly large and are the widest at the midsection. They range in length from 2 to 8 inches, with an average around 4 or 5 inches. These points are associated with the Late Archaic Red Ochre group and probably date from around 3000 to 1000 B.C.



HOPEWELL POINTS are broad, ovate corner-notched points of medium to large size. Snyders points are very broad bladed and tend to be nearly as wide as they are long and thinly made. Length ranges from 2 to 6 inches with width nearly as much. The average size is around 4 or 5 inches in length. The size and proportions



of the Snyders point makes it difficult to perceive their use as spear tips - so they may have served strictly for ceremonial functions. These points are a hallmark of the Hopewell Group and date between 250 B.C. and 250 A.D.

EFFIGY MOUND POINTS are thin, well-made small to medium-sized points with straight converging sides and long, triangular blades. There are numerous patterns of notching ranging from double-notched, triple-notched and even some multiple-notched varieties. They are usually long, straight-sided triangles with a main pair of deep side notches up from the base. They range in size from 1 to 2-1/2 inches with 1-1/2 being about the average. These points date between 900 and 1400 A.D. It is during this time period that the bow and arrow came into use in this area.

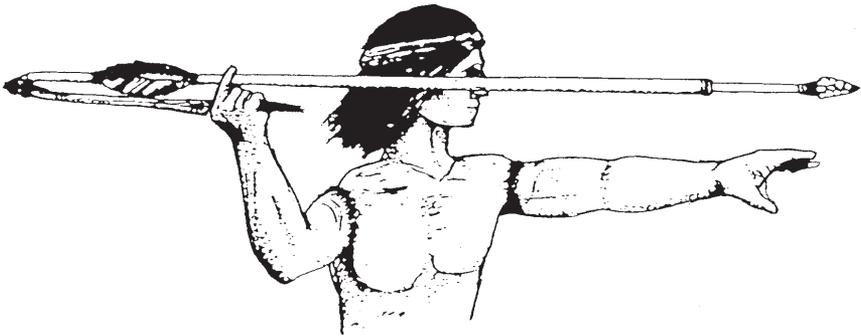
of the Snyders point makes it difficult to perceive their use as spear tips - so they may have served strictly for ceremonial functions. These points are a hallmark of the Hopewell Group and date between 250 B.C. and 250 A.D.



POINT USAGE

Most of the points during WOODLAND time period were large points used for “spearing.” As hunting weapon tips, projectile points were used on spears, darts, and later during the Effigy time period on arrows. Spears were long, with rather heavy shafts and either used as a thrusting weapon or thrown in a flat trajectory by hand. Points for these spears varied greatly in size and may have been hafted (mounted) on smaller, detachable foreshafts mounted in a socket in the end of the main shaft. Darts are lightweight spears launched with the aid of an atlatl or spear-thrower. The atlatl consists of a hooked throwing stick between 1 and 2 feet in length. The atlatl serves as a lever, increasing the arch of the overhand thrust of the dart which increases the force and distance of the throw. The darts for the atlatl range in length from 2 to 8 feet with about 5 feet being the average for the sake of accuracy. (Below a rendition of the atlatl and dart being used. Note the fletching and detachable foreshaft of the dart.)

Credits: Some dialogue and sketches taken from IOWA PROJECTILE POINTS by Toby Morrow



Mound & Burial Styles of the Woodland Culture

Monuments of past civilizations lie scattered in many parts of the world. Egypt has the pyramids, England has Stonehenge, and Greece the Acropolis. Out of the jungles of Cambodia rise the towers of Angkor. The Isle of Crete offers the sprawling palace of King Minos at Knossos. The stone cities of the Mayas adorn Mexico's Yucatan.

However, in the continental United States there are relatively few massive relics of prehistory. Our forefathers greatly regretted this lack when they came here in the seventeenth and eighteenth centuries. People in search of myths and stories usually find answers if they work at it. In the youthful Thirteen Colonies the people had little to work with such as stories or myths, but as they spread southward and westward they found strange earthen mounds beyond the mountains and in the valley of the Mississippi. It was these "strange earthen shapes" that served as the beginning for their romantic tales of lost civilizations.

The mounds lacked intrigue, beauty and elegance as they were only mere piles of earth. Some were colossal, like the Cohokia Mounds in Illinois, 100 feet high and covering 16 acres; others were mere rises of the earth. Some stood in solitary grandeur above broad plains, while others sprouted in thick colonies. All were overgrown with trees and shrubbery, so that their outlines could barely be distinguished, although, once cleared, the mounds revealed their artificial nature by their regularity and symmetry of shape. Within many of them were human bones, tools, projectile points and jewelry.

The Moundbuilder Myth

There were so many of these earthen heaps that they seemed surely to be the work of an energetic and ambitious race. As the settlers fanned outward during the eighteenth and early nineteenth centuries, they found scarcely any area that did not show traces of moundbuilding activity. In the North, almost every major waterway was bordered by clusters of mounds.

To some of the settlers, the mounds were nuisances to be plowed flat as quickly as possible. To others, they were places of handy refuge in time of flood. But to the early antiquarian, the mounds were the work of a vanished race who had incredible persistence in erecting them over the course of hundreds of thousands of years and then had disappeared from the face of North America.

Archeologists Reveal "Truth"

By the early nineteenth century, hundreds if not thousands of these mounds had been examined, measured, and partly excavated by the settlers whose imaginations were stirred up by them. These pioneering mound studies revealed the extreme variety in forms of earthworks. Some mounds tended to be low, no more than three or four feet high, and took the forms of gigantic birds, reptiles, animals, and men. These huge image-mounds seemed quite clearly to be of sacred nature—idols, perhaps. Such effigies were common in Wisconsin, Illinois, Minnesota and Iowa, and scarcely found anywhere else. They represent the tail end of a period now classified as the Woodland Culture.

During this Woodland Period there were four styles/shapes of mounds in use. The time lines for this Woodland Culture dates from about 500 B.C. to about 1200 A.D. Under this one name, Woodland Culture, there are three “groups.” The Early Woodland, also called Red Ocher, the Hopewell classified as Middle Woodland, and the Effigy as the Late Woodland. The time lines on these three list the Red Ochre at about 2500 years ago, and so named from the red ochre, crushed iron ore, used as funerary materials placed under and over their burials. The Hopewell mounds of the upper Mississippi Valley are about 2000 years old and associated with the Ohio Hopewell groups. The Effigy, so named because of the “shaped mounds,” are about 800 to 1600 years old. The large “earthen cameos” were built in the various shapes of animals, birds, and reptiles. Here in Effigy Mounds National Monument there are the bear and bird effigy mounds.

Mound Types

The most common of the mound styles during this Woodland time frame is the CONICAL. An oval or round shaped mound usually about 35 to 45 feet across and about 4 feet high. Conicals were most often used as burial mounds.

The next mound style is the LINEAR. An oblong, “cigar” shaped mound which is usually classified as a ceremonial mound—one absent of burial material. However, there have been a few within the Midwest that did contain some evidence of burial material.

The next style is the COMPOUND. This mound is a combination of the linear and the conical mound. It looks like a string of beads with a “dome—linkage—dome—linkage—dome—etc.” The “dome” portions of the compound mound contain burial(s). The linkage contains no artifacts and may be just an earthen connection from one “dome” to the next. The compound, like the conical, is most often used as a “burial mound.”

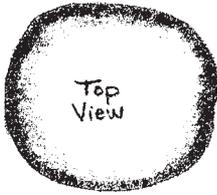
The last of the styles, the EFFIGY, which means in the shape of, is shaped like animals, birds, or reptiles. They are of various size and usage. The effigy is both a ceremonial mound and a burial mound. However, its main use seems to be ceremonial as only about 20 to 25% of them contain any burial material. The burial or ceremonial objects within the effigy are usually located within the heart or head area.

Burial Types:

In addition to the four styles of mounds, these Woodland People used four types of burials as well. The types had nothing to do with the mound style as at times they were intermixed within the same mound. The most common of the burial types was the BUNDLE BURIAL, a bone burial with many bones bundled together and placed in a small shallow rectangular pit. The bundle at times contained the bones of several individuals. The next style was CREMATION, charred bone fragments that did not burn completely. These fragments are usually 2 to 4 inches in length. Then there is the FLEXED BURIAL. The flexed position, sometimes called the sitting or fetal position, was a flesh burial. This type of burial, as the next, the extended, was more than likely a recent death and burial. The EXTENDED BURIAL, also a flesh burial, is very similar to what we use today. This, like the flexed, was probably a recent death and burial.

Here a Effigy Mounds National Monument we have 206 such burial and ceremonial mounds in preservation and under the protection of the National Park Service.

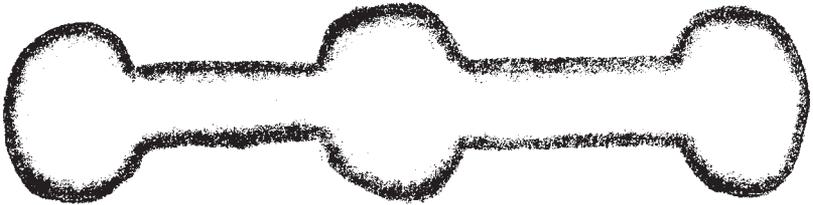
Conical



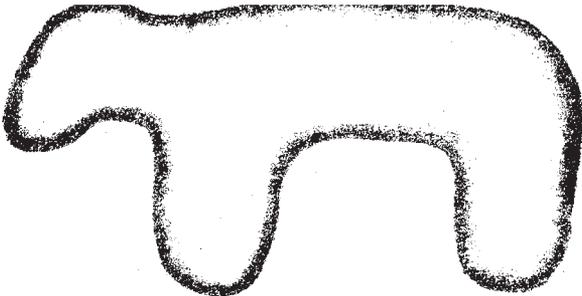
Linear



Compound



Effigy



The Atlatl

Atlatl History

The word atlatl comes from the Aztec language and simply means a throwing stick and dart system. It can be pronounced either AT-lat-ul or AT-ul-LA-tul; both are correct. The atlatl and dart system was the first complex weaponry system to be invented by humans and has been used by people all over the world. The atlatl first appeared approximately 30,000 years ago on the Eurasian Continent and arrived in North America thousands of years later. Paleo-Indians, who were a hunting and gathering culture brought the atlatl with them to North America when they crossed the then-existing land bridge from Siberia to Alaska. Native Americans hunted with the atlatl and dart system up until the invention of the bow and arrow, which occurred around the birth of Christ. The atlatl and dart system has been used by our ancestors for thousand of years, was still being used by Native Americans during the Age of Discovery 500 years ago, and is still being implemented today by tribes in Papua New Guinea, South America, Northwest Mexico, and Australia.

Atlatl Technology

The technology of the atlatl system can be thought of as a technologically advanced spear thrower. The atlatl is considered the first compound tool ever made by man. A compound tool consists of two working parts, like the bow and arrow. The fundamental mechanics of atlatl technology is that both the atlatl and dart are flexible. During acceleration of the atlatl, the dart flexes and stores energy that will be used to push itself off of the atlatl and can be launched at speeds in excess of 100 miles per hour and can fly more than 300 yards away. This type of speed and distance made hunting very easy and well accomplished by prehistoric, historic and modern cultures.

Technology of the atlatl system seemed to confuse archaeologists for years. There were many innovations that had

been made to atlatls. Atlatls come in a variety of lengths, shapes and materials, but there is one innovation that truly stands out from all the rest. Over time, butterfly shaped rocks were being fixed around the shaft of the atlatl. What archaeologist had to figure out was the purpose of these rocks, called Banner Stones. The butterfly shape of the stone acted as a silencer, reducing the “whooshing” sound that the atlatl made as it was pushing the spear through the air. A second purpose of the Banner Stone is that it acts as a “timing mechanism.” The hunter could place the stone higher or lower along the shaft and could coordinate the transfer of energy between the atlatl and the spear, thus optimizing his speed and distance. Each atlatl was custom-made for every hunter. This was easily done by a crafted rock that gave hunters a technologically advanced weapon.

Prehistoric people of the world and North America did not have a written language, let alone mathematics, but they initialized the use of aerodynamics, physics, and wave mechanics. This accomplishment had taken place 30,000 years ago when someone developed the atlatl and the flexible spear.

What does the Atlatl look like?

The structure of the atlatl is very simple. The shaft of the atlatl can be made from a variety of materials and had a diameter of approximately 1/2 inch. The Banner Stone is placed on the shaft of the atlatl and secured with sinew, dried intestinal lining of an animal. At the top end of the atlatl is the tip of an antler that is also secured with sinew. The spear is notched at one end, which will rest on the antler tip. The atlatl is held in the palm of the hunter’s hand and the spear is secured by the hunter’s forefinger and middle finger. As the atlatl is being “whipped” through the air, the spear is released and pushed off the end of the atlatl. The development of the atlatl increased the hunter’s target range and speed. Prehistoric Native Americans simply took a stick, added a rock around the shaft, a spear, and completed a weapon that gave them a deadly edge.

How does the Atlatl work?

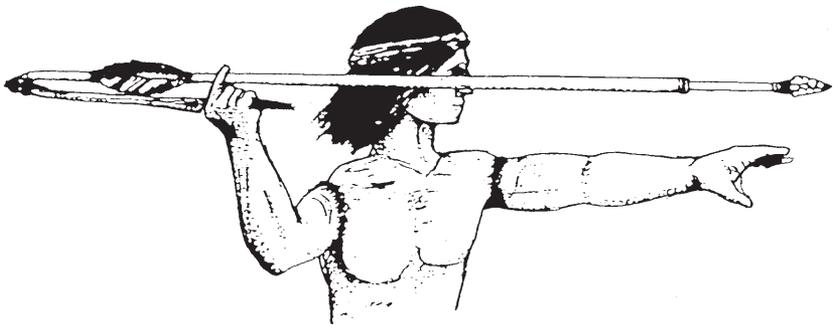
The technology of the atlatl and its mechanical function is the flexible spear. The atlatl is held in our hand, like a tennis racket and is being whipped through the air like we throw a baseball. As a hunter, we do not release the atlatl; we are only releasing the spear. As the spear is becoming compressed (like a spring), it is storing energy, and it is this stored energy that the spear will use to push itself off of the atlatl and have launching speeds that can exceed 100 miles per hour. The atlatl itself is flexing in the opposite direction, which will counteract the spear and give an added boost to the spear's acceleration. The dart is springing and being sprung, just like a diver off of a diving board. Atlatls can be found and used in a variety of lengths. Atlatls were built to the specific needs of the hunter and were custom made to compliment the hunter's body build. The time, energy, and skills needed to build an atlatl was evident in the success that hunters had.

Why did the Atlatl disappear?

The atlatl and dart system had been used in North America for thousands of years. And although the atlatl had remarkable speed and accuracy, the bow and arrow replaced the spear throwing system. This drastic change in hunting techniques most likely occurred in North America around the birth of Christ. Archaeologists theorize that early hunters accepted the bow and arrow system for accuracy, silence and mobility. A bow and arrow is easier to carry, and when hunting with the atlatl, movement is the hunter's worse enemy. In North America the weapon of choice became the bow and arrow, but with these new changes came new skills that needed to be learned. Native Americans realized the time, energy, and skills needed to make a bow was more involved than an atlatl. Over time the bow and arrow system became widely accepted and atlatl use in North American came to a halt.

Where is the Atlatl today?

It was just two thousand years ago that the technology of the atlatl and dart system had been forgotten, but it has been during the twentieth century that atlatl use in North America is once again prevalent. Archaeologists throughout the country were becoming more aware of the atlatl and the technology needed to develop such an intricate weaponry device. It was not until the early 1980s that students from the University of Montana began to question the dynamics of the atlatl and how it worked. Just as Paleo-Indians had developed the Atlatl thousands of years ago, students were relearning this technology through trial and error. It was through the perseverance of modern humans that the atlatl is used in North America today for large game hunting and sport activities. Modern Americans had the intelligence to develop a weapon that could throw a spear in excess of 100 miles per hour and hundreds of yards away; this weaponry system was reintroduced from the knowledge our ancestors left behind 30,000 years ago. Just as firearms have developed from muzzleloaders to automatics, the atlatl has endured similar evolutionary changes that are once again being developed in North American society.



The Mississippi Today

When Mother Nature, through eons of time, molded the Mississippi Valley and endowed it as “the Father of Waters” and added a myriad of creatures, she provided an area of great spiritual/mystical importance to early man. Today it is of great recreational and transportational importance to modern man.

Framed by towering bluffs, the Mississippi River features a unique and historic landscape, a landscape watched over for centuries by silent sentries, the mounds left on these bluff tops by prehistoric man.

Today the landscape is framed by two great interest groups; one the use of the river for transportation, the other for recreation. In the 1930’s, Congress authorized the maintenance of a 9-foot channel to help navigation. It was under this project that the U.S. Army Corps of Engineers built 23 locks and dams between Red Wing, Minnesota, and Alton, Illinois. Above these locks and dams large reservoirs have flooded the low-lying lands and islands. Here one can see how the river looked during high water before the time of locks and dams only it remains permanently high. Below the locks and dams, the river retains more of its islands and braided, twisting channels. It is here that the river appears much like it did before the 1930’s and before the locks and dams.

The series of pools created by the locks and dams built for navigation purposes offer, as “extras”, great potential for public recreation. Each year millions of people visit the river to observe wildlife, participate in environmental education programs, to fish, to hunt, to enjoy the pleasures of picnicking and boating or just to view the river form the majestic bluffs.

Central to these benefits, managed by the various agencies of the Department of the Interior, there are two National Wildlife Refuges under the direction of the U.S. Fish and Wildlife Service. Then there are all the lands controlled by the U.S. Corps of Engineers for navigational purposes. These two areas combined consist of over 200,000 acres of wooded islands, waters and marshes extending 560 miles from Wabasha, Minnesota, to St. Louis, Missouri. Spread in and among all of these lands and waterways are other wildland tracts that are managed by the respective states they border. These wildlife/wildlands, the last pristine areas of the region, remain largely unscathed by modern civilization. One other area, managed by the U.S. National Park Service, also under The Department of the Interior, is Effigy Mounds National Monument. This area, overlooking the great river, sits right on its river banks and

bluffs and has overlooked its daily use for eons of time. It was here, high atop these bluffs that prehistoric man, the Woodland Culture of Indian, came to hold ceremonies and bury their dead. When you first see these low rises on the landscape you wonder, but then your eyes begin to pick out regular patterns in the hills. If you trace the patterns, the hills turn into familiar shapes — animals and birds rising in low relief from out of the ground. These effigies, not the work of Nature, but of people who lived here thousands of years ago, stand as silent witness to the Father of Waters. They watched as their builders negotiated the great river, they saw the coming of the fur traders and probably marveled at the sight of the steamboats. Today, from their lofty perch, they oversee the many uses of these mighty waters. They watch the migrating waterfowl, the sightseers, the naturalists and the mighty barge lines.

Today, many industries, particularly those engaged in shipping bulk products in great volume, have taken advantage of the low-cost transportation that these giants of the river have made possible. In the holds of these giants are petroleum products, coal, corn, wheat, oats, barley, rye and even scrap iron.

Twenty thousand tons of freight loaded on 12 to 15 barges, with a length greater than that of the Queen Elizabeth, all powered by one sturdy diesel towboat, scarcely arouses a comment on a 1,500-mile trip from Baton Rouge to St. Paul. These giants of the river more than hold their own when comparisons are made to other types of transportation. In comparison, consider the following: 1 barge holds 1500 tons, the equivalent of 15 train hopper cars or 54 semi truck loads. This computed out makes a 15-barge tow holding 22,500 tons equal to 224 train hopper cars or 870 semi truck loads. Then one could think of it in this way; a 15-barge tow is about 1/4 mile long, whereas a 224-car train is 2-1/4 miles long and the 870 semi trucks would be almost 35 miles long — assuming that there was 150-foot intervals between the trucks. The mighty giants of the river, the barge tows.

The mighty “Father of Waters,” the Mississippi, usable, enjoyable, but unpredictable with a mind all its own.

Animal Resources Used by Prehistoric Peoples of the Upper Mississippi

The First Humans

The first people to live in the region now known as Iowa and Wisconsin came into the area somewhere between 10,000 and 12,000 BC at the end of the last Ice Age. These people are known to us as Paleo Indians and were nomadic hunters. The Paleo Indians followed and hunted mammoth, mastodon and other large animals that are now extinct, using them to meet their needs for food, clothing and bone tools.

As the mammoths and other megafauna became scarcer and many finally disappeared altogether, other resources became more important to the people living here.

Hunter/Gatherers

With the decline of the herds of mammoth and other megafauna, a change in lifestyle to a less nomadic hunter/gatherer culture developed. Hunting was still an important method for obtaining food and other materials, but was being increasingly supplemented with plant resources. With this changing lifestyle, new cultures known as Archaic and eventually, about 1000 BC, the Woodland Culture were evolving. With resources available from wildlife, the river, the forests and prairies, the minerals, and through trading, a wide variety of materials were available for their use.

Our knowledge of the uses for animal resources comes mainly from examining the trash left behind by these early people at their campsites. At summer camp locations, trash was often discarded in refuse pits, but more frequently accumulated on the ground surface where trash was repeatedly discarded. These surface accumulations are referred to as middens by archaeologists. During the winter while the people lived in rock shelters and caves, trash was often tossed to the back of the cave or shelter. By examining the refuse left in these places, archaeologists can determine which animals were being used, what they were being used for, and when.

Agriculture

Beginning between 1200 and 1300 AD, a new lifestyle evolved that now included agriculture. These last prehistoric people are known as the Oneota. In addition to the hunting and gathering that had supplied the earlier prehistoric peoples, cultivation of corn, squash, and other crops provided a steady, reliable source of food.

Mammals

The most important animal used from the Archaic time and continuing throughout the prehistoric period was the white-tailed deer. Deer provided a total package of useful materials for food, clothing and tools. Deer remains are most often found at rock shelter locations, indicating that this was a primary food source during the winter months when plant and river resources were less available. In addition to the meat being used for food, the bones were consistently broken open to get to the fat-rich marrow inside. Hides from the deer were used to create clothing, footwear, pouches, and strips of leather. Tendons were an important source of sinew, which was used as a kind of stringy glue to fasten spear points to wooden shafts. Bones could be broken and sharpened for use as awls and hooks, while larger bones could be used for hammering or digging. Even the antlers of the deer were an important tool, the points being used to pressure flake the local chert rock into stone tools. While not as frequently found, elk were also hunted and used in the same way as the deer.

Another frequently used animal was the bison, though bison were far more common on the west side of the Mississippi River than the east. Bison remains are usually incomplete, with the hoof bones being found more often than other bones, indicating that most of the bones were left at the kill site and a hide/meat bundle transported back to the campsite with the hooves left on the hide to help transport the bundle. Uses for the bison were similar to that of the deer. During the Oneota period, the shoulder blades of the Bison were used as hoes. The relative absence of large numbers

of bison on the east side of the Mississippi caused these shoulder blades or scapulae to become trade items.

Black bear are found over a wide area, again being used for food, clothing and tools. The large canine teeth of the bear were used as a type of jewelry or ornamentation and were occasionally used as grave offerings. A spiritual connection to the bear is also seen in construction of earthworks in the image of the bear.

Beaver was another useful animal. In addition to the hides, many lower jaws of beaver have been found with the incisors carefully removed — probably for use as woodworking tools.

The only domesticated animal in the area was the dog. In addition to companionship, dogs acted as an alarm system for the camp, assisted in hunting, disposed of unused food scraps, and sometimes were a food source as well.

Remains of at least 44 species of mammals have been found at refuse sites in the Upper Mississippi region.

Birds

The most frequently used bird during the prehistoric era was the wild turkey. This is particularly true in the area extending south from Effigy Mounds National Monument. In addition to being an important food source, the prime feathers of the wild turkey were the best choice for arrow and spear fletching. These feathers were also used as trade items destined for areas where wild turkeys were not as common.

Waterfowl, including Canada geese, mallards, wood ducks and trumpeter swans were hunted as a source of meat. In the spring, the eggs of these birds were also harvested.

The remains of smaller perching birds are seldom found, with the exception of charred redwing blackbird bones, indicating that this species was also used as a food source.

The bones of various birds were used as needles, awls and hooks, while the feathers could be used for ornamentation and rituals. The spiritual importance of certain birds is also reflected in their image being fashioned into earthworks, or effigy mounds.

The remains of at least 51 different species of birds have been found in refuse pits and middens throughout the Upper Mississippi region.

Aquatic Animals

The most commonly found fish being used in this region is the catfish, the black bullhead in particular. Some fish, such as suckers and northern pike, were gathered during the spawning periods, while others such as gars, bowfin, and bullhead were captured by seining or in traps in shallow backwaters during the summer months. Large catfish of 50 pounds or more were found at many sites along the Upper Mississippi.

Mussels were one of the main sources of food for the local prehistoric inhabitants. In fact, one midden across the river from Effigy Mounds National Monument near Prairie du Chien is estimated to contain more than one million mussel shells, indicating use for many years. Mussels would have been a seasonal food source, being harvested during the warm weather months. In addition to being a food source, mussel shells were also used as tools, and crushed shells were used as a tempering material when making pottery. Occasionally, attractive shells were buried with the dead.

Remains of at least 35 species of fish and 39 different species of mussels have been identified at refuse sites in the area.

Very few reptiles and amphibians were used by the prehistoric people of the area. The main exceptions seem to be the turtle and in particular, the snapping turtle. Turtles may have been captured while laying eggs on dry land. Burned shells from these turtles indicate they were cooked in their shells.

The results of excavations at refuse sites demonstrate that prehistoric people of this area lived in a land with a rich diversity of natural resources. Living in harmony with the forests, prairies and wetlands, these people were able to make good use of these resources, harvesting all of the basic needs of life from them. At the time of the first European contact here in the late 17th century, this rich diversity was still intact, despite having been occupied

by humans for thousands of years. During the last 200 years, the forests have been logged, the prairies plowed, and the river dammed, all of which has contributed to the decline and loss of many of the species once found and utilized by the people of this area.

Here at Effigy Mounds National Monument, the National Park Service is preserving and restoring the land to the conditions found here during the mound-building era. As a work in progress, this effort will continue so visitors may walk through the forests and prairies of the park and see a scene reminiscent of and populated by the same animals seen and used by the inhabitants of this area throughout the ages.

REFERENCE

Theler, James L.

1998 Animal Remains Recovered at Native American Archaeological Sites in the Upper Mississippi River Valley, University of Wisconsin - La Crosse.

Archaeology

(A "Mound Search")

Prehistoric people we call the Woodland Culture built ceremonial and burial mounds throughout the Mississippi Valley area of Iowa, Wisconsin, Minnesota, and Illinois, some 900 to 3000 years ago. Get out your archaeologist's "trowel" and see if you can uncover the artifacts hidden in the "MOUND" below. They can be found across, up, down, diagonally, and backwards. Search for: ***arrow points, bones, pottery, pounding tools, bone awls, stone axes, copper awls, shell beads, copper wedges, stone saws, and shaped bear toes.***

S O N F P C C O P P E R W E D G E S
H T U K O F A C O S K L T X V J A F
A N O B T E L N T E C P O J Y C M P
P O W N J S R K T S B O N E A W L S
E F F I E P G Y E X L U V S K E A T
D O B Y N A C N R A E N T S Y L W N
B O N E S N X R Y M T D P X R V B I
E X A T O O N E L K C I Y I G G U O
A B U V M S U R S T O N E S A W S P
R W E D G T O O M S A G P O I M T W
T U R A S I S P A E B T I A E S C O
O I N S L W A R E P P O C R B I Y R
E A W S U N B A O U D O R U D F K R
S D E T U G D E S O F L P A R O X A
F A S H E L L B E A D S E L H S M P

Classroom Follow-Up Activities & Recipes

For GENERAL INFORMATION and LESSON PLANS, please go to our web site for Effigy Mounds National Monument at:

<http://www.nps.gov/efmo>

Here are some sample lesson plans from the web site.

Terrarium Dig

Strand: Science/Social Studies

Standards: Content Area Skills

Grade Level: 4-5

Duration: Activities for a week

Objectives: The student will experience hands on what an archeologist experiences. The student will use observation, classification, and deductive inference in sorting through the objects he/she finds in the terrarium.

Materials:

Chicken bones, some charred pieces of charcoal

Rocks and chipped flint

Broken fired clay pot

Soil and a terrarium

A cut of sod

A small shovel, sifter or strainer, paint brushes, dental tools, newspaper, and plastic containers

Vocabulary: flint, archeologist

Procedure

1. Before school starts, prepare terrarium by doing the following:
Bury the rocks, chipped flint, broken clay pots, bones, and charcoal under the soil in the terrarium. Cover the materials and soil with the cut of sod.
2. In anticipation of the lesson, show students the terrarium. Open the discussion on archeology and tell the students that the terrarium represents a cubic unit from a dig. (Be sure to note that there are laws that protect archeological sites — specifically burial sites.)

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3. Focus the discussion as to how the soil can be excavated without damaging the artifacts that may be contained within the soil. Brainstorm ideas as to what might work best.
 4. Next, the students sift through the terrarium contents carefully and classify the “artifacts.” Each item is given a number, sketched, and a short description.

Additional Activities

- A generated report of findings and conclusion from the cubic unit.
- Digital images and power point presentation about the “site.”
- Create fictional stories about people who lived on the site in the past.
- Write a story depicting a day in the life of a ten year old living in the past at the site.

A Day in the Life of a Moundbuilder

Strand: Social Studies

Grade Level: 2-3

Duration: 30 minutes

Location: Classroom

Objective: The students will be able to write about a day in the life of a Woodland child based on information discussed on the field trip and in class.

Materials: Lined paper and pencil

Vocabulary: Woodland culture, comparisons, chores

Procedure:

1. Discuss with the students what a typical day in the life of a child from the Woodland culture might be like.
 - What do they do in the morning?
 - What chores might they have?
 - How would they get their food?
 - Who would get their food?
 - What do they eat?
 - What do they do for fun?

-
- How to they bathe themselves?
 - Do they have school? What would it be like?
2. Have the students write about what a Woodland child would do throughout the day — morning, afternoon and evening
 3. Have them share their papers in small groups or as a whole class.

Mound Models

Strand: Art

Grade Level: 4-5

Duration: 2 - 45-minute class periods

Location: Pre-visit classroom activity

Objective: Students will learn the four types of mounds found at Effigy Mounds National Monument.

Students will build models of the four types of mounds found at Effigy Mounds National Monument.

Materials:

Egg cartons

hotdog

beaded necklace

mixing bowl

cookie cutters

paint

12"x12" piece of cardboard (one per group)

Clay:

2 cups baking soda

1 cup cornstarch

1-1/4 cups water

waxed paper

Cook over medium heat in a two-quart saucepan. Stir until the mixture reaches the consistency of mashed potatoes.

Remove from the heat and spread on waxed paper until cool.

Makes 2 cups.

Optional materials might include small trees, shrubs, or grass purchased from a hobby supply store, aquarium rock to outline mound shapes and or trails, etc.

Preparation of egg cartons: Cut tops off egg cartons at the hinge. Cut down the center of the egg carton leaving two rows of six. Turn the egg trays over to use for compound mound shapes.

Vocabulary:

Effigy mounds
Conical mounds
Linear mounds
Compound mounds

Procedure:

1. Introduce the mound shapes by displaying everyday objects that share the same shape:
 - Linear — hot dog
 - Conical — mixing bowl upside down
 - Compound — egg carton, necklace
 - Effigy — cookie cutters
2. Check for understanding and see if students can think of any other everyday objects that share the mound shapes.
3. Give each group a supply of clay and a piece of cardboard to use for a base. Explain that they will be making a model of the four types of mounds in a natural setting. Students will need to created a “scene” for the mounds by shaping the clay and placing it on the cardboard piece. The mound should be labeled as to the type represented.
4. Allow the clay to harden overnight, and paint the following day. Add trees, shrubs, grass, animals, etc., to create a scene from the Effigy mounds national Monument.

Extension/Related Activities:

Do Match the Mound activity on page 10 of the Junior Ranger Booklet available at the Visitor’s Center.

Mound Math

Strand: History, Culture, Archaeology, Mathematics

Grade Level: 9-12

Duration: 30 minutes

Location: On site, Effigy Mounds National Monument. Mound Math requires permission from the Effigy Mounds staff prior to your visit. Measuring a mound in Mound Math will require walking on a mound, which is normally not allowed in the monument.

Objective: Using data from a conical mound, students will be able to estimate how much human labor and materials went into building a conical mound.

Materials: 100-foot or 25-foot tape measure (depends on the size of the mound to be measured); pocket calculator if you want final computations to be done at monument.

Vocabulary: Conical mound

Procedure: This procedure assumes that a conical mound is an exact half of a sphere above the ground. We know, of course, that this is not the case. But by using the formula below, students will be able to reasonably estimate the number of baskets of dirt it took to build a mound.

1. Using the tape, measure the mound from point A to point B. The example assumes a measurement of 22 feet. Now plug that measurement into the formula included into the student directions.
2. The estimate below assumes that a basket measured from point A to B would be 30 inches. A human could reasonably carried a basket of that size full of dirt.
3. Now divide the total number of cubic feet of dirt in the mound (724) by the cubic feet of dirt in one basket (1.06). Your total will roughly be 683 baskets of dirt for the size of the mound cited in the example.

Native American Indian Recipes

Adapted from *Native Harvest* by Bernie Kavasch

The following recipes may be used as a follow-up activity in your classroom.

Chippewa Bannock

Good Trail Food

2 cups cornmeal
5 tablespoons oil
1/4 cup oil for frying

3/4 cup water
honey to taste or 1/2 cup berries

Blend top three ingredients together and sweeten with honey. Heat oil in large skillet and drop batter by tablespoonful into it, flattening them into cakes. Cook 5 minutes per side, or until golden. Enjoy either hot or cold. 6 Servings.

Corn Chowder

1 can corn, drained
1 onion, chopped
1 green pepper, chopped
2 tablespoons butter

6 cups meat stock or water
1 potato, diced
1/2 pound mushrooms
1 tablespoon dill weed, chopped

Cook all ingredients together, except mushrooms and dill weed. Simmer 30 minutes. Add sliced mushrooms. Steam with the lid on for another 5 minutes. Add dill. Serve while hot. 8 Servings.

Toasted Pumpkin or Squash Seeds

Good afternoon snack

Spread clean seeds on foil-covered baking sheets. Sprinkle lightly with oil. Flavor with herbs such as oregano, mint or a little salt. Roast at 325° until crisp and brown, about 20 minutes. Serve immediately or cool and store in airtight containers.

Indian Pudding

2 cups raisins or nannyberries	4 cups water
2 cups fine cornmeal	1/2 cup honey
1/4 cup Juneberries	1/2 cup nut butter
1/4 teaspoon ground ginger	1/2 teaspoon nutmeg

Toss raisins (or nannyberries) and cornmeal together gently. Bring the water to a boil with the nut butter in a large saucepan. Gradually add the cornmeal-raisin mixture and simmer, stirring until it thickens - about 15 minutes. Add the remaining ingredients, blending thoroughly. Pour into 2-1/2 quart greased casserole dish. Set the casserole in a pan of water, 1" or 2" deep, and bake at 325° for 2-1/2 hours. Cool thoroughly before serving. Serve with additional nutmeg for topping. 12 Servings.

Stewed Wild Cherries

Serve over pudding or cornmeal dishes

1 quart wild black cherries, stoned, cracked and
cherry kernel saved

1 cup maple syrup	1 cup cider
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Simmer the wild cherries with their kernels plus the syrup and cider in a large covered crock, stirring occasionally, for 30 minutes. Serve either hot or cold over puddings or use to flavor cornmeal dishes. 8 Servings.

Winnnebago Wild Rice

1 cup wild rice	1-1/2 teaspoon salt
6 eggs	2-1/2 cups water
4 strips bacon	1/4 teaspoon pepper
1/3 cup melted butter or bacon fat	

Put rice, 1 teaspoon salt, and water in saucepan. Bring to a boil and reduce heat to a simmer until all the water is absorbed. Cook bacon until crisp, break into small pieces. Beat eggs with 1/2 teaspoon salt and pepper until fluffy. Lightly brown eggs in the skillet where the bacon was cooked. Combine bacon, eggs, butter or bacon fat with wild rice. Serve warm. 4 Servings.

General Information about Effigy Mounds National Monument

About the Monument

Effigy Mounds National Monument, located in northeastern Iowa, was established by presidential proclamation on October 25, 1949. The monument preserves some outstanding examples of a significant phase of prehistoric Indian mound building culture. The monument also protects scenic and other natural values of the area as well as numerous species of wildlife.

The 2500-acre monument site preserves 206 prehistoric mounds dating to 2,500 years ago. Included in this number are 31 effigy mounds structured in the shapes of animals and birds. These prehistoric mounds, both burial and ceremonial, are found over a large part of the United States; however, effigy mounds are found in a relatively small area of northeast Iowa, southeast Minnesota, southwestern Wisconsin and northwestern Illinois. Within the boundaries of the monument there are four different types or styles of mounds: Conical, Linear, Compound and the Effigy shaped mounds.

Administrator

The monument is managed by the National Park Service, which is the principal preservation agency in the United States. The National Park Service preserves almost 400 sites which have national significance to the natural and cultural history of our country.

Hours of Operation

The monument's visitor center is open from 8:00 a.m. to 6:00 p.m. from Memorial Day to Labor Day, and from 8:00 a.m. to 4:30 p.m. the remainder of the year. Exceptions to this schedule would be Thanksgiving, Christmas and New Year's Day when it is closed.

Entrance Fee

The monument is located three miles north of Marquette, Iowa, on State Highway 76. There is ample parking for all types of vehicles at the visitor center. The monument is a fee area. The charge involved is \$3.00 per adult or \$5.00 per carload of people, with those 16 years of age and younger admitted free. Since this is a fee area, all Department of the Interior passports are accepted for all entry fees — which include the National Parks Pass, the Golden Eagle Pass, the Golden Age Pass, the Golden Access Pass and the Effigy Mounds Pass.

Visitor Center Features

The visitor center is a complete entity to itself with an information desk, lobby, book store for educational items, museum, auditorium for slide, video and live presentations, as well as an administrative complex. The museum has artifacts from archeological work completed in Northeast Iowa. The auditorium with its 50-seat capacity is also located within the visitor center. There is an on-going 15 minute introductory program on the monument entitled *The Earthshapers* that delves into this prehistoric mound building culture which we call *Woodland*. This program covers the significance of the monument and highlights the mound building period of the Upper Mississippi River Valley.

The bookstore, managed by Eastern National Parks and Monuments Association, a cooperating association operating in conjunction with the National Park System, is also located in the lobby of the visitor center. Items for sale include children's books, postcards, posters, pipestone carvings and pipes, and books on mound building. There are also books on the prehistoric and historic cultures of the Native Americans, natural history, and the National Park Service and System.

Trails

There are about 17 miles of hiking trails within the four units of the monument. The north unit has 7 miles of trails that start at the visitor center. This trail is a combination of gravel and

woodchips and is a well maintained trail. The south unit has about 7 miles of hiking trails which are comprised of old logging and military roads. The Sny Magill unit, when completed and opened, will have about 3 miles of hiking trails. The majority of all tours are conducted in the North Unit on the trail to the Fire Point Overlook. The new unit, the Heritage Addition, has no established trails at this time. The new wheelchair accessible boardwalk, called the Yellow River Trail, extends from the building through the wetlands to the Yellow River Bridge. Future plans are to extend this one mile trail to connect it with the South Unit trail and Founders Pond.

If you are planning an educational activity at Effigy Mounds National Monument, please phone ahead for a reservation — (563) 873-3491 — between the hours of 8:00 a.m. and 4:30 p.m. Monday to Friday. Please be prepared with some general information to help with your reservation. You will need to know the date and time for the visit, the name of the person in charge of the group, the age or grade level of the group, the total number that will be visiting, the telephone number and address of the sponsoring school or agency. There is a supervision requirement of 1 to 15 for students, and all groups will be required to have completed a fee waiver request form. There is a group charge for any special request tours (those outside of our regular scheduled times). That charge is as follows: Groups of 1 to 30 people — \$30.00, 31 to 60 people — \$60.00, 61 to 90 people — \$90.00, etc., with group size limited to about 30 people per ranger-led tour. Ranger-led tours to Fire Point will take approximately 2 hours, so you should allow at least 2 hours and 30 minutes for your visit so as to have time for the 15-minute video introduction and a museum visit. Please allow extra time if you have more than one (1) group for a ranger-led tour. You have to always remember when visiting a national area that artifacts and the natural environment are fragile. You must help keep it for others by not harming or collecting any item within its boundaries.

Refreshments and Picnicking

Effigy Mounds does not have picnic facilities on the grounds. There are many local parks and DNR day-use areas close by that can be used by all groups. There are also several convenience stores and restaurants in the towns nearby.

Special Needs and Accessibility

If your group has a special need or accessibility situation, please inform us at the time the reservation is made or let the ranger on duty know as soon as you arrive. We will work with the group leaders to try to accommodate all members of your group. Let us know of any medical concerns of individuals in your group. The visitor center restrooms and drinking fountains are all handicap accessible.

Inclement Weather

Ranger-guided walks are held in inclement weather as long as it does not jeopardize the visitors' safety. Lightning storms or icy trails may cause cancellation of a scheduled hike.

And Finally

Remember, the key word to a successful visit is communication between you and members of our staff. Our facilities and staff are limited, so in order to prepare materials, schedule guided tours, and provide for the safety and convenience of your group, we need to know as much about your plans as possible. Together we can make sure your trip to Effigy Mounds National Monument is a rewarding experience.

Web Site Information

For GENERAL INFORMATION and LESSON PLANS, please go to our web site — Effigy Mounds National Monument <http://www.nps.gov/efmo>

Additional Classroom Learning Opportunities

"Stones, Bones & Sticks"

The following three programs are available to schools, put on in your school, by Merle Frommelt, Park Ranger at Effigy Mounds National Monument. These programs take from 1 to 2.5 hours, depending on the program needed.

Prehistoric "Tools"

Here, one will see the tools of early Native Americans, "bone, stone and stick" tools and their usages. (Hoes, diggers, points, blades, scrapers, drills, and fire makers)

The spear point styles for hunting as well as those used for the atlatl, the ancient spear thrower.

A talk/discussion about the ancient tools, demonstrations of the drills, fire makers and the atlatl, as well as a chance for the students to try their hand at using the tools and at throwing a spear with the atlatl. The throwing of the spear is an outside activity. (About 1 hour time)

The Cultures of Prehistoric and Historic Native Americans

A talk/discussion about ceremonial and burial customs 2500 years ago to 300 years ago, as well as a look at point styles, exotic ceremonial materials and mortuary items. This program also gets into the maintenance of their dead and spiritual significance. It also discusses their hunting weapons, usage of nature, foods and trade systems. Stone and copper ornamentations, the making (knapping) of points, use of the bow drill, the curet fire bow, and how fire was carried from place to place.

This aspect of the program has lots of hands-on experiences from the "look and feel" to actually trying some of the items, including the spear thrower, the atlatl. (About 1-1.5 hours time)

The Coming of the White Man

This aspect of this program deals with the early trapper/trader to the early military involvement in the area.

Topics include the guns that ruled the Mississippi trade flats to the deadly swords of the horse soldiers. There is a display of weapons from the early flintlocks to the cap and ball and on to the military repeating “musket” revolver. From different styles of swords to peace pipes, to animal traps, skins, furs, and trade goods as well as a demo of flint and steel.

This is all presented through a talk/discussion about the materials. There is much student involvement via the handling of the swords of the early military. There can also be handling of these early “guns” as they are all fixed so they cannot be fired. They are, however, fully functional for demonstration purposes. There will also be several animal skins as well as a tanned buffalo hide on display.

This program incorporates the “PREHISTORIC TOOLS” and “THE CULTURES OF PREHISTORIC AND HISTORIC NATIVE AMERICANS” programs and does require much more time (about 2-2.5 hours time).

All atlatl demonstrations will take place outside and in an area where there is at least 150 to 250 feet of clear throwing space.

For more information or to arrange for any of these programs, please contact MERLE FROMMELT at 608-326-2275.