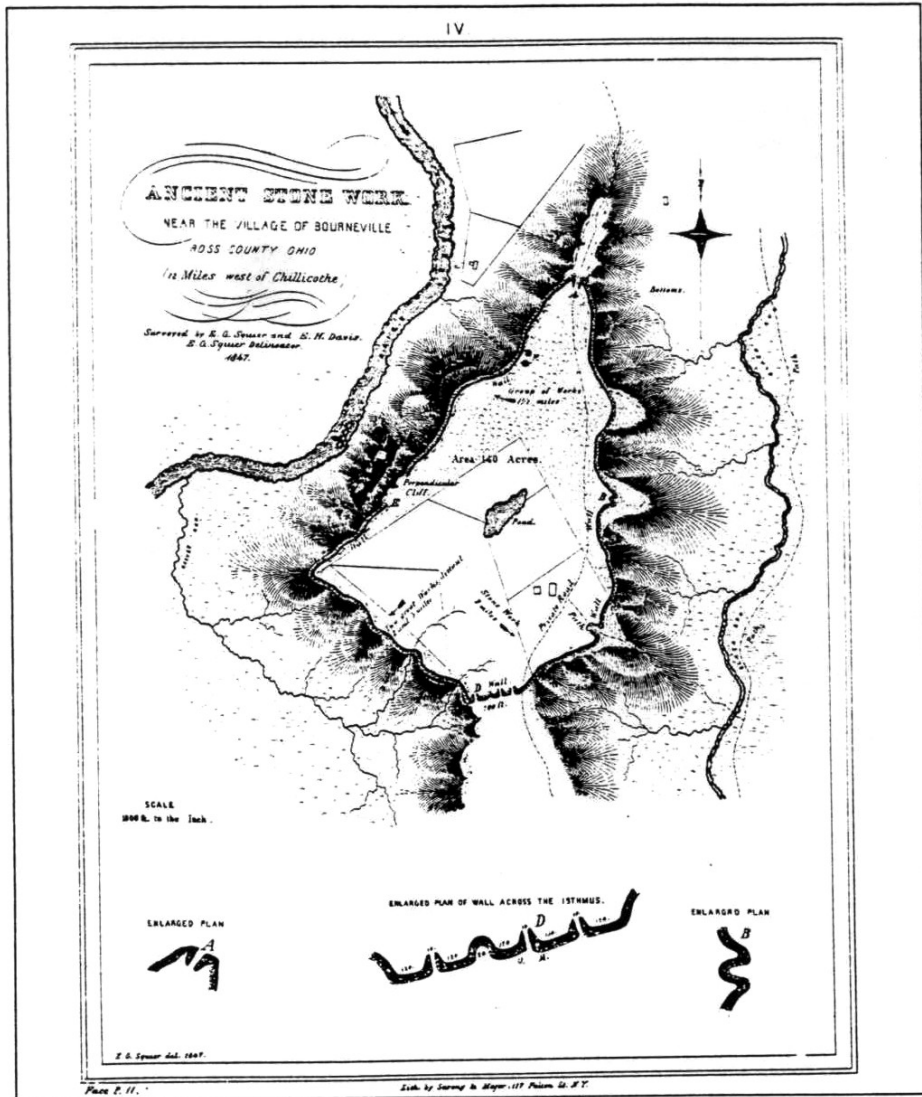


SUMMARY REPORT ON THE SIGNIFICANCE, SUITABILITY AND FEASIBILITY OF
 THE SPRUCE HILL WORKS AS A POTENTIAL ADDITION TO HOPEWELL
 CULTURE NATIONAL HISTORICAL PARK, ROSS COUNTY, OHIO



UNITED STATES DEPARTMENT OF THE INTERIOR
 NATIONAL PARK SERVICE
 1998

INTRODUCTION

The Spruce Hill Works was first described by 19th century antiquarians as a prehistoric stone-walled hilltop fortress located in the Paint Creek valley, 12 miles west of Chillicothe in Ross County, Ohio (see Figure 1). Later archeological investigations of other hilltop enclosures in southern Ohio produced evidence that these remarkable structures of earth and stone were built and used by prehistoric Native Americans during the "Ohio Hopewell phase," between about AD 1 and AD 400. Current interpretations suggest these works served multiple functions including defense, ceremony and habitation. The Spruce Hill Works (33-Ro-46) was listed on the National Register of Historic Places on February 23, 1972 to recognize the site as a rare and outstanding example of Hopewellian monumental architecture with potential to yield valuable scientific information about this Nation's prehistoric heritage.

In response to legislation enacted in 1980, the Spruce Hill Works came under consideration by the National Park Service as one of several sites being evaluated as possible additions to Mound City Group National Monument. During the course of that evaluation, questions arose concerning the cultural affiliation of the Spruce Hill Works, and some even questioned whether the site was human-made at all. Because existing information was insufficient to resolve these concerns, the Spruce Hill Works was not recommended for addition to Mound City Group National Monument at that time.

In 1992, further legislation was enacted which renamed Mound City Group National Monument as Hopewell Culture National Historical Park, and authorized the addition of new units at the Hopeton Earthworks, Hopewell Mound Group, High Bank Works and Seip Earthworks. That same legislation also directed that "the Secretary [of the Interior] shall conduct archaeological studies of the areas described as the "Spruce Hill Works", the "Harness Group", the "Cedar Bank Works", and may conduct archeological studies of other areas significant to Hopewellian culture, to evaluate the desirability of adding them to the park, and shall report to Congress on any such areas that are recommended for addition to the park"(16 USC 410uu-3).

This report summarizes the results of a recent re-evaluation of the nature, integrity and significance of the natural and cultural resources of the Spruce Hill Works: "An Historical and Archeological Evaluation of the Nature, Integrity and Significance of the Spruce Hill Works, Ross County, Ohio" (Ruby 1998). That study was undertaken in response to the 1992 legislation and includes a comprehensive historical review past studies at Spruce Hill, along with new information resulting from archaeological investigations undertaken by the National Park Service during 1995 and 1996. This summary report also presents information bearing on the suitability and feasibility of the Spruce Hill Works as a potential addition to Hopewell Culture National Historical Park.

This summary report will be used to develop alternatives for further action by the National Park Service.

THE NATURE AND INTEGRITY OF THE SPRUCE HILL WORKS

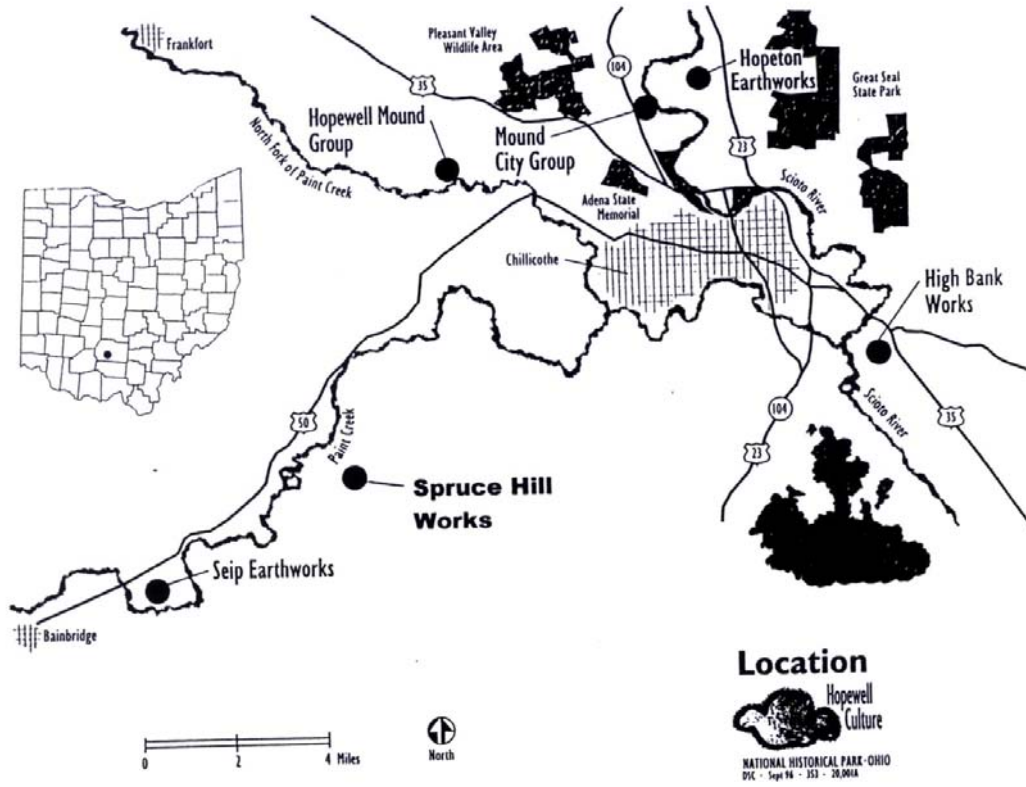
The National Park Service undertook an archeological and historical evaluation of the nature, integrity and significance of the Spruce Hill Works during 1995 and 1996. A full report of those investigations is presented in a separate report authored by Dr. Bret J. Ruby: "An Historical and Archeological Evaluation of the Nature, Integrity and Significance of the Spruce Hill Works, Ross County, Ohio." The principal conclusions of that report are summarized below.

Ever since the 17th and 18th centuries, when Euroamericans first began to press westward beyond the Appalachian mountains in force, the Ohio Valley region has gained fame by virtue of the remarkable number of prehistoric mounds and earthworks concentrated there. The earliest systematic catalogs of these monumental works recognized two general classes of prehistoric earthworks: those situated in conspicuous hilltop settings; and those situated on broad level river terraces, often taking the form of regular geometric figures including circles, squares, octagons, and linear embankments.

At least a dozen hilltop enclosures—embankments of earth or stone that enclose all or significant portions of prominent mesa-like landforms—are found in the Appalachian Plateau province of southern Ohio. The enclosures range in size from about 10 acres to almost 150 acres enclosed. These works are irregular in form, conforming in outline to the shape of the underlying landform. The walls run at or just below the brow of the underlying hills. The walls range from about one to more than six meters in height, often broken by multiple openings or gateways. Gateways are often provided at points of easy ascent, sometimes covered by elaborate overlapping or reentrant walls.

The hilltop enclosures of southern Ohio received a great deal of archaeological attention in the mid- to late 19th century—in fact representing some of the earliest examples of scientific archeology in North America. Early writers such as Ephraim Squier and Edwin Davis universally interpreted these hilltop enclosures as works of defense: "The natural strength of such positions, and their susceptibility of defence, would certainly suggest them as the citadels of a people having hostile neighbors, or pressed by invaders." There was less agreement among the early writers concerning the question of who built these works. Opinions ranged from "lost races" to various Old World peoples. Those who believed the works were built by ancestors of living American Indians were in the distinct minority.

Figure 1: Vicinity Map



By the turn of the century, the weight of scientific evidence had established conclusively the Native American origin of the Ohio Valley mounds and earthworks. By the mid-20th century, three prehistoric Native American mound-building cultures had been identified in southern Ohio: the Adena, Ohio Hopewell and Fort Ancient cultures. Characteristic Hopewellian artifacts and features were discovered at several of the southern Ohio hilltop enclosures and led to the conclusion that they had been built by Ohio Hopewell peoples during the Middle Woodland period, between about 200 BC and AD 500. More recent excavations at three of these hilltop enclosures have produced Hopewellian artifacts and radiocarbon dates that indicate they were constructed and used by Hopewellian populations between about 100 BC and AD 300.

Current opinion remains divided with respect to the function of the hilltop enclosures of southern Ohio. A minority continues to support the position that these served defensive functions. Others champion more complex multifunctional models in which the hilltop enclosures may have served simultaneously or sequentially as places of defense and centers of habitation or ceremony.

The earliest reference to “ancient works” atop Spruce Hill is found in a letter by a Mr. James Foster, dated 1811, and published in 1814 in the *American Medical and Philosophical Register*. Foster describes

a fortification which is on the *level summit of a high hill*. It contains about one hundred acres, and is enclosed by a *stone wall*, which, if we may judge from the quantity of stones (for it is in ruins) must have been twelve or fifteen feet high, and four or five thick. Within the area there are about thirty furnaces, from some of which I took cinders that resemble in every way those formed in blacksmiths’ forges. From some of them I got pieces of burnt unwrought clay that look somewhat like pumice stone, but are of a pale blue colour.



View to the northeast across the level summit of Spruce Hill toward the valley of Paint Creek.

Caleb Atwater and John Haywood published similar observations in 1820 and 1823. A much more detailed map and description was published by Ephraim Squier and Edwin Davis in 1848 in their magnum opus, *Ancient Monuments of the Mississippi Valley* (published as the first volume of the nascent Smithsonian Institution's *Contributions to Knowledge*). If Atwater's work hinted at the emergence of a scientific archeology in North America, Squier and Davis's work heralded its actual arrival.

Squier and Davis's more careful work of description discerned additional important details. First, Squier and Davis are quick to point out that the "wall" probably never resembled anything like a regularly laid up or mortared wall. Rather, even where best preserved, the wall presented the aspect of a low heap or band of jumbled stone running along the slopes just below the brow of the hill. Warren K. Moorehead makes a similar point in his 1890 description of the site. Moorehead is impressed that the wall is very low in comparison to Fort Ancient: the stones forming the wall "do not in any place reach the height of four feet; in most places less than two." These early observations are important because they tend to demonstrate that modern observations that the wall is difficult to trace are not the result of deterioration or loss of integrity, but instead reflect the original condition of the feature.

Squier and Davis note that the casual visitor might well mistake the wall for a natural feature: "the *debris* of the out-cropping sand[stone] strata." But most importantly, they state that this impression "is speedily corrected upon reaching the points where the supposed line of *debris*, rising upon the spurs, forms curved gateways, and then resumes its course as before." Squier and Davis describe three such reentrant gateways located where ridge spurs

afford points of easy ascent (marked A, B and C on their plan, reproduced on the cover of this summary report). At these points, the stones clearly rise above the brow of the hill and onto the flat, *above* the level of the natural sandstone outcrop. Squier and Davis also observe, "At the gateways, the amount of stones is more than quadruple the quantity at other points, constituting broad, mound-shaped heaps." Squier and Davis identify the heaviest portion of the wall as that point described as "the Isthmus," (D on the plan). Here, a tremendous quantity of stone is carried up and over the level summit of the hill for a distance of 700 feet, broken by four reentrant gateways.

Finally, Squier and Davis, in concert with all of the earlier investigators, describe evidence of intense burning at numerous locations along the wall. They describe piles of stones that "exhibit the marks of intense heat, which has in some instances vitrified their surfaces, and fused them together. Light, porous scoriae are abundant in the centres of some of these piles." Squier and Davis dismiss out of hand the idea that these represent "ancient furnaces," but seem more willing to entertain the notion that the burning resulted from "signal fires," or the destruction of some sort of wooden superstructure surmounting the stones. In the end though, Squier and Davis state only that "Nothing is more certain than that powerful fires have been maintained, for considerable periods, at numerous points on the hill; for what purposes, unless as alarm signals, it is impossible to conjecture."

In 1934, Emerson Greenman, curator of archaeology at the Ohio State Archaeological and Historical Society, conducted the first professional archeological investigations at the Spruce Hill Works. The only extant record of these investigations is a short notice published in the first volume of *American Antiquity*, the journal of the Society for American Archaeology:

Excavation of the wall of the gateways at the south end of Spruce Hill in Ross County revealed quantities of "slag" apparently resulting from an intense fire which reduced the earth forming the roof and sides of some sort of log structure to glass, in some instances.

The site again drifted into obscurity until 1948 when Capt. Arlington Mallery—an engineer, sailor, navigator, mason and student of ancient metallurgy—followed to Spruce Hill his conviction that an advanced iron-making civilization distinct from the American Indian once inhabited pre-Columbian America. Mallery's theories were published in two books: *Lost America: The Story of Iron-Age Civilization Prior to Columbus* (1951); and *The Rediscovery of Lost America: The Story of the Pre-Columbian Iron Age in America* (1979, with Mary Roberts Harrison). Along with many others before him, Mallery believed that northern European populations ("Celts" and "Vikings") settled in northeastern North America—perhaps as far south and west as the Ohio Valley—as much as 1000 years before the voyages of Columbus. When Mallery heard reports of "furnaces" and "slag" atop Spruce Hill, he thought perhaps he might find there solid archeological evidence of a northern European Iron Age occupation in southern Ohio. Mallery visited the site on several occasions in 1948 and claimed to have found numerous evidences of "an ancient Iron Age civilization."

Whatever the nature or purpose of the features encountered by Mallery, professional opinion today in the fields of archeology and history is essentially unanimous regarding the nature and extent of pre-Columbian transatlantic contacts in North America. Norse settlements were established at least occasionally at a few locations in Newfoundland and Labrador between about AD 1000 and AD 1400. These settlements likely served as temporary base camps supporting forays into the eastern Arctic from permanent Norse settlements on Greenland. Trade and exploitation of marine mammals, walrus ivory, fish and fur served as the motivation for these expeditions. There is no credible evidence to suggest that Norse contacts in Native America were either sustained or extended for any great distance into the continental interior, and certainly not into the Ohio Valley.

Recently, David Orr, William Conner and others have discovered credible evidence that at least some of the glazed stones and "pit furnaces" found in the central Scioto River Valley relate to late 18th century iron-making activities, likely attributable to early Euroamerican incursions into the area (Conner, William D., David K. Orr and Scott Troy, *The Enigmatic Iron Pit Furnaces of South-Central Ohio*. Paper presented at the Spring Membership Meeting of the Ohio Archaeological Council, Columbus, May 19, 1995). However, the materials from Spruce Hill do not correspond closely to these better-documented examples, and may represent an unrelated phenomenon.

Prior to the 1995-1996 National Park Service investigations, the last professional archeological investigation of Spruce Hill was prompted (at least indirectly) by legislation passed in 1980 that expanded the former Mound City Group National Monument to include additional lands at the Hopeton Works, and directed the Secretary of the Interior to "in consultation with interested organizations and individuals, investigate other sites in the region which contain archeological data illustrating the prehistoric Hopewellian civilization that flourished in the Eastern United States, and as a part of this investigation he shall identify those sites which he determines should be protected as part of the Mound City Group National Monument" (PL 96-607). As one of the largest unprotected and supposedly Hopewellian sites in the region, and the only supposed Hopewellian hilltop enclosure in the vicinity of the Mound City Group, Spruce Hill was selected as one of six sites worthy of consideration as potential additions to Mound City Group National Monument (National Park Service 1987). Nevertheless, the National Park Service report recognized that the site had been subject to very little archeological investigation and questions remained concerning the nature, significance and integrity of the site.

The Archaeological Conservancy, a non-profit organization dedicated to archeological site preservation, was one of the parties consulted to identify possible additions to Mound City Group National Monument. In 1988 the Archaeological Conservancy considered acquiring the Spruce Hill site and engaged Paul J. Pacheco, then a graduate student in the Department of Anthropology at Ohio State University, to conduct a modern reconnaissance of the site. Pacheco visited the site on April 6, 1988 and concluded that for much of its length the "stone wall" at Spruce Hill is not a human-made feature at all, but simply a natural geological feature: talus and break-down eroding from the Berea sandstone outcrop just below the brow of the hill. Pacheco did conclude that the areas mapped as "gateways" by Squier and Davis are human-made features, but considered the areas too damaged by recent pot-hunting to determine their purpose, age or cultural affiliation (see

Ohio Archeologist 38(2):13). Mark Michel, president of the Archaeological Conservancy, accompanied Pacheco on this visit and was led to conclude that the heaps of stone evident at the "gateway" areas resulted from historic period agricultural field-clearing activities. Michel informed the National Park Service that the Archaeological Conservancy was no longer considering land acquisition at Spruce Hill.

When legislation expanding and renaming Mound City Group National Monument was finally passed in 1992, Spruce Hill was no longer included in the group of sites to be included in the expanded park (PL 102-294). Instead the legislation mandated that "the Secretary [of the Interior] shall conduct archaeological studies of the areas described as the "Spruce Hill Works", the "Harness Group", the "Cedar Bank Works", and may conduct archeological studies of other areas significant to Hopewellian culture, to evaluate the desirability of adding them to the park, and shall report to Congress on any such areas that are recommended for addition to the park"(16 USC 410uu-3).

The National Park Service conducted archeological investigations at the Spruce Hill site between September 1995 and October 1996. The goals of the investigation were to survey, describe and map the present condition and integrity of the Spruce Hill Works in comparison to the earliest 19th century descriptions; and to determine whether any part of the "stone wall" is in fact human-made and, if so, determine the age and cultural affiliation of the feature.

A systematic visual examination of all cultural features shown on the 1848 Squier and Davis map led to the conclusion that despite localized areas disturbed by looting, vandalism and incompatible land use, the site is largely in a condition similar to that described by the earliest observers.

Limited test excavations in the area surrounding "the Isthmus" (Area D on the Squier and Davis map) recovered diagnostic Ohio Hopewell artifacts in direct association with the stone wall. An excavation trench placed across one of the gateways in "the Isthmus" provided conclusive evidence that the feature is in fact human-made, and the discovery of a Hopewellian flint tool incorporated within the stone wall strongly supports the conclusion that the feature was built and used by Ohio Hopewell populations between about AD 1 and AD 400.

Limited test excavations in the area surrounding "Gate C" D on the Squier and Davis map identified a concentration of intensely burned, fused and glazed stone located directly on top of the stone wall where it rests upon the brow of the hill. Test units excavated in and around this area concluded that these materials were burned elsewhere and redeposited here to form a surface concentration approximately 10 m in diameter and 30-45 cm deep. No evidence of an underlying pit, hearth or furnace was discovered.

The nature and origin of the intensely burned rock and soil found on Spruce Hill remain uncertain. The materials found on Spruce Hill do not correspond closely to historic period Euroamerican high temperature technologies such as ceramic or brick manufacture, iron-making, blacksmithing, or lime manufacture. Evidence of intense burning is frequently

found in association with the hilltop enclosures of southern Ohio. It seems likely that further research at Spruce Hill and similar locations will demonstrate an aboriginal origin and function for these remains.

To summarize, the 1995-1996 NPS archeological investigations at the Spruce Hill Works conclude that despite localized areas disturbed by looting, vandalism and incompatible land use, the site is largely in a condition similar to that described by the earliest observers. The investigations conclude that the site was built and used by Ohio Hopewell populations between about AD 1 and AD 400. The recent evaluation concludes that the site possesses nationally significant cultural, natural and recreational resources. Finally, the recent investigations lead to the conclusion that the fact that the stone walls, gateways and mounds at Spruce Hill are difficult to trace today (as in the past) poses the single greatest challenge to public interpretation and protection of the Spruce Hill Works.



View to the northeast across the summit of Spruce Hill. The isolated grove of trees in the foreground surrounds the small pond shown on the 1848 Squier and Davis map.

THE SIGNIFICANCE OF THE SPRUCE HILL WORKS

The historical and archeological review presented in “An Historical and Archeological Evaluation of the Nature, Integrity and Significance of the Spruce Hill Works, Ross County, Ohio” (Ruby 1998) suggests that the Spruce Hill Works is significant in the following areas:

CULTURAL

- The Spruce Hill Works is significant as an outstanding example of a particular class of Hopewellian monumental architecture: the hilltop enclosure. The Spruce Hill Works represents one of a very few such constructions, and is unique within this small group of sites owing to its size and method of construction. Only Fort Ancient, encompassing about 100 acres, rivals Spruce Hill's 140 acre area; other notable hilltop enclosures are much smaller (Fort Hill, 48 acres; Pollock 12 acres; Miami Fort, 12 acres). Only two other Hopewellian hilltop enclosures use stone as their primary raw material: Glenford Fort in Licking County, Ohio; and Old Stone Fort, Coffee County, Tennessee.
- Spruce Hill has yielded, and is likely to yield, scientific information important to understanding one of the most notable periods in the prehistory of North America. The Native American achievements of the Hopewell period (AD 1-400) have long captured the public imagination, and have been one of the primary foci of Americanist archeology since its inception. Hopewellian hilltop enclosures though, remain one of the least studied and least understood components of Hopewellian life. Spruce Hill has yielded data bearing on the nature and intensity of Hopewellian land use and corporate labor investment in public architecture; and promises to yield additional information regarding the purpose and chronology of Hopewellian hilltop enclosures and their relationship to the better known lowland ceremonial centers and habitations. Spruce Hill has long played a leading role in the continuing debate over the military vs. ceremonial function of Hopewellian hilltop enclosures and promises to contribute to its resolution.
- Spruce Hill is closely associated with persons and events that shaped the early history of archeology as a scientific discipline in America. Spruce Hill figures prominently in the work of Atwater (1820) and Squier and Davis (1848)—two works widely regarded as heralding the birth of scientific archeology in America.
- Spruce Hill played an important role in the politically and racially charged debate over whether the monumental mounds and earthworks of the Ohio Valley were built by ancestral American Indians, by some Old World culture, or by some mysterious “lost race.” While arguments against Native American authorship were largely discredited in the late 19th century, Spruce Hill continued to be cited as evidence of an Iron Age Viking presence in the New World well into the 20th century.

NATURAL

- Spruce Hill is an outstanding illustration of the landform characteristics of the Allegheny Plateau section of the Appalachian Plateau. This prominent flat-topped mesa towers over Paint Creek Valley below and provides a dramatic portrayal of the extreme relief and deep dissection that characterizes this physiographic province. The particularly steep western face over Paint Creek distinguishes the hill somewhat from others nearby, and the dramatic flat-topped skyline remains unmarred by residential development and telecommunications towers.
- Spruce Hill provides an outstanding illustration of the sedimentary bedrock geology that characterizes this section of Ohio. Spruce Hill bears exposures of Berea Sandstone, Bedford Shale and Ohio Shale that clearly illustrate the geologic history of the area. Large spherical carbonate concretions or “septaria” are exposed on the western face and stand as excellent examples of an unusual geological curiosity.
- Spruce Hill holds potential as a laboratory for the study and monitoring of local- and regional-scale ecological relationships. Portions of Spruce Hill support mixed mesophytic forests which are among the most geographically restricted of the major forest types in Ohio. Furthermore, while there have been no detailed surveys of the vegetation on Spruce Hill, surveys of nearby plant communities find that vertical zonation in the underlying bedrock is conducive to the development of a diverse range of “micro-habitats” arranged in stacked horizontal bands from the base to the summit of the hill. The presence of extensive open meadows and a perennially wet pond further contributes to habitat diversity.
- Spruce Hill supports breeding populations of two rare bird species (Henslow’s and grasshopper sparrows), along with significant populations of white-tail deer, raccoon and squirrel; upland game birds including turkey and grouse; hawks attracted to the open meadows; and a variety of soaring hawks and vultures attracted to the updrafts generated when the prevailing west winds strike the steep western escarpment.
- Spruce Hill possesses outstanding scenic qualities: dramatic topographic features, contrasts in landforms, and spectacular vistas. An evaluation of the scenic resources of central Ohio prepared for the Ohio Biological Survey places Spruce Hill within the most highly rated area. One early 20th century writer summarizes the view from atop Spruce Hill with eloquence:

“Your outlook sweeps the Paint Creek valley for miles on either side; the peacefully flowing stream winds its way through fields glowing in the varied colors of the summer’s ripening grain, all framed by the encircling, gentle-sloping, forest-clad hills. Were this scene in Bonnie Scotland, travelers would cross the sea to extol its surpassing beauty”(Emilius O. Randall, 1908).

THE SUITABILITY AND FEASIBILITY OF THE SPRUCE HILL WORKS AS A
POTENTIAL ADDITION TO HOPEWELL CULTURE NATIONAL HISTORICAL PARK

SUITABILITY

The National Park Service's *Criteria for Parklands* (1990) states: "To be suitable for inclusion in the System an area must represent a natural or cultural theme or type of recreational resource that is not already adequately represented in the National Park system or is not comparably represented and protected for public enjoyment by another land-managing entity."

Hopewell Culture National Historical Park is the only National Park Service area dedicated to the preservation, protection and interpretation of the archeological record of the Hopewell culture. The park currently consists of five Hopewellian mound and earthwork complexes: Mound City Group, Hopewell Mound Group, Hopeton Earthworks, Seip Earthworks and High Bank Works. All of these can be characterized as lowland geometric earthwork centers. As such, the present configuration of the park is greatly biased in its representation of Hopewellian site types toward the large lowland ceremonial centers marked by geometric earthen enclosures. Isolated mounds, domestic habitation sites, and non-mound activity areas are under-represented in the current configuration. One of the most prominent Hopewellian site types, the hilltop enclosure, is not represented at all in the park.

Spruce Hill contrasts markedly with the existing units of Hopewell Culture National Historical Park and offers opportunities to present a more diverse and comprehensive interpretive story. The drastically different character and setting of the site offers opportunities for a very different experience than is currently offered in the park.

Two Hopewellian hilltop enclosures (Fort Ancient and Fort Hill) are protected for public enjoyment by the Ohio Historical Society. Spruce Hill differs from these sites in size and mode of construction, and in geographic and physiographic setting.

FEASIBILITY

The following section considers important factors bearing on the feasibility of Spruce Hill as a unit of the National Park System.

SITE SIZE

Figure 2 depicts a proposed boundary considered to be the minimum area necessary to provide for adequate resource protection, access, and to encompass significant natural and biological diversity. This boundary encompasses all of the known archeological resources; encompasses the significant geological and biological resource types found within and around the work; and provides access *via* an existing unimproved road from the north.

LAND OWNERSHIP

Four private landowners would likely be affected by acquisition. The owner of the principal parcel containing the stone wall and northern access road is strongly supportive of NPS acquisition. No residences would be displaced by acquisition.

TIMING

Westward expansion of residential and commercial development has not yet driven land costs appreciably higher in the Spruce Hill area, but may be expected to do so in the very near future. The owner of the principal parcel containing the stone wall and northern access road is strongly supportive of NPS acquisition, but at 81 years of age, there is an urgent need to proceed in a timely fashion if acquisition is pursued.

ACQUISITION COSTS

Recent experience with land acquisition at the nearby Hopewell Mound Group Unit of Hopewell Culture National Historical Park suggests land in the Spruce Hill area may be valued at approximately \$1500/acre. The proposed boundary includes approximately 600 acres.

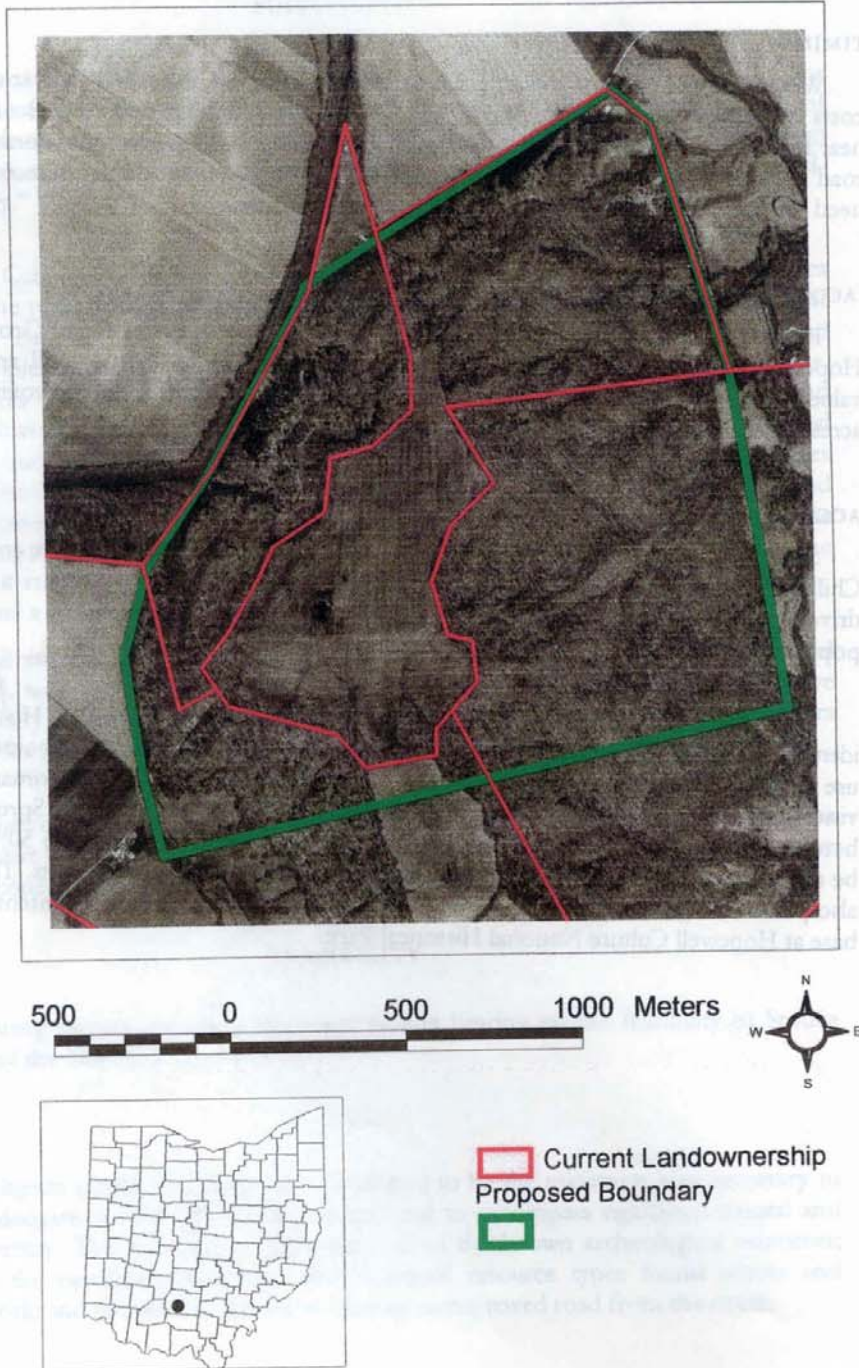
ACCESS

Spruce Hill lies within a 10 mile radius of four of Ross County's largest communities: Chillicothe, Frankfort, South Salem and Bainbridge. This distance represents a 20 minute drive time at 30 MPH and indicates that the site would be easily accessible to a large regional population.

The 1997 General Management Plan for Hopewell Culture National Historical Park identifies the Mound City Group and Hopewell Mound Group as primary points of visitor use and contact on the east; and identifies the Seip Earthworks as the primary point of visitor use and contact for visitors approaching the park from the west. Spruce Hill lies between these two extremes along the primary route of travel (State Route 50) and would be easily accessible to visitors contemplating stops at several of the park units. This location also poses no significant challenges to administration, management and maintenance from a base at Hopewell Culture National Historical Park.

Figure 2: Proposed Boundary

Proposed Boundary and Current Landownership



State Route 50 passes less than one mile to the west of Spruce Hill. There is easy access to the base of the hill below the northern end of the site via Blain Highway and Black Run Road. A gate controls access to a level area suitable for parking and an unimproved road leading to the top of the hill at a distance of about 0.6 miles. This unimproved road is sometimes impassable by vehicle after heavy rain or snow. Because of the ruggedness of the terrain it would be relatively easy to control access to the summit.

Spruce Hill lies along proposed "Greenway/Linear Park" and "Bike Path/Route" areas identified in the 1997 Ross County Park District Master Plan.

THREATS TO THE RESOURCE

The Spruce Hill Works are one of a very few Hopewellian hilltop enclosures, and are vulnerable to a variety of threats. Already the works have been pitted, trenched and disturbed at several locations by vandals and looters. Logging roads have disturbed the works in several locations, and may have destroyed several of the so-called "furnaces" recorded along the western margin of the site. Recreational vehicles (ATVs) have worn deep tracks across the works in at least one location. Agriculture may have destroyed the stone mounds recorded by Squier and Davis near the northwestern shoulder of the site.

The exploding popularity of cellular telephones poses a significant threat to the Spruce Hill Works. Within the past year the present owners of the site have been approached with lucrative offers by telecommunications interests seeking elevated sites for cellular phone antennae towers. During the same period, two towers were erected within sight of the Spruce Hill Works.

A further and significant threat is posed by the rapid expansion of commercial and residential development west of Chillicothe along US50, SR28 and the Maple Grove, Owl Creek and Clinton Road areas. These areas are the focus of several new developments and new housing starts have been initiated on the high hills overlooking the Paint Creek Valley—situations similar to Spruce Hill.

PUBLIC INTEREST AND SUPPORT

Results of a recent survey suggest that the development of Spruce Hill as an archeological preserve incorporating opportunities for hiking, history and nature study would be strongly supported by residents of Ross County. The development of the Ross County Park District Master Plan included a "Recreation Preference Questionnaire" intended to determine the needs and desires of the residents of Ross County regarding park and recreation facilities. "Hiking/Walking facilities" were ranked as the most used and most needed type of recreational facility. "Wildlife Study" and "Nature Interpretation" combined ranked third among the types of activities/facilities needed. Twenty percent of the respondents indicated "Historic Preservation Areas" should be developed in the county. As a measure of the depth of public support for such developments, 68% of the respondents indicated they would support a tax levy or bond issue to fund development; 83% would be willing to pay reasonable user fees for such developments.

Spruce Hill lies directly on "Greenway/Linear Park" and "Bike Path/Route" areas identified in the 1997 Ross County Park District Master Plan, and possesses characteristics similar to the "Windy Hill Road" area identified as a long-range priority for recreational development.

The Spruce Hill Works have periodically sparked intense spates of public interest. Despite the fact that Spruce Hill is privately owned and undeveloped as an historical site, it is among the better known archeological sites in Ross County. In particular, Mallery's claims regarding "Viking iron furnaces" and "serpent mounds" have periodically captured the public imagination and spawned dozens of newspaper articles, at least two books, numerous newsletters and bulletins published by the Midwestern Epigraphic Society, and a special interest group within the New England Antiquities Research Association.

INTERPRETIVE CHALLENGES

The fact that the stone walls, gateways and mounds at Spruce Hill are difficult to trace today (as in the past) poses a significant challenge to public interpretation and protection of the Spruce Hill Works. This same problem poses a challenge at other units of Hopewell Culture National Historical Park where casual visitors have difficulty seeing and appreciating the resources being interpreted. The most impressive portions of the works at Spruce Hill will have to be highlighted, and effective means of interpreting other portions of the site will have to be developed.