A Preliminary Archaeological Survey of Boone County, Indiana

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Introduction

Beginning in the late summer of 1980 and continuing through the spring of 1982, the author conducted a surface survey of parts of central and northwestern Boone County, Indiana. The survey was done largely as a one man—weekend operation. The purpose of the survey was to locate prehistoric sites in an area in which relatively little archaeological work had been done. While a rigorous research and survey design was not utilized for this project, it is felt that the data gathered will be helpful in forming the basis for future research in this area.

Environmental Setting

Boone County is located in central Indiana. It is within the Scottsburg Lowland and Bluffton Upland bedrock physiographic units. These consist primarily of Devonian and Mississippian bedrock formations which contain shales, siltstones, sandstone, limestone, and dolomite. The bedrock is covered by till of the Trafalgar formation deposited during the Wisconsin glaciation. The topography of the county is characterized by a flat to gently rolling glacial plain, known as the Tipton Till Plain. (4) This broad, flat plain is modified slightly by drainageways, with Sugar Creek being the most prominent in the county.

Boone County lies within two major drainage basins, the Wabash and the White. The northwestern part of the county is in the Raccoon subdivision of the Wabash basin. The south-central portion is in the Eel subdivision and the southeastern portion is in the West Fork subdivision of the White River basin. Sugar Creek, with its headwaters in southwestern Tipton and southeastern Clinton Counties, flows southwest emptying into the Wabash River in Parke County. Prairie Creek drains part of central Boone County and flows northwesterly emptying into Sugar Creek near Thorntown.

Subsequent to the recession of the glaciers from central Indiana and the attendant climatic change, the cool, moist climate allowed the formation of a coniferous forest. This coniferous forest was followed, about 6000 B.C., by the slow development of three major types of vegetation; deciduous woodlands, prairie, and wet prairie or swamps. (6) Boone County appears to have had some of each of these distinct habitats.

According to the General Land Office (GLO) Surveys done in the county in the 1820s, (1) the forested areas were characterized by Beech, Sugar Maple, Oak, Ash, Hickory, some Walnut and Elm. Mention is also frequently made of prairie and swamps. Prior to European habitation of this area and the consequent land clearing and draining, the varied vegetational zones would have supported an abundant and diverse faunal population. Mumford estimated that as of 1816 there were 66 species of mammals in Indiana. (2) Fish, reptiles, amphibians, and fowl would have also been available for aboriginal consumption.

Survey and Results

The survey procedure consisted of examining areas of high site potential such as rises and ridges near water sources. The areas focused on were portions

of the Sugar and Prairie Creek stream valleys. Most of the survey was conducted in upland areas, with only a limited amount of survey done in the floodplain.

A total of 206 sites were found in Boone County and 10 sites in Montgomery County. Ninety of these sites produced material diagnostic of one or more cultrual periods, for a total of 116 diagnostic components.

One site, possibly two, produced evidence of Paleo Indian occupation. Site 12Bo116 is a multicomponent site located on a remnant terrace near Prairie Creek. One broken fluted point base was found on this site. Several endscrapers were also found but may belong to a later component at this site. Site 12Bo190, located on an upland bluff north of Sugar Creek, produced a point base which is possibly Paleo Indian. The unnotched point base is basally thinned but lacks the characteristic basal and lateral grinding.

The Early Archaic Period is represented by 28 components. Points of this period found during the survey include Kirk, Thebes, Charleston corner notched and the Bifurcate base types. The Bifurcate base types (LeCroy, Kanawha, etc.) seem to be the most common. All but two of the sites with Early Archaic components were found in upland settings.

The Middle Archaic Period is ill-defined in Central Indiana and no points of this period were identified. The Late Archaic Period however, is well represented. Fifty-eight components were found evidenced by a variety of side notched and stemmed points. Nutting stones, one full grooved ax, and a bannerstone fragment were found on sites of this period. Sites are located in both upland and floodplain settings during this time, Riverton points (7) were located on eight sites, all in upland settings (Figure 1).

FIGURE 1. *Early Archaic points, top row. Late Archaic points, middle and bottom rows.*

The Terminal Archaic/Early Woodland Period is represented by six components. Three of the points found are round base Adena points and nearly all of the TA/EW points found appear to be made from Harrison County chert. All sites with TA/EW components were found in an upland setting. Four Snyders-like points and two Lowe Flared Base-like points were found representing the Middle Woodland and Late Middle Woodland Periods, respectively. One Snyders-like point was found in an upland setting.

The Late Woodland Period is represented more frequently than the preceding Woodland Periods. Sixteen components were found most commonly evidenced by triangular points. These sites were found in both upland and floodplain settings (Figure 2). Four celts and one pendant or gorget fragment were also found which are indicative of the Woodland Period. No prehistoric pottery was found on any of the sites and there is no evidence for Mississippian occupation of this area.

FIGURE 2. *Terminal Archaic/Early Woodland points, top row. Middle Woodland points, middle row. Late Middle Woodland point, far left. Late Woodland points, bottom row.*

There was a historic Indian village in and around Thorntown occupied by the Eel River tribe of the Miamis during the early 1800s; however, no evidence of this occupation was found during the survey. No early historic structures were located although scattered historic debris such as glass, ceramics, and nails was not uncommon in fields. This probably represents debris from late 19th century—early 20th century farmsteads.

A variety of lithic resources are available throughout the county in the glacial till. Hardstone cobbles, used for hammer, grinding and nutting stones, are common. Slate can also be found in the glacial gravels. Small cobbles of chert are

also common and account for a good portion of the chert tools and debris found on sites. Chert of nonlocal origin was also found on sites in the form of finished tools and debris, with Attica or Independence chert being the most common. Small quantities of Harrison County chert, Harrodsburg chert, (5) Upper Mercer chert, Burlington chert, and Cataract chert (3) also occur. A new chert source was located by the survey and is discussed below.

In the northwestern portion of the county an area of bedrock is exposed along the banks of Sugar Creek. The bedrock exposed here is primarily shale of Mississippian Age. Beginning just east of the Montgomery/Boone County line, a lense of chert is exposed and extends for about 600-700 feet to the east. Above and below the chert is siltstone and shale. Beginning approximately 500 feet east of the county line and extending for 150-200 feet to the east, a second lense of chert is exposed which is three to four feet higher than the previously mentioned lense.

The lower chert lense, here referred to as Sugar Creek Chert, is a tabular type. The lense is 9 to 12 inches thick and large blocks 2 to 3 feet long can be seen eroding down into the creek. In color it is bluish gray to olive gray variegated with white cloudy streaks. It is not uncommon to find pieces containing quartz crystal inclusions. This chert weathers to a light brown and may also weather to a purplish-reddish gray although this latter color may be a result of heat treatment. The chert is often fine-grained and fairly homogenous but may contain numerous fracture planes.

The chert lense above it, exposed for a shorter distance, is similar in texture but is tan to chocolate brown in color. It will be referred to as Sugar Creek chert—tan variety. This source does not appear to have utilized as extensively as the gray chert which may be a result of its limited accessibility.

Several large workshop sites were found in Boone and Montgomery Counties near the Sugar Creek chert source. The heaviest concentration of workshop sites occurs within approximately a one mile radius of the chert source. This chert is easily accessible from Sugar Creek and quarrying activities probably involved gathering chert which had eroded onto the stream bank or prying chunks out of the exposed chert lense. The material from these sites typically consists of chert chunks and debris, broken bifaces in various stages of manufacture, and occasional hammerstones. One of the largest sites, 12Bo39, is located on a bluff directly south of the chert out-crop. This site covers an area of nearly three acres. Limited, uncontrolled surface collections from 12Bo39 have produced over 20 bifaces and biface fragments (Figure 3), many pieces of chert debris and large chert chunks, hammerstones, and some projectile points and tools. Fire cracked stone is also scattered over the site.

One Late Woodland triangular point fragment, all of the bifaces and all of the debris are of Sugar Creek chert. The points and tools are made of a variety of cherts and indicate hunting and food processing activities. If these artifacts are contemporary with the workshop activities, then their presence on this and other workshop sites suggests that small aboriginal groups were living at these sites while processing chert.

Some of the chert debris is purplish-gray which may be a result of heat treatment or weathering, as previously mentioned. Experiments by the author show that heating this chert in an oven will produce a purplish-reddish tint. It is not known however, how this affects the knapping qualities of the chert.

There is a relative lack of finished tools made from Sugar Creek chert at 12Bo39 and other workshop sites. This suggests that the chert was worked into blanks or preforms at or near the source for transport. Material surface collected

FIGURE 3. *Bifaces and hammerstone from Site 12Bo39.*

FIGURE 4. *Bifaces from probable cache at Site 12Bo98.*

from a probable plowed-up cache at site 12Bo98 would tend to support this idea. Located approximately 16 miles southeast of the source, 12Bo98 produced 25 rough bifaces and 16 chert chunks, all of Sugar Creek chert (Figure 4). Five Late Archaic side-notched points found on this site are also of Sugar Creek chert. The bifaces were probably made near the chert source and, along with some additional unworked raw material, transported to this site. Whether the bifaces were meant to be further modified or used as heavy tools is not known. The lack of Sugar Creek chert debris at 12Bo98 confirms that they were not made or modified at the site.

Sugar Creek chert was available and utilized throughout prehistory. Points made out of this chert are evident during the Paleo Indian, Early Archaic, Late Archaic, Middle Woodland, and Late Woodland Cultural Periods. In addition, cutting and scraping tools were frequently made of this chert.

The spatial distribution of this chert is not well known. Sugar Creek chert artifacts and debris have been seen by the author in Boone, Montgomery, Clinton, Hamilton, Tippecanoe, and Hendricks Counties. Curtis Tomak (pers comm.) recently reported two Early Archaic points from Greene County which appear to be made from Sugar Creek chert. Further survey work and analysis of existing collections will provide more information on the distribution of this chert.

The survey was preliminary in the sense that additional survey work, further analysis of the existing collections, interviews with local artifact collectors, and analysis of inter- and intra-site distributions would undoubtedly produce a more complete picture. From the data recovered, however, it can be seen that utilization of small, upland tributary resource zones occurred during the Paleo Indian Period, moreso during the Early Archaic Period, but was most intense during the Late Archaic Period. Little evidence is seen for the Early and Middle Woodland Periods, but increasing use is seen again during the Late Woodland Period. Further work in Boone County and other parts of Central Indiana will aid in understanding the prehistory of this area.

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Literature Cited

1. General Land Office Survey Records for Indiana. Field Notes, R2W-T20N. Vol. 7. Archives, Indiana State Library, Indianapolis.
2. MUMFORD, R.E. 1966. Mammals, In Alton A. Lindsey, (ed.), Natural Features of Indiana. Ind. Acad. Sci. p. 475. Indianapolis.
3. PACE, R.E., W. RHINEHARDT, and D. THIEL. 1981. Cataract Chert and its Distribution in West-Central Indiana. Proc. Ind. Acad. Sci. 90:72. Indianapolis.
4. SCHNEIDER, A.F. 1966. Physiography, In Alton A. Lindsey, (ed.), Natural Features of Indiana. Ind. Acad. Sci. p. 49. Indianapolis.
5. TOMAK, C.H. 1982. Selected Indiana Chert Types. Ohio Archaeologist. 32(1):36.
6. WAYNE, W.J. 1966. Ice and Land, In Alton A. Lindsey, (ed.), Natural Features of Indiana. Ind. Acad. Sci. p. 37. Indianapolis.
7. WINTERS, H.D. 1969. The Riverton Culture, a Second Millenium Occupation in the Central Wabash Valley. Ill. State Mus., Rep. of Inv. No. 13., Springfield, Ill. 164 p.