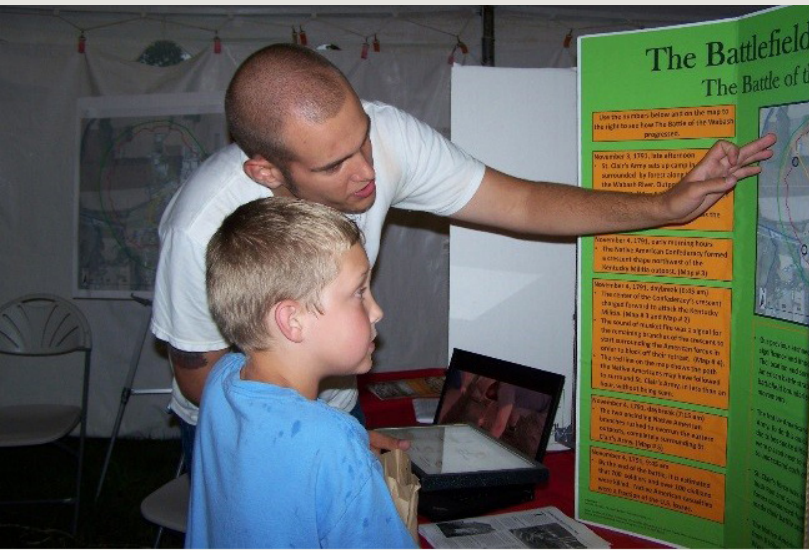


INDIANA ARCHAEOLOGY

VOLUME 13
NUMBER 1
2018



INDIANA DEPARTMENT OF NATURAL RESOURCES
DIVISION OF HISTORIC PRESERVATION AND ARCHAEOLOGY (DHPA)



ACKNOWLEDGMENTS

Indiana Department of Natural Resources

Cameron F. Clark, Director and State Historic Preservation Officer

Division of Historic Preservation and Archaeology (DHPA)

Beth K. McCord, Director and Deputy State Historic Preservation Officer

DHPA Archaeology Staff

Amy L. Johnson, State Archaeologist, Archaeology Outreach Coordinator, and Team Leader for Archaeology

Cathy L. Draeger-Williams, Archaeologist

Rachel A. Sharkey, Archaeologist

Wade T. Tharp, Archaeologist

Editor: Amy L. Johnson

Guest Editor: James R. Jones III, Ph.D.

Editorial Assistance: Cathy Draeger-Williams, Wade T. Tharp

Additional acknowledgments: The editors wish to thank the authors of the submitted articles and report/feature, as well as all of those who participated in, and contributed to, the archaeological projects which are highlighted. The U.S. Department of the Interior, National Park Service is gratefully acknowledged for their support of Indiana archaeological research as well as this volume.

Cover design: The images which are featured on the cover are from the articles included in this journal.

This publication has been funded in part by a grant from the U.S. Department of the Interior, National Park Service's Historic Preservation Fund administered by the Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology. Projects discussed in several of the articles also received federal financial assistance for the identification, protection, and/or rehabilitation of historic properties and cultural resources in the State of Indiana. However, the contents and opinions contained in this publication do not necessarily reflect the views or policies of the U.S. Department of the Interior, nor does the mention of trade names or commercial products constitute endorsement or recommendation by the U.S. Department of the Interior. Under Title VI of the Civil Rights Act of 1964 and Section 504 of the Rehabilitation Act of 1973, the U.S. Department of the Interior prohibits discrimination on the basis of race, color, national origin, or disability in its federally assisted programs. If you believe that you have been discriminated against in any program, activity, or facility as described above, or if you desire further information, please write to: Office of Equal Opportunity, National Park Service, 1849 C Street, NW, MS-2740, Washington, D.C. 20240.

Mission Statement: The Division of Historic Preservation and Archaeology promotes the conservation of Indiana's cultural resources through public education efforts, financial incentives including several grant and tax credit programs, and the administration of state and federally mandated legislation.

For further information contact:

Division of Historic Preservation and Archaeology

402 W. Washington Street, Room W274

Indianapolis, Indiana 46204-2739

Phone: 317/232-1646

Email: dhpa@dnr.IN.gov

www.IN.gov/dnr/historic

www.facebook.com/INdhpa

2018 © Copyright Indiana Department of Natural Resources.

Permission must be obtained from the IDNR and the DHPA for reproduction.

TABLE OF CONTENTS

Note: Several of the projects discussed, noted below with “HPF,” received federal financial assistance from the Historic Preservation Fund Program for the identification, protection, and/or rehabilitation of historic properties and cultural resources in the State of Indiana.

Authors, and not the Department of Natural Resources nor the Division of Historic Preservation and Archaeology (DHPA), are responsible for ensuring that proper permission is obtained for the use of any images, figures, and photographs in their articles, as well as ensuring that there are no copyright violations. In addition, the authors are responsible for providing accurate and proper citations, references, and attributions/credit for any relevant images, figures, and photographs used in their articles.

This is a refereed, open access journal. All articles and reports/features are reviewed by the Editor, Guest Editor, and two professional archaeologists not with the DHPA. The HPF articles were also reviewed by one of the other DHPA archaeologists in their capacity as the HPF archaeology grant liaison.

INTRODUCTION	4
ABOUT THE EDITORS	5
AUTHORS	6
ARTICLE	
Archaeological Investigations of the Northern Half of Newton County, Indiana	7
<i>Jamie Leeuwrik, Christine Thompson, and Kevin C. Nolan</i> (HPF)	
REPORT/FEATURE	
Archaeological Survey of a 19th and 20th Century Farmstead in Floyd County, Indiana	27
<i>Christopher R. Moore, Harrison Funke, and Rebecca Van Sessen</i> (HPF)	
A Village Built over a Battlefield: Urban Archaeology and Preservation at the Battle of the Wabash (1791)	43
<i>Christine Thompson and Kevin C. Nolan</i>	
GLOSSARY OF ARCHAEOLOGICAL TERMS	49
PREHISTORIC INDIANS OF INDIANA	53

INTRODUCTION

This is the fifteenth *Indiana Archaeology* journal, and it is our hope that the public has enjoyed reading about the various archaeological projects and sites which have been reported on through these many years. The Division of Historic Preservation and Archaeology (DHPA) looks forward to many continued years of sharing knowledge with others regarding Hoosier archaeological discoveries.

The DHPA is proud to present this volume of the journal. Per state statute (Indiana Code 14-21-1-12), one of the duties of the DHPA is to develop a program of archaeological research and development, including the publication of information regarding archaeological resources in the state. This journal is one of the ways that our office continues to address that mandate. Also, Indiana Code 14-21-1-13 states that the Division may conduct a program of education in archaeology. Indiana's cultural resources management plans have also listed educating the public about Indiana's prehistoric and historic Native American cultures and identifying, and studying Native American, African-American, and other ethnic and cultural heritage resources, as ways to accomplish several preservation goals. The variety of archaeological sites in Indiana is wide-ranging and impressive. Virtually all of the cultural groups prehistorically and historically in Indiana are represented archaeologically in one way or another.

For those who may not be familiar with some archaeological terms, a helpful glossary of some of these general terms is included in the back of this journal. To also aid the non-archaeologist reader, a general overview of prehistoric time periods may be found at the end of this volume. For those readers who may not be familiar with the authors and editors of the volume, biographical information is provided. Additional archaeological outreach documents, including *Early Peoples of Indiana*, may be accessed at www.IN.gov/dnr/historic. To view previous volumes of *Indiana Archaeology*, go to <http://www.in.gov/dnr/historic/3676.htm>.

- We thank our colleagues who contributed peer reviews for the journal.
- The authors are thanked for contributing to this volume.
- This volume is in memory of Mitchell K. Zoll. He was the first archaeologist to become the DHPA's Director. Mitch passed away in June of 2018, and is truly missed by his coworkers at the Indiana Department of Natural Resources.

—ALJ

ABOUT THE EDITORS



EDITOR:
JOHNSON, AMY L.—Ms. Johnson, State Archaeologist, Archaeology Outreach Coordinator, and Team Leader for Archaeology, has worked for the DHPA since 1991. She is also Indiana's state network coordinator for the Public Education Committee of the Society for American

Archaeology. Ms. Johnson holds a B.S. and a M.A., both Anthropology, from Ball State University. Her main research interests are prehistoric archaeology (specifically the Adena and Hopewell periods), historic cemeteries, and public outreach regarding archaeological resources. She is the Editor of this volume.

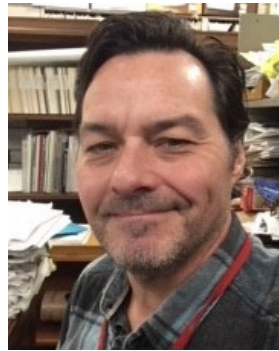


EDITORIAL ASSISTANCE:
DRAEGER-WILLIAMS, CATHY—Archaeologist Cathy Draeger-Williams has been with the DHPA since 2003. She holds an A.A. from Vincennes University, a B.A. in History and Anthropology from Ball State University, and a M.A. in Anthropology from Ball State University.



GUEST EDITOR:
JONES, JAMES R. III, PH.D.—Dr. Jones was with the DHPA from 1987 through August 2014. He served as Indiana State Archaeologist from 1991 to 2014. Dr. Jones received his B.A. in Anthropology and English from the University of New Mexico, and his M.A. and Ph.D. in Anthropology

from Indiana University. He has substantial experience in prehistoric and historical archaeology, and his research interests include historical cultures in Indiana. Dr. Jones is the Guest Editor of this volume.



EDITORIAL ASSISTANCE:
THARP, WADE T.—Mr. Tharp has served as Staff Archaeologist and Preservation Officer with the DHPA since 2010. He graduated with a B.A. in Liberal Arts (Anthropology major, Classical Studies minor) from Indiana University (Indianapolis), and graduated with a M.A. in Historical

Archaeology from Illinois State University (Normal). His research interests include critical theory in historical archaeology, the archaeology of internal colonization, and French vernacular architecture.

AUTHORS



FUNKE, HARRISON—Harrison Funke is an archaeology major enrolled at the University of Indianapolis. He grew up in a small rural town in southern Indiana but has always been interested in history and mysteries from around the world. His future goals are to finish his schooling and gain work around the globe utilizing his education in archaeology, geology, geophysics, and even scuba diving.



LEEUWRIK, JAMIE M.—Ms. Leeuwrik is an Educational Support Specialist with Sky Meadows State Park in Virginia. She studied anthropology and archaeology at Ball State University and received her B.S. in Anthropology from Longwood University in Farmville, Virginia.

Her main research interest is historical archaeology with a concentration on the archaeology of seventeenth century timber-framed dwellings.



MOORE, CHRISTOPHER R. PH.D.—Dr. Moore is Associate Professor and Chair of the Department of Anthropology at the University of Indianapolis. He has been a practicing archaeologist for 17 years and is currently Chairman of the Board of the Indiana Archaeology Council.

His research examines materiality and processes of identity formation in the context of interaction and major social and historical change. He is particularly interested in the archaeology of the middle Wabash valley of Indiana, where he directs the UIndy Wildcat Archaeological Research Project (WARP). He also is the co-director of the joint University of Kentucky–University of Indianapolis Sapelo Island Mission Period Archaeological Project (SIMPAP) on Sapelo Island, Georgia.



NOLAN, KEVIN C., PH.D.—Dr. Nolan is the Director and Senior Archaeologist of the Applied Anthropology Laboratories in the Department of Anthropology at Ball State University. He has a Ph.D. in Anthropology from Ohio State University and a M.A. from

Kent State University. Kevin's current interests include working with private collectors, distributional archaeology, Hopewell societies, late pre-contact societies, and archaeology of the Northwest Indian Wars.



THOMPSON, CHRISTINE—Thompson has been an archaeologist for the Applied Anthropology Laboratories (AAL), Department of Anthropology, Ball State University (BSU) since 2009, and earned her M.A. in Anthropology from BSU. Chris' research interests include Late

Archaic Glacial Kame, public archaeology, NAGPRA, and historic battlefield archaeology and associated public interpretation. She works to fulfill the AAL mission of inspiring and preparing BSU Anthropology students for the workforce by providing student opportunities through the fulfillment of grant awards and CRM contracts.



VAN SESSEN, REBECCA—Ms. Van Sessen studied art history and anthropology at Indiana University Northwest as an undergraduate. She then graduated from the University of Indianapolis in 2013 with a Master of Science degree in Bioarchaeology. Rebecca arranged and co-directed

the 2015 Floyd County (Indiana) Database Enhancement Project. She has worked in Indiana, Kentucky, Georgia, and internationally in Peru. Currently, she freelances on various projects in the field, laboratory, and digital realm while also investigating historic embroidery techniques in her spare time.

ARCHAEOLOGICAL INVESTIGATIONS OF THE NORTHERN HALF OF NEWTON COUNTY, INDIANA

JAMIE LEEUWRIK, CHRISTINE THOMPSON, AND KEVIN C. NOLAN
APPLIED ANTHROPOLOGY LABORATORIES
BALL STATE UNIVERSITY, MUNCIE, IN

ABSTRACT

The Applied Anthropology Laboratories at Ball State University conducted a data enhancement project for archaeological resources in Newton County, Indiana for a FY2015 Historic Preservation Fund Grant (Grant #18-15FFY-05). This grant project investigated the archaeological resources of Newton County, Indiana with a focus on the Kankakee River, Beaver Lake, and the northern half of the county. Approximately 856.1 acres (ac) (346.45 hectares [ha]) of agricultural land were pedestrian surveyed, which included 7.1 ac of resurveyed area, and 76 new archaeological sites were recorded. The survey recovered 525 prehistoric artifacts and 1,761 historic artifacts from nine parcels of land within Newton County. No human remains were discovered as a result of this grant project. Cultural periods that are represented in the artifact assemblage include Early Archaic, Late Archaic, Late Archaic/Early Woodland, and Late Woodland/Late Prehistoric components that were documented from the precontact era, in addition to Historic components. The average site density recorded in the project area for precontact sites was one site per 42.45 ac. The average site density recorded in the project area for historic sites was one site per 13.69 ac.

INTRODUCTION

The Applied Anthropology Laboratories (hereafter AAL) at Ball State University was awarded a FY2015 Historic Preservation Fund Grant to survey portions of Newton County, Indiana. The main goals of the project were to increase the site data base, resolve any inconsistencies in the Indiana State Historic Architectural and Archaeological Record Database (SHAARD), refine the cultural chronology for the county, and examine evidence for the settlement and interaction of the Euroamerican settlers and Native Americans along the Kankakee River. Specifically, we hope to add to the understanding of the various prehistoric cultural periods of the county based on the low number of previously documented sites compared to the surrounding counties. We also hope to add to the understanding of the Euroamerican presence and Native American interaction in Newton County. Newton County had 267 archaeological sites recorded in the State Historic Architecture and Archaeological Research Database (Division of Historic Preservation and Archaeology 2015) database prior to this survey. This investigation focused on the northern portion of Newton County, including areas near the Kankakee River and builds upon the FY2014 Historic Preservation Fund Grant (Grant #18-14-FFY-03) which included survey areas in the southern portion of Newton County and along the Iroquois River.

Newton County is mainly comprised of upland features with lowland floodplains bordering the Iroquois and Kankakee Rivers. The northern half of the county contains more landform diversity compared to the southern half, which is in general till plains and moraines. Due to landowner permissions and the visibility of specific parcels, the majority of the survey areas consisted of upland features. Within the uplands, diverse landforms were surveyed including moraines, outwash plains, lake plains, and lake beds.

BACKGROUND

To provide a framework for interpreting the data collected during this project, a review of the natural and cultural settings was undertaken. The background information presented in this article includes environmental and archaeological information concerning Newton County, Indiana.

NATURAL SETTING

The project area is located in Newton County (Figure 1), which has an area of 258,080 ac (104,441.3 ha) (Barnes and Osterholz 1998:1). For this project, we targeted areas around the Kankakee River within the Northern Moraine and Lake Region in the northern half of the county (Figure 2).

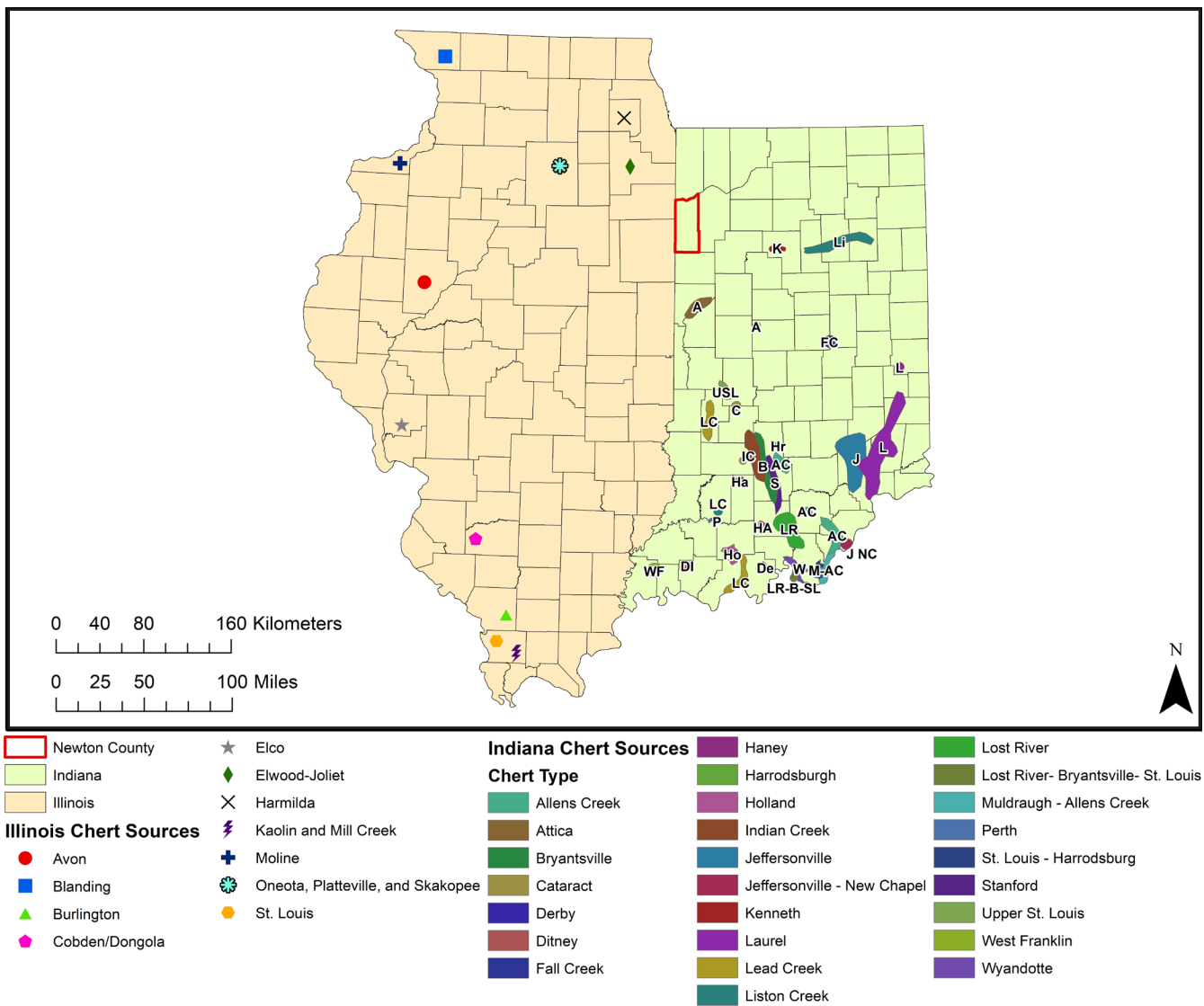


Figure 1. Location of Newton County and chert sources in Illinois and Indiana (after Cantin 2005 and DeRegnaucourt and Geogiady 1998).

Physiography

Newton County is within the general physiographic units known as the Northern Moraine and Lake Region and the Tipton Till Plain (Schneider 1966). Gray and Sowder (2002) place the county within the Kankakee Drainageways (northern half) and the Iroquois Till Plains (southern half) (Figure 2). The poorly drained soils of the Kankakee Drainageways, combined with the low relief, contributed to the formation of the Beaver Lake and other wetlands which covered much of the county until construction of drainage features in the mid-nineteenth through early twentieth centuries for agricultural purposes (Barnes and Osterholz 1998:1). Attica, Liston Creek, and Kenneth cherts are the closest documented chert sources in the region around Newton County, and several Illinois cherts are close in proximity to the region (Cantin 2005; DeRegnaucourt and Geogiady 1998; Stelle and Duggan 2003; Figure 1).

Soils

The majority of soils found in Newton County are a product of either glacial or fluvial parent materials. Glacial till sediments typically have clayey to silty textures and contain particles of sand and gravel sizes with sharp corners not eroded by water. Glacial-fluvial, or outwash, deposits range from silty to gravelly textures depending on the water source that carries them. The more recent fluvial deposits found on flood plains and river terraces are dominated by loamy textures. Lacustrine sediments are deposited from glacial meltwater tend to have clayey textures (Barnes and Osterholz 1998).

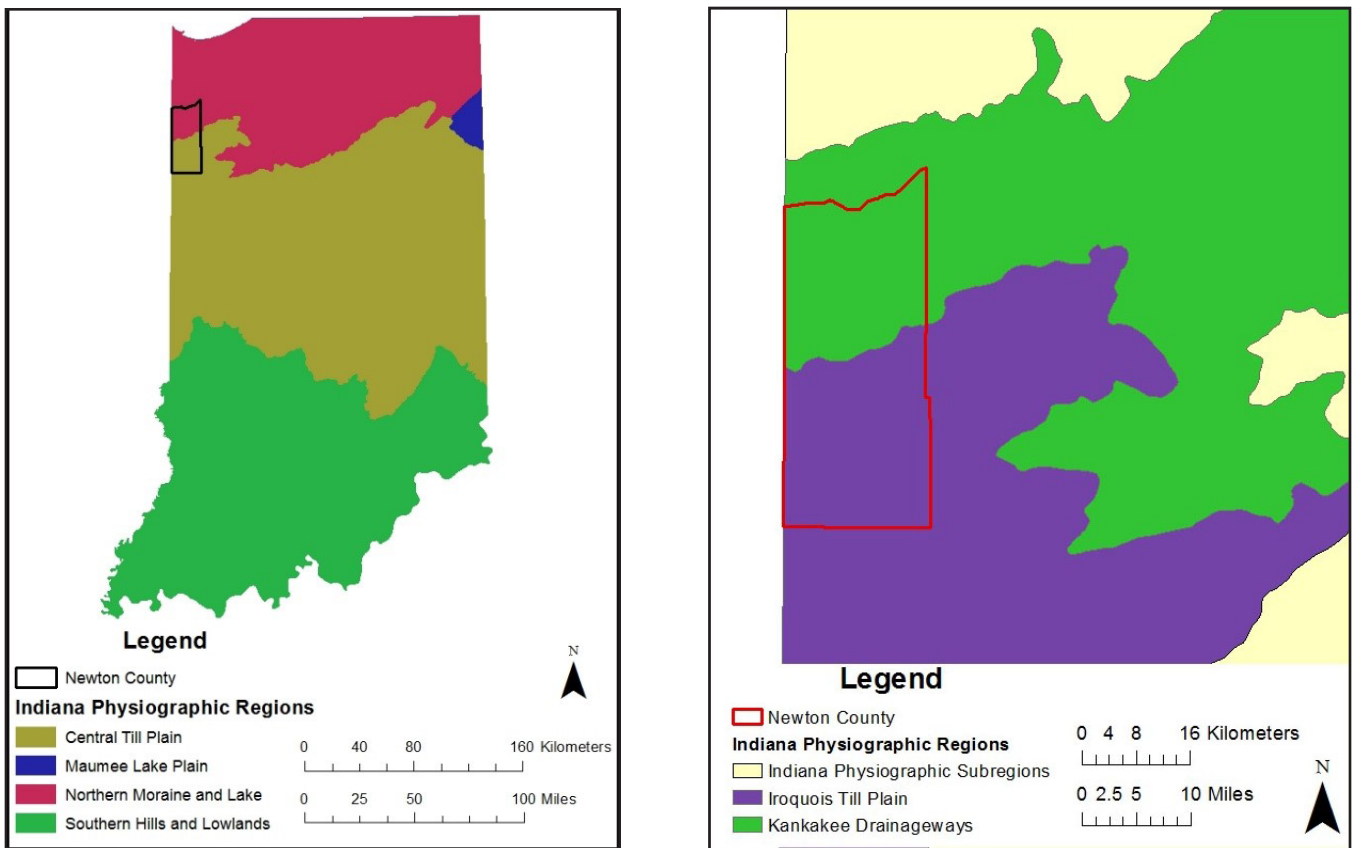


Figure 2. Newton County and Indiana Physiographic Regions and Subregions (based on Gray and Sowder 2002).

The locations of the FY2015 HPF survey areas sample large scale variability of soil associations (Figure 3). The nine survey areas are located within six separate soil associations with one survey area located within two associations. Survey Areas 1, 5, and the majority of Survey Area 7 are both located within the Granby-Zadog-Maumee association, which consists of outwash plains or lake plains. Survey Areas 2 and 6 are located within the Barry-Sumava-Octagon association, consisting of moraines. Survey Areas 3 and 9 are located within the Coloma-Spinks-Oshtemo association, which consists of outwash plains or lake plains. Survey Area 4 is located within the Montgomery-Strole-Lenawee association, which consists of moraine features. The remainder of Survey Area 7 is located within the Craigmile-Suman-Prochaska association, which consists of floodplain landforms. Survey Area 8 is located within the Kentland-Conrad-Zaborosky association, which has landforms consisting of lake beds and lake plains (USDA/NRCS 2002).

Within Newton County, there are five unique soil orders present and within those orders are ten suborders (Figure 4). The most common orders within the county are Mollisols (72.1%) and Entisols (18.4%). The remaining orders include Alfisols (6%), Histosols (1.1%), and Inceptisols (2%). Mollisols are thick, organic-rich soils that are naturally very fertile and are common throughout the Great Plains and Prairie regions (USDA/NRCS 2015b:381). The Mollisols are then further split into Typic/Udolic (32.3%) and Aquic Mollisols (39.8%). The wet, or Aquic, Mollisols are made up entirely of the suborder Aquolls, which have a seasonal high water table within the upper 50 centimeters of the soil profile (USDA/NRCS 2015b:391). Aquolls are commonly encountered in the glaciated areas of the Midwest region, and have been primarily artificially drained and converted to agricultural land. The remainder of the Mollisols present in Newton County is made up of the suborder Udolls. Udolls are Mollisols that are more or less freely drained soils that were formed in deposits from the late-Pleistocene or Holocene periods (USDA/NRCS 2015:420). The majority of the soils have been converted to agricultural fields where mainly soybeans and corn are cultivated. The vegetation supported previously would have been tall grass prairies and occasionally a boreal forest (USDA/NRCS 2015b:420).

The Kankakee River, which lies in northwestern Indiana and northeastern Illinois, is the major water source running through Newton County (Barnes and Osterholz 1998:3; Heistand 1951:9-10). The Iroquois River and Beaver Creek, both tributaries of the Kankakee River, and many other smaller streams and creeks traverse the landscape of Newton County. Both the Kankakee River and the Iroquois River ultimately flow westward into Illinois.

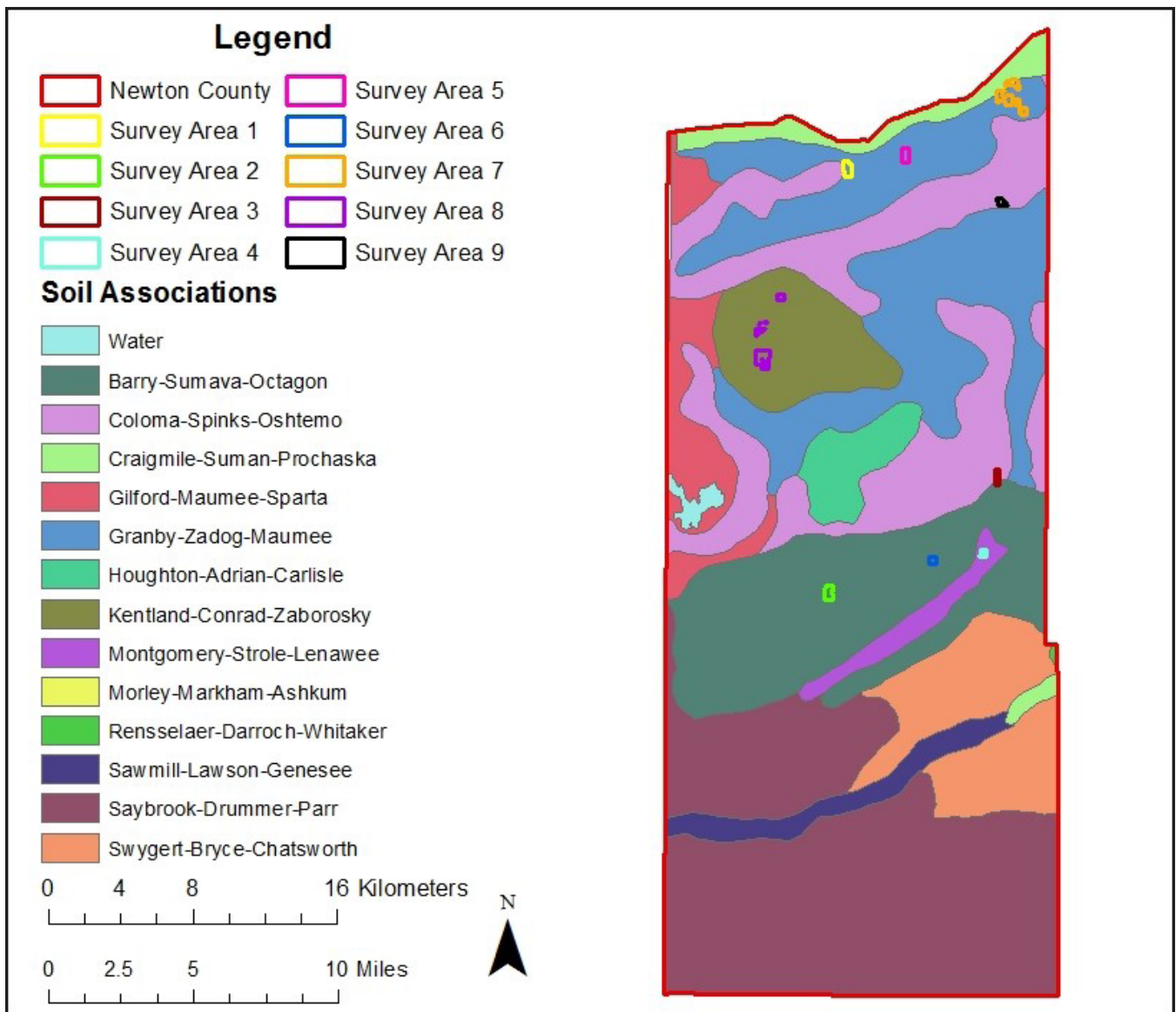


Figure 3. Soil associations in Newton County (USDA/NRCS 2002).

CULTURAL SETTING

In Newton County, sites and components indicate that Native Americans inhabited the region from the Paleoindian period through the Historic period. Given the above described environmental background we can expect highly variable density of artifacts over space due to the interrupted distribution of habitable areas interspersed with wetlands (see also Surface-Evans 2015), and a variable distribution through time as moisture levels fluctuated during the Holocene. As new areas were inundated or exposed based on contemporary moisture regimes, different areas were available for habitation (see Macleod et al. 2014).

The majority of sites documented in Newton County are of unknown cultural affiliations. Of the known periods of occupation, the most frequently identified has been Historic (n = 92), followed by Unidentified Woodland (n = 23), and Late Woodland (n = 12) (Division of Historic Preservation and Archaeology 2015). The prevalence of historic sites is to be expected as historic occupations typically display better preservation and a larger footprint than most prehistoric sites. The most abundant prehistoric occupations are during the Unidentified Woodland and Late Woodland periods. This is distinct from neighboring counties (e.g., Balough et al. 2016; Macleod 2016; Macleod et al. 2015; Nolan et al. under review); however, this may not be representative of the true archaeological record due to low numbers of observations and limited extent of investigation. The absence of documented sites in SHAARD, and the low number of points recorded by Dorwin

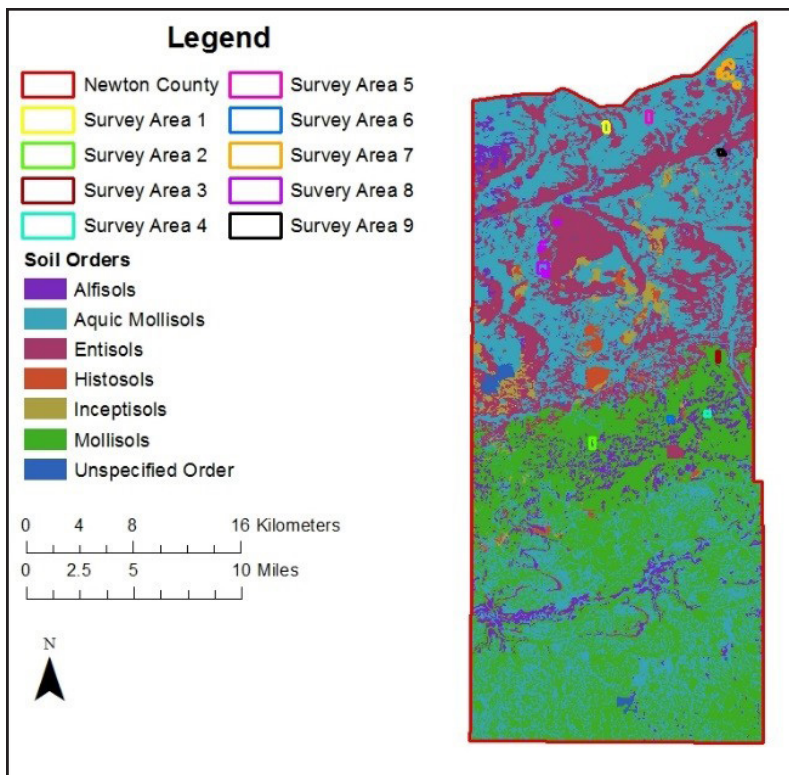


Figure 4. Soil orders located within Newton County (USDA/NRCS 2015a).

the north; however, in 1835 Newton County was organized. Later in 1839, Newton was combined with its eastern neighbor Jasper County due to low populations in both counties. The years of 1836 and 1837 saw the organization of Porter and Lake Counties, respectively, which took land north of the Kankakee River from Newton County (Ade 1911:55). In 1860, Newton County was reorganized as its own individual county (Taylor 2009:12). Expansion of people into Newton County grew more rapidly with the development of the railroads. As more people came to the county the more drastically the landscape changed. Prairie lands were transformed into farmland and marsh lands were drained. Beaver Lake covered 16,000 ac with an additional marshland of 26,000 ac and was a major resource area for the Native Americans who once populated the area (Heistand 1951:8-9). Near the end of the Civil War, Beaver Lake was drained to the north of Morocco through Lake Ditch and into the Kankakee River (Taylor 2009:12).

ARCHAEOLOGICAL SURVEY METHODS AND RESULTS

METHODS

Field Survey

For this project, 800 ac of pedestrian survey were initially proposed. It was anticipated that by surveying 800 ac, approximately 200 to 250 new sites would be discovered to increase the existing site database. Our planning projected that different landforms and environmental zones consisting of flood plain, moraines, and till plain would be systematically surveyed. Areas were selected for survey using topographic maps, aerial maps, soil information, historic sources and reconnaissance information. The survey was constructed to sample different regions within the project area, with an emphasis on the northern portion of the county. Cultivated fields with optimal visibility were sought for survey. Ultimately, landowner permission and field visibility dictated the areas sampled by this survey which included approximately 849 ac of moraines, outwash plains, lake plains, floodplains, and lake beds.

This project was conducted by AAL Archaeologists and AAL student employees. Principal Investigators were AAL Archaeologist Christine Thompson and Senior Archaeologist Kevin C. Nolan. The field survey was conducted between August 5 and October 25, 2015. The field survey was executed using pedestrian transects spaced at 10 meter (m) intervals. The survey interval was reduced to 5 m when artifacts were encountered. The areas surveyed by pedestrian transects had between 30% and 90% ground surface visibility. All artifacts that were within two meters of the first artifact encountered, except fire-cracked rock and brick, were collected, bagged and given a temporary transect and find numbers. Objects found

(1966:Figure 1) dating to the Paleoindian period is also consistent with the low frequency of these sites within the Midwest region (Shott 2004:208).

Late in the Woodland/Mississippian period, much of Indiana was reportedly depopulated. Contact with Euroamericans that resulted in epidemic diseases and warfare associated with the fur trade are believed to be key factors in the abandonment of the region (Heistand 1951:8). In the early 1800s Native Americans inhabiting Indiana began to cede their land rights and were moved, often forcefully, to reservations within the state or further west. The largest western removal took place in 1838 and moved much of the local tribes to Kansas. This pattern continued until 1840 when all commonly held reserve lands had been ceded and Indiana was open for Euroamerican settlement.

Euroamerican settlers had been in Newton County since the early 1830s before Native Americans had been forced out of the area. Like the Potawatomi, the settlers lived along and near the Iroquois River. Settlement of the whole county was slow due to the wetlands of

farther than that within the same transect were given the same transect number and the next sequence number. If a site only consisted of one collection point, a 10 m x 10 m radial survey was conducted around the point. Each new radial find was assigned a new find number. If multiple artifacts were encountered along multiple transects, short transects were run at five meter intervals to refine the boundaries of the cluster. Fire-cracked rocks and bricks were counted in the field, but were not collected. Find points were mapped with a Trimble GeoXT Series GPS with a minimum of 20 readings logged for each find spot. GPS data was post-processed to sub-meter accuracy using Trimble GPS Pathfinder Office series 5.3 software and exported to ESRI shapefile formats (UTM NAD83 Zone 16N) for inclusion in the project GIS. Field notes were maintained by AAL field supervisors.

Laboratory

All collected artifacts were taken to the AAL laboratory for processing, identification, analysis and temporary curation (all but SA9 were returned to landowners after completion of project). Artifacts were cleaned, classified and catalogued. Lithic raw materials were identified by comparison with reference samples and published descriptions on file in the AAL laboratory (Cantin 2008; DeRegnaucourt and Geogiady 1998; Stelle and Duggan 2003). Their association was reported to geologic period, with the chert typology being reported as the type most consistent with the specimen. All prehistoric artifact and chert identifications were made microscopically at 10x or greater. Historic artifacts were identified and dated using published references (Adams 1980; Berge 1980; Coleman et al. 1968; Godden 1964; Horn 2005; IMACS 1984, 1992, 2009; Lofstrom et al. 1982; Majewski and O'Brien 1987; Miller 2000; Nelson 1964; ODOT 1991; Raycraft and Raycraft 1990; Smith 1983; Stelle 2001; Trussel 2010). Notes, maps and photographs were reviewed and prepared for illustration and curation. State site numbers were obtained and a DHPA Sites and Structures Inventory form was entered in SHAARD for each site identified during the project.

RESULTS

A total of 856.1 ac were surveyed during this project, including 7.1 ac of resurveyed area and 849 ac of newly surveyed area, and 76 new archaeological sites were recorded. No human remains were discovered as a result of this grant project. Nine parcels in northern Newton County were surveyed (Figure 4). The current survey documented the prehistoric human occupation of Newton County with Late Archaic components being most abundant. While most prehistoric sites could not be assigned to a particular time period, occupations dating to the Late Archaic/Early Woodland period, the Early Archaic period, Late Woodland/Late Prehistoric period, and a possible Middle Woodland component were also discovered during our surveys.

The Historic Period was the most strongly represented in the assemblages recovered during our survey. Considering the limitations of Phase I surveys, it is presumptuous to assign functionality to sites identified during this survey. Site types were therefore not defined beyond isolates and scatters. However, it appears likely based upon the variation in artifact classes discovered on the sites that multiple sites types were represented. In addition to the field survey, a collector visit was conducted on December 4, 2015 which yielded information concerning the presence of unrepresented artifact classes as well as probable site locations in Newton County.

Artifacts

The field survey recovered 525 prehistoric artifacts and 1,761 historic artifacts, which included the resurveys of sites 12N124, 12N218, and 12N219 (Table 1). The majority of prehistoric artifacts consist of lithic debitage. The edge modification of approximately 20 flakes indicates the debitage likely functioned as expedient tools (Swihart 2016). Seven formal lithic tools were projectile points or bifacial tools (Figures 5 - 9) dating to the Early Archaic, Late Archaic, Late Archaic/Early Woodland, and Late Woodland/Late Prehistoric (Justice 1987) and blade-like flakes may represent Middle Woodland period activity (Greber et al. 1981; Mangold and Schurr 2006; Montet-White 1968). Other stone tools consisted of a groundstone pestle, and flake tools. Historic artifacts included various types of ceramics, various colors and types of glass, metal objects (Figure 10), and brick fragments.

Chert

No natural chert outcrops exist within Newton County. The lithic artifacts for this survey were dominated by Unidentified cherts (38.3%) followed by Silurian cherts (30.17%) as the most abundant identified chert type. Of the Silurian assemblage a plurality was consistent with Liston Creek chert (9.86%). Outcrops of Liston Creek exist in Miami, Wabash, and Huntington counties, the closest of which being approximately 116 km (72 miles) to the east of Newton County (Cantin 2005). Specimens consistent with Harmilda chert appear in 2.90% of the assemblage recovered from the survey areas. Harmilda



Figure 5. A Kirk Corner-Notched point recovered from 12N312 in Survey Area 4 (Photo credit: Kiya Mullins, Ball State University).



Figure 6. A Brewerton Side-Notched diagnostic point from 12N325 (Photo credit: Kiya Mullins, Ball State University).



Figure 7. A Madison diagnostic point from 12N295 (Photo credit: Kiya Mullins, Ball State University).



Figure 8. A Bottleneck Stemmed diagnostic point from 12N327 (Photo credit: Kiya Mullins, Ball State University).



Figure 9. An Adena Stemmed diagnostic point from 12N354 (Photo credit: Kiya Mullins, Ball State University).



Figure 10. A possible blacksmith's tuyere from 12N327 (Photo credit: Kiya Mullins, Ball State University).

Table 1. Artifacts Recovered.

Prehistoric	No.	Historic	No.
Biface, Hafted, Kirk Corner-Notched	1	Glass, Amber	79
Biface, Hafted, Brewerton Side-Notched	1	Glass, Amethyst	148
Biface, Hafted, Bottleneck Stemmed	1	Glass, Aqua	368
Biface, Hafted, Matanzas Cluster	1	Glass, Black/Green	1
Biface, Hafted, Adena Stemmed	1	Glass, Clear	342
Biface, Hafted, Triangular Cluster Drill	1	Glass, Cobalt	15
Biface, Hafted, Madison	1	Glass, Green	12
Biface, Fractured Base	1	Glass, Green Milk	1
Biface, Unhafted	8	Glass, Marble	1
Biface, Unhafted, Fragment	2	Glass, Milk	147
Core	3	Glass, Olive Green	1
Core Tool	1	Glass, Pink	2
Core Fragment	3	Glass, Yellow	4
Flake	139	Ceramic, Bisque Porcelain	3
Flake, Blade-Like	1	Ceramic, Creamware	11
Flake, Tool	19	Ceramic, Earthenware	3
Flake, Bipolar	2	Ceramic, Industrial Porcelain	5
Flake, Proximal	96	Ceramic, Ironstone	33
Flake, Proximal Tool	2	Ceramic, Porcelain	5
Flake, Medial	69	Ceramic, Redware	4
Flake, Medial, Blade-Like	4	Ceramic, Semi-Porcelain	7
Flake, Distal	119	Ceramic, Stoneware	103
Flake, Distal Tool	1	Ceramic, Whiteware	261
Flake, Distal, Blade-Like	1	Ceramic, Yellowware	4
Flake, Shatter	39	Metal, Aluminum Tube	1
Ground Stone Pestle	1	Metal, Brass	7
Prehistoric Pottery, Grit Temper	3	Metal, Iron	67
Fire Cracked Rock	4	Metal, Lead, Buck Shot	1
		Metal, Steel Band	1
		Metal, Steel/Copper Penny	1
		Metal, Zinc	17
		Faunal, Bone	14
		Asbestos Roofing Tile	11
		Brick Fragment	1
		Hard Rubber	2
		Plastic, Button	1
		Wood, Post	2
		Wood, Fragments	15
		Coal/Clinker	52
		Slag	6
Total	525	Total	1761

chert (Leeuwrik et al. 2015:Figure 12) is a Silurian chert that is a member of the Silurian System occurring in DuPage County, Illinois. The luster of Harmilda chert ranges from dull to waxy corresponding to the variable texture with semi-translucent regions being fine to medium grained and waxy, while the opaque regions are medium to coarse grained and dull (Stelle and Duggan 2003). Few fossils are present in Harmilda chert, sponge spicule inclusions can be found in the semi-translucent regions and crinoid casts can be found in the opaque regions. Heat treatment causes Harmilda chert to turn a red or reddish brown color and the luster is enhanced weakly (Stelle and Duggan 2003). Harmilda chert tends to overlap visually with Kenneth chert from Indiana. The closest outcrop of this chert exists in DuPage County, Illinois approximately 105 km (65 miles) to the northwest of Newton County (DeRegnaucort and Geogiady 1987; Stelle and Duggan 2003; Figure 1). Six non-diagnostic bifacial points and tools recovered were made from Silurian chert, which were consistent with Harmilda, Kenneth, and Liston Creek (12N219, 12N356, and 12N359).

Mississippian chert had the second greatest representation of identified cherts in this survey (25.34%). Of the Mississippian material recovered, those consistent with Blanding comprised a plurality of the collection (11.61%). Blanding chert (Leeuwrik et al. 2015:Figure 9) is a medium to medium fine texture Mississippian Period chert that is dull in luster and naturally occurs in northwestern Illinois. Blanding chert can range from white to gray in color with pale yellowish, brown, or orangish streaks and faint banding (Stelle and Duggan 2003). Heat treatment of Blanding chert can cause the color to move to pink tones and the luster becomes more satin-like. Fossil fragments of sponge spicules, corals, and crinoid columnals are found frequently in the contrasting colors (Stelle and Duggan 2003). Outcrops of Blanding exist in Jo Daviess County, Illinois approximately 266 km (165 miles) from Newton County (DeRegnaucort and Geogiady 1987; Stelle and Duggan 2003; see Figure 1). Six of the hafted projectile points and three unhafted bifacial tools recovered were made from Mississippian chert, which were consistent with Blanding, Burlington, Elwood-Joliet, Attica, and Stanford chert (from sites 12N295, 12N312, 12N325, 12N327, and 12N354). Three of the identifiable points dating to the Late Archaic period (from sites 12N325, 12N327, and 12N354) were made of chert consistent with Burlington, Attica, and Stanford cherts. Blanding (11.61%), Elwood-Joliet chert (0.39%) and Burlington chert (2.51%) come from central and western Illinois and are typically higher quality material than what is found in northwest Indiana. Burlington chert in particular can be an exceptional material and would have been highly prized in prehistoric times, and in fact was widely traded at various periods in prehistory. Elwood-Joliet (Leeuwrik et al. 2015:Figure 11) chert is a medium texture Mississippian Period chert that is dull in luster and is naturally occurring in northeastern Illinois. Elwood-Joliet chert white to gray in color and contains small iron pyrite structural inclusions (Stelle and Duggan 2003). Fossil inclusions present are sponge spicules, brachiopods, bryozoans, and crinoid columnals. Other inclusions present in Elwood-Joliet chert are druse and limestone, which can make the chert appear sugary under magnification (Stelle and Duggan 2003). Heat treatment effects on color and luster of Elwood-Joliet chert is unknown. The distance to these materials indicates that trade would likely have been active at least at some point between the areas that are now northwest Indiana and central/southwest Illinois.

Pennsylvanian chert is the third greatest identified chert in abundance (4.84%) with specimens most consistent with Holland, Flint Ridge, and Ditney cherts. The low amount of Pennsylvanian chert is to be expected as the sources of these cherts in Indiana are located exclusively in the southern half of the state. Holland in particular outcrops about 300 km (186 miles) to the south in Dubois County (Cantin 2005; see Figure 1). The presence of Flint Ridge chert from Licking County, Ohio, which is located approximately 447 km (278 miles) from Newton County, in the assemblage is of particular note suggesting an unexpected connection to exchange networks from central Ohio. One of the non-diagnostic unhafted bifacial tools recovered during field survey is consistent with Holland chert (12N327).

Devonian chert is the least represented chert in abundance (1.35%) with specimens consistent with Jeffersonville being the highest identified chert (0.39%). Jeffersonville chert is the only Devonian Age chert within Indiana with two outcrops located in the southeastern part of the state. The closest outcrop of Jeffersonville is located approximately 250 km (155 miles) southeast of Newton County (Cantin 2005). None of the bifacial points or tools are consistent with Jeffersonville or unidentified Devonian chert.

In general, the pattern of chert use shows that there was an emphasis on distant sources. This could indicate extensive trade networks or long range movement. This is upheld by the presence of such exotic cherts as Flint Ridge and Burlington. Flint Ridge bladelets and blade-like flakes along with Burlington chert being present in Newton County also show possible Middle Woodland influence from both the Ohio and Illinois Hopewell industries. The presence of these chert types shows potential direct or indirect contact with these Middle Woodland cultures through trade, which is a hallmark of Hopewell peoples (Greber et al. 1981:525; Seaman 1979:291). These chert sources would have been considered exotic and consistent with Hopewell phenomenon and extra-regional trade routes (Mangold and Schurr 2006; Nolan et al. 2007:321; Seaman 1979:291). The lack of Flint Ridge debitage in Newton County would have supported the theory of trade routes between

Table 2. Chert Raw Materials. After Leeuwrik et al. (2015:Table 30).

Chert		% Assemblage	Notes
Silurian Chert	156	30.17	
Consistent with Harmilda	42	8.12	1,2
Consistent with Laurel	8	1.55	1
Consistent with Kenneth	3	0.58	
Consistent with Liston Creek	52	10.06	1
Unidentified Silurian	51	9.86	1
Devonian Chert	7	1.35	
Consistent with Jeffersonville	2	0.39	
Unidentified Devonian	5	0.97	1
Mississippian Chert	131	25.34	
Consistent with Allen's Creek	1	0.19	
Consistent with Attica	10	1.93	
Consistent with Blanding/Elwood-Joliet	66	12.77	1
Consistent with Burlington	18	3.48	1
Consistent with Cataract	2	0.39	1
Consistent with Indian Creek	6	1.16	
Consistent with Kaolin	1	0.19	
Consistent with Muldragh	1	0.19	
Consistent with Stanford	1	0.19	
Consistent with Upper St. Louis	21	4.06	
Unidentified Mississippian	4	0.77	
Pennsylvanian Chert	25	4.84	
Consistent with Ditney	4	0.77	
Consistent with Flint Ridge	3	0.58	1
Consistent with Holland	14	2.71	1
Unidentified Pennsylvanian	4	0.77	
Unidentified Chert	198	38.30	1
Total	517	100	

Notes: 1 – Includes heated and raw; 2 – All that are possibly Harmilda and one other Silurian Chert.

Ohio and Illinois because it has been suggested that Flint Ridge bladelets would have been brought to the region in finished form rather than as a raw material (Snyder et al. 2008:46).

Sites

Of the 76 archaeological sites, 14 had Unidentified Prehistoric components (Table 3). The identified precontact components consisted of one Early Archaic site, three Late Archaic sites, and two Late Woodland/Late Prehistoric sites. Sixty-three sites had Historic components, dating from the early nineteenth century to present. Previously recorded sites for northwestern Indiana support the trend of encountering low frequencies of Paleoindian, Early Woodland, and Middle Woodland component sites.

Collection Study

On December 4, 2015, Nolan and Leeuwrik visited a collector near Demotte, Indiana to examine his private artifact collection. The collection came from fields and wooded areas on his property, which was also Survey Area 7 (see Figure 4). His property is located in Lincoln Township. The collection consists of 157 artifacts, of which 95 are diagnostic points with intact bases, 55 are nondiagnostic bifaces and flake tools, and 7 are groundstone tools.

Table 3. Number of Site Components Added.

Cultural Period	Added	Previous	Total
Unidentified Prehistoric	14	138	152
Paleoindian (ca. 10,000 – 7500 B.C.)	0	0	0
Archaic	4	8	12
Early Archaic (ca. 8000 – 6000 B.C.)	1	2	3
Middle Archaic (ca. 6000 – 3500 B.C.)	0	1	1
Late Archaic (ca. 4000 – 700 B.C.)	3	4	7
Unidentified Archaic	0	1	1
Woodland	2	43	45
Early Woodland (ca. 1000 – 200 B.C.)	0	4	4
Middle Woodland (ca. 200 B.C. – A.D. 600)	0	4	4
Late Woodland/Late Prehistoric (ca. A.D. 500 – 1650)	2	8	10
Unidentified Woodland	0	27	27
Mississippian	0	2	2
Protohistoric/Contact	0	5	5
Historic (post A.D. 1650)	63	92	155
Unknown	0	25	25
Total	83	313	396

Following the procedure established by Macleod et al. (2015), Nolan and Leeuwrik organized the lithic tools by base shape. We counted totals for each base type and identified raw materials based on macroscopic examination. All specimens were scanned with a Cannon LiDE 110 scanner on both sides (except for the groundstone tools). The specimens too large for 2D scanning were photographed on both sides. Several specimens were selected for 3D scanning using a NextEngine HD 3D Scanner.

As part of the FY2014 HPF grant project (Grant #18-14-FFY-03) in Newton County, two private collections were examined. These two private collections are used for comparison to the above FY2015 collection. The FY2014 Carlson collection, housed at the Newton County Public Library, consists of over 300 artifacts, which include 265 diagnostic tools or points with intact bases and 41 ceramic sherds. The other FY2014 collection contained 427 artifacts that were collected predominantly from Jasper County, but a few were located within Newton County. The artifact classes included projectile points and biface tools, groundstone tools, prehistoric ceramics, and some historic artifacts (Leeuwrik et al. 2015).

Various results of the FY2015 collection study were both consistent and inconsistent with the results of our FY2015 survey. The high number of Paleoindian artifacts from the FY2014 Jasper County collection and, to a lesser extent, the FY2014 Carlson collection and the FY2015 Newton County collection has helped inform a previously under-documented time period and hinted at potentially different cultural representation within the county than the results of our survey and previous investigations (Leeuwrik et al. 2015; Macleod et al. 2015). The large percentage of side-notched points in the FY2015 collection was somewhat consistent with one of the three Late Archaic points recovered from Newton County during the FY2015 survey. This result is, however, distinct from what was previously known about the county. The relatively large number of stemmed points as well as Early Woodland ceramics from the FY2014 Carlson collection stood in contrast to our total absence of Early Woodland components discovered during our survey and only four had been previously documented in SHAARD (Leeuwrik et al. 2015). Further, the large number of triangular points in the FY2015 Newton County and FY2014 Carlson collections combined with Middle Woodland and Mississippian period ceramics from the FY2014 Carlson collection indicate a potentially large gap in the existing professional records for Newton County. Particularly interesting are the Hopewell ceramics and a partial effigy made from shell tempered clay (Leeuwrik et al. 2015).

The interest expressed in our survey by the staff at the Newton County Public Library (home of the FY2014 Carlson collection), the FY2015 collector and others has helped tremendously in developing the culture history of Newton County. Future investigations, particularly in areas with more discrete artifact locales such as Newton County, would do well to use the previously acquired knowledge and materials accrued by local collectors (see Nolan et al. 2018 and other papers in Shott et al. 2018). Our experience with these private collections illustrates patterns found in many other places: collectors hold

the vast majority (> 90%) of the archaeological record and any examination of the past that ignores this resource is woefully incomplete (LaBelle 2003; Pitblado 2014; Shott 2008; Shott et al. 2018).

Historic Settlement

Sixty-three sites with Historic components were discovered. These sites ranged from small isolated finds to extensive historic scatters and were occasionally multicomponent with prehistoric isolates or scatters. The Historic component sites yielded the vast majority of artifacts recovered during the project.

Survey Areas 3, 7, and 8 contained sites with relatively substantial early historic assemblages. Diagnostic artifacts, such as creamware, include those with manufacturing dates between the mid-1700s and 1850, but also include artifacts dating into the mid- to late nineteenth century and early twentieth century (12N124, 12N218, 12N219, 12N309, 12N345, and 12N359). Based on historical and archaeological research, the majority of the 63 sites appear to be historic dump sites, or secondary deposits from relatively recent to modern activity, rather than primary deposits associated with early occupation of the county. Site 12N309 was the location of a historic barn on the property as indicated by the landowner in Survey Area 3. Evidence of this structure can be located on a General Highway Map from 1941 (Drury 1955:98), but on no other historic sources consulted (Andreas 1968; Geo. A. Ogle and Co. 1916; Taylor 2009). Due to this lack of historic documentation and the amount and types of artifacts recovered, site 12N309 shows no indication it would have the potential to yield additional important information beyond the Phase I level.

Sites 12N345 and 12N359, both in survey Area 8, are located in close proximity to Bogus Island and an unnamed sand island in the area that was once Beaver Lake. Similarly, the existing sites 12N124, 12N218, and 12N219 are in proximity to Cherry Island and another unnamed island within the former Beaver Lake region (Division of Historic Preservation and Archaeology 2015; Heistand 1951:39-43). These islands were reported to have been highly utilized during both precontact and historic times due to their upland topography in the marsh and swamp region surrounding the lake (Heistand 1951:36-37). Their proximity to high use areas and upland features could indicate that further information could be yielded from additional archaeological investigation into 12N123, 12N124, 12N218, 12N219, and 12N345. Further research and analysis of our data and these sites could greatly increase our understanding of early historic occupation in Newton County.

Density

The project documented an average of one site per 10.7 ac and an average artifact density of one artifact per 0.37 ac surveyed. The project documented an average density of one historic artifact per 0.49 ac surveyed and an average density of one prehistoric artifact per 1.63 ac surveyed. Artifact densities by survey area are presented in Table 4.

DISCUSSION

Our surveys have supplemented the knowledge of the temporal and spatial distribution of precontact and Euroamerican habitation and extractive sites. We find that Newton County fits into the broader context of northwestern Indiana wetlands,

Table 4. Summary of Site and Artifact Densities by Landform.

Survey Area	No. Acres	No. Sites	Sites per Acre ¹	No. Artifacts	Artifacts per Acre 1
SA 1 (Outwash Plains/Lake Plains)	78.9	2	0.02	7	0.09
SA 2 (Moraines)	78.4	5	0.06	73	0.93
SA 3 (Outwash Plains)	51.9	10	0.19	608	11.71
SA 4 (Moraines)	39.9	4	0.1	32	0.80
SA 5 (Outwash Plains/Lake Plains)	80.3	2	0.02	2	0.02
SA 6 (Moraines)	39.7	4	0.1	19	0.48
SA 7 (Outwash Plains/Lake Plains, Floodplains)	215.7	21	0.1	343	1.59
SA 8 (Lake Beds/Lake Plains)	219.3	20	0.09	563	2.57
SA 9 (Outwash Plains/Lake Plains)	44.9	8	0.18	18	0.40
Total	849	76	0.09	1665	1.96

Note 1: Total row is the total artifacts/total acres.

echoing findings from neighboring regions. However, there are differences and many gaps that need to be addressed via increased survey targeting often ignored places and collections.

CULTURAL CHRONOLOGY

Prior to this year's survey, SHAARD records for Newton County included 138 Unidentified Prehistoric sites, no Paleoindian sites, eight Archaic sites (two Early Archaic, one Middle Archaic and four Late Archaic), 43 Woodland sites (four Early Woodland, four Middle Woodland, and eight Late Woodland), two Mississippian sites, five Protohistoric sites, and 92 Historic sites (Division of Historic Preservation and Archaeology 2015; Table 3).

This project has added 76 sites to the cultural chronology of the county, including 14 Unidentified Prehistoric site components, one Early Archaic site component, three Late Archaic site components (one Late Archaic/Early Woodland), two Late Woodland/Late Prehistoric components, and 63 Historic site components (Table 3). A few sites had more than one cultural component, which resulted in the addition of 83 site components to the site record for Newton County from the 76 new sites.

As presently known, precontact settlement within Newton County is dominated by the Late Archaic and Late Woodland cultural periods. Very little information has been recovered for the Early and Middle Archaic, Early and Middle Woodland, and Paleoindian cultural periods. The cultural phase representations may be skewed due to lack of development. Newton County is primarily farm land, and as such remains largely within the private sector. This lack of federally permitted development compared to other counties, means Newton County has had less archaeology conducted under federal requirements or state regulations. Archaeological investigations required under state or federal laws have helped build the cultural chronology in other counties by requiring investigations in areas that would not have otherwise been targeted by researchers. Another reason that the cultural phase representations may be skewed is due to sampling bias. Many of the surveys conducted have been on till plain and moraine landforms rather than an adequate sample of all landforms within Newton County. The underrepresentation of sites within the Kankakee marsh region has resulted in a lack of understanding about prehistoric use of the area within Newton County that is known more prominently in Lake County. As a result it is likely that the surveys conducted in Newton County have not been extensive enough or have not sampled enough landforms within the county to locate underrepresented precontact or historic cultural occupations. If these surveys are added, especially in those areas not typically surveyed for research projects, we will begin to reconstruct the history of use, and the differential spatial patterns of exploitation associated with fluctuations of the marsh regions.

LANDFORM USE

The northern portion of Newton County consists of more diverse landforms compared to the southern half of the county. This can be attributed to the marshlands that existed prior to draining in order to create more agricultural lands. The major waterways in Newton County are the Kankakee River and the Iroquois River. Smaller waterways, exposed more formally with the draining of the Beaver Lake marsh area, feed these larger bodies by crisscrossing the county leading to a high proportion of floodplain features in the area (Barnes and Osterholz 1998:2-6). Of the two large waterways, the Kankakee River is dominant in the northern half of Newton County and as such was the one more frequently encountered, but there were several survey areas which still fell into the Iroquois River watershed. Much of the previous smaller waterways have also been drained to access more agricultural land and are now referred to as ditches.

Precontact Site Distribution

Although a limited sample of the county, the results from the survey of 856.1 ac show Early Archaic, Late Archaic, Late Archaic/Early Woodland, and Late Woodland/Late Prehistoric land use in the northern portion of the county across several landform types. The distribution of sites shows differential use of specific landforms through time. No evidence of the Paleoindian groups was recovered in this survey. Aside from the periods mentioned previously, the settlement patterns during different prehistoric cultural periods are impossible to analyze due to the lack of recovered diagnostic materials during our surveys in the northern portion of the county. The FY2014 HPF Grant surveys of southern Newton County were fairly restricted to upland landforms, which constrained the land use and settlement pattern analysis to till plains and moraines. The diversity of landforms surveyed within the northern portion of the county as part of the FY2015 HPF Grant project, as compared to the previous year, allows for a broader understanding of land use and settlement patterns among prehistoric peoples better than in previous surveys.

Historic Settlement Patterns

Four survey areas were located in an area closer to the Kankakee River, four were closer to the Iroquois river, and the last survey area was located directly within the former Beaver Lake basin. The Historic components representative of the initial

mid-nineteenth century settlement of the county through modern times were documented in Survey Areas 1–9. Mean dates were calculated for each survey area by using artifacts that displayed a finite date range, excluding non-diagnostics and anything with unanchored parameters (i.e., pre-1940). The majority of survey areas were most active during the late nineteenth and early twentieth centuries. This is corroborated by the mean historic date of 1907 for all sites encountered during this survey. Both of these pieces of information are in keeping with the literature narrative concerning the draining of Beaver Lake beginning in the 1850s and completed by 1880 (Barnes and Osterholz 1998:2). This draining progressively opened up the county for farming during this period, and thus it makes sense that most historic artifacts would date to this time.

Euroamerican Settler and Native American Interactions

Six sites (7.8%) discovered in this survey recorded multiple components. Two (2.6% of total) of these multicomponent sites contained diagnostic prehistoric artifacts, and all contained both prehistoric and historic components. The prehistoric component at one dates to the Late Archaic, while the other site was used during the Late Archaic and Late Woodland/Late Prehistoric period. This small sample of latest precontact materials and earliest Euroamerican is insufficient to reveal the nature of early historic Euroamerican/American Indian interactions. Much of the native Potawatomi population was removed by 1838, and Newton County was not widely populated by Euroamericans until the 1860s. This survey did not recover any material that conclusively indicated interaction between Euroamerican and Native American peoples.

PUBLIC OUTREACH

On September 26, 2015, Ball State University's Applied Anthropology Laboratories took part in Mound State Park's annual Indiana Archaeology Month activities. There were numerous hands-on demonstrations and participant activities for visitors. Posters depicting the methods and results of several previous HPF grants were on display and this was used to discuss both the methodology and goals of the FY2015 Grant surveys in Benton and Newton counties. Ball State archaeologists and students used this public event to speak with numerous local individuals fostering public interest and awareness in this HPF Grant survey. Approximately 150 members of the public attended this event at Mounds State Park, Anderson, Indiana.

On November 16, 2015, an Open House was held in the Applied Anthropology Laboratories (AAL). The goals of the open house were to showcase current projects that included student involvement, encourage additional student involvement, and to invite possible community and professional collaborators to view our work and current projects. The focus of the Newton County FY2015 Grant exhibit was threefold. First, historic and precontact artifacts were displayed and explained to the public in order to demonstrate the diversity of knowledge necessary for archaeological investigations such as this. Second, a student created video was also shown that described and illustrated our methodology, field techniques, artifact processing, and identification. Finally, chert and lithic identification with hands-on demonstrations of the identification and cataloging processes were given to AAL Open House attendees.

On April 25, 2016, a public presentation was given at the Newton County Government Center in Morocco, Indiana, by Christine Thompson and Jamie Leeuwrik. The presentation was sponsored by the Newton County Historical Society. The hour-long presentation reviewed all aspects of the grant including background, methodology, and results. Both historic and prehistoric artifacts representative of newly discovered sites were available for the attendees to view. A student-created video was also shown that described and illustrated our methodology, field techniques, artifact processing, and identification. Over 60 people attended the presentation which included a question and answer session, and a short discussion of Indiana archaeology laws.

CONCLUSIONS AND RECOMMENDATIONS

This project targeted areas near the Kankakee River, and the former location of Beaver Lake, as well as adjacent areas in the northern half of Newton County, Indiana. The project area was selected due to the lack of recorded archaeological sites in the SHAARD database. The FY2015 project was also a supplement to the FY2014 HPF Grant surveys of the southern half of Newton County to continue to fill the gaps targeted or identified during that project. The goals of the project were to increase the site database, construct a more complete cultural chronology for the county, understand and refine both the settlement patterns, and the patterns of interaction between and among early Euroamerican settlers and Native Americans.

This survey revealed a relative lack of artifacts in Newton County as compared to similar surveys in other regions of Indiana. This paucity of artifacts is similar to the results of previous surveys conducted in and around Newton County (Angst 1994; Balough et al. 2016; Cree et al. 1994; James and Cochran 1985; Leeuwrik et al. 2015; Macleod et al. 2015; McCord 2007; Miller et al. 2012; Miller 2013; Murray et al. 2011; Nolan et al. under review; Surface-Evans et al. 2005). It is very likely that the presence of the Beaver Lake wetland and the Kankakee Marsh during prehistoric times and into the mid-1800s

heavily influenced the habitability of the area. The wetlands were a great source of resources for the prehistoric people of the area, who tended to settle along the Kankakee River and near Beaver Lake (Heistand 1951:8-10). The marshes and wetlands were more highly used by prehistoric people and fur trappers because of their large amounts of flora and fauna available for exploitation (Meyer 1935:367-369). However, the variably extensive wetlands would have dramatically restricted both livable land and resources in the area for the incoming Euroamerican settlers during the Historic Period. This constraint would have concentrated those individuals who were there to select upland and well drained features in order to avoid the marshlands that were so prevalent throughout the county. Survey Areas 7 and 8 were located closest to areas that would have been marsh before large scale draining efforts commenced. Both Survey Areas contained large prehistoric scatters (12N327 and 12N359) with high density and diversity of artifacts, which were located on or adjacent to upland dunes or features. These sites were found to support the idea that upland features were areas of high use prehistorically (e.g., Mangold and Schurr 2006; Surface-Evans 2015), especially 12N327, which contained artifacts that date to the Late Archaic and Late Prehistoric periods.

The five diagnostic prehistoric artifacts recovered from the survey areas date to the Early Archaic, Late Archaic, Late Archaic/Early Woodland, and Late Woodland/Late Prehistoric periods. Due to the paucity of recovered diagnostic artifacts it is not possible to analyze settlement patterns through time. We can, however, make some general observations about land use. Four projectile points were recovered within the former bounds of the Kankakee Marsh, another was found within the former Beaver Lake, and two were encountered on more extensive upland features between Iroquois River and Beaver Lake. The majority of landforms on which the projectile points were located were moraines and outwash plains with one located on a lake bed landform.

Not much is known about Early Archaic settlement and land use within northwestern Indiana and Newton County. With only two previously documented sites within the county and only one more added during this survey, there is not sufficient evidence to make any statements pertaining to the relationship between Early Archaic culture and upland landform preference. Neither the FY2015 private collection nor the FY2014 Carlson Collections (Newton County Public Library) had any supplemental information or artifacts pertaining to the Early Archaic Period. While tentative, the preponderance of the Late Archaic components in Newton County noted in this survey, SHAARD, and the private collections examined is similar to the preponderance of Late Archaic occupancy along the Kankakee Marsh in Lake County (Surface-Evans 2015; Surface-Evans et al. 2005). This relationship shows utilization of upland features for settlement areas and the lowlands as hunting camps and resource extraction points along the marsh region and floodplains (Surface-Evans 2015:180; White et al. 2007).

Late Woodland/Late Prehistoric occupation in Newton County has been well documented in previous sites and by triangular points within the private collections. However, the evidence is not sufficient to fully flesh out settlement patterns, but it does begin to provide insight into land use (Surface-Evans 2015:184). The Late Prehistoric point from Survey Area 7 (12N327) was part of a larger lithic scatter that also includes a pestle. This indicates food processing and possibly a settlement of greater longevity than previous periods (c.f. Mangold and Schurr 2006; Surface-Evans 2015). Late Woodland and Late Prehistoric peoples in this region are reported practiced mixed subsistence with a greater emphasis on farming than previous periods (Mangold and Schurr 2006; Surface-Evans 2015:184). Our results support the view of a mixed economy exploiting multiple resource zones opportunistically. While increasingly agricultural, it seems the Late Woodland/Late Prehistoric occupants of the region continued to exhibit a broader spectrum economy than neighbors to the south or west (see Mangold and Schurr 2006).

The FY2015 private collection and FY2014 Carlson Collections highlight several other important areas of information pertaining to cultural periods and land use that is sparse or entirely absent in the official records. Without incorporating the knowledge contained in private collections, we can never hope to fully reconstruct the prehistory and history of the regions we target to understand (Labelle 2003; Nolan et al. 2018; Pitblado 2014; Shott 2008; Shott et al 2018).

The majority of the precontact sites were unable to be identified by cultural period; however, occupations from several precontact cultural periods—the Early Archaic, Late Archaic, Late Archaic/Early Woodland, and Late Woodland/Late Prehistoric—were documented. Seven multicomponent sites (12N123, 12N124, 12N218, 12N219, 12N327, 12N345, and 12N359) were recommended for further investigation and 73 sites were recommended as not eligible for listing on the Indiana Register of Historic Sites and Structures or the National Register of Historic Places. A multicomponent lithic and historic scatter in Survey Area 7 (12N327) contained several diagnostic Late Archaic and Late Prehistoric projectile points indicating that further research could yield important information about prehistoric settlement patterns and land use in Newton County. The remaining sites (12N123, 12N124, 12N218, 12N219, 12N345, and 12N359) are in the former Beaver Lake in McClellan Township. Further investigation into these sites could yield information that would be beneficial towards a more complete understanding of prehistoric and historic utilization of a region that was once considered to be inhospitable to settlers (Heistand 1951:36).

Due to the disproportionate survey of upland features, the surveys conducted in Newton County are difficult to compare to other Indiana counties. Particularly because of the overrepresentation of upland survey areas we cannot evaluate previous conclusions of a preference for upland features (Leeuwrik et al. 2015; Macleod et al. 2015; Swihart and Nolan 2014). Much of the evidence of land use discovered on the floodplain areas consisted of historic artifacts with very few prehistoric artifacts recovered. For the future, survey of a greater variety of landforms would be beneficial in expanding the knowledge of occupation patterns across the county and making inferences about upland feature occupation preferences. Many factors could have influenced the project data including the location of the surveyed properties, whether a field was tilled recently or not, the collection of fields by lithic enthusiasts, and even local weather patterns prior to field survey. Further research into prehistoric landform usage is recommended within Newton County.

Newton County would benefit from further archaeological investigations, especially those focusing on the identifying diagnostic prehistoric materials and trying to fully understand the spatial and temporal patterns of land use decisions. Further large-scale pedestrian surveys will complement the findings in this report as well as identify potentially new areas of interest. Particularly, this would include surveys that attempt to capture representative samples of the topographic, geomorphic, hydric, and texture properties of landforms and soils given the peculiar hydrological history of this area and the already documented peculiar distribution of archaeological materials in this portion of the state (Leeuwrik et al. 2015; Macleod et al. 2015; Surface-Evans 2015; and this article). Surveys designed in this way could add not only to our understanding of shifting resource procurement and settlement strategies throughout prehistory, but could also be used to hypothesize changes in overall drainage properties of the region related to the formation of the various marshes, and marsh-like environments that predominated in this region.

REFERENCES CITED

- ADAMS, WILLIAM H.
1980 *Waverly Plantation: Ethnoarchaeology of a Tenant Farming Community*. Resource Analysts, Inc., Bloomington, Indiana.
- ADE, JOHN
1911 *Newton County: A Collection of Historical Facts and Personal Recollections Concerning Newton County, Indiana, From 1853–1911*. The Bobbs-Merrill Company, Indianapolis, Indiana.
- ANDREAS, A.T.
1968 *Maps of Indiana Counties in 1876*. Baskin, Forester & Co., Chicago, Illinois.
- ANGST, MICHAEL
1994 *An Archaeological Survey of Fayette County. Reports of Investigation 40*. Archaeological Resources Management Service, Ball State University, Muncie, Indiana.
- BALOUGH, AMANDA E., CHRISTINE THOMPSON, AND KEVIN C. NOLAN
2016 *An Archaeological Survey of Benton County: Enhancement of a Data Deficient Region. Reports of Investigation 93*. Applied Anthropology Laboratories, Department of Anthropology, Ball State University, Muncie, Indiana.
- BARNES, JAMES R., AND LARRY C. OSTERHOLZ
1998 *Soil Survey of Newton County, Indiana*. United States Department of Agriculture, Washington, D.C.
- BERGE, DALE L.
1980 *Simpson Springs Station Historical Archaeology in Western Utah 1974–1975. Cultural Resources Series No. 6*. Bureau of Land Management, Utah State Office, Salt Lake City, Utah.
- CANTIN, MARK
2005 *Provenience, Description, and Archaeological Use of Selected Chert Types of Indiana. Technical Report No. 05-01*. Indiana State University Anthropology Laboratory, Terre Haute, Indiana.
2008 *Provenience, Description, and Archaeological Use of Selected Chert Types of Indiana. Technical Report No. 05-01*. Indiana State University Anthropology Laboratory, Terre Haute, Indiana.
- COLEMAN, DOROTHY S., ELIZABETH A. COLEMAN, AND EVELYN J. COLEMAN
1968 *The Collector's Encyclopedia of Dolls*. Crown Publishers, New York.

- CREE, DONALD W., RANDY GAW, GERALD WAITE, LISA PAYLO, AND DONALD R. COCHRAN
 1994 *Historic and Prehistoric Contexts in the Tipton Till Plain. Reports of Investigation 36.* Archaeological Resources Management Service, Ball State University, Muncie.
- DEREGNAUCOURT TONY, AND JEFF GEOGIADY
 1998 *Prehistoric Chert Types of the Midwest.* Western Ohio Podiatric Medical Center, Greenville, Ohio.
- DIVISION OF HISTORIC PRESERVATION AND ARCHAEOLOGY
 2015 *State Historic Architectural and Archaeological Research Database (SHAARD).* Electronic Database, <https://secure.in.gov/apps/dnr/shaard/welcome.html>, accessed March 2015.
- DORWIN, JOHN T.
 1966 *Fluted Points and Late-Pleistocene Geochronology in Indiana.* Indiana Prehistory Series, Volume IV, Number III. Indiana Historical Society, Indianapolis, Indiana.
- DRURY, JOHN
 1955 *This is Newton County: An Up-to-Date Historical Narrative with County and Township Maps and Many Unique Aerial Photographs of Cities, Towns, Villages, and Farmsteads.* The Loree Company, Chicago, Illinois.
- GEO. A. OGLE & CO.
 1916 *Standard Atlas of Newton County, Indiana: Including a Plat Book.* Geo. A. Ogle & Co. Chicago, Illinois.
- GODDEN, GEOFFREY
 1964 *Encyclopedia of British Pottery and Porcelain Marks.* Bonanza Books, New York.
- GRAY, HENRY H., AND KIM SOWDER
 2002 *Indiana_Physiographic_Regions: Physiographic regions of Indiana (Indiana Geological Survey, 1:2,150,000, Polygon Shapefile) Geospatial_Data_Presentation_Form: Map.* Indiana Geological Survey, Bloomington, Indiana.
- GREBER, N'OMI, RICHARD S. DAVIS, AND ANN S. DUFRESNE
 1981 *The Micro Component of the Ohio Hopewell Lithic Technology: Bladelets. Annals New York Academy of Science: 489–528.*
- HEISTAND, JOSEPH E.
 1951 *An Archaeological Report on Newton County Indiana.* Indiana Historical Bureau, Indianapolis, Indiana. Reprinted in 2005 by the Newton County Historical Society, Family History Division.
- HORN, JOHNATHON C.
 2005 *Historic Artifact Handbook.* Alpine Archaeological Consultants, Inc., Montrose, Colorado.
- INTERMOUNTAIN ANTIQUITIES COMPUTER SYSTEM (IMACS)
 1984 *Intermountain Antiquities Computer System (IMACS) User Guide.* Bureau of Land Management, Utah State Office, Salt Lake City, Utah.
 1992 *Intermountain Antiquities Computer System (IMACS) User Guide.* Bureau of Land Management, Utah State Office, Salt Lake City, Utah.
 2009 *Intermountain Antiquities Computer System (IMACS) User Guide.* Bureau of Land Management, Utah State Office, Salt Lake City, Utah.
- JAMES, MARY LOU, AND DONALD R. COCHRAN
 1985 *An Archaeological Survey of Jay County, Indiana. Reports of Investigation 18.* Archaeological Resources Management Service, Ball State University, Muncie.
- JUSTICE, NOEL D.
 1987 *Stone Age Spear and Arrow Points of the Midcontinental and Eastern United States.* Indiana University Press, Bloomington, Indiana.
- LABELLE, JASON M.
 2003 *Coffee Cans and Folsom Points: Why We Cannot Continue to Ignore the Artifact Collectors.* In *Ethical Issues in Archaeology*, edited by Larry J. Zimmerman, Karen D. Vitelli, and Julie Hollowell-Zimmer, pp. 115–127. Walnut Creek, California.

- LEEuwRIK, JAMIE M., SHELBI LONG, CHRISTINE THOMPSON, KEVIN C. NOLAN, AND ERIN STEINWACHS
2015 An Archaeological Survey of Newton County: Enhancement of a Data Deficient Region. *Reports of Investigation* 88, edited by Christine Thompson and Kevin C. Nolan. Applied Anthropology Laboratories, Ball State University, Muncie, Indiana.
- LOFSTROM, TED, JEFFREY P. TORDOFF, AND DOUGLAS C. GEORGE
1982 A Seriation of Historic Earthenwares in the Midwest, 1780–1870. *The Minnesota Archaeologist Spring/Summer* 41(1):3–29.
- MCCORD, BETH K.
2007 A Profile of the Till Plain Archaeology: A Survey of Hancock County, Indiana. *Reports of Investigation* 71. Archaeological Resources Management Service, Ball State University, Muncie, Indiana.
- MACLEOD, COLIN L.
2016 An Archaeological Survey of the Southern Half of Montgomery County, Indiana. *Indiana Archaeology*, in press.
- MACLEOD, COLIN L., SHELBI LONG, CHRISTINE THOMPSON, KEVIN C. NOLAN, AND ERIN STEINWACHS
2015 An Archaeological Survey of Jasper County: Enhancement of a Data Deficient Region. *Reports of Investigation* 87, edited by Christine Thompson and Kevin C. Nolan. Applied Anthropology Laboratories, Ball State University, Muncie, Indiana.
- MAJEWSKI, TERESITA, AND MICHAEL J. O'BRIEN
1987 The Use and Misuse of Nineteenth-Century English and American Ceramics in Archaeological Analysis. In *Advances in Archaeological Method and Theory Vol. 11*, edited by Michael B. Schiffer, pp. 98–209. Academic Press, Inc., San Diego, California.
- MANGOLD, WILLIAM L., AND MARK R. SCHURR
2006 The Goodall Tradition: Recent Research and New Perspectives. In *Recreating Hopewell: Perspectives on the Middle Woodland at the Millennium*, edited by DK Charles and JE Buikstra, pp. 206–226, University Press of Florida, Gainesville.
- MEYER, A.H.
1935 The Kankakee “Marsh” of Northern Indiana and Illinois. *Michigan Academy of Science, Arts, and Letters Papers* 12:359–396. Ann Arbor, Michigan.
- MILLER, GEORGE L.
2000 Comments on Bill Adams Time Lag Paper, unpublished paper, <https://lists.asu.edu/cgi-bin/wa?INDEX>, accessed March 2015.
- MILLER, JOSEPH R.
2013 A Distributional Archaeological Survey of the Southern Portion of Blackford County. *Reports of Investigation* 80, edited by Christine Keller. Applied Anthropology Laboratories, Ball State University, Muncie, Indiana.
- MILLER, JOSEPH R, VICTORIA KIEFER, AND KRISTIN KJELDSSEN
2012 A Survey of Blackford County: A Data Enhancement Project. *Reports of Investigation* 79, edited by Christine Keller. Applied Anthropology Laboratories, Ball State University, Muncie, Indiana.
- MONTET-WHITE, ANTA
1968 *The Lithic Industries of the Illinois Valley in the Early and Middle Woodland Period*. The University of Michigan, Ann Arbor, Michigan.
- MURRAY, EMILY, JESSIE MOORE, AND VICTORIA KIEFER
2011 A Survey of Montgomery County: A Data Enhancement Project. *Reports of Investigation* 77, edited by Christine Keller. Applied Anthropology Laboratories, Ball State University, Muncie, Indiana.
- NELSON, LEE H.
1964 Nail Chronology as an Aid to Dating Old Buildings. *Technical Leaflet* 48. American Association for State and Local History, Nashville Tennessee.

- NOLAN, KEVIN C., MARK F. SEEMAN, AND JAMES L. THELER
2007 A Quantitative Analysis of Skill and Efficiency: Hopewell Blade Production at the Turner Workshop, Hamilton County, Ohio. *Midcontinental Journal of Archaeology* 32(2):297–330.
- NOLAN, KEVIN C., JAMES LEAK, AND CAMERON QUIMBACH
2018 The Single-Pass Survey and the Collector: A Reasonable Effort in Good Faith? In *Collaborative Engagement: Working with Responsible Private Collectors and Collections*, edited by Michael Shott, Mark F. Seeman, and Kevin C. Nolan, pp. 51–66. Occasional Papers No. 3, *Midcontinental Journal of Archaeology*.
- NOLAN, KEVIN C., AMANDA E. BALOUGH, AND CHRISTINE THOMPSON
UNDER REVIEW Archaeological Investigations of Northern Benton County, Indiana. Submitted to *Indiana Archaeology*.
- OHIO DEPARTMENT OF TRANSPORTATION
1991 Coding System Manual for the East Liverpool, Ohio Urban Archaeology Project. *Archaeology Series* No. 1, Ohio Department of Transportation, Columbus, Ohio.
- PITBLADO, BONNIE L.
2014 An Argument for Ethical, Proactive, Archaeologist-Artifact Collector Collaboration. *American Antiquity* 79(3):385–400.
- RAYCRAFT, DON, AND CAROL RAYCRAFT
1990 *Collector's Guide to Country Stoneware and Pottery (Second Series)*. Collector Books, Paducah, Kentucky.
- SCHNEIDER, ALLEN F.
1966 Physiography. In *Natural Features of Indiana*, edited by Alton A. Lindsey, pp. 40–56. Indiana Academy of Science, Indianapolis, Indiana.
- SEEMAN, MARK F.
1979 *The Hopewell Interaction Sphere: The Evidence for Interregional Trade and Structural Complexity*. Indiana Historical Society, Indianapolis, Indiana.
- SHOTT, MICHAEL J.
2004 Representativity of the Midwestern Paleoindian Sample. *North American Archaeologist* 25(2):189–212.
2008 equal o nll roofht w ded I e vsbr cted: A Proposal for Conservation of Private Collections in American Archaeology. *Archaeological Record* 8:30–34.
- SHOTT, MICHAEL J., MARK F. SEEMAN, AND KEVIN C. NOLAN (EDS.)
2018 *Collaborative Engagement: Working with Private Collections and Responsive Collectors*. Occasional Papers No. 3, *Midcontinental Journal of Archaeology*.
- SMITH, SAMUEL D.
1983 Excavation of a Mid-Nineteenth Century Trash Pit, Wynnewood State Historic Site, Sumner County, Tennessee. *Tennessee Anthropologist* 8(2):133–181.
- SNYDER, DANIEL, MICHAEL POWERS, PAUL J. PACHECO, AND JARROD BURKS
2008 Brown's Bottom #1 (33RO1104) Bladelet Assemblage: An Experimental in Use-Wear Analysis. *Pennsylvania Archaeologist* 78(1):41–60.
- STELLE, LENVILLE
2001 *An Archaeological Guide to Historic Artifacts of the Upper Sangamon Basin*. Center for Social Research, Parkland College, Champaign, Illinois.
- STELLE, LENVILLE J., AND THOMAS P. DUGGAN
2003 An Archaeological Guide to Chert Types of East-Central Illinois. http://virtual.parkland.edu/lstelle1/len/biface_guide/chert/documents/chert_types.html, accessed January 27, 2016.
- SURFACE-EVANS, SARAH
2015 Intra-Wetland Land Use in the Kankakee Marsh Region of Northwestern Indiana. *Midcontinental Journal of Archaeology* 40(2):166–189.

- SURFACE-EVANS, SARAH L., DONALD H. GAFF, AND R. BRIAN SOMERS
 2005 *Phase II Subsurface Investigations of Five Multicomponent Prehistoric Archaeological Sites (12-La-84, 91, 92, S22, S26) in the Kankakee Marsh of Lake County, Indiana*. Indiana University-Purdue University Fort Wayne, Fort Wayne, Indiana.
- SWIHART, MATTHEW R.
 2016 *Delineating Site Functions Through Use-Wear Analysis of Flaked Stone Tools: A Study of Archaeological Sites in Hamilton County, Indiana*. Master's Thesis, Department of Anthropology, Ball State University, Muncie, Indiana.
- SWIHART, MATTHEW R., AND KEVIN C. NOLAN
 2014 *Investigation of Fort Ancient Settlement and Community Patterns: An Archaeological Survey of Dearborn County, Indiana*. Applied Anthropology Laboratories, Ball State University, Muncie, Indiana.
- TAYLOR, AMANDA J.
 2009 *Newton County Indiana Historic Sites and Structures Inventory*. Indiana Division of Historic Preservation and Archaeology, Indianapolis, Indiana.
- TRUSSEL, TIM
 2010 *Quick and Dirty Field Guide to Historic Artifacts*. Millersville University, Millersville, Pennsylvania.
- UNITED STATES DEPARTMENT OF AGRICULTURE/NATURAL RESOURCES CONSERVATION SERVICE (USDA/NRCS)
 2002 SOILS_STATSGO_IN: Soil Associations in Indiana (U.S. Dept. of Agriculture, 1:250,000, Polygon Shapefile). State Soil Geographic (STATSGO) data base for Indiana, 1994. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, Texas. <http://igs.indiana.edu/arcims/statewide/download.html>.
- 2015A SOILS_SSURGO_IN: Soil Properties and Components in Indiana (U.S. Dept. of Agriculture, 1:250,000, Polygon Shapefile). Soil Survey Geographic (SSURGO) data base for Indiana. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, Texas. <http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>
- 2015B *Illustrated Soil Taxonomy Guide, version 1.1*. U.S. Department of Agriculture, Natural Resources Conservation Service, National Soil Survey Center, Lincoln, Nebraska.
- WHITE, ANDREW A., CRAIG ARNOLD, AND JOSHUA WELLS
 2007 *The Late Pleistocene and early Holocene Occupation of the Kankakee Region of Northwest Indiana*. Indiana University-Purdue University, Fort Wayne, Indiana.
- YELLOWMAP WORLD ATLAS
 2015 Indiana Blank Map. Electronic document, <http://www.yellowmaps.com/map/Indiana-blank-map-93.htm>, accessed March 2015.

ARCHAEOLOGICAL SURVEY OF A NINETEENTH AND TWENTIETH CENTURY FARMSTEAD IN FLOYD COUNTY, INDIANA

CHRISTOPHER R. MOORE, HARRISON FUNKE
UNIVERSITY OF INDIANAPOLIS
INDIANAPOLIS, IN

REBECCA VAN SESSEN
INDEPENDENT RESEARCHER
CROWN POINT, IN

Editors' note: Site numbers in this report/feature are written with a space between the 12 and the county abbreviation and a space between the county abbreviation and the site number, such as 12 Fl 190. This is done so that the reader understands that the site is from Floyd County (Fl), and the number of the site is 190, rather than 1190.

INTRODUCTION

The Renn/Harrington site complex was identified and surveyed in July 2015 as part of the Floyd County Database Enhancement Project (FCDBEP), an archaeological survey of portions of Floyd County, Indiana conducted by the University of Indianapolis with support from Historic Preservation Fund Grant #15FFY-04. The FCDBEP surveyed a total of 522.23 acres (ac) (211.34 hectares [ha]) of mostly rural upland and lowland urban land, resulting in the identification of 78 previously unreported archaeological sites and the resurvey of one previously reported site in all five townships across the county. In total, the FCDBEP increased the number of recorded sites in Floyd County by 64% (Moore and Van Sessen 2016). The FCDBEP's purpose was to: 1) identify previously unrecorded archaeological sites dating from all time periods in a region of the state where very few sites have been recorded to date and 2) communicate the value of the region's archaeological resources and the results of this work to as many stakeholders as possible. Both goals were met with a reasonable level of success.

Of the 93 archaeological components recorded by the FCDBEP, 50 are precontact Native American sites and 43 are nineteenth and/or twentieth century historic sites. These historic sites consist of four sites located in the town of New Albany (three residences and a church), 19 sites associated with eleven historic farmsteads, three transportation-related sites (a tollhouse, a road, and a historic scatter possibly associated with a waypoint/structure located along the Old Vincennes Road), a possible school, two rock carvings, a historic dump, and 13 historic scatters and isolates of unknown function.

While any of the historic sites identified by the survey might be worthy of additional study, the 20 sites associated with eleven historic farmsteads were of particular interest to the authors due to the quantity of artifacts recovered in association with these sites, the presence of above-ground structural remains at several (including some that continue to function as residences), and the potential these sites have to inform archaeologists about nineteenth and twentieth century rural settlement and land use in the southern Indiana uplands. While the early nineteenth century farmsteads identified by the survey are protected by state law and would likely receive additional study in a typical cultural resource management context, late nineteenth and twentieth century farmsteads dating to after December 31, 1870 are not protected under Indiana Code 14-21-1. We have selected the five sites (four of which contain known historic components) that make up the Renn/Harrington site complex as a case study highlighting the diversity of the material culture present at farmsteads and their potential to address questions of broad anthropological interest and significance.

The Renn/Harrington site complex consists of five related nineteenth and twentieth century archaeological sites located in Lafayette Township, Floyd County. The five sites were identified during survey of 7.5 ac of the 66 ac Harrington property after their approximate locations were reported to the survey by the landowner. The landowner's memory of the five sites was essential to identifying their function. These five sites consist of a cabin/residential site (12 Fl 190), a springhouse (12 Fl 191) and associated cave (12 Fl 192), a blacksmith shop (12 Fl 193), and a mechanic shop (12 Fl 194) (Figure 1). While all five sites make up a single nineteenth and twentieth century farmstead, the majority of the artifacts recovered from the site complex come from the cabin and an adjacent historic dump that was included under the same site number. Laboratory analysis and archival research pertaining to the Renn/Harrington property were directed primarily at establishing a more precise age for the site complex through an analysis of diagnostic artifacts and identifying the chain of property ownership throughout the nineteenth and early twentieth centuries.

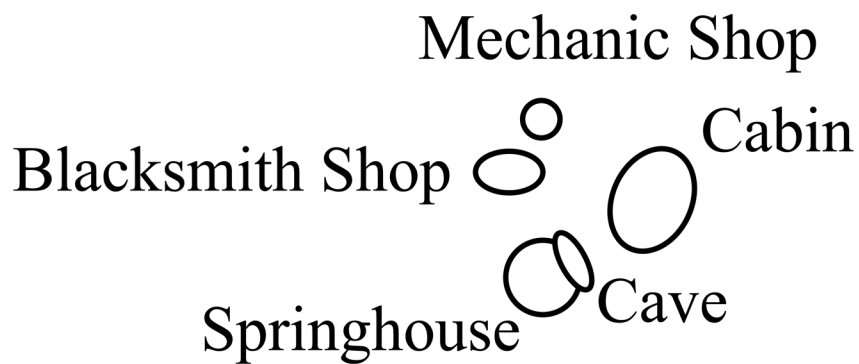


Figure 1. Map showing the relationship of the Renn/Harrington sites to one another. The entire site complex measures about 150 m x 100 m.

IN DEFENSE OF FARMSTEADS

Historic farmsteads are one of the most ubiquitous site types identified by archaeologists during cultural resource management surveys. In 1850, when the United States census began recording the number of farmsteads, there were 1.4 million present in the country. By 1920, this number had peaked at 6.4 million, declining thereafter to 2.1 million in the year 2000 (Groover 2008:3). The decline in family farms resulted from a restructuring of the United States economy that witnessed younger generations leaving the agricultural labor force and migrating to urban areas to take high paying jobs in manufacturing and industry (Ruggles 2007). In 1840, 90% of the U.S. population lived in rural areas, but this had dropped to less than half in 1920. This demographic exodus from the countryside to the cities continued until the 1970s when rural outmigration began to slow as the decentralization of manufacturing brought more jobs to small towns and more people began to see the value and potential of a quality life in newly modernized rural communities (Fuguitt et al. 1989).

While the majority of the U.S. population lived on farmsteads and in small rural communities for two-thirds of our nation's history, comparatively few resources are allocated to the study of these sites. Farmsteads dating after December 31, 1870 do not currently receive protection under Indiana Code 14-21-1. What's more, many archaeologists consider farmsteads redundant resources and typically recommend only the earliest sites for testing and study regardless of the considerable potential these sites have to yield significant data pertaining to the development of local economies, the spread of consumerism, the social and economic impact of improving and expanding communication and transportation systems throughout the United States (Groover 2008), changing subsistence patterns (Gums et al. 1999), social stratification and the political realities of the pursuit of the American Dream (O'Donovan and Wurst 2001, Stine 1990), gender relations (Stine 1991), changing agricultural practices (Garrison 1996), the impact of mass production on folk technologies (Mazrim 2018), etc.

While farmsteads receive comparatively little attention from archaeologists, they are an abundant and diverse resource that, if surveyed, excavated, and studied within a comparative framework, can provide a wealth of data about social, economic, and demographic trends in the United States from the eighteenth through the twenty-first centuries (Groover 2008). While such an analysis is beyond the scope of the present paper, we do wish to emphasize the future research potential of Floyd County's many farmstead sites, including those identified by the FCDBEP.

A BRIEF HISTORY OF FLOYD COUNTY

Floyd County is located in southern Indiana adjacent to the Ohio River and the Falls of the Ohio. It straddles the Charleston Hills and Mitchell Plateau physiographic regions but is located primarily in the Norman Upland physiographic region. The Norman Upland is bounded on the east by the Knobstone Escarpment, a steep and rugged topographic feature that rises as much as 600 ft above the adjacent Scottsburg Lowland. To the west throughout Floyd County, the topography consists of dissected plateaus with narrow ridges separated by steep slopes and streams with narrow floodplains (Hall 1999:77-78). Floyd County is located within the warm temperate climate zone and exhibits a mesic moisture regime. Daily temperatures range from a low of 23.3°F to a high of 85.6°F. Average precipitation is 45.29 inches (Neyhouse et al. 2000:4).

The first permanent Euroamerican settlers of Floyd County were Patrick Shields and his wife, who arrived in what was then Clark County in 1804. Clark County had been organized three years earlier. Shields, like many of the early settlers of the Falls region, was from Kentucky, and when he founded the first farmstead in Floyd County near present-day Georgetown he was "squatting." The family did eventually purchase the land and the farm they built was still under cultivation in 1889. Soon

after the Shields arrived, other settlers began arriving so that several sections of Floyd County had been purchased by 1810. Modern Floyd County was organized in 1819 (Cottom 1889).

Prior to permanent settlement, Floyd County had been an important transportation hub for Native Americans and Euroamerican hunters and trappers (Verst 1938). Portions of Floyd County had been officially opened up for settlement in 1783 when some of the land was granted by the Virginia Legislature to George Rogers Clark and his troops in recognition of their service in capturing the forts at Kaskaskia, Cahokia, and Vincennes from the British and their Native American allies during the American Revolution (Bader et al. 2014; Barnhart and Riker 1971). Clark and Floyd counties were attractive to settlers due to their position along the Ohio River and the number of Indian trails that crossed the region. Included among these was the Buffalo Trace, a path followed by Native peoples, bison, and other animals from the western prairies to the mineral springs across the Ohio River in Kentucky. In Floyd County, this trail ran from the Falls at modern-day New Albany northwest through the modern village of Galena and west toward Vincennes. Portions of this path were later followed by the Old State or Vincennes Road. Another Indian trail ran from Galena through Floyds Knobs to the river (Bader et al. 2014; Verst 1938). According to Verst (1938:12), Native Americans kept a lookout on the hills near Bald Knob, using them to watch the Falls. The Indians referred to the Knobs as the “Silver Hills” (Verst 1938:51).

Georgetown is the oldest platted town in Floyd County. It was located along the Buffalo Trace and was founded in 1807 by George Waltz. Patrick Shields’s house was part of this community; it was located at the site of the Optimist Club House in 1998 (Barksdale et al. 1998:29). Other villages and towns founded along the Buffalo Trace include Floyd Knobs, Galena, Greenville, and New Albany (Bader et al. 2014).

Floyds Knobs, known as Mooresville until the post office was founded there in 1852, was first occupied during the War of 1812. At that time, a blockhouse was built on the Buffalo Trace out of fear that Native Americans allied with the English would follow the well-known route to attack the settlers in Floyd County. The blockhouse was never used (Barksdale et al. 1998). Between 1812 and 1830 a significant Catholic community became established in the Knobs, and the first log chapel was erected in 1818 (Verst 1938:13). This was replaced by the first brick church at St. Mary’s Parish in 1837 (Verst 1938:17).

New Albany, the county seat of Floyd County, consisted of a single ferry house in 1804. The first resident of the town arrived in 1808, and a mill was established in 1810 on Falling Run Creek in what is now the northern part of the town (Cottom 1889:68).

New Albany was formally platted by Joel, Abner and Nathaniel Scribner in 1813, at which time it consisted of 826.5 ac of land (Cottom 1889:71). A competing town called Providence was platted by Epaphras Jones just upriver from New Albany in 1820. This town did not do as well as New Albany and was eventually incorporated into the county seat. However, the areas of town formerly included in New Albany can still be differentiated today by a sharp curve in the road at East Tenth Street where the streets of Providence did not exactly meet up correctly with those of New Albany (Barksdale et al. 1998:7). The Scribner house is the oldest standing building in New Albany and can still be visited today.

The first major industry in New Albany was shipbuilding, which began in 1817 and continued until a decline in the southern market during the Civil War led to a collapse of the industry by 1867. More than 350 steamboats were constructed in New Albany during this 50 year span, including the famous steamboat The Robt. E. Lee (Bader et al. 2014, Barksdale et al. 1998:13). Many of the men from Floyds Knobs were employed in the steamboat industry (Verst 1938:18).

New Albany was incorporated as a city on July 4, 1839 and over the next several decades was a thriving river town (Cottom 1889). The loss of the steamboat industry in the 1860s was compensated for by the expansion of railroads and associated businesses. The first railroad in New Albany was a short line known as the New Albany & Salem Railroad, which opened between 1849 and 1851 (Bader et al. 2014, Barksdale et al. 1998:11). A tunnel through Edwardsville Hill was begun in 1870, and this track eventually facilitated overland transport from New Albany to St. Louis, while the construction of the K & I bridge over the Ohio River in 1886 linked New Albany to overland routes heading south. An interurban line ran between New Albany and Indianapolis between 1900 and 1939 (Barksdale et al. 1998:11–12).

C. W. Cottom’s (1889) brief sketch of Floyd County industry provides a useful perspective on businesses and manufacturing in New Albany in the last quarter of the nineteenth century. At the time of writing, the city’s population had increased from 4,200 in 1839 to 30,000, reflecting the nationwide trend toward population growth in urban areas (Cottom 1889:72, 75). New Albany was a thriving city that boasted the W. C. DePauw Company Glass Works, leading manufacturers of plate glass, window glass, and fruit jars and bottles. The glass works employed 1,500 people in 1889. Other New Albany businesses noted by Cottom (1889:77) included woolen mills, cotton mills, hosiery mills, cotton batting mills, structural iron and rail mills, merchant and bridge iron mills, railroad axle and car iron mills and forge works, stove works, furniture factories, machine works and foundries, brass foundries, steam boiler and sheet iron works, flour mills, breweries, tanneries, planing mills and sash door and blind factories, smitheries, carriage and wagon factories, broom factories, spice mills, fertilizer and glue factories, car works

and railroad machine shops, sawmills, bent wood works, handle works, and marble works. Their combined employment was about 5,000, with an output value of about \$20 million (Cottom 1889:77). Unfortunately, many of these industries closed during the Panic of 1893, and Floyd County returned to a largely agrarian economy until after World War II. Major exports in the early twentieth century were dairy and beef cattle, chickens, hogs, corn, wheat, and oats (Bader et al. 2014:9). The New Albany glass works closed in 1902 (Barksdale et al. 1998:15).

Two industries that did thrive in New Albany throughout the early twentieth century were the woodworking and leatherworking industries. Woodworking industries began in New Albany in the late nineteenth century, and plywood and veneer became important exports beginning in 1901. By 1920, New Albany had become the world's largest manufacturer of plywood (Barksdale et al. 1998:16). The Indiana Tannery Co. (later the Moser Leather Company) was founded sometime between 1913 and 1915 (Bader et al. 2014:16). Production peaked at the leather company in the 1920s when it had 75 employees and was processing up to 1,500 cowhides a day (Murphy 2005:83).

While New Albany industry and river trade flourished in the late nineteenth century, until recently the rest of the county has been largely agrarian in nature. Unfortunately, outside of family oral traditions, less is known about the many historic farmsteads that could once be found along the Ohio River valley and spread throughout the uplands. Prior to the FCDBEP, only 36 historic components had been recorded in the county, including only five identified as part of four different farmsteads. One of these sites (12 Fl 90) was recommended for avoidance or further work by investigating archaeologists, but the rest were deemed ineligible for National Register consideration because they were disturbed and/or were considered a common resource of little research value.

In addition to the Renn/Harrington site complex, described in more detail below, the FCDBEP recorded 15 sites associated with ten different farmsteads (Table 1). Of these, all but two were deemed potentially eligible for listing on the National Register and/or in need of additional research to establish eligibility. Of these eight farmsteads, three contain extant structures and are part of active farms, three yielded evidence of early nineteenth century components, and one (the Stinson Farm) is the location of a documented nineteenth century African-American farmstead (Moore and Van Sessen 2016).

THE RENN/HARRINGTON PROPERTY

The Renn/Harrington property consists of 66 ac of land in Lafayette Township, northeastern Floyd County, of which 7.5 ac were surveyed. The surveyed land was first purchased by Henry Hollsah on January 9, 1841. The 1859 plat map of Floyd County indicates that the land had been sold to Joseph Wrenn (or Renn) by this time (O'Beirne & Co. 1859). The land has remained

Table 1. List of Farmstead Sites Recorded by the FCDBEP.

Site Number	Site Name	Standing Structures	Eligibility Assessment	Dates
12 Fl 125 & 12 Fl 126	William Riley & Garden Walk	Yes	No	Late 20 th – 21 st Century
12 Fl 133	Riley Homestead	No	Yes	Early – Late 19 th Century
12 Fl 137, 12 Fl 177, & 12 Fl 178	Buechler Farms, Muddy Bits, & Fenwick	No	Yes	Mid-19 th – Early 20 th Century
12 Fl 141 & 12 Fl 142	Alvina's Garden & Pool Scatter	Yes	Yes	Late 19 th – 21 st Century
12 Fl 152 & 12 Fl 153	CTJ Farm & CTJ Springhouse	Yes	Yes	Early 19 th – 21 st Century
12 Fl 165	Central Glass	No	Yes	Early – Mid-19 th Century
12 Fl 174	Brock Springhouse	Yes	No	Late 19 th – 20 th Century
12 Fl 180	Stinson Farm	No	Yes	Late 19 th – Early 20 th Century
12 Fl 190 – 12 Fl 194	Renn/Harrington Site Complex	No	Yes	Mid-19 th – 20 th Century
12 Fl 201	Jacobi Cabin	Yes	Yes	Mid-19 th – 21 st Century
12 Fl 202	Sprigler Homestead	No	Yes	Late 19 th – 20 th Century

in the Renn family to the present day, and the current owner is a Renn descendant. A total of five sites were discovered on the 7.5 ac surveyed, all of which had been reported by the owner. Archaeological survey concentrated on those locations where the owner's oral account noted buildings associated with the farmstead had existed within her living memory. The five locations consisted of a cabin/residence, a cave entrance and associated springhouse, a blacksmith shop, and a mechanic shop.

The surveyed portions of the Renn/Harrington property consist of a combination of no-till field (planted in soybeans) and cliffline survey along a small stream. The Renn/Harrington Cabin site consists of a dense scatter of artifacts spread throughout the field, with evidence of twentieth century dumping over the adjacent hill. All other sites are located in wooded portions of the property. The Renn Spring Cave entrance is at the base of the bluff adjacent to the cabin, and the springhouse is fed by water emanating from the cave. The blacksmith and mechanic shops are located on a ridge that extends from the agricultural field behind the cabin. Survey along the cliffline north and east of the cabin site yielded no additional evidence of archaeological sites related to the historic farmstead. All artifacts were collected from the surface of all sites, with the exception of the dump associated with the cabin site. All diagnostic artifacts from the surface of the dump were collected (mostly twentieth century glass bottles); no non-diagnostic artifacts were recovered from the dump.

The Renn/Harrington site complex was selected for more detailed analysis as part of an undergraduate research project conducted by the second author. The site's excellent preservation, large artifact assemblage, and associated oral historical record (from the landowner) make it an excellent candidate for study. In addition, the owner informed the authors of the possibility that the property will soon be developed, reducing the potential for future fieldwork. The results of our study (presented below) confirm that the site complex has the potential to yield significant additional information about mid-nineteenth to twentieth century daily life, agricultural practices, and consumption patterns, among other questions of broader anthropological import.

THE RENN/HARRINGTON CABIN SITE (12 FL 190)

The Renn/Harrington Cabin site is an approximately 0.5 ac (0.2 hectare) nineteenth to twentieth century farmstead site that may have been the location of the original Renn homestead. According to the landowner (personal communication, 2015), the log cabin was torn down within her lifetime, and a new home will soon be built on the land where it stood. A dump site was identified in the wooded ravine adjacent to where the cabin stood and was included as part of the Renn/Harrington Cabin site.

Artifacts from the Renn/Harrington Cabin site were recovered by pedestrian survey in both the plowed field and adjacent wooded area. The location where the cabin sat was in an active soybean field that is currently planted using a no-till technique. However, the field surface was heavily rain-washed, resulting in an approximately 60 to 70% surface visibility, and artifacts were densely strewn across the site. A 100% recovery of surface artifacts was attempted within this plowed field. Only diagnostic artifacts (mostly bottles dating to the twentieth century) were collected from the hillside dump adjacent to the soybean field; examples of non-diagnostic artifacts noted in the dump but that were not collected include various pieces of scrap metal, glass fragments, undecorated ceramic fragments, plastic, etc. Artifacts from both the dump and the hilltop date primarily to the late nineteenth through the mid-twentieth century, reflecting the continued occupation of the site well into the current owner's lifetime.

Like most historic farmsteads and other domestic sites, artifacts from the Renn/Harrington Cabin consist predominately of various kinds of ceramics and vessel glass associated with food preparation and consumption. Large quantities of flat glass also were recovered from the site, although nails were not. Furniture, personal, and activities-related artifacts were recovered in relatively low frequencies (Table 2). Overall the assemblage is consistent with a domestic/ residential site associated with a rural farmstead (e.g., Groover 2008).

Ceramics

Ceramics from the Renn/Harrington Cabin site include a variety of refined cream-colored wares and smaller numbers of coarse earthenware and porcelain sherds. All sherds were sorted by size class, fragment type, and decoration type and then classified by ware type following a standard methodology developed by the University of Indianapolis wherein all sherds less than 4 cm² in size are classified as unidentified cream-colored ware (UID CC Ware) if undecorated. Decorated sherds in this smaller size grade and undecorated sherds larger than 4 cm² are assigned to generic classes of creamware/whiteware, pearlware/whiteware, whiteware/ironstone, or blue-gray ironstone on the basis of decoration and glaze color. To the authors' knowledge, no blind tests of the accuracy of identifying small fragments of white-bodied ceramics to ware type on the basis of color or porosity (e.g., the "tongue test") have ever been conducted or published. The less precise method of classifying ware types used in this study preserves accuracy and provides a more conservative characterization of any historic assemblage,

Table 2. Artifacts Recovered from the Renn/Harrington Cabin site (12 Fl 190).

Artifact Class	Artifact Type	Count
Ceramics	Ironstone	12
	Blue-grey Ironstone	1
	Whiteware	4
	Whiteware/Ironstone	56
	UID CC Ware	81
	UID White Enameled Refined Earthenware	1
	Yellowware	2
	Redware	1
	Stoneware	17
	Porcelain	14
	Terra Cotta	2
	Total	191
Vessel Glass	Mouth Blown	19
	Machine Made	202
	Pressed Glass	4
	UID Manufacture	39
	Total	264
Other Food-Related Items	Zinc Canning Jar Lid	1
	Enamelware fragment	1
	Aluminum Can	1
	Total	3
Architectural	Porcelain Tile & Fixture Fragments	18
	Flat Glass	158
	Nail	1
	Linoleum Tile fragments	2
	Brass Pipe Fitting	1
	Stoneware Drainage Tile	9
	Iron Pipe	1
	Brick	1
	Concrete	1
Total	192	
Furniture	Porcelain Furniture Wheel	1
	Porcelain and Iron Caster	1
	Ornament, Green	1
	Total	3
Personal	Copper Wheat Penny	1
	Green 2-Hole Snail Pearl Button	1
	Plastic Button	1
	Compact with Mirror	1
	Total	4
Activities	Grinding Wheel fragment	1
	Adze Head	1
	Philips Screwdriver	1
	Total	3

Arms	Winchester Brass 12-gauge Cartridge Cap	1
Other	UID Glass	15
	Plastic Safety Lid	1
	UID Plastic fragments	5
	UID Iron Tube/Pipe	1
	UID Melted fragments	6
	Slag	2
	Coal	18
	Turtle Shell	1
	Freshwater Mussel Shell fragments	3
Total	52	
Total	713	

while remaining amenable to more detailed levels of analysis that utilize minimum number of vessel (MNV) estimates (e.g., CC indices and mean ceramic dating).

White-bodied, cream-colored wares were the most common ceramics at Site 12 Fl 190, making up 80.6% of all sherds. Most were undecorated sherds smaller than 4 cm² classified as UID CC Ware. The remainder consisted of whiteware and ironstone sherds that were further differentiated by decoration type. Six of the white-bodied, cream-colored sherds were fiestaware (three red and three blue and green).

Table 3 lists the 21 whiteware and ironstone sherds by decoration type, with some sherds exhibiting combinations of types (e.g., one ironstone rimsherd is molded with floral decal and annular gilding so is counted three times in Table 3). The predominance of molding, decals, and annular gilding indicate a late nineteenth through mid-twentieth century assemblage (Figure 2). Identifiable vessel forms represented include saucers (n = 2), bowls (n = 11), plates (n = 6), and a mug (n = 1).

Of the fourteen porcelain sherds from the Renn/Harrington Cabin site, half were decorated. Four exhibited an underglaze blue transfer-printed design, while one was decorated with red floral decal. One porcelain sherd is a molded rimsherd, and the last is a large fragment of a plate with a molded rim, gilding, and green decal.

Utilitarian sherds from the Renn/Harrington Cabin site consist predominately of stoneware. These sherds include eleven undecorated Albany glazed sherds, two decorated Albany and Bristol glazed sherds, one undecorated Bristol glazed sherd, one undecorated sherd with an opaque green glaze, one Albany glazed sherd from a bowl with an incised rim, and one molded Albany and Bristol glazed sherd. Other utilitarian wares from the site include two pieces of yellowware (one with a Rockingham glaze and the other with blue and white dipped/annular decoration), one piece of white enameled redware, one piece of white enameled unidentified refined earthenware, and two pieces of unglazed terra cotta (at least one of which was a flower pot) (Figure 3).

The predominance of molding, decals, and annular gilding on the white-bodied wares, along with the prevalence of stoneware among the utilitarian sherds, indicate a late nineteenth through mid-twentieth century assemblage. Molded

Table 3. Decorations on Whiteware and Ironstone by Type.

Ware	Decoration	Count
Ironstone	Molded	8
	Decal	4
	Annular Gilded	2
	Annular Painted	1
	Transfer-print	1
Whiteware	Decal	3
	Annular Gilded	2
Whiteware/Ironstone	Molded	2
	Decal	3



Figure 2. Typical white-bodied, cream-colored ceramics from site 12 Fl 190. (Photo credit: Harrison Funke).

ironstone is common in the late nineteenth century (Stelle 2001; Wetherbee 1980), and decal decorations appear after 1880 (Majewski and O'Brien 1987). The fiestaware dates to the 1930s or later (Waechter 2010). While Albany glazes were used throughout the nineteenth century, Bristol glaze on American stoneware appears after 1884 (Greer 1999).

In addition, five base sherds exhibited maker's marks, of which four could be identified and dated. One is a Knowles/Taylor/Knowles mark (East Liverpool, Ohio) dated from 1872 to 1904, and another is a Knowles/Taylor Knowles mark dated from the late 1920s to 1931 (Lehner 1988). The other two consist of a H. R. Wylie mark (ca. 1910 to late 1920s, Huntington, West Virginia) (Kovel 2008) and a National China Company mark (1911 to 1929, East Liverpool, Ohio) (Gates and Ormerod 1982). These dates are consistent with the mean ceramic date of 1916.45 obtained for the assemblage as a whole. The mean ceramic date provides a rough estimate of the age of an assemblage. It is calculated by the simple formula of $Y = \Sigma(Xi \times fi) / \Sigma(fi)$ where Xi is the median date for the manufacture of each ceramic type, fi is the frequency of each ceramic type, and Y is the mean ceramic date (South 1977:217).

Vessel Glass

Vessel glass is the most numerous class of artifact recovered from the Renn/Harrington Cabin site. Consistent with the twentieth century dates of most of the ceramics from the site, only 19 pieces of mouth blown glass were recovered, compared with 202 fragments and whole vessels of machine made bottles. These vessels represent a variety of kitchen and household items, including canning jars, zinc caps, and milk glass jar lid inserts; medical, chemical, and druggist bottles; soda bottles; a mucilage bottle; and pieces of a pie pan, a baking pan with a handle, and two pieces of jadeite that may be from a vase (Figure 4). Four pieces of pressed glass include one large piece of a green ash tray (Figure 5).

The majority of the vessel glass from the Renn/Harrington Cabin site is machine made, meaning that it dates to after 1903 (Deiss 1981; Lorrain 1968; Miller and Sullivan 1984). Several of the milk glass jar seals are Boyd's caps, which date from 1871



Figure 3. Utilitarian wares from site 12 Fl 190. (Photo credit: Harrison Funke).



Figure 4. Examples of whole machine made bottles from site 12 Fl 190. (Photo credit: Harrison Funke).



Figure 5. Green pressed glass ash tray from site 12 Fl 190. (Photo credit: Harrison Funke).

to ca. 1950, while other jar seals and many of the marked canning jars were manufactured by the Ball Bros. Glass Company and date to after 1880 (Whitten 2015). Three of these Ball jar fragments are bases with stippling, dating them to after 1940, and one is a neck that has a bead ledge, dating from 1910 to the mid-twentieth century (Lindsey 2016). Twenty vessel glass fragments are from solarized (amethyst) machine made bottles, dating them to ca. 1903 to the early 1930s (Lockhart 2006). The jadeite was manufactured from 1940 to 1976 (Whitten 2015). Bottles with maker's marks and date codes are listed in Table 4, which was compiled using Whitten (2015). The mean date on vessel glass from the site is 1938.09.

Architectural Items

Aside from window glass (flat glass), architectural items recovered from the Renn/Harrington Cabin site consist mostly of tiles and pipes. The relative lack of concrete, brick, and nails may indicate that the structural remains of the house were largely hauled away when the building was razed. The stoneware drainage tile may be related to the agricultural uses of the modern field rather than house construction. Use of Moir's (1983) dating procedure for the entire flat glass assemblage provided a mean age of 1937.36. This is consistent with the date estimates based on the ceramic and vessel glass assemblages but should be used with caution as flat glass dates can only be deemed reliable if calculated from sub-assemblages from discrete contexts within a site (e.g., features); dates from surface assemblages must be considered unreliable due to their mixed nature. For example, a mixed assemblage of flat glass dating an early construction date and a late remodeling date would provide a mean age that falls between the two and accurately dates neither (Weiland 2009).

Other Items

The other artifacts recovered from the Renn/Harrington Cabin site consist of a variety of personal, activities, furniture and arms-related objects. The green ornament listed among the furniture items is plastic and is possibly from a mid-century

Table 4. Maker's marks and date codes on machine made bottles from site 12 Fl 190.

Vessel Description	Diagnostic Identifier	Manufacturer	Date Range
Clear Oval Bottle with a Small-mouth External Thread Finish	P in a circle Maker's Mark	Pierce Glass Company	1905 - ca. 1980s
Clear Round Mucilage Glue Bottle with a Bead Finish and Rubber Cap	H over an A Maker's Mark	Hazel-Atlas Glass Company	1902 - 1964
Clear Base of a Round Bottle	H over an A Maker's Mark	Hazel-Atlas Glass Company	1902 - 1964
Clear Bottle Base	Capstan (Symbol)	Capstan Glass Company	1919 to 1938
Clear Base of a Round Bottle	M inside a Circle	Maryland Glass Corporation	ca. 1916 to early 1970s
Amber Square Chemical/Poison Bottle with a Patent/Extract/Flat Finish	Date Code; I within an O with Diamond Maker's Mark	Owen's Illinois Glass Company	1932
Amber Rectangular Patent/Proprietary Bottle with a Patent/Extract/Flat Finish	Date Code; I within an O with Diamond Maker's Mark	Owen's Illinois Glass Company	1935
Clear Oval Medical/Chemical/Druggist Bottle with a Small-mouth External Thread Finish	Date Code; I within an O Maker's Mark	Owen's Illinois Glass Company	1959

lamp or similar piece of furniture. The compact and mirror is a particularly interesting personal item that, along with the buttons, attests to the site's domestic function (Figure 6). The penny is a copper one cent wheat penny dated 1944. The grinding wheel fragment, adze head, and screwdriver are all activities-related items consistent with the site's function as a farmstead (Figure 7). The shotgun shell may be a relatively recent addition to the site and could post-date the removal of the residence.

THE RENN/HARRINGTON SPRINGHOUSE (12 FL 191)

The Renn/Harrington Springhouse (Figure 8) is a concrete and limestone spring house measuring approximately 55 m x 53 m and located at the entrance of the Renn Spring Cave (12 Fl 192) on the cliffline below the Harrington Cabin site (12 Fl 190). While no artifacts were recovered from the springhouse site, the structure likely dates from the nineteenth century Renn occupation. Springhouses provided important sources of water for both domestic use and by livestock during the nineteenth and twentieth centuries in upland portions of Floyd County (Moore and Van Sessen 2016).

THE RENN SPRING CAVE (12 FL 192)

The Renn Spring Cave (Figure 9) is a wet cave that feeds the Renn/Harrington Springhouse site (12 Fl 191). While no archaeological deposits or materials have been identified within the cave, the survey was provided with a sketch drawing of the cave interior provided to the landowner by spelunkers who explored the cave in 1991. This drawing indicates the cave has substantial depth and many side passages (landowner, personal communication 2015). Additional survey to investigate the site's use over time is warranted. A site number was assigned to the cave due to its relationship to the Renn/Harrington Springhouse; however, the cave should be explored further to determine whether it was visited during the Precontact Period.

THE RENN/HARRINGTON BLACKSMITH SHOP (12 FL 193)

The Renn/Harrington Blacksmith Shop site was reported to the survey by the landowner, who described the site as the location of a blacksmith shop associated with the Renn/Harrington farm. While the site is currently the location of several abandoned pieces of farm equipment, the chimney for the blacksmith's furnace was observed standing within the landowner's lifetime (landowner, personal communication 2015). Artifacts recovered from the surface of the site include one undecorated ironstone mug, thirteen pieces of machine made vessel glass, a clear machine made jar, a clear machine made bottle with an Armstrong Cork Company maker's mark (dated 1938 to 1969), a clear machine made bottle base with an Owens-Illinois Glass Company maker's mark (dated ca. 1929 to 1965) (Whitten 2015), one metal spray can with a plastic pump straw, an



Figure 6. Buttons, freshwater mussel shell, and compact from site 12 Fl 190. (Photo credit: Harrison Funke).



Figure 7. Adze head and grinding wheel fragment from site 12 Fl 190. (Photo credit: Harrison Funke).

aluminum can base, plastic, bricks, coal, and slag (Figure 10). This surface artifact distribution was used to estimate the site size as 32 m x 53 m. Since the site was reported by a reliable informant, its boundaries could be determined based on a surface artifact assemblage, and the site was part of a site complex whose potential eligibility had already been determined by survey of the Renn/Harrington Cabin site, only one shovel probe was excavated to determine whether subsurface deposits were present. This decision to limit excavation of shovel probes at unplowed and undisturbed sites to cases where additional data are needed to determine site eligibility is recommended so as to better preserve those sites for future study. The single shovel probe yielded three wire nails and a plastic container fragment but no evidence of intact midden or features. Datable artifacts are consistent with the early to mid-twentieth century dates obtained from the Renn/Harrington Cabin site.

THE RENN/HARRINGTON MECHANIC SHOP (12 FL 194)

The Renn/Harrington Mechanic Shop also was reported to the survey by the landowner, who described the site as the location of a mechanic shop associated with the Renn/Harrington farm. The site measures approximately 19 m x 19 m in size. This was determined on the basis of the distribution of surface artifacts and the size of the landform where the site



Figure 8. The ruins of the Renn/Harrington Springhouse (12 Fl 191). (Photo credit: Harrison Funke).



Figure 9. Entrance to the Renn Spring Cave (12 Fl 192). (Photo credit: Harrison Funke).

was located. Artifacts recovered from the surface of the site include five fragments of a machine made soda bottle, one clear machine made bottle, a piece of a milk glass vessel, two pieces of blue underglaze transfer-print porcelain bearing a Phoenix motif, and two pieces of undecorated whiteware/ironstone (Figure 10). One shovel probe yielded no artifacts or evidence of intact subsurface deposits. The site's assemblage is consistent with the late nineteenth and twentieth century dates obtained from the Renn/Harrington Cabin site.

DISCUSSION AND CONCLUSION

Archival and laboratory analysis of the Renn/Harrington site complex artifacts were focused on establishing the chain of ownership of the Renn/Harrington property and dating the five identified sites on the basis of their artifactual assemblages. As noted above, the Renn/Harrington property was first purchased by Henry Hollsah in 1841 and had been sold to Joseph Renn by 1859. The Renn/Harrington property has remained in the Renn family since that time. While it is presumed that the Renn/Harrington Cabin site and springhouse date from the mid-nineteenth century, artifacts recovered from the surface of the former date primarily to the twentieth century. It is possible that mid- to late nineteenth century deposits are present at the site but are not included in the surface assemblage due to the use of no-till cultivation techniques in the extant soybean field. The Renn/Harrington Blacksmith and Mechanic Shop sites may date no earlier than the early twentieth century.

Like many of the historic sites identified by the Floyd County Database Enhancement Project (Table 1), the Renn/



Figure 10. Artifacts from the Renn/Harrington blacksmith shop (12 Fl 193) and Renn/Harrington mechanic shop (12 Fl 194) sites. (Photo credit: Harrison Funke).

Harrington site complex sites date to the late nineteenth and early twentieth centuries. While not a popular time period for study, the late nineteenth to early twentieth centuries marked a major period of technological, social, and economic change in the United States that is poorly understood from an archaeological perspective. Currently such sites receive less study or protection. This is unfortunate as earlier does not always mean more important and later does not always mean better understood.

The Renn/Harrington site complex represents a good example of a small, upland farmstead marked by archaeological remains of a farmhouse, spring, and outbuildings. Additional research at the site has the potential to provide significant new information about rural farm life, agricultural land use, consumption patterns, economic trends, access to markets, and the social ramifications of rural to urban migration in the late nineteenth and early twentieth centuries. However, the landowner communicated to the survey that at least portions of the cabin site are scheduled to be developed sometime in the near future. Rapid site loss is common for farmsteads in general and late nineteenth to early twentieth century farmsteads in particular, but the loss need not be complete as these sites could be better sampled and studied should archaeologists see the value in doing so.

REFERENCES CITED

- BADER, ANNE TOBBE, KATHRYN J. MCGRATH, ANNA MAAS, DAVID SCHATZ, AND AL GOODMAN
 2014 Phase 1a and Phase 1c Archaeological Survey of the Loop Island Wetlands, Floyd County, Indiana. *Currents of Change: Journal of the Falls of the Ohio Archaeological Society* 6:1–93.
- BARKSDALE, DAVID, JOHN A. CODY, JR., DAVID CONDRA, JACQUELYN ENGLE, AND LUCILLE OSTER
 1998 *This is Our Community*. Floyd County Historical Society, New Albany, IN.
- BARNHART, JOHN D., AND DOROTHY L. RIKER
 1971 *Indiana to 1816: The Colonial Period*. Indiana Historical Bureau and Indiana Historical Society, Indianapolis.
- COTTOM, C. W.
 1889 Floyd County. In *Biographical and Historical Souvenir for the Counties of Clark, Crawford, Harrison, Floyd, Jefferson, Jennings, Scott and Washington, Indiana*, edited by J. W. C. Gresham, pp. 63–99. Chicago Printing Co., Chicago.
- DEISS, RONALD WILLIAM
 1981 *The Development and Application of a Chronology for American Glass*. Midwestern Archeological Research Center, Illinois State University, New Holland.
- FUGUITT, GLENN V., DAVID L. BROWN, AND CALVIN L. BEALE
 1989 *Rural and Small Town America*. Russell Sage Foundation, New York.
- GARRISON, J. RITCHIE
 1996 Remaking the Barnyard: The Archaeology of Farm Outbuildings in the Connecticut River Valley of Massachusetts, 1770–1870. In *Historical Archaeology and the Study of American Culture*, edited by Lu Ann De Cunzo and Bernard L. Herman, pp. 359–394. Winterthur Museum, Winterthur, DE.
- GATES, WILLIAM C., AND DANA E. ORMEROD
 1982 *The East Liverpool, Ohio, Pottery District: Identification of Manufacturers and Marks*. Braun-Brumfield, Ann Arbor.
- GREER, GEORGEANNA H.
 1999 *American Stonewares: The Art & Craft of Utilitarian Potters*. Third ed. Schiffer Publishing, Ltd., Atglen, PA.
- GROOVER, MARK D.
 2008 *The Archaeology of North American Farmsteads*. University Press of Florida, Gainesville.
- GUMS, BONNIE L., LUCRETIA S. KELLY, AND NEAL H. LOPINOT
 1999 Archaeology at the Whitley Site: An Early Historic Farmstead on the Prairies of Eastern Illinois. Illinois Transportation Archaeological Research Program, *Transportation Archaeological Research Reports* No. 5, University of Illinois at Urbana-Champaign.

- HALL, ROBERT D.
1999 *Geology of Indiana*. 2nd edition. Indiana University-Purdue University at Indianapolis, Indianapolis.
- KOVEL, TERRY
2008 *Who Was Wyllie?* Electronic document, <https://www.kovels.com/mystery-marks/who-was-wyllie.html>, accessed June 2016.
- LEHNER, LOIS
1988 *Lehner's Encyclopedia of U.S. Marks on Pottery, Porcelain & Clay*. Collector Books, Paducah, KY.
- LINDSEY, BILL
2016 *Historic Glass Bottle Identification & Information Website*. Electronic document, <https://sha.org/bottle/>, accessed June 2016.
- LOCKHART, BILL
2006 *The Color Purple: Dating Solarized Amethyst Container Glass*. *Historical Archaeology* 40(2):45–56.
- LORRAIN, DESSAMAE
1968 *An Archaeologist's Guide to Nineteenth Century American Glass*. *Historical Archaeology* 2(1):35–44.
- MAJEWSKI, TERESITA, AND MICHAEL J. O'BRIEN
1987 *The Use and Misuse of Nineteenth-Century English and American Ceramics in Archaeological Analysis*. *Advances in Archaeological Method and Theory* 11:97–209.
- MAZIM, ROBERT
2018 *Return to Sangamo Town: Research-Based Investigations at the Charles Broadwell Home Site, 1825–1845*. *Midcontinental Journal of Archaeology* 43(3):181–213.
- MILLER, GEORGE L., AND CATHERINE SULLIVAN
1984 *Machine-Made Glass Containers and the End of Production for Mouth-Blown Bottles*. *Historical Archaeology* 18(2):83–96.
- MOIR, RANDALL W.
1983 *Windows to Our Past: A Chronological Scheme for the Thickness of Pane Fragments from 1635–1982*. Manuscript on file, Corning Museum of Glass, Corning, New York.
- MOORE, CHRISTOPHER R., AND REBECCA VAN SESSEN
2016 *An Archaeological Survey of Floyd County, Indiana: A Database Enhancement Project*. Material Culture Lab *Technical Report Series* No. 2, Department of Anthropology, University of Indianapolis, Indianapolis, Indiana.
- MURPHY, SUNDEA
2005 *Tour of the Moser Leather Company and Loop Island Wetlands in New Albany, Indiana*. *Currents of Change: Journal of the Falls of the Ohio Archaeological Society* 3(1):83–98.
- NEYHOUSE, STEVEN W., BYRON G. NAGEL, AND DENA L. MARSHALL
2000 *Soil Survey of Floyd County, Indiana*. United States Department of Agriculture, Natural Resources Conservation Service, Washington, D.C.
- O'BEIRNE, P. & CO.
1859 *Map of Floyd County, Indiana*. Electronic document, <http://tile.loc.gov/image-services/iiif/service:gmd:gmd409:g4093:g4093f:la000144/full/pct:12.5/0/default.jpg>, accessed June 2016.
- O'DONOVAN, MARIA, AND LOU ANN WURST
2001 *Living on the Edge: Consumption and Class at the Keith Site*. *Northeast Historical Archaeology* 30–31:73–84.
- RUGGLES, STEVEN
2007 *The Decline of Intergenerational Coresidence in the United States, 1850 to 2000*. *American Sociological Review* 72(6):964–989.

- SOUTH, STANLEY
 1977 *Method and Theory in Historical Archaeology*. Academic Press, Orlando.
- STELLE, LENVILLE J.
 2001 *An Archaeological Guide to Historic Artifacts of the Upper Sangamon Basin, Central Illinois, U.S.A.* Center for Social Research, Parkland College, Champaign, IL.
- STINE, LINDA FRANCE
 1990 Social Inequality and Turn-of-the-Century Farmsteads: Issues of Class, Status, Ethnicity, and Race. *Historical Archaeology* 24(4):37–49.
 1991 Early Twentieth Century Gender Roles: Perceptions from the Farm. In *The Archaeology of Gender*, edited by Dale Walde and Noreen D. Willows, pp. 496–501. Proceedings of the Twenty-Second Annual Conference of the Archaeological Association of the University of Calgary, University of Calgary Archaeological Association, Calgary, Alberta.
- VERST, HENRY
 1938 *Floyd Knobs, Indiana: History of St. Mary Parish and A Story of Floyd Knobs*. Floyd County Printing Company, Inc., New Albany, IN.
- WAECHTER, SHARON A.
 2010 *How Old is 'Old'? Recognizing Historical Sites and Artifacts*. Far Western Anthropological Research Group, Inc., Electronic document, http://www.fire.ca.gov/resource_mgt/archaeology/downloads/Introduction.pdf, accessed June 2016.
- WEILAND, JONATHAN
 2009 A Comparison and Review of Window Glass Analysis Approaches in Historical Archaeology. *Technical Briefs in Historical Archaeology* 4:29–40.
- WETHERBEE, JEAN
 1980 *A Look at White Ironstone*. Wallace-Homestead Book Company, Des Moines, IA.
- WHITTEN, DAVID
 2015 *Glass Bottle Marks: Collecting History of the Glass Manufacturing Industry*. Electronic document, <http://www.glassbottlemarks.com/>, accessed June 2016.

A VILLAGE BUILT OVER A BATTLEFIELD: URBAN ARCHAEOLOGY AND PRESERVATION AT THE BATTLE OF THE WABASH (1791)

CHRISTINE THOMPSON AND KEVIN C. NOLAN
APPLIED ANTHROPOLOGY LABORATORIES
DEPARTMENT OF ANTHROPOLOGY
BALL STATE UNIVERSITY, MUNCIE, IN

The Battle of the Wabash in 1791 and the Battle of Fort Recovery in 1794, at modern-day Fort Recovery, Ohio, were two of the largest engagements of the Northwest Indian War. This war was the result of decades of conflict in what became the Northwest Territory in 1787. The Northwest Indian War was fought between the U.S. military and an American Indian alliance of a dozen or more tribes, with a bit of assistance from the British. Michikinikwa (Little Turtle) of the Miami and Weyapiersenway (Blue Jacket) of the Shawnee were the leaders of this alliance, also known as the Western Confederacy. There were multiple small skirmishes and raids in the late 1780s bringing unrest and renewed conflict to the whole area. In 1790, President Washington ordered General Josiah Harmar to march from Fort Washington, modern-day Cincinnati, Ohio, to Kiihkayonki, modern-day Fort Wayne, Indiana, which was a Miami stronghold and the site of Miami, Shawnee, and Delaware villages. Harmar's campaign was unsuccessful, and he was defeated by the American Indian alliance in every battle. Washington then appointed Major General Arthur St. Clair to lead the U.S. Army and to build a series of forts from Fort Washington to Kiihkayonki (Figure 1).

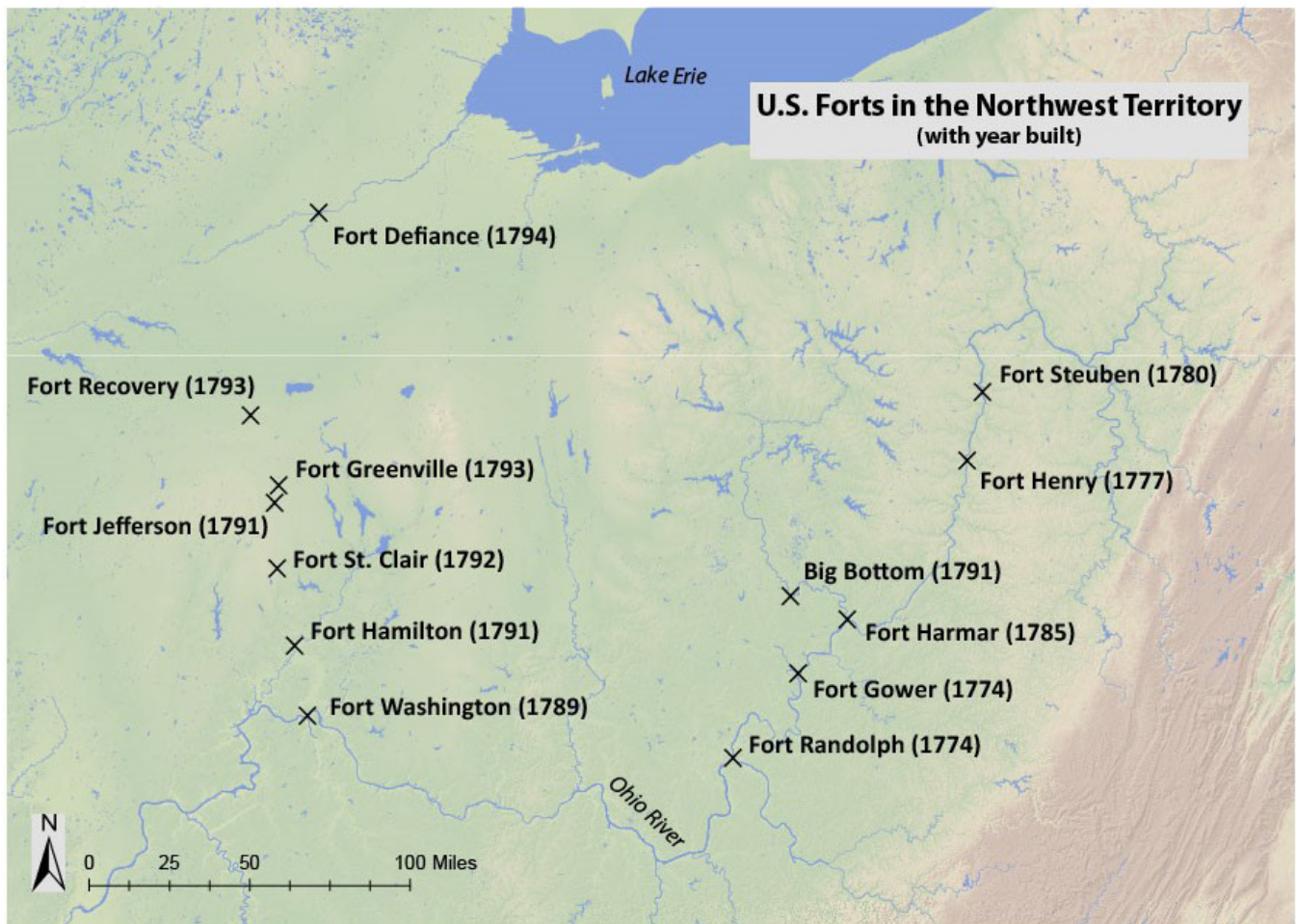


Figure 1. Chain of United States forts in the Northwest Territory (from Keller et al. 2011a:29).

The Battle of the Wabash occurred on November 4, 1791. After the overwhelming American Indian alliance victory in this battle, St. Clair was replaced by Major General Anthony Wayne, who took two years to train his troops and came back to the site of the Battle of the Wabash to build Fort Recovery in December 1793. The Battle of Fort Recovery took place in June 1794, which was a United States victory, followed by Wayne's victory at the Battle of Fallen Timbers. This led directly to the Treaty of Greenville in 1795, a treaty calling for peace and ending the Northwest Indian War. Ohio became a state, officially breaking up the Northwest Territory, only eight years later in 1803 (DeRegnaucourt 1996; St. Clair 1812; Winkler 2011).

On the evening of November 3, 1791, St. Clair's army, moving north from Fort Washington to Kiihkayonki and totaling approximately 1200 soldiers plus civilians, camped on the banks of the Wabash River. They thought they were actually on the St. Mary's River, much closer to Kiihkayonki. They put up no fortifications and scouting reports of Indians in the area were not passed on to St. Clair. The main encampment was just east of the Wabash River with outposts surrounding the east side of camp and the Kentucky Militia across the Wabash River to the northwest. In the previous days, nine tribes of the American Indian alliance (Delaware, Miami, Shawnee, Seneca Cayuga, Wyandots, Cherokees, Ottawa, Ojibwe, and Potawatomi), based on information from their scouts, had traveled southeast from Kiihkayonki, in hunting parties of 20 to 30. On the evening of November 3, over 1,400 warriors assembled on a high ridge northwest of St. Clair's encampment in a crescent formation. This crescent strategy was used successfully before by American Indian tribes in battles, but never with this large of a force and with this many disparate tribes attacking such a large opposing force (DeRegnaucourt 1996; St. Clair 1812; Winkler 2011).



Figure 2. Metal detector surveys at the Battle of the Wabash and Battle of Fort Recovery battlefield site. Artifacts recovered include possible pistol cleaning jag (top left), lead ball (center), and center band from Charleville musket (bottom right). (Photo credits: Applied Anthropology Laboratories, Ball State University).

The timeline and details of the Battle of the Wabash can be extrapolated from contemporary diaries and journals (Denny 1859; Sargent 1924; Van Cleve 1922). At dawn on November 4, the middle of the crescent formation attacked the Kentucky Militia while the rest of the alliance surrounded St. Clair's entire encampment in 15 minutes. The battle lasted less than three hours. What was left of the U.S. Army retreated 20 miles south back to Fort Jefferson (modern-day Fort Jefferson, Ohio). The American Indian alliance totally annihilated the U.S. Army, the most spectacular victory ever of the American Indians over a U.S. force. Approximately 650 soldiers plus nearly all of the camp followers were killed or mortally wounded. Accounts vary, but it appears that only 20–100 American Indians were killed.

Many key features of the battlefield remain intact and exhibit integrity. The old Wabash River channel can still be seen, and the high ridge where the American Indians assembled is intact and gives the same commanding view it would have during the Battle of the Wabash. Since 2010, the Applied Anthropology Laboratories, Department of Anthropology, Ball State University has conducted archaeological and preservation research at the battlefield site. This research has been funded by five National Park Service American Battlefield Protection Program (ABPP) grants, three Ball State University grants, and three Ohio state-funded grants (Keller et al. 2011a; Thompson and Nelson 2016; Thompson et al. 2015, 2016a, 2016b). The bulk of field investigations involved large-scale metal detector surveys. Specific metal detector survey methods were tailored to the area being surveyed, based on land use and artifact density. Agricultural fields were surveyed in 10 m transects (following field rows) with all metal detector hits recovered. Grassy park areas with a much higher density of metal detector hits (mostly modern trash) were surveyed based on 20 m x 20 m grids. A quadrant of each grid was randomly chosen for metal detector survey with 5 m transects within the quadrant. Metal detector hits were flagged by color based on the suspected metal type, and a separate crew dug each metal detector hit based on the specific sampling strategy for that survey area. In 2011, multiple parcels of land were surveyed in the core battlefield area and in 2014, surveys took place in the expanded battlefield area, both recovering battle-era artifacts (Figure 2).

The locations of the artifacts discovered on the landscape, coupled with our historical background research and geographic information system (GIS) data model, led to new findings about the battle strategy and landscape usage during the battle (Keller et al. 2011b; Thompson and Nelson 2016; Thompson et al. 2015). GIS is a type of software application that can store, manipulate, and analyze all types of spatial data. For this project spatial data included historic maps, landscape references included in historical accounts, location of artifacts found in our archaeological surveys and in previous projects, and battlefield topography. GIS allows us to analyze this spatial data in multiple ways. Our GIS data modeling included field of fire calculations of the various armaments used during the battles, positing the least visible path that would have allowed the American Indian alliance to surround St. Clair's army in 15 minutes virtually undetected, analyzing the visibility of the American Indian staging area for St. Clair's main encampment, and conversely, analyzing the visibility of St. Clair's main encampment for the American Indians. Only when all these sources of data and models are combined does the full picture of the competing strategies come into focus. GIS data modeling is particularly useful in illustrating the different concepts of the landscape for each group of combatants and the effects these perspectives had on the outcome of the Battle of the Wabash.

For the ABPP-funded projects we used the ABPP's KOCOA terrain analysis (McMasters 2010) to investigate the battlefield landscape. KOCOA is an acronym for Key and decisive terrain, Observation and field of fire, Cover and concealment, Obstacles, and Avenues of approach and retreat. KOCOA is a structure to frame review of primary sources and categorization of landscape features that were a part of the battle. For example, in the Battle of the Wabash, the high ridge where the American Indian tribes assembled is categorized as observation and field of fire, and the path that the American Indian warriors took to surround St. Clair's troops is an avenue of approach. KOCOA analysis focuses on the role of the landscape and contextualizes the location of artifacts within these key landscape features. A lead ball found in an area of observation and field of fire would have much different meaning than a lead ball found in an avenue of retreat. All of our archaeological data, KOCOA analysis, artifact locations, historical research, etc. were used as part of our GIS data model to analyze the battlefield even further (Keller et al. 2011b; Thompson and Nelson 2016; Thompson et al. 2015).

Figure 3 shows St. Clair's main encampment as the dark blue rectangle surrounded by a semi-circle of outposts to the east, with the Kentucky Militia as the dark blue line northwest across the Wabash River. Areas shaded in gray are not visible by the U.S. Army, while areas in the lighter color are visible to the U.S. troops. The green dot in the northwest is the proposed center of the American Indian alliance crescent formation based on archaeological results and historical background research. Battle-era artifacts recovered included multiple lead shot (spent and unspent), a lead ingot, lead fragments, Charleville musket center band and ramrod guide, a possible bayonet piece, several buckles, and a possible ladle for making lead shot. The red line represents the least visible path that the American Indian alliance in their crescent formation could have taken to totally surround St. Clair's army within 15 minutes (as stated in historical sources) without being detected by the U.S. forces (Keller et al. 2011b; Thompson et al. 2015).

The American Indian alliance used the landscape to their advantage, particularly in terms of visibility. Figure 4 shows visibility for both sets of combatants. The image on the left shows what St. Clair's troops could and could not see from the main encampment. Areas shown in black were not visible to St. Clair's army, while non-black areas were visible. St. Clair's main encampment (shown as the blue rectangle) has virtually no visibility of the American Indian alliance's crescent formation (shown in red) just beyond the high ridge. The image on the right shows what members of the American Indian alliance could see from their crescent formation. Looking down from the high ridge, the members of the American Indian alliance had a perfect view of St. Clair's main encampment. The alliance did not have a view of the Kentucky Militia, camped northwest of the Wabash River from the main encampment, but had sent out scouts and were aware of the militia's location (Keller et al. 2011b; Thompson et al. 2015).

Using maps and images such as these, several important concepts are now emphasized in our public outreach and in Fort Recovery Museum tours and narratives. The first concept is an analogy that deals with the size of the battlefield and the number of people involved. The population of Fort Recovery is now approximately 1,400 people. Visitors are asked to imagine everyone in town camped in tents where the downtown area is. A few people are scattered to the east and a couple hundred are across the old river channel. Now imagine a second set of the town's population assembled on the high ridge to the northwest, shoulder to shoulder. Imagine if people on the end of the crescent couldn't really understand the language of the people on the other end of the crescent. That's how large of an area the battle encompassed. Visitors are asked to think of the logistics that the nine American Indian tribes had to plan for and the skill set that they needed to execute their plan to surround St. Clair's entire encampment. It is so interesting to see modern-day visitors contemplate these ideas while viewing the battlefield landscape. The battlefield is not just the 11 acres (ac) that is currently preserved and protected, and it's not just the 97 ac that encompassed St. Clair's encampment. The battlefield is 787 ac and includes the American Indian crescent formation and avenue of approach (Thompson et al. 2015, 2016a, 2016b).

The second concept emphasized in our public outreach is a comparison of cultures. This territory was home to the nine tribes of the alliance. They lived here, hunted here, and had trails here. The American Indian alliance used the landscape to their advantage before and during the battle, as they used the high ridge for protection and visibility. They saw the landscape as an ally and part of their strategy. On the other hand, the U.S. Army saw the landscape as something to be conquered. Imagine the noise the army made coming north from Fort Jefferson, cutting down trees to get wagons and cannons through the forest. They couldn't have picked a worse spot to camp on November 3 and had no plan to defend

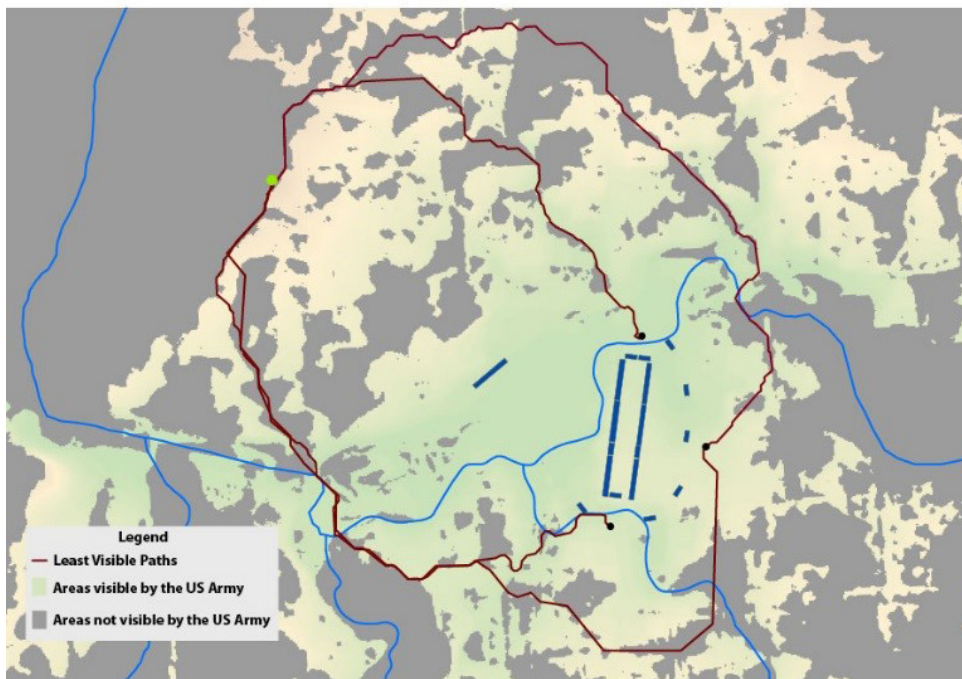


Figure 3. St. Clair's main encampment, outposts, and the Kentucky Militia shown in dark blue. The Wabash River and its tributaries shown in light blue. The possible American Indian alliance's least visible path shown in red. Areas shaded in gray are not visible by St. Clair's army, while areas in the lighter color are visible to the U.S. troops (from Keller et al. 2011a:Figure 76).

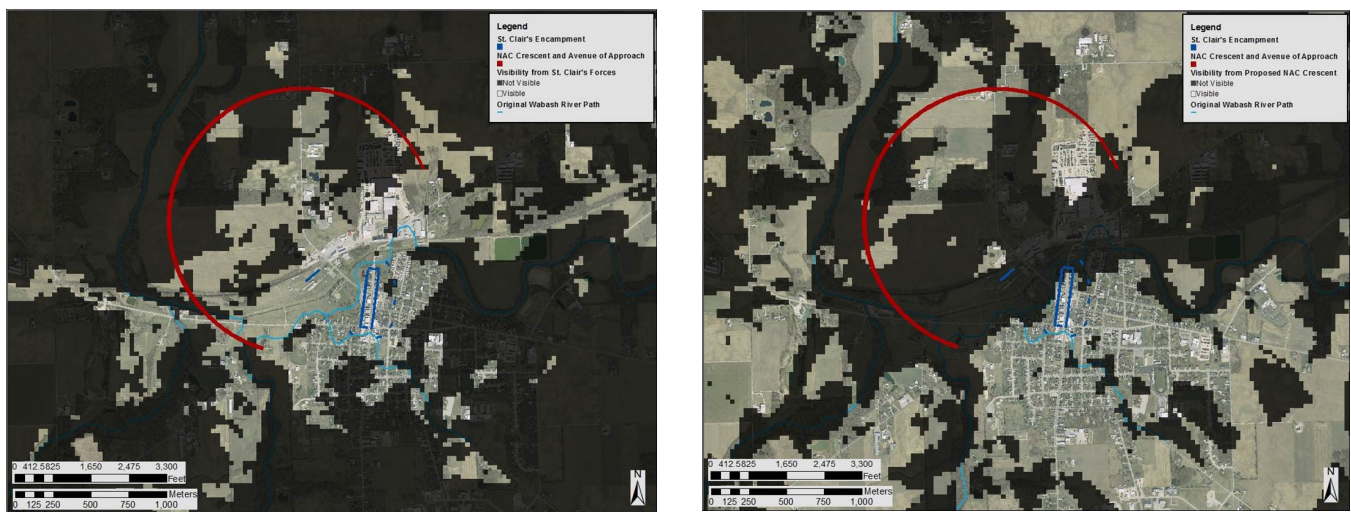


Figure 4. The image on the left shows the visibility afforded from St. Clair's main encampment (blue rectangle). The vast majority of the American Indian alliance's crescent formation (in red) was not visible to St. Clair's troops. The image on the right shows how St. Clair's main encampment was in clear view to the American Indians tribes from their crescent formation (from Thompson et al. 2016b:27-28).

their camp if necessary. The landscape was a hindrance to them before and during the battle, and certainly was not a part of their strategy.

So how does all of this help preserve the battlefield? The more information that is disseminated, the more community members, visitors, and other interested stakeholders care and get involved in the preservation of the battlefield. It's hard to preserve and protect something that is not fully understood. In our seven years of research, we have talked to hundreds and hundreds of people in dozens of different learning environments and have evolved into telling the story of the battle and the landscape with a series of maps and images based on our research that appear in printed and digital form, in our posters, and in our presentations (Figure 5).

People are starting to refer to the site as a battlefield. This may seem like a simple word choice, but it is a huge paradigm shift, as visitors and community members are seeing the site very differently. Armed with information provided by both our research and by the ongoing outreach being done by the Fort Recovery Museum, visitors and community members are coming to the conclusion that the American Indian victory at the Battle of the Wabash wasn't an accident or really even a surprise. It was the result of well thoughtout and deliberate strategy. It was not only because the U.S. Army had neglected in multiple ways to secure a defensive position, did not put up fortifications, and ignored information from scouts. The American Indians' victory was because they knew how to use the landscape to their advantage and when they saw that St. Clair had located his camp in a position to be greatly hindered by the landscape, they knew they had their opportunity.

Another very tangible outcome of this research is helping the village of Fort Recovery with preservation planning issues. Nearly half of the battlefield lies within the village corporation limits. It's a challenge and an opportunity to have a village built over a battlefield. Our research results are helping the community plan this coexistence for future years and future generations to come.

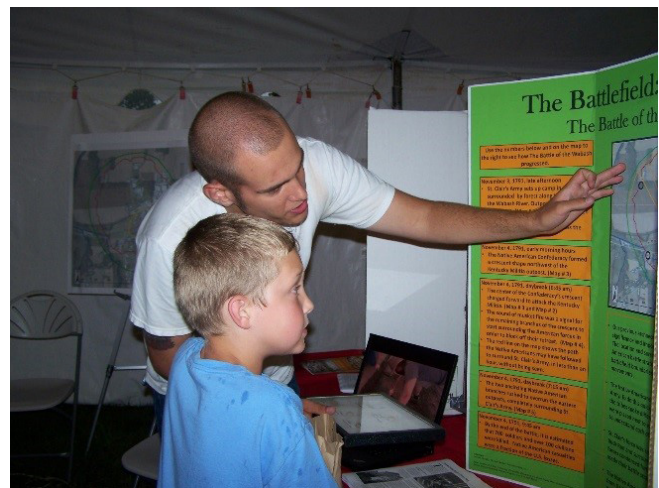


Figure 5. Ball State University student Nick Nelson with Fort Recovery 4th grader Isaac LeFevre at a local public outreach event. Maps showing the results of KOCO analysis and GIS data modeling are used in all public outreach activities. (Photo credit: Applied Anthropology Laboratories, Ball State University).

REFERENCES CITED

- DENNY, EBENEZER
1859 *Military Journal of Major Ebenezer Denny*. J. B. Lippincott and Co., Philadelphia, Pennsylvania.
- DEREGNAUCOURT, TONY
1996 *The Archaeology of Fort Recovery, Ohio: St. Clair's Defeat, November 4, 1791, and Wayne's Victory, June 30 and July 1, 1794*. Upper Miami Valley Archaeological Research Museum, Arcanum, Ohio.
- KELLER, CHRISTINE, COLLEEN BOYD, MARK GROOVER, AND MARK HILL
2011A *Archeology of the Battles of Fort Recovery, Ohio: Education and Protection (GA-2255-10-02), Volumes 1 and 2*. Applied Anthropology Laboratories, Department of Anthropology, Ball State University, Muncie, Indiana.
- KELLER, CHRISTINE, MARK A. HILL, DEB HOLLON, AND JESSIE MOORE
2011B Chapter IV. Battle of the Wabash: Field Methods, Results, and Analysis in *Archeology of the Battles of Fort Recovery, Ohio: Education and Protection (GA-2255-10-02), Volume 1*. Applied Anthropology Laboratories, Department of Anthropology, Ball State University, Muncie, Indiana.
- MCMASTERS, KRISTEN
2010 *Using KOCOA for a Better Understanding of the Battlefield Landscape*. American Battlefield Protection Program, National Park Service, Washington, D.C.
- ST. CLAIR, ARTHUR
1812 *A Narrative of the Campaign Against the Indians*. Jane Aitken, Philadelphia.
- SARGENT, WINTHROP
1924 Winthrop Sargent's Diary While With General Arthur St. Clair's Expedition Against the Indians. *Ohio Archaeological and Historical Quarterly* 33:253–173.
- THOMPSON, CHRISTINE, AND NICK NELSON
2016 *The Battles of Fort Recovery, Mercer County, Ohio: Technical Battlefield Report (GA-2255-12-001)*. Applied Anthropology Laboratories, Ball State University, Muncie, Indiana.
- THOMPSON, CHRISTINE, NICK NELSON, AND SHELBI LONG
2016A *Preservation Plan for the Battles of Fort Recovery, Mercer County, Ohio: Planning for the Future (GA-2287-13-001)*. Applied Anthropology Laboratories, Ball State University, Muncie, Indiana.
- THOMPSON, CHRISTINE, ERIN A. STEINWACHS, AND KEVIN C. NOLAN
2016B *The Battle of the Wabash and the Battle of Fort Recovery: Mapping the Battlefield Landscape and Present Day Fort Recovery, Ohio (GA-2255-12-001, GA-2287-13-001, GA-2287-13-002)*. Applied Anthropology Laboratories, Ball State University, Muncie, Indiana.
- THOMPSON, CHRISTINE K., KEVIN C. NOLAN, AND ERIN I. DONOVAN
2015 *Archeology of the Battles of Fort Recovery, Mercer County, Ohio: A Deeper Understanding (GA-2287-13-002)*. Applied Anthropology Laboratories, Ball State University, Muncie, Indiana.
- VAN CLEVE, BENJAMIN
1922 *Memoirs of Benjamin Van Cleve*. Quarterly Publication of the Philosophical and Historical Society of Ohio, Vol 17. Cincinnati, Ohio.
- WINKLER, JOHN F.
2011 *Wabash 1791, St. Clair's Defeat*. Osprey Publishing, Oxford, U.K.

GLOSSARY OF ARCHAEOLOGICAL TERMS

A-HORIZON SOIL

The upper layer of soil, nearest the surface.

ANTHROPOLOGY

The study of humankind, with particular emphasis on its cultural and biological adaptations.

ARCHAEOLOGY

The anthropological study of past lifeways, cultures, and cultural processes through the investigation of material remains left behind by humans.

ARTIFACT

Any portable object made, used, and/or modified by humans. Or, more generally, any evidence of human behavior. Common prehistoric artifacts found archaeologically include spear points, arrowheads, knives, chipped or broken stone debris, ground stone axes, grinding stones, mortars and pestles, awls, adzes, gouges, pottery, clothing and ornamental pins, decorative items and ornaments, scraping tools, hammerstones, bone fishhooks, stone perforators, and beads.

ASSOCIATIONS

The relationships of artifacts and features at a site, based on provenience and context.

ATLATL

A spearthrower.

AVOCATIONAL ARCHAEOLOGIST

A person who participates in archaeology but does not practice it as a profession. Avocational archaeologists may volunteer to work with qualified professional archaeologists, and many take courses and gain substantial experience in archaeological methods and techniques. Others may be involved in archaeology as a hobby. Generally, avocational archaeologists subscribe to a preservation ethic to protect archaeological resources and to responsibly and legally preserve and study information from sites.

B.P.

Before present. By professional agreement present was established to be A.D. 1950 based on radiocarbon dating. For example, 1000 B.P. means 1000 years before A.D. 1950, or A.D. 950.

CELT

An ungrooved axe. Celts may be made of pecked and ground stone, or hammered copper. It is thought that celts appeared in Late Archaic times, and they continue to occur through later prehistory.

CERAMICS

Pottery vessels or potsherds.

CHERT

Stone of microscopic or small quartz particles used for the making of stone tools. Some types of chert include flint, agate, and jasper.

CHIEFDOM

A non-egalitarian hierarchial social organization with a fixed and permanent role for a chief/leader.

COLLARED

A thickened area present below the rim and above the neck on a clay pottery vessel.

COMPLICATED STAMPED

Decorations of curvilinear or rectilinear design paddle stamped into a clay vessel.

CONTEXT

The position of an artifact or feature in its soil matrix, horizontal, and vertical location, and its relationship with other artifacts and features, related to the behavioral activities which placed it there.

CORD-IMPRESSED

Impression into a clay vessel surface before firing by a stick wrapped with cord, or cord on the edge of a paddle.

CORDMARKED

Cordage impressions on a pottery vessel as a result of stamping with a cord-wrapped paddle.

CORE

A stone which exhibits one or more flake scars, showing that it has been used as a raw material for flintknapping.

CRM

Cultural resource management. The protection, preservation, and recovery of information from archaeological sites, under federal and state laws. Universities and private archaeological companies often are hired to conduct CRM archaeology mandated under federal or state statutes.

CULTURE

A system of shared, learned, symbolic human behavior for adaptation to our natural and social environment. Culture may be thought of as a system composed of interrelated parts or subsystems, where a change in one part affects or influences the other parts. Subsystems interrelated with culture include technology, communication (and language), biological and physical characteristics, psychology, economics, social and political organization, beliefs and values, subsistence, settlement, environment, etc.

EXCAVATION

The systematic recovery of archaeological deposits through the removal and screening of soil. These can be either test excavations (termed Phase II in CRM investigations) or large-scale excavations (termed Phase III in CRM investigations).

FABRIC-IMPRESSED

Impressions of woven fabric in the surface of a pottery vessel.

FEATURE

Non-portable evidence of past human behavior, activity, and technology found on or in the ground. Prehistoric features commonly include fire pits and hearths, burned earth and clay, trash and garbage pits, post molds, evidence of house floors or basins, storage pits, clusters of artifacts (e.g., chipped and broken stones, caches of projectile points, ceramics or pottery sherds), human and animal burials, clusters of animal bone, earthworks (such as mounds and circular enclosures), petroglyphs and pictographs, and middens.

FLAKE

A by-product of flintknapping, toolmaking, use, or other human activities, resulting in a fragment of stone detached from a parent stone. Often, a flake has evidence of purposeful removal, including a bulb of percussion, ripple marks, a striking platform, etc.

GORGET

Decorative object worn on the chest.

GROG-TEMPERED

Ceramics tempered with fragments of crushed pottery.

LITHICS

Stones used or modified for human activities such as the manufacture of prehistoric tools, cooking, hunting, etc.

MICROTOOLS

Small tools, predominately of stone, manufactured and used to perform certain tasks.

MIDDEN

Cultural refuse or deposits built up at a site.

MULTICOMPONENT

An archaeological site with occupations from more than one culture or time period.

PETROGLYPHS

Naturalistic or symbolic representations or depictions carved into stone.

PICTOGRAPHS

Pictures or drawings painted on rocks, cave walls, stone outcrops, or rockshelters.

PREHISTORY

Human activities, events, and occupations before written records. In North America, this primarily includes Native American prehistoric cultures, but does not imply that these cultures did not have long, rich, and varied cultural and oral histories and traditions.

PROTOHISTORY

Protohistoric cultures can be defined as those prehistoric groups developing or continuing directly into early recorded history, some associated with early historic artifacts.

PROVENIENCE

The horizontal and vertical location of an artifact at a site.

RED OCHRE

Late Archaic-Early Woodland culture with burial practices, usually in mounds, involving the use or placement of red ochre (a red hematite pigment).

SHELL-TEMPERED

Ceramics (pottery) tempered with fragments of crushed shell.

SITE

The presence or occurrence of one or more artifacts or features indicates an archaeological site. An archaeological site is an instance of past human behavior or activity, where humans conducted some activity and left evidence of it behind, on or in the ground. Some common prehistoric site types include artifact caches, villages and camps, cemeteries, burials, workshops (e.g., stone debris from flintknapping activities), quarries, and earthworks (mounds, embankments, enclosures, fortifications, etc.).

STRATIGRAPHY

Horizons, strata, or layers of soil deposited at a location, where the deepest strata were deposited the earliest, and the more recent layers deposited higher in the stratigraphic sequence.

SURVEY

The systematic discovery, recovery, and recording of archaeological information such as site locations, artifacts, and features by visually inspecting the surface of the ground if the soil is visible. Or, the use of shovel probes, cores, and/or augers near the surface, if surface visibility is restricted or poor. Termed Phase I in CRM investigations.

TEST EXCAVATION

Systematic excavation of a representative portion or percentage of a site to evaluate and determine its nature and extent, what information is present, whether there are intact or in situ deposits present, and the degree of disturbance to the site, often to determine whether it is eligible for the National Register of Historic Places. Termed Phase II in CRM.

WYANDOTTE

A type of dark blue-gray chert found in southern Indiana.

FOR THOSE WITH ACCESS TO THE INTERNET, THE FOLLOWING SITES ALSO PROVIDE OPPORTUNITIES TO ACCESS DEFINITIONS AND ADDITIONAL INFORMATION REGARDING ARCHAEOLOGICAL TERMS AND CONCEPTS:

<http://www.archaeological.org/education/glossary>

<http://archaeology.about.com/od/rterms/g/radiocarbon.htm>

PREHISTORIC INDIANS OF INDIANA

Note—The word prehistory is a technical term used by archaeologists to indicate information about cultures before written records were kept—in North America at first by Europeans and people of Old World descent—in that area. It does not imply by any means the cultures described did not have long, rich, and varied cultural and oral histories and traditions. All of the cultures certainly did.

PALEOINDIANS:

Paleoindians are the first known people who lived in the Americas, including Indiana. They lived here during the last stages of the last glacial advance, or ice age, and the early part of a changing environment and climate as the glaciers retreated. These people occupied the area now known as Indiana some 12,000 years ago, and lasted until about 10,000 years ago.

These early peoples probably lived in small groups of related individuals who moved around a lot, hunting large game animals, including some now extinct, such as the Mastodon, a large elephant-like creature. They also relied upon the gathering of wild plants to eat for their survival. Their population was very low.

The Paleoindians had very well-made stone tools, made out of a type of stone archaeologists call chert, which is a fine-grained rock that breaks a little like glass when hit by hard materials like another rock or a piece of deer antler. The tools they made by chipping, flintknapping, and flaking included long spearpoints, cutting and scraping implements, and engraving items. Some of their spear and piercing tools are called Clovis, Gainey, Barnes, Cumberland, Holcombe, Quad, Plainview, Hi-Lo, and Agate Basin points.

Evidence of these peoples is often found in Indiana on land near water sources like major rivers and springs, and where chert is found. Little is known about the Paleoindians since they moved around a lot and did not occupy any one place for a very long time. Therefore, they did not leave behind much evidence of their lives in any one place.

ARCHAIC INDIANS:

American Indians known as the Archaic peoples lived here for a long time: some 6–7,000 years. Although these people did change over time, increasing in population and using new tool types and food preparation techniques, they did share certain general characteristics. These included new types of spear points and knives, with various types of notches and stems for hafting to wooden handles and shafts. Some of the projectile point types of the Archaic Period are called Kirk, Thebes, MacCorkle, LeCroy, Faulkner, Godar, Karnak, Matanzas, Brewerton, Riverton, and Terminal Archaic Barbed points.

They also used ground stone tools such as stone axes, woodworking tools, and grinding stones. The grinding stones were used to pound, crush, and grind wild nuts, berries, seeds, and other plant foods. They were hunters and gatherers of wild plants and animals, and moved around in their natural environments by season, often scheduling their movements to coincide with the appearance of foods like nuts, fish, deer, and wild seeds. Over time, they became very selective in what kind of resource they were pursuing.

During the Archaic Period, the spearthrower was used. This consisted of a shaft with a handle, weighted for balance with a ground and smoothed stone, and a hook on the end. A spear was fitted onto the hook, and was thrown with the spearthrower shaft.

Towards the end of the Archaic, more evidence of mortuary activities is found, including human burials with a red pigment coloring remains or grave goods. Burial mounds appear. During the Archaic, the cultures became more different from one another, and more types of artifacts were used. Their settlements became more permanent. One type of settlement was along large rivers, where they discarded large amounts of mussel shells. These sites are called shell middens or “mounds,” although they are not really constructed, burial mounds. The general Archaic period ended at about 1,500 B.C., although some Terminal Archaic peoples lived until 700 B.C.

WOODLAND PEOPLES:

During the Woodland Period, a number of new cultural characteristics appear. A notable event was the appearance and use of ceramics and pottery vessels. Another significant occurrence was the use and increase of horticulture. A remarkable feature of some Woodland sites is earthen mounds and earthworks, such as embankments. The Woodland peoples persisted for over 1,500 years in Indiana.

During the early portion of the Woodland Period, the pottery was thick and heavy. One early Woodland culture called the Adena people had elaborate mortuary rituals, including log tombs beneath earthen mounds. Projectile points during this time included Adena, Kramer, Dickson, and Gary Contracting Stemmed types.

A little later in time, in the Middle Woodland, there were also elaborate burial rituals, but also long-range trade of exotic

goods like mica, marine shells, copper, obsidian, copper axes, drilled wolf and bear teeth, and other goods from region to region throughout the Eastern Woodlands area of North America. Some of these groups were called Hopewell peoples. Their ceramics had all kinds of incised and stamped decorations. During this time, the Woodland Indians were likely organized into groups we might recognize as what we today call tribes. Projectile points from the Middle Woodland include Snyders, Lowe Flared Base, Steuben, Chesser, and Baker's Creek.

The latter part of the Woodland Period is called Late Woodland. In Late Woodland, two important events occur. One is the first appearance of agriculture; that is, intensive cultivation and modification of crops such as corn and squash. Another important occurrence is the appearance of the bow and arrow. Prior to this time, most of the chipped stone tools were either spearheads, knives, engraving tools, or scrapers. In Late Woodland, however, small, triangular points occur which are true arrowheads. One type of these arrowheads is called Madison. Other point types are termed Jack's Reef Pentagonal and Raccoon Notched. Settlement during the Late Woodland time changed from the earlier more permanent and nucleated villages to a pattern of smaller sites dispersed more over the landscape. In some regions of the state, Woodland groups may have persisted almost until historic times, although in general, the Woodland Period ends at A.D. 1,000.

MISSISSIPPIAN PERIOD:

Mississippian peoples lived in Indiana in some cases almost until contact with Early European explorers, missionaries, soldiers, and traders. They lived from about A.D. 1,000 until possibly as late as A.D. 1650. A noticeable change during this period is the nucleation of some peoples into large settlements akin to "towns," such as at the Angel Mounds site near Evansville, Indiana. These towns had large public areas such as plazas and platform mounds—like truncated or flat-topped pyramids—where influential or important public individuals lived or conducted rituals. Thus, there was social stratification and ranking of individuals in Mississippian societies. There were probably chiefs and religious leaders. The towns were supported by the harvesting of large agricultural fields growing corn, beans, and squash. People living in sites such as these are termed Middle Mississippian.

Notable artifacts indicating Mississippian settlements include large, chipped stone hoes, and pottery bowls and jars tempered with crushed shell. Straps, loops, and handles for these containers characterize this time period as well. Stone tools include point types known as Madison, Nodena, and Cahokia, and other implements such as mortars, pestles, pendants, beads, anvils, abraders, and other items.

Another less elaborate type of Mississippian society called Upper Mississippian was present in the state, with people living in hamlets and villages. Many of these people lived in northern and southeastern Indiana. They also grew and harvested maize, beans, and squash. One group to the southeast was called Fort Ancient, and lots of shell-tempered vessels with straps are found at these sites. In northern Indiana, incised shell-tempered pottery fragments are found on Upper Mississippian sites that are often located near the beds or former beds of lakes.