

The Bulletin of the Archaeological Society of Delaware



**Number Forty-Eight,
New Series**

2011



On the Cover: Background—Section of John Smith's Map from his 1608 exploration (Griffith); Upper Left— Meadowood Projectile Points found in Salem County, New Jersey (Liebeknect); Lower Right—Pegged joint found in outbuilding framework at the Burnham House Site (Calhoun, Barile and Peckler)

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P.O. Box 1968
Dover, Delaware 19903
www.delawarearchaeology.org**

ISSN: 0003-8067

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The Bulletin of the Archaeological Society of Delaware (ISSN 0003-8067) is issued by the
Archaeological Society of Delaware

The Archaeological Society of Delaware's mission is to educate both our members and the public about archaeology, support professional archaeological investigations, report on activity within Delaware and the surrounding region, and to promote interest and participation in archaeology and related activities.

For information on membership, please write to us at:
P.O. Box 1968, Dover, Delaware 19903

Additional details on the organization can also be found on our website, www.delawarearchaeology.org

NOTES FROM THE PRESIDENT

Archaeology is the study of human activity over time. Ultimately, this means all activity, everywhere, through time. In our region, we can study a people struggling to find food in a wetland with stone tools, the workers who pioneered the manufacture of Nylon, to the expression of the divine in a cathedral. We can glimpse how our ancestors endured hardship and pain, which leads us to comprehend our own capacity to do so.

The deeper we go, the more we discover the past was not as simple as we believed. There was never truly a “golden age,” nor was there a pitiless dark age. We can go beyond our simplistic modern stereotypes that originate in Hollywood and find the people of the past were as complex and imaginative as we are today.

We are children of the Renaissance. In excavations, we employ a three axis grid system that was developed by Renee Descartes in order to organize and interpret what we see. Our endeavors are multidisciplinary by nature as we study history, art history architecture, geology, biology, and other natural sciences. Yet, we must be down-to-earth and practical. We travel to Lowes to purchase the tools of builders for our careful excavations. Is there an activity or discipline that is more varied than archaeology? Perhaps, but there are few other activities where you can work your body and mind at the same time.

As with other heritage organizations, we are in danger of “graying out.” We have lost some vital leadership and support with the passing of Ron Thomas and Ned Heite. Over the past several decades, some have observed the decline of service and volunteer groups. There are many reasons for this, as family time commitments and financial needs compete for our attention. But, archaeology can be the solution for these needs, not the victim. Ever since the Great Depression when fathers and sons collected arrowheads together, archaeology has been a family oriented activity. With our low annual dues, anyone can afford to join, and participate in intellectual and/or physical activities. It is the one activity that all can participate and benefit in.

The Board of the Society has begun to grapple with this challenge. Almost 10 years ago we started to train new members in the basics of excavation and lab work. The Roosevelt Inlet Project materialized and a number of our membership was able to participate and gain further training. Later, we began the Avery’s Rest project, which became a wonderful long-term project that has engaged many visitors along with the Sussex Chapter for a number of years now. This all volunteer effort grew from the strong personal commitments of Peter Bon, and now, Dan Griffith. In partnership with the Division of Historical and Cultural Affairs, we developed an impressive exhibit, and followed up with a colorful artifact catalog. In time, we will produce a more serious publication that presents our findings to the world.

The rebirth of our *Bulletin*, due to the efforts of our editor David Clarke, has re-established the Society as a viable and growing organization to the outside community of scholars. I

hear comments about it at regional conferences. Our membership has picked up from out of-state-people and academic libraries.

Now is the time to accept new challenges.

The success of information access of the digital age has buried the journals published in the last century. Modern students tend to perform “mouse searches” and rarely dive into the dusty stacks of a research library. In order to keep our memory alive, we must digitize the ASD bulletin, and make the past 80 years of research available to all.

We need to grow. The Society should get involved with the education of our future generations. Many of our youth (and adults) are engaged in a fantasy world, and not a real one. Sadly, many are more familiar with the geography of *Middle Earth* than of the *Middle Atlantic!* As we no longer have an archaeology museum that was regularly visited by school children, we must find alternate ways to integrate archaeology into the education system. As other societies are succeeding with this around the country, we can too, in Delaware.

What do you think? Will you join us in a new venture?

Craig Lukezic

April 2014

CAPTAIN JOHN SMITH CHESAPEAKE, AMERICAN INDIANS AND THE INDIGENOUS LANDSCAPE OF THE UPPER NANTICOKE RIVER, DELAWARE

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INTRODUCTION

The upper Nanticoke River watershed in Delaware is significantly associated with the voyages of exploration of Captain John Smith and the Indian people of the watershed and is illustrative of the seventeenth-century natural environment of the Chesapeake Bay. This examination is an outgrowth of a study commissioned by the Friends of the John Smith Trail (the Friends) in support of the inclusion of additional trail segments to the National Park Service's (NPS) Captain John Smith Chesapeake National Historic Trail (the Trail). The research was undertaken to answer three specific research questions regarding Captain John Smith's voyages on the Nanticoke River and the American Indian communities that lived there in June 1608. In 2012, the Secretary of the Interior, Ken Salazar, approved the designation of the Trails extension into Delaware to the geographic limits recommended in this report (<http://www.nps.gov/cajo/index.htm>).

STUDY AREA AND SCOPE OF EVALUATION

The study area is the Nanticoke River watershed in Delaware. The watershed is located in the western half of Sussex County and southwestern portion of Kent County and covers 316,371 acres (128 030.8 ha). Eighty-five percent of the Nanticoke River watershed in Delaware lies within Sussex County (Natural Resource Conservation Service [NRCS] 2009), and it drains approximately one-third of the state (Figure 1). The Nanticoke River watershed in Delaware is part of the Atlantic Coastal Plain, the surface of which consists of unconsolidated Pleistocene and Holocene sediments. Well-drained soils border the Nanticoke River channel and its major tributaries eastward and northeastward from the Maryland state line to several miles east of the present-day towns of Laurel and Seaford. Upstream from these zones, the upper Nanticoke River watershed enters the area of the peninsular drainage divide between the Chesapeake Bay and Atlantic Coast drainages. Historically, well-drained soils are spotty and discontinuous in the peninsular drainage divide where the majority of the soils are moderately to poorly drained (United States Department of Agriculture [USDA]-NRCS 1974:2). The historic vegetative communities

and associated faunal communities reflect the gradual transition upstream to moist, freshwater environments, which varied seasonally in the degree of standing water and moisture availability (USDA-NRCS 1974). Beyond the eastern and northeastern fringes of the watershed, drainage systems flow to the Atlantic Coast towards increasingly saltwater environments.

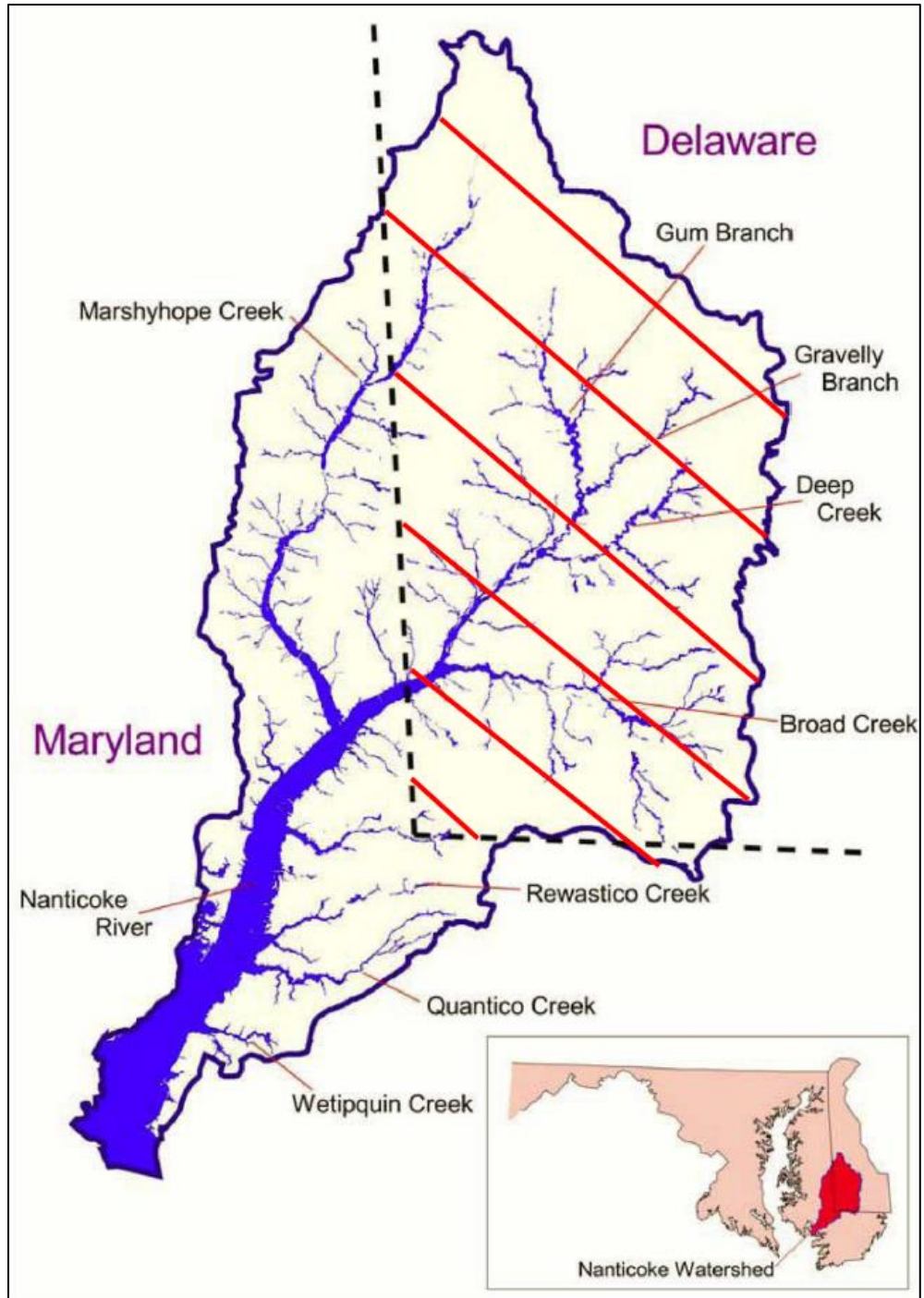


Figure 1: Nanticoke River Watershed Study Area in Delaware Cross-Hatched in Red (Adapted from Hadley 2003).

Expanding from the findings of the study completed for the Friends, this examination explores both the relationship of the Delaware portion of the watershed to the voyages of Captain John Smith and the cultural landscape of seventeenth century Indians in the watershed (Chesapeake Conservancy nd). Further evaluation of whether segments of the upper Nanticoke River watershed are closely illustrative of the natural history of the seventeenth century Chesapeake Bay watershed is provided. This evaluation is confined to the main channel of the Nanticoke River, Deep Creek, and Broad Creek. While short segments of river channels above the towns of Seaford and Laurel exhibit landforms and vegetative communities that resemble the seventeenth century natural environment, their distribution is discontinuous and modified to greater or lesser degrees by historic and modern land use. Examining whether and how the study area reflects the seventeenth century natural environment supports potential experiential tourism opportunities associated with the Trail in addition to potential conservation measures. It also informs important questions about long-term environmental and cultural history in addition to overall landscape and archaeological site preservation.

METHODOLOGY

Primary and secondary sources informed this research and included historic documents, oral interviews, and existing archaeological data. Primary written sources informed questions regarding voyages of John Smith and the Indian occupation of the landscape. Sources included the writings of Captain John Smith and his contemporaries, proceeding of the Council of Maryland and Somerset County located in the Archives of Maryland, relevant land warrants and patents, court proceedings, and council proceedings. Interviews were conducted with members of the Nanticoke Indian Tribe in Delaware at their museum in Millsboro. In addition, during a kayak trip on the lower Nanticoke and Broad Creek rivers, we examined the natural environment and photographed key archaeological sites from the rivers.

The time period studied is known to archaeologists of the Middle Atlantic as the Terminal Late Woodland/Contact Period or Proto-Historic/Contact Period. This period spans the date ranges from 1500 AD to 1700 AD in this study, though various authors adjust the end date. The date was determined by reference to temporally diagnostic artifacts from sites in the watershed and from primary document research. Primary archaeological research was conducted at the State of Delaware, Division of Historical and Cultural Affairs archaeological collections repository in Dover. Thirty-seven well-provenienced artifact collections from the Nanticoke River watershed in Delaware were examined with data on location and artifact type recorded for those sites containing artifacts from the Terminal Late Woodland Period/Contact Period and the seventeenth century. The collections examined were a combination of surface collections and excavated materials. As with all archaeological research, sampling and missing data impacts findings. The historic and modern development of the towns of Bethel, Laurel and Seaford likely impacted a number of sites creating gaps in the data.

Secondary sources for all research topics were examined, focusing on more recent interpretations of the voyages of Captain John Smith (Haile 2008, nd; Rountree et al. 2007),

the Indian cultures of the Middle Atlantic coastal plain (Busby 2010; Dent 1995; Feest 1978; Hutchinson 1961; Porter 1977; Potter 1994; Rountree and Davidson 1999; Rountree and Turner 2002), and the natural environment (Dent 1995; NRCS 2009; United States Geological Survey [USGS] 2009; Williams 2008).

THE UPPER NANTICOKE RIVER IN DELAWARE AND THE NATURAL HISTORY OF THE SEVENTEENTH CENTURY CHESAPEAKE BAY WATERSHED

The degree to which the study area is illustrative of the natural history of the seventeenth century is a matter of scale of comparison and detail. Overall, the Nanticoke River watershed is considered one of the most productive in the Chesapeake Bay drainage maintaining ecological diversity including historic landscape features in addition to plant and animal communities (The Nature Conservancy [TNC] 2013). At a macro-scale, the fringing aquatic communities and bordering vegetative communities on the lower reaches of the Nanticoke River and Broad Creek are similar to seventeenth century patterns. In this area the Nanticoke River is considered one of the most pristine in the Chesapeake Bay watershed (Maryland Department of Natural Resources [MDNR] 2000; Nanticoke Watershed Alliance [NWA] 2013). Travelling upstream from the Maryland state line, modern visual intrusions and landscape modifications are not significant until one reaches Butler Mill Branch on the Nanticoke River and Bethel on Broad Creek. Upstream from those points, evidence of historic and modern landscape changes to the character of the natural vegetation and landforms are increasingly evident (Delaware Department of Natural Resources and Environmental Control [DNREC] 2013). These changes continue up to, through, and east of, the towns of Laurel and Seaford. Upstream of those areas, discontinuous segments of Broad Creek, Deep Creek and the Nanticoke River main channel exhibit vegetative communities and landforms only moderately modified by historic and modern land use.

At a micro-scale, the emergent and fringing vegetative communities are likely different than those observed at the same location by Captain John Smith in 1608 due to cultural and natural processes of an evolving ecosystem. Two major factors have caused a complex range of changes over the last 400 years. Historic and modern land clearing for settlement and agriculture has increased water runoff, erosion, and sedimentation creating inter-tidal sand and silt bars and shoals, filling of the floodplains of tributaries, and suppressing salt water intrusion upstream on the Nanticoke River. The increased run-off and erosion was likely most severe during the first century of forest clearing by the colonists or roughly between the 1670s and 1770s. Historic and modern land clearing and re-vegetation through succession on the uplands adjacent to the river channels has affected the mix of plant species and introduced non-native plants in both the riverine and upland environments. Some significant native tree species, like chestnut, have been lost, while other tree species, like pines, are over-represented, as they are early succession species that in more mature forests of the study area are generally overcome by oaks and hickory (Dent 1995:91). This phenomenon has been documented at the Delaware Nanticoke Wildlife Area at Phillips Landing (Gano 1991, citing Ireland and Matthews 1974).

Since 1608, the relative sea level in the Chesapeake Bay watershed has risen between 2 feet (0.6 m) and 4.5 feet (1.4 m) (Rountree et al. 2007:5), a trend that would encourage salt water

intrusion farther up the Nanticoke River affecting the kind and distribution of both aquatic and fringing plant and animal communities. In addition, in downstream locations, the rising sea level over the past 400 years created broader tidal marsh areas as the sea level transgressed over low profile areas of the Pleistocene/Holocene uplands. The current rate of sea level rise at the mouth of the Chesapeake Bay is about 0.15 inches (4 mm) per year (about 1.3 feet [0.4 m] per century), while near the mouth of the Nanticoke River, sea level has risen since 1937 at the rate of 0.1 inches (3 mm) per year (about 1 foot [0.3 m] per century). Areas described as marsh in colonial times have given way to shallow creeks while dead trees further upstream characterize areas recently submerged (USGS 2009). The rising sea level causes the base level of the river system to change. For the Eastern Shore river systems, the rivers meander changed as base level changed producing broader meanders due to lower energy in the river systems (Schumm 1993:280). The rising sea level would also cause erosion of the headlands in areas where the main channel of the Nanticoke River and its major tributaries were adjacent to uplands, thus adding to the sediment load in the river over time. The dynamics between the suppression of salt water intrusion by increased runoff and salt water intrusion upstream due to relative sea level rise is complex and worthy of more detailed study in relation to how this process has affected vegetative and animal communities in the watershed. Such a study is beyond the scope of this evaluation.

SMITH'S VOYAGES OF EXPLORATION AND THE NANTICOKE RIVER IN DELAWARE

There is little doubt that John Smith personally explored a large portion of the Nanticoke River and visited the "Kings House" town at Kuskarawack. The cross placed on John Smith's map of the Nanticoke River is placed 8.6 miles (13.8 km/2.5 leagues) east northeast of Kuskarawack (Barbour 1986a:1985). Historical and archaeological evidence points to the location of Kuskarawack on the north bank of the Nanticoke River in Delaware across from its confluence with Broad Creek and spreading upstream to its confluence with Butler Mill Branch (Figure 2).

The objectives of John Smith's voyages of exploration were "... to search what furies, the best whereof is at Cuscarawaoke; and what other mineralls, rivers, rocks, nations, woods, fishings, fruites, victuall, and what other commodities the land afforded; and whether the bay were endlesse or how farre it extended" (Smith 2013). In addition to searching for the Northwest Passage, his voyages were also as much missions to gather intelligence on the strengths and weaknesses of the Indian population as they were voyages of discovery (Potter 1994:181). In this context, Smith attempted to record information relevant to his mission. The information was recorded in the form of narratives and a map. In Smith's own words (2013):

Their several habitations are more plainly described by this annexed Mappe, which will present to the eie the way of the mountains and current bayes, showels, Isles, Inlets, and creeks, the breadth of the waters, the distance of places and such like. In which Mappe observe this, that as far as you see little crosses on rivers, mountains, or other places have been discovered; the rest

was had by information of the Salvages and are set downe, according to their instructions...



Figure 2: Section of Captain John Smith's Map Showing the Nanticoke River (Kus Flu) and the Territory of the Kuskarawaoks (Nanticoke Indians) (Smith 1986).

Smith was particularly interested in the location and strength, counted in men, of the Indian inhabitants, thus recording 200 men upon the river Kus Flu (Smith 2013). It is clear that John Smith considered such observations critical and accordingly carefully mapped the locations of Indian towns within his ability to do so with the technology of the time. Although recent research has questioned Smith's reckoning of latitude and longitude (Scott 2007), it was clearly well within the technology of the time to determine the relative placement of key features on the landscape and to determine distance and bearing (Figure 3). Some researchers (Haile 2008:3) observe that Smith's map is more accurate towards the center with the accuracy in relation to modern maps decreasing towards the edges. This trend is not surprising for two reasons. First, John Smith mapped with most accuracy the natural and cultural features of the landscape most relevant to his mission. The Indian population of the Chesapeake Bay watershed was of great interest to the English in terms of potential trade partners, allies and adversaries. Taken as a whole, his map answers two questions in relation to "...their several habitations..." and the way of the mountains, and current bays, showels, Isles, Inlets, and creeks, the breadth of the waters, the distance of places and such like." His questions obviously were: 1) where are the Indians; and 2) how do we get there?



Figure 3: Distance and Bearing Between Nanticoke Towns Mapped by Captain John Smith (Adapted from Smith 1986).

Second, errors in mapping compound with distance, particularly those geographical references Smith obtained from Indian informants. While some researchers find that Smith's longitude and latitude is inaccurate (Haile 2008:3), this observation is of little consequence to the present study. What is important is the relative placement of major geographic features and Indian towns on the landscape. The degree of accuracy on Smith's map is directly related to the importance of the features in relation to his mission. The precise form and even location of certain rivers or river segments was not critical to his mission; he was not creating a navigation chart except on a macro-scale. Published navigation charts did not appear in this area until the mid-eighteenth century. However, from his narrative of the voyages, it is clear that the strength and location of the Indian population were important. As a consequence, we can rely on the placement of Nanticoke River Indian towns and determine their approximate placement on modern maps with the same degree of reliability expressed at the scale of Smith's map.

At the time of Smith's voyages, it was important to the English to find reliable Indian trading partners. The survival of the English colony depended on trade and trade also provided a potential to acquire wealth for certain colonists. As Smith elaborated on his mission by stating it was: "... Also to search what furs, the best whereof is at Cuscarawoak, where is made so much Rowranoke or white beads that occasion as much dissension among the Salvages, as gold and silver amongst Christians" (Barbour

1986b:168). It is likely from Smith's detailed account that he personally visited Kuskarawack.

Assuming Smith's placement of the Nanticoke towns on the landscape is accurate in relation to each other and the river, we need to anchor at least one point on modern maps to determine the remainder. Recent research has identified the archaeological site known as Chicone near Vienna, Maryland, as the historically documented town of Nantaquack (Busby 2010:36; Feest 1978:241; Rountree and Davidson 1999:4).

There is disagreement between scholars on the geographic location of the Nanticoke Kings House at Kuskarawack when comparing Smith's map and modern topographic maps (cf. Haile 2008; Rountree et al.2007). Our research concludes that Kuskarawack is in Delaware. The disagreement appears to have linguistic, historic and cartographic components. Linguistically, there is little doubt that the Nanticoke town of Nantaquack mapped by John Smith became, by the late-seventeenth century, associated with the word Nanticoke and the Nanticoke Indian people, a term used to refer to the Indian population of the watershed from that point in history to today. Historically, however, John Smith's map reference was to Kuskarawack with the King's house symbol and Kus Flu (the present-day Nanticoke River) as the location where the leadership of the Indian people of the Kuskarawaok chiefdom resided. In 1608, the paramount chief of Kuskarawaok resided at Kuskarawack, not the common town of Nantaquack mapped by John Smith. By 1677, if not before, John Smith's Kus Flu was known as the Nanticoke River. It appears that by this time the Nanticoke leadership relocated to Chicone (Nantaquack), as revealed in the following quote: "... *rendezvous at Chicacone in Nanticoke River, being the place where the Emperor doth now or lately reside* [emphasis added]..." (Archives of Maryland [AOM] 15:142).

Between 1608 and the last decades of the seventeenth century, it was not uncommon for the location of Indian leadership on the Eastern Shore to relocate in the face of expanding English land grants, shifting trade opportunities and increasing demands of colonial governments. For example, it is documented that Occohannock, the capital of the Accomac chiefdom on the Eastern Shore of Virginia, shifted location in the latter part of the seventeenth century (Rountree and Davidson 1999:31). Elsewhere in the Chesapeake, Smith's accounts record movements of the Powhatan seat of power at, away from, and beyond Werowocomoco (Smith 1986:126, 245; 2014). Reasons for movements and the settlement locations have been addressed by several authors (Potter 1994, 2009; Rountree 1989). However, the complex meanings affiliated with the Indian choices of landscape use include a host of factors and beg further exploration. Potter (2009) has explored how Smith's understanding and recording of indigenous landscaped and settlement were influenced by seasonality of landscape use in addition to contemporary political and economic forces. Locating important settlements within areas exhibiting long term indigenous occupation, such as siting the center of leadership at Nantaquack/Chicone where the archaeological record attests to Middle Archaic through Late Woodland/post-Contact settlements, is a multi-faceted decision (Busby 2010:222).

Another potential source of linguistic confusion comes from John Smith's description of his voyage on the Nanticoke River. On June 9, 1608, John Smith in his encounters with the Indians on the Nanticoke River recorded "... there we left some pieces of copper, beads,

bells, and looking glasses and then *we went into the bay*” [emphasis added], “but when it was dark, we came back again” (Haile 2008:39). It is easy to see how some scholars, using modern definitions of Smith’s terms, thought “into the bay” referred to the Chesapeake Bay. If this interpretation is correct, then John Smith could not, in the space of one evening, have travelled from Kuskarawack in Delaware to the Chesapeake Bay and back again. However, in the English language of the early-seventeenth century, people did not take too much time accurately defining words and did not seem to recognize the meaning of words as fixed (Linville 2000:1). During Smith’s voyages of the Chesapeake Bay and its tributaries from 1607–1609, Smith referred to the confluence of the James and Chickahominy rivers in Virginia as “the bay of Paspahegh (Smith 1998:151), coves along the bay as “...bay fit for harbor and habitation ...” (Haile 2008:36) and the Chesapeake Bay as a bay (Haile 2008:36). There are many other examples of the use of the term “bays” in the writings of John Smith. To John Smith, the term bay simply referred to a wider, open location in the water. On June 9, 1608, Smith’s reference to going “...into the bay...” on the Nanticoke River could simply be referring to the confluence of the Nanticoke River with Broad Creek or Deep Creek.

Some scholars question whether John Smith could have traveled from the mouth of the Nanticoke River, met with the Indians, placed or marked a cross upstream from Kuskarawack and returned to the Chesapeake Bay between the morning of June 8 and the morning of June 11, 1608, a straight line round trip distance of 70 miles (112.7 km). According to the timeline of Smith’s voyage on the Nanticoke River, he spent three full days exploring the river (Haile 2008:40). On December 3, 1607, Smith travelled 40 miles (64.4 km) in one day on the Chickahominy River in Virginia (Haile 2008:18). It was well within the capabilities of Smith’s barge and men to travel and explore the Nanticoke River well into what is now Delaware in three days.

A final point of potential disagreement is cartographic. To what extent can we rely on the detailed meanders of the Nanticoke River (Kus Flu) mapped by John Smith and correlate those meanders with modern topographic maps? Our research concludes that: 1) John Smith’s map was not a navigation map, but a graphic representation of the river and Indian settlement locations; 2) it is more reliable to translate the upland Nanticoke town locations on modern maps than use the river meanders illustrated by Smith; and, 3) sea level rise, erosion and sediment deposition have changed the meander pattern and shoreline configuration of the Nanticoke River making comparisons between historic and modern maps based on the modern river channel highly unreliable. The most reliable and useful information on Smith’s map is relative placement, bearing and distance of the Nanticoke Indian towns on the uplands adjacent to the river.

On Smith’s map, Kuskarawack is 12 miles (19.3 km/4 leagues) northeast of Nantaquack. Placing Nantaquack at the confluence of Chicone Creek and the Nanticoke River, placing Kuskarawack on the north side of the Nanticoke River in Delaware between the confluence of Broad Creek and just downstream from Seaford, Delaware (cf. Figure 3).

The placement of the Kings House at Kuskarawack some distance from the mouth of the Nanticoke River in Maryland is a consistent pattern for coastal Algonquian cultures of the seventeenth century. Upon entering the Potomac River in June 1608, John Smith’s party

travelled 30 miles (48 km), before encountering any Indians, and after a brief skirmish and truce, travelled an additional 6 miles (9.7 km) to the king's habitation (Potter 1994:9). Closer to the study area, Occohannock, the capital of the paramount chiefdom on the Eastern Shore of Virginia was located near the head of a creek of the same name (Rountree and Davidson 1999:36). In 1670, Maryland Eastern Shore Algonquians still maintained established trading places far from the mouth of rivers, much like the Kuskarawack vicinity in 1608. A series of testimonies by English traders in 1670, reporting on trading activity in the 1650's, reference the spatial organization of trade between the Indians and the traders with the "trading branch" described as an established location up river. A trader explained that he asked the Indians "... Why he Sent me soe Farr up the river (Manoakin) ... he (the Indian) said that wee must come up to the trading branch, or else we Could not have any trade with them..." (Somerset County Judicial Records 86:8). This illustrates that Indians determined the location of trade; the location and its vicinity is specifically purposed, and this location is well away from the mouth of the river system. One could speculate from this pattern that trade was serious business to the Indians and was only conducted well within territory they controlled for purposes of security and peaceful relations.

Archaeological research in Delaware for this study located eight sites along the main channel of the Nanticoke River and its major tributaries that were occupied during the terminal Late Woodland/Proto Historic Period and into the seventeenth century (Figure 4). Only one site complex though contains artifacts that are specifically dated to the seventeenth century. The specific artifact evidence consists of seventeenth-century glass trade beads at one site (7S-H-114) and two roulette decorated tobacco pipe bowls at another site complex (7S-E-38 and 7S-E-39) (Figures 5 and 6). An adjacent site (7S-E-1) also contains direct cord-impressed Townsend ceramics, a type associated elsewhere in Delaware with the seventeenth century (Griffith 1980:30). The archaeological site evidence would place Kuskarawack slightly downstream from its location mapped by Smith in relation to the distance to the town of Nantaquack, but still within a reasonable zone where houses for any one town were scattered across a considerable distance (Rountree and Turner 2002:69). The extent of seventeenth century Nanticoke towns within the broader landscape could encompass upwards of 6,000 acres (2428.1 ha). Chicone is estimated to have covered at least 8 square miles (20.7 sq km) (Busby 2010:51), making a town of over 1 mile (1.6 km) in length highly plausible.

John Smith's narrative of his encounter with the Indians on the Nanticoke River contains few geographic references. Smith let his map illustrate the path of exploration and his findings. Nevertheless, there are some clues. On June 8, he "set sayle for the maine and fell with a pretty convenient river on the East called 'Cuskarawoak'" (Barbour 1986b:164). The term "fell with" can be interpreted that Smith travelled along for a way, perhaps a long way, before the Nanticoke people reacted with their arrows. Smith certainly had such an experience on the Potomac River later in the month (cf. Potter 1994:9). Smith anchored for the rest of the day and presumably that night out of range of the arrows. The greatest resistance that Smith would have faced, as he would find out on the Potomac River, was when he was approaching the King's House. Downstream towns would have monitored his travels and reported his movements upstream.

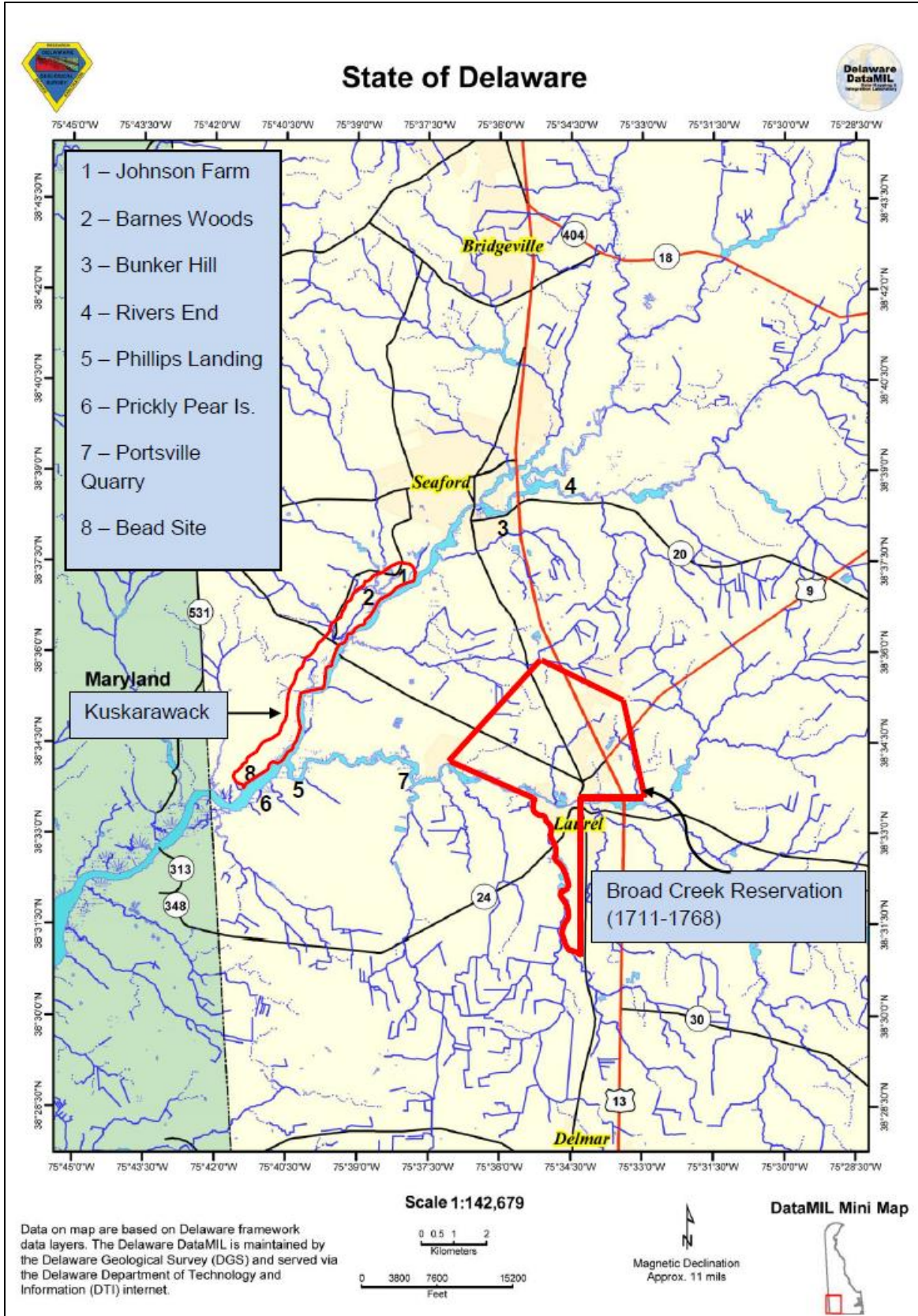


Figure 4: Major Terminal Late Woodland/Contact Period Archaeological Sites and Broad Creek Reservation.



Townsend Direct Cord and Triangle Point



Townsend Pseudo Cord with Appliqué



Rappahannock Incised - Horizontal Bands



Rappahannock Fabric Impressed



Rappahannock Incised - Horizontal Bands



Townsend Plain

Figure 5: Terminal Late Woodland and Contact Period Townsend Series Ceramics.

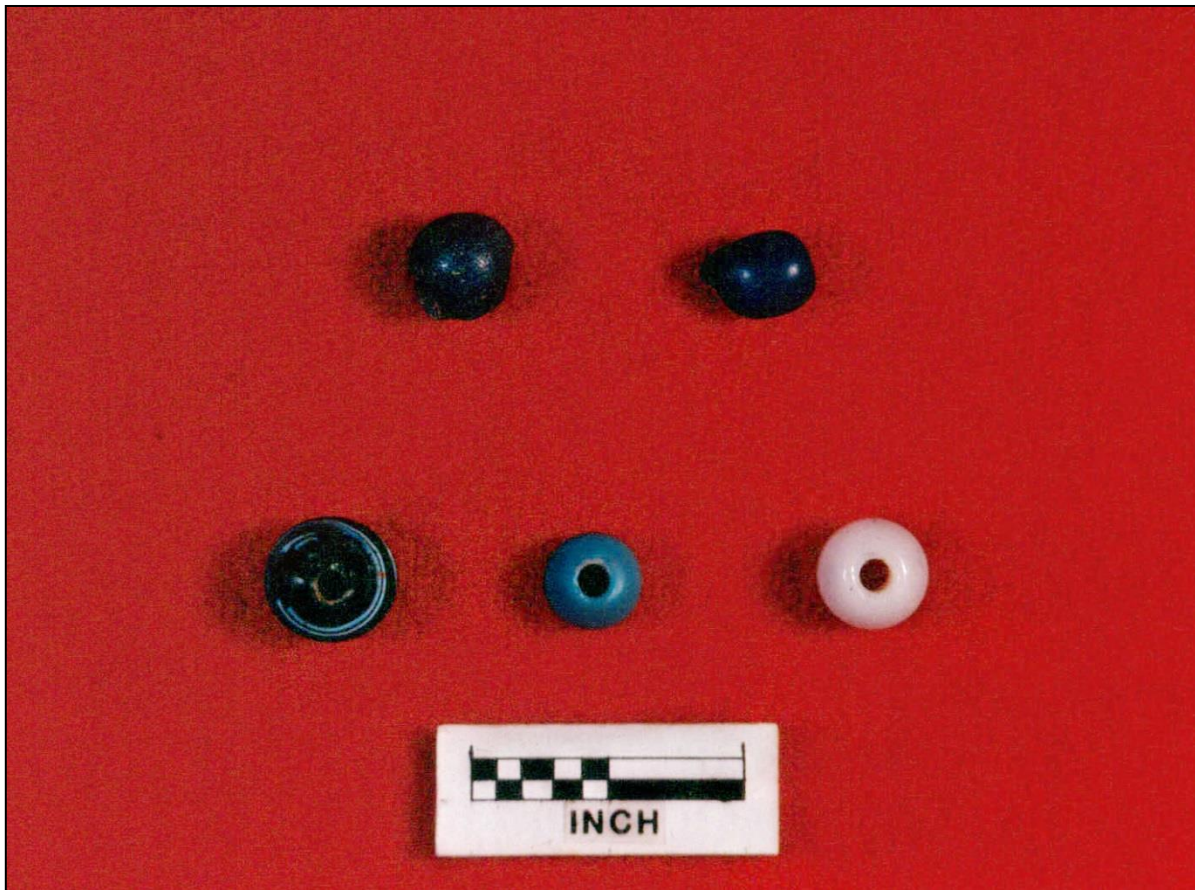


Figure 6: Top- Roulette Decorated Pipe (7S-E-39); Bottom- Trade Beads from Bead Site (7S-H-114).

In fact, the downstream towns would not likely have the authority to trade with strangers. The paramount Chief Powhatan in Virginia, for example, had absolute control over his subjects when it came to interaction with the English. As recorded, "... the Indian Machumps, who was sometime in England and comes to and fro amongst us as he dares and as Powhatan gives him leave, for it is not otherwise safe for him, no more than it was for one Amarice (an Indian) who had his brains knock'd out for selling but a basket of corn and lying in the English for 2 or 3 days without Powhatan's leave..." (Strachey 1998:619). In a chiefdom based society, wealth and redistribution of wealth were controlled through the king's village (Potter 1994:165). Knowing this, residents of the commoner's villages of Nause and Nantaquack would not have attempted to attract Smith to shore for trading and we know from later accounts that the Indians established specific trading locations.

The next day, June 9, "... they came unarmed, with every one a basket, dancing in a ring to draw us to shore..." (Barbour 1986b:164). It is likely the Nanticoke of Kuskarawack were attracting Smith to a trading place along the river, not to Kuskarawack proper. One location along the Nanticoke River in Delaware that fits the description of a trading place is Prickly Pear Island, on the south side of the river opposite the archaeological site complex that produced the seventeenth-century glass trade beads and roulette decorated tobacco pipe bowls. Prickly Pear Island is a small area of well-drained, sandy soil surrounded by fresh water wetlands to its south, east and west while bordering the Nanticoke River on its north. The island is not of suitable size for an Algonquian town site. In addition, archaeological collections research has identified late-period, non-local Indian ceramics at Phillips Landing a short distance upstream from Prickly Pear Island on the lower Broad Creek (see Figure 6). Prickly Pear Island and perhaps Phillips Landing were trading locations.

"As smoake appearing on the other side of the river, we rowed thither, where we found two or three little houses, in each a fire, then we left some pieces of copper, beads, bells, and looking glasses..." (Barbour 1986b:165). On the "other side" of the Nanticoke River from Prickly Pear Island and Phillips Landing is the archaeological site that produced the seventeenth-century glass trade beads (7S-H-114).

On the early morning of June 10, four Indians came to Smith in a canoe, asked Smith to stay where he was and then returned with 20 more Indians, who after "... a little conference" were joined by "... two or three thousand men, women and children..." presenting Smith with items to trade, "...which a little *bead* [emphasis added] would so well requite" (Barbour 1986b:165). When important visitors arrived, they would be met formally by all the towns people and conducted into the Chief's presence and be presented with much more food than they could possibly eat in a display of hospitality (Rountree and Davidson 1999:43). In a chiefdom, paramount and district chiefs used tribute goods for entertaining important guests (Potter 1994:18). The Nanticoke hospitality was also designed to draw the English into the Indian economic system of reciprocity. John Smith returned to the side of the river where he left the pieces of copper, beads, bells and looking glasses near the two or three little houses; he was in part of the town of Kuskarawack. Here, he was offered services to "...fetch us water, stay with us for hostage, conduct our men any whither, and give us the best content" (Barbour 1986b:165). In coastal Algonquian culture, it was typically only the chief, or "King", who had the power to offer such services.

It is likely that Smith and most of his men stayed in this location for several hours, while some of his men, protected by hostages, went in a fast Indian canoe to place or make a mark of the cross further upstream. It was not unusual for Smith to split his party to accomplish both setting or marking a cross at the limits of exploration, while continuing to develop a relationship with the local Indian leadership. On June 16, 1608, on the Potomac River (only five days after departing the Nanticoke River), Smith exchanged hostages with the Indians as a pledge of good faith and a means of preserving the peace and sent one of his crew, James Watkins, 6 miles (9.7 km) up into the woods to the Matchotick king's habitation (Potter 1994:9). As Smith reports, "Instead of oars, they use [for their canoes] paddles and sticks with which they will row faster than our Barges" (Barbour 1986a:163). Smith maps the location of the cross on the Nanticoke River a straight line distance of 8.6 miles (13.8 km) east northeast of Kuskarawack. If Smith's east-west scale is off on the long side, as some have suggested, then the location is closer. We do not know the size of the canoes the Nanticoke had available, but recent estimates of the range of speeds for canoes range from 7 to 9 miles (11.3 to 14.5 km) per hour, under favorable conditions (Haile 2008:4). The freight canoes traveled at the higher end of this range, and it is likely that the chief at Kuskarawack had access to the larger canoes when needed. Accounting for the meanders of Broad Creek, a canoe round trip from Kuskarawack to place a cross upstream would have taken three hours at most, including the time to set the cross.

Judging from the eastward trend of the river segment on which the cross is placed on Smith's map, it seems likely the cross was placed near the head of navigation on Broad Creek, near the boundary of land that 100 years later became the Broad Creek Nanticoke Indian reservation. The historic record is not clear on the location of the cross on the upper Nanticoke River. Archaeological collections research identified a major site (Rivers End, 7S-E-35) upstream from Seaford on Deep Creek. On the other hand, historical research identified the early-eighteenth century location of the Broad Creek Nanticoke Indian reservation on Broad Creek in present-day Laurel as a place of historic importance to the Nanticoke people (see Figure 4). Our research favors Broad Creek as the route taken from Kuskarawack to place or make a cross at the limit of Smith's exploration. In 1711, the Nanticoke represented to the Maryland General Assembly that land formerly laid out for them at Chicone, near Vienna, Maryland, was much worn out and not sufficient for them (AOM 75:182). The General Assembly created the Broad Creek reservation at a site of an existing Indian town that had been in that approximate location for at least the previous century (Rountree and Davidson 1999:131).

There is historical evidence that the Nanticoke chose or requested the location on Broad Creek. While archaeological evidence of historic Nanticoke occupation within the area designated at the Broad Creek reservation is not conclusive, historical documentation suggests that the Maryland provincial government went to great expense to make the land available to the Nanticoke people. The area was already patented to English colonists William Green (1680), James Wyth and Marmaduke Nestor (1683) as well as two others, who were paid a combined sum of 63,494 pounds (28,800 kg) of tobacco to vacate the land (Hutchinson 1961:3).

Another item of historical documentation suggests the significance of the Laurel area to the Nanticoke people. In 1838, a local newspaper, *The Delaware Gazette*, reported that 30 years

before, workmen digging earth from a bank near a small stream within a mile (1.6 km) of Laurel had encountered a large grave and that several wagonloads of human bones were removed (Weslager 1968:55). The newspaper description matches what is expected from a large ossuary burial, a type of group burial practice common among coastal Algonquian cultures of the Terminal Late Woodland/Contact Period. Large ossuary burials are typically found near, if not in, the large Indian towns of the period.

Historical research indicates that one boundary of the Broad Creek reservation was at a “wading place” where Records Pond dam in Laurel now stands (Hutchinson 1961:3). This is as far as John Smith’s men with the Indians in a canoe could have travelled without portage. If this is the correct interpretation, then Smith’s map does not depict the northeast extension of the main channel of the Nanticoke River. This does not conflict with the logic of placing Kuskarawack in Delaware as Smith’s map of the Eastern Shore does not depict the Choptank River at all, and many river tributaries only minimally. John Smith mapped what was important to him at the time.

Smith’s final journal entry on his Nanticoke River voyage may be referencing Broad Creek. “...this river but onely at the entrance is very narrow, the Land but low, yet it may prove to be very commodious, because it is but a ridge of land betwixt the Bay and the maine Ocean” (Barbour 1986b:165). The latter observation about the “ridge of land” was likely obtained by Smith from Indian informants, who well into the eighteenth century were travelling to and trading with Indians on the Atlantic Coast of Delaware. The entrance to the Nanticoke River from the Chesapeake Bay is anything but “very narrow”. Depending on the meanders through the tidal marsh at the mouth of Broad Creek, it can be considered narrow. It is certainly much narrower than the main channel of the Nanticoke River in this location. The easterly trend of Broad Creek takes this Nanticoke River tributary towards “... a ridge of land betwixt the Bay and the maine Ocean”.

THE UPPER NANTICOKE RIVER AND SEVENTEENTH CENTURY INDIANS OF THE CHESAPEAKE BAY

The upper Nanticoke River drainage in Delaware was a rich and varied Indian cultural landscape. Over time, John Smith’s voyage of exploration led to increasing English trade and then settlement, which had profound and lasting effects on the watershed’s indigenous population—the Nanticoke Indians.

The Nanticoke Indians, in the seventeenth century, were part of a large eastern Algonquian speaking language group that stretched from coastal southern New England south to coastal eastern North Carolina and west to the Fall Line and in some northern areas into the Piedmont of the Appalachian Mountains (Goddard 1978:70). These coastal Algonquian people shared many cultural traditions, in part due to a shared cultural background and in part due to their occupation of similar coastal and riverine environments. The Nanticoke Indians of the Nanticoke River watershed were a large paramount chiefdom inhabiting multiple town sites and maintaining long distance trade networks that extended to the western shore of Virginia and Maryland (Rountree and Davidson 1999:29). The Nanticoke also maintained trade networks to the north, obtaining furs and other goods from such

groups and the Massawomecks and the Susquehannocks. The Nanticoke were also known through archaeological research and seventeenth-century historic accounts to maintain close relations with the Delaware Indians to their north and east. According to Nanticoke tradition, the Nanticoke detached themselves from the Delaware and settled on the Eastern Shore where they increased and subsequently split up into several groups (Feest 1978:240).

In 1608, John Smith reported that the Nanticoke resided in five towns, and he mapped three of those towns: Nause, Nantaquack and Kuskarawack (see Figure 2). Nause and Nantaquack are mapped as “ordinary houses”, while Kuskarawack is labeled as the “Kings House” or emperor’s town (Barbour 1986b:165). All three towns are mapped on the north side of the main channel of the Nanticoke River in both Maryland and Delaware. Two towns, Sarapinagh and Arseek, are recorded but not mapped by Smith and were likely identified by Indian informants. The locations of Sarapinagh and Arseek are not known, but based on archaeological evidence and the route of Smith’s voyage on the Nanticoke River, it is likely they are either on the Marshyhope River in Maryland or further upstream on the Nanticoke River, Deep Creek and/or Broad Creek in Delaware. One possible location for one of the towns is the location of the 1711 Broad Creek Nanticoke Indian reservation. The Broad Creek reservation was created near the site of an existing Nanticoke town that had been in that approximate location for at least a century before the establishment of the reservation (Rountree and Davidson 1999:131). Another option is the archaeologically identified Rivers End site on Deep Creek, the artifact collection from which contained Terminal Late Woodland/Contact Period ceramics and plain terra cotta tobacco pipes.

These towns were not nucleated settlements in the traditional sense of the word, but rather consisted of a row of houses at least 1 mile (1.6 km) in length dispersed along one side of the river (Rountree and Turner 2002:178). Strachey further described the Virginia Algonquian settlement pattern by observing “... their howses are not manie in one towne, and those that are stand dissete (set apart) and scattered...” (Potter 1994:27). In 1624 John Smith described the general Algonquian settlement pattern when writing “... these ... natives live not in great numbers together, but dispersed...” (Potter 1994:23). It is likely that while there was a “center” or small, nucleated core of a community, those considered as belonging to a certain town and paramount or district chief were spread over a wide area.

The Nanticoke towns were not stockaded at the time of Smiths voyage. The only palisaded town of the Eastern Shore visited by Smith was Tockwogh on the upper Eastern Shore of Maryland, where the local Indians were threatened by Susquehannock intrusions into their territory (Rountree and Davidson 1999:33). Only in 1681 does a clear reference to a “fort” appear for the Nanticoke at Chicone (formerly Nantaquack), when several colonists went to the “Nanticoke ffort” and reported that “all the Indians except some weomen and Children were gone with their Corne skinns and matter and other truck” (AOM 15:30). The linear dispersion of settlements is probably a reflection of the Algonquian custom of considering uncultivated land as common ground for the entire community to use and also served as a way to assert political control over the landscape (Potter 1994:177). This general pattern suggests that while the Nanticoke towns had a core or nucleus, recognized through English eyes as “towns”, outlying households along or across bodies of water were considered by the Indians as under the political and economic control of the paramount or district chief’s town.

In the field, archaeologists would identify these town sites as roughly linear arrangements of discrete households or household clusters paralleling the river, though during the period of occupation the households would be linked by wood lots, land and water trails, and active and fallow agricultural fields defining an integrated cultural landscape. Archaeological research at Chicone indicates a more nucleated core settlement dating to the later Late Woodland and early post-Contact Period, that became more dispersed in the later seventeenth and early-eighteenth centuries with house location patterns spaced at least 250 feet (76.2 m) apart following a river tributary at least 2 miles (3.2 km) in length (Busby 2010). However, prior to the establishment of reservations for the Nanticoke in the Chicone vicinity in the late-seventeenth century, the “town” spanned both sides of the Marshhope and Nanticoke rivers (Busby 2010). Clearly, more precise dating of archaeological site components and wider area archaeological surveys in the Nanticoke River watershed are needed to compare the Colonial Period descriptions of dispersed settlements to archaeological site locations.

The fact that a “Kings House” was identified by John Smith indicates that politically and socially, the Nanticoke were an organized chiefdom. Seventeenth-century historic records describe matrilineal succession for the “emperor” and patrilocal residence, a traditional cultural pattern, which changed late in the seventeenth century due to a disruption of social networks caused by colonial pressures for land, armed conflict and disease. Chiefdoms controlled the distribution of goods and wealth by serving both as banker to their people and as a culture broker to outsiders (Potter 1994:169). Kuskarawack, the Nanticoke Kings House, served as the focal point for the subsistence economy and the central repository for prestige goods (e.g., shell beads and puccoon) as well as a greeting place for foreign visitors. It was the logical destination for John Smith. The “kings” of Chesapeake chiefdoms, like the King of the Kuskarawaoks, probably controlled the irregular influx of European trade items among their people, reserving most of it for themselves and acting as middlemen in the trade with other Indian groups (Potter 1994:165).

Archaeological research for this evaluation study identified eight sites on the Nanticoke River and its major tributaries in Delaware that were occupied during the Terminal Late Woodland/Contact Period (see Figure 4). All the major sites are on the main channel of the Nanticoke River, Broad Creek or Deep Creek. The identification of the sites was based on the presence of temporally diagnostic Townsend ceramic types (Griffith 1977, 1980), fine-grade terra cotta tobacco pipes, some with roulette decorative techniques on the bowl (Miller et al. 1983; Miller et al. 1986; Smolek et al. 1984), and/or seventeenth century glass trade beads (Hayes 1983; Kidd and Kidd 1970). [Refer to Figures 5 and 6 for illustrations of temporally diagnostic artifacts used in this study.] Sites containing more than one of the above categories of diagnostic artifacts were considered major sites, with the exception of the site with the glass beads (7S-H-114), where the collection sample was quite small. The Terminal Late Woodland/Contact Period sites are:

Site Name	Site Location
Johnson Farm (7S-E-1)	North bank of Nanticoke River below Seaford
Rivers End (7S-E-35) Creek	Confluence of Nanticoke River and Deep Creek
Phillips Landing (7S-H-1)	South bank Broad Creek
Portsville Quarry ((7S-H-5)	South bank Broad Creek
Prickly Pear Island (7S-H-18) Creek	South bank Nanticoke River below Broad Creek
Barnes Woods (7S-E-38, 39)	North bank of Nanticoke River on Butler Mill Bridge
Bead Site (7S-H-114)	North bank of Nanticoke River
Bunker Hill (7S-E-18)	South bank of Nanticoke River in Blades

The sites with the highest probability of seventeenth-century occupation are located on the north side of the Nanticoke River covering a nearly 4-mile (6.4-km) long zone from the Bead site (7S-H-114) on the south end to the Johnson Farm/Barnes Woods site complex (7S-E-1, 7S-E-38, and 7S-E-39) on the north end (see Figure 4). Sites in this zone, aside from the date of occupation, match the interpreted location of Kuskarawack mapped by John Smith. Particularly relevant to this discussion is the fact that two of the glass beads, (Kidd Type IIa 40) from the Bead site (7S-H-114), are identical to beads recovered from the site of Chicacoan (Smith's town of Cekakawwon), a town on the south side of the Potomac River in Virginia where John Smith travelled in July 1608 one month after exploring the Nanticoke River (Potter 1994:202). The length of this 4-mile (6.4-km) zone does not imply that any single period of occupation covered the entire zone. It is common for dispersed Algonquian towns to shift location within an area as agricultural fields become exhausted and firewood more scarce. It is known that Algonquian towns consisted of a scatter of houses interspersed with cultivated fields and fallow fields overlooked by a grove of trees creating a cultural mosaic on the landscape (Rountree and Davidson 1999:33).

The Prickly Pear Island and Phillips Landing sites, on the south bank of the Nanticoke River and Broad Creek respectively, are quite interesting as well. Both sites have major Terminal Late Woodland/Contact Period components, but also contain non-local ceramics (e.g., the Phillips Landing collection contains a small sample of Potomac Creek ceramics from the western shore of Maryland) or highly unusual artifacts (e.g., the Prickly Pear Island collection contains Townsend ceramics with an appliqué on the rim similar to ceramics from the lower Potomac River and a large, square stemmed and notched terra cotta tobacco pipe stem, the only one known from Delaware). This pattern suggests locations where different cultures, or material culture traditions, interacted—a trading place. The Rivers End, Bunker Hill and Portsville Quarry sites also exhibit late occupation, with Bunker Hill and Rivers

End exhibiting particularly intense Terminal Late Woodland components. Unlike the Bead site, Barnes Woods and Johnson Farm, there is no indisputable evidence in the collections at Bunker Hill, and Rivers End of seventeenth-century occupation. Unfortunately, the core of what was the Broad Creek Nanticoke Indian reservation in 1711 has been covered and archaeological sites severely damaged by the historic development of the Town of Laurel. Minor Terminal Late Woodland/Contact Period archaeological sites appear throughout the watershed. The sites appear as small, light scatters of Terminal Late Woodland/Contact Period ceramics, triangular projectile points and an occasional terra cotta tobacco pipe stem or bowl fragment, though no European trade goods have been identified in the upstream hinterlands to date. This site pattern is consistent with the historically documented seasonal relocation of households in coastal Algonquian cultures. "...both the spring and the fall saw whole families leaving the towns and dispersing into temporary camps around the rest of their territory" (Rountree and Turner 2002:87).

The entire Nanticoke River watershed was home to the Nanticoke Indians in the seventeenth century and had been for many centuries. Still, the highest concentration of population and greatest opportunities for trade and interaction with other Indian cultures, as well as the English upon their arrival in 1608, occurred in the towns and at the trading places along the main channel of the Nanticoke River, Broad Creek and Deep Creek.

European colonization has been portrayed as a complex entanglement of different cultures histories, identities and power struggles (Silliman 2009:213). John Smith represented a culture with a long and complex history that came face to face with the resident Nanticoke Indian people with an equally long and complex history, and they had different agendas. John Smith and the English in general became entangled in the web of Indian inter-group relations early on in their encounters (Potter 1994:180). Smith departed the Nanticoke River on June 11, 1608 (Rountree 2007:89). The English in Jamestown were struggling for survival and interest in the Nanticoke River waned. The trade in corn and furs was the first motivation to re-establish contact with the Nanticoke and other Indians of the Eastern Shore in the 1620s (Rountree and Davidson 1999:84). The fur trade as the colonist's economic motivation for interacting with the Nanticoke Indians was much reduced by the 1650s and virtually gone by the 1690s (Rountree and Davidson 1999:118). Perhaps this trade occurred at such trading places as Prickly Pear Island or Phillips Landing, but extensive archaeological survey and research throughout the Nanticoke River drainage would be necessary to bring this period into finer focus.

Radically different cultures in regular and sustained contact have only the option to change or stay the same (Silliman 2009:213). The major threat to Nanticoke Indian sovereignty was English colonization of Indian lands. While the first land patents for the Eastern Shore of Virginia were in 1626, it was not until after 1645 that the tide of Englishmen began to wash northward from Virginia and approach Nanticoke territory (Rountree and Davidson 1999:56). With the establishment of the Maryland colony in 1634, the Nanticoke were faced with an English colonial government in their neighborhood. The Dutch had established a trading town on the Nanticoke Indians eastern flanks at Whorekill (Lewes, Delaware) in 1631, but the seat of Dutch colonial government was far removed. During the 1630s and 1640s, Maryland's Lord Proprietor discouraged actual settlement by English colonists on the Eastern Shore (Rountree and Davidson 1999:89). Though the Maryland colonial government

declared war on the Nanticoke and others in 1642, the Nanticoke settled with the government and trade quickly resumed (Rountree and Davidson 1999:91). Colonial settlement spread rapidly up the Chesapeake Bay draining rivers with the exception of the Nanticoke River, where the colonists did not begin to take up land in any significant quantity until the 1670s (Rountree and Davidson 1999:100).

For nearly 60 years after John Smith's voyage on the Nanticoke River, the Nanticoke people were free to trade with the English and otherwise attend to their own affairs, which included accepting refugee groups (e.g., Wicomiss) to their territory (Rountree and Davidson 1999:93). Pressures from colonial settlement eventually resulted in the establishment by the Maryland Assembly of the Chicone Nanticoke Indian reservation in 1698 and the Broad Creek Nanticoke Indian reservation in 1711. For a time, the reservations provided a land base for the Nanticoke Indians embedded in an increasingly colonial landscape. From the perspective of the colony, the reservations were a locale of spatial confinement (Silliman 2009:218). Through a complex series of actions and transactions, the Nanticoke people gradually lost more of their traditional lands. By 1799 the Nanticoke had either abandoned or sold all of their land holdings in Delaware and Maryland (Porter 1977:1). Many of the families moved away in the eighteenth century to join the Five Nations Iroquois in New York and Canada or join the Delaware in their move west. The remaining Nanticoke people moved into out-of-the-way marshy or swampy areas in Maryland and Delaware while others sought refuge and sanctuary in 1784 on Indian River in eastern Sussex County, where many of their descendants still reside (Porter 1977:2). The Nanticoke today are active in supporting their community and sharing with the general public their heritage through an annual Powwow, the Nanticoke Indian Museum and programs of the Nanticoke Indian Association in Millsboro, Delaware.

John Smith's voyage of exploration on the Nanticoke River triggered a complex series of actions and reactions between colonial governments, European colonists and the Nanticoke people that forever changed the history of all. The Nanticoke Indians of the entire watershed were affected in direct and significant ways by John Smith's voyage, the leading edge of English colonization. The same people who met John Smith were the same people who, during certain seasons of the year, hunted, trapped, gathered and lived in the upper reaches of the watershed and beyond. This history unfolded, and continues to unfold, in the Nanticoke River watershed.

END NOTE

Throughout this study, there are variations in the spelling of the Kings House on the Nanticoke River and the territory of the Indians living in the Nanticoke River watershed. Smith's map clearly uses the term "Kuskarawaoks" when referring the Indian people of the Nanticoke River watershed and refers to the river as "Kus Flu". However, Smith's map appears to label the town site of the Kings House as "Kuskarawack". Whether the difference in spelling is simply due to the vagaries of spelling in early-seventeenth century English or was an intentional distinction, to be consistent with the primary record we refer to the Indian people of the Nanticoke River watershed as "Kuskarawaoks" and the Kings House town as "Kuskarawack". The spelling of Kuskarawack is consistent with the spelling of one other

Nanticoke town on Smith's map—the town of Nantaquack—the spelling of which also ends with "...ack.. Smith's spelling on his map of the Chesapeake Bay also ends with the syllable "...ack." Additional variations in spelling occur in Smith's written description of his voyage on the Nanticoke River. Where Smith is quoted in this study, we use the spelling variations as they appear in his quotes. Of relevance to this question, linguistic research shows that Algonquian words ending in the syllables "...ock," "eck," "uk," or sounds similar to the syllable "...ack" refer to a place or land or country (Guss 1883:261; Trumbull 1881). The seventeenth-century language of the Algonquian-speaking Massachusetts Indians employs "ohke" to mean "land" or "earth" (Goddard and Bragdon 1988, II:489, 679–680) as has also been observed for New York Algonquian Indians as well (Beauchamp 1907:9). As an example, the term "Indians land" is rendered into seventeenth century Massachusetts language as 'Indianohkmuk' (Goddard and Bragdon 1988, II:623).

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THE MEADOWOOD CULTURE IN DELAWARE

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Hunter Research, Inc.

The presence of the Meadowood culture in Delaware has recently come to light through Phase I and II investigations along the proposed new alignment for the U.S. Route 301 project for the Delaware Department of Transportation (DelDOT) near Middletown in New Castle County, Delaware (Hunter Research, Inc. 2011a:4-43, 2011b:3-35, 2011b:4-44, 2012:3-2, 2012:3-6). Previously the Meadowood culture has either been overlooked or misidentified in Delaware and has thus been absent from the archaeological literature (Custer 1984, 1989; 1996a; Lewis 1971). This article hopes to call attention to the presence of the Meadowood culture in Delaware so that it can be better understood and recorded correctly.

When one thinks of the Meadowood culture, Delaware does not come to mind. What does are incredible mortuary sites containing cremated burials with thin flat triangular blades fashioned from Onondaga chert in New York, Connecticut, Vermont, Maine, Pennsylvania, New Jersey, Michigan and Canada dating to between circa 3,250 and 2500 BP (Boudreau 2008:38; Granger 1988:1-16; Justice 1987:170-172; Kinsey 1972:90, 190-191, 361-362; Kraft 2001:160-166; Louis Berger & Associates, Inc. 1996; Mason 1981:210-219; Ritchie 1969:180-201; Tache 2011:41-79). Gramly, citing Fogelman, projects the southern range of the Meadowood culture to be Delaware. However, further examination of the reference projects the range to be “south to the upper Delaware” (Gramly and Kunkle 2003:44; Fogelman 1988:180). Fogelman is referring to the upper Delaware River Valley in northeast Pennsylvania and northern New Jersey. Darrin Lowery has recovered Meadowood side-notched points fashioned from Onondaga chert from the Eastern shore of the Chesapeake Bay and Virginia (Lowery 2013) (Figure 1).

According to the Maryland Archaeological Conservation Laboratory (MAC Lab) website, Meadowood projectile points fashioned from local materials have been reported to be uncommon in Maryland and are considered rare in Virginia (MAC Lab 2013). Hranicky (1994:59) points out similarities to St. Charles and Dovetail types that have similar shapes. Tache (2011:50-51) believes that the expression “Meadowood-like” should be used for bifaces that are stylistically and technologically similar but have been made from materials other than Onondaga chert. Renowned flint knapper Jack Cresson (2013) points out that Meadowood projectile points made from other materials, namely jasper and other varieties of cryptocrystalline materials, were not made using the same technique and technology and are only a facsimile of true Meadowood points.

Onondaga chert, a hallmark of the Meadowood Culture, outcrops from Ontario, Canada in the west to as far as Orange County in eastern New York near the Great Lakes. Onondaga

Chert occurs in limestone of Middle Devonian age. It can be found in nodules or in bedded strata. Colors range from black to shades of gray, blue/gray, tan, and grayish brown (Fisher and Converse 1994:194; Ritchie 1961:35–36) (Figure 2). Due to inclusions of partially silicified limestone, Onondaga chert patinates to shades of brown or tan. As the distance increases away from the quarry sources, the number of Meadowood bifaces decrease (Tache 2011:49). Cresson (2013) has observed that when found Meadowoods are almost always heavily retooled or broken in haft from use. Some examples from southern New Jersey exhibit pot lid fragments and may have been fragmented as part of a cremation (Figure 3).

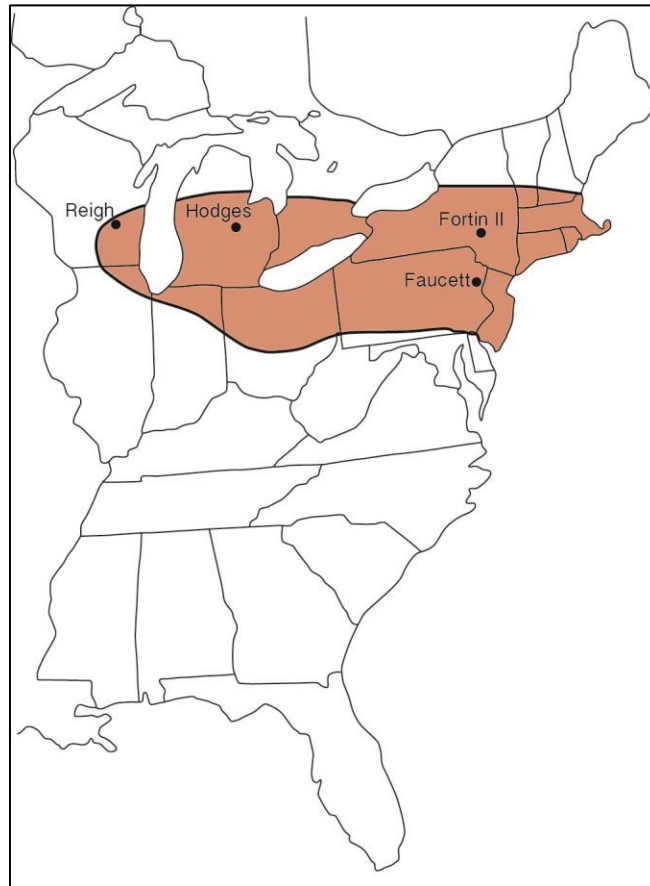


Figure 1: Meadowood Distribution and Important Sites (Justice 1987).

The Meadowood culture was first named by William A. Ritchie in 1930 after an estate where a small prehistoric cemetery was found in Monroe County, New York (Ritchie 1944:125–126). Since that time, Karine Tache has looked at 241 Meadowood sites to present a picture of the Meadowood network, its diversity and homogeneity and provide meaning to regional models (Tache 2011:41–79). Tache divides the sites into eight physiographic regions and 28 sub-regions. Newly identified sites discovered by Darrin Lowery in the Delmarva region extends Tache’s Delaware Valley sub-region. These sites provide the southernmost point where Meadowood projectile points made from Onondaga chert have been observed (Lowery 2013). Meadowood sites consist of either temporary camps/habitation sites or mortuary sites in this region (extractive settlements and chert

resource sites near the Onondaga source material do not occur in Delaware) (Mason 1981:211). Meadowood culture sites tend to be located in riverine settings focused on the floodplain, where most Native American sites are found, thus allowing them to blend with other sites (Funk 1973:346–349). Meadowood sites tend to be small, less than 0.25 acres (0.1 ha). Isolated finds are viewed as likely to be related to habitation sites and are even less commonly associated with features (Tache 2011:50).



Figure 2: Examples of Quarried Onondaga Chert (The AACA 2013).



Figure 3: Dorsal and Ventral Views of Examples of Meadowood Projectile Points Found Directly Across the Delaware River in Salem County, New Jersey. White arrows point to thermal pot lids (Dr. Charles L. Liebeknecht Collection).

The Meadowood Culture 3250 and 2500 BP overlaps with the Middlesex Complex (circa 3000 to 2100 BP), Orient Phase (circa 3200 to 2600 BP), the Glacial Kame culture (circa 3500 to 3000 BP) and the end of “Delmarva Adena” (2500 to 2000 BP) (Custer 1984, 1989; Kraft 2001:160–166; Walker et al. 2011:3–18). These complexes and cultures have exhibited many of the same traits which have contributed to the overshadowing and under-representation of the Meadowood culture in Delaware. Such overlapping has been observed elsewhere, as McEachen (1996:92) reported six dates overlapping with Meadowood from two Middlesex sites, the Augustine Mound and the Gaugenn in Canada. Ritchie believed there was also an earlier association/overlap with the Orient Phase in New York (Ritchie 1969:196). At the Martelli Prehistoric Site (28-Cu-161) in Cumberland County, New Jersey, Onondaga chert Meadowood points and Orient Fishtail points (circa 3200 to 2600 BP) were found in pits close to each other and were felt to be contemporary (Liebeknecht & Burrow 1997). One of two large, thermally altered quartz pebble features found at this site was dated at 3150+/- 50 BP. These features were interpreted as possible crematoria heaps. The continuum of cremations buried with grave goods from Orient to Meadowood to Middlesex only serves to blur the time lines. Many researchers throw out the outlying Meadowood dates thinking they are bad dates, but there is compelling evidence that these dates may in fact be good dates. At the Abbott Farm, a Meadowood culture pit that contained a probable cremation, an Onondaga chert Meadowood cache blade, a copper flaker, a celt and a single hole gorget, also contained a Jack’s Reef corner notched projectile point that exhibits a thermal pot lid fracture (Cunningham 2010). Although no date has been ascertained from this feature, the association of Meadowood materials and diagnostic Jack’s Reef material would either extend the Meadowood time range into the Middle Woodland Period or the Jack’s Reef back into the Early Woodland Period.

The first Meadowood projectile point fragment recovered during the Phase I investigations along the Route 301 project for DelDOT near Middletown was initially thought to be an anomaly, but when a second distinct Meadowood projectile point surfaced during the Phase II investigations from a nearby site and then a third from another site, located 1.9 miles (3.1 km) south, the coincidence was too much to ignore (Hunter Research, Inc. 2011a:4-43, 2011b:3-35, 2011b:4-44, 2012:3-2, 2012:3-6). The first Meadowood point fragment (Figure 4, see A) was recovered from a Phase IB on the U.S. Route 301 corridor at site 7NC-F-128 (Hunter Research, Inc. 2011a:4-43, 4-44). This fragmented specimen, the distal end of an Onondaga Meadowood projectile point and flat in cross section, was found during a pedestrian survey (Hunter Research, Inc. 2011:4-43, 4-44). The second Meadowood point fragment was found on the surface nearby during Phase II investigations at site 7NC-F-127. This specimen was a midsection from a Meadowood projectile point (Figure 4, see B) made from Onondaga chert, plano-convex in cross section and broken across the side notches (Hunter Research, Inc. 2012:3-2, 3-6). Interestingly enough there was a Fox Creek lanceolate point (circa 2400–2300 BP) made from Onondaga chert found a short distance away at the Holton/Cann Historic Site (7NC-F-129), (Hunter Research, Inc. 2012:3-33, 3-40). The third Meadowood point was recovered from Phase II Investigations at the Rumsey Historic/Prehistoric site 7NC-F-117. This specimen was also a midsection made from Onondaga chert, plano-convex in cross section and broken across the side notches (Figure 4, see C) (Hunter Research, Inc. 2011b:3-35).

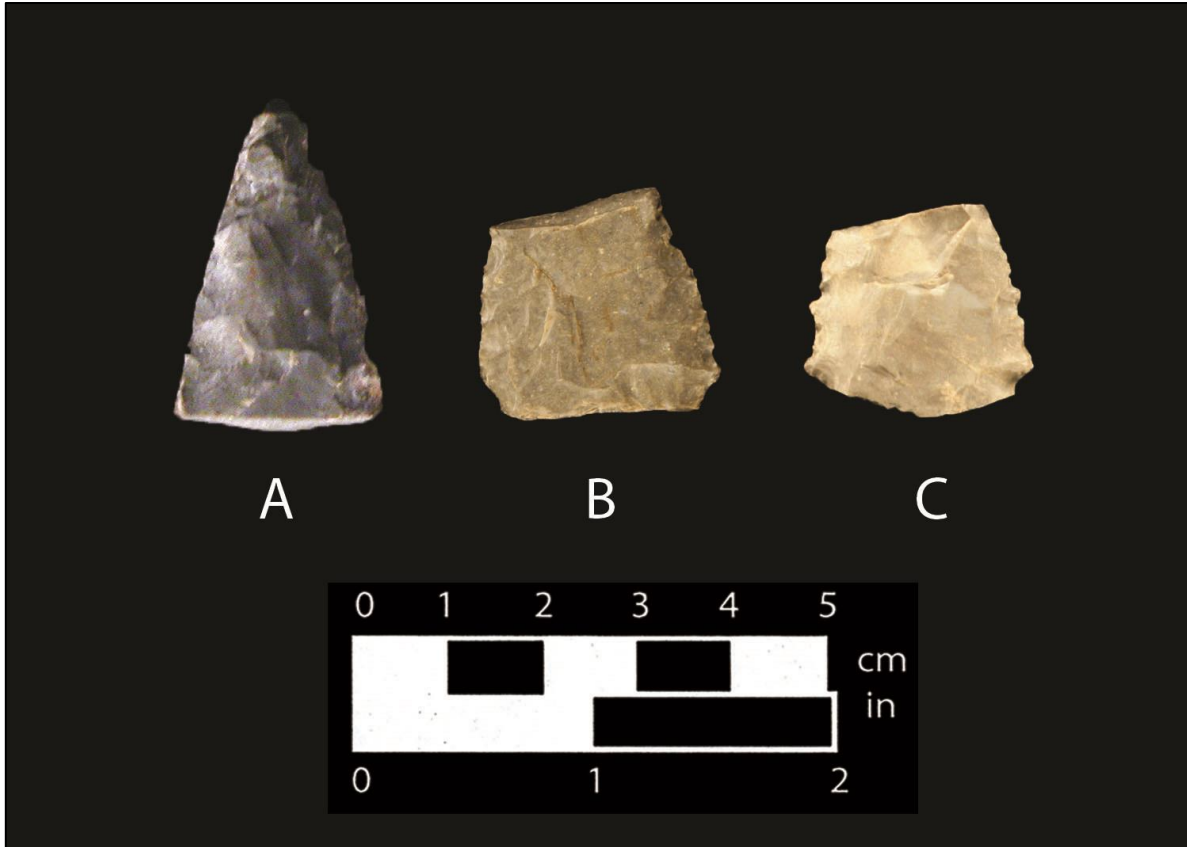


Figure 4: Meadowood Projectile Point Fragments Discovered Along the Proposed New Alignment of U.S. Route 301. **A.** 7NC-F-128, a distal end of a Meadowood projectile point made from Onondaga chert, flat in cross section (Hunter Research, Inc. 2011b:4-43, 4-44). **B.** 7NC-F-127, a midsection (broken across notches) of a Meadowood projectile point made from Onondaga chert, plano-convex in cross section, side notched (Hunter Research, Inc. 2012:3-2, 3-6). **C.** 7NC-F-121, a mid-section (broken across notches) of a Meadowood projectile point made from Onondaga chert, plano-convex in cross section, side notched (Hunter Research, Inc. 2011b:3-35).

In Eastern Pennsylvania, Custer states that, “Meadowood materials seem to be isolated occurrences of exotic materials that are overlain on local Early Woodland cultures” (Custer 1996b:242). Do they represent traded exotic materials, or do they represent people migrating away from their northern homeland slowly assimilating into the local culture, or is it a combination? Ganger suggests the Susquehanna and Delaware River valleys provided routes for transporting Onondaga chert south while also providing routes north for marine shell and steatite tempered pottery (Granger 1878b:116–119; Walker et al. 2011:3–18).

So how does one recognize the presence of the Meadowood culture in Delaware? The easiest way is by correctly identifying Meadowood projectile points. These narrow-bladed, notched and un-notched, projectile points/bifaces may be and are likely present in private collections throughout the State of Delaware. Meadowood points are typically regarded as nondescript side notched mottled grey or brown and tan chert projectile points. Even amongst professional archaeologists Meadowood projectile points remain largely unrecognized (Tache 2011:56). Until recently, the presence of Meadowood projectile points in southern New Jersey were thought to be rare, but an evaluation of local collections and

compliance driven excavations has revealed a greater presence (Liebeknecht and Burrow 1997). Onondaga chert was not exclusively used by the Meadowood culture, but its presence in an archaeological context should raise red flags and be recognized as a hallmark strongly associated with Meadowood projectile points and bifaces.

What makes a Meadowood point unique is that it can be easily recognized even when only a small fragment remains. Meadowood points are highly standardized sub-triangular in shape, typically made on specialized flake blanks that are struck from tabular Onondaga chert core stock, which produced a very thin and flat cross section. The reduction sequence appears to have been carried out entirely with pressure flaking (Cresson 2013). The edges are occasionally serrated or straight to excurvate, and bases are typically ground and usually convex but sometimes straight. Some examples are side notched and occasionally double notched while others are not notched at all (Justice 1987:170–172). These un-notched bifaces have been labeled as “cache” blades, or quaternary blanks (1.6 to 1.9 inches [40 to 50 mm] in length) as they have been found in large caches in New York, Pennsylvania and New Jersey (Bello et al. 1997:63–67). Granger (Granger 1978b:119) states that quaternary blanks, “were small, light and easily transportable in large numbers to areas without high grade chert resources or to those desirous of acquiring Western Onondaga chert.” He also suggests it may have been a “disposal of an excess resource” (Granger 1978b:119). It should be noted however that Onondaga chert does not possess any special qualities that cannot be found in other types of chert found within the established physical range of the Meadowood culture. Several researchers believe the Meadowood peoples had semi-specialized craftsmen who produced these blades for trade (McEachen 1996:101). I would take this one step further and say that not only were they skilled craftsmen but they had copper tools that gave them an advantage over other knappers. I would also say that, based on conversations with Cresson, they also started with tabular cores, the key to producing these thin bifaces. Many of these Meadowood-like points were likely knapped by those without the skills, tools (copper flakers) or the knowledge of the ancestral Meadowood techniques. This suggests that these skills may have been guarded by the Meadowood peoples and may have not been passed down or fell out of favor if the Meadowood peoples assimilated into other groups.

Other artifacts associated with Meadowood sites are Vinette I ceramics (better known as Wolfe Neck ware in Delaware), cigar-shaped pottery and sandstone “cigar-shaped” smoking pipes, trapezoidal slate gorgets, pendants, birdstones, expanded base drills, scrapers, sheets of mica, ground-stone adzes and celts, steatite and whelk shell beads and occasional sherds from steatite bowls (Custer 1989:171–173; Funk 1976:277; Gramly and Kunkle 2003:43–52; Kraft 2001:163–164; Lowery 2013; Mason 1981:212; Mounier 2003:25; Ritchie 1961, 1969:222–223; Ritchie and MacNeish 1949:97–124; Walker et al. 2011:3-18). According to Mason many graves contained fire-making kits with limonite, a common, naturally occurring material in the Delmarva region. Other common Meadowood traits as outlined by Ritchie (1969) include hammerstones, pitted anvil stones, choppers, grinding stones and mullers that are all commonly found on most prehistoric sites in Delaware. What makes the Meadowood material culture even more elusive is that specimens occur as stray or as cross-cultural elements in mixed assemblages (Kinsey 1975:88).

The presence of Meadowood material culture can be indicated by the presence of Onondaga chert debitage that is typically represented by small pressure flakes. Flakes such as those observed on Meadowood points are thought to have been made using a soft percussion tool. Replicative attempts by Jack Cresson suggest that a metal flaking tool such as a copper indenter could achieve this type of fine precision flaking (Cresson 2013). Flaking tools made from native copper have been shown to last longer than equivalent antler tools and the copper actually increases in hardness with cold hammering (Whittaker and Romano 1996:5–8). With this in mind it is of note that Ritchie recovered a native copper flaking tool in a wooden handle from a grave at the Muskalonge Lake Meadowood site in New York (Ritchie 1969:185). In 1979, at the Goddard Site in Maine, four copper awl-like objects were recovered “together with a long tapering pin of square cross section.” (Bopurque and Cox 1981:13) Awls are generally viewed as an indication of hide working (Ritchie 1965:190). Tache suggests these “awls” could have been used for basket making based on two specimens recovered from a burial feature at the Liahn II site that had fibers around their midshafts (Tache 2008:122). Whittaker and Romano (1996:1, 5–6), however suggest that most copper awl-like, perforators, pins and punches were pressure flakers even though most archaeologists finding copper tools of this nature rarely consider them as knapping tools (Cresson personal communication). Darrin Lowery also reports finding a copper flaker from a Meadowood context located on the eastern shore of the Delmarva region (Lowery 2013). A probable copper flaking tool was also recovered from the Abbott Farm from a Meadowood feature excavated by Stanzas and Cunningham (Cunningham 2010). Whittaker and Romano felt that copper flaking tools did “not seem likely to be associated with particular point types or techniques”, but Meadowood points do appear to be made using copper pressure flakers and a specific flaking technique, which other groups were unable to emulate beyond copying the basic outline.

So why does identification of the Meadowood culture remain somewhat elusive in Delaware? Fred Kinsey (1975:42) summed it up best when he wrote, “the Meadowood occupation is extensive but not intensive”, with most Meadowood sites apparently occupied for only a short term. Based on sites in Eastern Pennsylvania, Kinsey felt the Meadowood occupation was transitory, occurring during the warmer seasons and showed clear interactions with other indigenous groups. Although elusive and transitory there is clearly enough evidence to expand the southern boundaries into the Delmarva region (Figure 5).

ACKNOWLEDGEMENTS

I would like to thank Jack Cresson for sharing his extensive knowledge of flint knapping and his encouragement while pursuing this topic. I would also like to thank Jesse Walker, Paul McEachen, Darrin Lowery, Gregory D. Lattanzi, who shared their knowledge on the topic, Jim Lee who provided editorial comments and advice, Elizabeth Cottrell, Lindsay Lee, and Josh Butchko who prepared the graphics and Dr. Charles Liebeknecht who provided examples of Meadowood projectile points from his collection gathered in nearby Salem County, New Jersey. I would also like to thank Hunter Research, Inc. and Sue Ferenbach for access to the collection.

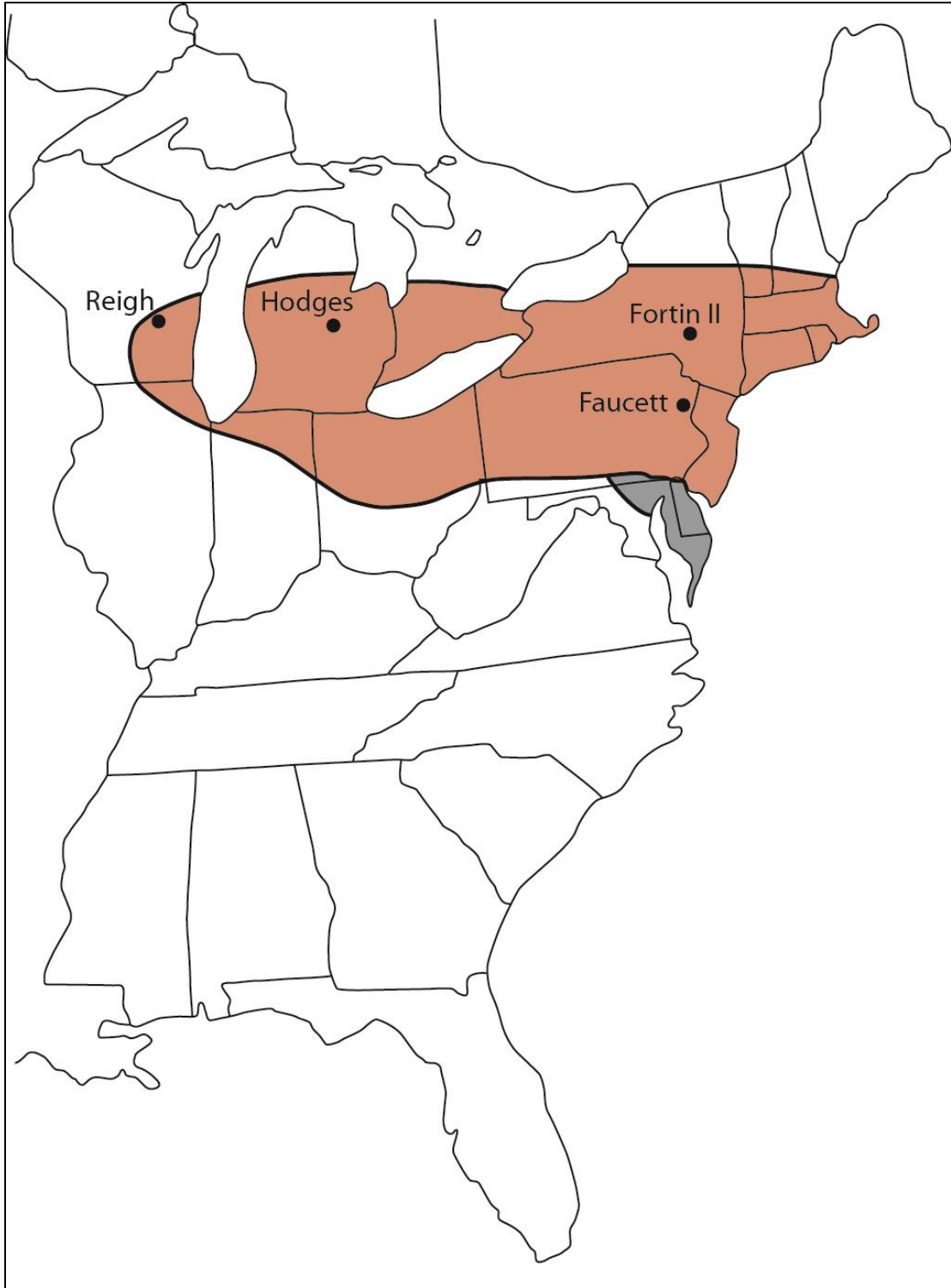


Figure 5: Expanded Southern Boundaries of the Meadowood Culture (Justice 1987).

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FROM THE OLD MUDDY ROAD TO THE NEW SUNNY STREET: REORIENTING THE BURNHAM HOUSE SITE IN NEW CASTLE COUNTY, DELAWARE

Emily Calhoun, Kerri S. Barile, and Danae Peckler

Dovetail Cultural Resource Group

INTRODUCTION

The Burnham House site, situated on a parcel historically known as “Noxon’s Adventure,” is located along the proposed northwestern Spur Road of the larger U.S. Route 301 Delaware Department of Transportation (DelDOT) undertaking (Figure 1). Phase IA archaeological research revealed that the site included the ruins of a dwelling, a timber-frame shed, a second outbuilding, and a well, all within a copse of trees (Figure 2). Preliminary archival research identified the original patentee of the Burnham House parcel to have been Thomas Noxon, an entrepreneur living near Middletown, Delaware (Baublitz et al. 2006). It was originally postulated that the buildings and surface remains identified during Phase IA investigations may have be associated with the eighteenth-century occupation of the parcel. Cultural resource tasks completed by Dovetail Cultural Resource Group at the Burnham House site built on these previous investigations and included three phases of work: additional archival research, an architectural evaluation of the house and outbuilding remains, and site evaluation-level archaeological investigations.

BRIEF HISTORY OF THE PARCEL

Building upon background research conducted by A.D. Marble (Baublitz et al. 2006) and Skelly and Loy (Gundy and Kuncio 2009), this study gathered primary and secondary sources to augment the existing history of the Burnham House, as well as provide additional context for the site’s evaluation. Archival research showed an extensive history of the larger property dating back to an original grant to Benjamin Noxon in 1734 (Figure 3). Because of the size of the parcel and its somewhat remote location at the time, the land was known as “Noxon’s Adventure.” Samuel Burchard and his heirs obtained and maintained ownership of that portion of Noxon’s Adventure, which they sought to purchase from Benajmin Noxon in 1768 (Figure 4). Title to 187 acres (75.7 ha) of Noxon’s Adventure was given to Samuel Burchard’s heirs in 1798, completing the agreement their fathers had come to three decades earlier (Baublitz et al. 2006). As illustrated by the property survey, Noxon’s heirs used what was then referred to as Old Reedy Island Road as the northern boundary of this tract.

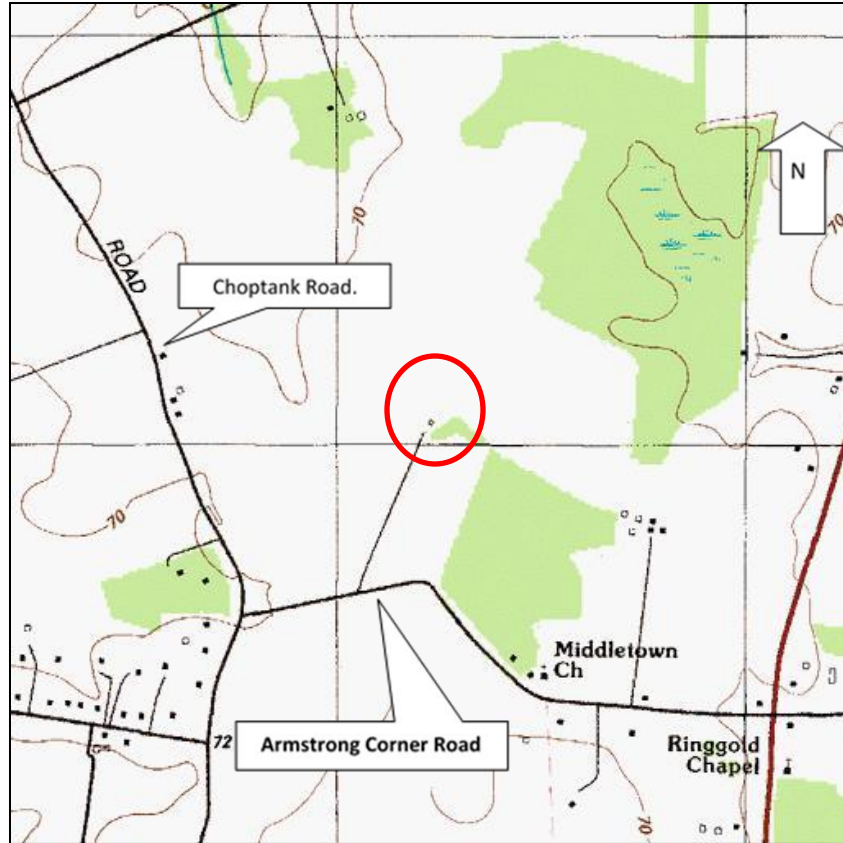


Figure 1: Location of the Burnham House Site (circled in red), Shown on the 1993 7.5-Minute Middletown, Delaware Topographic Quadrangle (United States Geological Survey [USGS] 1993).

As the eldest son, Isaac Burchard received two shares of his father’s property, which he immediately conveyed to Thomas Burnham, husband of Isaac’s sister, Joanna, who also possessed one share in their father’s tract. Burnham petitioned for the division of Burchard’s estate in May 1799 and described the land as containing “a dwelling house, out house and other improvements...” at that time (NCCOC, Samuel Burchard 1799–1800). Rather than divide the land, Thomas and Joanna Burnham succeeded in buying out or otherwise acquiring the remaining shares of the property before Thomas’s death in 1802 (Baublitz et al. 2006). An 1802 survey conducted in response to John A. Pennington’s petition for a road in St. Georges Hundred depicts Thomas Burnham’s dwelling house in greater detail (Figure 5).

The parcel under study stayed within the Burnham family during this time, passing through three generations. Joanna Burnham retained ownership of the property as a single woman and widow until her death, but it is not clear how long she resided there. Joanna Burnham died in the early 1840s, prior to the September 1843 petition of her eldest son, Samuel, to the Orphans Court to settle her estate for the benefit of several grandchildren. The ensuing plat shows more than 186 acres (75.3 ha) of land and two one-story dwellings along Old Reedy Island Road (“inclosed”), among other attributes (NCCOC, Joanna Burnham 1842–1844) (Figure 6).



Figure 2: Aerial View of the U.S. 301 Spur Road and the Burnham House Site Location.

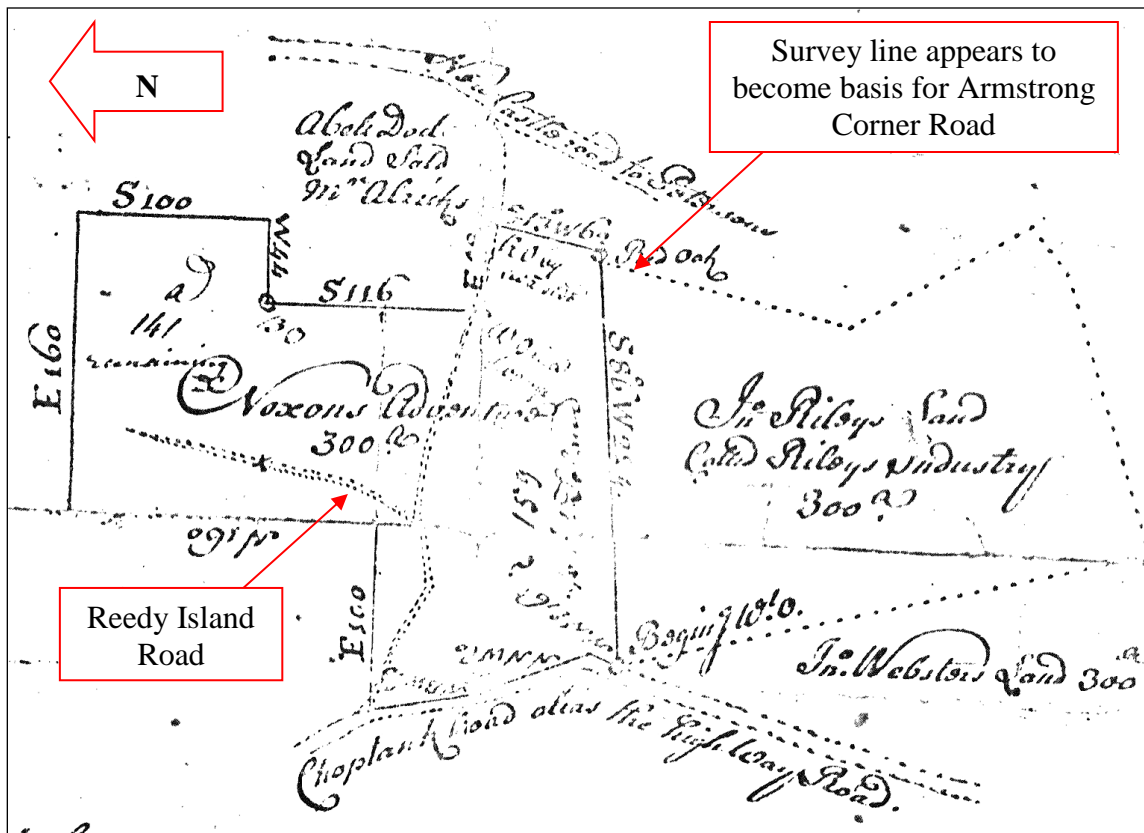


Figure 3: 1771 Re-Survey by Peter Hyatt of Noxon's Adventure (New Castle County Warrants and Surveys, B2 #131).

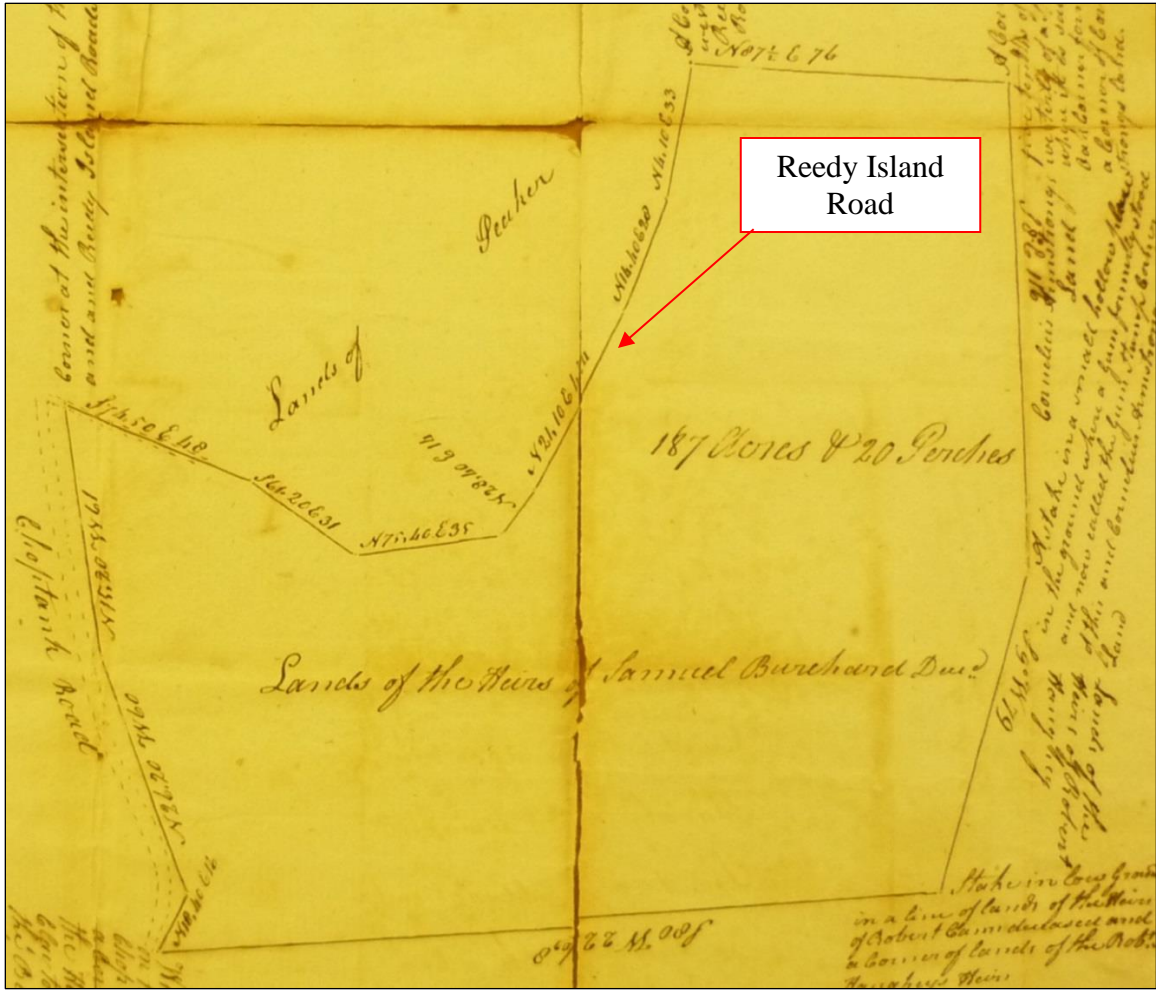


Figure 4: New Castle County Orphans Court Survey for the Heirs of Samuel Burchard, 1799 (On File at the Delaware Public Archives).

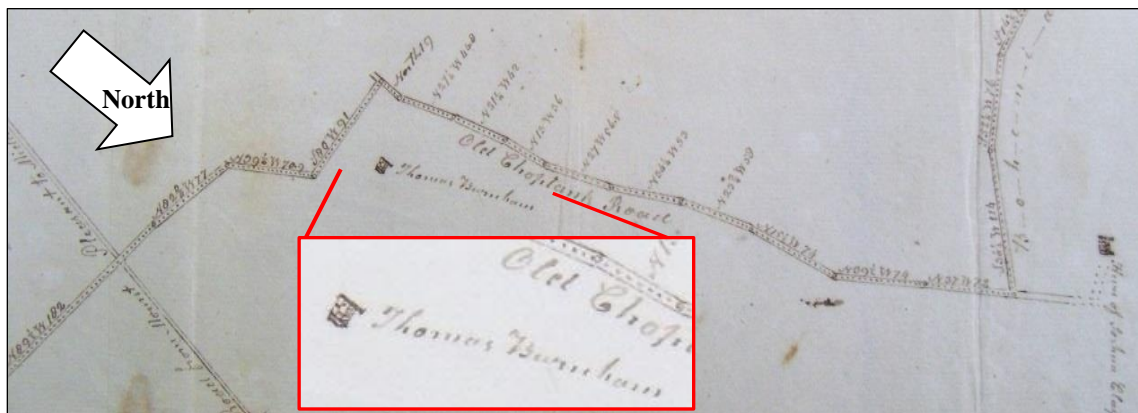


Figure 5: Detail of 1802–1803 Petition of John A. Pennington, St. Georges Hundred, New Castle County Road Papers (On File at Delaware Public Archives). Detail of building inset.



Figure 6: Orphans Court Survey for the Heirs of Joanna Burnham, 1844
(On File at the Delaware Public Archives). Detail of buildings inset

In 1873 descendants of Thomas Burnham took out a Farmers Mutual Insurance policy on the property covering “a New 2 Story Frame Dwelling Situated on his farm in St. Georges Hundred about 2 ½ miles from Middletown.” What is believed to be a depiction of this “New House” appears on the 1868 *Atlas of the State of Delaware* map (Pomeroy and Beers 1868). The house that is shown on this map is undoubtedly the Burnham House examined during the course of Dovetail’s investigation, as several landscape elements such as the long drive leading from the road to the south and neighboring farmsteads match the current landscape. In the twentieth century, the house and parcel were sold from the Burnhams and passed through various owners and portions of the original parcel, including the Burnham House ruins were eventually acquired by the State of Delaware.

ARCHITECTURAL ANALYSIS

Prior to archaeological fieldwork, Dovetail conducted an architectural analysis of the above-ground remains of the Burnham House, its surrounding outbuildings, and all other

architectural features to aid in completion of the archaeological investigation. Details recorded during the analysis included building materials, structural composition, and overall plan, resulting in an interpretation of the building construction phases and use. Samples of various architectural components were collected for further analysis based on this inspection, as requested by DelDOT.

Although the Burnham House was no longer extant during the current investigation, field observations, aided by a set of documentary photographs captured in 1988, helped to decipher its construction chronology and building style (Figure 7). Though previous investigations suggested that the Burnham House was the possible remains of an eighteenth century dwelling, further inspection determined that the Burnham House was a two-story, five-bay vernacular Gothic Revival I-house with an L-shaped plan, built in the late-1860s. The home has an uncoursed stone foundation and rubble chimney off the kitchen ell, but the structural system was timber frame.



Figure 7: Burnham House in 1988 (left) and 2011 (right), Southwest Oblique.

Physical and photographic evidence indicated that the house underwent extensive updating in the first part of the twentieth century, including the unique architectural step of replacing what was a hand-made brick transition between the stone foundation and the timber frame structure with a machine-made brick edifice. This undertaking was likely painstaking and costly, but the condition of some remnant hand-made bricks at the site suggests that the locally made bricks likely weathered quite poorly, leaving the structure in peril. Such a drastic measure as replacing part of the underpinning of the structural system was necessary despite the risks.

Other structural changes made to the home include the addition of an early-twentieth century sleeping porch to the east elevation, the installation of a Craftsman/Colonial Revival primary entry hood in the early- to mid-twentieth century, construction of a rear cinderblock addition in the mid-twentieth century, and rebuilding the steps leading to both the main doorway and the east entry, also in the mid-twentieth century. Map and aerial photographic inspection verified that the Burnham House was destroyed by fire in the 1990s.

In addition to the Burnham House ruins, the team identified one extant outbuilding and eight ruins, comprising mostly foundational remains (Figure 8). The eight known structures

comprise several construction methods, although the usage for many remains a mystery. Of the structures, two consist of a stone and mortar foundation, three consist solely of a poured concrete foundation, one consists of both concrete block and poured concrete foundation, one is a windmill, and one is a shed—still standing. The windmill, constructed of metal, stands approximately 45 feet (13.7 m) tall with a machine-made brick-lined well below.

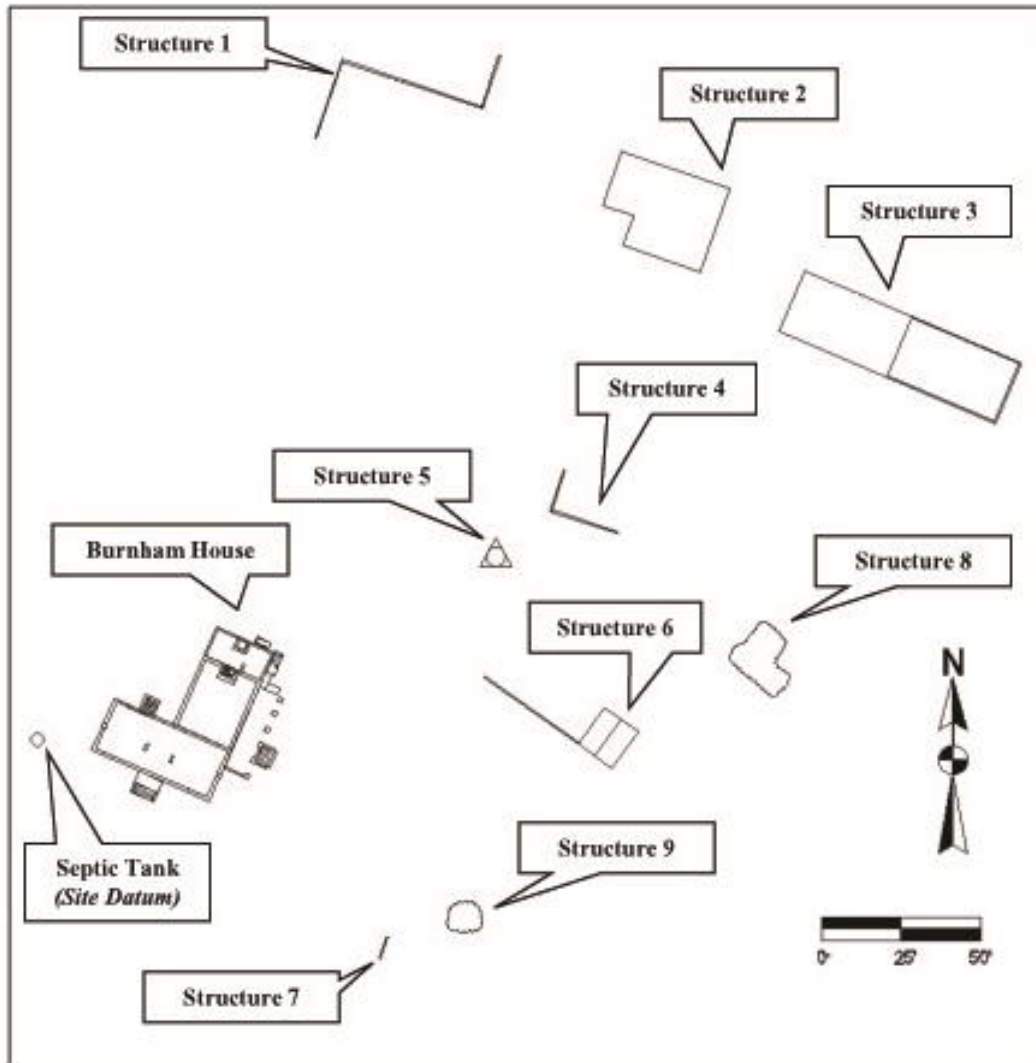


Figure 8: Burnham House Site (7NC-F-157) Plan Map.

ARCHAEOLOGICAL TESTING

Phase II investigations were conducted on the 4.4-acre (1.8-ha) site and consisted of both a pedestrian survey and subsurface testing. Archaeologists performed the pedestrian survey to identify disturbed portions of the project area, locate any cultural features visible on the surface, and identify archaeological resources. Subsurface investigations included both systematic shovel testing and test units focused on identified surface and subsurface cultural features.

These investigations resulted in the recovery of almost 7,000 artifacts from 233 close-interval shovel tests and 30 test units. The assemblage was dominated by architectural artifacts (72.1 percent; n=5,037), not surprising given the above-ground remains of the Burnham House and remnants of nine other structures. The collection also contains an abundance of vessel and/or bottle glass (14.5 percent; n=1,014). Large quantities of this artifact category is commonplace on late-nineteenth and twentieth century sites and is likely reflective of the later occupation of the property. The ceramic assemblage comprises 2.4 percent (n=168) of the overall Phase II collection. This assemblage is particularly useful in further assessing the site's occupation timeframe and was used in this analysis to augment interpretations from both the archival and architectural analysis of the site. A calculation of the Mean Ceramic Date (MCD) results in a mean occupation date of 1882, which generally indicates a central habitation period. Backed by historic documentation, the architectural analysis and archaeological study confirmed that the Burnham House was constructed in the late 1860s, consistent with the ceramic analysis. The remainder of the collection consists of very small portions of arms and ammunition materials (0.1 percent; n=7), metal (6 percent; n=416), organic (3.4 percent; n=234), other (1.1 percent; n=79), and personal items (0.4 percent; n=30).

Through the course of archaeological investigations it became apparent that the property, in particular the remains of the main house, had undergone extensive grading and demolition via heavy machinery. Test units adjacent to the Burnham House remains yielded plastic and modern trash below the uncoursed stone rubble foundation, further evidence of the lack of horizontal and vertical integrity of the site. It is likely that the entire site or at least large portions of it were graded following the destruction of the main house by fire in the 1990s.

REORIENTING THE LANDSCAPE

Archival research showed that the general parcel was occupied during the eighteenth century; however, the architectural and archaeological undertakings indicate that the Burnham House is not reflective of this early occupation, but rather postbellum residency. So where was the eighteenth century house complex? Historic maps of Noxon's Adventure in the eighteenth century show Old Reedy Island Road north of the present Burnham House location, and this cart road was noted as the northern boundary of the parcel in 1771 warrant records (New Castle County Warrants and Surveys). Old Reedy Island Road was also depicted on an 1844 map of Joanna Burnham's holdings in the New Castle County Orphan Court records (New Castle County Orphans Court case files).

In order to more clearly understand how these depictions of the cart road relate to the current landscape, scans of these images were overlaid with modern aeriels and cross-referenced using specific geographical features. Georeferencing was completed historic and modern maps in conjunction with surveyor's courses recorded on historic depictions (written in metes and bounds, with distances recorded in perches). The residual error values obtained from the georeferencing process were lower for the 1844 map than those obtained from the 1771 map, indicating a somewhat higher degree of accuracy of the transformation of the 1844 map.

Based on this exercise and according to the 1771 warrant records map, the Reedy Island Cart Road traversed the “Noxon’s Adventure” parcel north of the current Burnham House site location (Figures 9 and 10). Additionally, the map shows a spur of the cart path that extends in an east-west orientation directly north of the Burnham House (see Figure 9). The 1844 Orphans Court map of Johanna Burnham’s estate shows only the orientation of the Reedy Island Cart Road that passes well to the north of the Burnham House. This map does not portray the east-west oriented spur noted on the 1771 map. It is important to also note the difference in alignment between the 1771 and 1844 map; the differing route of the cart road is likely a factor of georeferencing and not of an actual change in the location of the historic cart road.

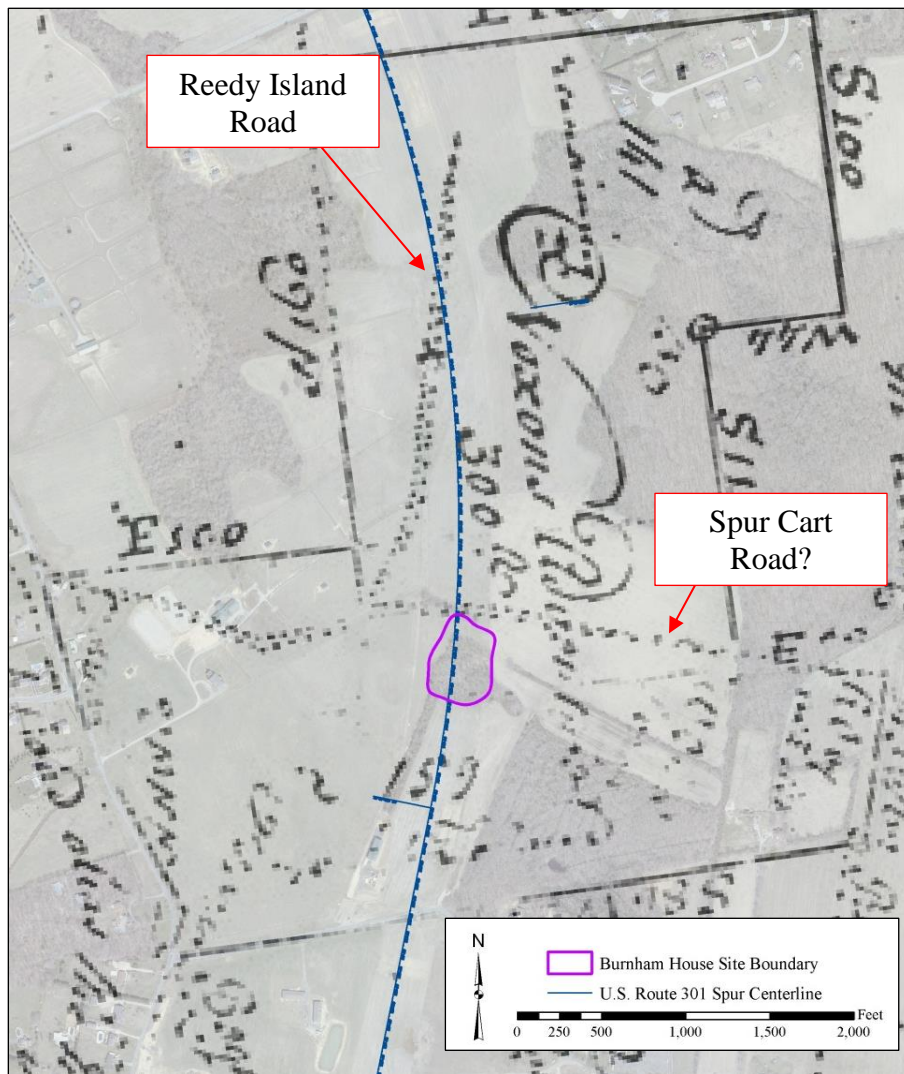


Figure 9: 1771 Survey for Benjamin Noxon Overlaid on a Modern Aerial (New Castle County Warrants and Surveys, B2 #131).
The new Route 301 corridor is dashed in blue.

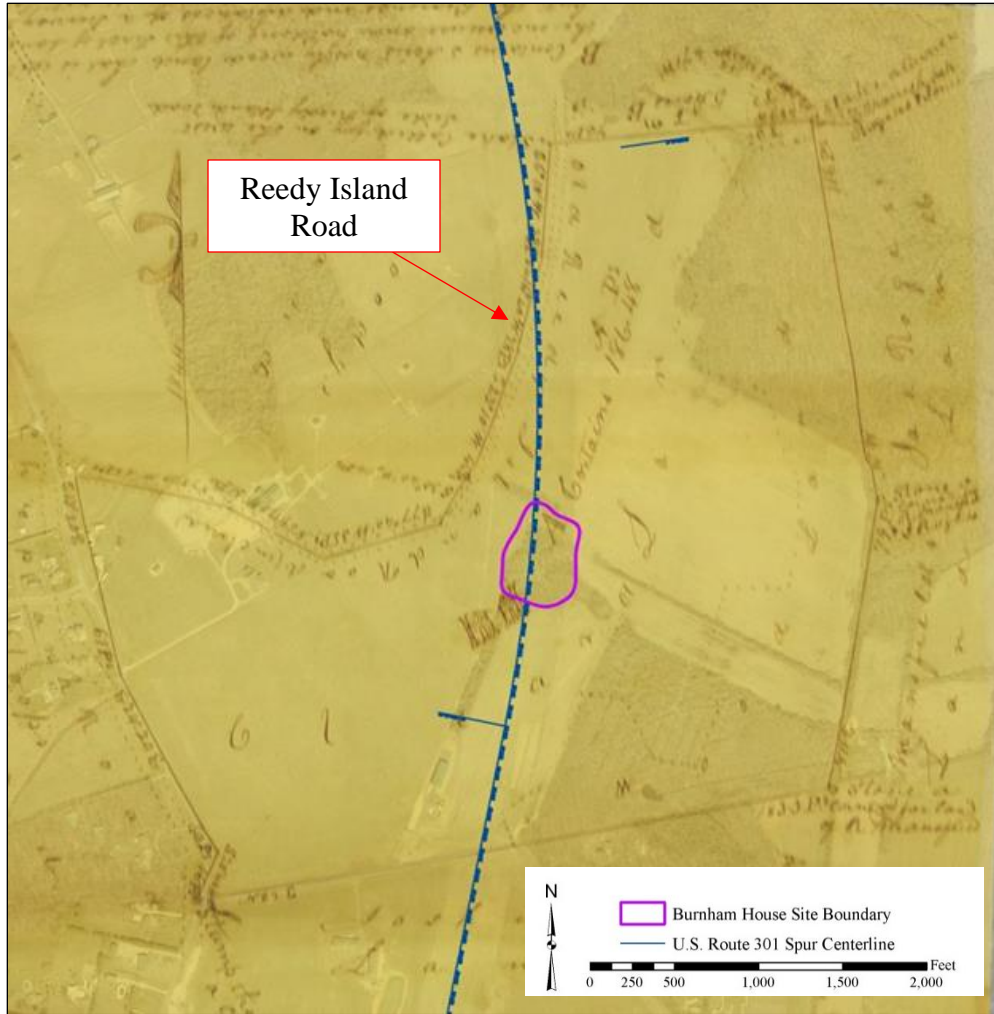


Figure 10: Orphans Court Survey for the Heirs of Joanna Burnham, 1844, Overlaid on a Modern Aerial (On File at the Delaware Public Archives). The new Route 301 corridor is dashed in blue.

Based on this map analysis, the earliest occupation of this property was likely north and west of the Burnham House site, and the postbellum residents reoriented the parcel in the 1860s to access the new regional road system to the south as opposed to remaining along the defunct eighteenth century cart road to the north. They also moved the core of domestic occupation to the east to sit on a slightly higher topographic knoll than the original Noxon dwelling.

These historic maps and court records indicate that this historic cart road was an important landscape organizing element across the region, and the road was likely an organizing factor for the domestic occupation of this parcel in particular. This theory is further backed by a comparison of this site to nearby farmsteads. The extant house was constructed during the Period of Rebuilding in St. Georges Hundred, 1850–1880, as defined by Herman et al. (1985). This period is marked by a consolidation of agricultural properties and is characterized by the joining of domestic and agricultural spheres. The Burnham House and its multiple associated agricultural outbuildings are reflective of this reorganization.

Probably the most compelling physical evidence of this eighteenth/nineteenth/twentieth century interface sits just northeast of the Burnham House. The one standing outbuilding on the property clearly exhibits construction modifications from all three occupation centuries. Upon initial investigation, the building appears to simply be a dilapidated garage, but a careful architectural analysis highlights original eighteenth century construction, as the structure has a timber frame built using hand-hewn beams joined through mortise and tenon and peg technology (Figures 11 and 12). The structure was augmented and reused in the nineteenth century, when a new roof was installed and the interior was resurfaced with circular-sawn lumber fastened with cut nails. It was changed again in the twentieth century to accommodate the new automotive needs of the occupations through the installation of a large garage door on the south elevation and other structural changes utilizing ungalvanized wire nails. It appears that this one outbuilding is the remaining above-ground vestige of the earliest use of this property in the eighteenth century.



Figure 11: Standing Shed, Structure 6.

This building is situated south and fairly close to the east-west oriented “spur” off the Reedy Island Cart Road evident on the 1771 warrant records map. Therefore based on its architectural history and historic maps, it may be representative of the earlier Noxon occupation of the parcel and it was likely re-purposed in the 1860s when the Burnhams reorganized property. It is such a small building, but it holds such immense importance in our understanding of site cultural transitions through the centuries.

In sum, although not significant as a nineteenth century farmstead, the archival, architectural, and archaeological analysis performed at the Burnham House site helps us to better understand the historical evolution of the parcel. In particular, the nineteenth and twentieth century remains helps decipher the reorganization of the domestic and agricultural localities on eighteenth-century Noxon's Adventure and provides clues on the 300-year occupation of the surrounding landscape.



Figure 12: Construction Detail of Shed, Structure 6.

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ERRATA

THE BULLETIN OF THE ARCHAEOLOGICAL SOCIETY OF DELAWARE

NUMBER FORTY-SEVEN, NEW SERIES, 2010

“DELAWARE AMERICAN INDIAN CERAMICS: RADIOCARBON DATES”

Daniel R. Griffith

The maps associated with the ceramic type radiocarbon dates scatter plots, Figure 1 through Figure 12, show the location of the radiocarbon dates in Delaware associated with each ceramic type. The areas marked in “red” on the maps are the approximate locations of individual radiocarbon dates or clusters of radiocarbon dates. The maps do not show the statewide distribution of the respective ceramic types, only the locations where radiocarbon dates have been obtained as of the writing of this report.

For further discussion of the regional distribution of the ceramic types in this report, the reader is referred to the Delaware Department of Transportation (DelDOT) web posting of the full versions of this and related reports in the Gray Farm Site Phase II and III analysis, Volume II, Appendices 10.1 and 10.2 posted at: http://www.deldot.gov/archaeology/north_frederica/GrayFarmSite/phaseII_III/index.shtml.

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*THE BULLETIN OF THE
ARCHAEOLOGICAL SOCIETY OF DELAWARE*

VOLUME NUMBER FORTY-EIGHT, NEW SERIES
2011

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