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Venison Trade and Interaction between English Colonists and Native Americans in Virginia's Potomac River Valley

D. Brad Hatch

Trade played a crucial role in the relationships that formed between European colonists and Native Americans during the early colonial period. In the 17th-century Potomac River valley the interactions between Native Americans and Europeans laid the foundations for the emergence of a truly creolized society. Much of the research on these relationships has focused on Maryland contexts and post-1660 contexts on Virginia's Northern Neck. This paper examines the influence of Native Americans on the early settlement of Virginia's Potomac Valley using the Hallowes site (44MW6) as an example. Skeletal-portion and age-distribution analyses of the deer remains at the site and a rich historical context are used to indicate trading relationships that existed between the residents of the site and local Native Americans. Through this trade, and the interaction it facilitated, people like John Hallowes participated in the increasingly complex intercultural relationships that defined the early Chesapeake.

Le commerce a joué un rôle crucial dans l'élaboration des relations entre les colons européens et les Amérindiens au début de la période coloniale. Dans la vallée de la rivière Potomac, au XVIIe siècle, les interactions entre les Amérindiens et les Européens ont jeté les bases de l'émergence d'une société véritablement créolisée. La plupart des recherches sur ces types de relations se sont concentrées sur des exemples provenant du Maryland et du nord de la Virginie post-1660. Cet article examine l'influence des Amérindiens sur les premiers établissements dans la vallée du Potomac, utilisant le site de Hallowes (44MW6) comme exemple. L'analyse des parties de squelettes et de la répartition de l'âge au décès des cerfs, juxtaposée à une riche mise en contexte historique, permettent d'aborder les relations d'échanges existant entre les résidents du site et les Amérindiens locaux. Grâce à ces échanges et à l'interaction qu'elle a facilitée, des gens comme John Hallowes ont pu participer aux relations interculturelles de plus en plus complexes qui définissent le début de la colonisation du Chesapeake.

Introduction

Native Americans played a crucial role in the development of colonial society in the Potomac River valley in the 17th century. Native Americans in the Potomac provided land, place names, marriage partners, food, and economic opportunities to the English settlers who lived in southern Maryland and on Virginia's Northern Neck (Potter 1976; Fausz 1988: 63–74; Potter 1993; Potter and Waselkov 1994; Rice 2009). While a significant amount of research has been conducted on interaction between English and Native Americans during the early settlement of Maryland, comparatively little work has focused on Virginia's Potomac shore during its early settlement period (Potter 1976, 1993; Merrel 1979; Fausz 1984, 1988; Cissna 1986; Clark and Rountree 1993; Potter and Waselkov 1994; Curry 1999; Davidson 2004; King and Chaney 2004; Klein and Sanford 2004; Flick et al. 2012). Trade was the primary form of interaction between the groups during this period. Trading relationships between the English settlers of the Potomac Valley and the native inhabitants of the region brought these two groups into sustained and regular contact that affected both cultures.

These increasingly intimate relationships, fostered through economic and cultural exchanges, were crucial to the colonial endeavor in the early Chesapeake. Cross-cultural encounters during this period of sustained contact ranged from peaceful coexistence and interaction to violence and warfare (Rountree and Turner 2002: 125–176; King and Chaney 2004; Mallios 2006). The interactions between European settlers and Native Americans, however, often were more complex than peace or violence, existing along a continuum between these two extremes and heavily dependent on the context of the encounter. The following analysis examines economic exchange and interaction at one site in Virginia's Potomac Valley to highlight the importance of trade and interaction in the colonial endeavor. While the interactions and relations that I discuss appear to fall at the

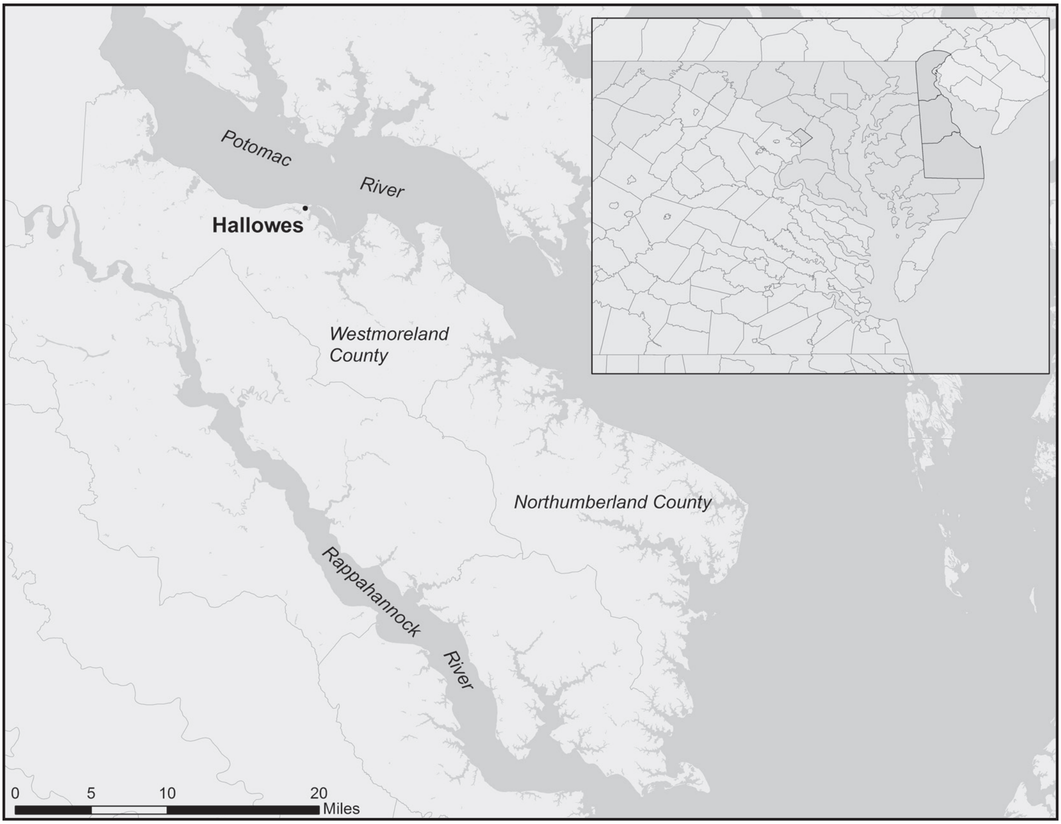


Figure 1. Location of the Hallowes site (44WM6). (Map by Crystal Ptacek, 2012.)

peaceful end of the scale, it should be recognized that European expansion on the Northern Neck, which was aided by these interactions, served to completely dispossess and displace thousands of Native Americans in the area through violent and coercive means by the end of the 17th century (Sprinkle 1985; Potter 1993: 174–223). Ultimately, what may seem like relatively innocuous interactions between European settlers and their native neighbors almost always contained the potential for violent consequences due to their culturally charged meanings (Mallios 2006).

This research focuses on the role of venison at the Hallowes site to learn more about the nature of trading exchanges between the English colonists and the local Native American groups and the relationships they formed during the early period of settlement in Virginia's Potomac Valley. By examining multiple sources of evidence of this trade at the site, I attempt to show that the English settlers acquired venison, as represented by faunal remains, through intercultural exchange. To provide a proper context for the work that follows, I first address the excavation, background, and reanalysis of the site in a general sense and then move to a description of the archaeological features dating from the first phase of the site occupation, 1647–1666. Evidence from these features was used in the primary faunal analyses.

I then examine the historical documentation and archaeological material that links the members of the pre-1666 household to Native American trading networks; in the process I establish the characteristics expected in an assemblage of deer bones acquired through exchange with Native Americans. Next, I turn to the pre-1666 phase faunal assemblage from the site, briefly describing its composition and taphonomy, and then focusing on the deer bones with a skeletal-portion and age-distribution analysis. Finally, I bring all of the evidence together, including references to site occupants trading with Native Americans, native-influenced artifacts, and evidence from the deer bone assemblage that indicates the animals were being selectively hunted and transported to the site, to argue that Native Americans were providing people at the Hallowes site with venison prior to 1666, thereby contributing to the intercultural relationships that defined society and culture in the 17th-century Potomac Valley.

Overview of the Hallowes Site

The Hallowes site rests along the banks of Currioman Bay in the Potomac River valley in Westmoreland County, Virginia (FIG. 1). Currently, the site is located on private property within the Stratford Harbor development (Buchanan and Heite 1971: 38). The parcel was first patented in 1651 by John Hallowes (Library of Virginia 1643–1651: 282). Hallowes, born in 1615 in Lancashire, England, came to St. Mary's City on the *Ark* in 1634 as a servant to Thomas Cornwalyes (Fishwick 1888: 158). Upon the completion of his indenture in 1639, Hallowes acquired land in St. Michael's Hundred and prospered as a carpenter, planter, and trader (*Archives of Maryland* 1887: 52)—see Hatch, McMillan, and Heath (2013) for a more in-depth discussion of John Hallowes's life. In 1645 he participated in Ingle's Rebellion, which successfully wrested control of the Maryland colony from Lord Baltimore until late 1646 (*Archives of Maryland* 1885: 174; Riordan 2004). Hallowes and several other former rebels fled to Virginia, after Lord Baltimore regained control of the colony, and settled at the site discussed below. John Hallowes died in 1657, passing this land to his widow and her new husband, David Anderson, who moved to Stafford County in 1666 (Nicklin 1938: 440).

The property then passed to Hallowes's daughter, Restitute, and her husband John Whiston, who repatented the land in 1667. John Hallowes's granddaughter, also named Restitute, and her husband, Matthew Steel, inherited the land in 1674. Upon Steel's death in 1680, Restitute married John Manley, who obtained permission to evict the tenants from the land the next year (Buchanan and Heite 1971: 39). It is most likely that tenants began to occupy the site sometime in the 1660s, perhaps 1666, when the Andersons moved to Stafford. Based on the historical reference to their eviction and the archaeological evidence discussed below, tenants probably remained on the land until 1681 (Library of Virginia 1675–1689: 220). The land stayed in the Manley family until 1722, when Samuel Hallowes, a distant cousin of John, sued for and won the property. He never came to Virginia and sold the land to Thomas Lee of Stratford Hall in 1733. The land remained in the Lee family until 1838 (Buchanan and Heite 1971: 39).

The site was first identified in 1968 as part of a survey conducted by Virginia Sherman and William Buchanan from the Archeological Society of Virginia (ASV) in advance of the Stratford Harbor development. Upon the identification of the site, salvage excavations were conducted from 1968 to 1969 by the ASV and the Virginia Historic Landmarks Commission under the direction of William Buchanan and Edward Heite (Buchanan and Heite 1971: 40). During this recovery much of the plowzone was stripped from the site, meaning that spatial data for plowzone artifacts is highly limited, and the soil matrix was not screened, consequently affecting recovery. Excavation revealed the remains of a 50 × 20 ft. post-in-ground fortified dwelling with bastions on two opposite corners, trash pits, and numerous artifacts, including Late Woodland/contact period Native American ceramics such as Moyaone and Potomac Creek types, European ceramics, imported and locally made tobacco pipes, and faunal remains (FIG. 2).

Upon completion of the excavation, a brief report was published in *Historical Archaeology* (Buchanan and Heite 1971). This analysis dated the site to the last quarter of the 17th century and this interpretation has been generally accepted since that time (Buchanan and Heite 1971: 39; Neiman 1980: 74; Carson et al. 1981: 129; Hodges 1993: 205–206; Neiman 1993: 265). A complete report for the site was never completed and the evidence for the late-17th-century date of occupation could not be readily evaluated.

Given the brevity of the initial analysis of the findings, this site was an ideal candidate for reanalysis as part of a larger project examining 17th-century sites on the Northern Neck of

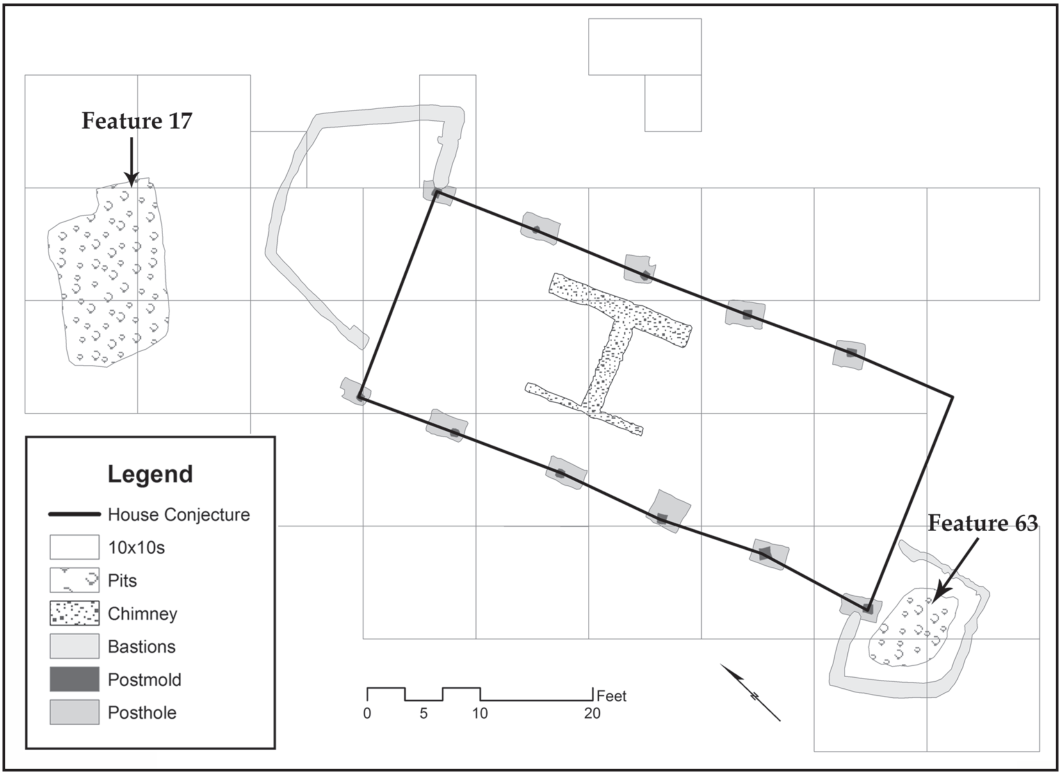


Figure 2. Overall map of the Hallowes site excavation, showing the pre-1666 features considered in this analysis. (Map by Crystal Ptacek, 2012.)

Virginia directed by Barbara Heath at the University of Tennessee, Knoxville, (Heath et al. 2009; Hatch, McMillan, and Heath 2013; McMillan and Heath 2013). In light of a better understanding of 17th-century material culture gained through 40 years of archaeological research, a comprehensive analysis of the artifacts in context, and a detailed examination of the history of the site, the reanalysis has shown that the dwelling was constructed in 1647 by John Hallowes and occupied by John and his family until ca. 1666. The dwelling then was occupied by tenants from ca. 1666 until 1681 (Hatch, McMillan, and Heath 2013).

Evidence for these dates comes from a combination of historical references and the recent reanalysis of the archaeological collection. The archaeological evidence for the occupation date of the site comes from artifacts in posthole contexts, pipe-stem dates, and mean ceramic dates. Of the 11 structural postholes excavated at the site, only 1 contained a datable artifact, a locally made belly-bowl-style tobacco pipe (FIG. 3). These pipes generally indicate an early- to mid-17th-century date on sites in the Chesapeake (Luckenbach and Sharpe 2007). This particular pipe bowl, however, appears to be a type associated with Ingle's Rebellion, which took place in Maryland between 1645 and 1646, due to the fact that it has only been found at sites with ties to rebels from this period (McMillan and Hatch 2012). Therefore, in the absence of other datable artifacts, this pipe-bowl type sets a terminus post quem (TPQ) for construction of the dwelling at around 1650. The latest dating artifact found within one of the postmolds was a fragment of North Devon gravel-tempered ceramic, setting a TPQ for the end of occupation at 1675. While this ceramic type might be as early as the mid-17th century, it generally does not become common in the Chesapeake until 1675 (Noël Hume 1969: 133; Maryland Archaeological Conservation Lab 2012). Additionally, a pipe recovered from the plowzone bearing the mark of Priamus Williams, dated to 1677,

Figure 3. Locally made belly-bowl pipe dating to the mid-17th century. (Photo courtesy of Virginia Department of Historic Resources; photo by Lauren McMillan, University of Tennessee, Knoxville, 2012.)

corroborates the end date for the site since it was the latest, clearly nonintrusive artifact recovered.

Pipe-stem bore dating was also carried out using the 623 measurable imported pipes recovered from the site. Three separate pipe-stem dating methods were used for this assemblage, including the Harrington histogram, the Binford linear regression formula, and Hanson's third regression formula for sites dating between 1650 and 1710 (Harrington 1954; Binford 1962; Hanson 1968). All three of these methods agreed quite well with the date range predicted using a TPQ of 1650–1675. The Harrington histogram yielded a date range of 1650–1680, the Binford formula yielded a mean date of 1660, and Hanson's formula yielded a mean date of 1665.

Finally, a mean ceramic date (MCD) for the site features was calculated to be 1662, also agreeing with the other archaeological dating methods. This calculation was adjusted by removing ceramic types that had exceedingly long production ranges, such as tin-glazed earthenware, and types that were ambiguous in terms of identification or dating, such as the locally produced Morgan Jones type. Additionally, the beginning dates for all the early ceramic types were pushed forward to 1634, since the European occupation of the Potomac Valley did not begin until the settlement of St. Mary's City in that year. In effect, the adjustment of these dates kept the MCD from being pulled back in time artificially, due to the quantities of ware types such as Mérida, Martincamp, Saintonge, and North Italian slipware, all of which have beginning production dates of 1600 or earlier.

The archaeologically derived occupation date for the site of ca. 1650–ca. 1675 was refined further using historical documentation. In 1651 John Hallowes received a patent for 2,400 ac. of land that encompassed the location of the archaeological site (Buchanan and Heite 1971: 39). Despite the patent date, it is likely that Hallowes had already established his home at this site, since patents could often take years to be granted officially due to the bureaucratic and corrupt nature of the process in Virginia (Morgan 1975: 172–173, 405–406).

More temporally reliable documents that place Hallowes at this site earlier than 1651 take the form of court records from Maryland and Virginia. The first historical reference that places John Hallowes in Virginia is contained within the *Judicial and Testamentary Business of the Provincial Court* in Maryland. This reference, dated to 30 September 1647, reveals that John Hallowes of "Apomatakes" settled a debt he owed to Thomas Cornwalyes in Maryland (*Archives of Maryland* 1887: 331). The fact that Hallowes is referenced as "of Apomatakes" shows that he had left Maryland and taken up residence in that area of Virginia, which would have included the location of the site in 1647. By 1650 he was a county commissioner for Northumberland County, which included the site until 1653, and began to be known as John Hallowes of Nomini, pinpointing his location in the Nomini Bay area of Virginia, though not necessarily on Nomini Bay itself (Library of Virginia 1650–1652: 49, 1653–1659: 15). These historical references, taken in concert with the archaeological evidence, seem to indicate that John Hallowes constructed the dwelling at the site around 1647 when he moved from Maryland to Virginia.

The *Westmoreland County Order Book for 1681* contains evidence for the end of occupation at the site. It was in this year, 1681, that John Manley, who then owned the site, was granted permission to evict the tenants that resided on his property (Library of Virginia 1675–1689: 220). The close correlation of the date of eviction with the archaeologically derived date for the end of occupation suggests that the eviction of tenants in 1681 was likely the reason for the abandonment of the site. It appears that tenants occupied the site around 1666 when Hallowes's widow moved to Stafford County with her new husband, David Anderson (Nicklin 1938: 440).

While this move is more difficult to date archaeologically than the beginning or end of the site occupation, it appears to coincide with landscape modifications that included the removal of the bastions associated with the house and the construction of ditch-set fences. Changing households and household compositions often serve as catalysts for landscape rearrangement at sites during the entirety of the historical period (Groover 2004), and the Hallowes site appears to be no exception. It is likely that the tenants changed the landscape to suit their needs and may have removed the bastions as a part of this renovation. The lack of artifacts in the bastion fill that definitively postdate 1666 appears to support this assertion, particularly the lack of North Devon gravel-tempered ceramic, which is present in postmold contexts.

Features Analyzed

Three sets of features were selected for this analysis due to their correspondence with the earliest phase of occupation for the site, 1647–1666. These three feature groups included the bastions and two large pit features (FIG. 2). The majority of the artifacts, both faunal and nonfaunal, recovered from features came from these three features. It should be reiterated that none of the soil on the site was screened and that most of the plowzone was removed without sampling. Relying on feature contexts allows us to maintain some chronological control over the sample but also provides some degree of consistency in recovery technique. Indeed, it appears from site photographs that most, if not all, features were excavated by trowel. These excavation methods, while not as rigorous as screening, seem to have increased artifact recovery compared to shoveling, which is evidenced by small artifacts such as fish bones and straight pins recovered at a higher rate from features than from plowzone. I fully acknowledge, however, the bias inherent in hand-picking artifacts during excavation as compared to systematically screening soil.

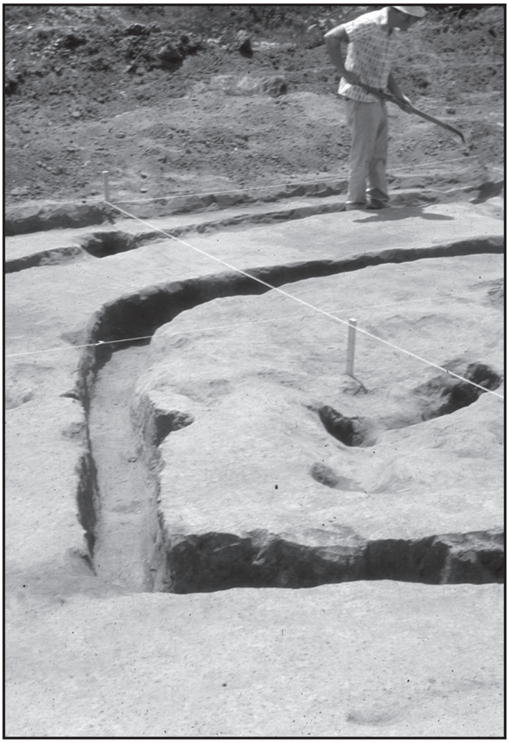


Figure 4. Southwest bastion after excavation. (Photo courtesy of Virginia Department of Historic Resources, 1969.)

Directly off the southwest and northeast corners of the house were two large ditch-set bastion features (FIG. 4). Previously interpreted by Buchanan and Heite (1971: 41) as wing additions or drains, these features have subsequently been recognized as domestic fortifications (Neiman 1980: 74, 1993: 265–266; Hodges 1993: 205–206; Hatch, McMillan, and Heath 2013). Ditch fill and postmolds were not separated during excavation. Although, based on the site plan and notes, it appears that the excavators did recognize postmolds in some sections of the bastions, particularly the southwest bastion. It must be recognized that Hallowes was the first fortified house and one of the first post-in-ground buildings excavated in the Chesapeake and methods for identifying and excavating this type of structure had not been fully developed. While other 17th-century fortified settlements have been uncovered in the Chesapeake, the form of this particular fortified house is without equivalents, making it wholly unique from an archaeological perspective (Hatch, Heath, and McMillan [2014]).

The southwest bastion measured approximately 9 × 12 ft., and the northeast bastion measured approximately 13 × 20 ft. The reason for the much larger size of the northwest bastion is unknown, but it may be due to the fact that this bastion would have faced the water, thus making the dwelling seem more imposing to those viewing the site from Currioman Bay and the Potomac River. This positioning of the larger bastion may indicate that the house was fortified due to either fear of attack by Lord Baltimore's Maryland forces or as a show of strength by the former rebels, since an attack by Native Americans would likely have come by way of land and not water.

The southwest bastion consists of Features 64 and 74, while the northeast bastion is represented by Features 19, 35, and 96. The fill for these features does not offer a distinct construction date, but the fact that both bastions cut structural postholes indicates that they were put up after the building was completed. The fill from the bastions indicates that they were taken down around the 1660's due to the presence of Morgan Jones–type ceramics. However, the identification of this ceramic type and its use to date features is tenuous at best, particularly during this early period (McMillan, Hatch, and Heath [2014]). Based upon the lack of North Devon gravel-tempered ceramic in the fill and the presence of fence lines that would have created blind spots in the defenses, it appears that the bastions were not present for the entire site occupation. Therefore, it stands to reason, based upon John Hallowes's historical context and the artifacts contained within the features, that the bastions were probably constructed right after the house was finished and removed shortly after Hallowes's death, probably around 1666 when David Anderson moved to

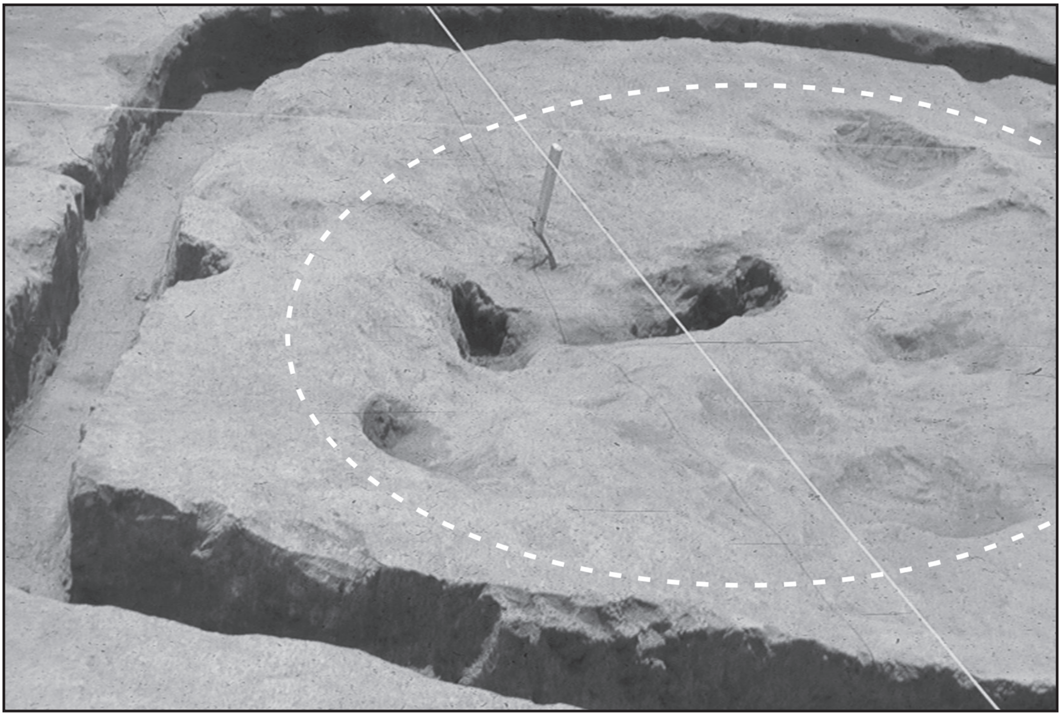


Figure 5. Feature 63 after excavation. Note relationship between the bastion ditch and the divots in the feature, possibly indicative of shovel marks. (Photo courtesy of Virginia Department of Historic Resources, 1969).

Figure 6. Feature 17 during excavation. Note northeast bastion in *foreground*. (Photo courtesy of Virginia Department of Historic Resources, 1969).

Stafford County and the site was occupied by tenants.

Within the southwest bastion, the excavators discovered a shallow basin-like feature, Feature 63, measuring approximately 5 × 8 ft., that they interpreted as a pit or privy. The depth of the feature is unknown, but based upon photographs it appears to have been relatively shallow compared to the bastions and Feature 17 (FIG. 5). The feature contained two layers, both with similar artifact assemblages and identified as dark fill layers. Feature 63 contained a large number of artifacts, particularly faunal remains (it is second only to Feature 17 in terms of the number of faunal remains on the site). Like the bastions, the TPQ for this feature was determined to be sometime in the 1660s based upon the presence of ceramic identified as Morgan Jones type in both layers and its relation to the bastions. However, as with the bastions, dating features using this type of ceramic may be problematic.

Based upon the location of Feature 63 within the boundaries of the bastion ditch, it was likely constructed while the bastion was being used. It is possible that the feature was excavated and the fill was thrown against the sides of the bastion to create a firing step, which would have allowed defenders to shoot over the palisade from the interior (Noël Hume 1982: 223–225). This interpretation is supported by the fact that the photographs of the feature appear to show several divots within the feature cut, possibly suggesting shovel marks created during the initial excavation of the feature in the late 1640s (FIG. 5). The feature was, in all likelihood, filled when the bastions were taken down, probably around 1666.

Located approximately 10 ft. north of the dwelling was Feature 17, a large rectangular pit feature measuring approximately 9.5 × 13 ft. Like the other features on the site, the exact depth and profile are unknown. Judging from photographs, the walls of the feature appear to have been relatively vertical, but the depth could not be estimated because there were no post-excavation images (FIG. 6). Originally, the feature was interpreted as a possible cellar or pipe kiln with three layers, though the evidence for its use as a pipe kiln is unclear and is only mentioned in the excavation notes. The first layer appears to have been a dark, artifact- and oyster shell–rich fill layer. The second layer was defined by ash and oyster shell. The third layer was defined by significant amounts of mortar. Finally, there was a brick disturbance that cut the lower layers of the feature.

The uppermost layer was assigned a TPQ of 1660s based upon the presence of Morgan Jones–type ceramic, though, as previously mentioned, the use of this ceramic to establish dates is questionable. However, a post-1660 TPQ is supported by a single fragment of Rhenish stoneware with manganese decoration. It should also be noted that the largest amount of Native American ceramics came from this context, possibly indicating an early date. The middle layer contained the largest amount of artifacts on the site, particularly faunal remains, and was assigned a TPQ of ca.1640s due to the presence of a Bookbinder-style pipe stem (Luckenbach and Kiser 2006: 165). Finally, the lowest layer contained a single fragment of Martincamp-type ceramic, which set the TPQ for this context as 1634, reflecting the earliest settlement of the Potomac River valley by Europeans at St. Mary's City (Hurry and Miller 1989). The brick disturbance contained few artifacts, but a TPQ of ca. 1640s was assigned based upon the presence of a Bookbinder-style pipe stem (Luckenbach and Kiser 2006: 165). The TPQs for these layers within Feature 17 indicate that it was constructed around the same time as the dwelling, 1647, and probably completely filled after ca. 1666, when tenants began to occupy the site. The brick disturbance, however, may be later and is certainly intrusive based upon its description as a disturbance.

While the dating of Feature 17 is relatively straightforward, its function is somewhat more enigmatic. The shape of the feature, in plan, appears to indicate that there was some sort of entrance into the pit from the eastern end. Whether this projection was a ramp or bulkhead entrance is unknown, but if steps were present it is likely that the excavators would have noted them. If the projection were a ramp, then the pit may have functioned as a source of clay during the construction of the building, but based upon previous analysis performed by Kerby and published by Buchanan and Heite, the clay in the feature does not appear to match the bricks (Buchanan and Heite 1971: 41). Buchanan and Heite (1971: 41) also suggested that the feature could have been a temporary shelter, such as a pit house, erected for Hallowes and his family during the construction of the main dwelling. This is a possible explanation and would explain the projection on the eastern end as an entrance, as well as the early dates for the lower layers of fill.

Regardless of the use of this feature, it is clear that shortly after its construction it became a location for the disposal of refuse from the Hallowes household. The sheer number of artifacts and faunal remains contained within this feature attests to its use as a trash pit for several years. Given that the orientation of this pit does not respect the orientation of the dwelling, it is unlikely that the pit was any kind of dependency associated with the house or even constructed after the house was finished. In addition to the TPQ, the fact that a ditch-set fence cuts the feature indicates that it was filled before the house was abandoned and before a

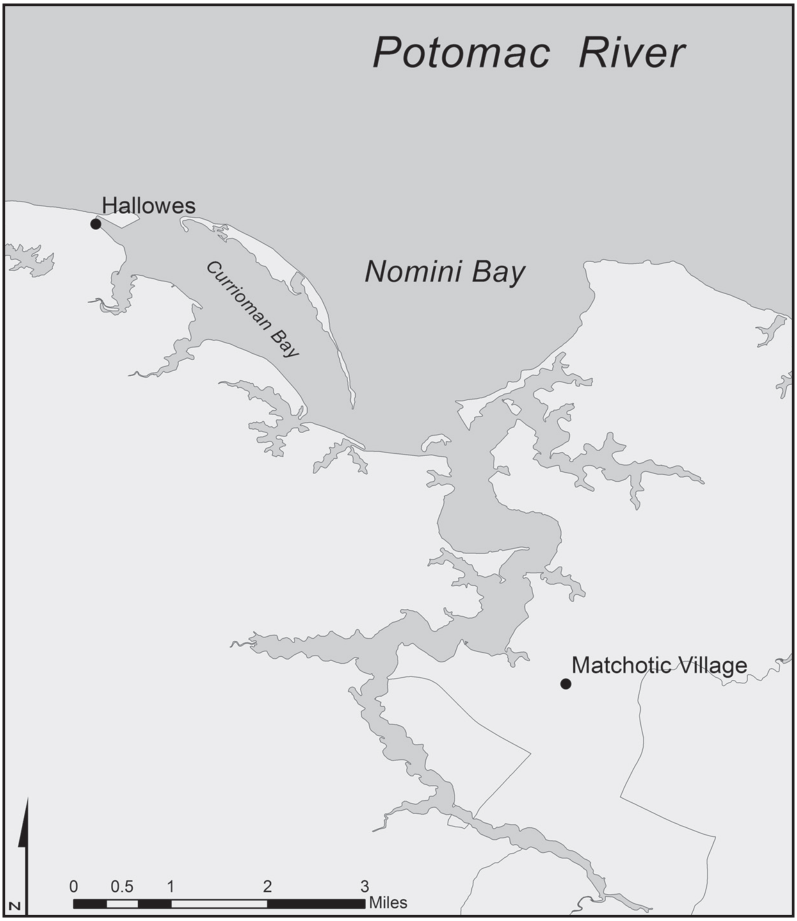


Figure 7. Map showing the location of the Hallowes site in relation to the approximate location of the pre-1660 Matchotic Indian village. (Map by Crystal Ptacek, 2012.)

landscape rearrangement took place, probably around 1666 when the occupants of the site were tenants rather than members of the Hallowes family.

Native American Trade

During the early years of settlement in the Potomac Valley, interaction and trade with Native Americans was a common occurrence and ranged from fur trading, to land purchases, to war, and to marriage (Merrell 1979: 555–557; Fausz 1988: 63–74; Potter and Waselkov 1994; Riordan 2004: 33–39, 114–115). John Hallowes was no stranger to this interaction and actively participated in it throughout his life. He took part in a raid against the Susquehannocks in 1642 and came close to losing his life during an ambush (Riordan 2004: 113). Additionally, he was listed as a trader with Native Americans while in Maryland and was reprimanded in both Maryland and Virginia for supplying Native Americans with guns (*Archives of Maryland* 1887: 186, 259; Library of Virginia 1653–1659: 15).

Hallowes's close proximity to Native Americans, particularly in Virginia, no doubt made these intercultural interactions commonplace for him and members of his household. The location of his 1647 home in Virginia was only a few miles from the Matchotic Indian village, located across Nomini Bay (FIG. 7) and first described by John Smith in 1608 (Potter 1993: 9–10, 194). His property was also adjacent to a "great Indian path" referenced in Andrew Monroe's 1650 land patent (Library of Virginia 1643–1651: 225). The conspicuous presence of several Native American–made or–influenced artifacts provide further evidence for interaction with local Native Americans at the Hallowes site.

First among these artifacts are Late Woodland/contact period ceramics recovered from the pre-1666 features. All of these features contained Native American ceramics dating to the contact period, represented by Potomac Creek or Moyaone wares, both of which were found in Feature 17. While several of these fragments may have been redeposited from earlier occupations, evidenced by the fact that Middle Woodland ware types such as Mockley were also present, the use of some of these ceramics by occupants at the Hallowes site cannot be ruled out. The presence of several

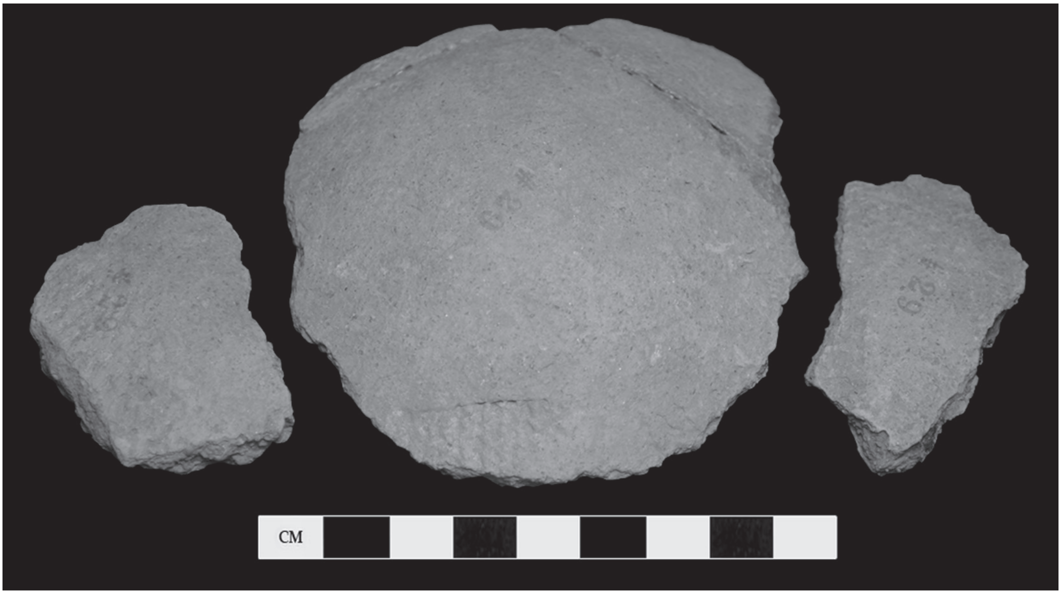


Figure 8. Potomac Creek vessel base recovered from Feature 17. (Photo courtesy of Virginia Department of Historic Resources; photo by the author, 2012)

large fragments of Potomac Creek that mended in Feature 17 seem to represent primary deposition, indicating that members of the Hallowes household traded for and used these goods (FIG. 8). Additionally, a nearly complete colonoware vessel with a Native American form, recovered from Feature 63 and now missing from the collection, also points to the Native American influence on the material culture at the site (FIG. 9).

A bone awl recovered from Feature 17 also may have been deposited by the site inhabitants, since it is complete and does not show any evidence of weathering that might be expected for a prehistoric bone tool that was redeposited from a surface context (FIG. 10). While it might have been redeposited from a prehistoric feature, its completeness and association with other artifacts showing Native American influence is provocative and could be an example of the Native American influence on material culture at this site. Lastly, 22 pipe-stem and -bowl fragments made and decorated in Native American style were recovered from the pre-1666 features, again indicating sustained interaction and trade with local Native American groups (FIGS. 11 and 12). Three of these pipe fragments appear to be consistent in style with the Nomini Maker, a local Native American pipe maker from the mid-17th century, who was located a few miles from the Hallowes site (Library of Virginia 1653–1671: 11–12; Luckenbach and Kiser 2006: 171–173; McMillan 2012).

Another, perhaps less obvious, indicator of Native American trade on the Hallowes site is animal bone, specifically deer remains. While the simple presence, or even abundance, of deer remains on a site does not signal Native American trade networks, the skeletal-part composition and age distribution of the deer specimen assemblage from the pre-1666 features at the Hallowes site do seem to indicate that venison was being procured through trade. Deer played a large role in Native American economies in the Chesapeake region during the early colonial period, particularly in terms of the deerskin trade (Lapham 2005). The description of dressed hides in historical records from the 17th century also indicates the importance of these commodities to Europeans (*Archives of Maryland* 1887: 243, 1898: 94).

Heather Lapham (2005) has shown how Native Americans in southwestern Virginia significantly altered their hunting patterns to extract maximum profit from the deerskin trade with European colonists near the coast. By examining deer remains from sites dating to

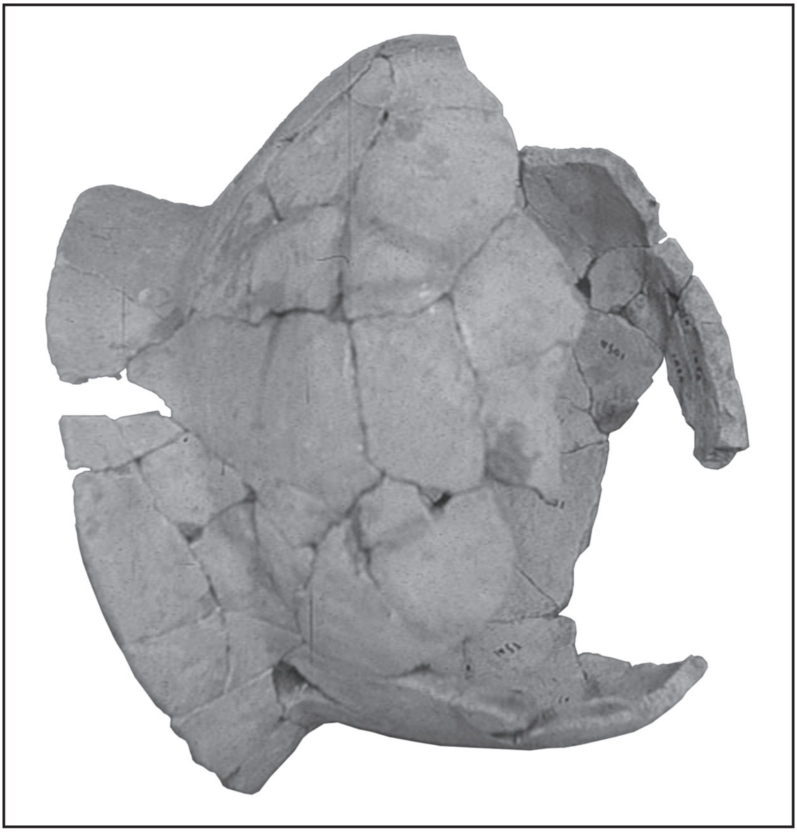


Figure 9. Colonoware vessel recovered from Feature 63. (Photo courtesy of Virginia Department of Historic Resources, ca. 1969)

calculated using tooth wear and sex, Lapham was able to determine that during the mid-17th century Native Americans were primarily harvesting fully mature males, animals that would have yielded the largest and most valuable hides to trade with European colonists at the fall line. These shifts in hunting strategies and the influx of European goods that resulted from increased trade had significant effects on the power structures within Native American societies (Lapham 2005: 138–150).

While Lapham's research focused on the deerskin trade in southern Virginia in the mid-17th century, evidence suggests that these same processes occurred contemporaneously

before and after European contact, Lapham was able to show that Native Americans shifted from a more generalized deer-harvesting strategy to a strategy that focused on the largest animals with the most valuable skins. Focusing on the age of the specimens,

in the Potomac Valley. A brief examination of the Maryland Archives reveals references to deerskins as early as 1643, when a colonist demanded a payment in the form of "16 dressed deer skins" (*Archives of Maryland* 1887: 213). The use of items important in English

Figure 10. Bone awl recovered from Feature 17. (Photo courtesy of Virginia Department of Historic Resources; photo by the author, 2012)

and Native American trading relationships, such as deerskins, beaver pelts, and shell beads as money in the early colonial period was common and underscores the importance of interaction with Native Americans in early Maryland and Virginia. While beaver pelts and shell beads became less important as commodities after about 1660, deer hides continued to be traded in the Potomac into the 1680s, as indicated in a Maryland court case involving the purchase of deerskins from Native Americans (*Archives of Maryland* 1898: 94). Deer hides, however, were not the only deer-based product traded between Native Americans and colonists; deer meat also played a significant, and perhaps more common, role.

Historical records indicate that planters often hired Native Americans to hunt deer, possibly to supplement their meat sources during busy portions of the tobacco-growing season (*Archives of Maryland* 1891: 354, 1635: 54; Miller 1988: 186; Chaney 2005; Rice 2009: 112). Tobacco was an extremely labor-intensive crop that left little free time during any portion of the year, since it required transplanting, stemming and stripping, preparation of new seedbeds, careful packing, and the clearing of land when the crop exhausted the soil (Carr, Menard, and Walsh 1991: 55–63; Rice 2009: 113; Walsh 2010: 155–161). These tasks occupied most, if not all, of the laborers on a plantation, especially during the busiest parts of the season. The hiring of Native American hunters would have contributed welcome variety to a diet dominated by beef that was common for sites in the Chesapeake during the 17th century, including Hallowes (Miller 1984, 1988). These interactions, facilitated by trade, served to maintain close relationships with native neighbors in a comparatively unsettled region, simultaneously allowing tobacco plantations to receive important sources of protein and conceivably stay informed about the local native populations.

Figure 11. Locally made Native American–style pipe bowl, possibly by Nomini Maker, recovered from the northeast bastion. (Photo courtesy of Virginia Department of Historic Resources; photo by Lauren McMillan, University of Tennessee, Knoxville, 2012.)

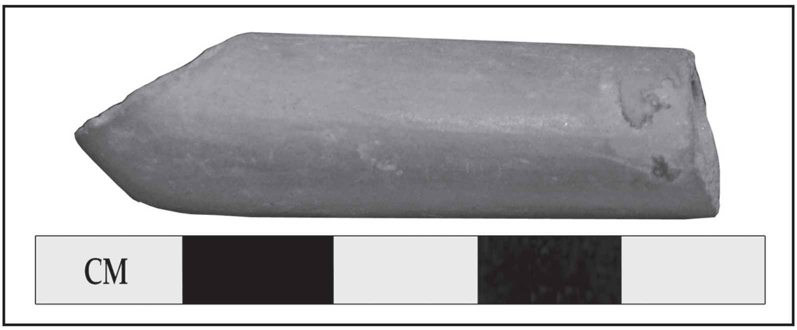


Figure 12. Locally made Native American–style burnished pipe stem, possibly by Nomini Maker, recovered from Feature 17. (Photo courtesy of Virginia Department of Historic Resources; photo by Lauren McMillan, University of Tennessee, Knoxville, 2012.)

If members of the pre-1666 Hallowes household were trading with Native Americans for venison, then the faunal assemblage should reflect this in terms of differing proportions of skeletal parts present. Assuming that the occupants of the site were interested in venison mainly for consumption, the deer-specimen assemblage should contain an overrepresentation of high-utility, or meaty, parts. These parts should include forequarters (shoulder roasts), hindquarters (rump roasts), and axial portions (loins and ribs). If Native American hunters were harvesting deer and then trading the meat to the residents at the Hallowes site, archaeologists also should expect to find that the deer were dressed to a certain degree, since the transportation of venison portions or quarters would be much easier than the transportation of an entire carcass. Therefore, low-utility portions from deer on the Hallowes site should be at a significantly lower-than-expected level, meaning few hooves and lower limb portions and, particularly, few or no head portions. Moreover, if local Native Americans were engaging in the deerskin trade as well as trading meat, the faunal assemblage should contain mature males, mirroring Lapham's findings. Essentially, the deer remains should consist primarily of mature, male specimens, and head portions should be missing from the Hallowes site, since the Native Americans required the brains for the hide-tanning process.

The Pre-1666 Faunal Assemblage

A total of 2,448 bone and tooth fragments were excavated from the pre-1666 features used in this analysis (APPENDIX 1: TAB. 1). Of the 2,448 fragments recovered from these features, 1,753 (72%) were identifiable at least to the family level, with the remainder being too fragmentary to identify reliably below the class level. The rate of identification was almost certainly affected by taphonomic processes, particularly burning, that significantly affected the condition of the bone, as well as the recovery methods employed at the site (discussed below). Among the 11 species identified in the feature assemblages, cattle (*Bos taurus*), pig (*Sus scrofa*), and white-tailed deer (*Odocoileus virginianus*) were the most prevalent.

Fragments were identified to the lowest taxonomic level possible using the zooarchaeological comparative collection at the University of Tennessee, Knoxville. Large-to-medium nondiagnostic bone fragments, which consisted primarily of long-bone shaft fragments, were assigned to the family Artiodactyla (cattle, pig, deer, sheep/goat). Rib fragments that were deer-sized were identified as deer, since no other caprine elements were represented in the collection, indicating that the rib fragments are, in all likelihood, from deer. Standard zooarchaeological techniques were employed in the analysis of the assemblage, including the calculation of number of identified specimens present (NISP), minimum number of individuals (MNI), and biomass, which was calculated based upon bone weight, using the allometric formulae provided in Reitz and Wing (White 1953; Reitz and Cordier 1983; Reitz et al. 1987; Reitz and Wing 1999: 227–228). The biomass calculation, which is based upon the biological relationship between bone weight and the weight of the muscle it supports, acts as a measure that helps to understand the contribution of the meat of certain species to a faunal assemblage, providing a different type of abundance measure as opposed to NISP or MNI.

All three of these analytical methods have advantages and disadvantages, therefore, the calculation and presentation of all are imperative for the least biased analysis of faunal remains (Jackson 1989; Reitz and Wing 1999: 192, 195). MNI and biomass were calculated for each feature type and then combined to represent more accurately the animals used on the site (Reitz and Cordier 1983; Horton 1984; Reitz et al. 1987; Reitz and Wing 1999: 227–228). For example, all the bastion features were analyzed as one large feature, while the two pit features were analyzed separately. The assemblage was divided in this way because these features likely represent discrete depositions and presumably would contain the remains from different animals, supported by the fact that ceramics do not mend between features. Biomass calculations are highlighted in the brief discussion below because they are most closely comparable with the quantitative measure of meat weight used in previous studies of Chesapeake subsistence (Miller 1984, 1988; Bowen 1996). The remaining faunal data from the analysis, however, is summarized in Appendix 1: Table 1.

The faunal assemblage at the Hallowes site, as represented by biomass, was dominated by domestic taxa which accounted for 71% of the total biomass (excluding unidentified mammals, unidentified artiodactyls, and unidentified birds). Unidentified fish were included because they are all almost certainly wild species. The greater part of the domestic-meat contribution on the site came from beef and pork, which accounted for 38% and 32% of the total feature biomass, respectively. This pattern in beef and pork contribution closely resembles the pattern for the 1620–1660 period defined by Henry Miller and Joanne Bowen in their studies of Chesapeake subsistence (Miller 1984, 1988; Bowen 1996). Wild taxa at Hallowes accounted for 29% of the total feature biomass, which represents a significant proportion of the meat contribution on the site. The preponderance of wild meat on the site came from venison and fish, which accounted for 19% and 8% of the total feature biomass, respectively. The percentage of wild-meat contribution also reflects pre-1660 subsistence patterns in the Chesapeake, which show wild taxa contributing 13% to 38% of the total meat on a site (Bowen 1996: 95). Indeed, the contribution of wild taxa to the assemblage is likely underestimated here due to the lack of screening, which would have deemphasized smaller species, which are almost exclusively wild. Considering that the faunal remains came from features predating 1666, these patterns, in conjunction with other artifact data discussed above, lend support to the early date for the Hallowes site.

Feature 17 contained 1,508 bone and tooth fragments representing at least six distinct species (APPENDIX 1: TAB. 2). Of these fragments, 1,260 (84%) were identified at least to family. The most abundant species identified in this feature were cattle, pig, and deer, with the latter two accounting for the majority of the assemblage based upon all three abundance measures. This feature assemblage yielded 21 bone fragments with evidence of butchery in the form of cut and chop marks. This assemblage showed no evidence of carnivore gnawing and only one instance of rodent gnawing. The bones recovered from this pit feature showed significant evidence of thermal alteration with 1,188 fragments (79%) burned or calcined.

Of these heat-altered bones, 195 (13%) were burned and 993 (66%) were calcined (FIG. 13). Burning usually occurs at temperatures up to 500°C and alters bone by removing the organic material; it generally changes the color of the bone to brown or black. Calcining of bone occurs at temperatures over 500°C and can shrink the bone and make it brittle and prone to fragmentation; it usually changes the color of the bone to white or blue gray (Lyman 1994: 384–392; Reitz and Wing 1999: 133). The tendency of bone to fragment due to thermal alteration is particularly noted in this feature assemblage, since it is composed primarily of long-bone shaft fragments from unidentified Artiodactyla, which comprises almost 70% of the NISP. Of the 1,052 unidentified Artiodactyla fragments, 871 (83%) are heat altered and 82% of the bones that were unidentified below family level were heat altered. Both of these figures clearly indicate that thermal alteration significantly affected this assemblage in terms of identification of species.

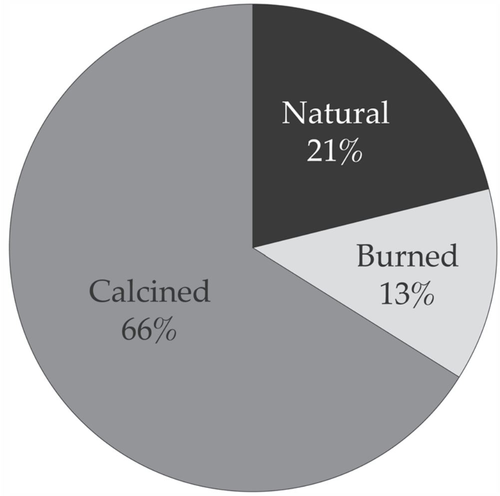


Figure 13. Proportions of heat-altered bone in the Feature 17 assemblage, n = 1508 (Graph by the author, 2013.)

Feature 63 contained 855 bone and tooth fragments representing at least nine species (APPENDIX 1: TAB. 3). Of these 855 fragments, 442 (52%) were identified at least to family. The most abundant species in this feature were cattle, pig, and sheepshead (*Archosargus probatocephalus*), with cattle and sheepshead accounting for the majority of the biomass. The assemblage contained 28 fragments (3%) that showed evidence of butchery in the form of chop or cut marks, and no specimens showed evidence of carnivore or rodent gnawing. Compared to Feature 17, this assemblage showed almost no evidence of thermal altering, with only six fragments (1%) showing evidence of calcining.

The bastion features contained a total of 85 bone and tooth fragments representing five distinct species (APPENDIX 1: TAB. 4). Of these, 51 fragments (60%) were identified to the family level, with the most abundant species being pig, deer, and cattle. Five of the bones in this assemblage (6%) showed evidence of butchery, with cut and chop marks, while only one bone (1%) showed evidence of heat alteration through calcining. Despite the small size of this assemblage, its inclusion in the analysis is important because it represents one of the significant pre-1666 features and adds more data, strengthening the results, albeit in a small way.

A final factor affecting all of the pre-1666 assemblages that should be addressed is the lack of screening. As mentioned above, all features were excavated by trowel, and artifacts were collected during hand excavation rather than screened through mesh. This collection method almost certainly biased the faunal assemblage by causing an underrepresentation of small species, such as fish, birds, and even some small mammals. In general, the recovery at the site has probably biased the assemblage in favor of domestic mammal bones, which tend to be larger and more readily identifiable. However, given that deer bones are relatively large and readily identifiable, they were, in all likelihood, collected with the same frequency as bones from large domestics like cattle and pigs. Therefore, the following analyses that rely on deer elements should not be any more or less biased than they would be for cattle or pigs. The reader should proceed with caution when examining the results of the faunal analyses and recognize the biases present, but should also realize that no dataset is without problems, which is the reason for using multiple lines of evidence here.

Skeletal Portions

Skeletal-part frequency is useful in faunal analyses to help determine butchering activities, carcass transportation, and preference for certain cuts of meat, among other things (Binford 1978; Reitz and Wing 1999: 202–221; Klippel 2001). An analysis of skeletal-part frequency, based on NISP, was performed for all elements identified as deer, including rib fragments that are likely from deer (see the discussion of the pre-1666 faunal assemblage above). Elements were assigned to six categories: teeth, head, axial, foot, forequarter, and hindquarter. The archaeological assemblage was then compared to a standard deer specimen using percentages based on NISP. Deer bones were analyzed using this method to test the hypothesis that venison was being acquired through trade rather than harvested by site occupants. Additionally, the fragmentation and density of the elements used in this analysis were evaluated to understand better how taphonomic processes might have affected the results.

For this analysis, I assigned the skeletal categories as follows. Teeth include all the teeth from a typical mature specimen. The head category counts the entire skull as one element, the mandible as two, and includes the hyoid bones. The axial category includes the pelvis, the ribs, and the vertebrae, with the exception of the caudal vertebrae, which were not identified in this assemblage. The foot category consists of all elements including and below the carpals and tarsals, including the metacarpals, metatarsals, and phalanges. The hindquarter category represents the femur, tibia, and patella. Finally, the forequarter category consists of the scapula, humerus, radius, and ulna.

Prior to the analysis, the taphonomic history of the assemblage must be evaluated to determine whether and how taphonomy has influenced the patterning of deer bones. Of particular importance in this analysis, which relies upon NISP, is bone fragmentation and density. Zooarchaeologists have long recognized that bone density correlates strongly with the higher survival rates for certain elements, whether the elements are affected by carnivore ravaging, fluvial transport, or other post-depositional processes (Brain 1967; Binford and Bertram 1977; Lyman 1984; Morey and Klippel 1991). If elements of lower density fragment at a higher rate or disappear from a site entirely, a skeletal-portion analysis using NISP can easily misrepresent the actual patterning that resulted from cultural activity. To determine whether NISP is an appropriate measure for this assemblage, element survivorship, fragmentation, and density must be calculated and compared for the deer bones used in the analysis.

First, the density of the element portions present in the assemblage were compared with their frequency using Lyman's volume density (VD) values for white-tailed deer (Lyman 1984). VD is measured in g/cm^3 and derived from Lyman's density measurements on deer bone, which range from 0.1 to 0.74 depending upon the element and the portion of the element measured (Lyman 1984: 273-279). This comparison was performed to determine whether low density elements were underrepresented in the assemblage compared to high density elements, which could signal an unrecognized taphonomic bias in the data. The more specific VD values were used when the location of the measurement corresponded with the archaeological example, otherwise the more generalized value was used (Lyman 1984: 276–279, 287). Two of the elements identified in the assemblage, a petrous process and radial carpal, had no recorded VD value, and so were excluded from this portion of the analysis. It should be noted, however, that both of these elements are quite dense.

The comparison of element frequency to density showed no distinct underrepresentation of lower or higher density elements (TAB. 5). Indeed, elements with densities from 0.24 to 0.74 were relatively evenly present in the assemblage. Therefore, it does not appear that lower density deer bone survivorship was any lower than that of higher density elements. Interestingly, the comparison did reveal that rib fragments were disproportionately represented in the assemblage. This particular element was represented by a count that was more than three times higher than the next nearest element. Considering the low density, ease of fragmentation, and relative ease of recognition of rib fragments, this is not a surprising pattern.

To determine whether ribs or other elements were unevenly represented due to fragmentation, the counts of each element were compared with the minimum number of elements (MNE) within the deer bone assemblage (TAB. 6). In general, this analysis showed that, while there was some fragmentation in other elements, particularly in long bones, ribs were easily the most fragmented element in the assemblage. Therefore, based upon these two calculations,

Table 5. Comparison of deer element counts from the assemblage to element density. (Table by the author, 2013.)

Element	NISP	VD*
Proximal humerus	2	0.24
Rib shaft	32	0.24
Thoracic vertebra	9	0.24
Proximal rib	2	0.26
Lumbar vertebra	2	0.29
Unidentified vertebra	3	0.30
Innominate	4	0.33
Scapula	6	0.35
Proximal femur	2	0.37
Proximal ulna	1	0.37
Distal radius	3	0.40
Ulna shaft	2	0.45
Calcaneus	4	0.49
Distal tibia	8	0.50
Distal humerus	7	0.51
Proximal radius	2	0.52
Humerus shaft	5	0.53
Astragalus	2	0.56
Femur shaft	2	0.57
Radius shaft	5	0.68
Metacarpal shaft	1	0.72
Metatarsal shaft	1	0.74
Tibia shaft	4	0.74
Petrous process	1	—
Radial carpal	1	—

*VD (volume density) after Lyman (1984).

VD and MNE, it appears that denser elements have not survived at disproportionately higher rates than less dense elements in the deer bone assemblage, meaning that less dense bones should not be underrepresented in the following skeletal-portion analysis. However, fragmentation of the assemblage, specifically rib fragments, may be significant. As a result, skeletal-portion analysis will be conducted both with and without rib fragments to help alleviate this bias.

The comparison of observed to expected skeletal portions for deer, with the ribs included,

Table 6. Comparison of deer element counts from the assemblage to MNE. (Table by the author, 2013.)

Element	NISP	MNE
Lumbar vertebra	2	1
Metacarpal	1	1
Metatarsal	1	1
Petrous process	1	1
Radial carpal	1	1
Femur	4	2
Astragalus	2	2
Scapula	6	3
Ulna	3	3
Calcaneus	4	4
Innominate	4	4
Radius	10	5
Rib	34	7
Humerus	14	8
Tibia	12	8
Thoracic vertebra	9	9
Unidentified vertebra	3	—

revealed a significant underrepresentation of teeth, head, and feet, with a preponderance of axial, hindquarter, and forequarter portions (TAB. 7 and FIG. 14). As noted at the beginning of this section, expected proportions for each skeletal-portion category for deer were calculated by determining the number of bones in each category in a normal deer skeleton and dividing that number by the total number of bones in that skeleton. Head fragments are significantly underrepresented in this assemblage. The removal of ribs from the analysis reveals similar patterns in skeletal-part distribution with an underrepresentation of teeth, head, and foot parts, but high proportions of fore– and hindquarters (TAB. 8 and FIG. 15). However, with the ribs removed, the proportion of bones in the axial category corresponds closely with the expected proportions in a typical deer specimen. Even with the ribs removed from the analysis, a clear pattern showing a lack of head fragments and a low proportion of foot fragments is visible. Considering that fragmentation, bone density, or other taphonomic forces do not seem to be biasing the data significantly, it appears that the lack of head portions and lower percentages of foot bones may be cultural rather than natural.

Indeed, the only head fragment present, a petrous process, was excavated from the brick disturbance in Feature 17, making its context somewhat dubious and likely not representative of the rest of the assemblage. It is also important to note that deer teeth were not found at the Hallowes site. This lack of teeth is especially intriguing considering that teeth are often much better preserved than other bones and are quite easy to identify (Reitz and Wing 1999: 117–118). Additionally, teeth are highly represented for both pigs and cattle in the pre-1666 assemblage. While foot-fragment totals are less than expected for deer, they are still present. It should be recognized, however, that the quartering of a deer and the transportation of quarters does not necessarily involve the removal of the feet, perhaps explaining the presence of "riders" in the assemblage (Binford 1981: 272). The lack of head fragments and low representation of foot fragments in the assemblage, coupled with the higher frequency of axial, hindquarter, and forequarter portions, likely indicate a preference for meatier cuts of venison, the butchery of animals offsite, or a combination of both (discussed below).

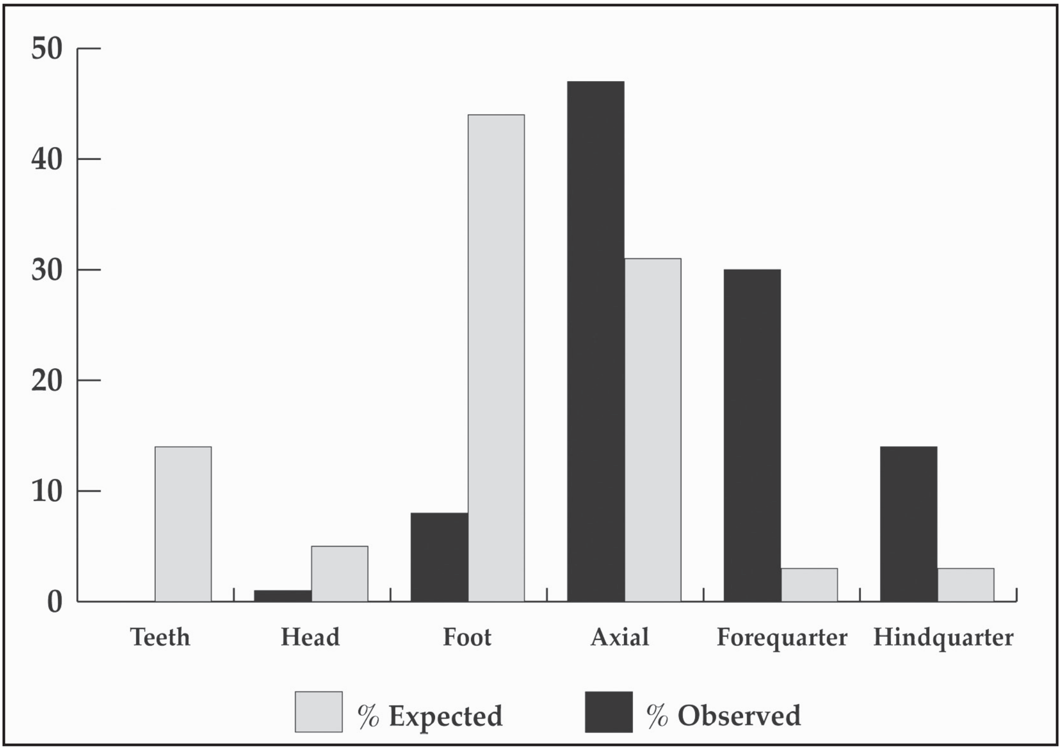
Age Distribution

Data on the age at death for specimens in faunal collections can be used to address a variety of questions, including herd management, specific harvest strategies, seasonality, and production (Reitz and Wing 1999: 178–179). In general, determining the age for most mammals is done through the examination of tooth eruption, tooth wear, and epiphyseal fusion. Of these three aspects that indicate age, the highest resolution method for aging deer bones in archaeological collections involves examining both tooth eruption and wear patterns (Severinghaus 1949). Using this method, Lapham was able to age deer remains in the collections she examined to within six months, providing a detailed age profile for deer harvested in the protohistoric period (Lapham 2005: 77–81). However, since deer cranial portions and teeth are absent from this collection, the only option for determining the

Table 7. Counts and percentages of observed and expected deer (*Odocoileus virginianus)* elements in the assemblage (ribs included). (Table by the author, 2013).

	Teeth	Head	Foot	Axial	Fore-quarter	Hind-quarter	Total
NISP Observed	0	1	9	52	33	16	111
% Observed	0%	1%	8%	47%	30%	14%	100%
NISP Expected	32	12	104	72	8	6	234
% Expected	14%	5%	44%	31%	3%	3%	100%

Figure 14. Skeletal-part percentages for deer (*Odocoileus virginianus)* in pre-1666 features based on NISP (ribs included). (Graph by the author, 2012.).



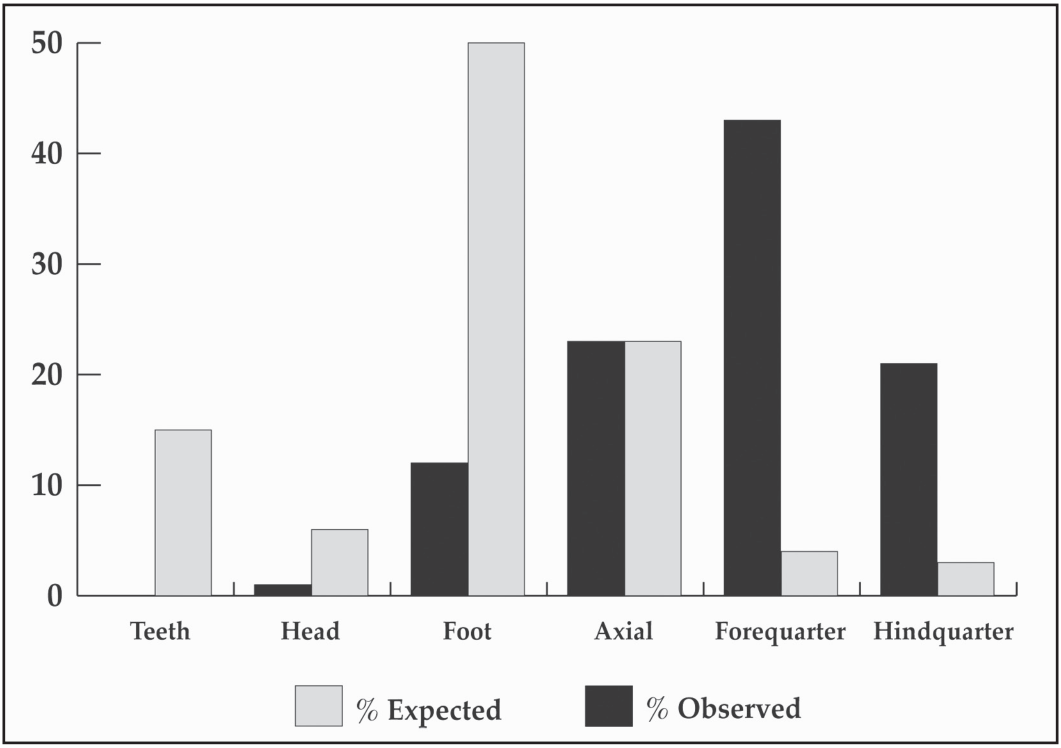
age of deer at the Hallowes site is using epiphyseal fusion data.

The deer bone assemblage from pre-1666 features that contributed to the analysis of epiphyseal fusion consisted of 41 total specimens. These elements included proximal and distal ends of long bones, as well as vertebra, pelvis, and calcaneus fragments. The fusion of elements is not as specific as tooth eruption and wear, and often occurs within a time range of a few months and can be affected by various factors (Reitz and Wing 1999: 75). For this analysis I relied upon the fusion data generated by Purdue (1983) to age individual specimens (TAB. 9). Elements were placed into one of three distinct age classes: early fusing (less than 20 months), middle fusing (between 20 and 30 months), and late fusing (greater than 30 months), after Chaplin (1971) (TAB. 10). The age ranges in months for these groups are only estimates, and as a result of the nature of epiphyseal fusion, it should be realized that the ages are relative, and the actual age for a specimen may be slightly older or younger than indicated. However, the three groups do allow specimens to be assigned to either a

Table 8. Counts and percentages of observed and expected deer (*Odocoileus virginianus)* elements in the assemblage (ribs removed). (Table by the author, 2013).

	Teeth	Head	Foot	Axial	Fore-quarter	Hind-quarter	Total
NISP Observed	0	1	9	18	33	16	77
% Observed	0%	1%	12%	23%	43%	21%	100%
NISP Expected	32	12	104	48	8	6	210
% Expected	15%	6%	50%	23%	4%	3%	101%

Figure 15. Skeletal-part percentages for deer (*Odocoileus virginianus)* in pre-1666 features based on NISP (ribs removed). (Graph by the author, 2012).



juvenile, subadult, or adult category, which can be useful in understanding harvest strategies.

Like the skeletal-portion analysis above, age profiles for deer can be significantly skewed by taphonomic processes related to bone density. In particular, it has been shown that the bones of juvenile specimens are much more susceptible to carnivore ravaging or even destruction by domestic pigs because they are less dense than the same elements in an adult specimen (Greenfield 1988; Munson 2000; Munson and Garniewicz 2003). While the analysis of bone density discussed above appears to show that density has little bearing on element representation for deer in this assemblage, it should be recognized that the VD values used were not from juvenile specimens. However, there was no evidence of carnivore gnawing on any of the deer bones used in this analysis, and no other hallmarks of juvenile bone, such as porosity, were noted for these specimens. As such, it would seem that carnivore ravaging of less dense juvenile bone does not affect this assemblage, although the almost universal presence of pigs on and around

Table 9. Detail of counts of fused and unfused deer (*Odocoileus virginianus)* elements from the assemblage. (Table by the author, 2013).

Element	NISP Fused	NISP Unfused	Age at Fusion (Months)
Proximal radius	2	—	5–8
Acetabulum	5	—	8–11
Distal humerus	8	—	12–20
Proximal humerus	2	—	>42
Distal radius	2	—	>42
Distal tibia	8	2	20–23
Calcaneus	4	—	26–29
Distal metatarsal	—	1	26–29
Proximal ulna	1	—	26–42
Proximal femur	—	2	32–42
Vertebral centrum	1	2	35–42

plantations in the 17th-century Chesapeake may have contributed to the destruction of elements from juveniles in a way that is not visible archaeologically (Anderson 2004). Finally, it should be recognized that the sample used for this age distribution is quite small, and its results should be seen as suggestive rather than conclusive.

Graphing the age data for fused and unfused specimens, based upon NISP, reveals a clear and significant pattern in the age at death for deer in this collection (FIG. 16). Based upon the way epiphyseal fusion indicates age in animals, unfused specimens tend to be more useful for determining age than fused specimens, with the exception of the late fusing class. With this in mind, and based on the presence of fused bones in the late fusing category, it is evident that at least 20% of the deer specimens used in this analysis were from mature deer, likely over 35 months in age. Additionally, based on the lack of fused elements in the middle fusing category, only 7% of the specimens were from deer between approximately 20 and 30 months, and, significantly, there were no juvenile specimens under 20 months present in the collection based on the lack of unfused elements in the early fusing category. Consequently, this age distribution for the deer assemblage indicates that all the deer in the collection were either subadult or adult when they were harvested and that juveniles were completely absent, possibly indicating a hunting strategy targeted toward larger, more mature deer, rather than an opportunistic strategy that would include juveniles.

Discussion and Conclusions

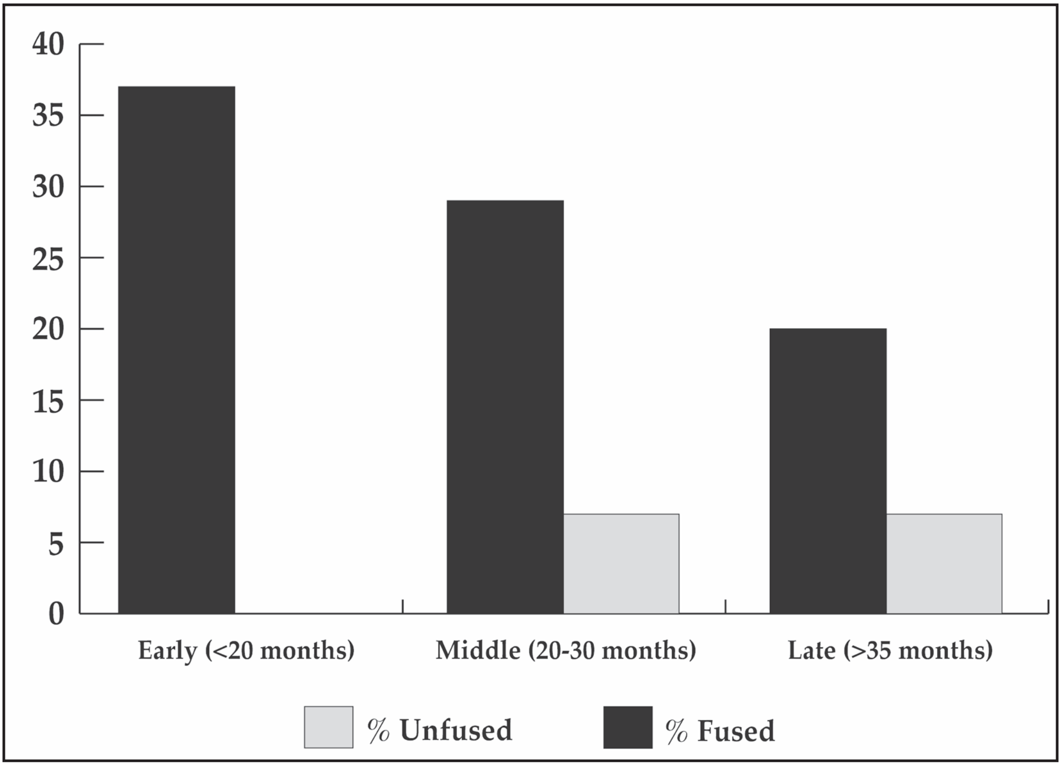
Based upon the skeletal-part frequency analysis for deer in the pre-1666 features discussed above, deer forequarter and hindquarter portions were significantly more prevalent than expected, axial portions were equal to or higher than expected, while foot and, particularly, head portions were drastically underrepresented (FIGS. 14 and 15). Indeed, deer head portions were almost completely absent from the site, represented by a single petrous process from a disturbed context. Finally, while numbers of deer foot portions are low, it is not inconceivable or uncommon for deer quarters to be transported with the feet attached, since their removal is unnecessary and their presence can make carrying a quarter easier.

The faunal evidence does seem to indicate that venison was processed offsite with certain steps in the butchery process taking place away from the homelot and that the residents of the Hallowes site consumed and discarded high-utility portions of deer. This pattern stands in contrast to what would be expected if entire carcasses were butchered, consumed, and discarded at the site, a process that would leave evidence in the form of higher proportions of head and foot parts. While there is no single piece of evidence that conclusively links deer

Table 10. Fusion groups with counts and percentages for the deer (*Odocoileus virginianus)* assemblage. (Table by the author, 2013).

	Early (<20 months)	Middle (20–30 months)	Late (>35 months)
NISP Fused	15	12	8
% Fused	37%	29%	20%
NISP Unfused	0	3	3
% Unfused	0%	7%	7%

Figure 16. Percentages of fused and unfused specimens for deer (*Odocoileus virginianus)* in pre-1666 features based on NISP. (Graph by author, 2012.)



remains with trade at the Hallowes site, multiple sources, both historical and archaeological, suggest that the pre-1666 occupants of the Hallowes site obtained venison through trade with Native Americans.

Evidence supporting the assertion that venison at the Hallowes site was obtained through trade with Native Americans comes from geography, historical records, and archaeological evidence. First, the site's geographical location near the Native American settlement at Matchotic and a "great Indian path" provided the necessary spatial proximity to foster intercultural interaction and trade. Interaction with the Matchotic Indians likely figured prominently in the lives of John Hallowes and his family, particularly in the early years of the site's settlement before most of the land around Nomini Bay was settled by colonists in the 1660s and the Matchotics migrated upriver (Potter 1993: 193–195). The site's location near an "Indian path" might have fostered interaction through frequent encounters with Native Americans as they made their way through a landscape increasingly shaped by European settlement, agriculture, and husbandry.

Second, John Hallowes is known, through historical records, to have traded and interacted with Native Americans with some frequency in both Maryland and Virginia. The fact that he was referenced in court records interacting with Native Americans at least three times probably indicates that these interactions were much more frequent. Of particular interest are the references in the records that reprimanded Hallowes for providing Native Americans with guns (*Archives of Maryland* 1887: 259; Library of Virginia 1653–1659: 15). Hallowes's provisioning of guns to local Native Americans clearly indicates that he was trading with them and may offer evidence that he was hiring them to hunt for him and providing them with weapons to do so more efficiently.

Previous research on the 17th-century Chesapeake region demonstrates that the hiring of Native American hunters was not uncommon and occurred throughout the region, especially in the Potomac Valley (Miller 1988: 186; Chaney 2005; Rice 2009: 112). The relationships built through the hiring of Native American hunters would have served multiple purposes for the inhabitants of the Hallowes site. John Hallowes and his family were able to create strong economic, and perhaps social, connections between themselves and their Native American neighbors. These connections may have fostered a sense of security in an area that served as a highway for Susquehannock raiding parties in the 17th century. These raiders were hostile to both English settlers and local Native American groups (Potter 1993: 188–193; Rice 2009: 182; Flick et al. 2012). Additionally, venison acquired from Native American hunters would have been a welcome source of calories for people engaged in the strenuous work associated with tobacco planting as well as a welcome source of dietary diversity at the site, easing the monotony of a meat diet dominated by beef.

Finally, archaeological evidence of interaction with Native Americans at the Hallowes site provides additional evidence to support the presence of Native American–acquired venison. First, there are several fragments of contact period ceramic wares, represented by Potomac Creek and Moyaone types, in the pre-1666 features. Particularly important are the large fragments, such as a Potomac Creek vessel base excavated from Feature 17 and a large colonoware vessel recovered from Feature 63, that appear to be the result of primary deposition and, thus, were likely used and traded for by the residents of the site (FIGS. 9 and 10). A bone awl (FIG. 10) recovered from Feature 17 may have been deposited by the site inhabitants and is likely indicative of trade with Native Americans. At the very least this artifact reflects Native American influence on the material culture at the site. Lastly, several pipe-bowl fragments made and decorated in the Native American style were recovered from the pre-1666 features. Three of these fragments are stylistically similar to those made by the Nomini Maker, a local Native American pipe maker from the mid-17th century, who lived a few miles from the Hallowes site (Library of Virginia 1653–1671: 11–12; Luckenbach and Kiser 2006: 171–173; McMillan 2012) (FIGS. 11 and 12).

If, as the archaeological and ethnohistorical evidence seems to indicate, venison was coming to the Hallowes site via trade between the English and local Native American groups, then what became of the cranial portions? The age distribution data for deer at the site offer an explanation for this question in addition to contributing to the assertion that Native Americans harvested and traded the deer recovered from the site. While not as detailed or robust as the analysis performed by Lapham, the age profile in this collection conforms to her findings for sites engaged in the deerskin trade (Lapham 2005: 77–82). Indeed, considering that no juvenile specimens were present in the Hallowes collection, this site matches her hypothesis concerning age data. While the sample size for deer specimens at Hallowes that were able to be aged is admittedly smaller than the samples used by Lapham, this data is still quite provocative, especially when taken in conjunction with the other evidence for Native American trade with the English as discussed above.

All of this evidence points to local Native Americans harvesting subadult or mature deer (perhaps having been hired and given a gun by John Hallowes to do so), butchering the carcasses at the kill site, trading the meatier portions to the Europeans at the Hallowes site, and then keeping the head and skins. Retaining the heads for the brains was essential for the hide-tanning process, which required brains to treat the hide (Lapham 2005: 10). By harvesting subadult or mature deer, the local Native Americans not only provided larger amounts of meat to the people at Hallowes, but also acquired larger deerskins, which were preferred in the deerskin trade (Lapham 2005: 9). Deer hunting in the vicinity of the Hallowes site provided the Native Americans the opportunity to profit twice from the same animal, first by means of its meat and then through its hide. In this sense, the venison trade supported multiple intercultural interactions within the Potomac River valley region and possibly beyond.

These interactions between John Hallowes, his family, and local Native Americans were typical for people living along the Potomac in the 17th century and were essential to the colonial enterprise. While trade was only one form of interaction between the Native Americans and their English neighbors, these exchanges often facilitated more complex cultural negotiations. Although the interactions associated with the venison trade at the Hallowes site appear mild on their surface, they were greatly influenced by the context of the region, including the low European population of Virginia's Potomac Valley, political affiliations, cultural ideas about exchange, and identity. Indeed, despite Hallowes's seemingly non-violent interaction with natives at his home in Virginia, he had participated in military actions against the Susquehannocks in Maryland just a few years earlier, illustrating that the types of interactions between Europeans and natives in the early Chesapeake could vary widely even for the same person (*Archives of Maryland* 1885: 119–120; Riordan 2004: 113). Before the close of the 17th century, interactions, such as those at the Hallowes site, would lead to the expansion of the European population on the Northern Neck and the displacement or death of thousands of Native Americans that once lived alongside their colonial neighbors (Sprinkle 1985).

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Appendix 1: Table 1: Summary of faunal data from pre-1666 features at the Hallowes site. (Table by the author, 2013.)

Taxa	**Common Name**	**NISP**	**% NISP**	**MNI**	**% MNI**	**Weight (g)**	**% Weight**	**Biomass (kg)**	**% Biomass**
Mammalia									
Bos taurus	Cattle	57	2.3%	4	10.8%	1,303.0	23.8%	18.610	24.2%
Sus scrofa	Pig	155	6.3%	7	18.9%	1,047.6	19.1%	15.439	20.1%
Odocoileus virginianus	White-tailed deer	111	4.5%	7	18.9%	650.6	11.9%	9.326	12.2%
Procyon lotor	Raccoon	1	<0.1%	1	2.7%	0.4	<0.1%	0.012	<0.1%
Sciurus carolinensis	Gray squirrel	1	<0.1%	1	2.7%	0.1	<0.1%	0.003	<0.1%
Scalopus aquaticus	Eastern mole	4	0.2%	1	2.7%	0.4	<0.1%	0.012	<0.1%
Artiodactyla	—	1,255	51.3%	—	—	1,709.0	31.2%	22.605	29.5%
Unidentified Mammalia	—	313	12.8%	—	—	394.1	7.2%	6.168	8.0%
Aves									
Gallus gallus	Chicken	3	0.1%	2	5.4%	1.8	<0.1%	0.037	<0.1%
Meleagris gallopavo	Wild turkey	3	0.1%	1	2.7%	3.3	0.1%	0.061	0.1%
Branta canadensis	Canada goose	2	0.1%	2	5.4%	6.3	0.1%	0.116	0.2%
Unidentified Aves	—	6	0.2%	—	—	2.6	<0.1%	0.054	0.1%
Osteichthyes									
Archosargus probatocephalus	Sheepshead	132	5.4%	7	18.9%	190.0	3.5%	2.005	2.6%
Pogonias cromis	Black drum	13	0.5%	1	2.7%	20.8	0.4%	0.368	0.5%
Unidentified Osteichthyes	—	376	15.4%	—	—	132.4	2.4%	1.565	2.0%
Reptilia									
Testudines	—	16	0.7%	3	8.1%	23.8	0.4%	0.366	0.5%
Total	—	2,448	—	37	—	5,486.2	—	76.747	—

Appendix 1: Table 2: Summary of faunal data from Feature 17. (Table by the author, 2013.)

Taxa	**Common Name**	**NISP**	**% NISP**	**MNI**	**% MNI**	**Weight (g)**	**% Weight**	**Biomass (kg)**	**% Biomass**
Mammalia									
Bos taurus	Cattle	11	0.7%	1	7.7%	328.1	9.9%	4.835	10.8%
Sus scrofa	Pig	84	5.6%	3	23.1%	670.6	20.3%	9.201	20.6%
Odocoileus virginianus	White-tailed deer	102	6.8%	5	38.5%	601.6	18.2%	8.344	18.7%
Scalopus aquaticus	Eastern mole	4	0.3%	1	7.7%	0.4	<0.1%	0.012	<0.1%
Artiodactyla	—	1,052	69.8%	—	—	1,370.7	41.5%	17.508	39.2%
Unidentified Mammalia	—	245	16.2%	—	—	324.6	9.8%	4.789	10.7%
Aves									
Gallus gallus	Chicken	1	0.1%	1	7.7%	0.8	<0.1%	0.017	<0.1%
Meleagris gallopavo	Wild turkey	3	0.2%	1	7.7%	3.3	0.1%	0.061	<0.1%
Unidentified Aves	—	2	0.1%	—	—	0.9	<0.1%	0.019	<0.1%
Osteichthyes									
Unidentified Osteichthyes	—	1	0.1%	—	—	0.3	<0.1%	0.011	<0.1%
Reptilia									
Testudines	—	3	0.2%	1	7.7%	5.0	0.2%	0.093	<0.1%
Total	—	1,508	—	13	—	3,306.3	—	44,677.21	—

Appendix 1: Table 3: Summary of faunal data from Feature 63. (Table by the author, 2013.)

Taxa	**Common Name**	**NISP**	**% NISP**	**MNI**	**% MNI**	**Weight (g)**	**% Weight**	**Biomass (kg)**	**% Biomass**
Mammalia									
Bos taurus	Cattle	43	5.0%	2	11.8%	964.8	49.7%	13.553	49.3%
Sus scrofa	Pig	41	4.8%	2	11.8%	239.5	12.3%	3.904	14.2%
Odocoileus virginianus	White-tailed deer	5	0.6%	1	5.9%	27.9	1.4%	0.551	2.0%
Procyon lotor	Raccoon	1	0.1%	1	5.9%	0.4	<0.1%	0.012	<0.1%
Sciurus carolinensis	Gray squirrel	1	0.1%	1	5.9%	0.1	<0.1%	0.003	<0.1%
Artiodactyla	—	195	22.8%	—	—	320.6	16.5%	4.736	17.2%
Unidentified Mammalia	—	35	4.1%	—	—	28.8	1.5%	0.541	2.0%
Aves									
Gallus gallus	Chicken	2	0.2%	1	5.9%	1.0	0.1%	0.020	0.1%
Branta canadensis	Canada goose	1	0.1%	1	5.9%	3.4	0.2%	0.062	0.2%
Unidentified Aves	—	3	0.4%	—	—	1.5	0.1%	0.030	0.1%
Osteichthyes									
Archosargus probatocephalus	Sheepshead	129	15.1%	6	35.3%	187.3	9.6%	1.965	7.1%
Pogonias cromis	Black drum	13	1.5%	1	5.9%	20.8	1.1%	0.368	1.3%
Unidentified Osteichthyes	—	375	43.9%	—	—	132.1	6.8%	1.554	5.7%
Reptilia									
Testudines	—	11	1.3%	1	5.9%	14.7	0.8%	0.192	0.7%
Total	—	855	—	17	—	1,942.9	—	27.491	—

Appendix 1: Table 4: Summary of faunal data from bastion features. (Table by the author, 2013.)

Taxa	**Common Name**	**NISP**	**% NISP**	**MNI**	**% MNI**	**Weight (g)**	**% Weight**	**Biomass (kg)**	**% Biomass**
Mammalia									
Bos taurus	Cattle	3	3.5%	1	14.3%	10.1	4.3%	0.222	5.1%
Sus scrofa	Pig	30	35.3%	2	28.6%	137.5	58.0%	2.334	53.5%
Odocoileus virginianus	White-tailed deer	4	4.7%	1	14.3%	21.1	8.9%	0.431	9.9%
Artiodactyla	—	8	9.4%	—	—	17.7	7.5%	0.361	8.3%
Unidentified Mammalia	—	33	38.8%	—	—	40.7	17.2%	0.838	19.2%
Aves									
Branta canadensis	Canada goose	1	1.2%	1	14.3%	2.9	1.2%	0.054	1.2%
Unidentified Aves	—	1	1.2%	—	—	0.2	0.1%	0.005	0.1%
Osteichthyes									
Archosargus probatocephalus	Sheepshead	3	3.5%	1	14.3%	2.7	1.1%	0.040	0.9%
Reptilia									
Testudines	—	2	2.4%	1	14.3%	4.1	1.7%	0.081	1.9%
Total	—	85	—	7	—	237	—	4.366	—