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## **NOW YOU SEE IT; NOW YOU DON'T. COASTAL EROSION AND COASTAL COTTAGES: TWENTY YEARS OF CULTURAL RESOURCE MANAGEMENT STUDIES**

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Twenty-five years ago, North Carolina was celebrating the 400<sup>th</sup> Anniversary of the first English settlement of the New World. As part of that celebration, archaeological investigations of Roanoke Island and the Outer Banks were being conducted by East Carolina University (ECU). There were, at this time, no Cultural Resource Management (CRM) firms with offices in the state. That project, funded through the North Carolina Office of State Archaeology (OSA), focused primarily on the Native American inhabitants of what would become North Carolina who were here when the first English colonists arrived on the Outer Banks in 1584.

The Roanoke Voyages were expeditions of exploration and discovery begun in 1584 under a royal patent to Sir Walter Raleigh. The landfall of his agents, Philip Amadas and Arthur Barlowe, on the Outer Banks in July of that year was the first contact of the native Algonkian-speaking inhabitants of the region with English explorers. The English claimed the new-found land in the name of Queen Elizabeth (Quinn and Quinn 1982).

The explorers landed on the north end of Roanoke Island where they found an Algonkian village of nine houses, "built of Cedar, and fortified round about with sharpe trees, to keepe out their enemies" (Quinn 1955:107). The explorers had made contact with the Algonkians when they first entered the sounds and were greeted "very cheerefully and friendly" and were escorted to the main house of the village where they were treated to a feast (Quinn 1955:107). Barlowe noted that the house had five rooms. Algonkian leaders informed the explorers about the many towns and villages along the coast and islands, one of which was Dasemunkepeuc, located on the mainland across the sound from Roanoke Island (Quinn 1955).

Two later voyages resulted in the first colonization of the New World by the English; a venture that was to result in failure, becoming the famous "Lost Colony" (Quinn and Quinn 1982). The settlers had left behind a fort, Fort Raleigh, which survives today, but the remains of the settlement have not been defined. While the 400<sup>th</sup>-Anniversary project did survey the sound below the National Park Service property containing the fort in an attempt to locate eroded materials, the project mainly focused on the native inhabitants who were here when the colonists arrived.

Earlier, in the mid-1950s, William Haag had conducted his seminal survey of the North Carolina coast. He primarily recorded archaeological sites known to residents of the area. His fieldwork involved non-systematic surface survey and limited test excavation of sites, with most of the effort focused along mainland shorelines of the sounds. The purpose of the study was to "depict the prehistory of coastal man and to unearth any evidence of the 'Lost Colony'" (Haag 1958:24). The areas selectively covered include Hatteras Island, Ocracoke Island, Bodie Island, Colington Island, Roanoke Island, the Albemarle Sound, the Pamlico Sound, and the lower

Neuse River. Due to the large area to be covered, Haag's survey methods involved the surface survey of sites that were already known to the local population.

Haag's study resulted in the identification of 79 sites including many sites with shell middens. He was quick to point out in his monograph that the "archaeological story" was already affected by natural and manmade forces and that many sites recorded during the fieldwork "are now wholly within the water edge of the Sound with no actual midden remaining" (Haag 1958:9). The extent of erosion along the northern edge of Roanoke Island, the presumed vicinity of the Lost Colony settlement, was later evaluated by geographers from the University of Virginia (Dolan and Bosserman 1972). They estimated that over a quarter of a mile of shoreline recession had taken place since the sixteenth century, making it more than likely that the Lost Colony settlement site has been destroyed.

### **DOCUMENTING THE EFFECTS OF SHORELINE EROSION**

For the 400<sup>th</sup>-Anniversary project, surveys were conducted along the sound side of the Outer Banks and the mainland and along Roanoke Island looking for sites that were depicted on historic maps and also for the sites recorded by Haag. The crew dug holes all along what is now the northern end of Roanoke Island searching for the Algonkian village described by John White (Quinn 1955), searched in vain for Indian Hole and the "mounds" described by Talcott Williams (Williams 1896), and waded along the mainland shore looking for the village of Dasemunkepeuc.

During that survey numerous local informants were interviewed, 28 test units were opened, and miles of shoreline were examined. Northwest Point (31DR19), the possible site of the Algonkian village reported by the Roanoke Voyagers (Figure 13-1), had been recorded by Haag who collected sherds on the beach (Haag 1958). Eight units excavated in the area mapped as 31DR19 yielded nothing. It appeared that the site had completely eroded just since Haag's visit.

In 1988, Coastal Carolina Research (CCR) was founded, and almost its first project was to conduct a survey of a portion of the north end of Roanoke Island for the Historical Association. No evidence of the Native American village was found, but a Civil War site (31DR61) was recorded (Lautzenheiser 1988). A later survey of the area defined the site, which covered about 10 acres, as Camp Reno (Hargrove 1989). Evaluation of this camp in 1991 indicated that the site had been systemically plundered, and by the time of the investigation its destruction was virtually complete (Lautzenheiser and Hargrove 1991). Nearby Fort Huger was not investigated, but a brief examination revealed that the earthworks had by that time substantially eroded into Roanoke Sound.

Located on the mainland side of Currituck Sound, the Baum Site, 31CK9, had not been visited by Haag, but was recorded in 1972 when a local resident informed ECU's Dr. David Phelps of human burials eroding from the bank. That began a series of trips to the site by ECU from 1972 to 1974 and again between 1980 and 1983, and lastly by OSA in 1987, to salvage the ossuary burials eroding from the low bank overlooking the shoreline. Complete with a detailed research design (Phelps 1980), the Baum site was listed on the National Register of Historic Places (NRHP) in 1980 as a permanent village, and the presence of a number of ossuaries was taken to mean that the site was a capital village or at least one of extreme importance. Unfortunately, other than salvaging burials as they eroded, no other investigations were undertaken at the site until much later.

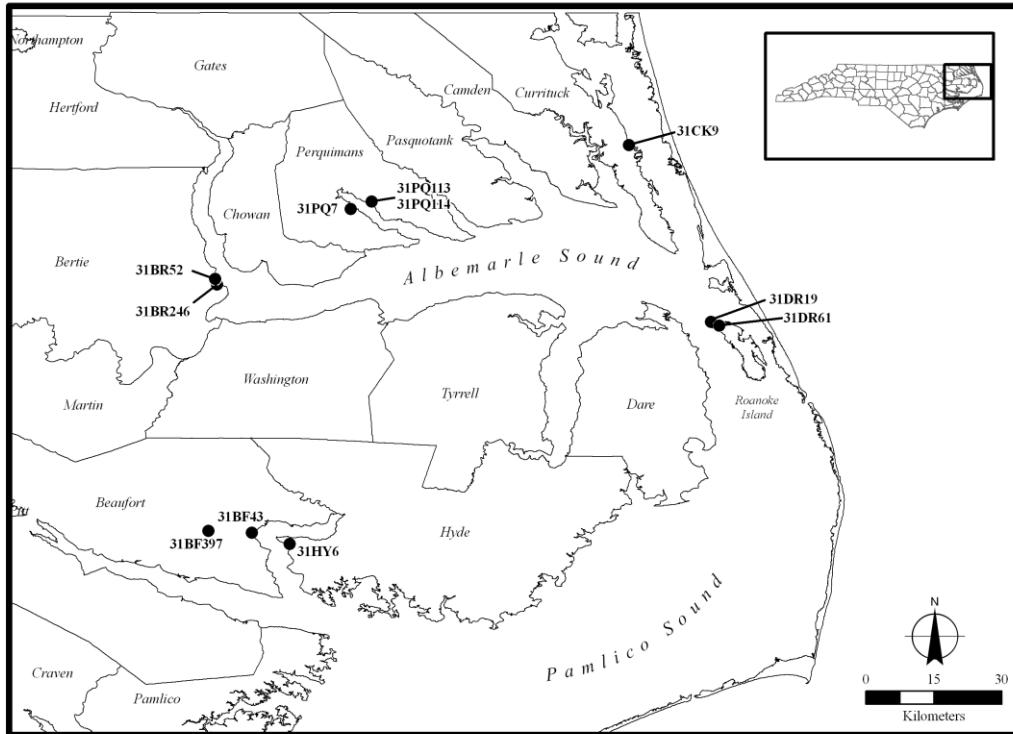


Figure 13-1. Map of Northeastern North Carolina showing the locations of sites discussed.

During a Baum site ossuary recovery in late September of 1983, a hurricane blew up requiring the ECU crew to abandon the site. Upon the crew's return, it was found that the wind had blown the water out of the Sound for several hundred feet from the shore. The beach was littered with shells and artifacts as far as could be seen, suggesting that the site had been considerably larger.

At this time, mainland Currituck County was sparsely settled, and conveniences were limited. The field crew stayed at a hunting camp in spartan accommodations. Lunch was a pack of nabs, if you managed to grab one before leaving the camp. Over time, however, as the Outer Banks were building up, development moved to the Sound side along the mainland, and the Baum tract was sold for development.

In 2005, CCR was hired to conduct test excavations to determine the condition of the site. Backhoe trenches were excavated to remove the overburden and hand excavation of the upper midden was conducted. The testing indicated that there was intact midden under the plow zone in much of the site; however, few features were noted, and no ossuaries were found. The testing did reveal that extensive erosion was continuing (Figure 13-2), and Phelps' 1983 datum was sought in vain and had apparently also eroded (Lautzenheiser and Stewart 2006).

In 2007, CCR conducted data recovery excavations at the site prior to the planned development (Gosser 2007). Upon the return to the site it was estimated that 5 to 10 feet of the site had eroded between the 2005 and 2007 work (see Figure 13-2). In addition to 256 shovel tests on a 10 meter grid, four 4-x-4-m excavation blocks, one 2-x-2-m unit, and one 1-x-1-m unit were excavated. The data recovery revealed that significant features did not survive, and though there was some preservation of faunal and archaeobotanical material in the remnant shell

midden, the results of analyses add only limited insight into the nature of the occupation related to the documented ossuary burials. This can serve as a cautionary tale; coastal sites are not going to sit around and wait for us to get around to them. They are truly fragile resources.

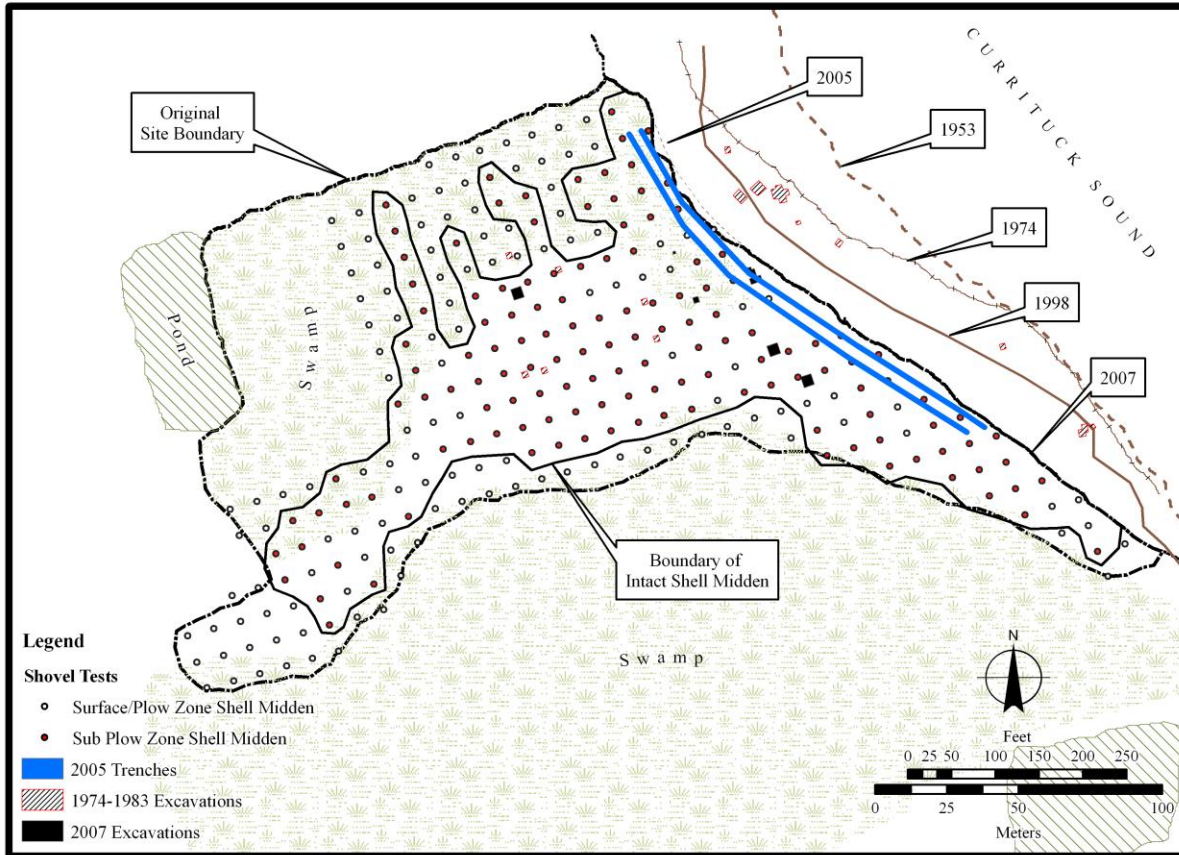


Figure 13-2. Plan view of the Baum Site, 31CK9, showing changes to the shoreline based on overlay of ECU site mapping, topographic maps, and aerial images and archaeological investigations by ECU (1974-1983) and CCR (2005 and 2007).

Approximately 50 years after William Haag recorded site 31HY6, the Davis Bay site, CCR was hired to conduct a site evaluation related to requirements of a Coastal Area Management Act (CAMA) permit application (Bamann et al. 2005). The site is (was) located on the banks of the Pungo River on a cultivated private tract in desperate need of bulkheading to protect a planned vacation retreat home. The Pungo is a tidal estuary of the Pamlico River estuary, and the site was described as being on a slight promontory along the river bank “in the midst of the only cleared area for miles around” (Haag 1958:53). The site was further defined as a circular, Woodland-period shell midden with an approximate diameter of 700 feet. The midden was generally one foot thick and varied in shell concentration. The artifacts included sand-tempered, shell-tempered, and clay/grit-tempered ceramics with various surface treatments; an elbow pipe fragment; a quartzite triangular point; and three hammerstones.

Prior to the CCR investigation, 31HY6 was revisited in the 1980s as part of the Hyde County Archaeological Project conducted by Cindy Cook (Cook 1984). The project was funded

under a Survey and Planning Grant to the Hyde County Historical Society. Cook described 31HY6 as a “partially destroyed” shell midden (1984:13) with historic and Late Woodland deposits. She recognized a late eighteenth- to early nineteenth-century historic component at the site based on the presence of a plain pearlware sherd and a transfer-printed pearlware sherd. This was something that Haag had not described.

When CCR arrived at the site in 2005, the owner of the tract indicated that his parcel, containing approximately 76 acres, had originally contained over 100 acres (ca. 1950). The loss of acreage was all attributed to erosion of the river bank edge of the property, and based on dead trees within the river channel, it appeared that at least 200 feet of land had been lost in relatively recent times. The slight promontory noted by Haag was not apparent, but the northern portion of the tract does slope very gently downwards toward a poorly drained area. Past cultivation of the site area, which had included cultivation right up to the edge of the river bank, undoubtedly increased the severity of the erosion. Subsequent comparison of 1974 topographic map data and recent aerial photographs from the North Carolina Floodplain Mapping Information System (NCFMIS 2005) confirmed that at least 246 feet of shoreline had eroded in the later twentieth century.

CCR’s initial revisit indicated a shell midden of varying composition exposed along the frontage of the tract for approximately 730 feet. Shell was also exposed on the surface at least 200 feet inland. Native American ceramics were collected along a narrow beach in the northern half of the site where they appeared to have eroded out of the shell midden. On the beach near the higher portion of the tract, at an area where the land comes to a slight point and is three to six feet above the water level, a series of eighteenth-century artifacts was noted. A quantity of brick appeared to have eroded onto the beach (Figure 13-3), and early eighteenth century artifacts were recovered. No dateable ceramics post-dating ca. 1760 were noted.

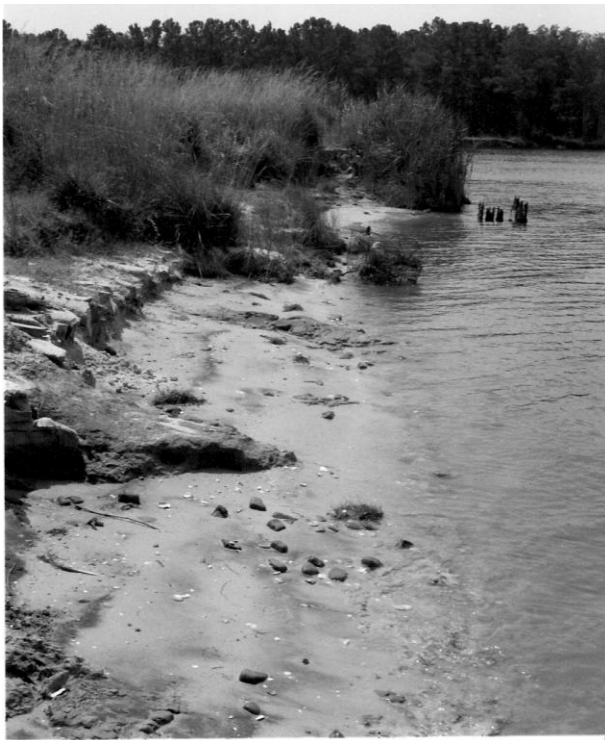


Figure 13-3. View of the shoreline at 31HY6, the Davis Bay Site, showing ongoing erosion. Note shell along beach and brick eroded from site in foreground.

Systematic surface survey was conducted across the tract within cultivated areas, and shovel testing and test unit excavation followed. The various testing strategies revealed low artifact densities and evidence for extensive disturbance from plowing. It appeared that much of the shell scatter noted during the surface survey represented dispersed material from plowing of a former midden area. Three 1-x-1-m test units on the higher shoreline area revealed stacked plow zones. The lower plow zone was characterized by mottled brown and very dark grayish brown soil with mixed Middle to Late Woodland ceramics, eighteenth- to early-nineteenth-century historic artifacts, and very fragmentary shell. A deeper but very thin zone of undisturbed, dark grayish brown soil was noted in two of the units. This zone contained little shell and a few Native American ceramics, and it was underlain by sterile subsoil.

Over 50 percent of the Native American ceramic sherds from the shovel testing and test units were very small (less than 2 cm maximum dimension) and approximately half of these were severely eroded from repeated plowing or wave action. Those that could be classified were attributed to the Late Woodland Colington series and the Middle Woodland Mount Pleasant series (Phelps 1983). The historic material collected during the excavations confirmed that an eighteenth-century component was present. This probably dated to the second half of the century based on the number of creamware (post 1762; Miller et al. 2000) and pearlware (post 1779; Miller et al. 2000) sherds. Some earlier material similar to that collected from the beach on the initial CCR visit was also present. Unfortunately, the excavated historic material was mixed with the earlier precontact material, and it appears that no intact portions of the historic component were present. Bricks and artifacts along the beachfront suggested that the historic component had eroded into the river. The presence of the historic site is consistent with evidence for numerous land patents in the project vicinity after 1758 (Hoffman 1982).

In general, it appears likely that any intact shell midden areas recorded during William Haag's research were on the portion of the river bank now eroded into the Pungo River. It is likely that the plow-disturbed deposits documented during the current testing represent material from the back edge of the original site. Most importantly, the project documented the recent loss of waterside site area and the peril of sites that would have been eligible for the NRHP 50 years ago.

Haag also recorded a site on the Pungo River at the confluence with Pungo Creek (Haag 1958). The site, 31BF43, was noted by Haag as extending at least 1,500 feet north-south and about 1,000 feet east-west. It was described as containing one of the largest midden deposits in the area, with depths of 18 inches. He noted ceramics from all time periods and stated that the site was a potential candidate for the Native American town of Aquascogoc visited in 1586 by members of Ralph Lane's party from the second of the Roanoke Voyages.

The site, now the location of a subdivision, Windmill Point, was investigated by CCR in 1995 (Lautzenheiser et al. 1995). The study consisted of a survey and collection of materials eroding along the shoreline, shovel testing, and excavation of mechanical trenches. Materials were found along the shoreline and in the water. It was possible to wade to a duck blind on an eroded tip of the point several hundred feet from the existing shoreline. This area also contained exposed shell and artifacts. Shell was also observed in six of eighteen shovel tests transects. These six adjacent transects defined the surviving extent of the midden. Only four shovel tests were positive, and these tests yielded only one artifact each.

A small grader was used to remove the disturbed plow zone in five trenches, and the trenches were shovel skimmed and troweled. Undisturbed midden was removed by hand. Full excavation of the trenches was hampered by water entering the trenches, but at least a 1-x-1-m

unit was fully exposed in each trench. The trenches averaged three meters long and, while the shoreline survey yielded numerous artifacts, the trenches yielded a total of only seven artifacts. The base of Trench 3 contained a series of small postholes which might have been from a shelter or windbreak (Lautzenheiser et al. 1995).

Since Haag's visit in the mid-1950s, the site limits have been severely reduced through both erosion and sea level rise. The north-south extent of the midden was about 300 feet, but the east-west extent was under 100 feet, substantially reduced from the size noted by Haag (Lautzenheiser et al. 1995). Just south of site 31BF43 on the Pungo River at Woodstock Point, the town of Woodstock was thriving in the late eighteenth century and was attempting to rival the port at Bath. Since then the town has slipped under the water, and in 1916, historians R.T. and Lottie Hale Bonner reported that none of the town's buildings remained standing, but, at a very low tide, a large portion of the town could still be seen (Angley 1983).

In this area, subsidence likely also played a part in the erosion of the point (Lautzenheiser 1984). The Coastal Plain sediments are affected by major tectonic structure in the basement rock. The Hatteras Embayment is an active structural low, while the Cape Fear Arch is an active structural high. The large embayed estuaries, and the rapid rates of shoreline erosion are evidence of active subsidence in the area of the Hatteras Embayment (Hardaway 1980). The early settlement of Waupopin in neighboring Hyde County provides an example of the effects of subsidence in the region. The village included farms, churches, and several cemeteries. The area is now completely abandoned and today is savanna. Old fence lines, as well as an old corduroy road, which has already been overlain by several inches of peaty soil, can still be seen in the swamp. The area was reportedly abandoned as a result of the sinking of the land 18 inches after the Charleston earthquake in 1886 (Hyde County Historical Society 1976).

## **SITES IN RELATION TO OTHER RECENT LANDSCAPE ALTERATIONS**

CCR conducted limited test excavations at the Newbold-White House in Perquimans County in an area previously identified as the seventeenth-century house location (31PQ7; Lautzenheiser 1995). The excavations encountered evidence that the small drainage ditch next to the early house site had originally been a much larger natural run. Changes to the natural drainage patterns through erosion were also noted during work at the ca. 1720-1730 Sutton-Newby House on Durants Neck in Perquimans County.

The Sutton-Newby House is located near the head of a small tributary of Sutton Creek, slightly over a mile from the mouth of the creek at the Perquimans River. The existing house, however, was probably not the earliest dwelling on the farm tract. The farm was occupied by the Nathaniel Sutton family since before 1670, passing to Joseph Sutton I in 1682. In 1724, Joseph Sutton II inherited the land and probably built the existing house. Joseph Sutton II was a prominent planter who represented Perquimans in the House of Commons from 1739 to 1760. He maintained a landing on Suttons Creek below his dwelling house as an official inspection place (Winslow and Cockshutt 1974).

During CCR investigations of the standing structure (31PQ113; Lautzenheiser 1992), the owner mentioned that there had been a ballast stone foundation near the landing on Sutton Creek. A surface survey of the area where the ballast stone had been (31PQ114) resulted in recovery of Rhenish stoneware, probably a bellarmine (ca. 1620-1700; Miller et al. 2000), and Nottingham stoneware (ca. 1683-1810; Miller et al. 2000) (Lautzenheiser et al. 1994). No artifacts with



initial manufacturing dates in the eighteenth century were recovered, suggesting that this site may have originated in the seventeenth century as the original Sutton farm.

The location of the possible Sutton farm site is near a (formerly) navigable slough of Suttons Creek. This slough contains evidence of a historic landing. The owner noted that the field contained the head of a run which extended almost to the farm site.

The run had gradually become silted-in during the long term cultivation of the field.

Under a National Park Service grant administered by the North Carolina Division of Archives and History, CCR and Thomas Hargrove (Archaeological Research Consultants, Inc.) conducted a remote sensing survey across a 450-x-200-foot area which was believed to contain the remains of the seventeenth-century farm house (Lautzenheiser et al. 1994). The study documented subsurface anomalies, but before they could be investigated, the landowner removed the grid stakes and decided not to allow the work to continue.

In 2007, CCR (Gosser et al. 2007) conducted a survey of a private tract in Beaufort County for an owner who had been researching his land, through deeds, and, unfortunately, through digging up a pile of bricks he had noticed (later recorded as 31BF397). It is unclear whether the owner will develop the tract, referred to as the Barrow Tract, but he did appear quite interested in the history of the land which had come down through his wife's family. The background research for CCR's survey provides additional documentation of the importance of small watercourses, many now altered by erosion, in early settlement patterns.

Captain William Barrow was one of the earliest settlers of the Beaufort County area. In 1705, he received a grant for land on which he was already residing (Reed 1962). According to a reference provided by the landowner, eighteenth-century deeds state that Barrow owned property "on the South side of Machapongo Creek [Pungo Creek]." Two historic maps show the Barrow plantation home in the Barrow tract vicinity. Edward Moseley's 1733 map shows the Perkins plantation, and to the east, the Barrow plantation. An 1808 map shows a "Barrow" in approximately the same location at a road intersection in the same approximate location as current roadways.

A later deed notes that the "land beginning on the creek side near the Landing at the mouth of a Ditch Running a direct course through the Plantation to a Cart Road ...and including the Buildings where I now Live & fifty Acres at the head of Pasture Branch that Lies in Thomas BARROWS Pattent..." (Camin 1984:192-193). On an 1881 Coast Survey map you can still see the run accessing the site location. This site, and the sites discussed earlier, all had landings on the main creek or river, but all were specifically situated at the heads of small runs that drained into the main watercourse. The runs have since been silted in by run-off from cultivation.

The initial excavation of what was exposed as a brick foundation at 31BF397 was intended to remove some of the backdirt generated from the owner's excavations and determine if a feature was present. The initial contracted 1-x-1-m unit was expanded to expose more of the foundation. Since the digging was next to, and almost in, a cemetery, there was concern that the brick was related to a vault. The excavation, however, revealed a foundation five courses of brick high, two bricks wide, and held together with mortar heavily tempered with large fragments of burned oyster shell. The foundation defined a structure approximately 9.2 feet wide and probably 12 to 14 feet long, judging from additional brick piles and probing (Gosser et al. 2007). This represents a rather small building for a house.

The artifact assemblage, comprised of ceramic table and teawares, bottle glass, cutlery, tobacco pipes, faunal bone and clothing items, indicates a domestic use for the site (Figure 13-4). Taken as a group, the artifacts appear to date from the late seventeenth century to the end of the

first quarter of the eighteenth century. There were also wrought rosehead nails, some of which appeared to have been burned, and no fragments of window glass were recovered. Most of the ceramics were types that began manufacture in the late seventeenth century or early eighteenth century. Three fragments of dipped white salt-glazed stoneware (1715-1775; Miller et al. 2000) were recovered as was one small fragment of North Midlands slipped earthenware (1660-1745; Miller et al. 2000). The assemblage includes numerous fragments from a black-glazed redware vessel; most of these fragments mended together, revealing that the vessel had been a large pitcher. There was an impressive number of ceramic mends from the test units, suggesting an intact site of early settlement with great research potential (Gosser et al. 2007).



Figure 13-4. Domestic artifacts from 31BF397 at the Barrow Tract. Top: pewter spoon with trifid terminal; Bottom: two-pronged iron fork.

### **THE CONTINUED PERILS OF DEVELOPMENT**

The sites discussed above were not impacted by construction activities, but have been the victims of continuing shoreline erosion or exist in altered landscapes with important drainage features obscured by soil run-off from cultivation. Construction is, however, an issue with other sites in the coastal region. One example is the Eden House site (31BR52), a site representing the initial period of permanent European settlement in North Carolina (Lautzenheiser et al. 1998). CCR's research indicated that settlement at Eden House began around 1660 and lasted to approximately 1740. The seventeenth-century component, which yielded evidence for at least three structures and a possible stockade, was excavated prior to the construction of the US 17 bridge across the Chowan River. The ca. 1720 Eden House Manor site north of the highway, which survives, does so only because it was donated to the Archaeological Conservancy. Only

the two tracts which contain the Manor House site were donated, and the remaining components related to the eighteenth-century complex have been now been developed.

More recent research in Bertie County, conducted by the James River Institute for Archaeology, Inc. (JRIA; Jacobsen et al. 2008) for a CAMA permit, has resulted in documentation of another seventeenth-century site that may be affected by construction activities. This site, 31BR246, yielded artifacts suggesting a Euroamerican presence in the second half of the seventeenth century. Jacobsen et al. (2008:157) suggest that the material may be associated with either the Nathaniel Batts settlement or the initial establishment of the Pollock plantation. Nathaniel Batts is considered the first known permanent settler in what is now North Carolina (Powell 1989), and by the mid-1600s he had established a trading post along the Albemarle Sound in the vicinity of the JRIA project. The Pollock plantation, later referred to as Bal Gra, was located in the JRIA project vicinity and may have been established as a residence of Thomas Pollock in the very early eighteenth century (Jacobsen et al. 2008). Thomas Pollock, a prominent landowner and merchant, served as acting governor of North Carolina in 1712 and 1722 and had marched against the Meherrin Indians in 1706 and 1707 in the cause of their suppression (Jacobsen et al. 2008; Powell 1989). The site is located within the project area for the proposed Bal Gra Harbor residential community site, and, in comments attached to the JRIA report (May 14, 2008) OSA has recommended mitigation plans to either 1) protect the site from direct or secondary impacts from construction, related erosion, relic hunting, or related subsequent development; or 2) recover any important information prior to disturbance.

### **CONCLUDING REMARKS**

As we are attempting to refine our understanding of Native American settlement of the coastal region, and as we are just beginning to locate some of North Carolina's earliest historic resources, we are also seeing the coastlines of the sounds gobbled up by development, and there is intensive movement up the rivers in the Coastal Plain. Coastal sites are sensitive to this change. They are also sensitive to sea level rise and accompanying erosion, and predictions from a recent Environmental Protection Agency report on sea level rise in the mid-Atlantic region suggests that coastal areas of North Carolina are particularly vulnerable (Rawlins 2009). Of particular interest is the fact that there have been few seventeenth century sites recorded, not enough to make solid judgments about their locations, but enough to know they are likely to be located in areas that are attractive to development. Hopefully, with continued requirements for compliance with CAMA and Section 106 of the National Historic Preservation Act, and with more counties realizing they are losing their history and requiring some level of study, we will have further opportunities to save or record the heritage of North Carolina's peoples.

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