

**PHASE I
TERRESTRIAL AND UNDERWATER
ARCHAEOLOGICAL BACKGROUND STUDY,
MID-CURRITUCK BRIDGE STUDY,
CURRITUCK & DARE COUNTIES, NORTH CAROLINA
STIP No. R-2576**

**Federal Project No. BRS-000S(36)
State Project No. 6.049002T**



PREPARED FOR:
PB Americas, Inc.
Charlotte, North Carolina

PREPARED BY:
Panamerican Consultants, Inc.
Memphis, Tennessee

FINAL REPORT

SEPTEMBER 2009

THIS PAGE INTENTIONALLY LEFT BLANK

FINAL REPORT

**PHASE I
TERRESTRIAL AND UNDERWATER
ARCHAEOLOGICAL BACKGROUND STUDY,
MID-CURRITUCK BRIDGE STUDY,
CURRITUCK & DARE COUNTIES, NORTH CAROLINA
STIP No. R-2576**

Authored by:

Stephen R. James, Jr. and Andrew D.W. Lydecker

Prepared for:

**PB Americas, Inc.
121 West Trade Street, Suite 1950
Charlotte, North Carolina 28202**

Federal Project No. BRS-000S(36)

State Project No. 6.049002T

Prepared by:

**Panamerican Consultants, Inc.
91 Tillman Street
Memphis, Tennessee 38111**

SEPTEMBER 28, 2009

THIS PAGE INTENTIONALLY LEFT BLANK

MANAGEMENT SUMMARY

The North Carolina Turnpike Authority's proposed Mid-Currituck Bridge in Currituck and Dare counties, North Carolina, will connect the mainland to Currituck Bank crossing Currituck Sound. Beginning in Barco at the intersection of NC 168 and U.S. 158, the project runs southeast along U.S. 158 crossing the Intracoastal Canal at the community of Coinjock. Approximately 1.5 miles south of Coinjock, the project area turns east and follows SR 1140 across Maple Swamp to the community of Aydlett on the western shore of Currituck Sound. Comprised of six alternate routes, the proposed bridge corridor extends easterly across Currituck Sound intersecting Currituck Bank south of Corolla and Whale Head Bay and north of Sanders Bay.

For the purpose of this study and as stipulated by the preliminary design for the Mid-Currituck Bridge Study, the Area of Potential Effects (APE), defined for archaeological investigations as the maximum limits of construction activities with the built alternative limits, is 60 feet (18 m) to either side of U.S. 158 from its intersection with NC 12 north to NC 168 in Barco (with the exception of the Wright Memorial Bridge), and 60 feet (18 m) to either side of NC 12 from its intersection with the northern proposed Mid-Currituck Bridge approach south to its intersection with U.S. 158. The approximately 9,843-foot (3,000 m) width of the APE along the proposed Mid-Currituck Bridge corridor alternatives from U.S. 158 across Currituck Sound to NC 12 was established based on the extent of the proposed improvements with the preliminary bridge corridor alternatives (i.e., bridge corridors C1 through C6). The study corridor for the current investigation encompasses the entire APE by a 500-foot margin on all sides.

Under contract to PB Americas, Inc. of Charlotte, North Carolina, Panamerican Consultants, Inc. of Memphis, Tennessee, conducted a Phase I terrestrial and underwater archaeological background study, the purpose of which was to identify previously recorded archaeological sites and properties listed on the National Register of Historic Places (NRHP) within the APE, as well as to assess the potential for the presence of additional, but as yet unidentified cultural resources adjacent to and within the APE. The background research consisted of an examination of the archaeological site files at both the North Carolina Office of Archaeology and the Underwater Archaeological Branch of the Division of Archives and History, an examination of the NRHP, a review of historic maps, and a review of archaeological work previously conducted in and adjacent to the APE.

It was found that numerous terrestrial archaeological surveys have been conducted in or adjacent to the APE, and as a result of these investigations, a total of fifty (n=50) previously recorded properties with designated state trinomial numbers and one recorded property without a trinomial are located within the general APE, while twenty-five (n=25) are located adjacent to the APE. Of the 51 properties within the APE, only fourteen (n=14) are archaeological sites; the remaining thirty-six (n=36) are historic cemeteries. The cemeteries, the majority of which were recorded along U.S. 158 as a result of a survey for a proposed pipeline, fall under the provisions of North Carolina's Cemetery Act (NC General Statute 65-13) and must be removed and relocated if they will be impacted. With regard to the 14 archaeological sites within the APE, seven are prehistoric (31CK1, 31CK14, 31CK26, 31CK28, 31CK32, 31CK39, and 31DR3), four are historic (31CK181, 31CK182, 31DR55, and 005CKB), one is multi-component (31CK36), and two are unknowns (31CK211 and the "Reported" site). Other than their location, nothing is reported for these latter "sites."

There are several properties listed on the NRHP within the APE. All are standing structures, and the majority are located in Coinjock adjacent to and along U.S. 158. The study of standing structures within the APE is being conducted separately from the current investigation.

While only a few submerged cultural resources surveys have been conducted within or adjacent to the project area, no underwater sites are listed within the APE. However, there are several significant shipwreck sites adjacent to the APE and the Currituck Sound portion of the project area has a long maritime history suggesting the possibility of additional sites in the area.

In conclusion, the archaeological record indicates that sites are present within the APE, and that the extensive and continued use of the area from prehistoric times indicates and argues the potential for additional, as yet unidentified cultural resources sites in the project area. It is therefore recommended that archaeological surveys be conducted on both land and water in order to identify the presence or absence of additional resources, and that an assessment be conducted of the NRHP eligibility of any sites located within the APE if they are threatened by impacts from proposed project activities.

TABLE OF CONTENTS

MANAGEMENT SUMMARY	i
TABLE OF CONTENTS	iii
LIST OF FIGURES	v
LIST OF TABLES	v
1. INTRODUCTION	1
PROJECT SETTING.....	1
<i>ER2</i>	1
<i>MCB2</i>	2
<i>MCB4</i>	2
AREA OF POTENTIAL EFFECTS.....	6
2. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND	7
PREHISTORIC BACKGROUND.....	7
<i>Paleoindian (before ca. 10,000 B.P.)</i>	7
<i>Early Archaic (10,000–8,000 B.P.)</i>	7
<i>Middle Archaic (8,000–5,000 B.P.)</i>	8
<i>Late Archaic (5,000–3,000 B.P.)</i>	8
<i>Woodland Period (3,000–350 B.P.)</i>	9
<i>Early Woodland (3,000–2,300 B.P.)</i>	9
<i>Middle Woodland (2,300–1,200 B.P.)</i>	10
<i>Late Woodland (1,200–350 B.P.)</i>	10
<i>Historic Indian Period</i>	12
HISTORIC BACKGROUND.....	12
<i>Early Explorations</i>	12
VESSEL TYPES IN CURRITUCK SOUND.....	21
<i>Dugout Canoes</i>	21
<i>Periauger</i>	22
<i>Sloops</i>	23
<i>Coasting Schooners</i>	23
<i>Shad Boats</i>	24
<i>Skipjacks</i>	25
<i>Ferries</i>	26
<i>Steamboats</i>	27
MODERN VESSEL TYPES.....	27
3. PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS	28
TERRESTRIAL INVESTIGATIONS.....	28
UNDERWATER INVESTIGATIONS.....	29
4. ARCHAEOLOGICAL SITE POTENTIAL	34
ARCHAEOLOGICAL SITES WITHIN THE APE.....	34
<i>31CK1</i>	36
<i>31CK14</i>	36
<i>31CK26</i>	36
<i>31CK28</i>	36
<i>31CK32</i>	36
<i>31CK36</i>	37

<i>31CK39</i>	37
<i>31CK181</i>	37
<i>31CK182</i>	37
<i>31CK211</i>	37
<i>31DR3</i>	37
<i>31DR55</i>	37
<i>005CKB</i>	37
<i>Reported Site</i>	42
POTENTIAL FOR SUBMERGED HISTORIC SITES.....	50
5. CONCLUSIONS	54
6. REFERENCES CITED	55

LIST OF FIGURES

Figure 1. Research area location map illustrating detailed study alternatives	4
Figure 2. General APE and research area location map	5
Figure 3. Map by John White, 1585	13
Figure 4. Excerpt of the 1733 Mosley Map of North Carolina showing “Caratuk Inlet”	15
Figure 5. Map showing Port Currituck and the location of both inlets, the latter closing by 1828	16
Figure 6. 1865 map showing location of Oregon Inlet	17
Figure 7. Map showing location of Albemarle & Chesapeake Canal and the C&A Canal cut at Coinjock	18
Figure 8. Dredging of the Chesapeake and Albemarle Canal	19
Figure 9. 1865 map showing location of C&A Canal at Coinjock and access it provided to Albemarle Sound	20
Figure 10. A sixteenth-century engraving of Native Americans building a dugout canoe	22
Figure 11. Cutaway view of a periauger	22
Figure 12. Traditional sloop (one mast) and schooner (two masts)	23
Figure 13. Example of an early shad boat	24
Figure 14. Example of a sharpie	25
Figure 15. Line drawing of a traditional skipjack	26
Figure 16. The <i>Undine</i> , a traditional sternwheel steamboat used and lost on Currituck Sound	27
Figure 17. Southern area of anomalies and sidescan targets within APE where it crosses Currituck Sound	31
Figure 18. Photograph of the <i>Undine</i> and crew	32
Figure 19. Acoustic image from the bathymetric and SAV survey	33
Figure 20. Quadrangle map key	38
Figure 20-A. Recorded archaeological sites in relation to the general APE	39
Figure 20-B. Recorded archaeological sites in relation to the general APE	40
Figure 20-C. Recorded archaeological sites in relation to the general APE	41
Figure 20-D. Recorded archaeological sites in relation to the general APE	42
Figure 20-E. Recorded archaeological sites in relation to the general APE	43
Figure 20-F. Recorded archaeological sites in relation to the general APE	44
Figure 20-G. Recorded archaeological sites in relation to the general APE	45
Figure 20-H. Recorded archaeological sites in relation to the general APE	46
Figure 20-I. Recorded archaeological sites in relation to the general APE	47
Figure 20-J. Recorded archaeological sites in relation to the general APE	48
Figure 20-K. Recorded archaeological sites in relation to the general APE	49
Figure 20-L. Recorded archaeological sites in relation to the general APE	50

LIST OF TABLES

Table 1. Previously recorded properties within and adjacent to the APE	34
Table 2. Archaeological properties within and adjacent to the APE	36
Table 3. Vessels listed as lost in the vicinity of the project area	51
Table 4. Vessels and obstructions in the project area	51
Table 5. Vessels lost in project area vicinity	52
Table 6. Vessels lost in the Currituck Sound “CKS”	53

THIS PAGE INTENTIONALLY LEFT BLANK

1. INTRODUCTION

Currently, PB Americas, Inc., of Morrisville, North Carolina (PB), is under contract with the North Carolina Turnpike Authority (NCTA) to perform required environmental and engineering studies of NCTA's proposed Mid-Currituck Bridge Project in Currituck and Dare counties, North Carolina, a project that will connect the mainland with Currituck Bank and that will cross Currituck Sound. Associated with proposed highway widening and bridge construction and in partial fulfillment of their obligations under various state and federal statutes, the NCTA, entrusted with the protection and preservation of all cultural resources that may be adversely affected by their project activities, sponsored a Phase 1A background study. Subsequently, Panamerican Consultants, Inc. of Memphis, Tennessee (Panamerican) was subcontracted by PB under Task Orders 4 and 6 to conduct a "Desk Top" study to identify previously recorded archaeological sites and to assess the potential for the presence of additional, but as yet unidentified cultural resources adjacent to and within the Area of Potential Effects (APE). Conducted between March 2008 and February 2009, this investigation is required by the NCTA and is sponsored by the Federal Highway Administration (FHWA) in compliance with Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended (36 CFR 800, *Protection of Historic Properties*) and the Abandoned Shipwreck Act of 1987 (*Abandoned Shipwreck Act Guidelines*, National Park Service, *Federal Register*, Vol. 55, No. 3, December 4, 1990, pages 50116-50145).

PROJECT SETTING

The project area is in northeastern North Carolina and includes the Currituck County peninsula on the mainland and its Outer Banks, as well as the Dare County Outer Banks north of Kitty Hawk (see Figure 2). The project area encompasses two thoroughfares, U.S. 158 from NC 168 to NC 12 (including the Wright Memorial Bridge) and NC 12 north of its intersection with U.S. 158 to its terminus in Currituck County. U.S. 158 is the primary north-south route on the mainland. NC 12 is the primary north-south route on the Outer Banks. The Wright Memorial Bridge connects the mainland with the Outer Banks.

Three alternatives were identified for detailed study in the Draft Environmental Impact Statement (DEIS) along with the No-Build Alternative. The detailed study alternatives identified are ER2, MCB2, and MCB4. The detailed study alternatives are shown on Figure 1 and described below:

ER2

- Adding for evacuation use only, a third outbound evacuation lane on US 158 between NC 168 and the Wright Memorial Bridge as a hurricane evacuation improvement or using the existing center turn lane as a third outbound evacuation lane; in either case one inbound lane on the Wright Memorial Bridge and on the Knapp (Intracoastal Waterway) Bridge would be used as a third outbound evacuation lane;
- Widening US 158 to a six-lane super-street between the Wright Memorial Bridge and Cypress Knee Trail that widens to eight lanes between Cypress Knee Trail and the Home Depot driveway;
- Constructing an interchange at the current intersection of US 158, NC 12, and the Aycock Brown Welcome Center entrance, including six through lanes on US 158 starting at the Home Depot driveway and returning to four lanes just south of Grissom Street; and

- Widening NC 12 to three lanes between US 158 and a point just north of Hunt Club Drive in Currituck County (except where NC 12 is already three lanes in Duck) and to four lanes with a median from just north of Hunt Club Drive to Albacore Street.

MCB2

- Constructing a two-lane toll bridge across Currituck Sound, as well as approach roads and/or bridges and an interchange at US 158;
- Adding for evacuation use only, a third outbound evacuation lane on US 158 between NC 168 and the Mid-Currituck Bridge as a hurricane evacuation improvement or using the existing center turn lane as a third outbound evacuation lane; in either case one inbound lane on the Knapp (Intracoastal Waterway) Bridge would be used as a third outbound evacuation lane;
- Widening US 158 to a six-lane super-street between the Wright Memorial Bridge and Cypress Knee Trail and an eight-lane super-street between Cypress Knee Trail and the Home Depot driveway;
- Constructing an interchange at the intersection of US 158, NC 12, and the Aycock Brown Welcome Center entrance, including six through lanes on US 158 starting at the Home Depot driveway and returning to four lanes just south of Grissom Street; and
- Widening NC 12 to three lanes between US 158 and a point just north of Hunt Club Drive in Currituck County (except where NC 12 is already three lanes in Duck) and to four lanes with a median from just north of Hunt Club Drive to NC 12's intersection with the Mid-Currituck Bridge.

MCB4

- Constructing a two-lane toll bridge across Currituck Sound, as well as approach roads and/or bridges and an interchange at US 158;
- Adding for evacuation use only, a third outbound evacuation lane on US 158 between NC 168 and the Mid-Currituck Bridge as a hurricane evacuation improvement or using the existing center turn lane as a third outbound evacuation lane; in either case one inbound lane on the Knapp (Intracoastal Waterway) Bridge would be used as a third outbound evacuation lane;
- Adding for evacuation use only, a third outbound evacuation lane on US 158 between the Wright Memorial Bridge and NC 12 as a hurricane evacuation improvement or using the existing center turn lane as a third outbound evacuation lane; in either case one inbound lane on the Wright Memorial Bridge would be used as a third outbound evacuation lane; and
- Widening NC 12 in Currituck County to four lanes with a median from Seashell Lane to NC 12's intersection with the Mid-Currituck Bridge.

The unique characteristic of a super-street, included along US 158 east of the Wright Memorial Bridge with ER2 and MCB2, is the configuration of the intersections. Side-street traffic wishing to turn left or go straight must turn right onto the divided highway where it can make a U-turn through the median a short distance away from the intersection. After making the U-turn, drivers can then either go straight (having now accomplished the equivalent of an intended left turn) or make a right turn at their original intersection (having now accomplished the equivalent of an intention to drive straight through the intersection).

For MCB2 and MCB4, two design options are evaluated for the approach to the bridge over Currituck Sound, between US 158 and Currituck Sound. Option A would place a toll plaza within the US 158 interchange. The mainland approach road to the bridge over Currituck Sound would include a bridge over Maple Swamp. With Option B, the approach to the bridge over Currituck Sound would be a road placed on fill within Maple Swamp. Aydlett Road would be removed and the roadbed restored as a wetland. Traffic traveling between US 158 and Aydlett would use the new bridge approach road. A local connection would be provided between the bridge approach road and the local Aydlett street system. The toll plaza would be placed in Aydlett east of that local connection so that Aydlett traffic would not pass through the toll plaza when traveling between US 158 and Aydlett. No access to and from the Mid-Currituck Bridge would be provided at Aydlett.

Also, for MCB2 and MCB4, there are two variations of the proposed bridge corridor (see Figure 1) in terms of its terminus on the Outer Banks. Bridge corridor C1 would connect with NC 12 at an intersection approximately two miles north of the Albacore Street retail area, whereas bridge corridor C2 would connect with NC 12 approximately one-half mile south of this area. The length of the proposed Mid-Currituck Bridge would be approximately 7.0 miles with bridge corridor C1, whereas it would be approximately 7.5 miles with bridge corridor C2.

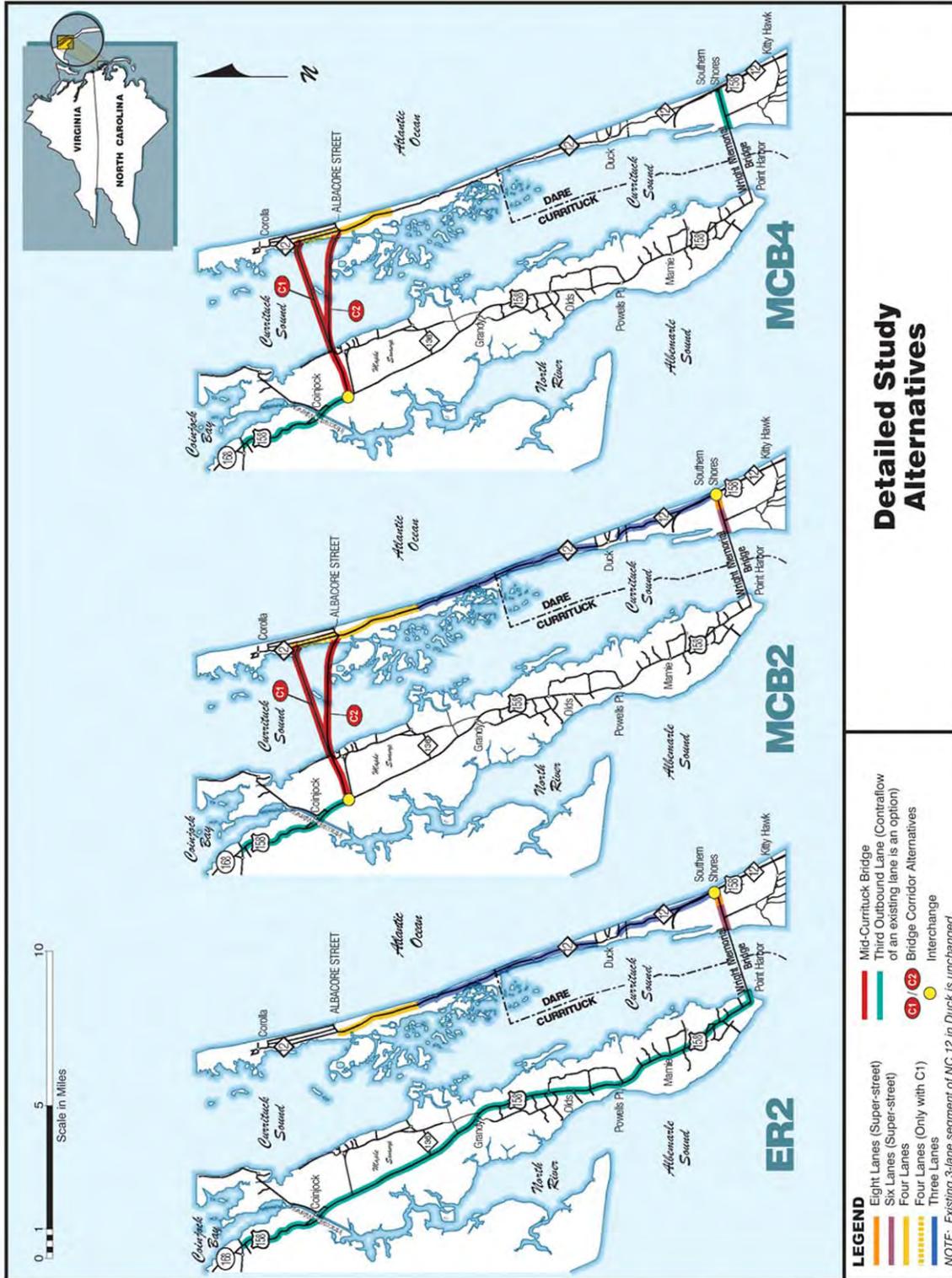


Figure 1. Research area location map illustrating detailed study alternatives (courtesy of PB Americas, Inc.).

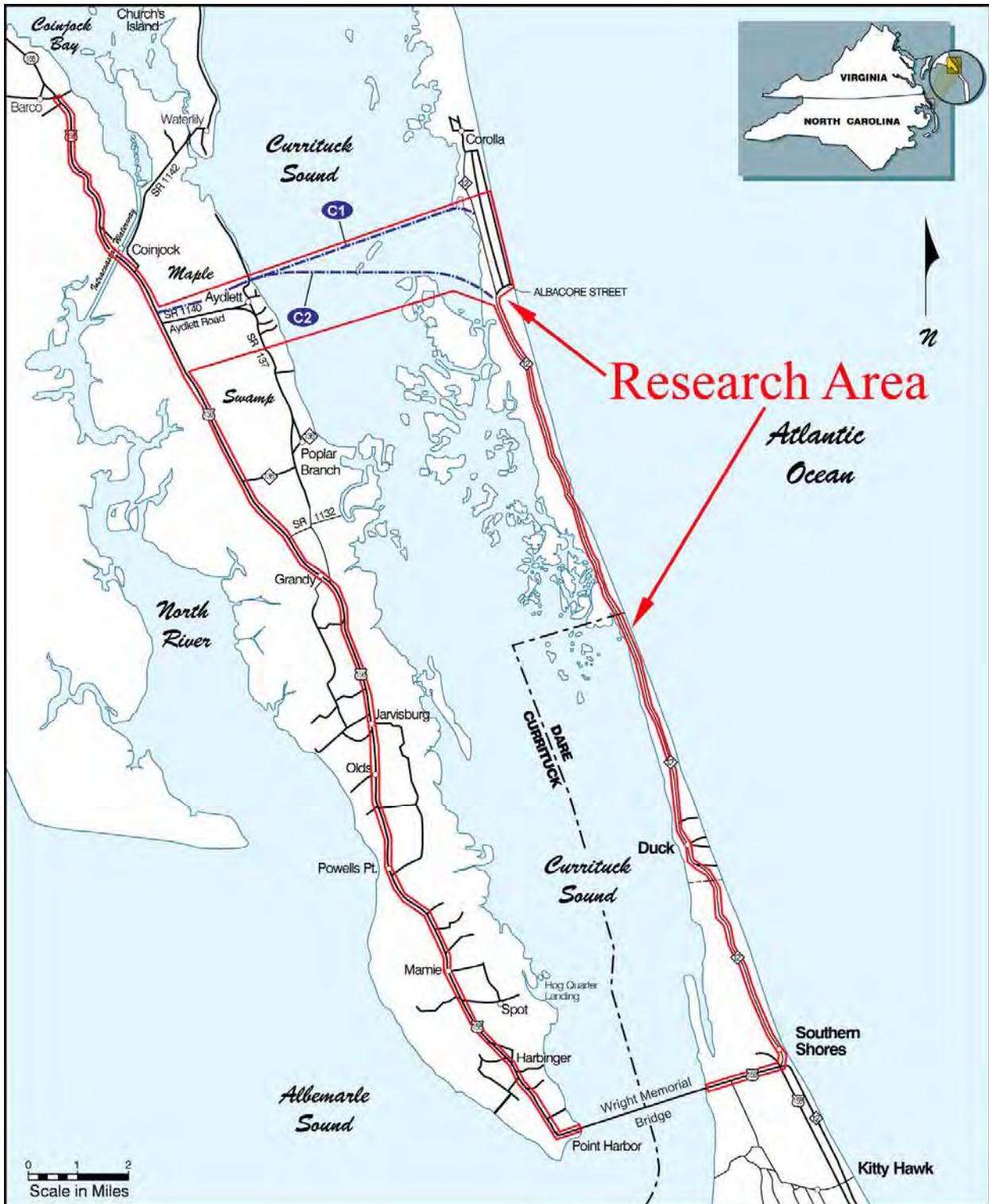


Figure 2. General APE and research area location map (courtesy of PB Americas, Inc.).

AREA OF POTENTIAL EFFECTS

For the purpose of this study and as stipulated by the preliminary design for the Mid-Currituck Bridge Study, the Area of Potential Effects (APE), defined for archaeological investigations as the maximum limits of construction activities with the built alternative limits, is 60 feet (18 m) to either side of U.S. 158 from its intersection with NC 12 north to NC 168 in Barco (with the exception of the Wright Memorial Bridge), and 60 feet (18 m) to either side of NC 12 from its intersection with the northern proposed Mid-Currituck Bridge approach south to its intersection with U.S. 158 (see Figure 2).

The approximately 9,843-foot (3,000 m) width of the APE along the proposed Mid-Currituck Bridge corridor alternatives from U.S. 158 across Currituck Sound to NC 12 was established based on the extent of the proposed improvements with the preliminary bridge corridor alternatives (i.e., C1 through C6). As presented in Figure 2 above and represented in red, the study corridor for the current investigation encompasses the entire APE by a 500-foot margin on all sides.

2. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

PREHISTORIC BACKGROUND

PALEOINDIAN (BEFORE CA. 10,000 B.P.)

Despite recent claims of finds of pre-Paleoindian deposits along the Savannah River dating to 50,000 years ago (Walton and Coren 2004), the earliest evidence of human settlement in the North American Southeast dates from the Paleoindian period. The Paleoindian period in the Southeast has been defined through isolated finds of fluted projectile points and associated hearths or ephemeral features. Models of Paleoindian culture, adaptations, and subsistence are typically based on more substantial data from a series of archaeological sites in western North America, and modern anthropological studies of existing gatherer-hunter groups. Paleoindians are viewed as primarily nomadic hunters, focusing on large game. However, although evidence is sparse, it is doubtful that the hunting of large Pleistocene mammals was the exclusive focus of Paleoindian populations. As in modern gatherer/hunter populations, the exploitation of wild plant foods and smaller game likely comprised a significant portion of Paleoindian subsistence. Populations were sparse across most of the Southeast. There are, however, some areas with concentrations of Late Paleoindian sites that indicate either a denser population or repeated seasonal use of local resources.

Over most of North America, Paleoindian period sites are marked by a distinctive tool assemblage. Most characteristic of this period are fluted lanceolate projectile points. These tools average 7.5 cm (3 in.) in length, and exhibit parallel or slightly convex sides, concave bases, and a distinctive narrow, vertical flake (or flute) removed from each face of the blade. Other somewhat less distinctive features of Paleoindian lithic assemblages include bifacially flaked knives, end scrapers, burins, and graters (Griffin 1967; Kelly 1938, 1950; O'Steen et al. 1986).

The climate during the Paleoindian period was colder and drier than at present. Typical vegetation patterns likely consisted of spruce-pine forests prior to the arrival of Paleoindians to southeastern North America (Davis 1976; Watts 1971; Wright 1971), but had changed to mixed deciduous forests (oak, hickory, walnut, elm, willow, maple) by 10,000 B.P. (Anderson et al. 1996; Delcourt and Delcourt 1981, 1983; Ward and Davis 1999). Additionally, the coast was located hundreds of miles (220–300 [355–480 km]) to the east of its present-day location, and any sites that may have been occupied are now inundated (Phelps 1983). With that said, two fluted points have been reported in Camden County, indicative of a Paleoindian occupation, while the Currituck County site files list two Paleoindian component sites (Novick 1995).

EARLY ARCHAIC (10,000–8,000 B.P.)

The Archaic period represents a time of adaptation to the early Holocene environment. At this time, intervals of hot dry weather were punctuated by periods of increased precipitation and cooler temperatures. The oak-hickory forest was firmly established by the end of the Paleoindian period (Watts 1971; Whitehead 1973). Archaic populations' subsistence strategies were focused on seasonally available floral and faunal resources, including hickory nuts, acorn, and mammalian resources like deer (Anderson and Hanson 1988; Ledbetter 1992). The Early Archaic is generally believed to end with the onset of the Hypsithermal interval (8,000–4,000 B.P.), a warming period marked by an advance of pine forests on the Coastal Plains and the creation of extensive riverine swamps and wetlands (Anderson et al. 1996; Delcourt and Delcourt 1981, 1983).

The Early Archaic subperiod is distinguished from the preceding Paleoindian period on the basis of the technological change from large fluted projectile points to simpler, smaller, and more

diverse tools. Characteristic lithic artifacts associated with Early Archaic sites include ovate, stemmed, notched, and beveled quartz bifaces. Diagnostic point types identified by Coe (1964) are found throughout the Carolinas and other areas of the Southeast as well.

Recent scholarship has produced different models to explain the movements of Early Archaic settlements. One model put forth by Anderson and Hanson (1988) suggests small bands of Early Archaic people (50-150 individuals per band) focused on river drainages, moving their settlements seasonally to take advantage of readily available resources. Daniel proposes a different model (1998), suggesting these populations were “tethered” to good-quality lithic sources and moved their settlements relative to a few major outcroppings of rhyolite and chert. Both models are based on modern hunter-gatherer studies, though, and may not be entirely accurate if the environment was as resource-rich relative to modern conditions as others researchers have suggested (Ward 1983).

Surface scatters located near water sources typify Early Archaic sites from the Coast and Coastal Plain. Base camps and temporary procurement camps make up the range of known site types for the Archaic period on the coast, reflecting exploitation of various resources in diverse environments (Ward and Davis 1999). Resource procurement sites outnumber base camps nearly 10 to 1 (Phelps 1983).

MIDDLE ARCHAIC (8,000–5,000 B.P.)

During the Middle Archaic subperiod, the post-glacial Altithermal brought warmer temperatures and a drier climate. The favorably temperate climate is thought to have influenced settlement patterns, subsistence strategies, and technological innovations during this time period (Dragoo 1975).

The Middle Archaic appears to show an increase in more permanent settlements, particularly in the large river valleys. It is likely that band-level organization prevailed, and that gathering and hunting on a seasonal schedule continued. Major traits seen among Middle Archaic sites in North Carolina include their large numbers, the location of such sites in nearly all topographic settings, and the low artifact frequency and diversity of assemblages from these sites.

Characteristic artifacts of the Middle Archaic include stemmed and lanceolate projectile points. The Middle Archaic is also known for the earliest extensive use of ground stone technology (i.e., grooved and polished axes). Local lithic sources became the preferred material for flaked stone tool production (Johnson 1989; Ledbetter et al. 1981), suggestive of limited mobility of populations.

LATE ARCHAIC (5,000–3,000 B.P.)

The Late Archaic subperiod is seen as a time of major technological shifts, diversification in settlement types, and increased sedentism. In the Piedmont and Coastal Plain regions of the Carolinas and Georgia, the primary development that distinguishes the Late Archaic from preceding subperiods is pottery manufacture. Stallings Island pottery is tempered with Spanish moss that would be carbonized upon firing, resulting in a rather porous vessel (Ward and Davis 1999). This earliest pottery type is sometimes decorated with punctations, incising, and pinching. The roughly contemporaneous sand-tempered Thom’s Creek ceramic series is found as a minority type in southern Coastal Plain assemblages, but does not appear to have extended into the northern Coastal Plain of North Carolina. A third ceramic type, Hamp’s Landing, is a crushed limestone or marl-tempered ware with surface treatments including thong marked, cord marked, net impressed, fabric impressed, and simple stamped. Three radiocarbon dates associated with Hamp’s Landing sherds place the type in the Late Archaic subperiod (Jones et al. 1997; Sanborn and Abbott 1999), although other researchers continue to suggest Harp’s Landing dates to the Early and Middle Woodland subperiods due to stratigraphic evidence (Herbert 1999;

Jones et al. 1997; Mathis 1999; Ward and Davis 1999). Lastly, recent excavations at 31CB114 recovered a New River sherd with a cremation yielding a radiocarbon date firmly at the beginning of the Late Archaic subperiod, which suggests that coarse-sand tempering may have had earlier beginnings than previously thought (Sanborn and Abbott 1999). The use of non-fiber tempering so relatively early may have been a functional response by populations living in areas where Spanish moss is not as readily available.

Large residential base camps or villages are present for this period (Anderson and Joseph 1988), and these settlements are focused along both major rivers and their tributaries. Smaller, less-intensively occupied sites include terrace and upland hunting and gathering camps, and quarries. The subsistence systems did not change substantially between subperiods, although there is evidence of emergent horticulture at Late Archaic sites in the Southeast and Midwest (Chomko and Crawford 1978; Cowan 1985). There was also an increase in reliance on riverine resources.

One Archaic site has been recorded 1.5 miles north of the APE. Located just north of Aydlett on the western shore of Currituck Sound, 31CK40 has Early through Late Archaic components, but because of a lack of integrity due to erosion, is not recommended as eligible for listing on the NRHP.

WOODLAND PERIOD (3,000–350 B.P.)

As noted by Ward and Davis (1999), archaeological research along the North Carolina coast has long supported the notion of studying the northern and southern coastal regions as distinct, separate areas. This is as apparent and useful a designation in the Woodland period as it is in the later Historic period. Part of the reason for this divide between the north and south regions can be explained by environmental factors (Gunn 2002; Ward and Davis 1999). Barrier islands (Outer Banks) along the embayed north coastal region are located farther from the coast than in the south, providing greater access to estuarine resources but little protection from wind and cold. Conversely, the south coastal region is limited in the quantity of estuarine resources due to the nearness of sea islands to the mainland. Inlets of the New River, White Oak River, and Cape Fear River, among others, bisect islands along the southern coast but do not form the large bays and sounds found to the north. However, the southern coast, though “unembayed,” is more protected from wind and cold than the north coastal region.

These environmental differences are caused in part by the underlying geology of the area (Gunn 2002). Somewhat simply put, sediments piled against Piedmont bedrock formations were in place by 100 million years ago (Upper Cretaceous), to be acted upon by riverine and oceanic currents. However, an episode of geologic uplift centered on the southern Coastal Plain began around 50 million years ago (Cenozoic), lifting this region and resulting in a somewhat drier, drought-prone climate.

EARLY WOODLAND (3,000–2,300 B.P.)

During the Early Woodland, horticultural activities focused on the exploitation of domesticated plants, such as squashes, gourds, chenopodium, sunflower, and amaranth. Foraging activities continued to exploit wild plant foods, with a variety of nuts being heavily relied upon (Fritz 1988). Storage and cooking pits began to be used (Caldwell 1958), and large collections of acorn, hickory, and walnut remains have been recovered from such pits (Bowen 1982). The domestication of plant foods is believed to be associated with a more sedentary settlement system (Ward and Davis 1999; Wood and Ledbetter 1990). Villages with semi-permanent domestic structures were located along rivers and creeks. Small, short duration sites in upland areas, rock shelters in the uplands, and isolated circular structures in the flood plains are also commonly identified as Early Woodland habitation sites.

The Early Woodland subperiod on the northern Coastal Plain has been designated the Deep Creek phase (Loftfield 1976), a cultural identification useful in separating it from the New River phase common to the southern Coastal Plain (Phelps 1983). Both of these phases have undergone considerable refinement, particularly in terms of the ceramic series identified with each (as is the case with the entirety of the ceramic sequencing on the North Carolina coast). New River phase ceramics include a predominance of Deep Creek ceramics that correspond to the Thom's Creek fine sand-tempered ceramics and Deptford wares of South Carolina. Common surface treatments include: plain, cord marked, net impressed, and fabric impressed.

MIDDLE WOODLAND (2,300–1,200 B.P.)

The Middle Woodland subperiod represents a time of continued population growth and increased cultural complexity. However, evidence of dense middens, refuse/storage pits, and permanent structures are rare for the Middle Woodland subperiod in the study area. Sites are located in more diverse locations and are more dispersed than during the Early Woodland subperiod, and suggest populations focused on a variety of estuarine and riverine resources. Many of these were shell collecting locations, as evidenced by the quantities of shell present at these sites. Ward and Davis (1999:205) note, however, that it seems unlikely that Middle Woodland populations did not also target mammalian resources, particularly deer, for hides (clothing), sinew and other tissues, as well as bones and antlers (tools, fishhooks).

The Middle Woodland subperiod along the northern Coastal Plain is identified with the Mount Pleasant phase ceramics that are composed of sand and grit in a clay body with surface treatments of net and fabric impressed, cord marked, and plain. The triangular Roanoke projectile point/knife (PP/K) is common to this subperiod, and burials include flexed and semiflexed as well as cremations.

The Middle Woodland subperiod is marked elsewhere in the Southeast by exotic artifacts, such as copper panpipes, earspools, cut mica, and platform pipes (Butler 1979; Chapman and Keel 1979; Jefferies 1976; Ward and Davis 1999).

LATE WOODLAND (1,200–350 B.P.)

Described as a transitional subperiod elsewhere in the prehistoric Southeast, the Late Woodland represents a continuing expansion of agricultural subsistence patterns. Late Woodland artifact assemblages are marked by ground stone tools recovered with increasing regularity, reflecting the ever-increasing dependence on plant food processing. This is contrary to what the archaeological record contains for much of the North Carolina Piedmont, Coastal Plain, and Coastal regions, where Late Woodland cultural practices lasted until European contact.

Late Woodland subperiod cultural traditions on the northern North Carolina coast begin with the Collington phase. Representative of the Carolina Algonquians, which would be potentially present within the geographic swath of the project area, cultural markers include shell-tempered ceramics. Settlement patterns for the Late Woodland include widely spaced villages consisting of several longhouses each (Mathis 1995). While these structures may be evidence of year-round occupation of the coast, seasonal exploitation of gathered, hunted, and fished resources (rather than a reliance on domesticated plants) were still elements of the preferred subsistence strategy, at least until the end of the fifteenth century.

Group-oriented ceremonialism was an aspect of Late Woodland life along the North Carolina coast, as evidenced by the construction of sand mounds and communal ossuaries. Sand mounds dot the southern Sandhill region and Coastal Plain, and contain primary tightly flexed burials and secondary interments of bundle burials, scattered loose bones, and cremations (Irwin et al. 1999). Some individual interments are associated with burial goods, while other artifacts have been recovered in the mound fill but with no direct association with any burial.

Examinations of historic accounts and careful excavation of numerous ossuaries and burials along the North Carolina coast has resulted in a working hypothesis to explain the sequence of events between death and burial (Mathis 1993a, 1995; Ward and Davis 1999). Historic accounts from the seventeenth century record the “Feast of the Dead” as conducted by the Huron in the Great Lakes region. While using these accounts as a direct analogy for Algonquian or Algonquian-related groups on the northern North Carolina coast may be a bit of a stretch, the similar use of mass graves by both groups may imply similar cultural practices. Following death, a body may have been placed upon a scaffold or buried in a temporary pit for de-fleshing. Pits containing a few small human bones or bone fragments and little else may be evidence of these temporary pits. Scaffolding may be harder to identify in the archaeological record, but the incompleteness of secondary burials in the ossuaries is strong evidence that the bodies were de-fleshed in a place or way that resulted in the loss of smaller skeletal elements.

According to historic accounts, after a certain number of years (8 to 12), all of the community members who had died since the last ceremony were interred in mass graves following several days of ritual preparations. “Cemeteries” were emptied of their remains, bones were cleaned (adhering flesh removed), and the bundles of bones were wrapped in skins or robes. The recently deceased were similarly dressed but left “in the flesh” (as it were). If the remains were those of commoners or lower status individuals they were placed into one or more large, open pits. Ossuary pits on the North Carolina coast have been recorded as being 1.5 to 3 m across (Mathis 1993b). If the person was of a higher status in the community, the body may have been interred separately and been accompanied with grave goods (e.g., ceramic vessels, shell cups and beads, etc.). Mathis (1993b) speculates that completeness of the skeleton may also be an indication of higher status, suggesting the bodies were better cared for during de-fleshing. Lastly, accounts of the Huron ritual mention that food offerings were placed above the pit. This may have also occurred along the North Carolina coast, as evidenced by quantities of shell sometimes found capping the interments (Mathis 1993b).

Three linguistic groups interacted across the North Carolina Coastal Plain region in the Late Woodland and Historic periods, although only two of these may have directly impacted the study area. At the time of European contact, Iroquoian-speaking groups occupied the northern inner Coastal Plain, their territory ending at approximately the Neuse River. These Iroquoian sites are commonly identified with the Cashie phase (1,200–350 B.P.), with distinctive pebble-tempered ceramic wares. Algonquian speaking groups dominated the coast, with recent research suggesting this territory extended as far south as the Cape Fear River (Loftfield 1987; Mathis 1995). This southern expression of Algonquian culture seems to date to at least 1,100 B.P., and is differentiated from the historically better-known Algonquian groups in Virginia with the moniker “Carolina Algonquian” (Mathis 1995). Early English exploration of the Carolina and Virginia coasts (A.D. 1500–1584) may coincide with a “retraction” of Carolina Algonquian groups from the southern North Carolina coast, although Mathis (1995) speculates that they may have begun earlier than this time period. In any case, Carolina Algonquian groups were abandoning their villages south of the Neuse River, or were assimilating to expanding Iroquoian and Siouan cultures, or both, to the extent that later sites are not distinctly “Carolina Algonquian.”

There are several well-documented sites with Woodland components adjacent to the current APE. Located to the south of Aydlett near Poplar Branch Landing on the shore of Currituck Sound, one of the best known and most documented is the Baum site (31CK9), an extensive shell midden containing a large ossuary. While the Baum site is well documented, there are at least three recorded but lesser-known sites with Woodland components in the APE: 31CK14, 31CK26, and 31CK28. All shell middens containing Woodland period ceramics, the sites have not been assessed relative to NRHP eligibility.

HISTORIC INDIAN PERIOD

(The following culture history is derived from Ward and Davis [1999] except where noted.) While a review of the historic period for the Southeast typically begins with Spanish exploration and settlement, the historic period for the study area begins somewhat later than the rest of North Carolina. For instance, early exploration by Hernando De Soto (A.D. 1540) (Hudson 1997) and later incursions by Juan Pardo (A.D. 1566–1568) (Hudson 1990) were limited in their contact to only those native groups occupying the Piedmont and western Appalachian and Blue Ridge regions of the state. Direct contact between native coastal groups and Europeans did not occur until numerous English settlement attempts of the late 1580s. Following the abandonment of the “Lost Colony” in 1589, sustained contact between Indians and Europeans along the North Carolina coast was halted until Virginia settlers began moving southward in the middle of the seventeenth century (Ward and Davis 1999). Settlements along the southern Coast were short-lived, including attempts by Puritans from Massachusetts and English colonists from Barbados to settle at the mouth of the Cape Fear River.

Conflict between Europeans and Indians along the coast came to a head in the early 1700s, but the roots of these disputes reached back into the late 1600s. Settlements from Virginia sprung up around Albemarle Sound, and traders and colonists beat back native groups into the northern Coastal Plain. Land appropriations for settlements and farms, combined with a brisk and illegal Indian slave trade, pushed the Tuscarora populations to request permission to move to Pennsylvania. This deal soured, however, when the North Carolina colonial government refused to testify to the past good behavior of the Tuscarora. The Indians rose up in September 1711, killing 130 colonists in the first day of fighting. However, after three years the Indians had suffered over 1,000 casualties to the colonists’ 200, and nearly 1,000 other Indians were sold into slavery. The remaining native groups were forced to abandon their homes, and many moved to Pennsylvania and New York. The Carolina Algonquian language was essentially silenced from coastal Carolina at this time (Mathis 1995).

HISTORIC BACKGROUND

The project area is located adjacent to and in Currituck Sound, an area rich in history. In response to the stronghold Spain held over Florida, England pursued the idea of creating a foothold in the New World that would allow England to profit from the riches of the New World. In 1584, Sir Walter Raleigh was granted a charter from England’s Queen Elizabeth to explore and locate a suitable place to colonize north of Spanish Florida (Joy 1994:11). Other explorers would soon follow Raleigh’s initial forays into the New World.

EARLY EXPLORATIONS

On July 4, 1584, Captains Philip Amadas and Arthur Barlowe arrived off the Outer Banks of North Carolina in two English barks. The expedition had been sent out by Sir Walter Raleigh to explore the coastline of America in hopes of finding an appropriate place to establish an English colony (Stick 1958:14). Both Amadas and Barlowe made detailed observations of the area as well as of the native Indians. After hearing the reports from Amadas and Barlowe, Raleigh immediately planned a second expedition consisting of 7 vessels and approximately 600 men. The expedition left England on April 9, 1585 to establish the English settlement (Stick 1958:17).

Under the command of Sir Richard Grenville, the expedition arrived off the Outer Banks at Ocracoke and proceeded north until they reached Roanoke Island. It was here that Grenville decided to establish a settlement and a fort. Grenville, however, soon after departed the settlement, along with a large number of his soldiers. Grenville left behind 107 soldiers under the command of Ralph Lane (Stick 1958:17-18).

By June, the conditions at Roanoke Island had become despondent. Lane and his men had attacked an Algonquian village, and relations between Lane and the natives deteriorated quickly. Soon after, Sir Francis Drake arrived at the settlement after a series of successful raids in the Caribbean and Florida (Stick 1958:18). Although Drake was willing to supply Lane with any provisions he might require, Lane decided to abandon the settlement and return to England.

One week after Lane had deserted, a relief vessel arrived to find the settlement abandoned. Soon after, another fleet arrived under the command of Grenville. Grenville left behind 15 men to remain at the fort during the winter of 1586-1587 (Joy 1994:11). During this time, Raleigh was planning yet another expedition to Virginia to be headed by John White. White was an artist whose drawings today are still among the best and most detailed North American scenes of the early colonization period (Stick 1958:19). He produced one of the earlier maps detailing the North Carolina Coastal Plain and Outer Banks and two inlets, Port Ferdinando and Port Lane (Figure 3). White's plan was to stop at Roanoke Island to pick up the 15 colonists and head north to Chesapeake Bay, but upon arriving at Roanoke Island they found the fort demolished and the men gone. The vessel's captain refused to continue north to Chesapeake Bay, so White and the colonists elected to stay on the island (Hartzer 1983:4). White, anticipating a permanent settlement, immediately began to repair the fort and buildings (Joy 1994:11).

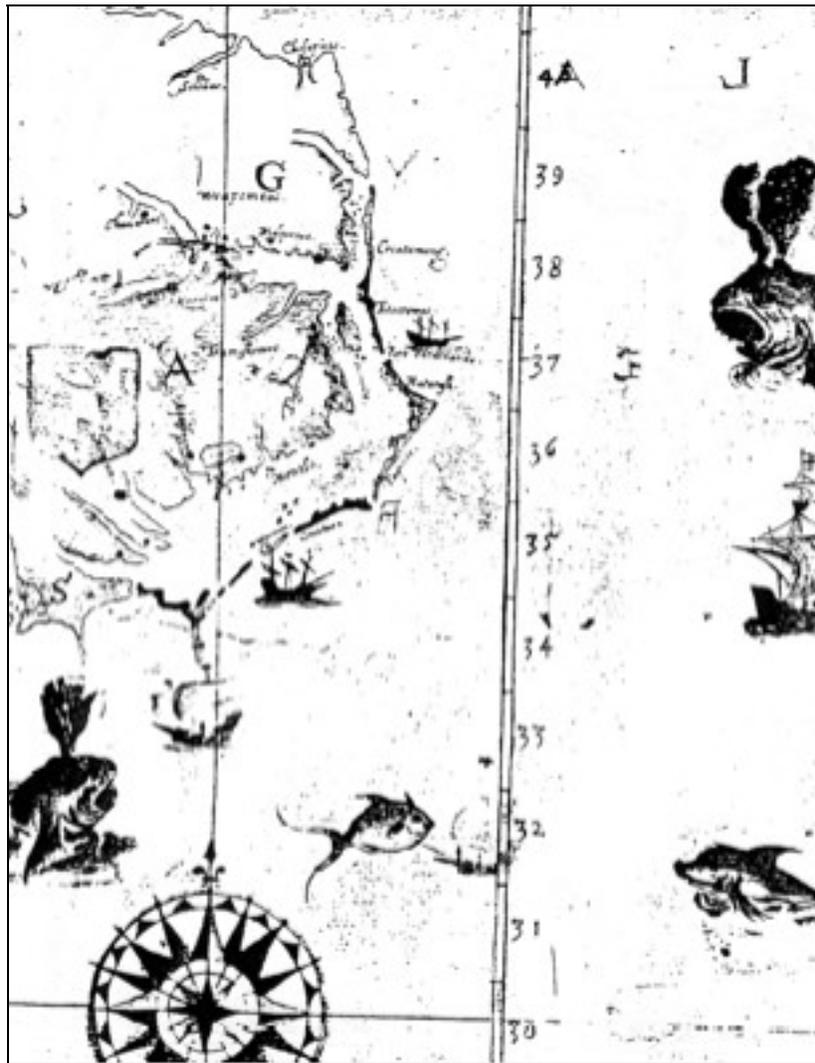


Figure 3. Map by John White, 1585 (as presented in Watts 1991:16).

White and a number of colonists decided to return to England to secure additional provisions and recruit more colonists. On August 27, 1587, White and the other colonists departed Roanoke Island, leaving behind 112 colonists (including his daughter and granddaughter). By the time White was ready to return to Roanoke Island, Spain was preparing the Spanish Armada for an attack on England. Because many of the larger vessels were needed to defend England, White was only given a 30-ton bark and a 25-ton pinnace as transportation back to Roanoke Island (Stick 1958:20). White was captured by the Spanish on his way back to the settlement, and was again detained in his efforts to return to Roanoke Island.

It was not until 1590 that White was able to return to the Outer Banks. After finally arriving at Roanoke Island, White and his party found all the colonists gone, including his daughter and granddaughter. No one has ever discovered what happened to the lost colony. Some feel that they were attacked by Native Americans or simply moved the colony elsewhere. The explanation of the lost colony remains a mystery to this day.

In another attempt to establish a foothold in the New World, England abandoned Roanoke Island and began to concentrate on Chesapeake Bay, farther to the north. Roanoke Island and the Outer Banks were left behind to the Native Americans for another 75 years (Stick 1958:21).

The original charter for North Carolina was obtained from King Charles I in 1629, and named "Carolana," although no permanent colony was established. By 1663, Charles II issued a second grant of the land south of Virginia. It was then renamed "Carolina." The grant was issued to eight proprietors who established centers of settlement. Each of the areas grew slowly throughout most of the seventeenth century, mostly due to the geography of the eastern North Carolina. North Carolina was surrendered by the proprietors in 1729, and thus became a royal colony (Hartzer 1983:4-5).

Permanent settlement of the North Carolina area was slow in development. Five Ports of Entry were established within North Carolina: Port Roanoke, Port Beaufort, Port Brunswick, Port Bath Town, and Port Currituck, which was designated in 1682. Located opposite Currituck Inlet, port records consistently show that Port Currituck shipped less volume than the other four Ports of Entry (Meverden 2005). This is explained by the fact that Currituck Sound had few rivers connecting it with various inland farms and settlements, as opposed to Roanoke, which sat at the mouth of Albemarle Sound and was fed by numerous major river systems. With water transportation the means of shipment for almost all goods, it is easy to see why Roanoke would surpass Port Currituck, and why Port Currituck would play a secondary role. Furthermore, Currituck also competed against the deep-water port of Norfolk, which was located just to the north (Figure 4).

While Roanoke Inlet was a major early entry point to accessible areas of coastal North Carolina, in 1665, the depth of Roanoke Inlet was recorded at 11–15 feet. By 1700, the depth of the channel was only 10 feet; the Inlet was shoaling up and would eventually close. Many of the captains of the larger vessels during the time felt that it was more expeditious to enter the sounds through Ocracoke Inlet, located to the south of Roanoke Inlet (Stick 1958:25-26). Eventually, Ocracoke Inlet became the most widely used inlet in North Carolina for all vessel traffic.

With settlements concentrated along the Coast and the Coastal Plain adjacent to major waterways, the primary means of subsistence consisted of farming. The majority of exports initially consisted of crops such as corn, tobacco, and wheat, as well as livestock such as cattle, pigs, sheep, and horses. Initial attempts to raise other commercial crops such as rice, indigo, and flax were unsuccessful. Other means of subsistence relied on animal skins and furs that then progressed into more lucrative resources, such as wood products (e.g., staves and shingles), and naval stores (e.g., turpentine, pitch) (Merrens 1964:85-86). It was in this latter export type that Currituck led the other ports in the late 1700s. Based on British customs documents, between

1768 and 1772, a total of 246 vessels entered the port. The majority of these were not from Europe, but from the Caribbean or the other colonies, the source of the majority of imports (Novick 1995:4.9-4.12). By the advent of the Revolution, tobacco became a leading export crop.

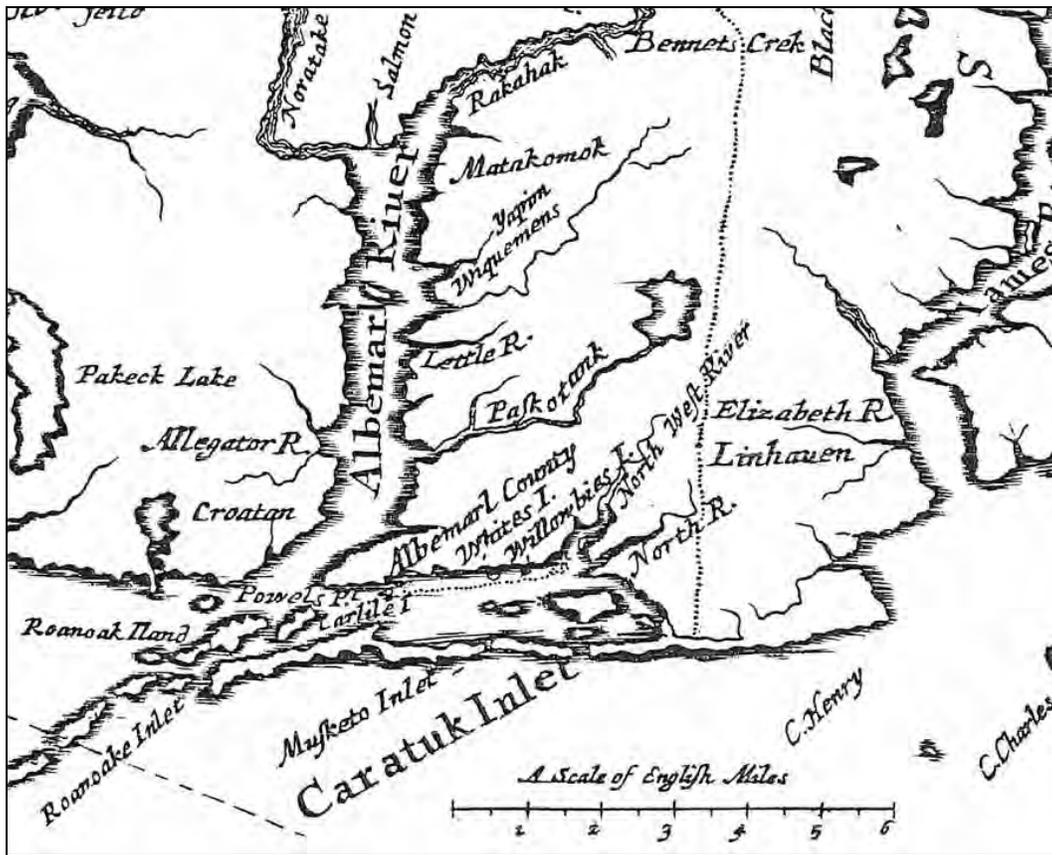


Figure 4. Excerpt of the 1733 Mosley Map of North Carolina showing “Caratuk Inlet” (as presented in Novick 1995:4.3). Note “Roanoake Inlet” to the left.

During the early eighteenth century, the coast of North Carolina became the cruising ground for some of the more infamous pirates of the period. The large number of vessels passing Cape Hatteras made it an ideal location for piracy. Such pirates to cruise the waters off North Carolina included Christopher Moody, “Calico Jack” Rackam, Anne Bonny, and Blackbeard (Edward Teach). Blackbeard made Bath, North Carolina his home after receiving a pardon from then-Governor Eden. In return, Blackbeard divided his prizes with Eden and Government Secretary Tobias Knight (Stick 1958:30). Blackbeard was killed on November 22, 1718, by Lieutenant Robert Maynard of the British Navy, thus signaling the end of piracy around the area (Stick 1958:32).

With the start of the American Revolution, the coast of North Carolina played an important role in keeping necessary shipping routes open to the American rebels. The British were successful in blockading all ports and harbors that had sufficient water depth for their large warships. However, the Outer Banks proved to be nearly impossible to blockade due to the shallow inlets and extreme conditions off the coastline. The inability to effectively blockade the inlets of North Carolina allowed the American rebels to keep necessary shipping routes open. With the advantage of the shallow waterways and extensive river systems within the Outer Banks, necessary provisions and supplies were shipped to troops throughout North Carolina and into Virginia with a high degree of success (Stick 1958:44-45).

Currituck County's population was 6,928 at the end of the Revolution, and by 1820, the population had risen to 8,098. With no manufacturers listed for the county, apart from the large plantations, the majority were yeomen farmers cultivating on average 100 acres or less and producing a diversity of crops. However, by 1828 Currituck Inlet had closed making entry into the port and shipment of these goods problematic (Figure 5).

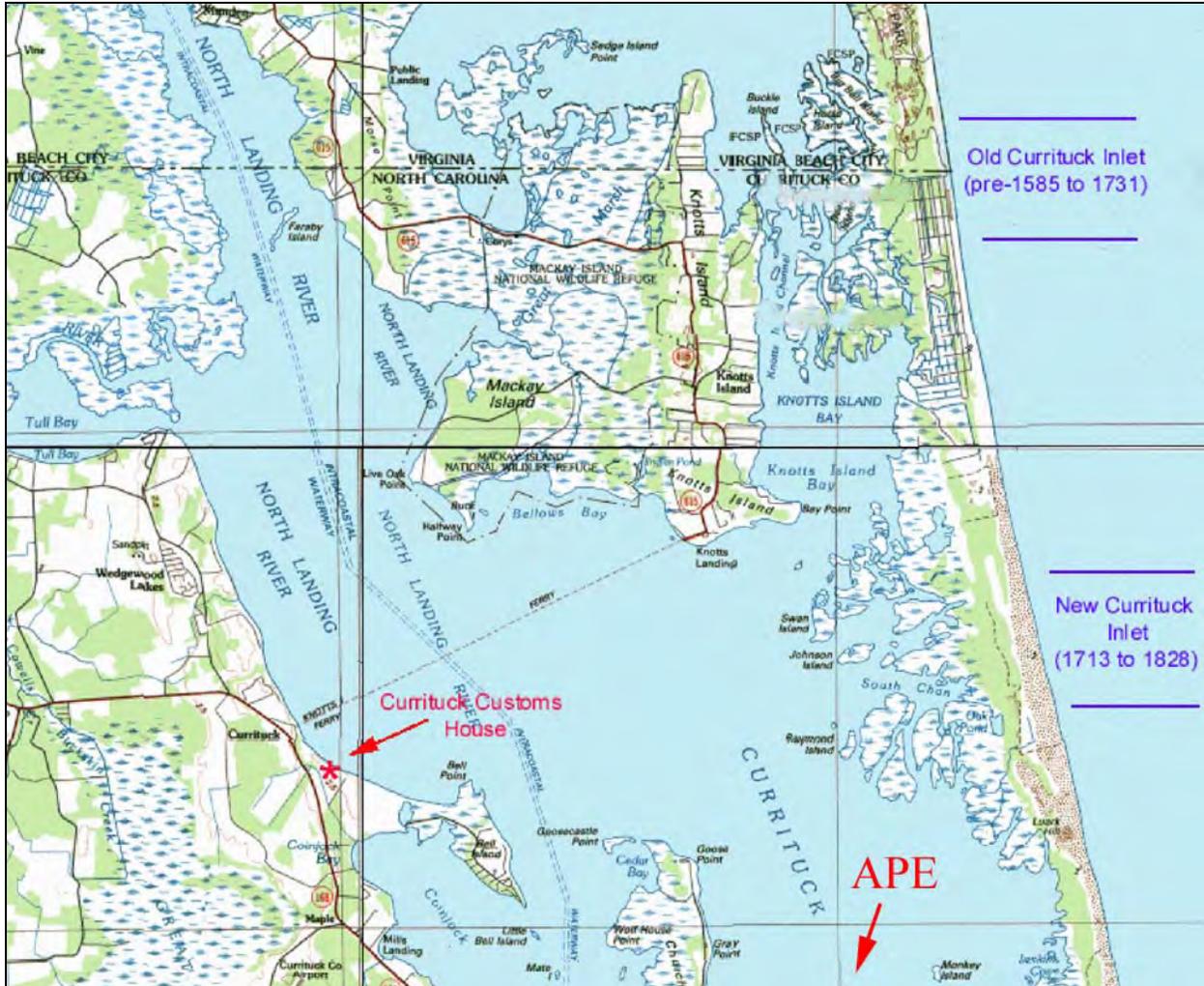


Figure 5. Map showing Port Currituck and the location of both inlets, the latter closing by 1828 (as presented in Lawrence 2003).

Oracoke Inlet remained the only inlet into the sound below Currituck Inlet and above Beaufort until 1846, when a hurricane opened two new inlets through the Outer Banks. The first to open was halfway between Old Hatteras Inlet and Hatteras Village; the second opened on Bodie Island. These were named Hatteras Inlet and Oregon Inlet, respectively. C.O. Boutelle, who was employed with the United States Survey, was on Bodie Island when the hurricane hit and made the following observations:

On the morning of the September gale, the sound waters were all piled up to the southeast, from the effects of the northeast blow of the previous days. The weather was clear, nearly calm, until about 11 a.m., when a sudden squall came up from the southwest, and the waters came upon the beach with such fury that Mr. Midgett, within three quarters of a mile of his house when the storm began, was unable to reach it until four in the afternoon. He sat upon his horse on a small sand

knoll, for five hours, and witnessed the destruction of his property and (as he then supposed) of his family also, without the power to move a foot to their rescue, and, for two hours, expecting every moment to be swept to sea himself.

The force of the water coming in so suddenly, and having a head of two or three feet, broke through the small portion of sea beach which had formed since the March gale, and created the inlets. They were insignificant at first—not more than twenty feet wide—and the northern one much the deepest and the widest. In the westerly winds which prevailed in September, the current from the sound gradually widened them; and then in the October gale, they came about as wide as they are now. The northern one has since been gradually filling, and is now a mere hole at the low water...[but the southern one] between high water marks, measured on the line is 202 yards [wide and] between low water marks, 107 yards [as presented in Watts 1991:28; Stick 1958:279-280].

Named “Oregon” Inlet after the first steamboat (owned by W.H. Willard of Washington, North Carolina) to pass through the new opening, Oregon Inlet became an important passage for vessels heading into Pamlico and Albemarle Sound (Watts 1991:28; Angley 1985:6). However, due to the shallow bar and shifting shoals within the inlet only shallow-draft vessels frequented the opening. By 1909, it was reported that the inlet had moved more than a mile south of its 1849 location. As stated by Watts (1991:63), “during the 140-year period from 1849 until 1989, the north shoulder (Bodie Island) moved 10,650 ft. to the south and the south shoulder (Pea Island) moved south a total of 13,120 ft” (Figure 6).

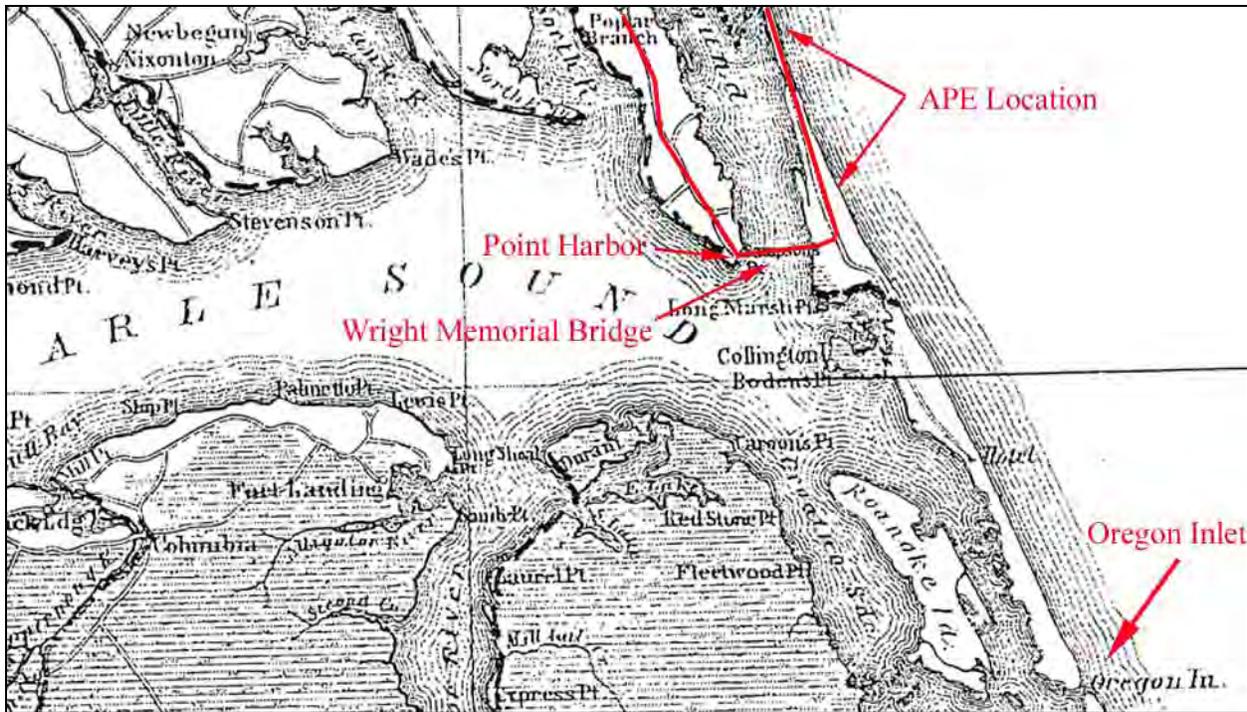


Figure 6. 1865 map showing location of Oregon Inlet (1865 U.S. Coastal Survey).

Efforts to improve navigation through Oregon Inlet were proposed during the early 1870s. While a government survey deemed dredging of the inlet impractical, measures were taken to improve the safety of Oregon Inlet. A third lighthouse, constructed on Bodie Island, became operable in 1872 at a total cost of \$14,000 (Watts 1991:33; U.S. Congress 1883:2). During construction of the lighthouse, five vessels wrecked off Bodie Island, attesting to the hazards of the inlet.

Affecting the economic growth of Currituck County, the Dismal Swamp Canal, designed to obtain timber from the Dismal Swamp, was completed in 1805. Extending from the Elizabeth River (Norfolk) and going to the Pasquotank River to the west of the current APE, the canal did allow shipment of many types of goods, but it was hampered by size. With a renewed increase in canals through the east, a second canal was proposed and completed in 1859. As illustrated in Figure 7 below, the Albemarle and Chesapeake Canal was cut from the Elizabeth River to the upper reaches of the North Landing River where it entered Coinjock Bay. A second canal, the Chesapeake and Albemarle Canal (C&A) was cut through the southern end of Coinjock Bay to the upper end of the North River that emptied into Albemarle Sound just north and across the sound from Roanoke Island (Figure 8).

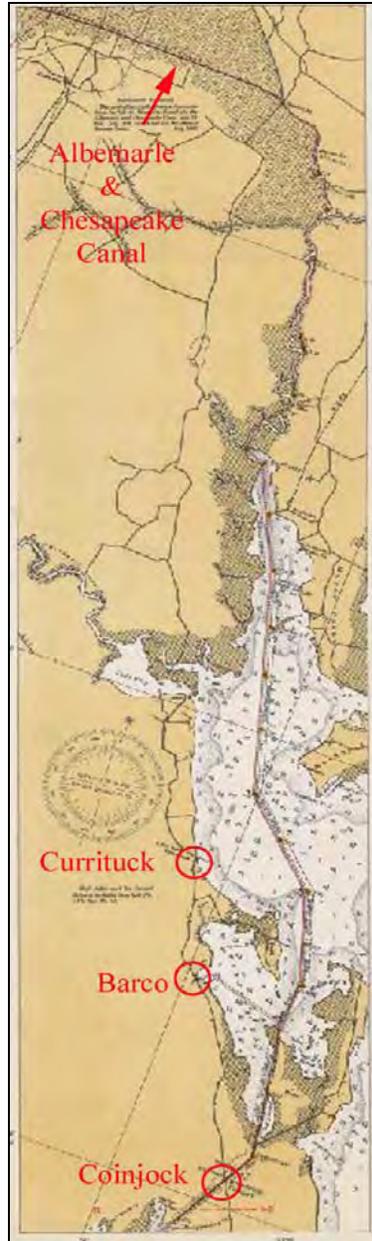


Figure 7. Map showing location of Albemarle & Chesapeake Canal and the C&A Canal cut at Coinjock (excerpt from U.S. Coastal Survey 1936 "Intracoastal Waterway Norfolk to Pungo River").

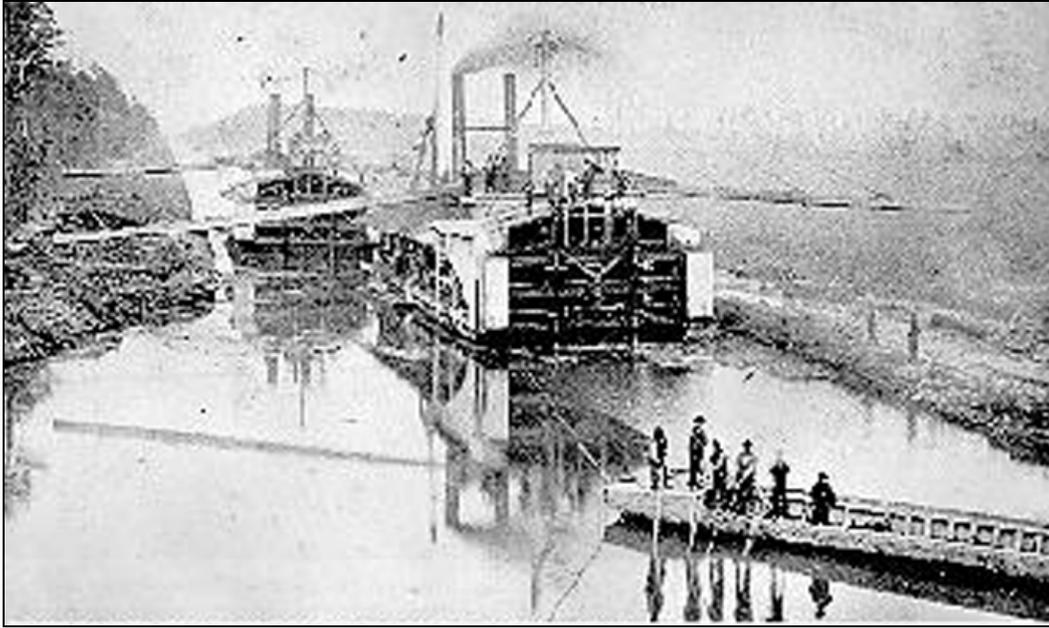


Figure 8. Dredging of the Chesapeake and Albemarle Canal (courtesy of the Museum of Albemarle).

Steamboat companies like the Currituck and Norfolk Steamboat Company formed to carry freight and passengers along the length of the canal. With the start of the Civil War, the canal saw a tremendous increase in shipping associated with the construction of coastal fortifications (Meverden 2005:13-14). The area played an important role during the Civil War, and because Hatteras Inlet was the deepest access through the banks, the Confederates established two fortifications on the north side of the inlet. The strategic location of Roanoke Island established it as the key to all rear defenses to Norfolk (Joy 1994:15). Control over Roanoke Island meant control over the Albemarle and Currituck Sounds, eight rivers (North, West, Pasquotank, Perquimans, Little, Chowan, Roanoke, and Alligator), five canals (Albemarle, Chesapeake, Dismal Swamp, Northwest, and Suffolk), and two railroads (Petersburg and Norfolk) (Iobst n.d.).

In order to protect Roanoke Island, the Confederates constructed a number of fortifications on and around the island. They built three forts (Huger, Blanchard, and Bartow) on the north end of the island to overlook Croatan Sound. A number of small defensive works in the middle of the island and the east shoreline also aided in protection from Union advancements (Joy 1994:18).

Union troops began to encroach upon the area by 1861. The Union objective was to gain control over the numerous sounds in the area and then move onto the North Carolina mainland. In the fall of 1861 both of the Confederate forts at Hatteras were taken. On February 7, 1862, Union troops were ready to attack and would later take the fortifications on Roanoke Island (Barrett 1963:76). By June of 1862, the canal was firmly in Union control and would remain so enabling unencumbered movement throughout the area by vessels carrying both troops and supplies. Figure 9 shows the location of the C&A Canal and the access it provided both to Roanoke Island, Albemarle Sound, and its associated rivers leading inland.

In the years to follow the war, both the region and the A&C Canal recovered. Although railroads were making inroads into the viability of the Canal and spelled the demise of several passenger and freight lines such as the Old Dominion Steamships, Currituck Sound vessel traffic increased with the introduction of vessels that had once plied the Dismal Swamp Canal trade. These included the screw steamers *Lucy*, *Thomas Newton*, *C.W. Petit*, and *Harbinger*, along with the sternwheelers *Undyne* and *Comet* (Meverden 2005:19).



Figure 9. 1865 map showing location of the C&A Canal at Coinjock and the access it provided to Albemarle Sound (1865 U.S. Coastal Survey). Also note Oregon Inlet and Roanoke Island to the south.

The economy of the Currituck County continued to expand during the post-war period. In addition to farming, naval stores, and lumber—the traditional economies of the area—from the 1870s until World War II the area’s most profitable industry was fowling and commercial fisheries. Formed prior to the Civil War, several hunting clubs with large and elegant hunting lodges were constructed on the barrier island or the bank of Currituck to take advantage of the numerous flocks of migratory waterfowl. Catering to wealthy northeastern businessmen, the clubs were opulent and remain so today; several are listed on the NRHP. While guides were needed by these hunters, the demand for waterfowl by both northern and European markets created an industry supplied and manned by Currituck market gunners. Packed in ice and shipped north by the thousands, commercial waterfowling was prohibited in 1918, the result of its own success in decimating the migratory bird population.

In addition to fowling, the fishing industry included the harvesting of whales, porpoises, turtles, oysters, clams, shrimp, crabs, and varieties of fish. The most successful commercial crop in the

sounds of coastal Carolina during this period was the shad fishery. Huge schools of shad used to pass from the inlets through the major sounds towards spawning grounds in the Albemarle Sound and its tributaries. Fisherman learned to catch the spawning shad by placing “pound nets” into the sandy bottom of the sounds in effect funneling the fish into nets. These nets were so widely used in the sounds that a 1905 law rescinded the practice and called for all sounds to remain free of nets of all kinds (Stick 1970:42-44).

In 1870, Dare County was formed from portions of the surrounding counties of Currituck, Hyde and Tyrell. However, the county would remain isolated because of a lack of bridges crossing the sounds. The town of Manteo would become the county seat in 1899. During the twentieth century, improvements to local transportation with the “Good Roads” program of 1920 would make access into the area easier and the isolation that brought the Wright brothers to the area for aviation experiments would be gone. A focus of the current investigation, U.S. Highway 158 would be built from Barco to Coinjock in 1925, and within the next decade would extend to Point Harbor. Built in 1933, Wright Memorial Bridge would connect the highway to the Outer Banks (Russ and Seibel 2006).

VESSEL TYPES IN CURRITUCK SOUND

From some of the earliest Native American watercraft, to ships of exploration, to modern day fishing vessels, Currituck Sound has been exposed to a wide variety of vessel types throughout the years. The location of Currituck Sound in relationship to both the Albemarle and Pamlico Sound, as well its close proximity to the Atlantic Ocean, provided ample opportunity for exposure of the area to a number of watercraft.

Due to the shallow waters of Currituck Sound, only certain types of vessels were prevalent in the area. These vessels were often small with very little draught. Locating relatively small wooden watercraft from the early colonial periods of the sixteenth and seventeenth centuries is unlikely. The presence of a sizable amount of ferrous material (iron) onboard (i.e., fasteners, anchors, artillery, etc.) is fairly remote. Small vessels rarely employed large amounts of ferrous material in construction and are therefore undetectable by remote-sensing instruments.

DUGOUT CANOES

The first “craft” used to navigate the inland waterways was probably a log (or logs) and other primitive rafts used by the Native Americans. At the time of European colonization, the Native American craft widely in use in this area was the dugout canoe (Figure 10). The English quickly adopted this aboriginal watercraft, which was constructed in various sizes. A number of accounts concerning how these vessels were fashioned were recorded by early colonists of North Carolina and Virginia. One account by Bartowe states:

They burned down some great tree, or take such as are winde fallen, and putting gumme and rosen upon one side thereof, they set fire to it, and when it hath burnt hollow, they cut out the coale with their shels, and everywhere they would burn it deeper or wider they lay on gummes, which burn away the timber, and by this means they fashion very fine boates...(Pittman 1970:38).

Early settlers adopted the use of the aboriginal canoes but soon found the need to expand upon the primitive watercraft. Using their European boat building skills and steel tools, settlers began producing canoes that were larger and more embellished. Using cypress trees, dugouts were formed and then split down the middle. Timbers were then added to the center of the vessel, giving the dugout a wider beam and thus an increased capacity and stability. Locals called these split dugouts “kunnners” (Alford 1990:29-30). These vessels could be rigged with a small sail but could also be maneuvered with oars or a pole. Introduction of the “shad boat” and the “sharpie” to the Carolina coast later replaced the kunner.

Although the use of the aboriginal canoe was prevalent throughout North Carolina, very few have survived through time (Bass 1988; Fuller 1992). Thus, it was unlikely that dugout remains would be encountered within the project area. However, in 1985, the remains of a pre-contact aboriginal canoe were brought up after being caught in a fishing net (Site 0001CTS). The canoe was 8 feet long and likely belonged to the Algonquians Indians (Alford 1985). Although the canoe was recovered from Croatan Sound, the exact location of where it was removed from could not be determined (Richard Lawrence, personal communication, September 1997).



Figure 10. A sixteenth-century engraving of Native Americans building a dugout canoe (as presented in Bass 1988:18).

PERIAUGER

Another type of early watercraft that plied the waters of North Carolina was the periauger (Figure 11). The periauger was one of the most common types of watercraft in the south during the eighteenth and nineteenth centuries (Pecorelli et al. 1996:22). Periaugers seem to have been an improvement over the traditional dugout canoe by expanding upon its cargo carrying capacity. Periaugers were usually larger than kunnners and smaller than the coastal sloop (Alford 1990:31).

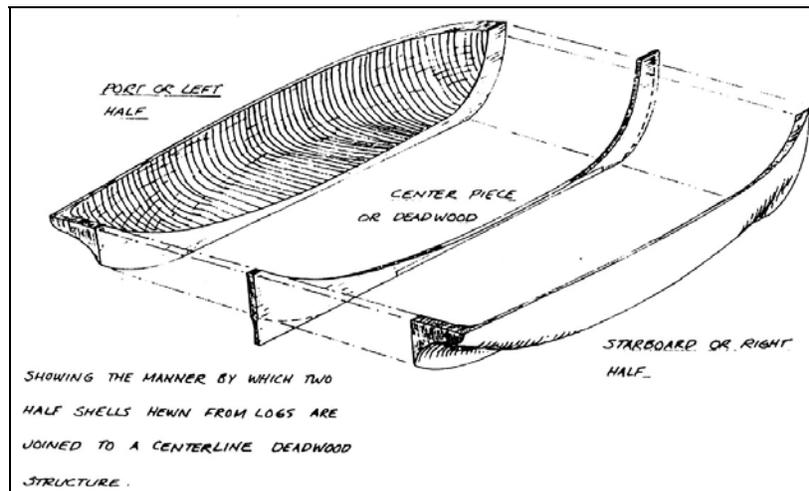


Figure 11. Cutaway view of a periauger (as presented in Pecorelli et al. 1996:26).

The basic description of a periauger is a cypress log dugout split down the middle with a plank keel inserted. On occasion, a number of upper strakes were added to increase the freeboard of the vessel. The vessels were propelled by oars and sails, the latter of which could be stepped when not rowing. It has been indicated that some periaugers could have been partially decked (Pecorelli et al. 1996:26-27). Periaugers were capable of transporting livestock (e.g., horses and cattle) and as much as 50 barrels of tar and pitch (Watson 1974:250).

SLOOPS

A vessel used extensively throughout coastal Carolina was the sloop (Figure 12). Sloops ranged from 5 to 70 tons and were well suited for short coastal voyages and sailing within the open sounds. They were characterized by a single mast with a gaff mainsail and a number of headsails mounted off a bowsprit. Sloops were eventually replaced by the more manageable schooner-rigged vessels that needed smaller crews due to the division of sails between two masts rather than one large sail that the sloop-rigged vessels employed (Alford 1990:32-33).

COASTING SCHOONERS

By the nineteenth century, a common type of vessel in coastal North Carolina was the coasting schooner (Figure 12). The success of this vessel type was attributable to its design characteristics. The coasting schooner's flat-bottom design and shallow draught allowed it to operate efficiently in the shallow waterways, and the addition of the centerboard design made the vessel suitable for offshore conditions (Merriman 1996:8).

As North Carolina's commercial and agrarian base expanded, so did the need for vessels suitable for the transportation of such goods. By the nineteenth century, coasting schooners had filled this role and many of them were built in North Carolina. Several local-built examples include the 54 foot *Louisa*, built in 1819 in Currituck County; the 46 foot *Poly and Nancy*, built in 1818 in Currituck County; and the 49 foot *Sally Ann*, built in Tyrell County.

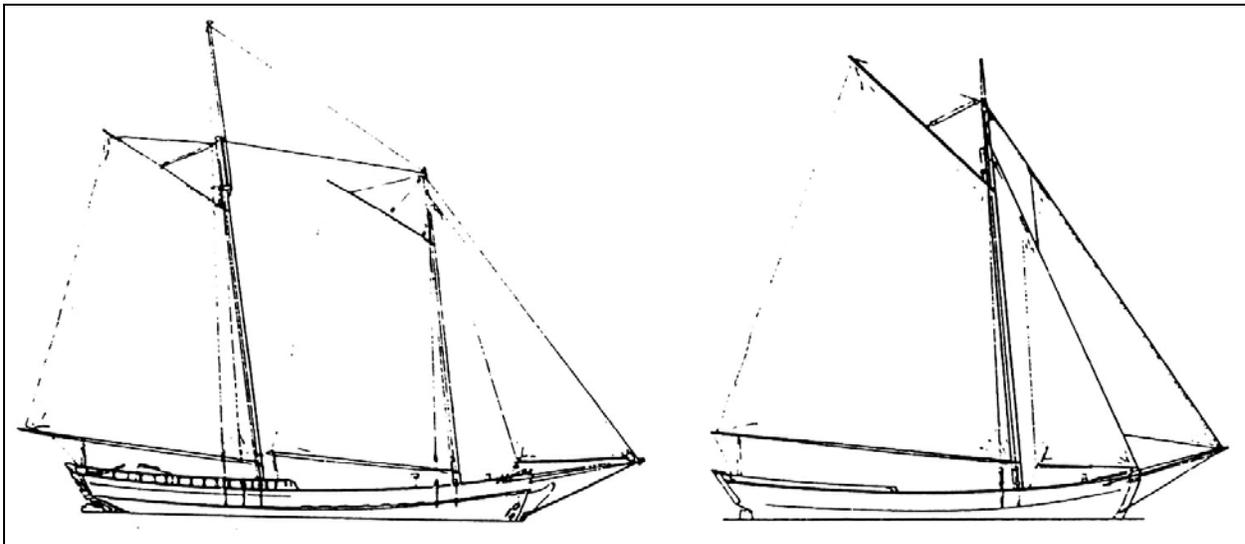


Figure 12. Traditional sloop (one mast) and schooner (two masts) (as presented in Alford 1990:33).

The schooner rig consisted of a two-or-more masted vessel, fore-and-aft rigged. The rigging arrangement of a schooner-rigged vessel is two fore-and-aft sails and a headsail (jib). The schooner became the most important of any American sailing watercraft. As schooner lines were refined, their popularity grew and the vessels were employed in all aspects of sea faring, from privateering and the slave trade, to use as naval vessels (Bloomster 1940:179-180).

SHAD BOATS

The shad boat is another vessel type that was popular in the vicinity of Currituck Sound (Figure 13). The shad boat was a traditional type of work boat, and these boats were commonly named after the sounds where they were built (e.g., Currituck, Albemarle, Croatan). Many of the shad boats were built on Roanoke Island and around Currituck Sound. The vessels were caravel-planked and ranged 18 to 30 feet long (Chapelle 1951:257). Shad boats were constructed mostly from local juniper wood and were known to last for long periods of time. The boats had a spritsail-and-jib rig combined with a topsail. The shad boats in North Carolina were the only small work boat in North America known to carry a topsail (Chapelle 1951:257).

The shad boats were traditionally a round-bottomed boat and were introduced into the area after the Civil War. Chapelle states that the origin of the vessel type may have come from the “ubiquitous yawl-boat” (Chapelle 1951:260). The boats were commonly ballasted with 15 to 30 sandbags that could be shifted to the windward under heavy winds. By the 1880s, the shad boat was gradually being replaced in the Carolina sounds by other workboats such as the “sharpie” and the “skipjack.”

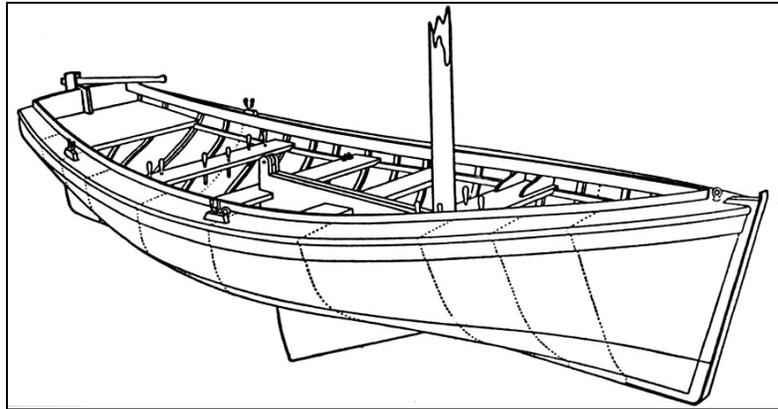


Figure 13. Example of an early shad boat (as presented in Chapelle 1951:257).

The first shad boat constructed in the area was by George Washington Creef. Creef designed his vessel to have a wide and full mid-body, capable of carrying large quantities of fish, combined with fine ends, allowing the vessel to handle well near inlets where seas tended to be rough (Alford 1990:19).

The shad boat of North Carolina is perhaps the most famous coastal watercraft of the region. The vessel was long regarded as one of the safest and most comfortable of the local vessels. Well suited for the pound-net fishery, and its ability as a quick sailboat, the shad boat was named the official “state boat of North Carolina” in 1987 by the North Carolina General Assembly (Alford 1990:19).

This vessel type became expensive to build by the 1920s due to its round-bottom construction. It also became increasingly difficult to locate the appropriate materials for their construction (large Atlantic white cedar trees). By the early twentieth century, many of the vessels were being converted from sail to gasoline power (Alford 1990:20-21).

SHARPIE

The sharpie was another vessel well suited for the coastal Carolina waterways, areas where the water tends to shoal, mostly in tidal areas, and not in the open ocean (Chapelle 1936:15). The vessel type was initially designed for the oyster business in Long Island Sound; it then spread in

popularity to Chesapeake Bay, then to the Carolina sounds, and south to Florida. Sharpies have also been recorded in the West Indies and the Great Lakes region. No other vessel type has been known to spread so quickly and as far as the sharpie (Chapelle 1936:6).

Sharpie designs originated from the ordinary flat-bottomed skiff fitted out with a centerboard and single sail (Figure 14). By the mid-nineteenth century, the sharpie had developed into its own distinctive class of vessel, employing the sailing skiff hull design complemented with a two-masted rig (Chapelle 1936:4). Sharpies averaged 35 feet in length but were known to have been as long as 60 feet with three masts. Sharpies were known as cheap, easy-handling vessels that were also speedy (Chapelle 1936:16).

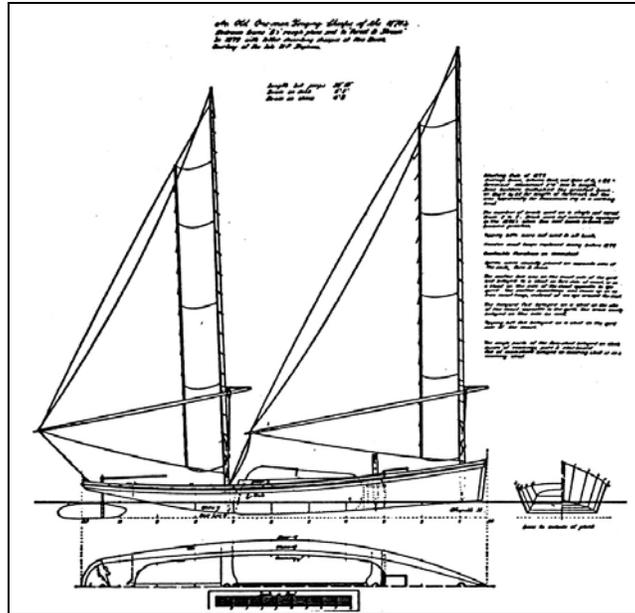


Figure 14. Example of a sharpie (as presented in Chapelle 1951:106).

Sharpies were flat-bottomed vessels employing a rather narrow beam. The stem was upright and the stern was noticeably rounded. The traditional rig was the two-masted leg-o-mutton style (Alford 1990:5). As the sharpie's success continued, so did the variations in the rigging. Modifications in rigging were attributed to the variations in use of the vessel.

By the 1930s, many of the sharpies powered by sail were being converted to powerboats. Although the sailing sharpies no longer ply the waters of coastal Carolina they will long be remembered as sizable vessels that were easy and inexpensive to build. Operation of the vessels was simple and appealed to many rural inhabitants of the Outer Bank areas (Alford 1990:8).

SKIPJACKS

Another popular design of vessel on the inland waterways of coastal Carolina was the skipjack, also known as a bateau (Figure 15). The skipjack was very similar in design to the sharpie except for the V-bottom hull that allowed for greater displacement. Two advantages that the skipjack had over the sharpie were the elimination of pounding while at anchor (sitting upright) and greater displacement. Although developed as an evolution of the traditional sharpie in Long Island Sound, the skipjack was most popular in Chesapeake Bay. The vessel type was well known for being able to handle weather and for its speed. The Chesapeake Bay area necessitated a type of vessel with a shallow draught, due to the large amounts of shoals within the bay. The skipjack was also well suited for longer passages over rough waters (Chapelle 1936:19).

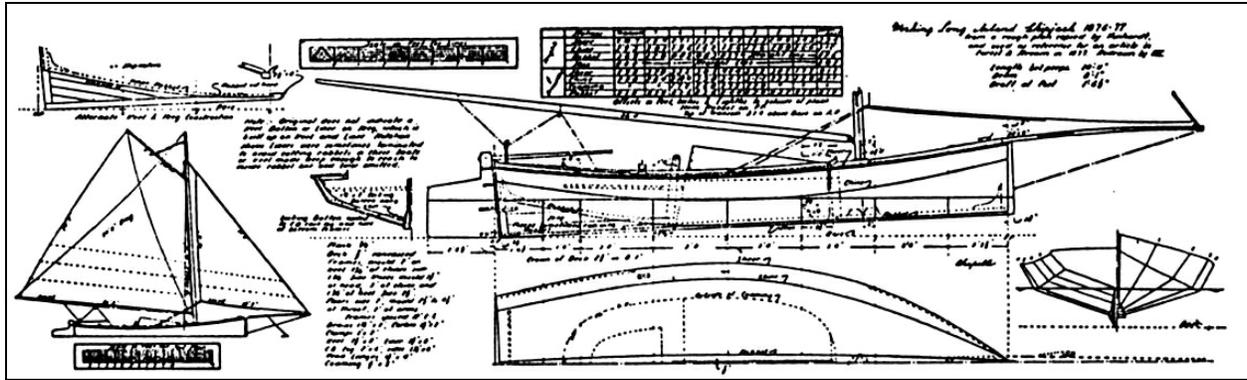


Figure 15. Line drawing of a traditional skipjack (as presented in Chapelle 1951:307).

The success of the skipjack in Chesapeake Bay spilled over into the sounds of North Carolina. The vessel type was prevalent throughout the sounds of North Carolina and was regarded as a boat appropriate for the shallows and shoals of the sounds. Skipjacks often employed simple rigging that allowed for a small crew. The vessels were often handled by a two-man crew but could be sailed with only one (Chapelle 1936:24).

The vessel type was successful because they were inexpensive and easy to build. Skipjacks were usually constructed of yellow pine and construction was often rough; despite their roughness, skipjacks were strong and were favored over other small work boats of the time (Chapelle 1936:28).

The V-bottom construction of the skipjacks later allowed for the addition of an engine, thus converting the vessel into a powerboat. Powerboats of this style eventually replaced the sailing skipjacks and shad boats. The V-bottom powerboats employed rounded, deep sterns much like those found on New Haven sharpies (Chapelle 1951:261).

FERRIES

During the colonial period, travel throughout the sounds of North Carolina was often impeded by lack of suitable roads and bridges. The main avenue of transportation across many of the waterways was by ferry. Although only a small number of ferries existed in 1700, by 1730 their number had improved greatly, and by 1760 a regular ferry service had been established in eastern North Carolina (Watson 1974:247-248). Ferries in the area were important means of communication and often had influence over many aspects of colonial life.

Many ferries were established by private owners who were seeking a profitable business. The opportunity to open a ferry landing that would cut down on travel time and produce a profit prompted many landings to open. Ferries helped accommodate expanding travel routes and helped complete roadways (Watson 1974:249). Ferries also aided in crossing waterways that were too large of an expanse for bridges to span.

The type of vessel used as a ferry depended upon the waterway the ferry was crossing. The most common types of vessels used as ferries in North Carolina were “canoes, piraguas, flats, and scows” (Watson 1974:250). Canoes were capable of transporting two to three men and up to two or three horses depending on the size of canoe. Periaugers were capable of carrying a good deal more due to the expanded size of the dugout. The flat-bottomed scows and flats were effectively used in calm, shallow waters and were propelled by oars or poles. Scows and flats were able to land close to shore and by using an apron or gangplank could offload passengers and cargo onto dry land (Watson 1974:250).

STEAMBOATS

Steamboats were prevalent in the sounds of North Carolina. By the 1830s, steamboats were a common sight in North Carolina and were used into the twentieth century (Figure 16). These vessels, usually sternwheel steamers, were economical and were commonly used to carry passengers, freight, and mail between various ports (Alford 1990:34). As discussed above, many steamboats operated on Currituck Sound. Pictured below, the *Undine*, owned by the Bennett North Carolina Line, which provided freight and passenger service between Coinjock and Norfolk (Bryan 2006), sank after hitting a log in opposite MacKay Island on the east side of North Landing River.

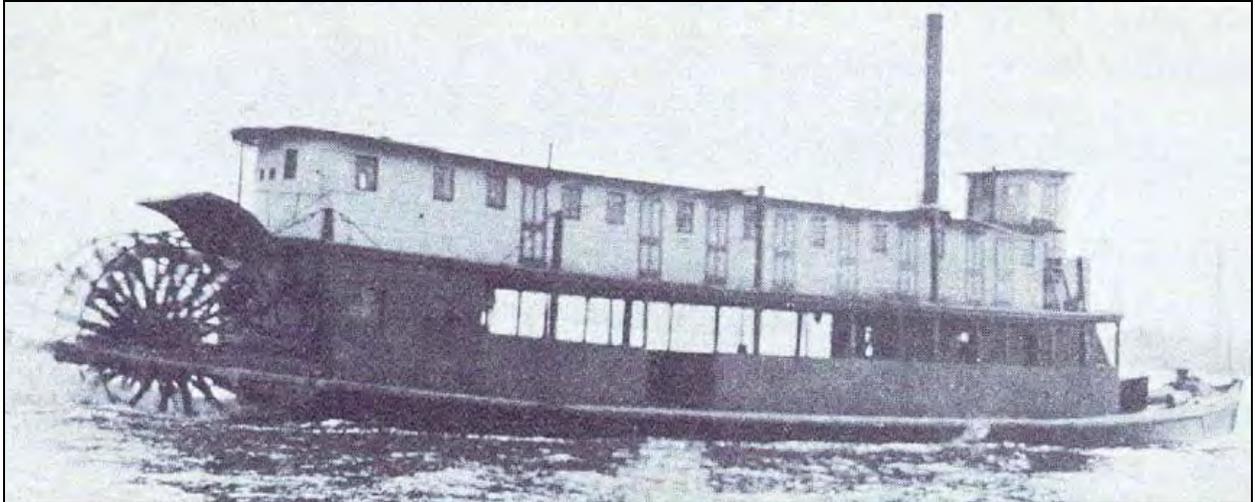


Figure 16. The *Undine*, a traditional sternwheel steamboat used and lost on Currituck Sound (as presented in Bryon 2006).

MODERN VESSEL TYPES

A variety of modern vessel types continue to operate in Currituck Sound. The smaller watercraft that dominate the area are mostly shrimp and crab boats. Other vessel types that frequent the sound include pleasure craft, trawlers, and sailboats.

3. PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

TERRESTRIAL INVESTIGATIONS

Archaeological work in the coastal plains of North Carolina has its beginnings in the mound explorations of Cyrus Thomas (1985[1894]). As the Smithsonian Institution's Director of Mound Explorations, Thomas investigated mound groups in the Midwest and southeast, publishing his findings in several Smithsonian Monographs. His investigations, along with those of C.B. Moore, were instrumental in disproving earlier theories regarding a lost "Moundbuilder" culture. Other early archaeological work was conducted by J.A. Holmes in 1883 and Charles Peabody in 1910. While not necessarily archaeological investigations by today's standards, these explorations formed the basis on which later scientific development was built.

Three studies form a more accepted baseline for modern prehistoric archaeological investigations in coastal North Carolina. The earliest is William Haag's survey of the coast in 1958, followed by Stanley South's survey of the southern North Carolina coast (1976). Coe's study of the Piedmont and Interior Coastal Plain (1964) developed several well-defined chronological sequences at several sites, including the Doerschuk site in Montgomery County, the Hardaway site in Stanly County, and the Gaston site in Halifax County. These stratigraphic sequences still form the basis of many North Carolina archaeological interpretations (Novick 1995:3.1).

Historic archaeological investigations were conducted by the National Park Service from the late 1940s to the early 1950s (Harrington 1962) and included excavations of the remains of Fort Raleigh, and later excavations by the State of North Carolina at several prominent archaeological sites including Old Salem and Brunswick Town.

With the advent of historic preservation laws, archaeology in eastern North Carolina began to develop more fully. Still, as of 1994, fewer than 100 archaeological sites had been recorded in Currituck County (Novick 1995:3.1). Archaeological projects undertaken to comply with Section 106 were undertaken for subdivisions, highways, and bridges, and continuing up until the present time, have helped to generate a solid cultural historic timeline for the region. In addition to Section 106 compliance projects, much of the recent archaeological work on the Coastal Plain has been conducted through East Carolina University by Dr. David Phelps (Phelps 1983) and through State Historic Preservation Office (SHPO) survey and planning grants for at least a half dozen counties, including Currituck (Tippitt 1988).

More specific to the current investigation, there have been several archaeological investigations conducted adjacent to and within the current APE. Perhaps the best known is Phelps's work at the Baum site, 31CK9, located to the south of Aydlett near Poplar Branch Landing on the west shore of Currituck Sound. A large Middle and Late Woodland period shell midden containing several ossuaries, and nominated to the National Register by Phelps in 1980, the Mount Pleasant phase to Collington phase site has been investigated several times, the most recent being in 2006. In August 2005, the Office of State Archaeology (OSA) identified suspected human remains eroding from the existing bluff at the site (Abbott and Hall 2005), and retrieved them in October of the same year (Abbott and Hall 2005a). The site was also recently investigated in 2006 by Coastal Carolina Research, Inc. (CCR) in response to a planned development. Limited testing concluded that the area investigated within the development was the fringe of the village. This area was subsequently mitigated through data recovery (Lautzenheiser and Stewart 2006).

During the investigations of the Baum site, both the OSA and CCR investigated another nearby shell midden site, 31CK129. Located on the shoreline north of the Baum site and approximately two miles south of the APE, OSA recovered two historic burials at the site. Later data recovery by CCR in response to a planned development determined that the site was eroded into the

sound, lacked integrity, and did not meet NRHP eligibility criteria (Abbott and Hall 2005b; Bamann and Gosser 2007).

Perhaps the most relevant investigation that should be mentioned was a precursor to the current study. In 1994, Lee Novick of the North Carolina Department of Transportation (NCDOT) conducted a background study for the bridge over Currituck Sound. Titled *Archaeological Background Report, Mid Currituck Bridge (R-2576) Study Area, Currituck County, North Carolina* (Novick 1995), this body of work was the foundation, in large part, for the findings of the current investigation.

The NCDOT also conducted a survey for a proposed Visitor's Center and Rest Area just north of the intersection of U.S. 158 and NC 168, the northern border of the current APE. The archaeological investigations recorded Site 31CK178 approximately 1,000 feet north of the APE. A multi-component site with both historic and prehistoric materials, the site was recommended as eligible for listing on the NRHP (Glover 2005).

Also extremely relevant to the current investigation, Environmental Services, Inc., of Raleigh, North Carolina conducted a cemetery survey along portions of NC 168, U.S. 158, and SR 1125 for the Eastern North Carolina Natural Gas Project for a proposed pipeline. The cemeteries, the majority of which were recorded along U.S. 158 as a result of a survey for a proposed pipeline (and within the current APE), fall under the provisions of North Carolina's Cemetery Act (NC General Statute 65-13) and must be removed and relocated if they will be impacted (Seibel et al. 2002). Their locations are noted in the following chapter.

UNDERWATER INVESTIGATIONS

A number of historical and archaeological research studies have been conducted relative to the presence of shipwreck remains in the bays and sounds of North Carolina, and several have included areas within Currituck County, as well as adjacent to the boundaries of the proposed Mid-Currituck Bridge corridor.

Although located on the Atlantic side of Currituck Spit (Bank), in November of 1985 archaeologists from the Underwater Archaeology Unit (now Branch) conducted a visual survey of the ocean beach from the U.S. Army Corps of Engineers pier at Duck, North Carolina, to the Virginia border, a distance of 26.4 miles. The purpose was to locate and examine any exposed remains on the beach (Bright 1985). In addition to numerous collections of modern debris, the team located four potential shipwreck sites. These included the North Bodie Island site (0011BOB), which consisted of two timbers measuring 10–14 feet long; the Currituck Steamer site (0001CKB), consisting of visible iron wreckage approximately 200 feet offshore; a single frame (0002CKB); and a plywood boat (0003CKB), consisting of the bottom hull of a modern vessel. The recommendations of the survey included further investigations for sites 0011BOB, 0002CKB or 0003CKB, as these were either isolated timbers or of modern origin, although they did note that continued monitoring of the vicinity of each site might reveal additional ship timbers. Further recommendations included examination of Site 0001CKB by divers.

In March of 1989, archaeologists from the Underwater Archaeology Unit conducted a visual survey of 19 miles of Atlantic beach from Poyners Hill to the Virginia border (Bright 1989). The survey was conducted to search for shipwreck remains that had been exposed by a recent storm. The survey identified partial remains of six different vessels, many of them isolated timbers, along with several concrete structures from a rocket fuel test facility. Sites located include the Floor Timber site (0004CKB), consisting of a single oak floor timber approximately 8 feet long with trunnels and drift pins (located on the beach 1,000 feet from the APE); the Rocket Fuel Test site (0005CKB), consisting of two large concrete structures measuring approximately four feet

by six feet (its location is given adjacent to 0006CKB, but this is suspect and it may represent missile sites to the north); the Keelson site (0006CKB), consisting of a 38 foot long keelson with the remains of several frames attached (located on the beach 1,500 feet from the APE); the Whale Head Beach Wreck (0007CKB), consisting of a copper clad wooden vessel approximately 100 feet long and 30 feet in the beam, intact to the turn of the bilge (located on the beach 1,000 feet from the APE); the Ship Timber site (0008CKB), a 30 foot long timber with a scarph joint at one end (located on the beach 750 feet from the APE); the Gunnel Section site (0009CKB), consisting of a section of wooden sailing ship gunwale made from heart pine (located on the beach 1,000 feet from the APE); and the Surf Wreck (0010CKB), a wooden shipwreck visible in the surf zone at mid-tide (located on the beach 7 miles north of the APE). No recommendations were given with respect to any of the located sites.

In March of 1990, archaeologists from the Underwater Archaeology Unit examined a series of wrecks in the Outer Banks (Bright 1990). The survey revisited sites 0011CKB, 0012CKB, 0013CKB, 0014CKB, 0001CKB, and 0020BOB but did not locate any additional sites. Excluding the Currituck Steamer Wreck (0001CKB), all of the sites were isolated occurrences represented by a single timber. No recommendations were made for further investigation or preservation.

In August of 1998, archaeologists from the Underwater Archaeology Unit examined the Ocean Hill Wreck (00016CKB), a shipwreck site exposed during Hurricane Bonnie (Henry 1998). Located just north of Corolla and two miles north of the APE, investigation of the highly fragmented site determined the approximate tonnage of the wooden hulled vessel to be between 200 and 500 gross tons. Construction techniques were said to be consistent with those of a nineteenth-century vessel. No recommendations were made for further investigation or preservation.

In March of 1999, archaeologists from the Underwater Archaeology Unit conducted two field surveys on beaches in the Outer Banks (Henry 1999), and examined several existing shipwreck sites, including the Ocean Hill Wreck (0016CKB), which was found to be in a condition very similar to when it was first cataloged two years prior. In addition, coordinates were taken on two wrecks that were situated on the beach: the O'Keefe site (0015CKB), located on the beach approximately 600 feet east of the APE; and the Currituck Steamer site (0001CKB), located two miles south of the APE. Situated along the beach near the state line and well north of the APE, several new isolated finds were identified, including a small knee timber (0019CKB), a probable keelson component (0017CKB), and a single plank with treenails (0018CKB). Recommendations included plotting the located isolated finds on topographic maps for future relocation.

More relevant to the current investigation, in January 2001, maritime archaeologists from the Underwater Archaeology Branch (previously the Unit) examined the wreck designated as 0001CKS, or the Hambone 1 site, the first shipwreck site given a site number in Currituck Sound (Henry 2001). Located two miles north of the APE and just west of the Corolla Lighthouse, the site was located and dived. Archaeologists determined the wreck to be a flat bottomed vessel with a hard chine, most likely a barge, and after examining the structure and comparing it to other regional shipwrecks, most notably the Cypress Landing Shipwreck, hypothesized that the vessel at 0001CKS represents a northeastern North Carolina regional vessel type. Given its position in close proximity to the Currituck Lighthouse, along with the presence of bricks on the wreck, the authors further hypothesized that it may have been utilized in the transport of the bricks used in the construction of the lighthouse. Recommendations for further investigations included gathering additional information regarding the vessel's cargo and structure.

In 2003, maritime archaeologists from UAB attempted to examine three shipwreck sites in the Knotts Island Channel opposite the now-closed Currituck Inlets (Lawrence 2003). Located

approximately eight miles north of the current APE, one wreck was supposed to be the Revolutionary War schooner *Polly*, while the other two vessels reportedly dated to the late eighteenth or early nineteenth centuries. Foul weather prevented the team from performing a magnetometer survey or diving inspection.

In August of 2003, archaeologists from UAB examined the wreck of the *Metropolis*, 0021CKB (Lawrence 2003a). The research was undertaken in response to an interest in erecting a North Carolina Highway Historical Marker for the vessel. Located near the southern boundary of the APE just south of Albacore Street and 900 feet offshore Currituck Beach (1,000 meters from the APE), magnetometer investigations located a sizeable anomaly in the known vicinity of the wreck site. However, divers were unable to locate the source of the anomaly. Since the survey did not locate other anomalies in the area, and local divers confirmed the site as the approximate location of the *Metropolis*, it was considered highly likely that the anomaly represented the remains of the vessel in question.

In 2004, Environmental Services, Inc., of Raleigh, North Carolina conducted a remote sensing survey and diver investigations parallel to the Wright Memorial Bridge. This investigation was associated with the cemetery survey for the Eastern North Carolina Natural Gas Project for a proposed pipeline noted above. Although outside the current APE, the study identified one vessel (0002CKS), a 20 to 30 foot long wooden vessel located in an anchorage area associated with Promenade Watersports, a boat rental facility located on the southeastern side of the bridge (Seibel et al. 2002).

One of the most relevant investigations that should be mentioned was a recent remote sensing sampling survey conducted as part of an East Carolina University Master's degree thesis. Titled *Currituck Sound Regional Remote Sensing Survey, Currituck County, North Carolina* (Meverden 2005), the thesis developed a predictive modeling framework and then tested it with the survey of two areas of Currituck Sound, a northern and southern survey area. The latter area covered portions within the APE of the proposed bridge crossing over the Sound (Figure 17). Eight potentially significant anomalies and 12 sidescan sonar targets were located. However, locational information was not present within the study and was, therefore, not correlated with the boundaries of the current APE.

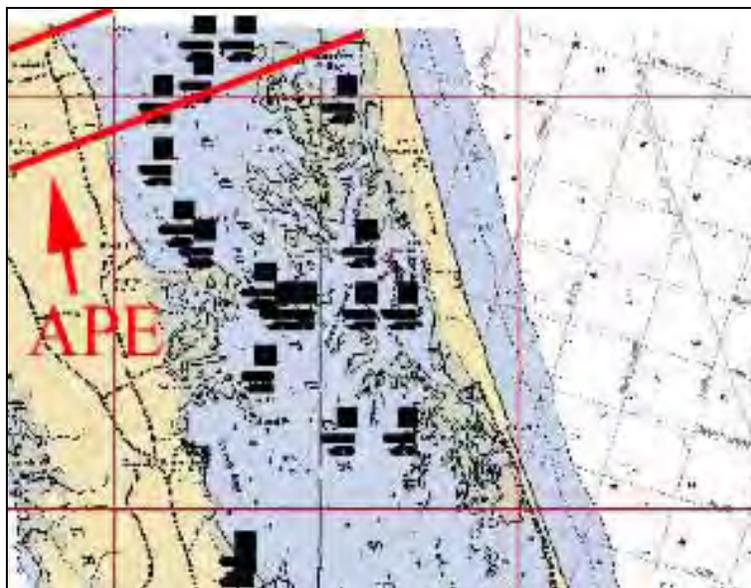


Figure 17. Southern area showing located anomalies and sidescan targets (black squares) within the current APE (red) where it crosses Currituck Sound (after Meverden 2005:37).

The most recent relevant submerged cultural resources investigation was the 2006 investigation by the UAB of three shipwreck sites: the *Undine* (0004CKS), the Clyde Spruill Wreck site (0006CKS), and the Jimmy Markert Wreck (0005CKS) (Figure 18). The *Undine*, a sternwheeler, lies seven miles north of the APE off MacKay Island (east of Knott's Island), and the Jimmy Markert wreck lies off Church's Island six miles to the north of the APE. The Clyde Spruill Wreck site lies six miles south of the APE, just south of Poplar Branch Landing in the Little Narrows (Bryan 2006). While all three lie outside the boundaries of the APE, the presence of these wreck sites indicates the potential for others within the area.

Although unassociated with cultural resources, a large bathymetric and sidescan sonar survey of the proposed Mid-Currituck Bridge project area was conducted by the U.S. Army Corps of Engineers, Engineer Research and Development Center under contract with PB Americas (Forte and Martz 2007). Designed to map bottom depths and identify submerged aquatic vegetation, of which 1.31 square miles were identified, the data was not originally employed to identify potential cultural resources nor was it reviewed during the current desktop study. However, as indicated by Figure 19 below, the mosaiced acoustic data will be a useful tool along with the bathymetric data in the Phase II cultural resources remote sensing survey of the submerged portions of the project area.

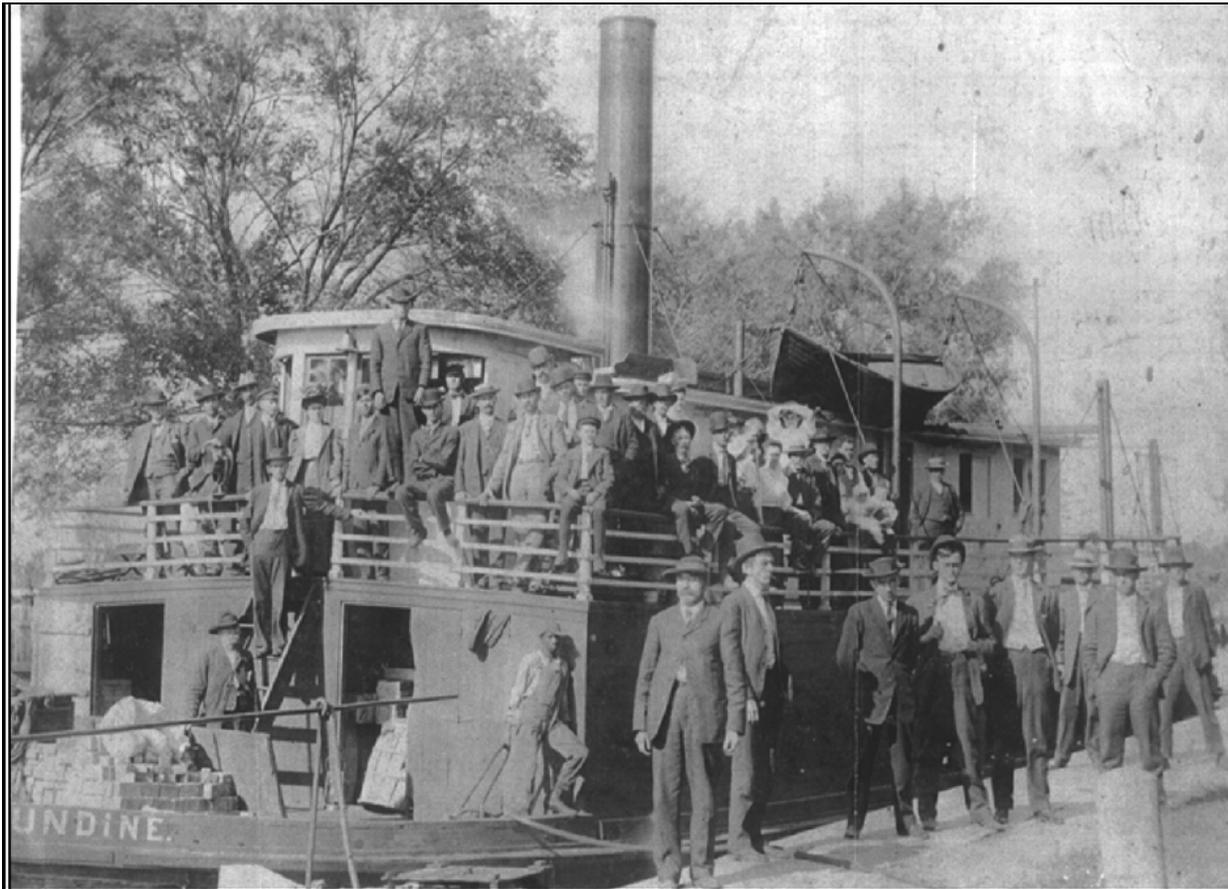


Figure 18. Photograph of the *Undine* and crew (as presented in Bryan 2006:12).

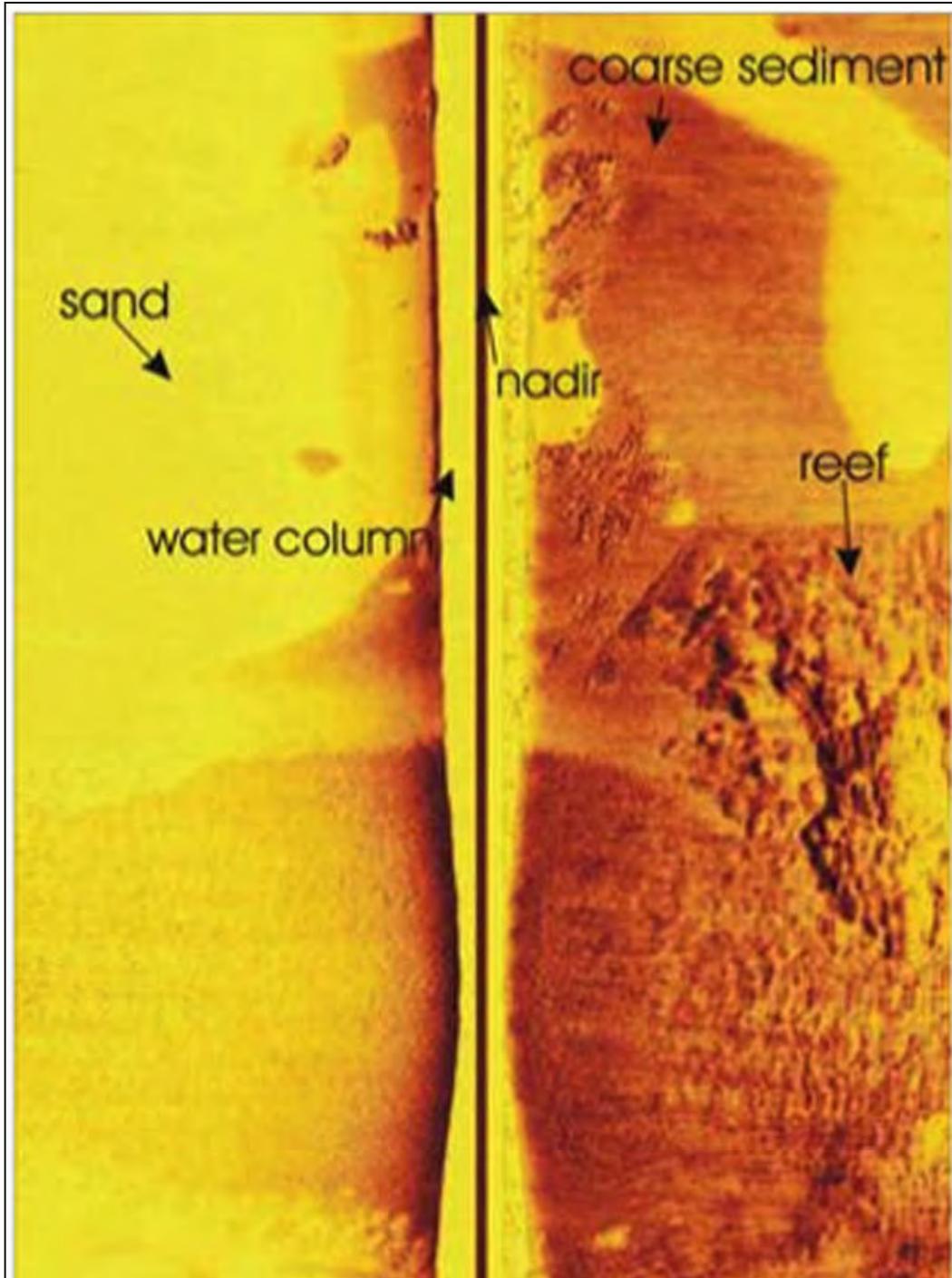


Figure 19. Acoustic image from the bathymetric and SAV survey (as presented in Forte and Martz 2007:6).

4. ARCHAEOLOGICAL SITE POTENTIAL

ARCHAEOLOGICAL SITES WITHIN THE APE

The archaeological site files were accessed at both the North Carolina Office of Archaeology and the Underwater Archaeological Branch of the Division of Archives and History in order to identify previously recorded cultural resource properties within the APE. As presented in Table 1 and illustrated in Figures 20-A through 20-L, a total of fifty (n=50) previously recorded properties with designated state trinomial numbers and one recorded property without a trinomial are located within the general APE, while twenty-five (n=25) are located adjacent to the APE. (Figure 20 is a key map for Figures 20-A through 20-L). Of the 51 properties within the APE, only fourteen (n=14) are archaeological sites (Table 2). Described below, seven are prehistoric (31CK1, 31CK14, 31CK26, 31CK28, 31CK32, 31CK39, and 31DR3), four are historic (31CK181, 31CK182, 31DR55, and 005CKB), one is multi-component (31CK36), and two are unknowns (31CK211 and the “Reported” site).

The remaining thirty-six (n=36) properties are historic cemeteries, the majority of which were recorded along U.S. 158 as a result of a survey for a proposed pipeline (Seibel et al. 2002). All fall under the provisions of North Carolina’s Cemetery Act (NC General Statute 65-13) and must be removed and relocated if they will be impacted.

Table 1. Previously recorded properties within and adjacent to the APE.

Quadrangle	Site No.	Site Type	Temporal Period	NRHP Status	Recommendation	APE
Barco	31CK73	Cemetery	Historic	Not Eligible	Relocation	NO
	31CK74	Cemetery	Historic	Unknown	n/a	NO
	31CK75	Prehistoric/ Hist.	Unavailable	Not Eligible	No Further Work	NO
	31CK97	Cemetery	Historic	Unknown	n/a	NO
	31CK134	Cemetery	Late 19 th , Early 20 th	Unknown	Not relocated	NO
	31CK135	Cemetery	1890–1947	Not Eligible	None	YES
	31CK136	Cemetery	1925–1956	Not Eligible	None	YES
	31CK178	Historic	18 th & 19 th century	Eligible	Further Work	NO
	Coinjock	31CK09	Prehistoric	Late Woodland	Listed	n/a
31CK13		Prehistoric	Late Woodland	Unknown	n/a	NO
31CK14		Prehistoric	Late Woodland	Unknown	n/a	YES
31CK26		Prehistoric	Late Woodland	Unknown	n/a	YES
31CK28		Prehistoric	Late Woodland	Unknown	n/a	YES
31CK36		Prehistoric/ Hist.	Unknown	Unknown	n/a	YES
31CK39		Prehistoric	Mid & Late Archaic	Unknown	n/a	YES
31CK40		Prehistoric	E, M, & Late Archaic	Low Potential	No Further Work	NO
31CK137		Cemetery	1886–1962	Not Eligible	None	YES
31CK138		Cemetery	1927–1981	Not Eligible	None	YES
31CK140		Cemetery	Mid 19 th –Early 20 th	Not Eligible	None	YES
31CK141		Cemetery	Mid 19 th –Early 20 th	Not Eligible	None	YES
31CK142		Cemetery	1911–1986	Not Eligible	None	YES
31CK143		Cemetery	1907–1998	Not Eligible	None	YES
31CK144		Cemetery	Early 20 th	Not Eligible	None	YES
31CK145		Cemetery	20 th	Not Eligible	None	YES
31CK146		Cemetery	1906–1982	Not Eligible	None	YES
31CK147		Cemetery	1889–1980	Not Eligible	None	YES
31CK148	Cemetery	1904–1927	Not Eligible	None	YES	

Quadrangle	Site No.	Site Type	Temporal Period	NRHP Status	Recommendation	APE
	31CK149	Cemetery	1876–1908	Not Eligible	None	YES
	31CK150	Cemetery	Unknown	Not Eligible	None	YES
	31CK151	Cemetery	20 th century	Not Eligible	None	YES
	31CK152	Cemetery	20 th century	Not Eligible	None	YES
	31CK153	Cemetery	20 th century	Not Eligible	None	YES
	31CK154	Cemetery	1930–1965	Not Eligible	None	YES
	31CK173	Cemetery	1925–1929	Not Eligible	None	YES
	31CK174	Cemetery	1947–1951	Not Eligible	None	YES
	31CK181	Historic	Late 19 th , Early 20 th	Not Eligible	No Further Work	YES
	31CK182	Historic	Late 18 th , 19 th	Not Eligible	No Further Work	YES
	31CK183	Cemetery	Late 19 th , Early 20 th	Not Eligible	None	YES
	Reported site	Unknown	Unknown	Unknown	n/a	YES
Camden Point	31CK115	Historic	Unknown	Low Potential	n/a	NO
	31CK155	Cemetery	1910–1957	Not Eligible	None	YES
	31CK156	Cemetery	1910–1998	Not Eligible	None	YES
Jarvisburg	31CK157	Cemetery	1895–1980	Not Eligible	None	YES
	31CK158	Cemetery	1829–1914	Not Eligible	None	YES
	31CK159	Cemetery	1926–1930	Not Eligible	None	YES
	31CK160	Cemetery	1906–1996	Not Eligible	None	YES
	31CK161	Cemetery	19 th & 20 th	Not Eligible	None	YES
	31CK162	Cemetery	1898–2002	Not Eligible	None	YES
	31CK163	Cemetery	Unknown	Not Eligible	None	YES
	31CK164	Cemetery	Unknown	Moved	None	NO
	31CK165	Cemetery	1885–1942	Moved	None	NO
	31CK166	Cemetery	1861–1866	Moved	None	NO
	31CK167	Cemetery	20 th –Present	Not Eligible	None	YES
	31CK211	Unknown	No Data	Unknown	None	YES
	31DR3	Prehistoric	Late Archaic/Woodland	Unknown	None	YES
	31DR55	Unknown	No Data	Unknown	None	YES
Point Harbor	31CK1	Prehistoric	Unknown	Unknown	None	YES
	31CK3	Prehistoric	Unknown	Not Eligible	No Further Work	NO
	31CK32	Prehistoric	Late Woodland	Potentially	Further Work	YES
	31CK168	Cemetery	1859–1890	Not Eligible	None	YES
	31CK169	Cemetery	Late 19 th –Late 20 th	Not Eligible	None	YES
	31CK170	Cemetery	1899–1953	Not Eligible	None	YES
	31CK171	Cemetery	1909–1996	Not Eligible	None	YES
Mossy Islands	None	Prehistoric	Unknown	Unknown	n/a	NO
	001CKB	Shipwreck	19 th century	Unknown	None	NO
	002CKB	Shipwreck	Unknown	Unknown	None	NO
	003CKB	Shipwreck	plywood modern	Unknown	None	NO
	004CKB	Shipwreck	Unknown	Unknown	None	NO
	005CKB	Missile sites	20 th century	Unknown	n/a	YES
	006CKB	Shipwreck	Unknown	Unknown	None	NO
	007CKB	Shipwreck	Unknown	Unknown	None	NO
	0015CKB	Shipwreck	Unknown	Unknown	None	NO
Martin Point	31DR18	Prehistoric	Unknown	Unknown	None	NO
	31DR82	Shipwreck	19 th /20 th ?	Unknown	None	NO
Kitty Hawk	002CKS	Shipwreck	Unknown	Unknown	None	NO

Table 2. Archaeological properties within and adjacent to the APE.

Quadrangle	Site No.	Site Type	Temporal Period	NRHP Status	Recommendation	APE
Coinjock	31CK14	Prehistoric	Late Woodland	Unknown	NA	YES
	31CK26	Prehistoric	Late Woodland	Unknown	NA	YES
	31CK28	Prehistoric	Late Woodland	Unknown	NA	YES
	31CK36	Prehistoric/Hist.	Unknown	Unknown	NA	YES
	31CK39	Prehistoric	Mid & Late Archaic	Unknown	NA	YES
	31CK181	Historic	Late 19 th , Early 20 th	Not Eligible	No Further Work	YES
	31CK182	Historic	Late 18 th , 19 th	Not Eligible	No Further Work	YES
	Reported site	Unknown	Unknown	Unknown	NA	YES
Jarvisburg	31CK211	Unknown	No Data	Unknown	None	YES
	31DR3	Prehistoric	Late Archaic/Woodland	Unknown	None	YES
	31DR55	Historic	1820–1900	Not Eligible	No Further Work	YES
Point Harbor	31CK1	Prehistoric	Unknown	Unknown	None	YES
	31CK32	Prehistoric	Late Woodland	Potentially	Further Work	YES
Mossy Islands	005CKB	Missile sites	20 th century	Unknown	NA	YES

31CK1

Located at Point Harbor west of the Wright Memorial Bridge and within the APE (Figure 20-G), no data exists for this prehistoric site other than it was given a trinomial in 1979.

31CK14

Discovered and recorded in 1974, the “Scaff Site” is located along the shore on the west side of Currituck Sound approximately 0.5 miles south of Aydlett or the intersection of 1140 and 1137 (Figure 20-B). Manifested by a shell midden along the shoreline for approximately 600 yards, the site contained sherds and debitage representing a Late Woodland component. Its NRHP eligibility was not assessed (Novick 1995).

31CK26

Also discovered and recorded by D. Merrel in 1974, this site consists of a small shell midden with associated ceramics and debitage, all of which are thought to represent a Late Woodland component (see Figure 20-B). Similarly located along the shore on the west side of Currituck Sound, it lies just to the north of 31CK14 and just east of the intersection of 1140 and 1137. Like 31CK14, its NRHP eligibility was not assessed (Novick 1995).

31CK28

Discovered in 1974 along with 31CK14 and 26, and located just south of 31CK26 on the Coinjock quadrangle, this site also consists of a small shell midden with associated ceramics and debitage, all of which are thought to represent a Late Woodland component (Figure 20-B). Like 31CK14 and 26, its NRHP eligibility was not assessed (Novick 1995).

31CK32

Located on the sound at Sampson Point at Point Harbor and at the base of the western terminus of the Wright Memorial Bridge (Figure 20-G), this prehistoric site was first recorded in 1954. Called the Wright Memorial Bridge site, archaeological testing of the shell midden site in 1987 indicated the presence of intact and stratified deposits primarily of the Late Woodland Collington phase. Stated as meeting NRHP eligibility criteria, it was recommended that any potential impacts to the site be preceded with an archaeological review (Lautzenheiser 1987).

31CK36

Known as the “Markart site,” this prehistoric/historic multi-component site located on the Coinjock quadrangle map was recorded in 1983 (see Figure 20-B). Although the site’s NRHP status is “unassessed” and unknown, it is surprisingly recommended for “no further work.”

31CK39

Recorded in 1987, this site was identified as a lithic scatter located in a cultivated field. Stated as containing Middle to Late Archaic material, the site was designated as having “low research potential” (see Tippit 1988).

31CK181

Recorded in 2006 by Environmental Services, Inc. during a survey of the Coopers Landing Development, 31CK181, located on the Coinjock quadrangle map, is described as a late-nineteenth-century to twentieth-century domestic site scatter (see Figure 20-B). Lacking archaeological integrity, the site was described as not eligible for the NRHP and further archaeological work was NOT recommended (Russ 2006).

31CK182

Also recorded in 2006 by Environmental Services, Inc. during a survey of the Coopers Landing Development, 31CK182, located on the Coinjock quadrangle map, is described as a late-eighteenth-century to nineteenth-century historic artifact scatter (see Figure 20-B). Lacking archaeological integrity, the site was described as not eligible for the NRHP and further archaeological work was NOT recommended (Russ 2006).

31CK211

Although noted on the State Site File quadrangle as a site, trinomials only go up to site number 194. While no site file or other data exists for this quadrangle notation, consideration should be made during field survey of its location, as it is within the APE (Figure 20-E).

31DR3

Known as the Duck Dune site, the Late Archaic/Woodland site was originally recorded in 1939. Located on a large dune just to the east of the highway, numerous projectile points were recovered from this site (Figure 20-J).

31DR55

Located just to the south of 31DR3, this historic site was recorded in 1976 during the survey of a subdivision (Figure 20-J). Identified as an historic house site with a small refuse pit containing artifacts dating from 1820 to 1900, the associated reports state that the site has been destroyed and “no further research on the site is warranted, and impact from Marlin Drive construction had already occurred” (Phelps 1976).

005CKB

Two “Old Missile Test Sites” are noted within the bridge crossing APE on the Mossy Islands quadrangle (see Figure 20-H). Recorded during a “beach survey,” which explains the shipwreck-type trinomial, other than their location nothing is reported for this map entry. However, the presence of “old” missile sites may suggest a Cold War-era installation, but this supposition is untested.

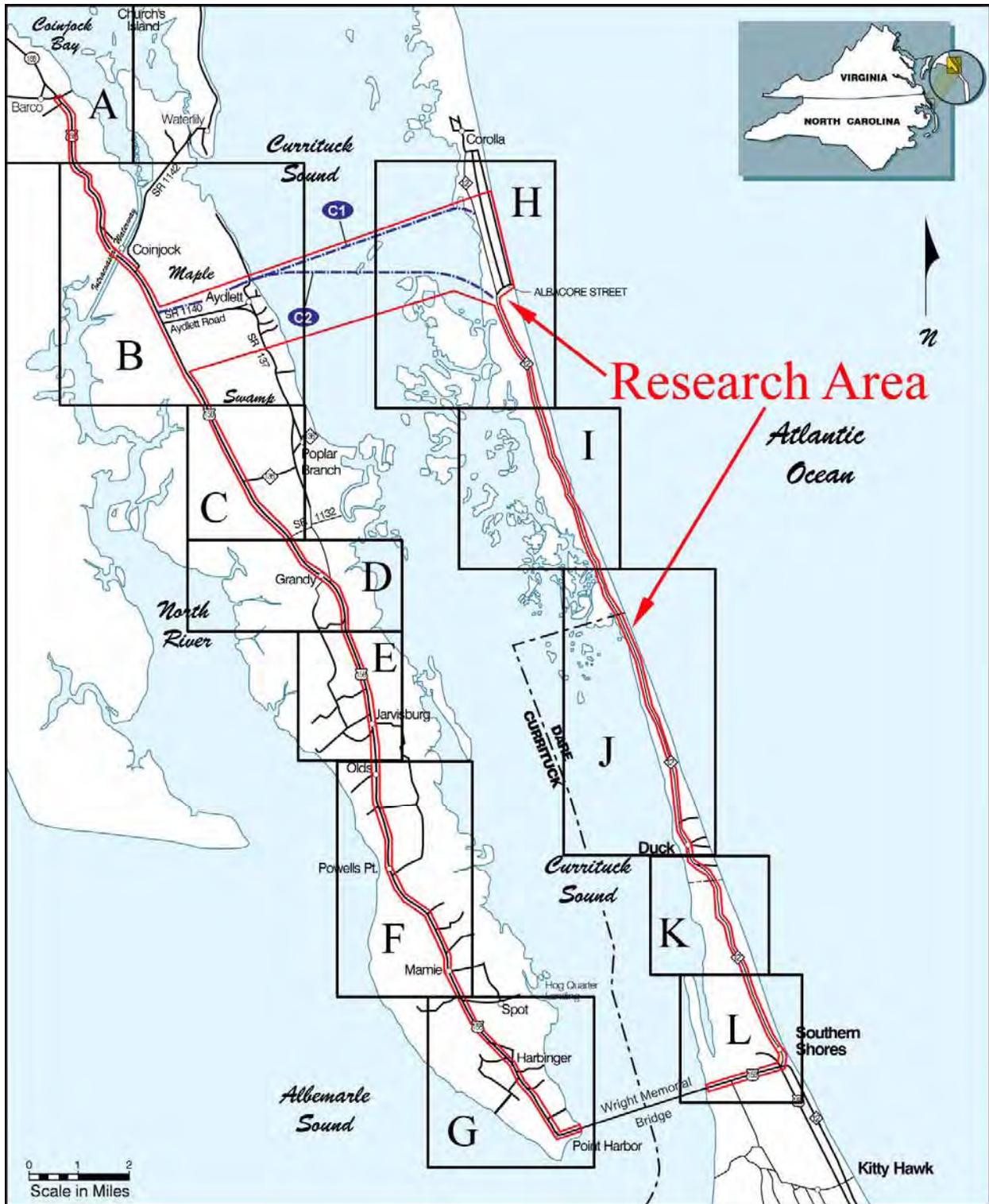


Figure 20. Quadrangle map key (map courtesy of PB Americas, Inc.).

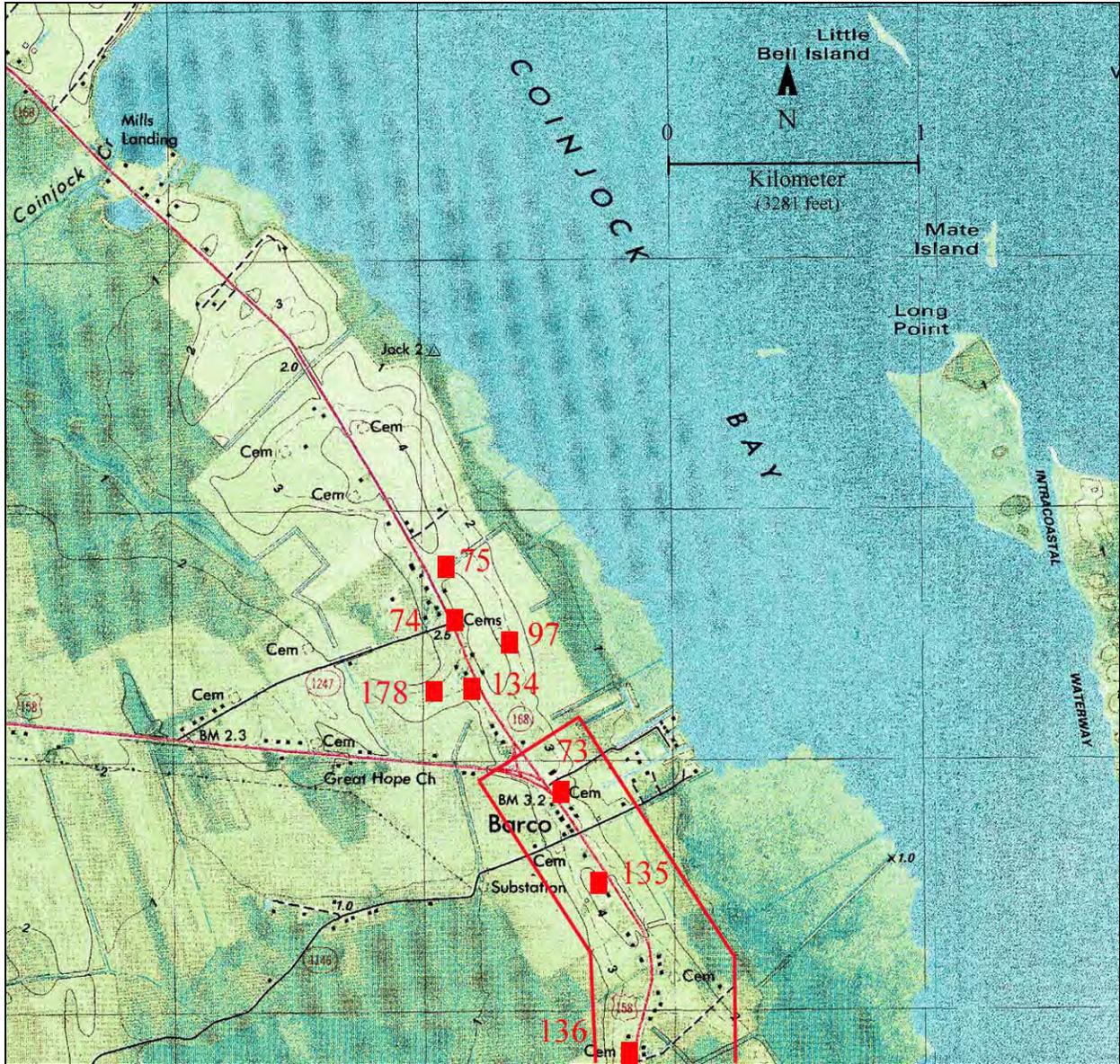


Figure 20-A. Recorded archaeological sites in relation to the general APE (base map: USGS 15' "Barco, N.C." 1982 quadrangle). Study corridor is outlined in red. APE is 60 feet either side of U.S. 158.

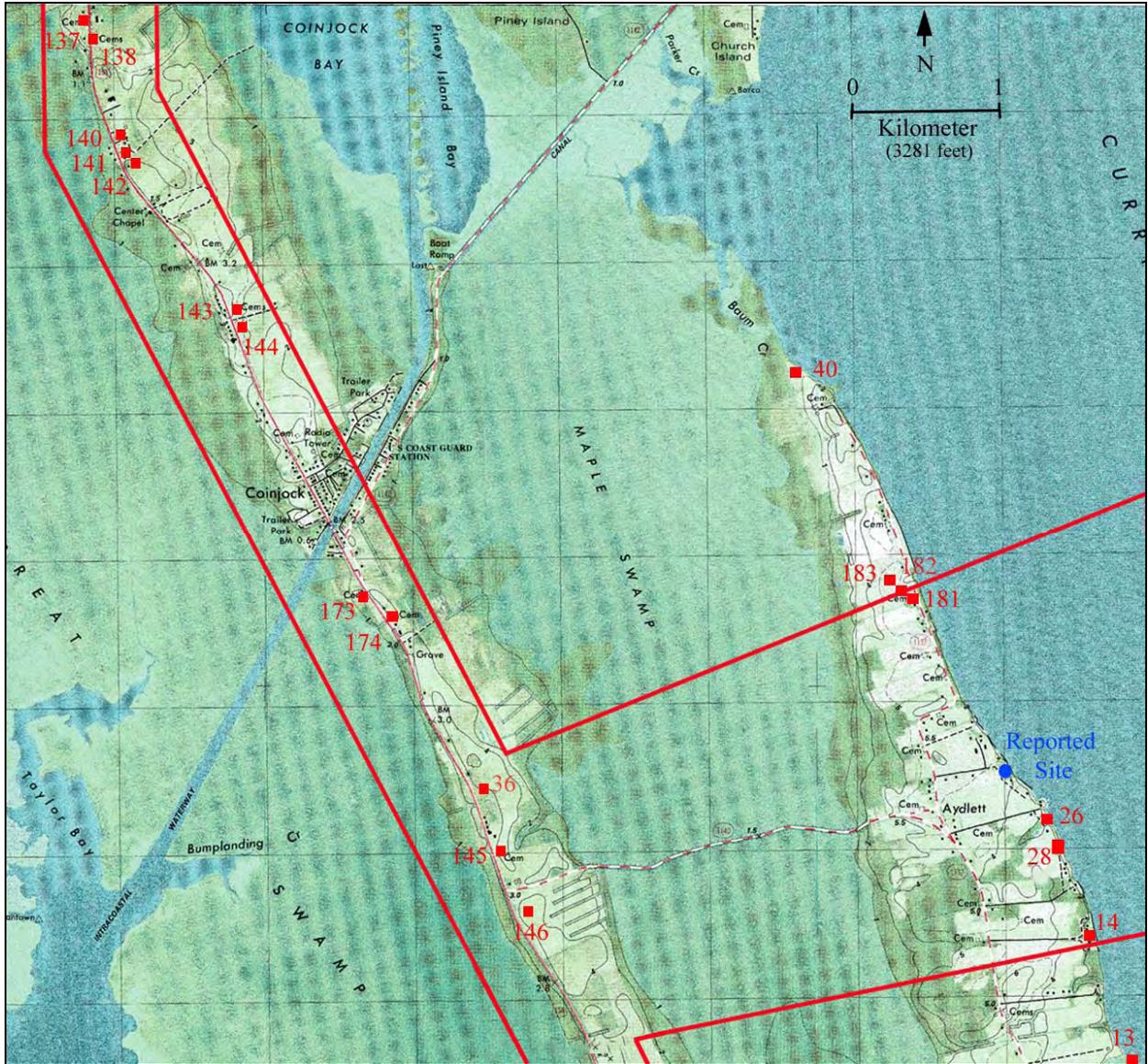


Figure 20-B. Recorded archaeological sites in relation to the general APE (base map: USGS 15' "Coinjock, N.C." 1982 quadrangle). Study corridor is outlined in red. APE is 60 feet (18 m) either side of U.S. 158, and approximately 9,843 feet (3,000 m) in width along the proposed Mid-Currituck Bridge corridor alternatives from U.S. 158 across Currituck Sound to NC 12 to accommodate the extent of the proposed improvements with the preliminary bridge corridor alternatives (i.e., bridge corridors C1 through C6).

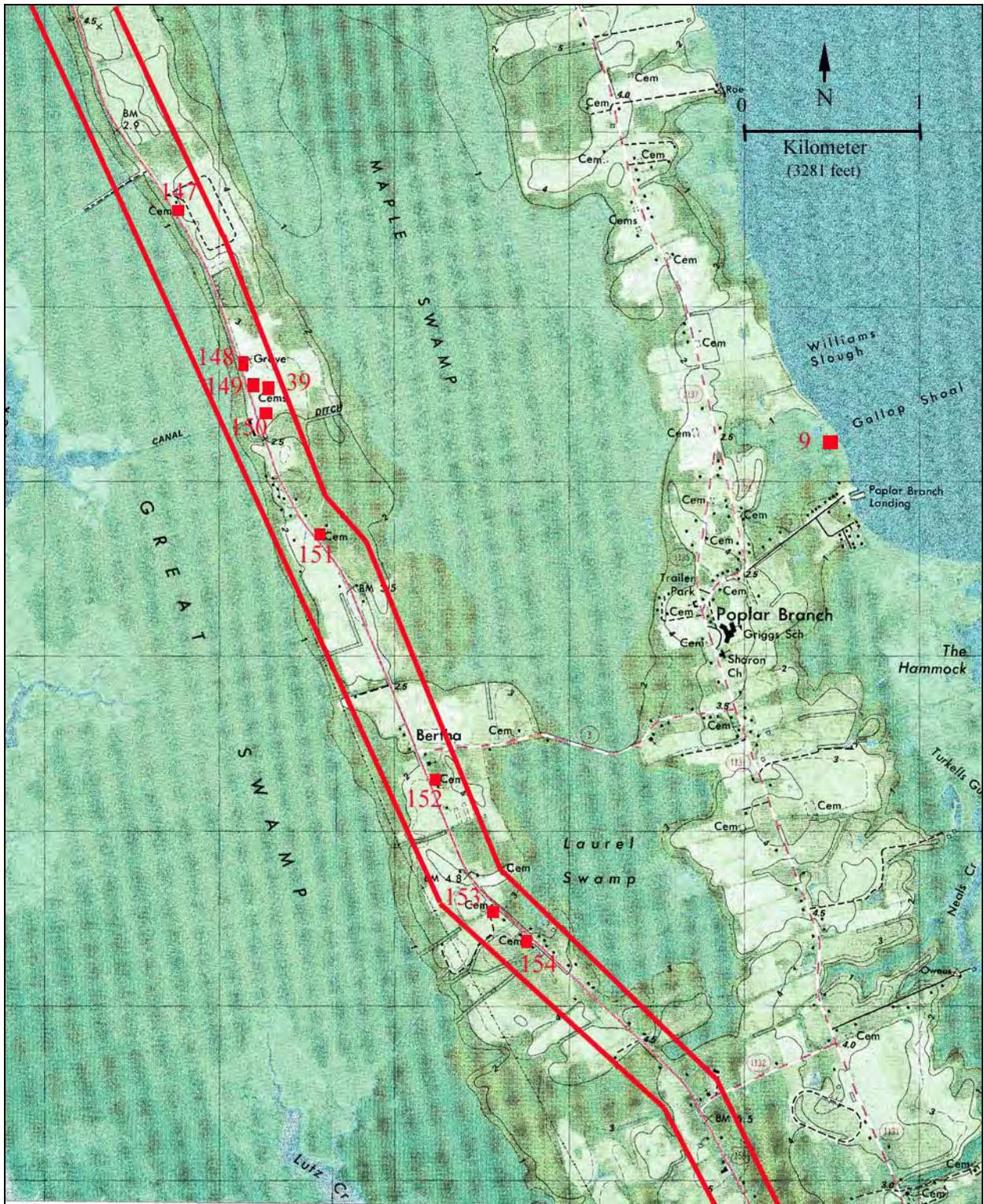


Figure 20-C. Recorded archaeological sites in relation to the general APE (base map: USGS 15' "Coinjock, N.C." 1982 quadrangle).

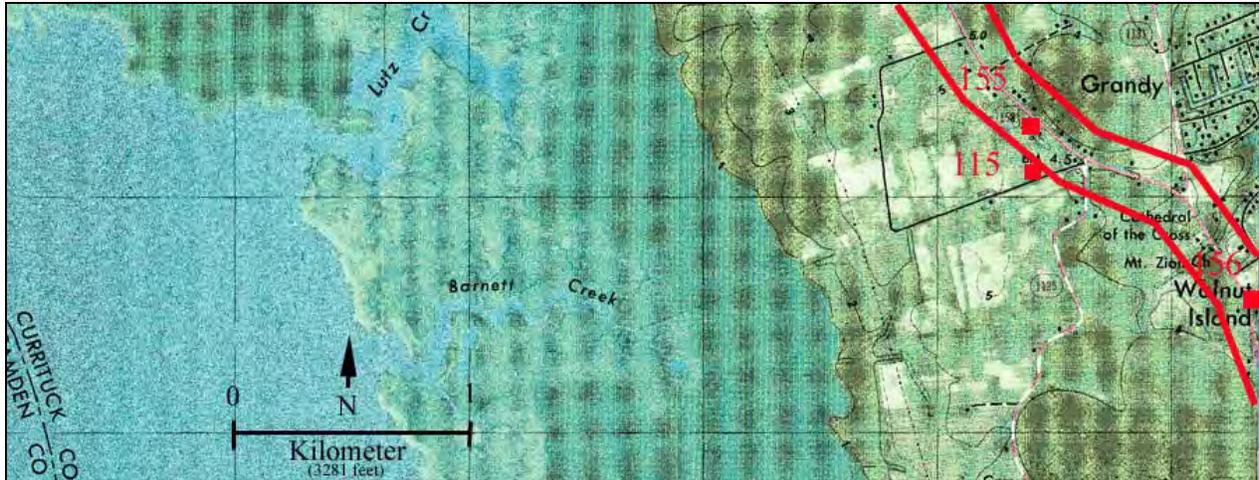


Figure 20-D. Recorded archaeological sites in relation to the general APE (base map: USGS 15' "Camden Point, N.C." 1982 quadrangle).

REPORTED SITE

In addition to the 14 previously recorded archaeological sites within the APE, a single "Reported" site is located on the Coinjock quadrangle within the APE (see Figure 20-B). Located just north of 31CK26, other than location, nothing is known of this site. Its location along the shoreline would suggest a prehistoric component; however, this supposition is untested.

There are several properties listed on the NRHP within the APE (none are indicated on Figures 20-A through 20-L). With the exception of one archaeological site, all are standing structures, and the majority are located in Coinjock adjacent to and along U.S. 158. These include the Bray Store and House (CK20), the Dr. Garrenton House (CK37), "House" (CK49), and the Masonic Lodge (CK60).

In addition to these, four NRHP-listed properties are located outside of but adjacent to the APE, three of which are on Currituck Island. Two are situated to the north of the APE in Corolla: the Currituck Lighthouse, which was built in 1875; and the Whalehead Club, a mansion built during the first half of the twentieth century by Edward Colling Knight, son of the inventor of the Pullman Car. These two properties, along with the Currituck Shooting Club (located just to the south of the APE), were nominated on architectural merit and do not represent archaeological sites *per se*.

Discussed above, the only archaeological site on the NRHP is the Baum site (31CK9), which is located well outside the APE and several miles south of Aydlett along the west side of Currituck Sound (see Figure 20-C).

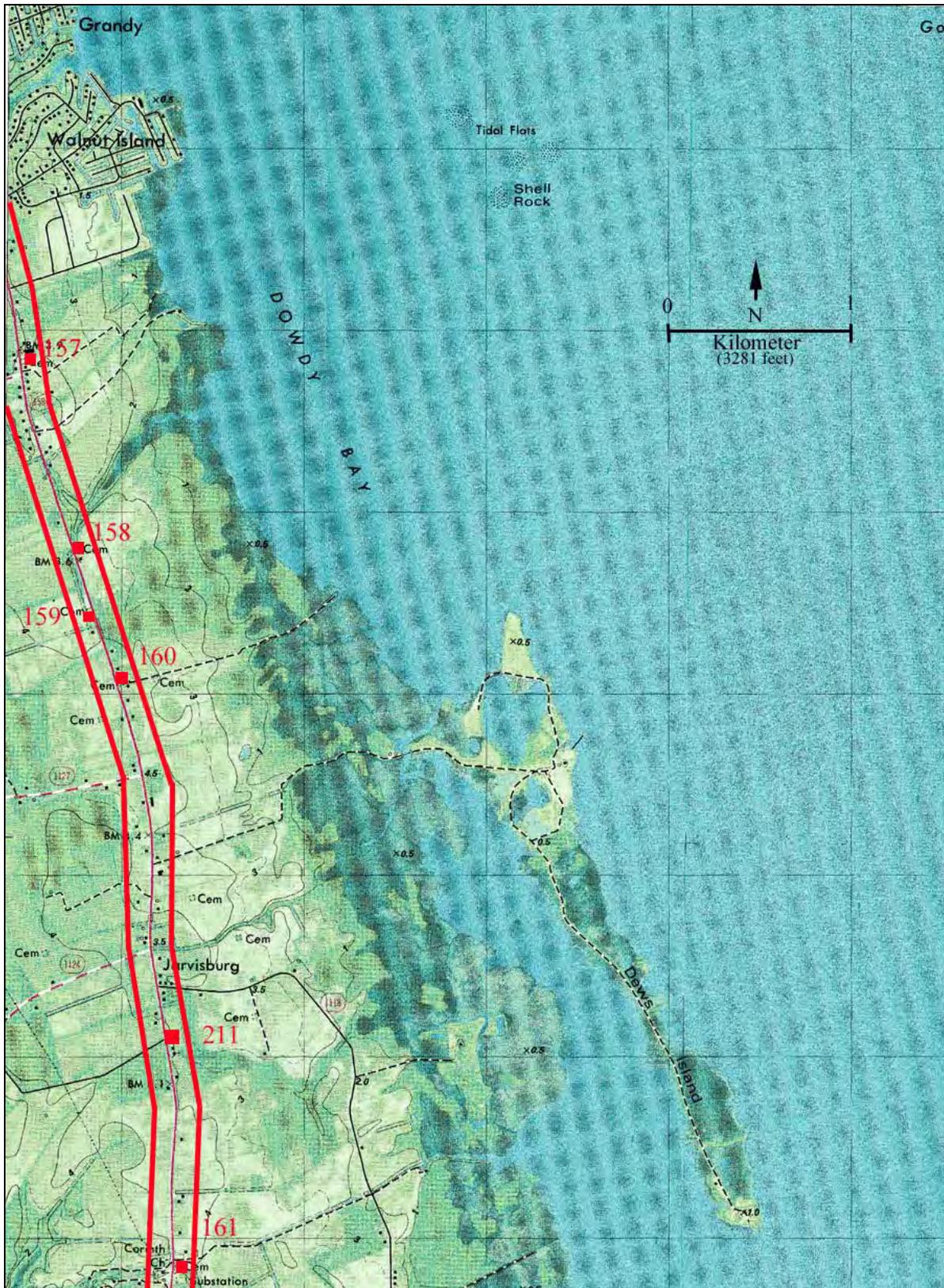


Figure 20-E. Recorded archaeological sites in relation to the general APE (base map: USGS 15' "Jarvisburg, N.C." 1982 quadrangle).

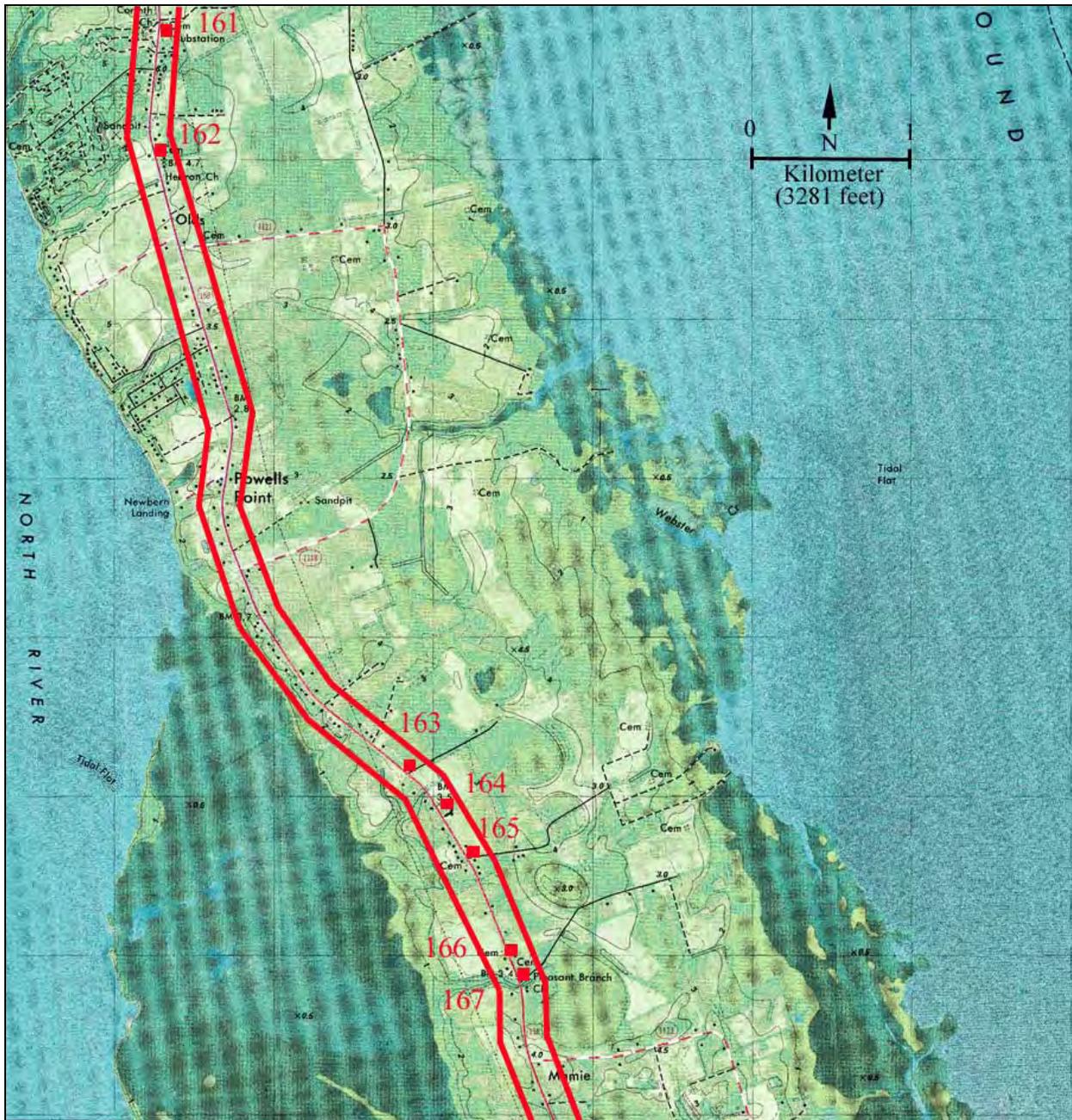


Figure 20-F. Recorded archaeological sites in relation to the general APE (base map: USGS 15' "Jarvisburg, N.C." 1982 quadrangle).

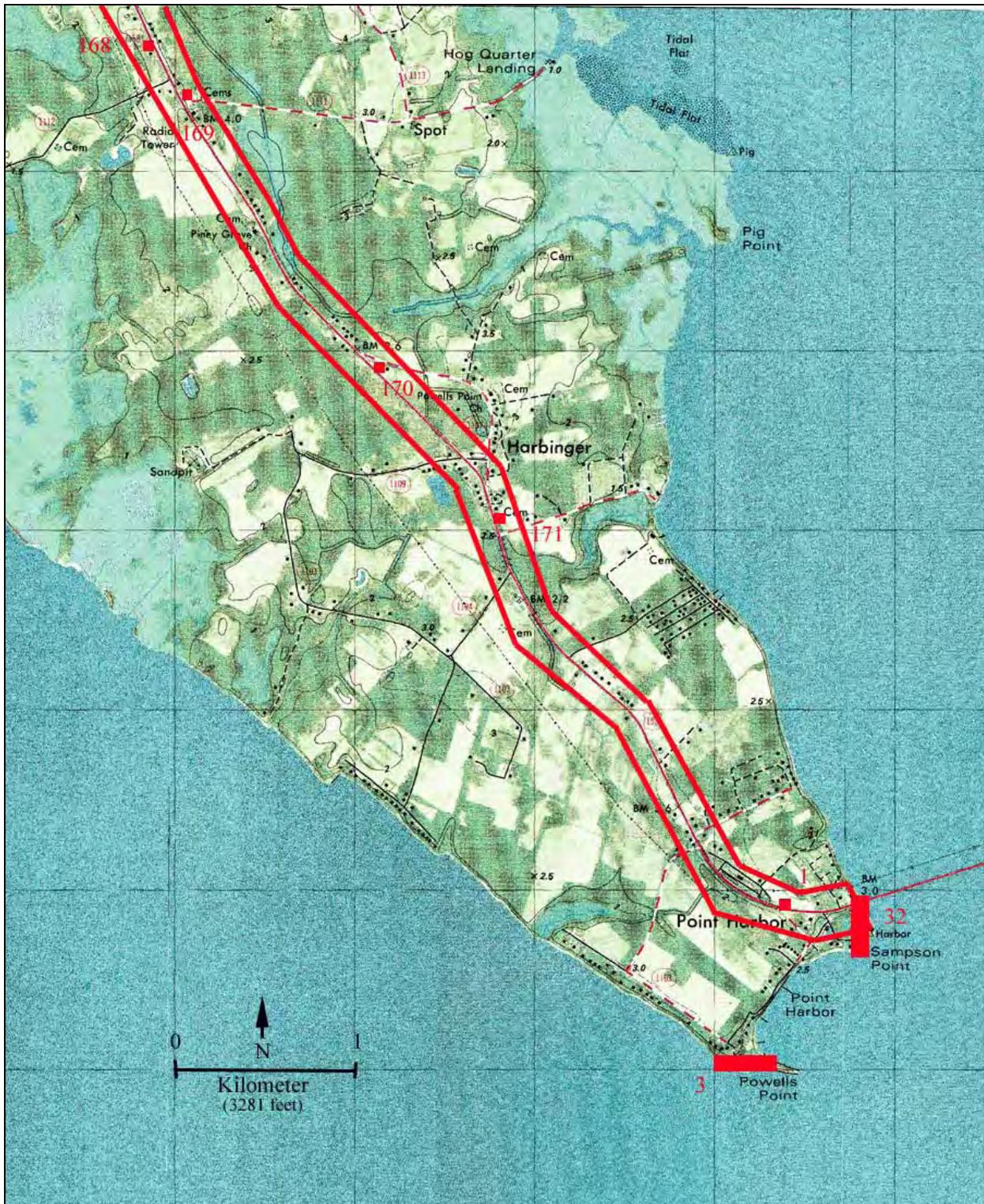


Figure 20-G. Recorded archaeological sites in relation to the general APE (base map: USGS 15' "Point Harbor, N.C." 1982 quadrangle).

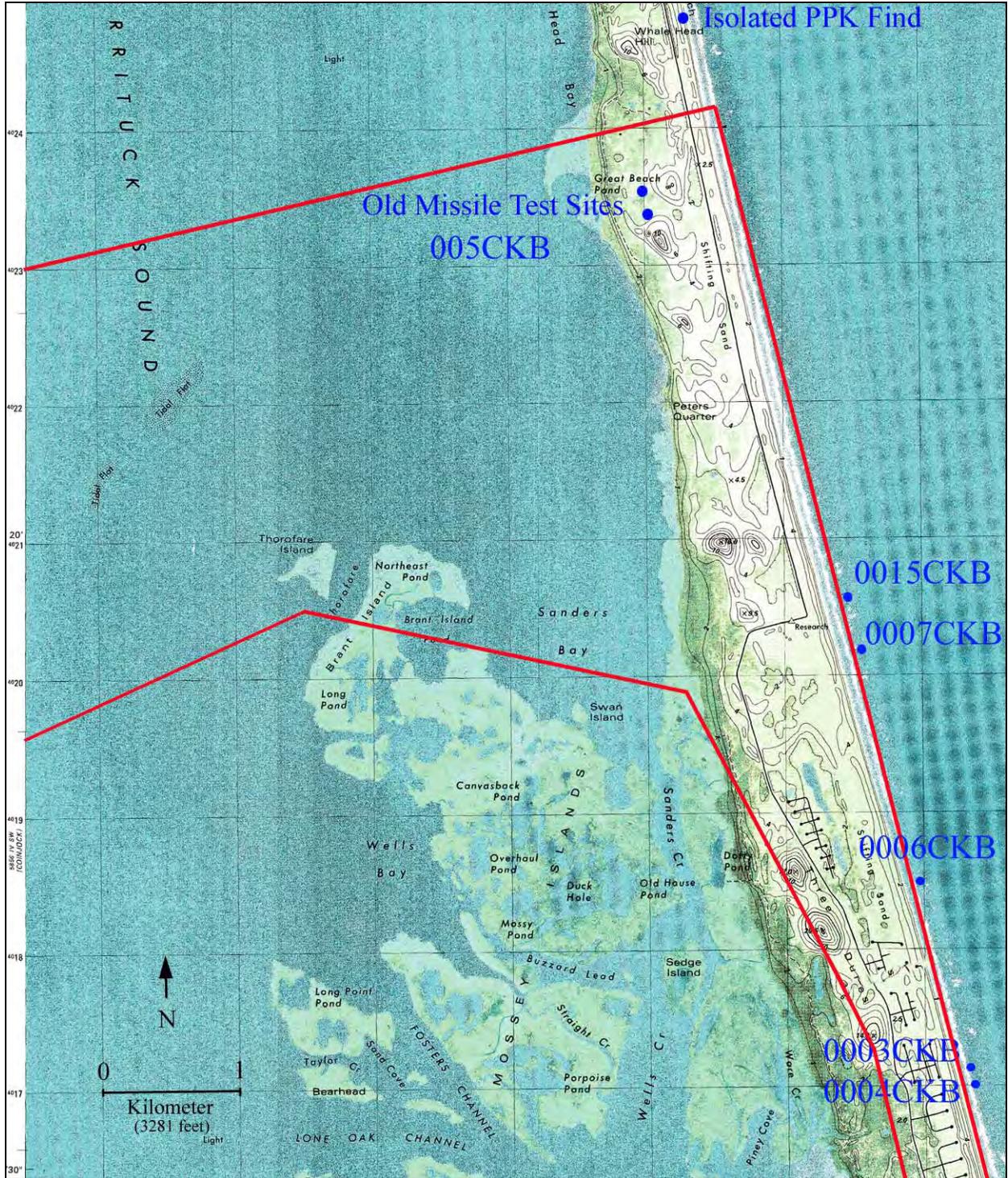


Figure 20-H. Recorded archaeological sites in relation to the general APE (base map: USGS 7.5' "Mossy Islands, N.C." 1982 quadrangle).



Figure 20-I. Recorded archaeological sites in relation to the general APE (base map: USGS 15' "Mossy Islands, N.C." 1982 quadrangle).

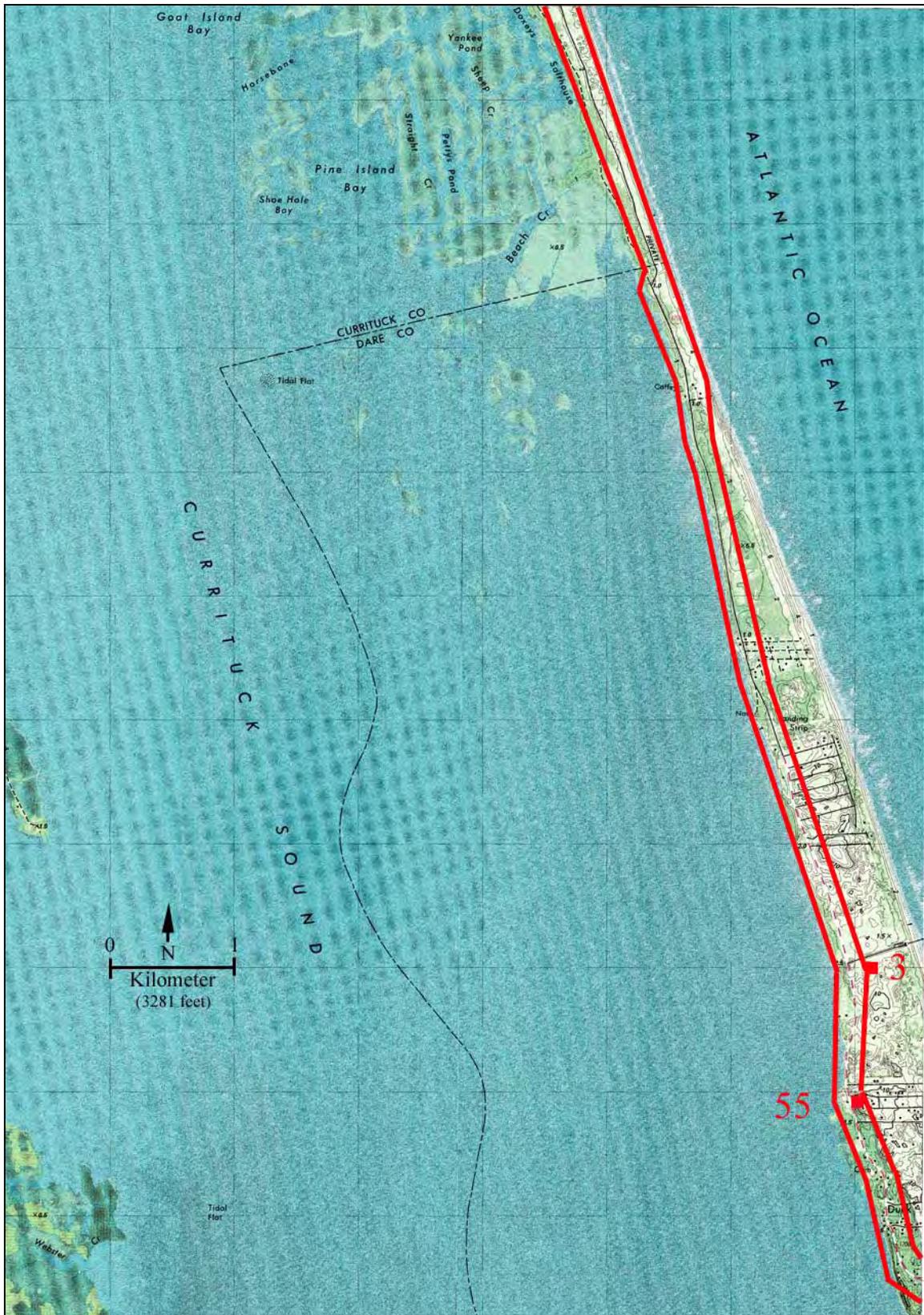


Figure 20-J. Recorded archaeological sites in relation to the general APE (base map: USGS 15' "Jarvisburg, N.C." 1982 quadrangle).

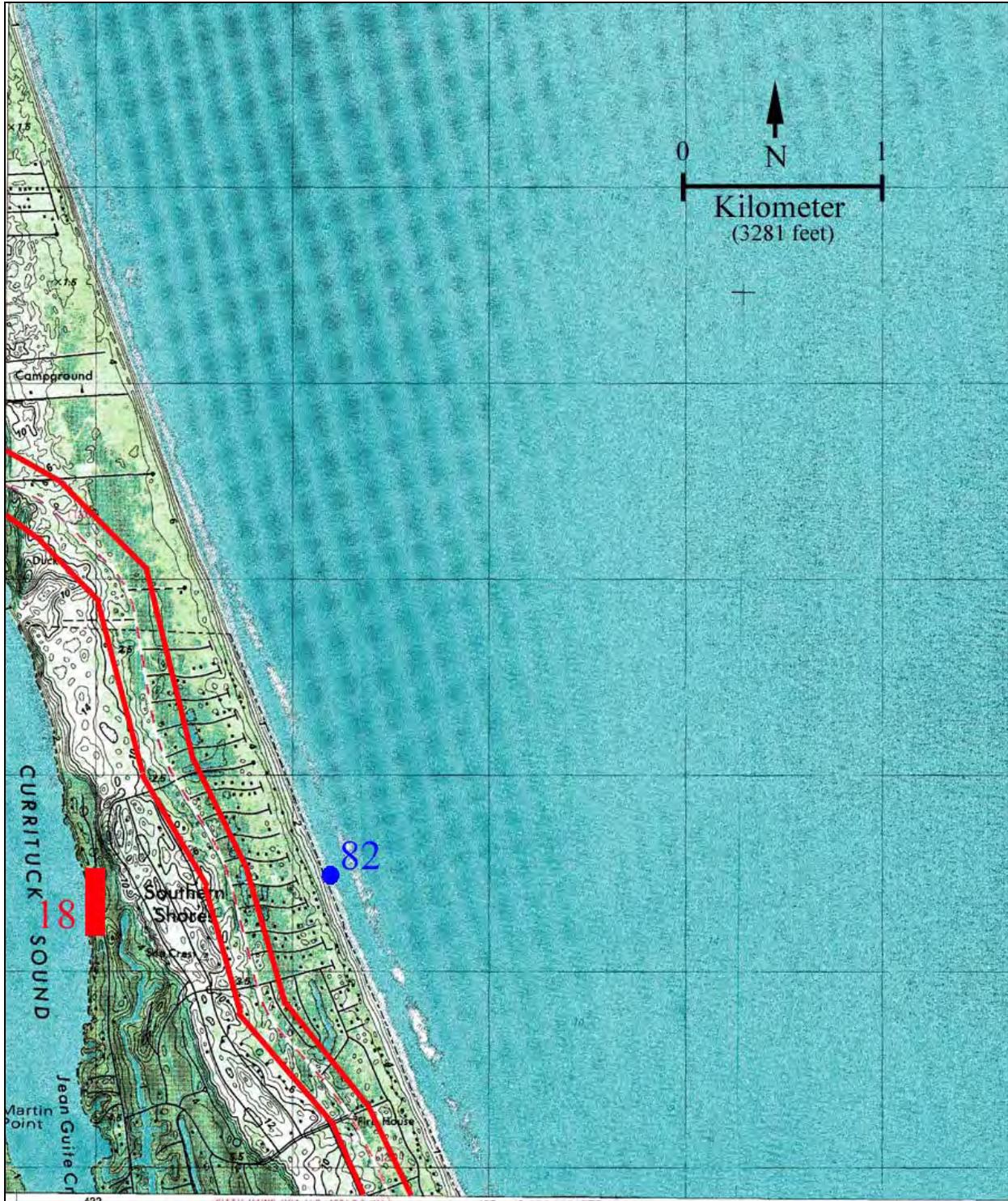


Figure 20-K. Recorded archaeological sites in relation to the general APE (base map: USGS 15' "Martin Point, N.C." 1982 quadrangle).

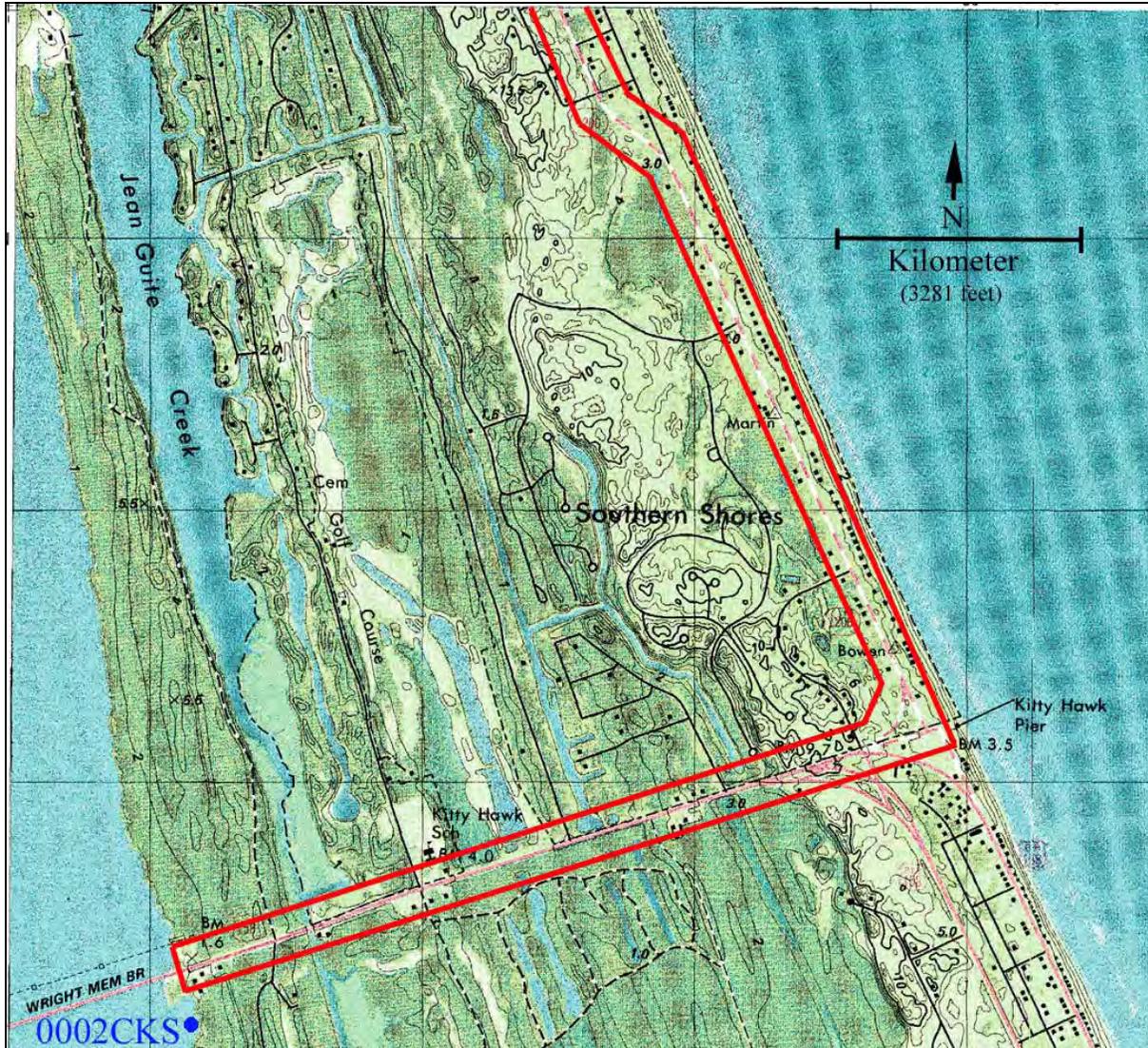


Figure 20-L. Recorded archaeological sites in relation to the general APE (base map: USGS 15' "Kitty Hawk, N.C." 1982 quadrangle).

POTENTIAL FOR SUBMERGED HISTORIC SITES

While there are several shipwrecks located near the project area, there are no submerged cultural resources sites listed within the APE itself. With respect to identifying known or potential submerged cultural resources, official sources were consulted in the search for known archaeological sites and previously surveyed areas. These included the Lytle-Holdcamper list, the NOAA Automated Wreck and Obstruction Information System (AWOIS), the Northern Shipwrecks Database, and the shipwreck files of the Underwater Archaeological Branch of the North Carolina Division of Archives and History (UAB). A large number of shipwreck sites were obtained from each source, and it should be noted that any given site might appear in the data from more than one source. All available data was included, since the reliability and the completeness of information, including location coordinates, varies between data sources.

A review of the *Merchant Steam Vessels of the United States 1790-1868*, also known as The Lytle-Holdcamper List (originally compiled in 1952, reprinted 1975) indicated the potential for

vessels lost near the APE. While not concerned with the project area directly, this volume is concerned with all steam vessels for the period noted. Any vessel lost in the period would be potentially historic, as they represent early steam-powered craft. The “List” is a comprehensive register of steam vessels in the U.S. and indicates the name, rig, tonnage, year and place built, first homeport, and final disposition. Also included is a list of losses that includes approximately 3,800 steam-powered vessels. It was this portion of the work that was examined with respect to losses in the project area (Table 3). Several early steam vessels are reported lost in North Carolina waters. Three are of specific interest as they were noted lost in the project area. Although this listing is rather meager, it represents only American steam vessels through the Civil War; foreign and sailing vessels are not considered. Additionally, steam vessels would be the most likely to be represented in the remote-sensing data due to their iron content; thus, the list indicates the potential to find remains of only early steam-powered vessels.

Table 3. Vessels listed as lost in the vicinity of the project area (source: Lytle and Holdcamper 1975).

Vessel	Tons	Year	Nature	Date	Place	Lives lost
<i>Franklin</i>	193	1819	stranded	09/14/1850	Currituck	0
<i>Franklin</i>	25	1844	stranded	09/14/1850	Currituck	0
<i>Stars and Stripes</i>	407	1861	stranded	01/31/1878	3 mi. south of Currituck Light	over 90
<i>State of Georgia</i>	1,204	1852	stranded	10/05/1866	Currituck Inlet	0
<i>Walpole</i>	145	1854	stranded	04/07/1863	Minot Ledge	2

Another comprehensive source of shipwrecks for the U.S. is the NOAA Automated Wrecks and Obstructions Information System (AWOIS). This list can be accessed from the Internet at <http://anchor.ncd.noaa.gov/awois/search.cfm>. An interactive page appears and queries the user for data to aid in the search of shipwrecks such as name, navigation chart, or coordinates. An examination of the rectangular area lying between 36° 15' and 36° 25' North latitude and 75° 46' and 76° West longitude, which encompasses the entire APE, lists five wreck sites or obstructions in the vicinity of the survey area (Table 4). However, the two unknown vessels in Table 3 are listed in the surf zone, which indicates that they are on the Atlantic side of Currituck Bank.

Table 4. Vessels and obstructions in the project area (source: AWOIS).

Vessel	Latitude	Longitude	History
unknown	36.24932778	75.77963333	Visible wreck reported, surf zone precludes a full investigation
<i>ELLIN</i>	36.27016111	75.78296667	Survey requirements not determined
<i>N. BOYNTON</i>	36.33515833	75.80963611	Survey requirements not determined
<i>A. ERNEST MILLS</i>	36.38349167	75.81630556	Schooner, 1,800 GT, sunk before WW II; position accuracy 1 to 3 mi.; reported through old Coast Guard records
unknown	36.36049167	75.81996944	F/V, trawler, just offshore in breakers; reported by U.S. Coast Guard at Oregon inlet station

Another comprehensive source for wreck locations is the Northern Shipwrecks Database (NSWDB), published by Northern Maritime Research, Incorporated. The database is compiled from various historic sources including government reports of the Coast Guard, Commerce Department, and Navy, as well as vessel registrations, museums, newspapers, and hundreds more sources. It contains details on more than 100,000 wrecks in the U.S. and around the world. Employing the same coordinates as the AWOIS, which encompasses all of the survey areas for this project, the NSWDB lists 54 wrecks near the survey area (Table 5). As indicated by the “Area,” the majority are at the now-closed Currituck Inlet or the beach side of Currituck Bank.

Table 5. Vessels lost in project area vicinity (source: NSWBD).

Date	Vessel	Latitude	Longitude	Area
1893/10/04	EMMA J. WARRINGTON	3613	7546	Paul Gamiels Hill
1922/04/21	APPOMATTOX	3614	7555	Camden
1821/--/--	SOPHIA	3615	7545	Currituck Inlet
1907/04/28	ORIENTE	3615	7545	Poyners Hill
1921/06/06	CARRIE B. BELL	3615	7550	Currituck Sound
1921/05/12	ELSIE	3615	76	North River
1919/12/15	ELLIN	361612	7547	Currituck Sound
1889/10/23	BUSIRIS	3618	7548	Poyners Hill
1845/10/23	VICTORIA	3620	7545	Currituck Beach
1710/11/29	GARLAND	3620	7545	Currituck Inlet
1764/--/--	SHANNON	3620	7545	Currituck Inlet
1765/06/--	REVENGE	3620	7545	Currituck Inlet
1793/--/--	NANCY	3620	7545	Currituck
1797/09/06	BETSY	3620	7545	Currituck Inlet
1803/11/26	MOLLY	3620	7545	Currituck Inlet
1816/04/15	MARY	3620	7545	Currituck Beach
1817/03/18	EMPEROR OF RUSSIA	3620	7545	Currituck Inlet
1818/07/15	GEORGIA	3620	7545	Currituck Inlet
1818/12/--	REVENUE	3620	7545	Currituck Inlet
1819/01/--	REVENGE	3620	7545	Currituck Inlet
1821/--/--	MARTHA	3620	7545	Currituck Sands
1821/--/--	MARTHA	3620	7545	Currituck Sands
1841/08/24	ALONZO	3620	7545	Currituck Beach
1841/08/24	AMERICAN TRADER	3620	7545	Currituck Beach
1849/01/09	EVERGREEN	3620	7545	Currituck Beach
1850/11/23	EDWARD WOOD	3620	7545	Currituck Inlet
1852/12/13	MARY TURCAN	3620	7545	Currituck
1853/12/08	RATTLER	3620	7545	Currituck Beach
1857/11/--	BALTIC	3620	7545	Currituck Beach
1858/11/11	AMANDA COONS	3620	7545	Currituck Beach
1859/03/25	AGAMEMNON	3620	7545	Currituck Beach
1866/10/05	ANDREW JOHNSON	3620	7545	Currituck Inlet
1867/01/10	MARTHA	3620	7545	Currituck Beach
1870/05/--	M.A. FORBES	3620	7545	Currituck Beach
1871/04/01	WILLIAM MUIR	3620	7545	Currituck Beach
1873/01/30	ANNIE MCFARLAND	3620	7545	Currituck Beach
1873/02/04	FAUGHN BALLOUGH	3620	7545	Currituck Beach
1873/02/04	M. MACFARLANE	3620	7545	Currituck Beach
1875/01/19	SABRA	3620	7545	Currituck Beach
1885/09/22	ADA F. WHITNEY	3620	7545	Poyners Hill
1886/01/26	JENNIE BEASLEY	3620	7545	Currituck Inlet
1891/05/25	VIBILIA	3620	7545	Poyners Hill
1892/10/30	MATTIE E. MILES	3620	7545	Currituck Inlet
1919/02/13	GRACIE D. CHAMBERS	3620	7545	Poyners Hill
1934/03/23	NOVA JULIA	3620	7545	Currituck Beach
1919/12/17	SUNBEAM	3620	7550	Currituck
1889/04/17	N. BOYNTON	362006	754836	Currituck Beach
1837/10/29	ORAN SHERWOOD	3622	7545	Poyners Hill
1837/12/09	WAVE	3623	7545	Currituck Beach
1842/08/24	KILGORE	3623	7550	Currituck Beach
1876/03/01	NUOVA OTTAVIA	3623	7550	Currituck Beach
1929/05/03	A. ERNEST MILLS	362301	754859	Currituck Beach
1841/10/--	HEROINE	3625	7550	Currituck Beach

Perhaps the most relevant listing was from taken from the shipwreck files of the UAB. This state government agency is the repository for all underwater archaeological sites and project information for the State of North Carolina. Records are kept by body of water, so a search was performed for all wrecks lost in Currituck Sound (CKS), Currituck Inlet (CKI), Currituck Ocean (CKO), and Currituck Beach (CKB). The search yielded information on 225 wreck sites (Table 6), but only 15 of these are listed for Currituck Sound (CKS).

Table 6. Vessels lost in the Currituck Sound “CKS” (source: UAB).

Vessel	Location	Lost	Type	Description
<i>ELIZABETH</i>	Run on shore near Beasley's Bay	12/21/1812	schooner	Bound from Philadelphia to Charleston
<i>ANNA</i>	At Whales Head	4/27/1819	schooner	Passengers saved, cargo of salt lost
<i>SALLY ANN</i>	In Currituck Sound	9/2/1821	schooner	Foundered & turned bottom up during hurricane carrying cargo of naval stores
<i>LOUSIA</i>	In Currituck Sound near Powell's Point	9/2/1821	schooner	Washing ashore during hurricane carrying cargo of turpentine
<i>POLLY and NANCY</i>		9/2/1821	schooner	Ashore during hurricane Sept 2-3, 1821
<i>FANCY</i>	Currituck Sound near Powell's Point	10/11/1836	schooner	Sunk carrying cargo of naval stores
unknown sailboat	4 m NW Kill Devil Hills	12/12/1894	sailboat	Capsized
<i>LUCY RAY</i>	2 m W Currituck Station	12/27/1894	schooner	Dragged anchor & stranded
unknown boat	2 ½ m NNW of Kitty Hawk	9/26/1896	small boat	Capsized
unknown sailboat	½ m SSW Paul Gamiels Hill Station	2/15/1898	sailboat	Unknown
<i>EUGENE</i>	6 m NW Paul Gamiels Hill Station	5/3/1901	sloop	Unknown
<i>LEON BRUCE</i>	1 ½ m S Caffey's Inlet Station	10/8/1903	sailboat	Capsized
<i>LOU E.</i>	1 ½ m SW Paul Gamiels Hill Station	11/9/1908	gas screw	Capsized in high wind & rough seas
<i>UNDINE</i>	Currituck Sound	3/3/1912	steam screw	Struck log
<i>VIRGINIA DARE</i>		1935	oil screw	Passenger vessel

5. CONCLUSIONS

Consisting of an examination of the archaeological site files at both the North Carolina Office of Archaeology and the Underwater Archaeological Branch of the Division of Archives and History, an examination of the NRHP, a review of historic maps, and a review of archaeological work previously conducted in and adjacent to the APE, it was found that numerous terrestrial archaeological surveys have been conducted in or adjacent to the APE. As a result of these investigations, a total of fifty (n=50) previously recorded properties with designated state trinomial numbers and one recorded property without a trinomial are located within the general APE, while twenty-five (n=25) are located adjacent to the APE. Of the 51 properties within the APE, only fourteen (n=14) are archaeological sites; the remaining thirty-six (n=36) are historic cemeteries. The cemeteries, the majority of which were recorded along U.S. 158 as a result of a survey for a proposed pipeline, fall under the provisions of North Carolina's Cemetery Act (NC General Statute 65-13) and must be removed and relocated if they will be impacted.

With regard to the 14 archaeological sites within the APE, seven are prehistoric (31CK1, 31CK14, 31CK26, 31CK28, 31CK32, 31CK39, and 31DR3), four are historic (31CK181, 31CK182, 31DR55, and 005CKB), one is multi-component (31CK36), and two are unknowns (31CK211 and the "Reported" site). Other than their location, nothing is reported for these latter "sites."

There are several properties listed on the NRHP within the APE. All are standing structures, and the majority are located in Coinjock adjacent to and along U.S. 158. The study of standing structures within the APE is being conducted separate from the current investigation.

While only a few submerged cultural resources surveys have been conducted within or adjacent to the project area, no underwater sites are listed within the APE. However, there are several significant shipwreck sites adjacent to the APE, and the Currituck Sound portion of the project area has a long maritime history suggesting the possibility of additional sites in the area.

In conclusion, the archaeological record indicates that sites are present within the APE, and that the extensive and continued use of the area from prehistoric times indicates and argues the potential for additional, as yet unidentified cultural resources sites in the project area. It is therefore recommended that archaeological surveys be conducted on both land and water in order to identify the presence or absence of additional resources and to assess the NRHP eligibility of any sites located within the APE if they are threatened by impacts from proposed project activities.

6. REFERENCES CITED

- Abbott, Lawrence E., Jr., and Dolores A. Hall
2005 Report of Fieldwork, 31CK9 (The Baum Site) and 31CK129. Letter on file at the Office of State Archaeology, Raleigh, North Carolina. August.
- 2005a Report of Fieldwork, 31CK9. Letter on File at the Office of State Archaeology, Raleigh, North Carolina. November.
- 2005b Report of Fieldwork, 31CK129. Letter on File at the Office of State Archaeology, Raleigh, North Carolina. October.
- Alford, Michael B.
1985 Manteo Marine Resources Center Canoe (0001 CTS). Letter to Dale Martine, Exhibits Coordinator at the Marine Resources Center in Manteo from the Curator of Watercraft Research at the North Carolina Maritime Museum in Beaufort, North Carolina. On file, North Carolina Department of History, Underwater Branch, Kure Beach, North Carolina.
- 1990 *Traditional Work Boats of North Carolina*. Hancock Publishing, Harkers Island, North Carolina.
- Anderson, David G., and Glen T. Hanson
1988 Early Archaic Settlement in the Southeastern United States: A Case Study from the Savannah River Basin. *American Antiquity* 53:262-286.
- Anderson, D.G., and J.W. Joseph
1988 *Prehistory and History Along the Upper Savannah River: Technical Synthesis of Cultural Resource Investigations, Richard B. Russell Multiple Resource Area*. Volume I. Garrow and Associates, Inc., Atlanta, Georgia. U.S. Department of the Interior-Park Service, Interagency Archaeological Services, Atlanta, Georgia.
- Anderson, David G., Lisa D. O'Steen, and Kenneth E. Sassaman
1996 Environmental and Chronological Considerations. In *The Paleoindian and Early Archaic Southeast*, edited by David G. Anderson and Kenneth E. Sassaman, pp. 3-15. The University of Alabama Press, Tuscaloosa.
- Angley, Wilson
1985 *An Historical Overview Of Oregon Inlet*. North Carolina Division of Archives and History, Raleigh.
- Bamann, Susan E., and Dennis Gosser
2007 *Archaeological Data Recovery of Site 31CK9, Proposed Currituck Crossing Subdivision, Currituck County, North Carolina*. Coastal Carolina Research, Inc. Prepared for the Cox Development Company, LLC, Vienna, Virginia.
- Barrett, J.G.
1963 *The Civil War in North Carolina*. University of North Carolina Press, Chapel Hill, North Carolina.

- Bass, G.F.
1988 *Ships and Shipwrecks of the Americas: A History Based on Underwater Archaeology*. Thames and Hudson Ltd., London.
- Bloomster, E.L.
1940 *Sailing and Small Craft Down the Ages*. U.S. Naval Institute, Annapolis, Maryland.
- Bowen, William R.
1982 *Archaeological Investigations at 9CK(DOT)7, Cherokee County, Georgia*. Georgia Department of Transportation, Atlanta.
- Bright, Leslie S.
1985 *North Bodie Island Currituck Beach Survey*. North Carolina Underwater Archaeology Unit.

1989 *Currituck Beach – Poyners Hill to Virginia Line Survey*. North Carolina Underwater Archaeology Unit.

1990 *Outer Banks Beached Shipwreck Survey*. North Carolina Underwater Archaeology Unit.
- Bryan, Will
2006 *Underwater Archaeological Investigations in Currituck Sound*. North Carolina Underwater Archaeology Branch, North Carolina Division of Archives and History.
- Butler, Brian M.
1979 Hopewellian Contacts in Southern Middle Tennessee. In *Hopewell Archaeology*, edited by David S. Brose and N’omi Greber, pp. 150-156. Kent State University Press, Kent, Ohio.
- Caldwell, Joseph R.
1958 Trend and Tradition in the Prehistory of the Eastern United States. *Memoirs of the American Anthropological Association* 88.
- Chapelle, Howard I.
1936 *American Sailing Craft*. Rumford Press, Concord, New Hampshire.

1951 *American Small Sailing Craft Their Design, Development, and Construction*. W.W. Norton and Company, New York.
- Chapman, Jefferson, and Bennie C. Keel
1979 Candy Creek-Connestee Components in Eastern Tennessee and Western North Carolina and Their Relationship with Adena-Hopewell. In *Hopewell Archaeology*, edited by David S. Brose and N’omi Greber, pp. 157-161. Kent State University Press, Kent, Ohio.
- Chomko, Stephen A., and Gary W. Crawford
1978 Plant Husbandry in Prehistoric Eastern North America: New Evidence for its Development. *American Antiquity* 43:405-408.
- Coe, Joffre
1964 *The Formative Cultures of the Carolina Piedmont*. Transactions of the American Philosophical Society, Vol. 54(5).

- Cowan, C. Wesley
1985 Understanding the Evolution of Plant Husbandry in Eastern North America: Lessons from Botany, Ethnography, and Archaeology. In *Prehistoric Food Production in North America*, edited by R. Ford, pp. 205-243, University of Michigan Museum of Anthropology, Anthropological Papers 75, Ann Arbor.
- Daniel, I. Randolph, Jr.
1998 *Hardaway Revisited: Early Archaic Settlement in the Southeast*. University of Alabama Press, Tuscaloosa.
- Davis, M.B.
1976 Pleistocene Biogeography of Temperate Deciduous Forests. *Geoscience and Man* 13:13-26.
- Delcourt, Paul A., and Hazel R. Delcourt
1981 Vegetation Maps for Eastern North America: 40,000 Years B.P. to Present. In *Geobotany: An Integrating Experience*, edited by R. Romans, pp. 123-166. Plenum Press, New York.

1983 Late Quaternary Vegetational Dynamics and Community Stability Reconsidered. *Quaternary Research* 19:265-271.
- Dragoo, Don W.
1975 Some Aspects of Eastern North American Prehistory: A Review. *American Antiquity* 41(1):327.
- Forte, M. and T. Martz
2007 *Currituck Sound Hydrographic and Submerged Aquatic Vegetation Survey*. Prepared for PB Americas, Inc., Morrisville, North Carolina by the U.S. Army Engineer Research and Development Center, Kitty Hawk, North Carolina.
- Fritz, Gayle J.
1988 Crops Before Corn in the East: Early and Middle Woodland Period Paleoethnobotany. Paper presented at the 45th Southeastern Archaeological Conference.
- Fuller, R.S.
1992 *Archaeological Recovery and Analysis of an Indian Dugout Canoe (Site 22WS776) Discovered in the Bank of Steele Bayou, Swan Lake, Washington County, Mississippi*. Coastal Environments, Inc., Baton Rouge, Louisiana. Submitted to the U.S. Army Corps of Engineers, Vicksburg District.
- Glover, G.F.
2005 *Archaeological Study, New Visitor's Center and Rest Area at the Intersection of U.S. 158 and NC 168*. Prepared by the North Carolina Department of Transportation.
- Griffin, James B.
1967 Eastern North American Archaeology: A Summary. *Science* 156:175191.
- Gunn, Joel D.
2002 Steep Shore, Deadly Environment: The Case for a Cultural Anvil Along the Unembayed Atlantic Coast. *North Carolina Archaeology* 51:1-33.

Harrington, J.C.

- 1962 *Search for the City of Raleigh*. National Park Service Archaeological Research Series 6.

Hartzer, R.B.

- 1983 *To Great and Useful Purpose: A History of the Wilmington District U.S. Army Corps of Engineers*. On file, Panamerican Consultants, Inc., Memphis, Tennessee.

Henry, Nathan

- 1998 Site Report: Ocean Hill Wreck 0016CKB. North Carolina Underwater Archaeology Unit.
- 1999 Investigation of the Metropolis Site, 0021CKB. North Carolina Underwater Archaeology Unit.
- 2001 Initial Inspection of 0001CKS, Hambone 1 Site. North Carolina Underwater Archaeology Branch, North Carolina Division of Archives and History.

Herbert, Joseph M.

- 1999 Prehistoric Pottery Taxonomy and Sequence on the Southern Coast of North Carolina. *North Carolina Archaeology* 48:37-58.

Hudson, Charles

- 1990 *The Juan Pardo Expeditions*. Smithsonian Institution Press, Washington, D.C.
- 1997 *Knights of Spain, Warriors of the Sun*. University of Georgia Press, Athens.

Iobst, R.W.

- n.d. The Battle of Roanoke Island. Draft ms. on file, North Carolina Department of Cultural Resources, Division of Archives and History, Research Branch.

Irwin, Jeffrey, D. Wayne, C.J. Boyko, Joseph M. Herbert, and Chad Braley

- 1999 Woodland Burial Mounds in the North Carolina Sandhills and Southern Coastal Plain. *North Carolina Archaeology* 48:59-86.

Jefferies, Richard W.

- 1976 *The Tunnacunnhee Site: Evidence of Hopewell Interaction in Northeast Georgia*. Anthropological Papers of the University of Georgia No. 1. Athens.

Johnson, Jay K.

- 1989 The Utility of Production Trajectory Modeling as a Framework for Regional Analysis. In *Alternative Approaches to Lithic Analysis*, edited by D.O. Henry and G.H. Odell, pp. 119-138. Archaeological Papers of the American Anthropological Association No. 1.

Jones, David C., Christopher T. Espenshade, and Linda Kennedy

- 1997 *Archaeological Investigation at 31On190, Cape Island, Onslow County, North Carolina*. On file, North Carolina Division of Archives and History, Raleigh.

Joy, D.

- 1994 *Archaeological Screening for the Proposed U.S. 64-264 Relocation from West Mann's Harbor to South of Manteo in Dare County, North Carolina*. TIP R-2551. Ms. On file, North Carolina Department of Archives and History, Raleigh.

Kelly, A.R.

- 1938 Preliminary Report on Archaeological Explorations at Macon, Georgia. *Bureau of American Ethnology Bulletin* 119:168. Washington.
- 1950 An Early Flint Industry in Southwest Georgia. Short Contributions to the Geology, Geography, and Archaeology of Georgia. Geological Survey Bulletin, Number 56, pp. 146-153. Department of Mines, Mining, and Geology, Atlanta.

Lautzenheiser, Loretta

- 1987 *Archaeological Site Testing of Site 31CK32, US 158, Point Harbor, Currituck County*. Produced by the North Carolina Department of Transportation, Planning and Research.

Lautzenheiser, L., and J. Stewart

- 2006 *Archaeological Survey and Limited Testing, Sites 31CK9 and 31CK129, Currituck County, North Carolina*. Coastal Carolina Research, Inc. Prepared for the Cox Development Company, LLC, Vienna, Virginia.

Lawrence, Richard

- 2003 *Investigation of Two Shipwreck Sites in Knotts Island Channel*. North Carolina Underwater Archaeology Branch, North Carolina Division of Archives and History.
- 2003a *Investigation of the Metropolis Site, 0021CKB*. North Carolina Underwater Archaeology Branch, North Carolina Division of Archives and History.

Ledbetter, R. Gerald

- 1992 *Archaeological Investigations at the Pumpkin Pile Site (9PO27), Polk County, Georgia*. Report prepared for the Soil Conservation Service, Athens, Georgia.

Ledbetter, R. Gerald, Stephen A. Kowalewski, and Lisa O'Steen

- 1981 Chert of Southern Oconee County, Georgia. *Early Georgia* 9(1-2):1-13.

Loftfield, Thomas C.

- 1976 "A Briefe and True Report..." *An Archaeological Interpretation of the Southern North Carolina Coast*. Unpublished PhD dissertation, Department of Anthropology, University of North Carolina, Chapel Hill.
- 1987 *Excavations at 31ON305, the Flynt Site at Sneads Ferry, North Carolina*. On file, Department of Sociology and Anthropology, University of North Carolina, Wilmington.

Mathis, Mark A.

- 1993a Broad Reach: The Truth About What We've Missed. In *Site Destruction in Georgia and the Carolinas*, edited by David G. Anderson and Virginia Horak, pp. 39-48. National Park Service, Atlanta, Georgia.
- 1993b *Mortuary Practices at the Broad Reach Site*. Ms. on file, North Carolina Division of Archives and History, Raleigh.
- 1995 *The Carolina Algonquians: Comments from the Fringe (the Southern Frontier)*. Paper presented at the 27th Algonquian Conference, Chapel Hill, North Carolina.
- 1999 Oak Island: A Retiring Series. *North Carolina Archaeology* 48:18-36.

- Merrens, H.R.
1964 *Colonial North Carolina in the Eighteenth Century: A Study in Historical Geography*. University of North Carolina Press, Chapel Hill.
- Merriman, Ann
1996 "Nineteenth-Century North Carolina Schooners: Their Significance in the Development of North Carolina's Trade." *Proceedings on Underwater Archaeology*, Society for Historical Archaeology.
- Meverden, Keith N.
2005 Currituck Sound Regional Remote Sensing Survey, Currituck County, North Carolina. Unpublished Master's thesis, East Carolina University, North Carolina.
- Novick, Lee
1995 Archaeological Background Report, Mid Currituck Bridge (R-2576) Study Area, Currituck County, North Carolina. Prepared by the North Carolina Department of Transportation.
- O'Steen, Lisa D., R. Jerald Ledbetter, Daniel T. Elliott, and William W. Barker
1986 PaleoIndian Sites of the Inner Piedmont of Georgia: Observations of Settlement in the Oconee Watershed. *Early Georgia* 13:1-63.
- Pecorelli, Harry, III, Michael B. Alford, and Lawrence E. Babits
1996 A Working Definition of "Periauger." *Proceedings on Underwater Archaeology*, Society for Historical Archaeology.
- Phelps, David S.
1976 *An Archaeological Survey of the Saltaire and Wildwoods Subdivision, Dare County, North Carolina*. Conducted for Island Realty, Inc., Kill Devil Hills, by East Carolina University.

1983 Archaeology of the North Carolina Coast and Coastal Plain: Problems and Hypotheses. In *The Prehistory of North Carolina: An Archaeology Symposium*, edited by Mark A. Mathis and Jeffrey J. Crow, pp. 1-52. North Carolina Division of Archives and History, Raleigh.
- Pittman, R.H.
1970 "Dugout Canoe Tradition in the Southeastern Woodlands". Master's thesis, Department of History, State University of New York, Binghamton, New York.
- Russ, Terri
2006 *An Intensive Cultural Resource Assessment: Coopers Landing, Currituck County, North Carolina*. Environmental Services, Inc., Raleigh, North Carolina. Conducted for Narrow Shores Development, Inc. and Cooper Quality Construction.
- Russ, Terri, and Scott Seibel
2006 *An Intensive Cultural Resource Investigation: Marshes Light Development, Manteo North Carolina*. Environmental Services, Inc., Raleigh, North Carolina. Conducted for Quible and Associates, Inc.
- Sanborn, Erica E., and Lawrence E. Abbott, Jr.
1999 Early Ceramic Traditions on the Southern Coastal Plain of North Carolina. *North Carolina Archaeology* 48:3-17.

Seibel, Scott, G. DiGregorio, and G.C. Smith

- 2002 *An Intensive Cemetery Survey, Eastern North Carolina Natural Gas Phase VII, Currituck County, North Carolina.* Prepared for the Eastern North Carolina Natural Gas Company by Environment Services, Inc. Raleigh, North Carolina

South, Stanley

- 1976 *An Archaeological Survey of Southeastern North Carolina.* University of South Carolina Institute of Archaeology and Anthropology Notebook 8.

Stick, David

- 1958 *The Outer Banks of North Carolina 1584-1958.* University of North Carolina Press, Chapel Hill.

- 1970 *Dare County: A History.* State Department of Archives and History, Raleigh, North Carolina.

Thomas, C.

- 1985[1894] *Report on the Mound Explorations of the Bureau of Ethnology.* Classics of Smithsonian Anthropology. Smithsonian Institution Press, Washington, D.C.

Tippitt, V.A.

- 1988 *An Archaeological Reconnaissance of Selected Portions of Gates, Camden, and Currituck Counties.* Archaeology Laboratory, East Carolina University.

Walton, Marsha, and Michael Coren

- 2004 *Scientist: Man in Americas Earlier than Thought.* Electronic document available online, www.CNN.com/2004/TECH/science/11/17/carolina.dig/index.htm, accessed November 17, 2004.

Ward, H. Trawick

- 1983 *A Review of Archaeology in the North Carolina Piedmont: A Study of Change.* In *The Prehistory of North Carolina: An Archaeology Symposium*, edited by Mark A. Mathis and Jeffrey J. Crow, pp. 53-81. North Carolina Division of Archives and History, Raleigh.

Ward, H. Trawick, and R.P. Stephen Davis, Jr.

- 1999 *Time Before History: The Archaeology of North Carolina.* University of North Carolina Press, Chapel Hill.

Watson, Alan D.

- 1974 "The Ferry in Colonial North Carolina: A Vital Link in Transportation." *North Carolina Historical Review*, pp. 247-260.

Watts, Gordon

- 1991 *Historical and Cartographic Research to Identify and Assess the Potential for Cultural Resources in the Proposed Corridor for a Replacement Bridge on N.C. 12 Across Oregon Inlet, Dare County, North Carolina.* Prepared by Tidewater Atlantic Research, Inc. of Washington, North Carolina and submitted to Parsons, Brinckerhoff, Quade & Douglas, Inc. of Raleigh, North Carolina for the North Carolina Department of Transportation.

Watts, W.A.

- 1971 *The Vegetation Record of a Mid-Wisconsin Interstadial in Northwest Georgia.* *Quaternary Research* 3:257-268.

Whitehead, Donald R.

- 1973 Late Wisconsin Vegetational Changes in Unglaciaded Eastern North America. *Quaternary Research* 3:621-631.

Wood, W. Dean, and R. Jerald Ledbetter

- 1990 *Rush: An Early Woodland Period Site in Northwest Georgia*. Submitted to the Georgia Department of Transportation, Office of Environmental Analysis, Atlanta, Georgia.

Wright, H.E., Jr.

- 1971 Late Quaternary Vegetational History of North America. In *The Late Cenozoic Glacial Ages*, edited by K.K. Turekian, pp. 425-464. Yale University Press, New Haven.