

## Abstract

### END OF THE LINE: THE WRIGHT'S CREEK COMMERCIAL FISHING GRAVEYARD, BELHAVEN, NORTH CAROLINA

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A 1994-1995 survey (Babits and Kjorness 1995) discovered the presence of several abandoned vessel complexes in Wright's Creek, a rural area located between the Pamlico and Pungo Rivers in North Carolina. These graveyards, composed of the discarded vessels and equipment of the commercial fishing community, serve a purpose for those who create and maintain them along their property boundaries, bestowing them with meaning and regard. Rather than aesthetically displeasing "eye-sores," these sites serve as a repository for the memories and nostalgia of the commercial fishers. In addition, they provide materials for salvage and reuse, aiding in maintenance of working vessels, proving a financial boon in the process of boat breaking.

The archaeological study of a commercial fishing graveyard allows interpretation of the social, economic, and technological changes affecting the surrounding community. The concentration of abandoned vessels in this embayment presents a unique opportunity to study behavioral patterns associated with a rural boat graveyard, as the adjacent community is still interacting with the discarded material remains. Continued interaction demonstrates social significance as the surrounding community has intimate ties to the abandoned. This area of Belhaven, once a vital waterway for commercial fishers, is experiencing economic decline as evidenced by the high number of vessel and equipment graveyards.

END OF THE LINE: THE WRIGHT'S CREEK COMMERCIAL FISHING GRAVEYARD,  
BELHAVEN, NORTH CAROLINA

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By

Jacqueline L. Marcotte

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BELHAVEN, NORTH CAROLINA

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## DEDICATION

This thesis is dedicated to the commercial fishing families of Wright's Creek, Belhaven, North Carolina.

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## CHAPTER 1: INTRODUCTION

### **Introduction**

This thesis examines an aspect of maritime history and culture rarely investigated in an archaeological capacity. This study concentrates on the discarded vessels and equipment of the commercial fishing industry located on the banks of Wright's Creek, a rural community in Belhaven, North Carolina (Figure 1). The artifacts comprising the commercial fishing graveyards are the discarded cultural materials of the Wright's Creek community. As such, these graveyards hold valuable evidence relating to their heritage, as well as the technological, economic, and political changes influencing their rural North Carolina community. From a wider perspective, study of the commercial fishing assemblages contributes to the studies of behavioral archaeology and site formation processes, testing the theories presented by the community of archaeologists.

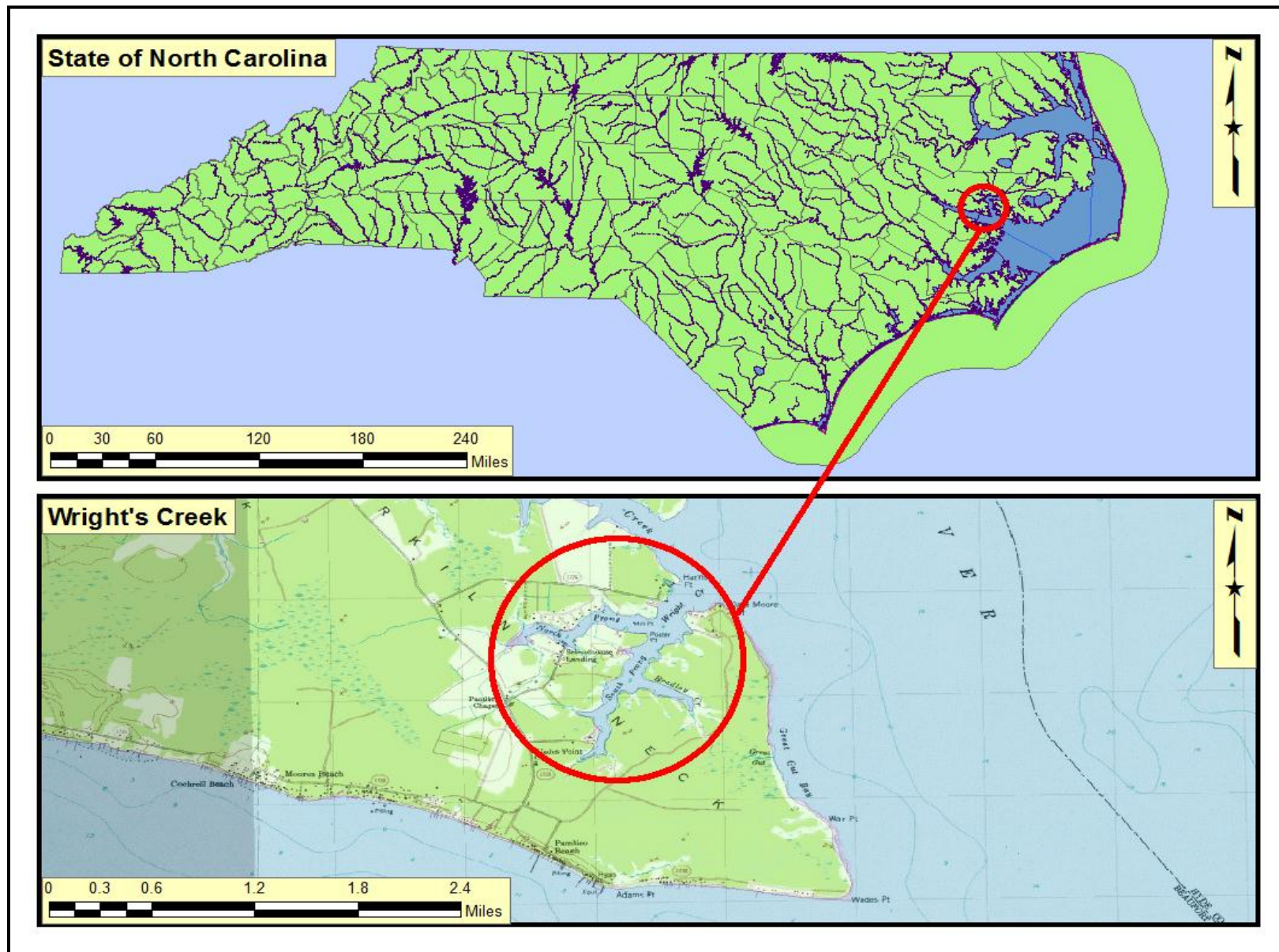
A survey completed along the Pungo River's shoreline discovered several rural boat graveyards. Babits and Kjorness (1995) undertook a survey of the Pungo River from Wades Point to Woodstock Point in winter 1994 and spring 1995. These sites primarily represent discard accumulation sites, or boat graveyards, rather than isolated abandonment sites (Richards and Staniforth 2006:84; Richards 2008:3). These rural commercial fishing graveyards provide an opportunity to examine watercraft archaeologically in space and time, providing a model for explaining transitions in vernacular boatbuilding. For the purposes of this study, the definition of an urban environment is a city or densely populated area, while a rural environment is characteristic of farming or country life (Simpson and Weiner 1989:283).

The primary research questions posed here concentrate on the study of a rural commercial fishing graveyard to determine how the archaeological remains represent the social,



economic, technological, and political events and processes of the surrounding commercial fishing community. Research questions stem from the observation and interpretation of archaeological data, the correlation of archaeological and archival resources, and the oral interviews of the commercial fishers responsible for the creation and maintenance of these graveyards. There has been little archaeological research completed on rural commercial fishing graveyards, as vessels abandoned in this type of setting are usually isolated and escape public knowledge. Consequently, there is a lack of information concerning related vernacular shipbuilding techniques, local maritime history, and vessel abandonment behaviors in rural environments.

Although discovery of other commercial fishing graveyards occurred in the Pamlico and Pungo Rivers, systematic archaeological study of these sites has not been completed (Babits et al. 1995). Rural abandonment sites near the cities of Belhaven and Washington studied by East Carolina University (ECU) (Rodgers et al. 2005) and North Carolina Underwater Archaeology Branch (UAB) (Wilde-Ramsing 1990) present discard unrelated to the commercial fishing community of Wright's Creek, and therefore do not provide an appropriate corollary. Of more relevance is the comparative study of Australia's rural farm graveyards conducted by Diana Smith (2005). Like the commercial fishing graveyard, rural farm graveyards are monumentalized by the farming families that sustain a meaningful connection to the landscape through the retention and maintenance of obsolete agricultural materials (Smith 2005:22). Other comparative research considers the body of work concerning formation processes observed in the archaeological record, particularly those relating to salvage, reuse, discard, and abandonment (Schiffer 1987; Richards 2008).



**FIGURE 1: Topographic map of Wright's Creek, Belhaven, North Carolina. Bottom topographic map depicts location of project area in relation to the eastern part of the state (NC Center for Geographic Analysis [North Carolina 2006] [hydromaj\_arc] [states\_arc] Raleigh, USDA [Hyde County, North Carolina 2007] [NC095] Washington, DC).**

### *Location and Environment*

Wright's Creek runs through a bay into the Pungo River between Harris Point and Dave Moore Point. Upstream from its mouth approximately 0.6 mi., Wright's Creek divides into north and south prongs. The Pungo River is a tributary of the greater Pamlico Sound, the latter considered one of the largest saltwater sounds in the United States at 1,800 square miles (Smith 1907). The Pamlico is a shallow (8 ft. mean depth) oligohaline estuary extending approximately 40 miles from Washington, North Carolina, to the western edge of Pamlico Sound (Stanley and Nixon 1992:2). Inlets connect Pamlico Sound to the Atlantic Ocean, allowing a tidal exchange, and access to inland waters. Like the Pamlico, the Pungo River's pH varies from 6 to 8 (USGS 2002). Within this wetland, the area is relatively flat, low and swampy, the majority less than 10 ft. above sea level, and some of the eastern portions near 5 ft. above sea level (Epperly 1984:1).

Environmental conditions on the Pamlico's northern bank, the area encompassed by Wright's Creek, are affected by a combination of natural factors including: wind, water depth, stream configurations, and dry land (Babits et al. 1995:4). Sea level change causes slow erosion damage, while wind and wake damage rapidly alter the terrain. Storms have the most dramatic effect on the topography (Garrett 1983:39). According to Babits and Kjorness (1995:4), this survey area suffers from a combination of northeasters and hurricanes on a regular basis.

### **Previous Research**

Researchers completed two surveys along the Pamlico and Pungo Rivers' shorelines in an ongoing study of vernacular North Carolina watercraft and maritime archaeology sites. Their systematic exploration of the area resulted in the discovery of several rural boat graveyards. Babits, Morris, and Kjorness undertook their first survey of the North Shore Pamlico River from Bath Creek to Wade's Point in 1993-1994. Their survey documented the existence of twenty-

two sites, with the majority of the vessels representing abandonment, some from the antebellum period (Babits et al. 1995). During their second survey, conducted on the Pungo River from Wades Point to Woodstock Point in 1994-1995, researchers discovered the vessels of Wright's Creek (Babits and Kjorness 1995). As with their previous survey, discarded watercraft appears as the primary site type. In total, surveyors recorded forty abandoned vessels in Wright's Creek, with the majority located in the smaller tributaries of Bradley Creek and Schoolhouse Landing (Babits and Kjorness 1995:46) (Figures 2, 3). Babits suggested further archaeological investigation of several sites in both study areas, citing the possibility of nomination to the National Register based on potential development of a regional watercraft chronology as well as local maritime history (Babits et al. 1995:108; Babits and Kjorness 1995:82).

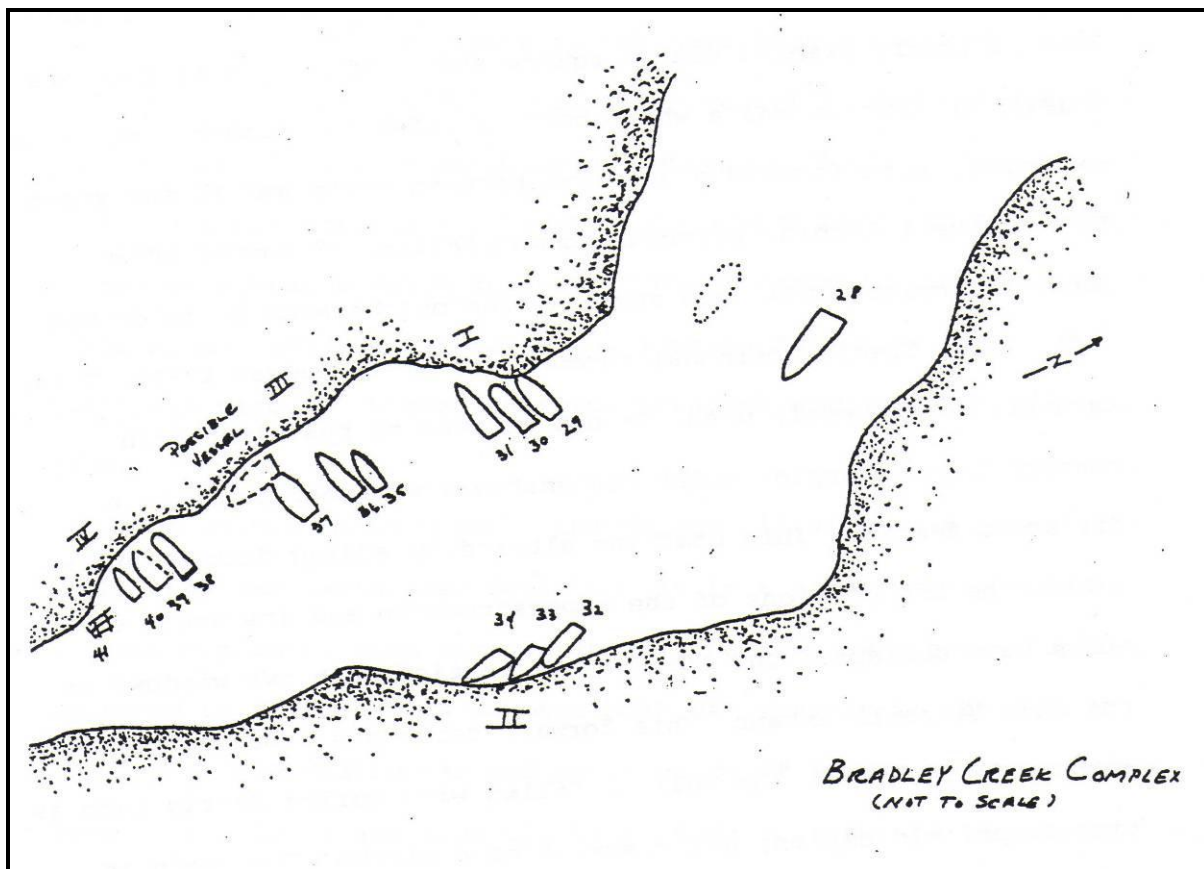


FIGURE 2. Sketch map of Bradley Creek Complex (not to scale) (Babits and Kjorness 1995:17).

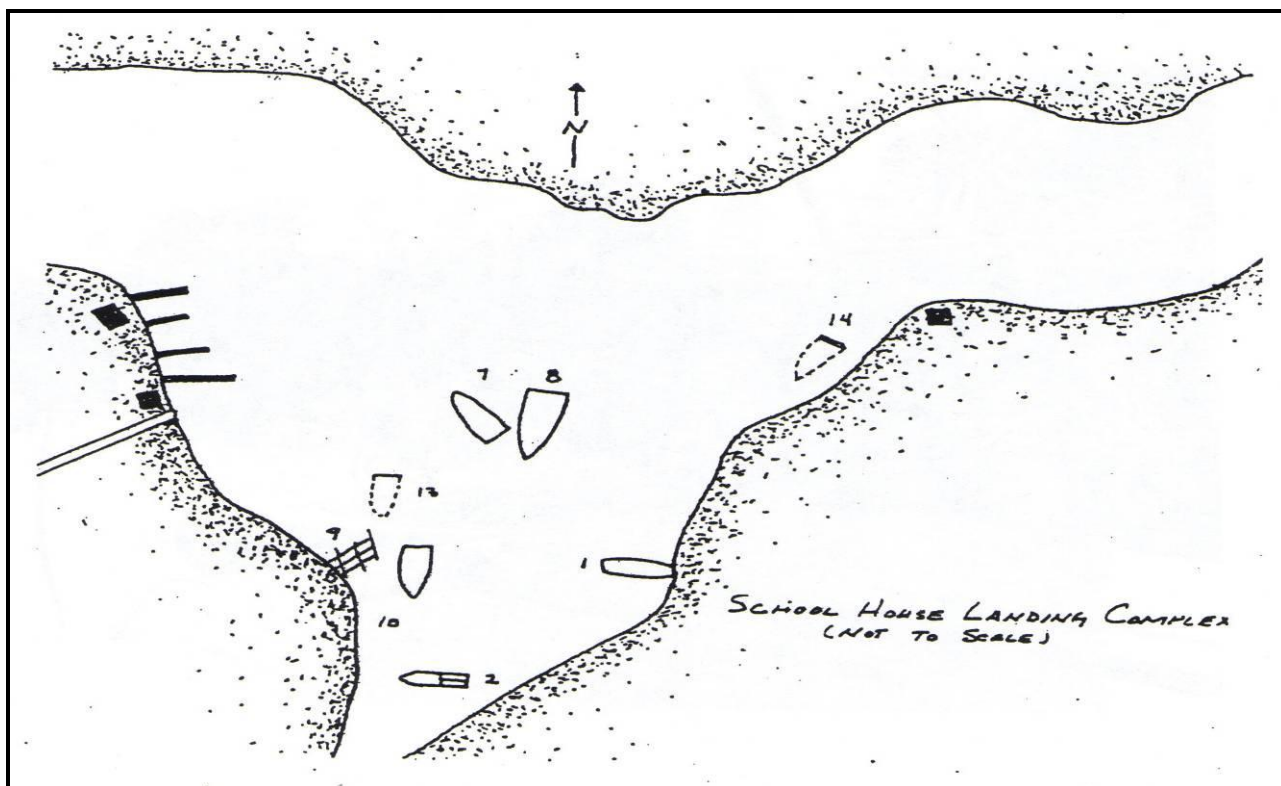


FIGURE 3. Sketch map of Schoolhouse Landing Complex (not to scale) (Babits and Kjørness 1995:66).

The UAB conducted inspections of the waterways near the town of Belhaven. The 1987 investigation included a magnetometer survey of the Lower Dowry Creek, 9 mi. to the north of Wright's Creek, documenting the remains of a wooden vessel, 0002PUR, located perpendicular to the shore in approximately 2 ft. of water (Wilde-Ramsing 1987). In 1990, the UAB inspected the remains of vessels and piers along the Belhaven waterfront of Pantego Creek, for the purpose of preliminary assessment of potential historical and archaeological significance concerning Belhaven's proposed waterfront cleanup efforts (Wilde-Ramsing 1990:1). Discovery of seven vessels occurred during the survey, including a centerboard schooner, several barges, and a tugboat, representing a time depth to the late 19<sup>th</sup> century. Wilde-Ramsing (1987:6, 1990:3-11) suggested further archaeological investigation of both of these sites.

Aside from the maritime archaeological surveys, Gordon Watts of ECU conducted investigation of a terrestrial site near Woodstock Point. The report of the investigation was

planned as a student thesis on the town of Woodstock. The thesis was not completed and as such, there are no records of remote sensing available for this site (Babits and Kjørness 1995:2).

ECU also conducted a study of the Castle Island Ships' Graveyard. Castle Island, located in the Tar-Pamlico River, is approximately thirty miles west of the intended Wright's Creek study area. Under the instruction of Dr. Bradley Rodgers, students conducted Phase II research on twelve wrecked and abandoned vessels during the 1998-2000 field seasons (Rodgers et al. 2005).

### **Research Questions**

Examining the graveyard in both a systemic and archaeological context provides an observable link between the behaviors that lead to its creation and maintenance, as well as the resulting signatures of these behaviors in the archaeological record. Research questions posed in this thesis stem from observations concerning use of vessels in the systemic context, the behavioral processes that drive an artifact's entrance into the archaeological record, and resulting signatures of these processes. The first question concerns the behavioral processes resulting in the creation and maintenance of the commercial fishing graveyard. In particular, this involves the decision-making processes concerning a graveyard's location and its relationship to individual families of commercial fishers. This spatial relationship between graveyards and individual commercial fishing families holds implications for its regard and purpose. This leads to the second question, involving the perception of the graveyard as examined through the memory of the community responsible for its creation and continued curation, and any effect this perception has on the resulting formation processes observed within the archaeological record. Further questions focus on technological and economic trends visible in the graveyard's material



remains, endeavoring to explain how the cast-off cultural materials represent a vessel's lifecycle, reuse, and discard within this environment.

### **Research Design**

The application of archaeological methodology, combined with historical and correlative research, offers evidence for interpretation, providing answers to the research questions discussed previously. Chapter 2, methodology, outlines the course of archaeological and historical research. Sections in this chapter include methods related to archaeological fieldwork, historical research, and analysis. Methods of archaeological fieldwork include site inspection and documentation. The historical research section includes a description of the repositories of information and the types of information collected, as well as a discussion of the methods of collecting oral interviews. The final section of the chapter outlines the synthesis of the fieldwork and research data providing a platform for analysis.

Identifying active site formation processes present in a commercial fishing graveyard environment is important to further study from a behavioral perspective. Chapter 3 outlines the theoretical premises serving as a platform for archaeological and historical analysis. Studies of site formation processes have a base in the theoretical teachings of Michael Schiffer (1972, 1975, 1987, 1992, 1994), Nathan Richards (1997, 1998, 2005, 2008), and Richards and Staniforth (2006). For the purposes of this study, primary theories concern the processes of discard, reuse, and abandonment behaviors associated with rural maritime sites. Further theoretical premises concern the purpose and meaning of the commercial fishing graveyard in respect to the fishers responsible for their creation and maintenance (Smith 2005). In particular, theories concern the fishers regard as interpreted through the shared memories held by the Wright's Creek community (Crumley 2002; Van Dyke and Alcock 2003; Smith 2005).

Historical research pertaining to rural commercial fishing graveyard sites will comprise a combination of historical research methods, including oral history, and the interpretation of maps and charts to gain a better understanding of the region. Chapters 4 and 5 are dedicated to the history of the commercial fishing community of Wright's Creek, and the historical and economic trends in the commercial fishing industry of North Carolina. Chapter 4 concentrates on the history of the Wright's Creek commercial fishing community, focusing on several individual families, and the chronology of occupation of the study area. Family histories provide evidence of behaviors linked to the generational trade of commercial fishing, and other trades once prevalent in the area, including vernacular boatbuilding. Further, interviews with the caretakers of the graveyards provide insight into the active formation processes occurring at individual sites. Chapter 5 provides an in depth historical and economic background and analysis of North Carolina's commercial fishing industry, concentrating on Beaufort County and the City of Belhaven. Specifically, the analysis incorporates statistics relating to catch value and volume, employment in the industry, and registered commercial fishing vessels from 1880-2007.

Analysis will combine the results of historical, archaeological, and comparative research on rural boat graveyards to answer questions set forth for study. Chapter 6 outlines the results of the archaeological surveys, delimiting the graveyard areas through ownership by specific commercial fishing families. This chapter describes the location, orientation, construction features, and formation processes recorded in respect to individual vessels. Discussion of these features is supported by photographs and site plans. Chapter 7 is the analysis of the behavioral processes related to the creation and maintenance of a commercial fishing graveyard. In particular, the chapter focuses on the systemic context particularly related to use and function of a commercial fishing vessel, attempting to understand how these aspects of the vessel's



lifecycle affect the memory and regard of the commercial fishers. Chapter 8 is the analysis of the archaeological record, discussing the chronology of graveyard formation, with particular focus placed on the processes of salvage, reuse, discard, and abandonment. This chapter also concentrates on the differences observed between the dynamic graveyards maintained by the commercial fishers, and the abandoned graveyard in Bradley Creek, located away from the working docks.

### **Conclusion**

Deliberately abandoned watercraft differs from wrecks in that they were disposed of in a purposeful, controlled manner. As such, the study of vessel graveyards can tell us much about the economic, political, social, and technological changes of communities associated with the abandonment area. Commercial fishing graveyards are a microcosm of changes in the community, informing us about boatbuilding techniques, and the behaviors associated with salvage, reuse, and discard (Seeb 2007:4, Richards 2008:18). Despite our ability to learn much from these maritime abandonment sites, they have only recently become the subject of detailed study. Most studies concentrate on vessel graveyards located near major ports, such as Richards' (1997, 1998, 2005) study of the Garden Island Ships' Graveyard or the recent study of the Cape Fear River graveyard in Wilmington, North Carolina conducted by Sami K. Seeb (2007). Further, many studies concentrate on ships or large, oceangoing vessels, as opposed to workboats or smaller vessels built for specialized use on a river or other inland body of water (De Kerchove 1961:72, 722).

Considering the lack of comparative research on rural abandonment sites, particularly those related to the commercial fishing industry, a corollary for this thesis was found in Diana Smith's (2005) study of farm graveyards. In *Meaning, Purpose, and Social Memory: The*

*Archaeology of Farm Graveyards of Vehicles and Machinery*, Smith (2005) discovered the significance placed on the graveyards through the memories held by the farmers. The relevance of the commercial graveyard stems from its continued use through successive generations of farmers. Through continued maintenance and reuse, these sites become more than a repository of obsolete materials. Through time and successive generations of farmers, the continued utilization of these graveyards provides repeated access to past memories and nostalgia for the farmers involved in its conservation and maintenance (Smith 2005:1-41).

The archaeological and historical study of a commercial fishing graveyard provides insight into the maritime history and culture of a rural North Carolina community. Historical research of this isolated, rural commercial fishing community expands and highlights knowledge of a local maritime lifeway that is suffering decline. In addition to expanding historical knowledge of the local community, study of the processes of discard, reuse, and abandonment contributes to studies of site formation processes and behavioral archaeology.

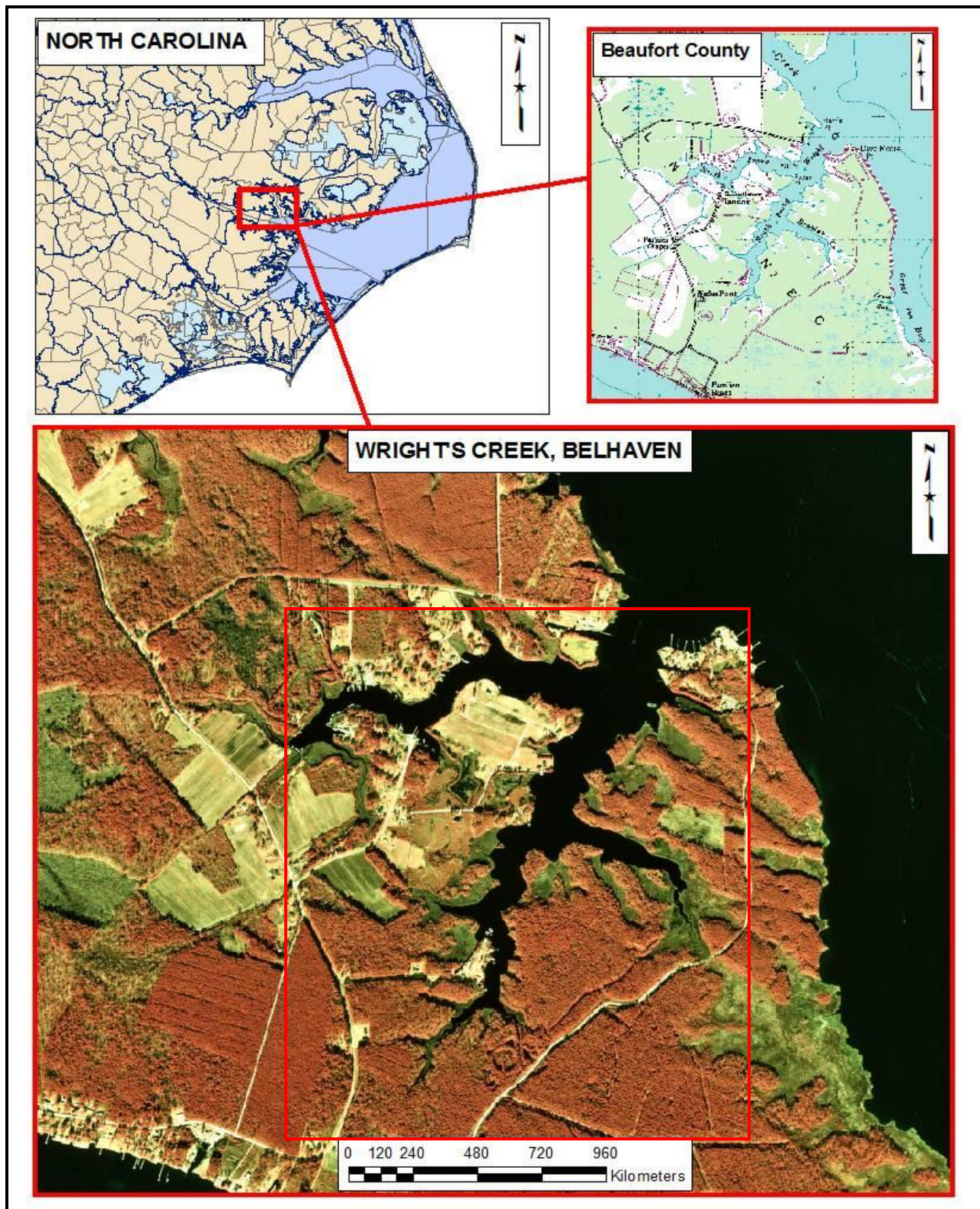
## CHAPTER 2: METHODOLOGY

### **Introduction**

The accumulated commercial fishing graveyards of Wright's Creek provide a platform for the study of local maritime history and heritage, expanding our knowledge pertaining to the small commercial fishing operations of rural North Carolina. The area of research is located between the Pamlico and Pungo Rivers, in Beaufort County, between Washington and Belhaven (Figure 4). The methods utilized to research the commercial fishing graveyard stemmed from three fields of inquiry, including, archaeological fieldwork, archival research, oral interviews, and analysis.

Archaeological fieldwork commenced in November 2007, with subsequent field visits to record formation processes concluding in May 2010. Fieldwork began with initial site inspection and documentation of vessels in the north and south prongs of Wright's Creek. Site inspection included 40 individual vessels, 38 located in within five graveyard complexes, the remaining 2 vessels representing individual vessel discard. Site documentation was concerned with the creation of site maps and individual vessel histories for a sample of 14 of vessels. Documentation of remaining vessels included photography and site mapping.

Historical research of the area is pertinent to understanding the local residents' traditional maritime heritage, as well as their interaction with the discarded vessels. Available data concerning the history and landscape of Wright's Creek is sparse, consisting primarily of land ownership records. Oral interviews with residents, occurring with approval from ECU'S University Medical Center Institutional Review Board, proved essential, providing historical images and information not available in a public forum (Appendix A). A final analysis occurred upon completion of the archival research, oral interviews, and archaeological fieldwork.



**FIGURE 4.** Research area for the Wright's Creek Commercial Fishing Graveyard. (NC Center for Geographic Analysis [North Carolina 2006] [cb100\_arc] [hydromaj\_arc] [states\_arc] Raleigh, USGS [North Carolina 1998] [92801 AERIAL] Reston, VA , USDA [Hyde County, North Carolina 2007] [NC095] Washington, DC).

## **Archaeological Fieldwork**

The purpose of conducting archaeological fieldwork for this survey is to analyze the collected data to understand further the behavioral patterns associated with material culture discard, in this case the artifacts of a rural North Carolina commercial fishing community. In order to answer questions set forth in Chapter 1, graduate students conducted fieldwork in phases between November 2007 and May 2010. Initial reconnaissance and familiarization of the site occurred in November 2007 and February 2008. Phase I site survey followed in March 2008, concerned with site mapping and the generation of individual site plans. Survey continued in August 2008 utilizing side scan sonar to determine locations of possibly submerged vessels. Ground truthing and site recording of side scan anomalies occurred in November. Further research continued through May 2010, recording data on location and formation processes for 31 additional vessels via photography and GPS.

The north prong of the creek is located .27 mi southwest its junction with the Pungo River, and extends .79 mi west. Students surveyed six vessels in the north prong of Wright's Creek during the initial two-day survey, followed by survey of a seventh vessel in the western section of the north prong. Seventeen other sites were recorded via GPS and photography in the north prong during visits throughout 2009. This zone provides a docking area for working fishing vessels, many using the now defunct Hopkins' Seafood wharves, others using Foster's Seafood. Survey was performed on four vessels located at Schoolhouse Landing near Hopkins' Seafood, all awash but visible above the water's surface. At least seven other vessels are present in Schoolhouse Landing's gut, completely submerged and covered with silt. In addition to the vessels in Schoolhouse Landing, documentation occurred on one vessel near Foster's Seafood, Inc., with five other vessels recorded via GPS and photography. The remaining recording in the

north prong was completed on a vessel at its western end. Photography and GPS recording took place on three other north prong vessels, one located at the western end, the other two located at the eastern end.

While conducting fieldwork, researchers encountered several difficulties. Access to vessels was difficult as most of the vessels were partially submerged and grounded in deep mud. Previous vessel and equipment disposal resulted in layers of debris, unseen beneath the deep mud and potentially hazardous to investigators. The decayed and corroded state of several vessels made boarding and accurate recording of the remaining structures difficult. Access to the Bradley Creek site was more difficult, its entrance reachable only by boat.

### *Site Inspection*

The archaeological survey completed on thirteen abandoned vessels during the 23 March 2008 field expedition was concerned with the creation of scaled site maps, site photography, and observations of formation processes as they relate to the archaeological record. Each student recorded an individual vessel through mapping and photography, creating a site plan and final report (Campbell 2008; Hayman 2008; Hicks 2008; Latta 2008; MacKenzie 2008; Morra 2008; Ray 2008; Smith 2008; Steinmetz 2008; Thompson 2008; Wagner 2008; Wyllie 2008).

Graduate students recorded six wooden vessels in the north prong of Wright's Creek, one steel barge in the south prong, and six small, wooden workboats in the Bradley Creek tributary.

Although identification of many vessels in the north prong was possible, the boats in Bradley Creek remain unidentified, and local informants have no recollection of their origins or disposal, except to comment they have been there for a long time. Due to these constraints, researchers concentrated primarily on construction details to determine time of construction, and a possible time range for deposition.

Subsequent site inspections occurred in August, November, and December 2008, concerned with the completion of remote sensing, additional photography, and site mapping of Vessel 14. Visits conducted in 2009-2010 focused on the collection of comparative photographs of the survey vessels, and confirming conclusions on formation process signatures through oral interviews with Wright's Creek residents and graveyard owners.

### *Site Documentation*

Site documentation included descriptions of individual vessels, including their dimensions, vessel class and type, construction techniques and materials, propulsion system, and associated fishing or maritime related equipment. Descriptions of these elements provide evidence necessary to interpret the maritime history of the study area, informing about local boat construction, technological changes, and vessel uselife. In particular, correlating these features with known construction techniques helps to narrow the build date and/or region of unidentifiable vessels. An analysis of these elements aids in interpreting timelines concerning graveyard creation and individual vessel disposal. The current location of these vessels in conjunction with descriptive elements allowed comparison with the vessels recorded during the 1994 survey (Babits and Kjørness 1995). Relocated vessels benefited from more intense scrutiny during the current survey, expanding knowledge of their site descriptions.

In addition to observations recorded concerning vessel construction techniques, students documented evidence of formation processes relating to deliberate discard. In particular, students looked for evidence of salvage, reuse, and intentional discard. Archaeological signatures of salvage processes include the removal of valuable equipment and components, scrapping of metal rigging and fishing equipment, and sometimes burning for the removal of valuable fittings from the vessels. The signatures of reuse, while less obvious, often include



conversion of the vessel's original form, or construction features that point to a change in the vessel's function, such as a change from luxury vessel to workboat. Observations of deliberate discard signatures include methods of placement assurance or scuttling.

Graduate students produced scaled maps of 14 vessels during the course of the spring 2008 survey (Figure 5). The purpose of scaled plans was to create detailed plan views of each site to document vessel dimension and type, as well as any signatures of systemic use, salvage, and discard. Acting as a form under a translucent Mylar sheet, a printed grid divided into 1mm<sup>2</sup> sections allowed students to record vessels to scale on site. Students primarily utilized the baseline-offset method to record vessels, at times installing fence posts near the bow and stern of the boat, allowing for placement of a baseline. Given the depth of mud surrounding several vessels, their distance from shore, and the frail state of remaining structures, stakes were not appropriate for construction of a baseline in every case. Instead, attachment was made fast to extant features on the stem and stern, running as close as possible to its centerline. Baseline offset measurements were recorded in stations, generally every 4 ft., from the baseline to the remaining starboard or port side. Measurement of extant features occurred in this manner as well, recording positions of important objects, or vessel structure, in relation to its position on the baseline. Using this method, recording of approximate vessel dimensions for thirteen wooden vessels and one steel barge was possible. Depth or profile views of vessels were difficult to acquire due to their position in the mud.

Site recorder preference influenced creation of individual site plans. In general, the initial drawing occurred on vellum, followed by inking onto Mylar, reduction and digitization. In some cases, students utilized *Adobe Illustrator* to generate individual site plans. Due to the degraded nature of several vessels, cartography concentrated on the general shape of the remains,



similar to a plan view of ship lines' drawings, by taking measurements at regular intervals along the baseline to the outside of the starboard hull. In most cases, visibility of construction features diminished in areas of voluminous debris and deep mud.



**FIGURE 5. Students using baseline offset to record vessels in Bradley Creek (Marcotte 2008).**

Photographic documentation of Wright's Creek occurred at every site inspection conducted by the author. Documentation in this manner was accomplished with three primary goals, overall site photography, individual site photography, and comparative analysis of photographs taken during site visits from 2007-2010, as well as those taken during previous survey in 1994 (Babits and Kjorness 1995). The first goal was overall site photography, establishing a visual baseline concerning graveyard site formation. Individual site photography aided students in the process of creating a site plan and documenting evidence of cultural and non-cultural site formation processes. Finally, current site photography (2007-2010) allowed direct comparison to these same vessels originally photographed in 1994 (Babits and Kjorness 1995), aiding in the understanding of current graveyard site formation. Photography of the site

occurred with digital cameras, and a compass heading and scale were used to create technical shots. Digital cameras, provided by ECU's Program in Maritime Studies, included the SeaLife 6.1, and the 5.1 Mega pixel Sony Cybershot cameras.

Side scan sonar of Wright's Creek was conducted on 7 August 2008 using Klein System 500 kHz side scan sonar, and a Trimble® R4 high accuracy GPS receiver accurate within 5 meters (Trimble Navigation Ltd. 2011:1). Side scan sonar is a specialized technique utilizing short pulses of acoustic energy transmitted along the seabed in fan-shaped beams from an underwater towed vessel (Klein 2002:667). Topographic maps of Wright's Creek were georectified into the global positioning system (GPS) software program used to track the tow-lanes. In this way, investigators tracked the progress of the survey in real time during the sonar survey. Using an East Carolina University (ECU) research vessel, investigators surveyed the deeper, main tributaries of Wright's Creek, beginning in the south prong, finalizing research in the busier north prong last. The tow lanes progressed in a generally east to west direction, with a swath tolerance approximately 20 m wide. Investigation of these shallow waterways with this type of remote sensing proved difficult; the towfish mired in silt on more than one occasion. Certain areas were inappropriate for side scan reconnaissance due to debris or moored working vessels, such as the shallow, debris-filled Bradley Creek, or near the busy Foster's fish house.

Investigators discovered twenty-four anomalies during post-processing, many representing pilings, the remains of old docks, large logs, and occasionally vessels (Appendix B). Based on the presence or absence of angular or symmetrical features, six anomalies stood out as possible sunken vessels. These anomalies range in size from 19 ft. to 44 ft. in length, some appearing with intact vessel-like shapes, others as curious piles of sunken debris.

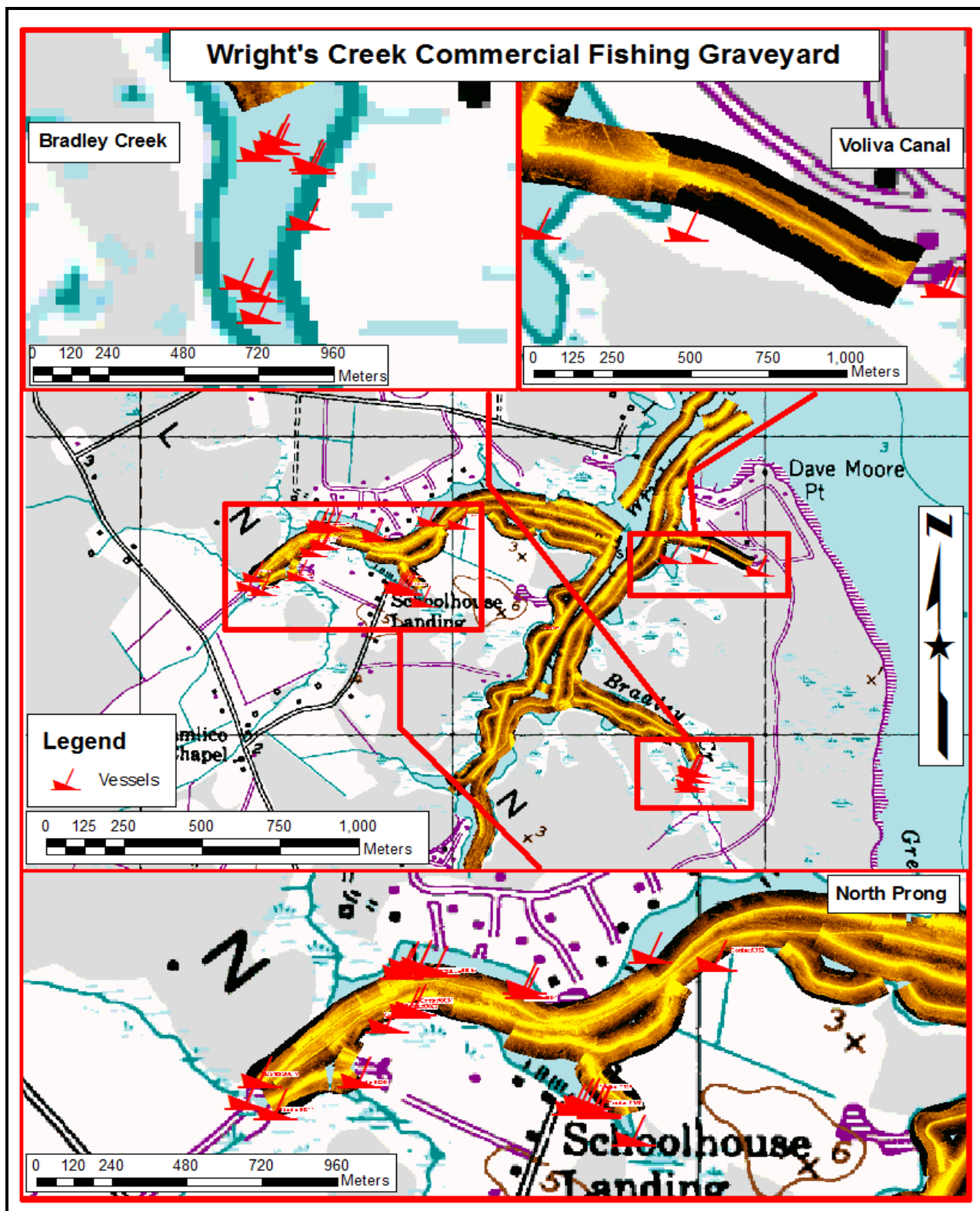


FIGURE 6. Side Scan Sonar of Wright's Creek, October 2008 (USDA [Hyde County, North Carolina 2007] [NC095] Washington, DC).

Reconnaissance and ground-truthing of these anomalies occurred on 11 October 2008. The tow lanes progressed in a general southwest to northeast direction, the tow lanes set approximately 20 m in width. Several difficulties were encountered during towfish operation due to the shallowness of the creek and its tributaries, as well as hang-ups in the water, including old crab-pots and tree limbs. Several smaller tributaries of Wright's Creek, known to possess strata of abandoned vessels, were too shallow to record. The shallowness of the channels proved problematic for adjusting towfish height while attempting to minimize disturbance from the output of the tow vessel's motor. To counter this problem, researchers added approximately 3 ft. of line to the starboard side, positioning the towfish slightly to starboard and behind the motor. Despite repositioning, the towfish buried itself in deep sediment on several occasions, once requiring investigators to enter the creek and dislodge it physically.

Reconnaissance began in the western section of the north prong at Contact0017, a small, wooden boat, described previously as Vessel 14. Ground truthing here resulted in the creation of a site plan for Vessel 14. Proceeding directly north, investigators discovered that Contact0018 was Vessel 1 (0026PUR), previously recorded in spring 2008 (Figure 7). Continuing on an eastward heading, investigators discovered the source of Contact0014. This vessel, previously recorded as Vessel 17, is in a highly deteriorated state, with only a portion of the stern visible above the water, and a large amount of rusted rigging listing dangerously to starboard. During recording of the vessel's stern, large amounts of oil began belching from the vessel, and lines still tied to its stern danced dangerously near investigators in the water. Due to these complexities, the dive safety officer deemed Contact0014 too dangerous to dive or investigate from close proximity.

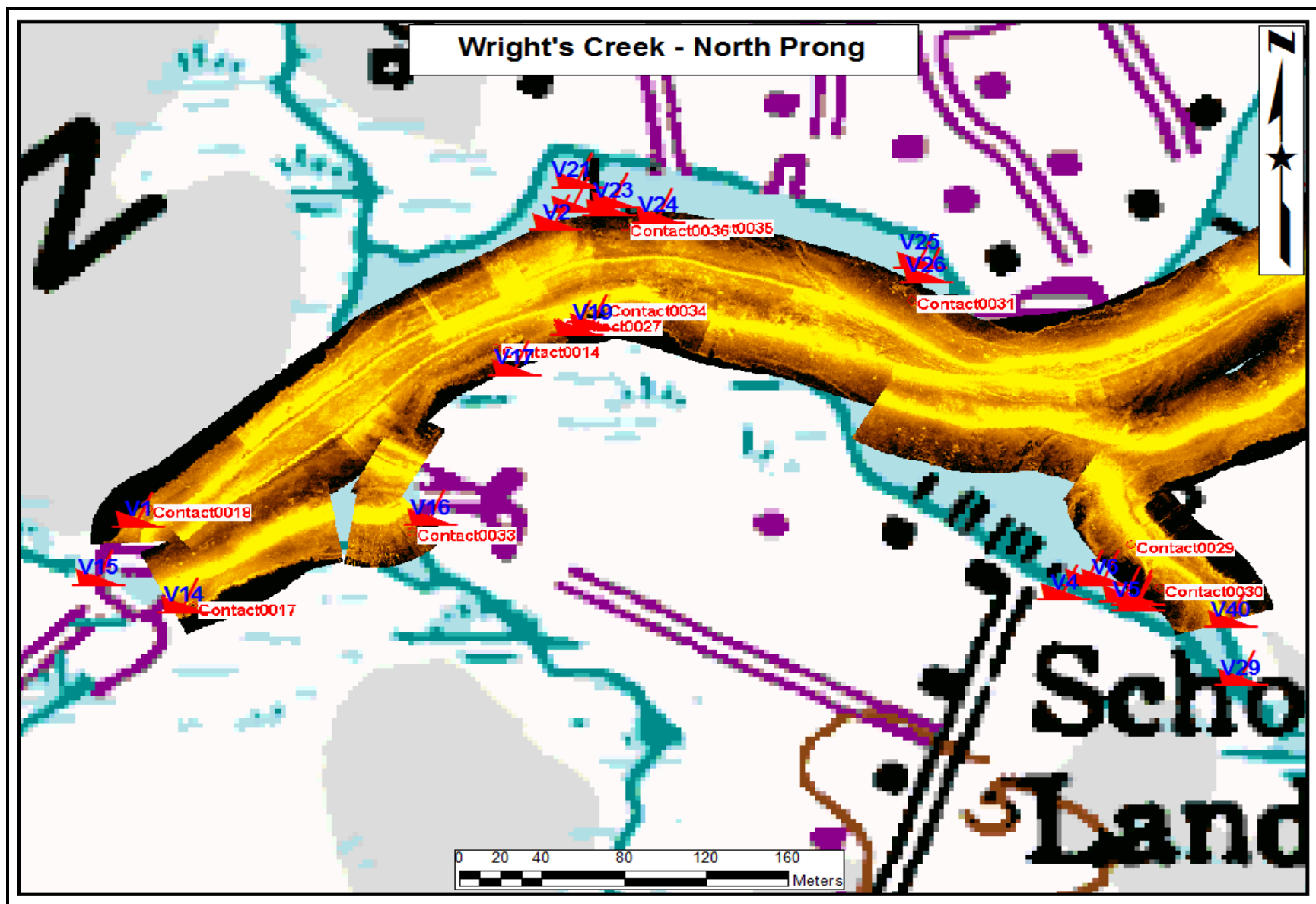


FIGURE 7. Map of north prong side scan sonar anomalies with known vessel locations(USDA [Hyde County, North Carolina 2007] [NC095] Washington, DC).

Upon completion of ground truthing, investigators deemed only one vessel worthy of archaeological survey, the remaining vessels were judged too dangerous to dive, or were previously recorded. Archaeological survey work completed on Vessel 14 during the 24 October 2008 field expedition was concerned with the creation of a site map scaled at 1:36, and observations of formation processes as they relate to the archaeological record.

### **Historical Research**

Historical research for this project included the collection of archival documents, historic photographs, and oral interviews. The compilation of data concerning the commercial fishing operations of Wright's Creek allows a clearer interpretation of the community's history, allowing a better understanding of the processes observed in the archaeological record. Data collection began with a search of records for previous archaeology conducted in the study area. A collection of primary and secondary sources aided in the understanding of the history commercial fishing in North Carolina. This research also assisted in identification of commercial fishing vessel characteristics, changes in catch technology, and vessel construction technology. Discovering the history of the Wright's Creek community required more intense methods of research, including gathering data concerning land holdings, and tracing deeds both forward and backward in the record to determine the community's longevity along the creek's shoreline. Oral interviews with local residents played a critical part in contributing to the documentation of community's history, and the exploration of graveyard formation along the region's shoreline. In several cases, identification of vessel builders and owners occurred through contact with local informants, as no registration or hull numbers were extant due to the advanced state of degradation present and the processes of discard and abandonment.

The North Carolina Underwater Archaeology Branch (UAB) provided information regarding archaeology previously conducted in the study area. A search of the UAB site files for previously surveyed Pungo River vessels produced a copy of the 1994 research conducted by Babits and Kjorness (1995), and the results of remote sensing conducted on Belhaven's waterway in 1990 by Mark Wilde-Ramsing. Site files on the Pamlico estuarine system yielded general information for the Albermarle-Pamlico system. Copies of the site reports produced from the survey are at the UAB, expanding the collective archaeological knowledge of this area.

Both primary and secondary sources provided the bulk of research sources for Chapter 6. Primary research for commercial fishing in the United States and North Carolina included R.E. Earll's *The Fisheries and Fishery Industries of the United States of America* (1887), particularly George Brown Goode's section *North Carolina and its Fisheries: A Geographical Review of the Fisheries Industries and Fishing Communities for the year 1880*. In addition, *Fishing in North Carolina*, published by North Carolina's Department of Conservation and Development, offered industry data for the early 20<sup>th</sup> century (Phillips 1927). Harden F. Taylor's *Survey of Marine Fisheries of North Carolina* (1951) provided information for the mid-20<sup>th</sup> century. The National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) and North Carolina Department of Marine Fisheries (NCDMF) publishes economic data concerning the late-20th century through the current era provided to the public through their websites. Available data spans the years 1950-2007, and concerns the number of licensed commercial fishers, weight, and value of catch by landing and species, number of registered fishing vessels, and the demographics of commercial fishers. In addition to the standard reports available online, Alan Bianchi and his staff were also very helpful compiling and sending fisheries data for the Belhaven study area for the years 1994-2007. United States Fisheries



maintains data for fishery ports in North Carolina for the years 1994-1996. Comparison of data between the U.S. Fisheries and NCDMF uncovered discrepancies as the U.S. Fisheries reported lower catch weights and values. Since the majority of the information used for this analysis was from NCDMF, confidence in their data prevailed, reflected in economic charts included in chapter 6. Newspaper and journal articles from North Carolina publications added critical historical information, as well as current opinions on commercial fishing issues as viewed from the commercial fishing community.

Secondary sources include volumes concerning the cultural and economic history of commercial fishing in North Carolina. David R. Cecelski's *The Waterman's Song: Slavery and Freedom in North Carolina* (2001) offers an in depth history of the fishing industry in North Carolina, with a focus on the slave waterman. John R. Maiolo, Professor Emeritus at East Carolina University, penned volumes concerning the regulation of the state's fisheries, and the history and sociocultural organization of the state's shrimp fishery (Maiolo 1982, 2004). Sociocultural, historical, and economic studies conducted by graduate students, various government entities, and North Carolina Sea Grant recipients completed the secondary source consultation for North Carolina fisheries (Chestnut 1975; Garrett 1983; Epperly 1984; Sainsbury 1986; Garrity-Blake 1996; Diaby 1999, 2001; Chevront 2002, 2005; Bianchi 2003, 2004; Burgess and Bianchi 2004; NCDMF 2005; Burgess et al. 2007; Crosson 2007, 2009; Garrity-Blake and Nash 2007).

ECU's Joyner Library, and the George H. and Laura E. Brown Library in Washington provided a wealth of information concerning various aspects of commercial fishing, boatbuilding, and the rural communities of North Carolina. In particular, Joyner Library's North Carolina Collection contains information on traditional boatbuilding in Beaufort and surrounding



counties. The collection also contains historical newspaper accounts concerning local commercial fishing, as well as periodicals containing articles on local maritime history. The George H. and Laura E. Brown Library also houses a collection of historic newspaper articles, but perhaps most interesting is the collection of historic phone books listing the names, property taxes, and job classifications of individuals in the Beaufort County community.

Aiding in understanding both abandoned vessels and the surrounding community, the North Carolina State Archives (NCSA) offers a wealth of information both documentary and photographic. Particularly useful are the historic maps, and the United States Census, which yielded information on the surrounding community in relation to age, job, and family lineage. Unfortunately, deeds for Beaufort County for the 18th and 19th centuries are catalogued incorrectly; however, an interesting collection of original, miscellaneous deeds led to discovering some early Wright's Creek documents. Archaeological information concerning previous area surveys near Wright's Creek was also obtained at this location, along with topographic maps. Principally helpful in understanding the settlement patterns of the Wright's Creek area, the Beaufort County Courthouse contains immaculate records, including a well-organized section on deeds, that provided evidence of long-term occupation of the study area dating back before the Civil War.

In addition to archival documents, the NCSA houses a well-curated collection of North Carolina photographs featuring commercial fishing and early coastal communities. In particular, the Herbert Hutchinson Brimley Collection, and the Farrell Collection contain photographs of North Carolina fishing vessels and methods dating to the late 19<sup>th</sup> and early 20<sup>th</sup> centuries. Both the North Carolina Maritime Museum and the Core Sound Waterfowl Museum house archival photographs of North Carolina commercial fishing, boatbuilding, and the surrounding coastal

communities, aiding in the identification of abandoned vessels and the understanding of boatbuilding and commercial fishing. Neither of these collections is catalogued, requiring the attention of library archivists to view their historic photographs.

Although acquisition of abundant and varied primary sources occurred in relation to this project, certain difficulties were encountered. Identification of individual vessels was problematic due to previous registration or vessel number removal during deliberate discard. Although a few vessels had expired commercial fishing licenses intact, the state expunges records for these licenses after five years (Babits and Kjørness 1995:55, Alan Bianchi 2008 pers. comm.). In addition to difficulties encountered in identifying vessels, locating information pertaining to the history of the Wright's Creek community proved challenging. Information on individual fishers and boatwrights in the community is confined primarily to local knowledge rather than documentary evidence.

A critical component of research for this thesis involves the memory of the commercial fishers living and conducting operations from the shores of Wright's Creek. Before collecting interviews with local commercial fishers, researchers had to complete training on the ethical treatment of human subjects. Any interaction with human subjects requires the approval of the University and Medical Center Institutional Review Board (UMCIRB). The goal of the UMCIRB is to protect the rights and welfare of human subjects participating in research at ECU. Qualification for UMCIRB approval included the completion of training modules concerning appropriate treatment of subjects participating in social or behavioral research. In addition to training modules, Human Behavioral and Social Science Internal Processing Forms were completed, outlining the project's research plan and sample questions for the fishers. The

successful completion of these tasks by researchers resulted in approval of UMCIRB Project No. 09-0427.

Oral interviews of Wright's Creek residents played a critical role in researching the abandoned vessels and surrounding community. In many cases, identification of abandoned vessels would have been impossible without local informants, as removal of all traces of vessel identity typically occurs before deliberate abandonment or discard. Aside from aiding in identification of abandoned vessels, oral interviews facilitate an understanding of vernacular boatbuilding techniques, the evolution of commercial fishing, and the behavioral aspects of material culture discard in this small community through its intimate association with the abandoned vessels. In addition to oral interviews, informants generously donated family photographs, as well as documents pertaining to family genealogy in order to generate a more complete representation of the inhabitants of Wright's Creek. Further research included regional and historical backgrounds, site-specific vessel histories, and graveyard accumulation histories.

### **Analysis**

Analysis for this project involved the merging of historical documentation, oral interviews, and photographs with archaeological data in order to answer the questions set forth in Chapter 1. Analysis of spatial data is possible by applying Global Information System (GIS) software, including that used to post-process the side scan sonar information, designed to facilitate accurate mapping. Further analysis includes the study of archaeological data to facilitate understanding of behavioral and formation processes concerning the commercial fishing graveyard, and its significance to the fishers responsible for its creation and maintenance.

### *Side Scan Sonar*

Post-processing of the sonar data was completed utilizing Chesapeake Technology Inc.'s SonarWiz.MAP®, software that allows the user to view and produce a report from the sonar mosaic (Chesapeake Technology 2009). In addition to generating a report of the anomalies, a measurement of the anomaly's size is possible based on backscatter and sonar shadow dimensions. This allows the user to perform levels of analysis and interpretation based on the presence or absence of geometric features, as well as the shape and dimension of submerged anomalies. Analysis of the report for future ground-truthing concerned identification of possible submerged or abandoned vessels not visible from the surface. Anomalies identified as old docks, marine related debris, or log scatters were not included in the ground-truthing process. The software's ability to measure anomalies based on shadows aided in identification, ruling out certain features based on their dimensional characteristics.

### *Geographic Information Systems*

Recording the location of individual sites occurred via Global Positioning System (GPS). Students utilized Garmin® and Magellan® GPS units with the World Geodetic System 1984 (WGS 84) datum. The mosaicked sonar images were recorded as a geotiff for insertion into the ESRI ArcView 9® Geographic Information Systems (GIS) software program. Recording individual sites in this manner allowed the author to download all sites into GIS software completing an overall site plan for the entire graveyard. GIS are computer-based systems that permit storage and analysis of spatially referenced data, and allow for the creation of maps (Mather and Watts 2002:679). ESRI ArcGIS 9® software utilizes a variety of integrated computer programs that provides a “standards-based platform for spatial analysis, data management, and mapping” (Ormsby et al. 2004:11; Price 2006:1). This software provides a

means to enter and organize data relating to individual vessels, displaying the information in a way that allowed the user to perform varied levels of analysis and interpretation. Processing the GIS information involved researching appropriate base maps of the Wright's Creek area, and creating a spreadsheet of vessel GPS locations or "waypoints." Base maps consisted of topographic maps and aerial photographs from National Oceanic and Atmospheric Administration (NOAA) and United States Geologic Service (USGS) GIS databases. The collection of waypoints and base maps were downloaded with hydrographic and elevation information for the area, creating a *geodatabase*. A geodatabase is designed for the storage, query, and manipulation of geographic information and spatial data, also known as a spatial database. The geodatabase is the common database and storage unit for ArcGIS 9® (Arctur and Zeiler 2004:4; Price 2006:28).

Analysis of spatial data allows for the determination of a possible chronology for graveyard creation, individual vessel discard, and the construction of maps to aid in the understanding of the systemic and archaeological landscape. Correlating the graveyard location maps with landholder data provides a link to the systemic context, creating a connection between specific graveyards and individual commercial fishers. Limitations in the accurate mapping of individual vessels stemmed from the inherent error encountered during recording with GPS receivers. The accuracy of Wide Area Augmentation Enabled (WAAS) Garmin® and Magellan® receivers is within 3 m (Garmin Ltd. 2011:1). Vessels within Wright's Creek were recorded within this accuracy range.

### *Data Analysis*

The creation of GIS maps and the side scan sonar report and mosaic allowed analysis of the remaining archaeological and historical data. The combination of archaeological and historical

data in conjunction with GIS, side scan sonar, and oral interviews provide a base from which to apply a theoretical framework to answer research questions concerning the Wright's Creek Commercial Fishing Graveyard. Generation of the geodatabase facilitated comparative analysis between archaeological data and primary source materials. Maps created from the geodatabase, in conjunction with the side scan sonar report and the photographic record, helped create a timeline of deposition, and further comparison to historical documentation. Spatial analysis of Wright's Creek was possible through utilization of GIS generated maps, again providing a means of correlation with the archaeological record. Further comparative analysis was possible using archaeological information, oral interviews, and historic photographs provided by local Wright's Creek residents.

In addition to comparative analysis, site-specific archaeological analysis provided a means to record behavioral patterns associated with systemic use, salvage, reuse, and discard. The patterns recorded disclosed behaviors associated primarily with Wright's Creek stemming from local residents intimate and historic relationship with commercial fishing, and the creation and maintenance of commercial fishing graveyards. This exclusivity provides a means of analyzing behavioral patterns on a localized level. Further, this study provides the opportunity for future comparative analysis of similar sites on regional, national, and possibly international levels. The theories used to analyze the Wright's Creek Abandoned Vessel Complex could follow onto different levels stemming from the localized analysis.

## CHAPTER 3: THEORY

### **Introduction**

In order to understand the processes represented in the archaeological record, this thesis concentrates on examining artifacts in their systemic use context, as well as the archaeological record (post-deposition). Theories for this thesis come from a variety of middle-range paradigms stemming from social and archaeological observations concerning behavioral and formation processes. Identifying these processes aids in our understanding the use of cultural materials and their discard as they come under study in the archaeological record. A behavioral approach to cultural materials emphasizes their use in the systemic context, with an eye to understanding artifact variability, function, and lifecycle. In this case, the behavioral processes relate to the use and discard of vessels and equipment of Wright's Creek commercial fishers.

Social theories concerning the preservation of cultural heritage through meaning and memory also provide a framework for analyzing the graveyard's significance to its creators and those responsible for its maintenance (Assman 1995:125-133; Langford 2001; Van Dyke and Alcock 2003; Eyerman 2004:159-169; Anderlini et al. 2009). The maritime tradition of commercial fishing, historically a generational profession, is facing economic peril, and with it, the decline of other associated maritime trades, such as vernacular boat building. The commercial fishing graveyard, fragile in its existence, holds clues, and perhaps access to these fading memories.

Interpreting the relevance and purpose of cultural materials in their systemic context is possible through study of vessel abandonment. Archaeological signatures of these processes, including salvage, scuttling, and placement assurance, are frequently visible in the archaeological record. Identification of these signatures is critical to the theoretical approach of this thesis.

Abandonment is not simply the discard of useless items, but rather a systematic process that begins during systemic use. Identification of deliberate vessel abandonment in the archaeological record aids in understanding the technological, social, and economic processes acting on the surrounding commercial fishing community.

### **Site Formation Theory**

Muckelroy (1978: 1-7) recognized ships as a valuable historical and archaeological resource, documenting three main aspects of a ship involved in the systemic system. The first aspect recognizes the ship as a machine, constructed for a specific purpose, its formal characteristics constrained by intended use. The second aspect recognizes the ship as an element in a military or economic system, providing its basic *raison d'être*. The third aspect recognizes the ship as a closed community, with a particular hierarchy, customs, and conventions.

In addition to Muckelroy's (1978) work defining the ship as an artifact, he identified features common to shipwrecks, demonstrating an archaeological link between the wreck remains and the original vessel. Although generalized knowledge of shipwreck processes is important for many ships present in the archaeological system, the principles relating to these processes are different from that of planned, deliberate watercraft abandonment. A shipwreck necessarily denotes a ship discarded during a catastrophic event, leaving different signatures in the archaeological record from that found with planned, systematically orchestrated abandonment (Richards 2008:6-13). For instance, salvage operations on a catastrophic wreck occur after the event has taken place, whereas salvage of a deliberately discarded vessel's elements occurs before it is abandoned (Richards 2008:158). Certain processes found in catastrophic wrecking, particularly those related to *extracting filters* and *scrambling devices*, can be found within deliberate abandonment sites (Richards 2008:169). Extracting filters are



processes that lead to loss of material from wreck-site or abandoned vessel, i.e. salvage operations (Muckelroy 1978:165). Scrambling devices are processes that involve a vessel's deposition in the archaeological record and its continued break-up, until the time it becomes one with the seascape (Muckelroy 1978:169). Keith Muckelroy concentrated his theories of formation processes on the maritime archaeological context, exploring the impact of non-cultural transforms on submerged shipwreck sites. He determined that the conditions with the greatest impacts were those concerned with the nature of the seabed, and the variety of disturbance factors acting on a site (Muckelroy 1978:163). While useful, vessels in a rural boat graveyard are not associated with catastrophic wrecking, and many are initially not fully submerged. As such, their research requires a different theoretical base to account for human influence and interaction.

Several ideas contributed to the body of archaeological thought concerning site formation studies, particularly those relating to discard and abandonment. Initial site formation studies concerning abandonment stemmed from observations of archaeologists working terrestrial sites, primarily those studies interested in land use strategies (Schiffer 1987; Cameron and Tomka 1993). These studies recognized abandonment not as an event, but rather a process involving social change. These processes have the power to inform on human behavior and decision-making before, at the time of, and after abandonment and the resulting patterns seen in the archaeological record, offering a context for studying social and technological change at varied scales. Understanding these processes of change contributes to better understandings of *social life* (Schiffer 1987; Nelson 1992:52-53; Cameron and Tomka 1993).

Nathan Richards (2008:42) takes the concept of agency further, articulating the theoretical assumption that watercraft discard is practicality driven in the planning stages. This

assumption allows for generalized theories of decision-making during abandonment and recognition of correlating signatures in the archaeological record. This idea is strengthened by the assumption that watercraft, as artifacts, are expressions of cultural norms definable ethnically, temporally, and spatially. In addition, vessels are excellent measures of technological progression, a concept that allows a link with economic and social change (Richards 2008:47-49).

The archaeological study of a rural commercial fishing graveyard complex provides the impetus to answer many questions concerning the social, economic, and technological past of the surrounding community. These questions concern the function of a maritime related graveyard, its chronology, arrangement, location, and the formation processes acting on the site. Further questions relate to the graveyard complex's individual assemblages, and possible commonalities or differences between them. Questions of meaning, and ties to maritime cultural life-ways can be explored through the graveyard's archaeological record and past memories of its associated artifacts held by the local community.

To interpret the archaeological evidence and cultural links to the surrounding community, it is necessary to define the perception of the commercial fishing graveyard. The Wright's Creek commercial fishing graveyard complex is a collection of discrete sites or assemblages that display patterns in the discard of material culture and serve a specific purpose for the surrounding community. In addition, these sites provide a means to discover potential ties to the community through the memories and meaning of their maritime cultural heritage (Assman 1995:125-133; Langford 2001:5; Van Dyke and Alcock 2003; Smith 2005:19). In other words, the commercial fishing graveyard can be understood as a cultural phenomenon possessing clues

to the relationship between the archaeological record, and the maritime life-way of commercial fishing.

During a vessel's lifecycle or "uselife," it is subject to cultural and non-cultural transformations related to its function. An object participating in a behavioral system is acting in the *systemic context* (Schiffer 1987:3-4). Behavioral processes acting on a vessel during its use in the systemic context have implications for the vessel's form, function, and longevity. Wooden fishing vessels constructed for, and often by, the fishers of Wright's Creek are purpose built for harvesting catch in the sounds and rivers of North Carolina. The intimate relationship formed between the fishers and the fishing vessel stems from the technological (economic), social, and ideological functions it serves. The behavioral processes demonstrated by vessel deposition arise from the fishing vessel's function, the maintenance performed with the intention of extending longevity, conversion to suit new functions, and discard.

### *Behavioral Processes*

Identifying active site formation processes present in a rural boat graveyard environment is important to further study from a behavioral perspective. Identifying behavioral processes is a critical aspect of interpreting an artifact's role in the systemic system. Understanding the lifecycle of an artifact allows interpretation of change in the systemic system that created the artifact. In order to interpret an artifact's use in the systemic system, archaeologists recognize four overarching dimensions of artifact variability (Schiffer 1987:13). These dimensions include formal, spatial, and relational characteristics, as well as frequency. Formal characteristics relate to the observable properties or attributes of an artifact that allows for typology. In relation to watercraft, these characteristics are tied to its particular construction, a feature constrained by the vessel's intended use. The spatial dimension concerns the location of the artifact, whereas the

relational dimension concerns items found in association with the reference artifact. The last dimension, frequency, concerns the number of artifact occurrences over a given area (Schiffer 1987:7-8).

In addition to studying variability in the characteristics of an artifact, its intended lifecycle can impart further understanding of systemic and archaeological processes. According to Rathje and Schiffer (1982:65-67; Schiffer 1992:9-12), an artifact's lifecycle is composed of stages, including those representing systemic use through procurement, manufacture, use, and maintenance. During an artifact's participation in the systemic context, it performs specific functions. Artifacts are defined with reference to use in a specific activity or function. These functions themselves are often further designated as *technofunctions*, *sociofunctions*, or *ideofunctions* (Rathje and Schiffer 1982:65; Schiffer 1992:9-12).

A *technofunction* refers to a utilitarian function. Artifacts acting in this capacity served activities of a practical nature, such as those relating to transport, storage, or alteration of materials. A *sociofunction* refers to activities involving transmission of information about social phenomena between members of a particular group, or between a group and others. Artifacts acting in a social capacity serve as signs or social symbols (Rathje and Schiffer 1992:66; Schiffer 1992:10). Artifacts serving *ideofunctions* represent ideas, values, knowledge, and information. Schiffer (1992:11) defined *ideology* as, "information transmitted from or attributed to authorities or powerful entities, and these may be ancestors, gods and spirits, founding fathers, philosophers and artists, parents and friends, and scholars and bureaucrats" (See also Rathje and Schiffer 1982:65). Abandoned watercraft, viewed as an artifact once participating in a systemic system, have correlations to functions in all three designations.

The function an artifact carried during its systemic life often carries implications for its regard, and future formation processes once the object has served its purpose and reaches the point of discard. An artifact's value in a social system is determined by several factors, including stages in its development cycle, its monetary value, and in some cases the artifact's emotional ties to its owner (Schiffer 1992:12). According to Diana Smith (2005:79-80) in her research of farm graveyards and meaning, a process of personifying vehicles and machines develops through a bond of regard and affection by the people who own and use them, linking them to important events, places, and other people in their lives. Regard arises for vehicles and machines that served a particular owner for a protracted length of time, or have demonstrated years of service, often perceived as "loyalty".

In order to better interpret the decision-making processes affecting an artifact as it acted in a systemic system, knowledge of historical events is essential. In the case of commercial fishing, events such as war, depression, and the introduction of fisheries regulations frequently stand as portents of vessel discard. Disposing of or "breaking" a vessel is a difficult and costly process, requiring an intense level of pre-planning (Richards 2008:23-26). The commercial fishing graveyard, created through the conscious disposal methods of fishers, often occurs within the boundary of a nearby waterway. The decision concerning boat graveyard location is an important part of the discard process, as vessels need to remain buoyant to facilitate transportation to the abandonment site.

Processes that an object endures during its systemic life, through its transference into the archaeological record, leave signatures for interpretation. Evidence of behavioral change and site formation processes relate to the use, modification, and discard of an artifact. For example, watercraft design and construction characteristics offer insight into its intended use and the

consumer choices driving its manufacture and eventual discard (Richards 2008:118). These characteristics can be seen as a by-product of technology, holding a direct influence on the tendency of a boat's owner toward purposeful discard. According to Richards (2008:120), a vessel utilized for its original intended purpose is acting in a primary phase of uselife. Vessels move through two variations of uselife phases, considered a *primary* and *secondary* phase. The primary phase includes vessels acting in a *primary mercantile* stage, constructed to fulfill a specific mercantile or commerce driven function, and *primary support* stage, referring to custom-made support vessels constructed for use in a non-commerce capacity. Secondary phase vessels include those utilized for *secondary mercantile* and *secondary support* functions, corresponding with Schiffer's "secondary use," and "lateral cycling." Secondary mercantile phase is the result of the vessel owner's modifications toward using the vessel within a different trade, while *secondary support* refers to the vessel owner's modifications toward service of a vessel in non-commercial, non-mercantile functions. Other signatures of systemic use can be seen in the conversion and modification of vessels to extend their working life. These signatures indicate a conservatory, or reuse process operating on the vessel during its operation in the systemic system. Conversion often occurs in respect to a vessel's original intended use, for instance, the conversion of a pleasure yacht into a fishing vessel, or the change in propulsion from sail to power.

### *Formation Processes*

Studies of site formation and abandonment processes have a base in the theoretical teachings of Michael Schiffer (1987) and Nathan Richards (2008). According to Michael Schiffer (1987:303), identifying formation processes before making behavioral or environmental inferences is crucial. Formation processes are responsible for the transformation of artifacts in formal, spatial,

quantitative, and relational dimensions. In addition, these processes can create patterns in the archaeological record unconnected to past behaviors, exhibiting irregularities that can be expressed as laws (Schiffer 1987:3-11).

Cultural transformations are responsible for acting on material remains in a variety of manners. The *archaeological context* describes objects that passed through a cultural system into a context in which they only interact with the natural environment (Schiffer 1987:5, 1996:7). Cultural processes are responsible for all subsequent cultural modifications once an object has passed into an *archaeological context* (Schiffer 1987:5; 1996:7; Richards 2008:54). Reclamation of such objects from the *archaeological context* back into the *systemic context* is reuse (Schiffer 1987:28). Objects, once discovered in the archaeological record, abound with signatures of their use and discard. These signatures, once combined with knowledge of site formation processes, allow analysis of the deposition processes occurring both in the systemic and archaeological record, produced by cultural activities (Richards 2008:54).

During deposition, an artifact begins its transference into the archaeological record. The archaeological record contains deposited articles that are no longer part of ongoing society, as such they do not appear to modern society in their original form, but rather undergo transformation from the moment they enter the archaeological record. Schiffer suggests the presence of formation processes that affect the archaeological record, resulting in a transformed or distorted view of artifacts as they previously participated in the behavioral context. In order to rectify distortions, archaeologists must use analytical and inferential tools to discern patterns created from formation processes (Schiffer 1987:3, 4, 7-10). These distortions to the archaeological record occur as a series of transformations that change the remains from the time they participated in the systemic or behavioral context, to the time they are observed in an

archaeological context. Formed through two sets of archaeological behaviors, these transformations are *c-transforms*, or cultural transforms, and *n-transforms*, or non-cultural transforms (Schiffer and Rathje 1973; Schiffer 1975). Schiffer (1975:838) describes *c-transforms* as the cultural formation process of the archaeological record. In essence, these laws communicate variables related to behavioral and organizational properties of a community or socio-cultural system. In addition, the study of these laws imparts knowledge concerning the archaeological outputs of a particular system from a socio-cultural perspective. Examples of cultural formation include activities related to the discard, abandonment, and reuse of the vessels and equipment associated with commercial fishing.

The n-transforms relate to interactions between culturally deposited materials and variables occurring in the surrounding deposition environment. N-transforms typically include agents of deterioration present in the artifact's deposition environment. These include chemical, physical, and biological agents with varying rates and cycles of deterioration (Schiffer 1987:143). Schiffer (1973:838) further explains that taken together, "c-transforms and n-transforms provide means for modeling the processes by which an archaeological site acquired specific formal, quantitative, relational, and spatial attributes". Examples of natural formation occurring at a commercial fishing graveyard relate to hydrologic processes associated with partial or complete submersion in a riverine environment, as well as the weather patterns associated with a coastal environment. Some variants related to hydrology include water pH, marine organisms present in a brackish environment, and sedimentation. Various processes related to weather include wind, hurricane, and rain, as well as climactic temperature extremes.

This model for the life cycle of an artifact pertains directly to the study of rural boat graveyards as it recognizes evolution, or change, throughout the life of the abandoned vessel.



Associated materials also provide information for the processes occurring both systemically and archaeologically on the vessels. Site creation is the impetus for future formation processes of the graveyard site. Commercial fishing vessel and associated equipment discard is the result of several factors including obsolescence, deterioration, poor design, and depreciation. Additional influences include economic factors related to the commercial fishing industry, accident or injury, or death. Each individual vessel is an element of one large artifact, the graveyard, demonstrating a variety of behavioral decisions observable through the signatures of salvage, reuse, discard, and abandonment processes.

*Reuse* is a change in use of an artifact following original use. The cycling of an object back into the systemic context occurs as an object breaks, wears out, or is no longer useful for its original utilitarian or symbolic function (Schiffer 1987:28). The four primary types of reuse are *lateral cycling*, *recycling*, *secondary use*, and *conservatory processes* (Schiffer 1987:28-30; Richards 2008:55).

*Lateral cycling* is change in the user of an artifact, but not in its form or function. This process is difficult to recognize in the archaeological record, as the artifact does not undergo significant physical change. Schiffer suggests this type of reuse is common through gift, sale, and theft (Schiffer 1987:29; Richards 2008:55). *Recycling* is the return of a used artifact to a manufacturing process, wherein the artifact undergoes transformation to a point that its use is completely different. This typically occurs when an object has fulfilled its original use function and has no further use in its original capacity, such as that seen in salvage situations (Schiffer 1987:29; Richards 2008:55). *Secondary use* refers to objects that take on new functions without significant modification to the object's form or structure. This is common when an object displays significant use wear, breakage, or maintenance and becomes more appropriate for

secondary use. *Conservatory process* occurs when an artifact's major function changes, with the intent of permanent preservation in its new role (Schiffer 1987:30; Richards 2008:55). This process is widely reflected in museums and collections of maritime related cultural materials found worldwide.

Once discarded, an object begins its transference to the archaeological record. Discard of an object typically occurs at the point it can no longer perform its function in a systemic system. An object's transference to the archaeological record may be brought on by several factors, including technological obsolescence, breakage, and wear beyond the capabilities of casual maintenance (Schiffer 1987:3-11; Richards 2008:118-144). The processes necessary to transfer an object into the archaeological record requires several stages, including transportation (Schiffer 1987:47). The study of discard processes is relevant for spatial analysis, and contributes to our knowledge of reasons for the location of watercraft abandonment sites (Richards 2008:56). Archaeologists recognize two types of discard sites as *primary* and *secondary*. *Primary discard* sites are created in the location of an artifact's original use, whereas *secondary discard* sites occur away from the manufacture and intended use of an artifact (Schiffer 1987:58).

Processes of discard are linked closely to *deliberate abandonment*, defined as an act of abandonment involving premeditation in every sense (Schiffer 1987:89). This differs from *catastrophic abandonment*, requiring the desertion of a ship in an effort to preserve life (Richards 2008:10). Abandonment is a transformation process from one way of utilizing a landscape to another at the levels of an area, structure, settlement, or entire region (Cameron and Tomka 1993:55; Nelson 2000:55). According to Richards (2008:57), abandonment processes are similar to discard behaviors, except that they generally concern the abandonment of entire

sites. In this context, these watercraft graveyards are comparable to the discontinued use of entire regions for the purpose of vessel abandonment (Richards 2008:57). The circumstances surrounding abandonment, such as speed, degree of planning, and anticipated reuse of the artifact, determine the abandonment processes that occur and condition the entry of cultural materials into the archaeological record (Cameron and Tomka 1997:4). Processes occurring during abandonment include behavior such as curation, dismantling, and salvage (Schiffer 1987:89-98; Richards 2008:57-160). The resulting entrance into the archaeological record for watercraft bears resemblance to Schiffer's (1972:160, 1975:33-34, 1987:89-90) descriptions of *defacto refuse* and *curate behaviors*. *Defacto refuse* consists of the usable tools and facilities left behind during the abandonment of an activity area. *Curate behaviors* include those behaviors utilized to lengthen the use life of an object, whether by alteration to the artifact, or continued maintenance (Schiffer 1987:89-90).

Other signatures available in the archaeological record relate to discard processes involved in the deliberate abandonment of a vessel. Breaking-up a vessel is a costly and time-consuming affair as vessels are difficult to destroy (Richards 2008:145). The process of vessel discard must be systematic, and involves actions such as dismantling, scuttling, scrapping, and salvage. The planning involved must consider the location of abandonment, as well as the removal of any valuable equipment or component parts, while still allowing it to remain afloat for transport to the abandonment site. Often, this necessitates two phases of salvage, *primary salvage* occurring during initial dismantling, and *secondary salvage* occurring post-deposition or after the vessel has reached the abandonment site (Richards 2008:155-162).

Once a vessel reaches the discard site, further signatures of purposeful abandonment may occur. One guiding tenant of discard requires a vessel poses no hazard to navigation, often

necessitating a form of *placement assurance* (Richards 2008:162-163). Placement assurance strategies vary; forms include driving of a pile through the hull into the seabed, tying the vessel to a stable structure on land or a nearby dock, or the use of wooden stakes driven near the hull of a vessel inhibiting its ability to float into a nearby waterway. In some instances, a combination of placement assurance strategies are employed to ensure the vessel stays in its original abandonment environment. In addition to placement assurance strategies, some forms of hull treatment may be visible on abandoned watercraft, such as burning, typically used to recover valuable metal fastenings (Richards 2008:170).

After a vessel enters the archaeological record, potential reclamation processes and their resulting signatures play a factor in interpretation. *Secondary salvage*, *tertiary salvage*, or *gleaning* can occur at this stage, activities that are closely related to availability, demand, and the possible utility of the material under salvage (Richards 2008:155-162). The intensity of secondary salvage or gleaning, much like curate behaviors, is a function of a society's overall wealth, and access to resources (Cameron and Tomka 1993:4). These sites cannot be defined simply as abandoned or discarded because they display dynamic qualities through continued cultural formation processes.

### **Maritime Culture and Memory**

The behavioral and archaeological study of boat and equipment assemblages connected with commercial fishing increases the knowledge concerning the little known maritime heritage and lifeways of rural fishing communities. Archaeological principles and theory offer a framework for connecting the processes that form the physical and non-physical aspects. Specifically, the physical aspects of the graveyard are the discarded fishing vessels and associated equipment (artifacts) of the surrounding community. The non-physical aspects of the

graveyard refer to its meaning within the community that created it, and access to memory provided by the graveyard, critical factors in preserving the community's maritime cultural heritage. In other words, the graveyard may represent a microcosm of the cultural, economic, and technological changes affecting the commercial fishers of Wright's Creek, and possibly the region of North Carolina.

In a similar study concerning rural farm graveyards, meaning, purpose, and ties to social memory, Diana Smith (2005) explains an understanding of rural discard sites requires examination of site operation and transformation through ongoing use (formation processes) to determine if an established set of principles can explain the phenomenon. She further explains these sites are not simply abandonment or discard sites in the traditional sense of the terms. Rather, these sites are dynamic systems closely linked to modern farming identity, facilitating access to the past (Cameron and Tomka 1993:138; Smith 2005:46,). Exploration of these graveyards through the consideration of site creation, conditions of abandonment, site maintenance, and acting formation processes informs archaeological analysis and interpretation (Smith 2005:38). The rural commercial fishing graveyard, a collection of the discarded vessels and tools of that maritime life-way, discarded on or near commercial fishing property, stands as a corollary to the rural farm graveyard to which these principles apply.

The fishing graveyard, its patterning in both a material and social sense, and the meanings invested in it, operates within wider cognitive systems that encompass rural commercial fishing assemblages. Creation of these assemblages occurs through the placement of new items, and maintenance occurs through the movement or removal of artifacts. Continued interaction demonstrates a range of functions tied to discard, abandonment, and reuse, stimulating a dynamic system, tying the graveyard to the surrounding community as a repository

of memories, reflecting attitudes towards the maritime past. Much like the rural farm graveyard, if fishers create and maintain assemblages of discarded cultural material acting as a functioning site, then meaning and purpose are inevitably conferred (Smith 2005:41-46). Continued maintenance of the graveyard has implications for its active and fleeting nature, amplifying the need for study of these ephemeral sites before they suffer destruction through cultural and/or non-cultural formation processes.

Identification, assessment, and evaluation of the commercial fishers' perspective are necessary to understand the graveyard's meaning and purpose. Overall assessment is possible through oral interviews with the fishing community surrounding the Wright's Creek Abandoned Vessel Complex. According to Van Dyke and Alcock (2003:4), there are four categories of materially accessible media through which, "social memories are commonly constructed and observed: ritual behaviors, narratives, objects and representations, and places." In the case of the Wright's Creek graveyard, meaning can be discerned through narrative recall and memorabilia of fishers who participated in creating and maintaining their individual sites.

In evaluating the meaning of the graveyard, the concepts of memory and nostalgia are critical. The concepts of *social memory* and *cultural memory* provides a context for comprehending how past social environments are remembered. Maurice Halbwachs (1877-1945) introduced the concept of social memory, defined as:

the means by which information is transmitted among individuals and groups and from one generation to another. Not necessarily aware that they are doing so, individuals pass on their behaviors and attitudes to others through various contexts but especially through emotional and practical ties and in relationships among generations (Crumley 2002).

Jan Assman (1995:124) further expanded the concept of social memory, explaining that individual memory implicates itself in communication with others, these “others” being groups who conceive of themselves as united through a common image of their past. *Cultural memory* has implications for the “concretion of identity,” meaning a group, “bases its consciousness of unity and specificity upon this knowledge and derives formative and normative impulses from it, which allows the group to reproduce its identity” (Assman 1995:128). Cultural memory characteristics hold implications for the conception of identity, and the ability to reconstruct the past, as well as having implications for the commercial fishing community’s regard for the graveyard they created. Perhaps even more important for the longevity of these shared memories is the process of retrieval. According to Pascal and Wertsch (2009:157-163), repeated retrieval of memories strengthens and maintains shared memories; however, accuracy of these shared memories can be an issue for researchers. If the concept of social and cultural memory holds, then the community’s memories could be the impalpable connection between generations of commercial fishers through the maintenance of their maritime heritage in the physical form of the commercial fishing graveyard.

### **Conclusion**

The rural commercial fishing graveyard is a fundamental part of the maritime landscape. It holds clues to the events of the past that shaped not only the maritime industry of commercial fishing, but also the lives and traditions of countless generations of fishers. This thesis is concerned with historical archaeology and commercial fishing heritage through consideration of abandoned fishing vessels and their associated equipment, located on or near commercial fishing property. Using middle-range paradigms from the fields of maritime and terrestrial focused archaeology, as well as social theory, a better understanding of the graveyard’s formation, its

continued use, and its tie to cultural heritage is possible. These paradigms provide a framework that allows for the construction of archaeological and systemic analysis from the data collected through survey, oral interviews, and archival research concerning the commercial fishing graveyard complex of Wright's Creek, North Carolina.



## CHAPTER 4: WRIGHT'S CREEK - A COMMERCIAL FISHING COMMUNITY

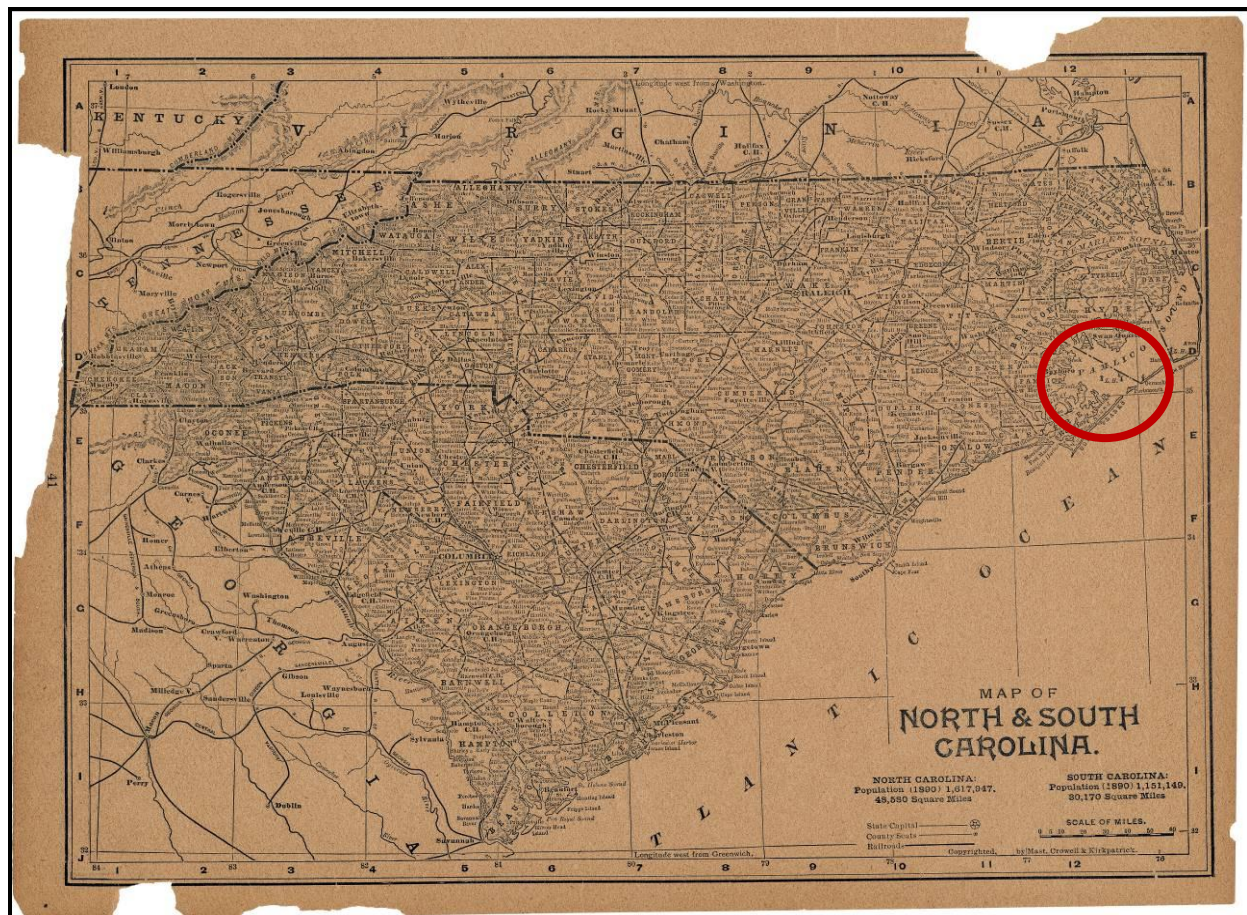
### **Introduction**

Part of Beaufort County, Belhaven was incorporated on March 7, 1899 (Boyette et al. 1999:8). Although incorporated in 1899, maps and deeds of the area demonstrate occupation as early as the 18<sup>th</sup> century. Fishing became one of the town's major industries, boasting two oyster-packing houses. The Wright's Creek area of Belhaven appears as an active community of small, commercial fishers, housing three prominent seafood factories. The local commercial fishing industry is comprised mainly of family owned businesses, some with an ancestral history of vernacular boatbuilding (Foster 2009; Foster Sr. 2009; Wilkinson 2009, Daniels 2010). The economic and social contribution of commercial fishing on an isolated, rural community such as Belhaven is palpable. Fish landings and vernacular boatbuilders contributed to the economy and traditional cultures found in these waterfront communities, providing a necessary infrastructure for the continued success of commercial fishing. These long held fishing traditions, once a vital part of North Carolina communities, are fading due to continued hardships faced by the seafood industry (Garrity Blake 1996: 5-9; Garrity-Blake and Nash 2007:10).

### **Wright's Creek and Belhaven – An Early History**

Wright's Creek is part of the larger Pamlico Sound, located near the junction of the Pungo and Pamlico Rivers. One of the largest estuarine systems of any state on the Atlantic Coast, Pamlico Sound is 1,800 square miles (Smith 1907:21). Pamlico River is a shallow, brackish estuary extending approximately forty miles from Washington, North Carolina, to the western edge of Pamlico Sound, formed by the junction of Pamlico and Pungo rivers (Stanley and Nixon 1992:270-281). Inlets connect Pamlico Sound to the Atlantic Ocean, allowing a tidal exchange and access to inland waters. Within this estuary, the land is relatively flat, low, and

swampy; the majority is less than ten feet above sea level, and some of the eastern portions only five feet above sea level (Epperly 1984:1) (Figure 8).

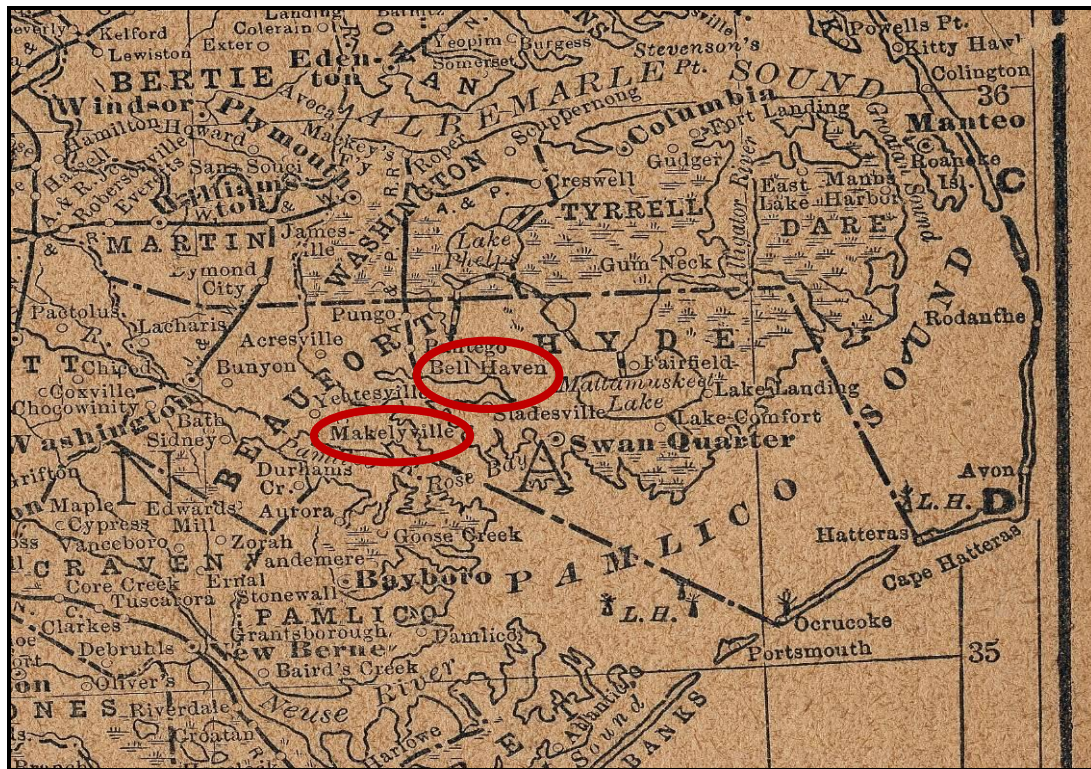


**FIGURE 8.** Map of North and South Carolina 1890 (Mast et al. 1890) (North Carolina State Archives, MC\_150\_1890u, Raleigh). Note the Beaufort County study area circled in red.

The location of the Wright's Creek embayment, a part of the Pungo River system, currently lies in Beaufort County, North Carolina. Prior to 1852, Hyde County claimed the area, located near Makelyville, as reflected on a map of North and South Carolina (Figure 9). Hyde County, established ca. 1728, previously carried the distinction of Wickham Precinct, Bath County. Bath County was created in 1696; in 1705, the Lords Proprietors divided Bath into three precincts: Pamptecough, Wickham, and Archdale. These precincts became Beaufort, Hyde, and Craven counties in 1712 (Reed 1962:22-25). A 1908 North Carolina Geologic and Economic Survey map depicts Wright's Creek within the Beaufort County line (Pratt 1908). Current maps

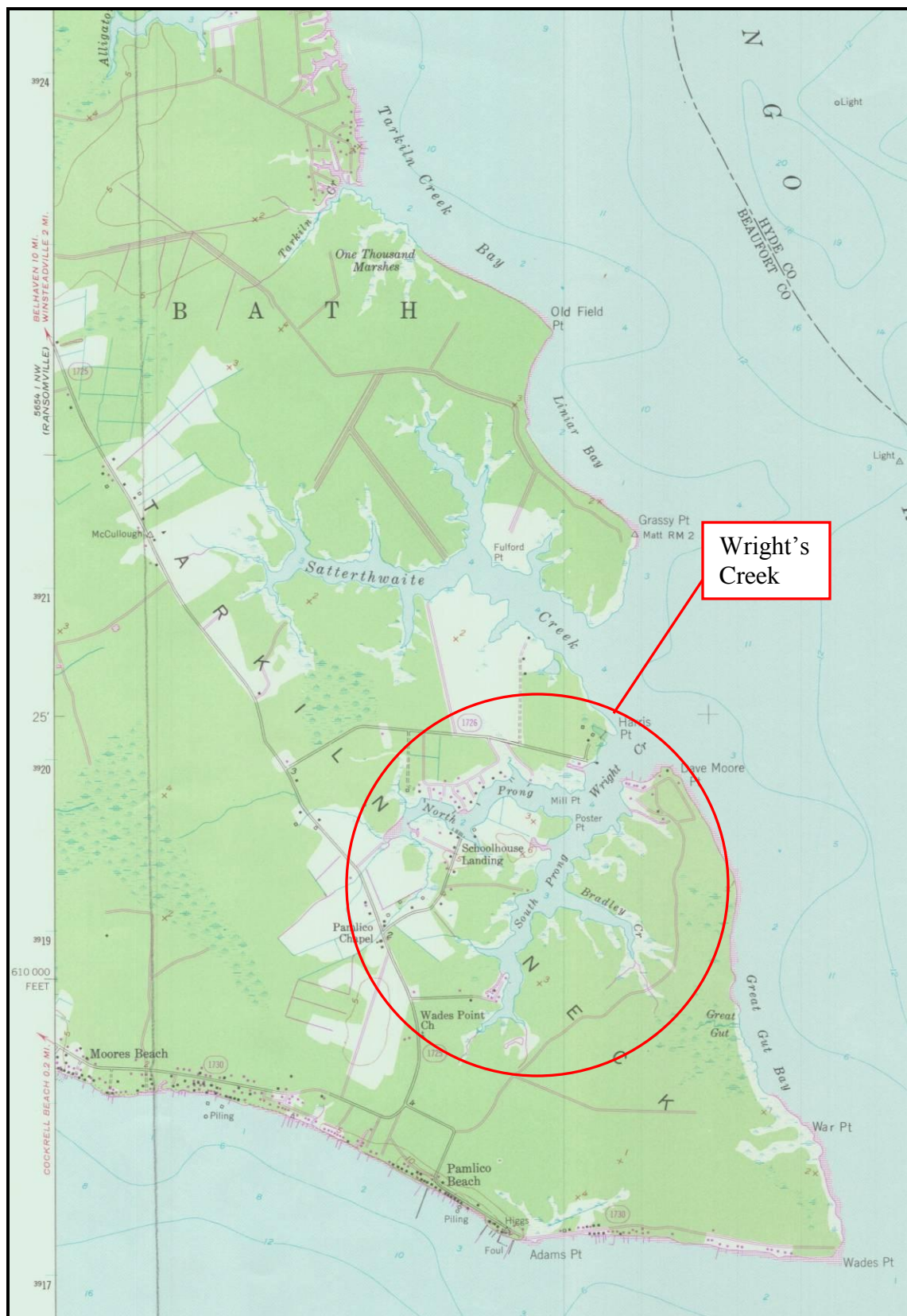


indicate properties around Wright’s Creek as incorporated into the city of Belhaven. In addition to changing county lines, the spelling of Belhaven also transformed from its original spelling of “Bell Haven,” as it was known in 1851.



**FIGURE 9.** Map of North and South Carolina 1890 (detail) (Mast et al. 1890) (North Carolina State Archives, MC\_150\_1890u, Raleigh). Note “Bell Haven” and Makelyville (Wright’s Creek) circled in red.

The city of Pamlico Beach is south of Wright’s Creek, while Belhaven is more than thirty miles away. Research uncovered a strong connection to Bath concerning land ownership, as deeds provide evidence of area settlement long before Belhaven incorporated in 1899 (North Carolina Registry of Deeds [NCRD] 1806, 1818, 1839, 1866, 1873:Misc. Deeds 1720, 1750-1918 C.R.009.401.45, 1898:96.297). Land ownership ties the community to Bath, while Belhaven provided the infrastructure for the commercial fishing industry. Further change is reflected in a 1951 topographic map of the area, displaying the name “Tarklin Neck” (USGS 1951) (Figure 10).



**FIGURE 10. Pamlico Beach Quadrangle 1951, map (U.S. Geologic Service, North Carolina State Archives, Raleigh). Note Wright's Creek circled in red.**



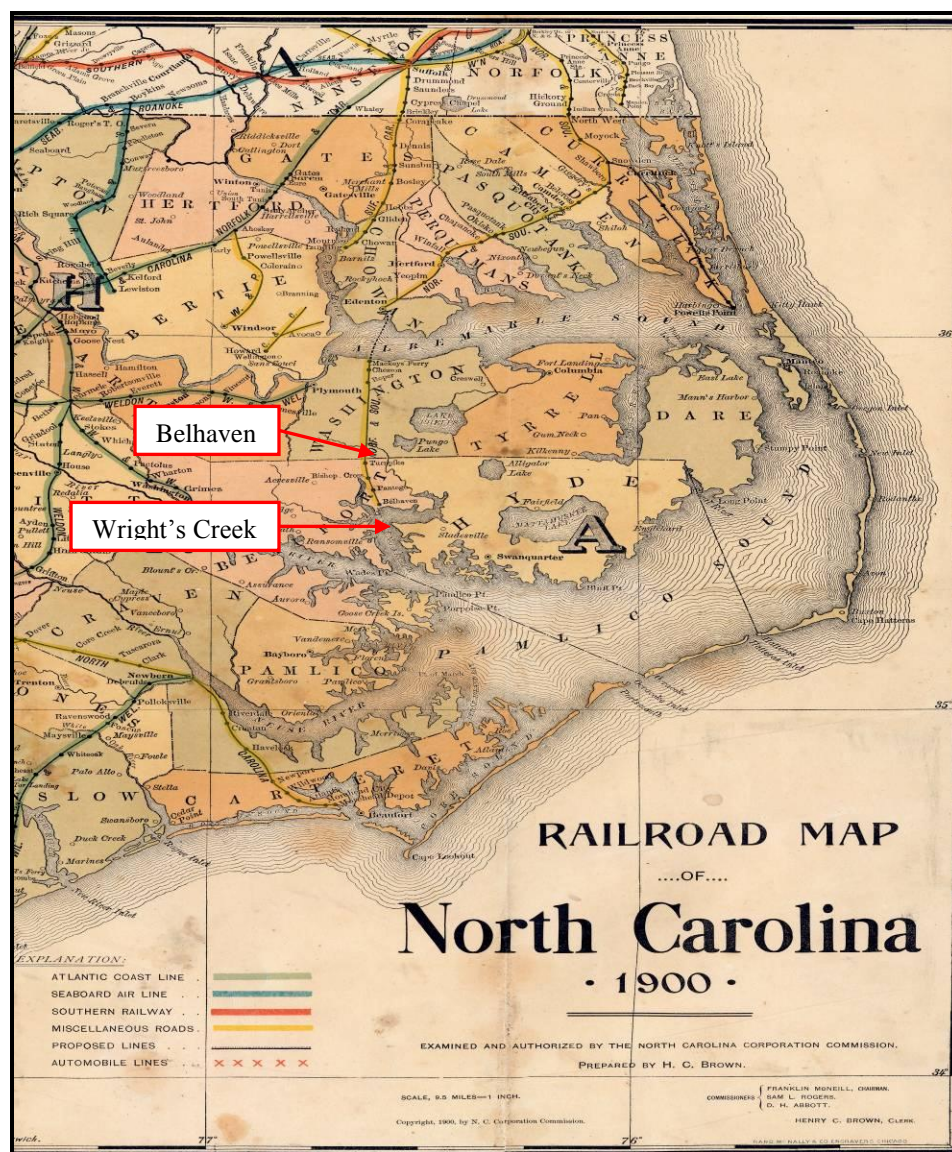
Belhaven is located on the water at the union of Pantego and Pungo creeks, approximately ten miles from Pamlico Sound. Accounts credit Sir Walter Raleigh with exploration of the area as early as 1585 (Reed 1962:2; Boyette et al. 1999:8). As part of Beaufort County, Belhaven is bordered by Hyde County to the east and the town of Washington approximately thirty-one miles to the west. The city carried the name *Matcha Pungo* during the late nineteenth century, from the Indian term for “river of many fish,” and “Belle Haven” as early as 1890 (Boyette et al. 1999:8). After incorporation, the town experienced growth spurred on by a few industrious individuals (Figure 11).



**FIGURE 11. Waterfront at Belhaven, North Carolina ca. 1900 (Herbert Hutchinson Brimley Collection PhC.42.Bx10.F11, North Carolina State Archives, Raleigh).**

One of these early industrialists was John L. Roper, owner of the John L. Roper Lumber Company (Boyette et al. 1999:8). Roper saw the benefit of the timber resources in the area,

leading him to purchase a massive expanse of land from the Albemarle Swamp Land Company (NCRD 1865:63.87). Roper also organized an extension of the Albermarle and Pantego Railroad, bringing transportation and commerce into Belhaven in the 1890s, spurring further industrial growth of lumber mills (Boyette et al. 1999:8-9). Although organized in the late nineteenth century, a 1900 H.C. Brown map of the area depicts the railroad line as “proposed,” rather than completed (Figure 12). In fact, transportation in Belhaven occurred via watercraft or a solitary road leading to a ferry across Albemarle Sound toward Virginia.

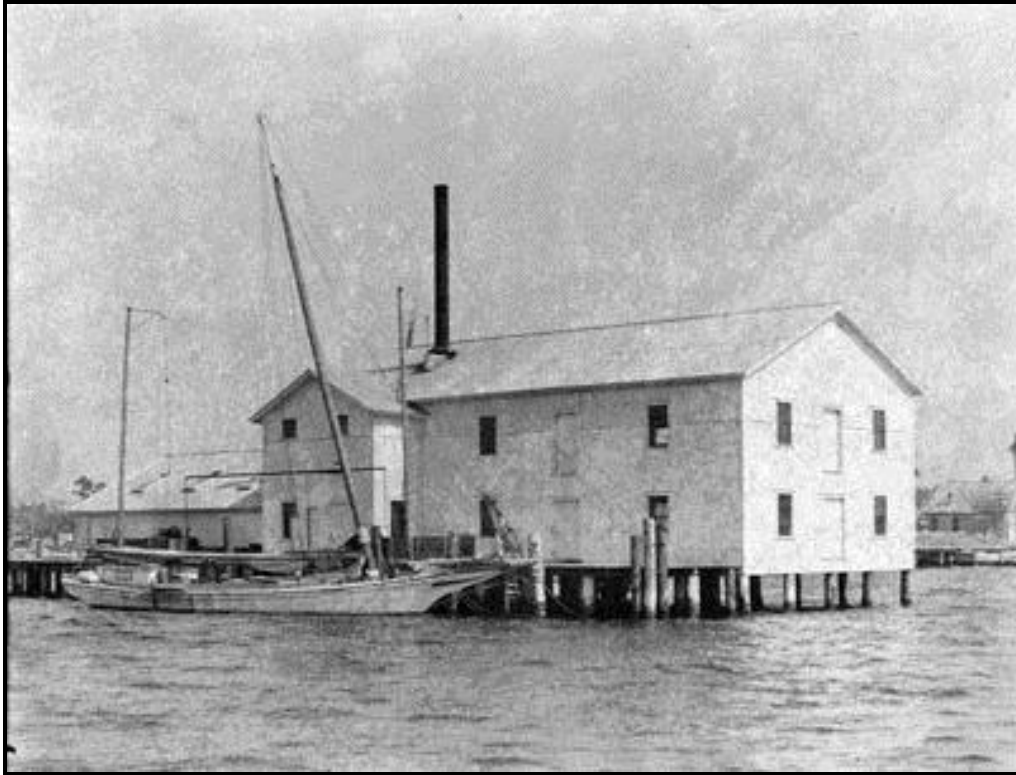


**FIGURE 12. Railroad Map of North Carolina 1900 (H.C. Brown 1900) (North Carolina State Archives, Raleigh).**

Aiding Belhaven's economic and industrial progress was the lumber company's vice-president, John A. Wilkinson, and his brother Samuel Wilkinson. The brothers cleared, drained, and dredged more than twenty-five thousand acres to open additional land to farmers (Charlotte Daily Observer 1910). In addition, John A. Wilkinson contributed to Belhaven's economy through his position as president of the Norfolk and Southern Railroad (Boyette et al. 1999:8-9). Although the Wilkinsons gained recognition for their community service in the 20<sup>th</sup> century, records indicate they were Beaufort County natives, their family having settled in North Creek prior to 1866 (NCRD 1866:70.231).

### **Belhaven's Commercial Fishing Industry**

Throughout the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, in addition to lumbering and farming, fishing became one of Belhaven's major industries. The rise and fall of the commercial fishing industry is visible in the example of Belhaven, a rural community that has been a home to commercial fishers for generations. During the 1890s, businessmen began to see the possibility of Belhaven as a seafood center, and oyster tax records for Beaufort County reflect payment by residents as early as 1895 (North Carolina Tax Records [NCTR] 1895-1905:C.R.009.703H). In 1901, the town witnessed its first fish and oyster house, opened by Captain Reuben Williams, a business that operated for over 36 years. Shortly after Williams opened his business, A. Booth of Baltimore, Maryland opened a large oyster plant (near 1937 location of Comb's Mill), shipping oyster products to northern buyers. By 1937, little was left to identify this bustling plant save for a large pile of oyster shells. Several other oyster plants opened along the Belhaven waterfront in the early 20<sup>th</sup> century, including that of Muir and Cox, A.D. Miles, and Makely and Montgomery (Edwards 1937:31) (Figure 13).



**FIGURE 13. Belhaven Oyster House, ca. 1910 (Herbert Hutchison Brimley Collection, PhC42.Bx10.F23, North Carolina State Archives, Raleigh).**

Belhaven's burgeoning fishing industry suffered a hard hit in 1913 as a great storm decimated the town, establishing a one-hundred year flood elevation nearly eight feet above mean sea level. Near Belhaven, all the houses along the Pungo River washed away, while one-hundred-mile-an-hour winds pushed Atlantic waters into fifty-foot waves. After the storm, surveys recorded Pamlico Sound as "strewn with the wreckage of small craft, trees, and dead animals" (Sharpe 1958:14) (Figure 14). Newspaper accounts describe Belhaven and Aurora as practically wiped off the map (Charlotte Daily Observer 1913). Although Captain Williams' fish and oyster house survived this storm, several newer fish packing houses suffered permanent losses, forcing them to close (Edwards 1955:31).





**FIGURE 14. Boats Reduced to Rubble During 1913 Storm in Belhaven. Reprint in The Beaufort-Hyde News, Thursday, October 12, 1989.**

Although difficult, economic recovery returned to the commercial fishers of the area, and by the 1920s, Belhaven was crediting seafood as its largest industry, with its grandest firm the W.G. Ruark Company, a processor of crabs (Figure 15). In 1932, George N. Baker and James H. Hines, and Joe Daniels all opened seafood plants. In addition to these plants, Captain George Clark opened a seafood plant that later became one of the city's most successful, employing numerous people. Belhaven's commercial fishing future looked bright, even thriving as the seafood docks bustled with fish packed in ice, and boats lined the docks so that people could nearly walk across the nearly half-mile wide Pantego Creek by stepping from boat-to-boat (Edwards 1955:30-32).



**FIGURE 15. Beaufort County Canning Plant, ca. 1930 (Herbert Huchison Brimley Collection, PhC42.Bx12.F44, North Carolina State Archives, Raleigh).**

Clyde Potter followed, founding a packinghouse in the 1930s (Figure 16). Although beginning his career as a commercial fisher in the 1920s, Clyde found his niche in the packing industry and soon started Potter Brothers' Seafood with his brother Harold. In the 1930s, Clyde moved to another location, establishing Belhaven Fish & Oyster Company. Originally, Clyde dealt in fish, shrimp, and oysters. During the decline of the oyster harvest, Clyde began packing shrimp and crab (Jackson 1955:28; Norman 2008:1). Clyde owned a fleet of five trawlers that plied the Gulf of Mexico during winter, worked their way up the coast in June, and worked Pamlico Sound during summer season. The Belhaven Fish & Oyster Company employed approximately 100 people during peak season, with weekly payroll nearing \$1,500. The companies distributed their product primarily to New York and Baltimore markets. Shrimp, their most economically viable product - packed fresh in 100-pound boxes, sold chiefly to New York, and Brunswick, Georgia (Jackson 1955:28-29).





**FIGURE 16.** Clyde Potter's Belhaven Fish & Oyster House, ca. 1972 (Carl Wilson Foster Sr. Collection, Belhaven, NC). The second boat from the right is the *Betty J*, built by Major Wilson Foster in 1972.

In addition to Clyde, The Blue Channel Corporation and George Clark were considered leaders in the Belhaven commercial fishing industry. The Blue Channel Corporation of Beaufort, South Carolina, established one of the largest crab packing facilities in the South at Belhaven in 1943. Sterling G. Harris, president of the corporation, purchased the operation from W.G. Ruark. Blue Channel employed approximately 125 people during their peak summer season, with payroll averaging \$4,000 per week, and \$10,000 per week spent on crab and supplies. The corporation used two trucks, driven by North Creek resident George Credle for crab pickup in the Bath area. In addition, the corporation availed itself of two run-boats in the Pamlico Beach and Rose Bay area, *Miss Lillie* and *Nancy*, captained by Walter O'Neal and Sam Foster. The corporation shipped its product to forty states, the bulk shipped to New York and New England markets. During the winter, as the fisheries turned from shrimping and crabbing to oystering, George Clark virtually monopolized the Belhaven commercial fishing market. Clark's

Oyster House supplied the majority of the oyster demands during winter seasons for Belhaven and the surrounding area (Jackson 1955:29-30).

The fishing industry experienced a series of financial highs and lows, contemporaneous with world economic factors and periods of conflict. Weather continued to play an important role in the fishing industry of this area, and hurricanes continued to prove a sporadic but persistent problem. Presently, fishing continues to provide a traditional economic base, along with farming, and forestry. Fishing, however, is suffering a serious decline. As of 2008, Beaufort North Carolina Vessel Registration Records listed 317 registered vessels, with only 58 (18%) representing commercial fishing vessels. This stands in contrast to recreational vessels at 240 (76%) of total registered vessels in Beaufort County (USCG 2009).

Commercial fishers in North Carolina face many challenges, including decreased fishery production due to habitat alteration, fishery management plans, increased operating expenses, lower market prices due to less expensive imported products, and increased development of waterfront access areas (Garrity-Blake and Nash 2007:22). Decline is evident in a lack of support infrastructure for the seafood industry. Decline in the seafood economy generated on the Pamlico-Albermarle Peninsula could affect the economy of the entire state (Epperly 1984:3). The ramifications of these challenges are evident in the increased number of derelict vessels in North Carolina (Boring and Zello 2006:1).

### **Wright's Creek Commercial Fishing Industry**

The location of Wright's Creek provided convenient water access to North Carolina fisheries, as well as the successful fish trading industry at Belhaven (Figure 17). Three *fish-*

*houses* are prominent in this area, including Hopkins' Seafood, Foster's Seafood, and Wright's Creek Marina and Seafood, Inc. A fish-house provides a landing for offloading a catch and concurrent payment. A split of the money earned occurs between the captain, crew, and boat, typically in a 25%-25%-50% share. The fish trader sells the catch to a local, domestic, or a foreign market. In the case of Wright's Creek fish traders, marketing occurs domestically, some product distributed to northern markets (Foster 2009).

Several commercial fishers and fish houses operate along the shores of Wright's Creek, including the Wright's Creek Marina and Seafood, and Foster's Seafood, Inc. The Hopkins family previously operated a fish house as well, but now restricts their fishing business to harvesting catch and maintaining their property along the creek. In addition to these families, several others maintain commercial fishing vessels and sell their catch locally.

Wright's Creek is a small, shallow estuary with a depth no greater than eight feet, draining a one and one-half mile square area of land. Real estate plats vary in size, and residents huddle closely along the shores of the creek and its tributaries. Hopkins Seafood is located near Schoolhouse Landing, directly west of the decaying landing that gave the area its name.

Wright's Creek Marina sits at the mouth of the creek on its north shore. Foster's Seafood is approximately one-quarter mile northwest of Hopkins Seafood, on the north shore of the creek's north prong. Wright's Creek Marina lies at the mouth of the creek on the north shore.



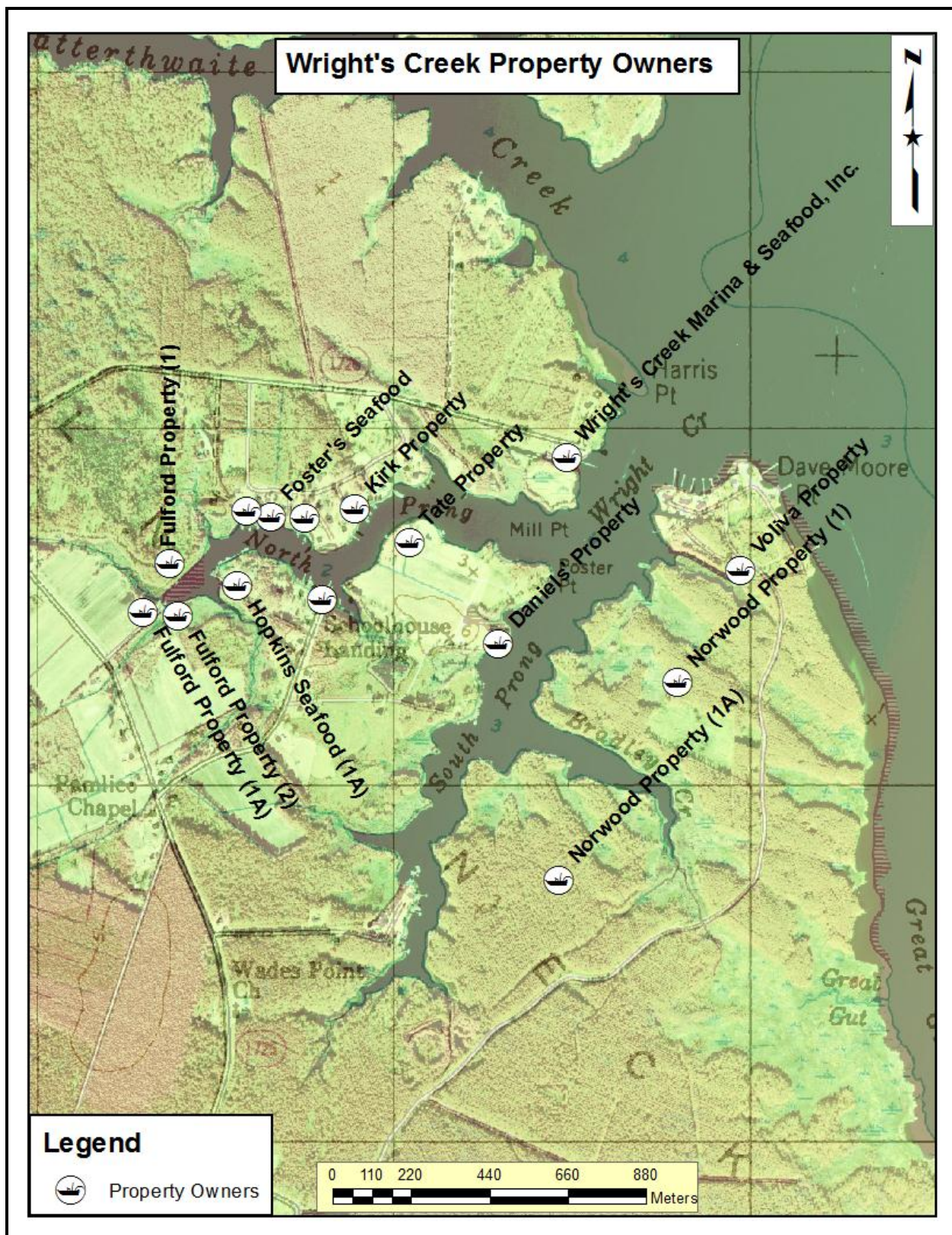


FIGURE 17. Location of fish-houses and commercial fishers/property owners on the shores of Wright's Creek (USGS [North Carolina 1998] [92801 AERIAL] Reston, VA, USDA [Hyde County, North Carolina 2007] [NC095] Washington, DC.).

Census records for 1910 (United States Bureau of the Census [USBC] 1910) listed residents as living in the North Creek Precinct, named for an area just north of Wright's Creek. Three Wilkins' family men, Benjamin P., Albert R., and James D., are shown in the records as pound net fishers. The census records indicate that all three men had wives, and that James had at least two children. In addition to caring for his two children, James appears as the legal guardian of his niece Emily. By the 1930 U.S. Census, residents held a Bath Township address, in the incorporated place of Belhaven Town (USBC 1930).

The industrial growth of Belhaven is visible from the increased variety of occupations recorded for the town residents in the census. Although Belhaven occupations remained predominantly agrarian, residents began embracing industry as reflected by the new job title of mill operator, and new industry titles such as commercial fishing, and in the case of Major Wilson Foster, motorboat captain. The majority of commercial fishing families shown in the census descend from the Foster, Hopkins, and Wilkins family lines. In addition, one of Belhaven's seafood pioneers, Clyde R. Potter, listed his occupation as oysterman (USBC 1910, 1920, 1930, 1950).

Although small, Wright's Creek currently provides the majority of Beaufort County fishers a place to ply their trade. Beaufort County Vessel Registration for 2008 indicates this area is home to 69% of the commercial fleet for Beaufort County (USCG 2009). Identification of the fishing fleet reveals most vessel owners reside on or near the creek, and call Belhaven their hailing port. Family names in the ownership register reflect the generational practice of commercial fishing, as many residents hold deeds dating to the nineteenth century and earlier. Table 1 includes details of vessel identification, owner, and construction dates available through oral interviews and vessel registration for both working and discarded watercraft.

**TABLE 1****WRIGHT'S CREEK COMMERCIAL FISHING FLEET-PAST AND PRESENT (Tons and Length = Registered).**

Vessel Name	Gross Tons	Net Tons	Length (ft)	Hailing Port	Build Year	Boat Builder	Hull Build City, State.	Registered Owner
<i>Betty Fay</i>					<1945	Major Wilson Foster	Belhaven, NC	
<i>Betty Rebecca</i>	29	9	48.2	Belhaven	1955	Clyde Varnam	Holden Beach, NC	Carl Wilson Foster, Sr.
<i>Big 'N' Lil Chris</i>	19	15	34.3	Belhaven	1982	Manley B. Rose	Harkers Island, NC	Buddies Seafood, Inc.
<i>Bobby Wes</i>				Belhaven	1972	Major Wilson Foster	Belhaven, NC	
<i>Brittany Faye</i>	16	12	33.6	Belhaven	1970	Henry Fulcher	Atlantic, NC	Henry Daniels, Inc.
<i>Capt. Lennie</i>	15	13	29.9	Belhaven	1980	Gillikin Craft, Inc.	Beaufort, NC	Ernest Floyd Foster
<i>Capt. Sam</i>	59	40	58.9	Belhaven	1972	George L. Credle	Belhaven, NC	William Major Foster, Sr.
<i>Capt. Wilbur</i>	15	10	35.5	Belhaven	1939	A.M. Fulcher	Atlantic, NC	Helen Lynch Lawson
<i>Capt. Wilson</i>				Belhaven	1970s	Major Wilson Foster	Belhaven, NC	Major Wilson Foster
<i>Cracker Boy</i>	37	14	51.8	Bath	1947	Unknown	St. Augustine, FL	Terry C. Credle
<i>Credle's Hope</i>	104	71	66.7	Belhaven	1980	Desco Marine	St. Augustine, FL	Terry C. Credle
<i>Eagle</i>	56	44	60.0	Belhaven	1997	Capt. Heber, Inc.	Harkers Island, NC	Murphy Jackson Hopkins, Jr.
<i>Edna Louise</i>	10	8	34.0	Belhaven	1984	Lester Hamilton	Harkers Island, NC	Edna Louise Tate
<i>Evening Star</i>	15	14	49	Belhaven	2001	William B. Tate/Don Doshier	Varnamtown, NC	Christopher B. Tate
<i>Fresh Catch</i>	53	42	50	Belhaven	2000	Kenneth B. Pearce	Varnamtown, NC	Ernest Floyd Foster
<i>Gladys Dawn</i>	25	17	43.8	Belhaven	1973	David L. Kirk	Belhaven, NC	Gladys Tate Kirk
<i>High Roller</i>	60	41	57.7	Belhaven	1968	B-Var Boatyard	Supply, NC	High Roller, Inc.
<i>Joyce D</i>	107	74	70.1	Belhaven	1972	Rockport Yacht & Supply	Rockport, TX	Henry Daniels, Inc.



Vessel Name	Gross Tons	Net Tons	Length (ft)	Hailing Port	Build Year	Boat Builder	Hull Build City, State.	Registered Owner
<i>Karen and Amy</i>	34	23	42.1	Belhaven	1961	J.W. Hopkins	Wades Point, NC	Robert K. Credle
<i>Kim-Hil-Shawn</i>	36	26	48.2	Belhaven	1975	Julian M. Brown	Marshallberg, NC	Curnie L. Hopkins, Jr.
<i>Lady Alma</i>	39	27	53.9	Belhaven	1979	James W. Hooten	Belhaven, NC	Lady Alma, Inc.
<i>Lady Carolyn</i>	96	77	75.0	Belhaven	1999	Capt. Russ, Jr. Inc.	Chauvin, LA	Murphy Hopkins
<i>Lady Debra</i>	103	70	66.7	Belhaven	1979	Desco Marine	St. Augustine, FL	Terry C. Credle
<i>Lady Lou</i>	147	100	77.7	Belhaven	1981	Royce Spain	Pamlico, NC	Tina Hopkins
<i>Lady Phyllis</i>	124	94	80.0	Belhaven	1972	Billy Varnum	Holden Beach, NC	Lindsay Tate, Inc.
<i>Little Henry</i>				Belhaven	1970s	Major Wilson Foster	Belhaven, NC	Major Wilson Foster
<i>Miss Allena</i>	42	28	53.70	Belhaven	1970	Major Wilson Foster	Belhaven, NC	Randall John Lozon, Jr.
<i>Miss Betty J</i>	34	23	45.60	Belhaven	1972	Major Wilson Foster	Belhaven, NC	Carl Wilson Foster
<i>Miss Kirk</i>	155	105	77.9	Belhaven	1979	Gulf Coast Marine Builder	Bayou La Batre, AL	Miss Kirk, Inc.
<i>Miss Sara</i>	28	19	40.9	Belhaven	1971	Leadrew Swindell	Hobucken, NC	Terry C. Credle
<i>Miss Vollmer</i>						Major Wilson Foster	Belhaven, NC	Laurie Jordan "Boodle"
<i>Moon River</i>	107	87	68.7	Belhaven	1983	Desco Marine	St. Augustine, FL	Carl Wilson Foster
<i>Morning Star</i>	38	25	50.7	Belhaven	1968	Hoyle Varnum	Supply, NC	Carl Wilson Foster, Jr.
<i>Pearl Dee</i>	14	9	37.3	Belhaven	1937	A.M. Fulcher	Atlantic, NC	Carl Wilson Foster, Sr.
<i>Putt-Putt</i>	14	11	33.5	Belhaven	1987	Thomas J. Kirk	Belhaven, NC	Thomas J. Kirk
<i>Restless</i>	35	23	49.8	Bath	1975	Julian Guthrie	Williston, NC	Gerald A. Dejong
<i>Sea Island</i>	116	93	77.6	Swan Quarter	1973	Desco Marine	St. Augustine, FL	Murphy Hopkins, Jr.
<i>Tina Marie</i>	50	34	53.4	Belhaven	1978	W.A. Thompson	Supply, NC	Tina Hopkins
<i>Skiff</i>				Belhaven	1970-1972	Major Wilson Foster	Belhaven, NC	
<i>Trawler</i>			28.0	Belhaven		Major Wilson Foster	Belhaven, NC	

In addition to demonstrating longevity, the Wright's Creek fleet is a study in the persistence of wooden boatbuilding technology in North Carolina, as 92.5% of the fleet is comprised of *vernacular* wooden fishing vessels. The remaining vessels are of steel construction. Vernacular boatbuilding describes a particular method of construction whereby the shipwright constructs the vessel by the "wrack of the eye," meaning the shipwright has knowledge of the appearance of a vessel's lines and can build it to these visual standards without formal plans (Kelly and Kelly 1992:72; Fleetwood 1995:89; Maiolo 2003:43). In a personal communication, Alford (2008) (Appendix C) maintains that the last examples of trawlers of this type were built in the 1990s. The dates of vessel construction for the Wright's Creek fleet support this assertion.

Construction typically took place in three types of boat yards, the large commercial yard, private yard, and the boat builder's backyard. While boatbuilding traditions on Roanoke Island, Cape Fear, and the Beaufort area are well known, the Pamlico River is somewhat of an anomaly (Babits et al. 1995:1-2). Although vernacular boatbuilding traditions in North Carolina were longstanding, purpose-built fishing vessels did not appear until the 1870s, spurred by the success of the southeastern shad fisheries. Trawlers as early as 1919 were influenced by a Mediterranean style of vessel, with a dramatic sheerline, high bow, sharp entrance, and rounded bottom with a cabin located aft (Fleetwood 1995:198; Michael Alford 2008, pers. comm.). Although this hull style remained popular, captains working the shallow North Carolina sounds were fond of flat-bottom vessels with a forward cabin. According to Alford (1990:25), trawlers are commercial fishing boats that harvest their catch using one or more large nets called trawls. They are usually hard-chine (deadrise) after 1970, but older vessels typically have a round hull. Alford (2008, pers. comm.) commented that there has been a change to this pattern favoring a chine bottom.

These changes over time have been subtle and no attempt has been made to correlate changes in vessel morphology to external or internal causation.”

Heavily built with a length range of 65 ft. or more, these vessels were built from Brunswick County to Currituck County. Although referred to as trawlers, these boats utilize a variety of rigging, allowing fishing activities to vary according to season. The shrimp boat has been called “elegant in its simplicity of design” (Kelly and Kelly 1993:37). Average boats are typically 30-60 ft., the hull enclosing a gas-powered engine for propulsion by a single screw. The pilothouse, enclosing the navigational equipment, is typically located forward. The galley is located behind the pilothouse and encloses a stove, sink, toilet, and small bunks. Directly behind the pilothouse are the hydraulic winches that pull in the nets, two long outriggers, and the nets with attached otter trawl doors. The hold is located in the rear deck where the culled shrimp are stored.

Vernacular building of a wooden fishing trawler has changed through the generations. According to Weston Varnam, a boat built similar to those built today would have taken his father two years to build. Weston’s father John built vessels smaller in size, the largest approximately 40 ft. long, 12 ft. at the beam, and 3 ft. in depth with a round hull. Weston explains his father’s method of construction and the materials used:

The material my father used to build them was one-by-two, twelve-feet-long oak strips called ribs, which made the framing. He had to steam them so that he could bend them to make the shape of the boat. He’d start a fire under a tank of water, and the steam would go up into the steam box and soften the ribs. He’d take the ribs out while they were hot and limber and press them upside the boat. Then he’d plank her and tear the strips off her, and she was ribbed. Then he’d get in there and put the deck things into her and bolt

them and the ribs and what they call a chine plank to hold it tight, and then he'd deck it over. One inch material was used for planking and decking, and two-by-sixes for deck beams and floor timbers. He used number eight square nails and number-eight galvanized round nails. The boat had a six-inch keel put together with three-eighth rod iron cut up for fastening (Kelly and Kelly 1993:117).

This method of construction, known as "shell-based", provides the greatest amount of longitudinal strength in the outer shell. The boats built now are timber boats, with framing constructed first, negating the need to steam and bend the ribs. Weston expands further on construction methods, stating his father would "put the planking to the framing and bolt the floor timbers through the keel lumber. The bolts are sixteen inches apart, and two bolts go down through the keel holes down into the keel and the floor timbers all the way into the stern." Framing is normally four-by-eight, deck beams are four-by-twelve, and planking and decking are approximately two inches thick. Vessels are usually double-planked inside with a 12-inch wide keel (Kelly and Kelly 1993:117-118.).

According to Clyde Varnam (Kelly and Kelly 1993:129), heart pine was the material of choice for framing. Although builders originally used longleaf heart pine, the growing cycle takes over one-hundred years, forcing boat builders to use loblolly pine instead. Cypress lumber composed both the inside and outside of the boat, and heart pine provided the decking. Once the vessel was built, white, oil-based marine paint coated the hull, followed by copper paint, and finally a layer of beeswax previously boiled in copper paint. The vessel launched within a week of painting, followed by tie-up to a dock for approximately two days until the wood swelled, bringing the planks together while shoving out the beeswax (Kelly and Kelly 1993:130).

A large share of boatbuilding for fishing historically took place in Beaufort, Marshallberg, and Harker's Island (Maiolo 1982:215). Generations of boatbuilders, such as the Varnams and Bellamys, practiced their art of vernacular watercraft construction for nearly one-hundred years (Kelly and Kelly 1992:111). Vessel registrations for the Wright's Creek fishing fleet indicate three vessels built by the Varnam family, *Betty Rebecca*, *Lady Phyllis*, and *Morning Star*. *Morning Star* and *Lady Phyllis*, built in 1968 and 1972 respectively, are both working vessels in the creek's fleet (USCG 2009). Although no longer in service, *Betty Rebecca* remains on the Beaufort County registry, built by Clyde Varnam in 1955 in Holden Beach, North Carolina (Figure 18). The vessel's owner is Wright's Creek resident Carl Wilson Foster, Sr. (USCG 2009, Foster Sr. 2009).



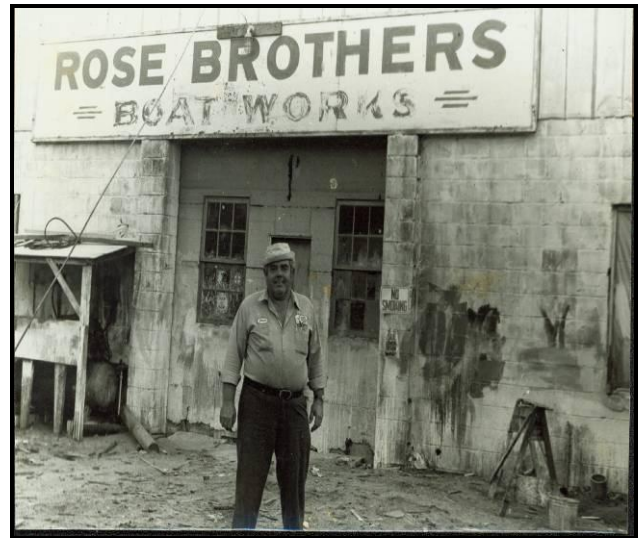
**FIGURE 18. *Betty Rebecca* in dry dock 1997 (Carl Wilson Foster Sr. Collection, Belhaven, NC).**

In addition to the Varnams, the Wright's Creek fleet has several vessels representative of vernacular boatbuilding in Harker's Island. In 1982, Manley B. Rose built the thirty-four foot

trawler *Big' N' Lil Chris* on the island for Buddies Seafood, a fish-house operating on Wright's Creek for approximately thirty years (NCRD 1974 375.511, 2008 1624.0047; USCG 2009) (Figure 19, 20). The trawler is in operating condition, but currently sits for sale in dry dock. The vessel owner's son, Robert Wilkinson, said his father purchased the vessel for \$100,000. He is now willing to sell it for as little as \$5,000 in order to recoup losses from the declining fishing economy (Wilkinson 2009).



**FIGURE 19.** *Big'N' Lil Chris*, built by Manley D. Rose (Marcotte 2009).



**FIGURE 20.** Rose Brothers Boat Works, Harkers Island (Core Sound Waterfowl Museum Collection, Harkers Island).

Several other vessels stand as representations of wooden boatbuilding in North Carolina's coastal region, including *Brittany Faye*, a vessel built by the Fulcher's of Atlantic Beach, and *High Roller*, a fifty-eight foot trawler built by B-Var Boatyard of Supply, North Carolina (USCG 2009). Vernacular boatbuilding also occurred in a boatwright's own backyard, hence the term "backyard boatbuilder." Several backyard boatwrights participated in building the Wright's Creek fleet. Major Wilson Foster of Belhaven was a productive builder of small skiffs and commercial fishing vessels up to sixty feet in length (Foster Sr. 2009). Some of these vessels are extant today, while others list awash near the family dock, evidence of hard times for small

fishing craft. In addition to the Fosters, several other families demonstrate a tradition of wooden boatbuilding, including the Hopkins and Kirk families (USCG 2009; Foster Sr. 2009).

Boatbuilding in coastal North Carolina, once dedicated to the crafting of wooden fishing vessels, turned its attention in the mid-20th century to fiberglass pleasure craft, particularly those used in sport fishing. Construction of high priced yachts is now becoming a trend. North Carolina Sea Grant articles document a boatbuilding boom, particularly of yachts and sport-fishing boats, even as fishing declines (Green 2001:12-17; 2006:12-17). The effect of these technological changes and the economic downturn in commercial fishing is evident in the decline of the region's wooden trawler construction in the mid-1980s (Kelly and Kelly 1993:133). Due to the loss of local wooden boatbuilding traditions in the area, fishers are forced to follow a vigorous system of maintenance to sustain their older fishing boats.

### **Wright's Creek Community**

Although fishing is a primary source of income and the major industry of Wright's Creek, inhabitants engage in other maritime trades, such as manufacturing ship parts, servicing vessels, or acting as mariners. Farming and animal husbandry also brings in supplemental income. In the early twentieth century, the growing industry of Belhaven provided a means for additional income as residents sought positions as seafood packers, fish and oyster merchants, and telephone-telegraph operators (USBC 1910, 1920, 1930).

The best view of the Wright's Creek community is from the water, whereby residents earn the majority of their living. Fishing vessels, both working and abandoned, dot the shoreline of Wright's Creek, representing the bulk of commercial fishers' capital investments and the primary source of income for the community. Fishing is a generational profession, some claiming family ties to the trade for three generations or more (Foster Sr. 2009; Daniels 2010).

Decline in the commercial fishing economy brought on by fisheries' regulations, imported fish, and reduced prices are threatening to end family oriented fishing businesses. Another family tradition, vernacular boatbuilding, often referred to as backyard boatbuilding, persisted in this area throughout the twentieth-century, the most recent vessel built in 2001 (USCG 2009). Researching this fading craft is difficult as few records exist of these vessels, and builders rarely list themselves as shipwrights in census records.

County records for the Wright's Creek area in the form of deeds, census information, property taxes, and marriage records, contain the names of several key families in the community's development. Family names such as Foster, Hopkins, Kirk, Wilkins, and Tate reflect the base of property ownership, and operate much of the commercial fishing industry within Wright's Creek. Other influential family names include Potter, Braddy, Wilkinson, and the Credle family from nearby North Creek (USBC 1910, 1920, 1930, 1950, 1960).

The North Carolina State Archives houses a microfilm collection of the First Census of the United States, recorded in 1790. Unfortunately, the microfilm copies are difficult to read due to the quality of the film print, the county recorder's cursive writing, and the lack of alphabetical organization among the heads' of families. In addition, little detail of these early Beaufort County settlers appears, aside from the family patron's name. Of 951 free white males 18 years or older recorded in Beaufort County, only Aaron and John Wilkinson represent ancestral ties to Wright's Creek as early as 1790 (USBC 1790).

The Fourth Census of the United States, recorded in 1820, is little better than that of 1790 in the detail of information disseminated; however, the quality of the print medium is far superior. Although still written in the cursive style of the County Recorder, the script's legibility is improved. Several Wright's Creek family names appear in this census, including Major



Foster, Benjamin P. and William Braddy, Daniel Fulford, John Guthrie, and John Hopkins (USBC 1820). One of the earliest surviving deeds is from 1806 between grantor Burrige Linton and grantee Ruth Fulford for 149 acres in Hyde County (NCRD 1806:Misc. Deeds 1720, 1750-1918, C.R.009.401.45).

Tracing Beaufort County deeds backward through time, one finds marriage ties between many families. This observation is supported by a genealogy of the Foster family completed by Elaina “Dee” Foster that documents Foster family ties to many other Wright’s Creek families through marriage (Foster 2005). Early Beaufort County deeds reflect these strong family ties, many documenting generations of land sales to siblings and offspring. As these families bonded through marriage, land prices decreased, some plots selling for as little as ten dollars for thirteen acres (NCRD 1964:334.226). Three families stand out as representing a continuous occupation of the area since the nineteenth century: the Foster family, the Hopkins family, and the Kirk family. In addition to long-standing ties with the community, these families provide the driving force of the commercial fishing industry in Wright’s Creek.

### *The Foster Family*

The Foster family presence in Wright’s Creek spans several generations, representing a strong base of commercial fishers, boatbuilders, and farmers. Although the Foster’s trace their earliest roots to J. Major Foster in 1830, the family prefers a more colorful tale of settlement in Pamlico Beach, North Carolina (Foster 2005). According to Carl Wilson, two Foster brothers provided pirating services for Bath Township’s legendary Blackbeard, also known as Edward Teach. Apparently, the Foster brothers had a reputation for quarreling, and on a return trip to Bath, Blackbeard tired of the noisy brothers and ordered them thrown into the Pamlico River. The two brothers swam to Wade’s Point, a shipbuilding center named Pamlico Beach near Wright’s

Creek, and the Foster family began their settlement of the Pamlico region (Foster Sr. 2009, Phillips 2010).

While not nearly as entertaining as an origin story involving a famous pirate, the earliest verifiable information for the Foster family comes from the 1830 census listing the head of the family as J. Major Foster born 1790, with three children (USBC 1830). One of his sons, Henry S. Foster born 1815, purchased property on Wright's Creek with his wife Triffie Farris Rue in 1856 (Foster 2005; Foster Sr. 2009) (Figure 22). Henry listed his occupation as a farmer. Within one generation, his offspring listed their occupations as motor boat captain, and within two generations, as commercial fishers (USBC 1910, 1920, 1930, 1950, 1960).



**FIGURE 21. Triffie Farris Rue and Henry S. Foster (Carl Wilson Foster Sr. Collection, Belhaven, NC).**

Henry's son, Major Wilson Foster, born October 1912, was a boat captain renowned for his wooden boatbuilding or shipwright skills. As many as seven of Major's vessels survive in photographs, while others remain only in the memories of his son, Carl Wilson Foster, Sr. Aside from boatbuilding, Major participated in subsistence farming to supplement the family income, as well as animal husbandry, raising cattle, goats, and pigs. Major was very fond of his animals, and even named his favorite bull after himself (Foster Sr. 2009) (Figure 22).



**FIGURE 22. Major Wilson Foster riding his bull, Major (Carl Wilson Foster Sr. Collection, Belhaven, NC).**

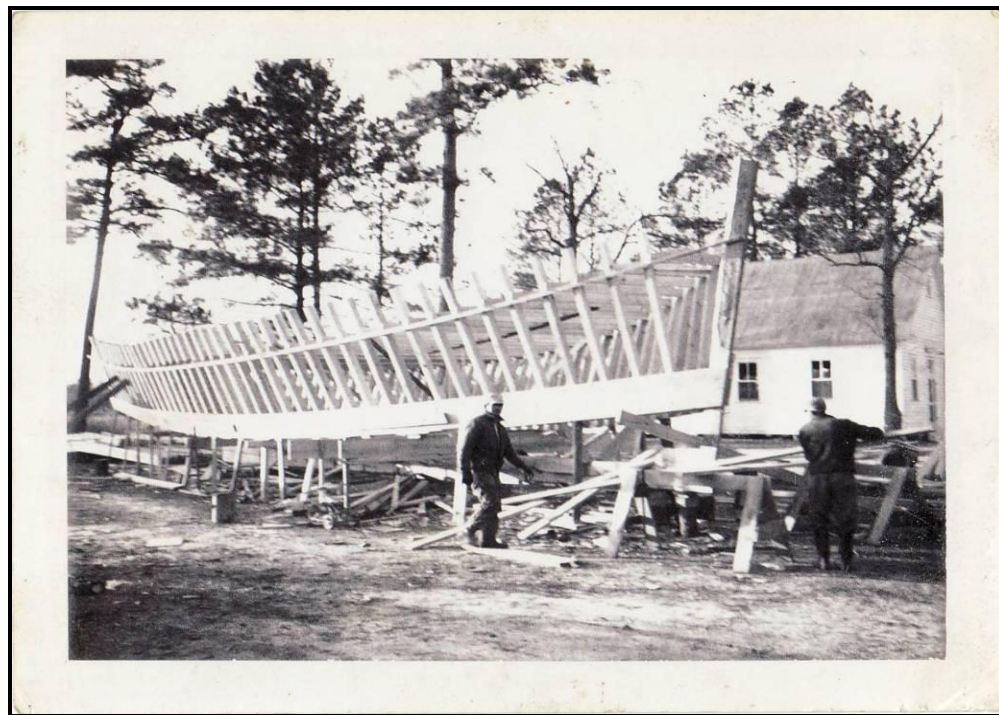
Major Wilson Foster built small skiffs and commercial fishing vessels up to sixty feet in length (Table 2) on his family property in Wright's Creek only a few feet from his home. He built the vessels by hand, even after electricity finally came to the area in 1960 (Figure 23). Major used no formal plans for these vessels. A customer would simply relay the desired length of their boat, and Major would build it. For trawlers, he would use a three to one length-to-beam ratio, and build it by the "wrack of the eye." According to Carl Foster, Sr., his father would dream about the boat, and having seen it in his dreams, could then begin construction. Carl also

participated in boatbuilding while growing up with his father, an ancestral practice that is no longer viable along the shores of Wright's Creek (Foster Sr. 2009, Phillips 2010).

**TABLE 2**

**LIST OF VESSELS BUILT BY MAJOR WILSON FOSTER, WRIGHT'S CREEK RESIDENT.**

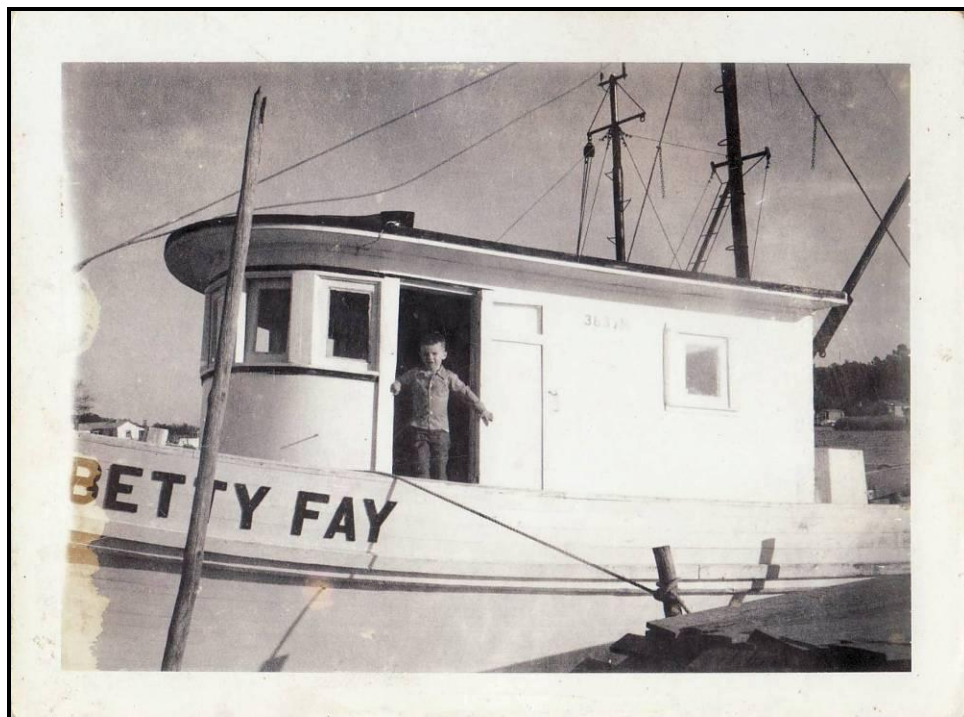
<b>Vessel Name</b>	<b>Gross Tons</b>	<b>Net Tons</b>	<b>Length (ft)</b>	<b>Hailing Port</b>	<b>Build Year</b>	<b>Hull Material</b>
<i>Betty Fay</i>					<1945	Wood
<i>Bobby Wes</i>						Wood
<i>Captain Wilson</i>					<1970	Wood
<i>Little Henry</i>						Wood
<i>Miss Allena</i>	42	28	53.70	Belhaven	1970	Wood
<i>Miss Betty J</i>	34	23	45.60	Belhaven	1972-73	Wood
<i>Miss Voliva</i>					Ca. 1970	Wood
<i>Unknown Trawler</i>			28.0	Belhaven		Wood
<i>Unknown Skiff</i>				Belhaven	1970-72	Wood



**FIGURE 23. Major Wilson Foster Boatbuilding 1962 (Carl Wilson Foster Sr. Collection, Belhaven, NC).**



Aside from boatbuilding, the Fosters have a long family tradition of earning a living from commercial fishing. Male members of the Foster family began listing their occupation as fishers in the 1930 census (USBC 1930). Major's son, Carl Wilson Foster, is a retired tugboat captain who worked for Express Marine, Inc. (Figure 24). He operated ocean tugboats between North Carolina and Baltimore on a two-week-on, two-week-off shift. During his two-weeks-off from tug boating, he would board his wooden trawler, *Miss Betty J*, and fish with his wife Betty Jean, the boat's namesake, sometimes earning more than fifteen hundred dollars per week for their catch (Foster Sr. 2009).



**FIGURE 24.** Carl Wilson Foster, Sr. at three and one-half years, ca. 1946 (Carl Wilson Foster Sr. Collection, Belhaven, NC). Major Wilson Foster built the *Betty Fay* sometime before 1945.

Another Foster family member, Ernest Floyd, has been operating Foster's Seafood since the 1970s, although the business officially incorporated in 1995 (Figure 25). Foster's Seafood buys their catch from local fishers, and markets it domestically. In particular, Floyd markets local blue crab, North Carolina's most commercially profitable fishery, to Maryland. The fish-

house owns three boats, the *Fresh Catch*, *Captain Sam*, and *Captain Lennie*. Floyd, however, is eagerly looking to sell one of the vessels as the declining fishing economy makes upkeep of three boats difficult (Foster 2009).



**FIGURE 25. Foster's Seafood in December 2008 (Marcotte 2008). Note the Foster's commercial fishing fleet in the foreground. From left: *Moon River*, *Cracker Boy*, *Cap'n Sam*, *Cap'n Lennie*, and *Miss Sara*.**

Declines in fish stock coupled with the low return price for fisheries product in North Carolina has led to a fall in the number of youth carrying on the family's commercial fishing roots. This has considerable economic and socio-cultural ramifications for an industry long known for generational continuity and cultural identity (Garrity-Blake 1996:4). A 2007 *Fayetteville Observer* article reported dwindling numbers and little optimism from commercial fishers in Snead's Ferry. Long struggling fishers in this community are encouraging their children to pursue other work, leading to the realization that the generation fishing North Carolina waters today may be the last to exploit this independent life style (Garrity-Blake and Nash 2007:5) (Figure 26).

This sentiment echoes throughout Wright's Creek, as several commercial fishers interviewed claimed they would not recommend commercial fishing to their children. In fact, retired fisher Robert Wilkinson said a friend recently expressed a desire to retire from his trucking career to start a commercial fishing business. Robert expressed his opinion, stating his friend's decision to switch careers was ill advised, but "a bad day fishing is better than a good day working," summing up the sentiment of many commercial fishermen who still enjoy the trade despite economic difficulty (Wilkinson 2009).



**FIGURE 26.** Betty Jean Foster and Family, ca. 1970 (Carl Wilson Foster Sr. Collection, Belhaven, NC). Note the *Miss Allena* and *Lil Henry* in the background, both built by the Foster family.

### *The Hopkins Family*

Despite continued decline in the economy, the Hopkins family, much like the Fosters, demonstrates a strong, continuous presence in the Wright's Creek community, with generational ties to fishing and boatbuilding. Murphy Jackson Hopkins, born 1922, bought a fish-house



located on the shores of Wright's Creek from the Guthrie family ca. 1964 (Figure 27). Murphy owned and operated Hopkins Seafood until his death in the 1990s. Passed down to his sons Murphy, Jr., and Paul, Hopkins Seafood bought their catch from local fishers, and marketed the catch domestically. Although the fish house is no longer operating, the family continues to own the land, using the fish house as a base for their private operations. Several family members operate fishing vessels, and their docks provide mooring space for other local, independent commercial fishers (Foster 2005; Foster 2009; Foster Sr. 2009).



**FIGURE 27. Hopkins Seafood in December 2008 (Marcotte 2008). Note the Hopkins' Seafood fishing fleet in the foreground. From left: *Leslie D*, *Brenda-Tu*, and *Restless*.**

Two fishing trawlers operated by Hopkins Seafood lie abandoned in a small creek adjacent to the fish-house (Figure 28). Graduate students in the Program in Maritime Studies at East Carolina University recorded these vessels archaeologically in March 2008 (Campbell 2008; Hayman 2008; Hicks 2008; Latta 2008; MacKenzie 2008; Morra 2008; Ray 2008; Smith 2008; Steinmetz 2008; Thompson 2008; Wagner 2008; Wyllie 2008). The Varnams of Holden



Beach built the fifty-eight foot wooden trawler *High Roller*. Hopkins Seafood also owns *Miss Amber*, a forty-foot wooden trawler. According to Carl Foster, *Miss Amber* was originally an old run boat out of Chesapeake Bay. Both vessels were abandoned in the creek after Murphy died from various complications relating to pneumonia (Foster Sr. 2009; Daniels 2010).



**FIGURE 28.** *High Roller* and *Miss Amber* in April 2009 (Marcotte 2009). Note the decrepit landing to the right of the photograph.

In addition to the family's influence on commercial fishing, at least one Hopkins family member displayed skill as a boatbuilder. In 1961, J.W. Hopkins of Wade's Point built *Karen and Amy*, a forty-two foot wooden trawler, for Robert K. Credle. The vessel's hailing port was Belhaven, although it is uncertain if this vessel is still operating (USCG 2009).

#### *The Kirk Family*

The Kirk family also represents a strong presence in the commercial fishing and boatbuilding industries of Wright's Creek. Beaufort County records indicate Lelia B. Kirk hired a surveyor to map an expanse of land containing several plots in March of 1980, although the Kirk presence in

the area occurred before the twentieth century. The Kirks currently own and operate Wright's Creek Marina and Seafood near the mouth of creek (Figure 29). Originally owned by Avie Hopkins, Wright's Creek Marina and Seafood incorporated under the name Buddies Seafood in the 1970s (NCRD 1974:717.731). Purchased in 2008 by Jim Kirk, Wright's Creek Seafood buys their catch from local fishers and markets to local and domestic markets (NCRD 2008:1624.0047; Foster 2009; Wilkinson 2009). It is of interest to note that while this thesis was in the process of completion, the Kirks rented Wright's Creek Marina & Seafood, Inc. to Jimmy Daniels. Jimmy is a member of the Daniels commercial fishers and net makers who live and work along the creek (Daniels 2010).



**FIGURE 29. Wrights Creek Marina & Seafood in April 2008 (Marcotte 2008).**

The Kirk family also operates three fishing boats in the Wright's Creek fleet. Gladys Tate Kirk owns *Gladys Dawn*, a forty-four foot wooden trawler built in Belhaven by David L. Kirk in 1973 (USCG 2009). This vessel now sits awash at its mooring directly in front of the Kirk property. In addition to two wooden fishing boats, the Kirks also own one of the most modern fishing boats in the Wright's Creek fleet, *Miss Kirk*, an eighty foot steel trawler built by

Gulf Coast Marine Builder in Bayou La Batre, Alabama in 1979 (Figure 30). *Miss Kirk's* bright blue paint and large size set her apart from the smaller, wooden, handcrafted vessels so prevalent along the creek's shoreline.



**FIGURE 30.** *Miss Kirk* in April 2008, docked in front of Kirk property in Wright's Creek north prong (Marcotte 2008).

### **Conclusion**

The Wright's Creek community provides an opportunity to document a maritime way of life that is quickly fading. Through a variety of primary sources including oral interviews, the economic, social, and technological changes that influence this small community are more clearly understood. Intertwining the historical research and the archaeological study of abandoned vessels provides a model to explain the evolution of local maritime history and vernacular shipbuilding.

Historical research of Wright's Creek in rural North Carolina indicates a community with ties to the land dating to late 18th century. In addition to the ties to *terra firma*, the community is closely linked through the bonds of matrimony, several families recording marriages in the early 19th century. Early 19th century development along the shores of the creek can be credited to a few intrepid families, such as the Wilkinsons, Fosters, and Fulfords. These families, the original landholders, parceled out and sold their lands predominantly to family members and newlyweds, some for little or no profit.

Located along the banks of two great rivers, the Wright's Creek community is heavily reliant on maritime trades, including, fishing, boat captain, crew, and until recently vernacular boatbuilding. In addition to maritime trades, community members practice farming, and occasional animal husbandry. Although these other trades are practiced widely in the area, the bulk of the community's capital is tied to the commercial fishing industry. Fishing is a generational trade, fathers passing their maritime knowledge, and often their businesses and boats, down to their sons.

The industry's center in this area of coastal North Carolina was originally Belhaven, providing important economic stability for the city's growth as early as the 1940s. Economic hardships and continued challenges facing commercial fishers forced most of the fish houses in the city out of business. In response, several fish houses began to dot the banks of Wright's Creek by the 1960s, providing a new hub for commercial fishers to dock their vessels and sell their catch.

Several community members also built and sold wooden fishing vessels, as well as other wooden work vessels. Built by the "wreck of the eye," these vessels had no formal plans, and were built only from the imaginations of men such as Major Wilson Foster. The strength and

stamina of these vessels is visible in the fact that several remain in the Wright's Creek fleet today. Wooden boatbuilding in this area persisted until the 21st century; the Tates built the last registered vessel in 2001. In fact, the majority of the creek's fleet consists of wooden fishing vessels averaging forty to sixty feet in length. Several of these were built in the 1970s, an aging fleet that stands testament to an industry once economically profitable.

## CHAPTER 5: WRIGHT'S CREEK - COMMERCIAL FISHING HISTORY AND ECONOMY

### **Introduction**

In order to define the factors contributing to the creation of a commercial fishing graveyard, an historical, social, and economic understanding of the fishing industry in North Carolina is necessary. This chapter presents an historical background of the industry in North Carolina, focusing on economic issues and trends within the United States, as well as within certain coastal areas of the state, particularly those within the study area. Fisheries data allow for construction of charts to track the fishing economy for North Carolina and the general study area for the years 1880-2008. In addition, this chapter includes an examination of the social characteristics and demographics of the Albemarle and Pamlico Sound's fishers. Analysis of these economic and social trends creates an understanding of the factors that led to the creation of a fishing graveyard, and may illuminate certain events that aid in constructing a timeline for vessel discard in Wright's Creek.

Both primary and secondary source materials contributed to this chapter. Certain data limitations exist in the North Carolina fisheries record, particularly in relation to the fisheries prior to 1880 before statistical recording of commercial fisheries. Early fisheries were primarily the product of agriculture, run by large plantation owners. The subsequent economic picture of the industry is provided through business reports, but gaps in the record exist during periods of war. In addition to statistical gaps, some bias in the record results from methods of data collection, which relies on surveying fish dealers for monthly landings value. From 1950 to 1978, data collection for commercial landings in North Carolina was the responsibility of the National Marine Fisheries Service (NMFS). Collection of North Carolina landings statistics from 1978 to 1993 occurred on a voluntary basis as part of the newly instituted Trip Ticket

program, a joint effort by the National Marine Fisheries Service and the North Carolina Cooperative Statistics Program. Need for reliable harvest data resulted in the mandated trip-level reporting of landings for all state-licensed fish dealers by the North Carolina General Assembly in 1994 (NCDMF 2006b:1; 2008:11-3).

North Carolina's fishery is divided into three geographical areas, the northeast, central, and southeast regions (Figure 31). The northeast region includes Albermarle Sound, Bertie, Camden, Chowan, Currituck, Dare, Gates, Hertford, Pasquotank, Perquimans, Tyrrell, and Washington counties. The central region includes Pamlico Sound, Beaufort, Carteret, Craven, Hyde, and Pamlico counties, with Beaufort County falling within the study area. The southeast region includes Brunswick, New Hanover, Onslow, and Pender counties. Together, these twenty coastal counties harvest the inland and offshore fisheries products for sale to local, regional, and national markets, especially Maryland and New York. The northeast region holds the greatest number of counties reporting fisheries landings, with twelve; the central and southeast regions contain four counties each (Garrity-Blake and Nash 2007:10-17; NCDMF 2008:10-13).

Small, rural communities dispersed along estuarine shorelines characterize the backdrop of North Carolina's commercial fishing industry. Many people enjoy the state's marine resources, and fishing is an important activity both commercially and recreationally. The current view of the commercial fishing industry is that of decline, particularly for the small, rural fishers (Kelly and Kelly 1993; Leavenworth 1994; Garrity-Blake 1996; Green 2000; Kitner 2004; Maiolo 2004; Crosson 2007; Garrity-Blake and Nash 2007).



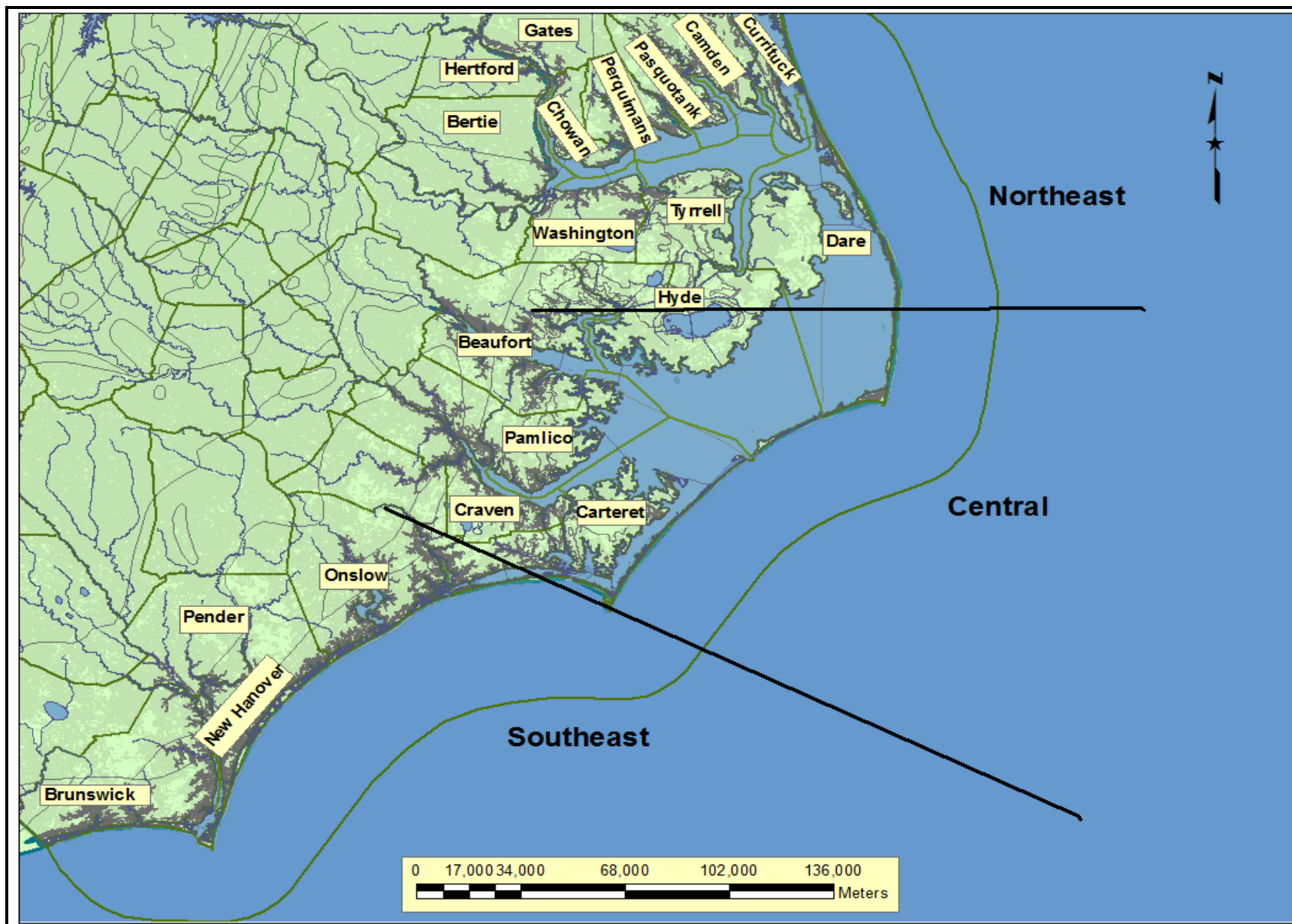


FIGURE 31. Map of North Carolina Fisheries Regions – Northeast, Central, and Southeast. (NC Center for Geographic Analysis [North Carolina 2006] [cb100\_arc] [hydromaj\_arc] [states\_arc] Raleigh).



Although commercial and recreational fishing are similar in that they are both concerned with harvesting resources from the sea, their view of the catch is ultimately different.

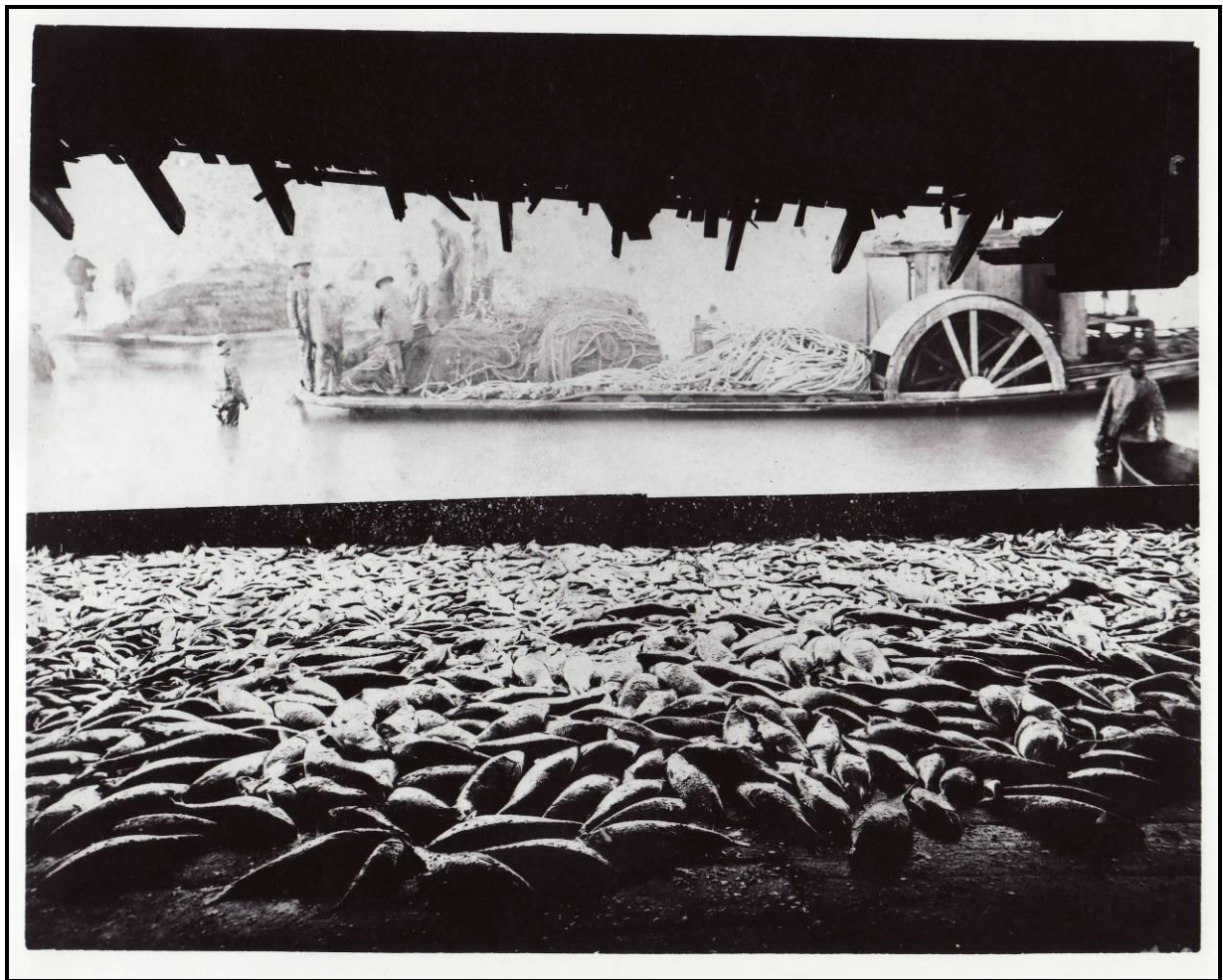
Commercial fishing, also referred to as the “seafood industry,” concerns catching, processing, and selling fish, consisting of all the stages between the catch and final sale to the consumer (Woodward 1956:iv-v). The food industry is large, accounting for consumer expenditures of \$561 billion in 1997 (Elitzak 1999:12). More specifically the term refers to and includes fisheries resources, fishers, and related business involved directly or indirectly in harvesting, processing, or sales (Phillips 1927:7; Roberts et al. 2008:3). Enterprises and individuals participating in commercial fishing view their catch as something for immediate sale.

Recreational fishing, on the other hand, is concerned with fishing for sport or for the fisher’s own use (Woodward 1956:iv). This key difference in viewing the harvest sets the two activities apart, demonstrating the unlikelihood that commercial fishing is changing into recreational fishing, rather than experiencing decline, as the entire seafood industry is reliant upon the activities of the commercial fishers.

### **Historical Background**

North Carolina is renowned for an abundance of marine resources, and its seafood industry was once the most important commercial activity in the tidewater section of the state (Heath 1997:1). Dozens of fish and shellfish species inhabit North Carolina’s brackish, fresh, and salt waters, including herring, shad, menhaden, oyster, and shrimp to name but a few. In response to this abundant resource, commercial fishing began on the shores of the Chowan River in the mid-18<sup>th</sup> century and spread to Pamlico Sound by the mid-19<sup>th</sup> century. Although most 19<sup>th</sup> century fishing took place on the rivers, the lure of bountiful resources drew intrepid fishers into the deeper water of the sounds and the Atlantic Ocean, harvesting whale, herring, shad,

menhaden, oyster, and shrimp. The majority of these catches sold locally, and fish landings sprang up on the shores of rural towns, leading to prosperous working waterfronts (Figure 32).



**FIGURE 32. Capehart's Shad and Herring Fishery, Chowan River, Bertie County, NC, ca. 1890 (North Carolina Maritime Museum, #69, Beaufort). Note the 19<sup>th</sup> Century steam launch in the background.**

Commercial fishing in North Carolina appeared on Albemarle Sound in 1815 with the long haul seine fishing industry (Heath 1997:100; Cecelski 2001:85) (Figure 34). Although ranked second in the south in commercial fishing by 1860, North Carolina's industry remained small, fish and shellfish sold were valued at only \$120,000.00. The reasons for slow growth may have much to do with market demand for fresh seafood, once impossible to ensure with days or even weeks passing before arrival of fish to market. The majority of North Carolina's catches sold locally, because refrigeration for prolonged transport to inland markets did not yet exist.

The only fish or shellfish available for export were those that could be smoked or salted, such as shad, herring, and oyster (NCMH 2008:8). Unfortunately, many southern species were not satisfactory for salting, drying, and smoking (Padgett 1963:30).



**FIGURE 33. Purse seining for menhaden, Beaufort, NC 1884 (Herbert Hutchinson Brimley Collection, PhC42, Box 12, Fishes and Fishing, F45-1. North Carolina State Archives, Raleigh).**

Post Civil War years saw the rapid expansion of commercial fishing due to improved roads and railways, efficient water transportation, innovations in fishing equipment, and the use of ice. Beginning in 1870, ice provided a form of refrigeration, allowing transportation of fish and oysters via the Atlantic and North Carolina Railway to New Bern, a site of large dealerships charged with distribution around the region and neighboring states (Maiolo and Orbach 1982:210). Fresh fish on ice regularly shipped out of all major North Carolina Coastal Plain

ports (Earll 1887:407). Until the late 20<sup>th</sup> century, North Carolina fish houses persisted in using this refrigeration method, packing catches with ice in hogsheads and shipping them by rail (Padgett 1963:30). In the late 19<sup>th</sup> century, menhaden and oysters became important to the state's seafood industry, netting 14,756,400 pounds with a value of \$11,518 in 1887 (Heath 1997:56, 101) (Figure 34). In the late 19<sup>th</sup> century, increased importance was placed on shad, with a value of \$306,015 for a total of 5,675,063 pounds landed in 1890 (Smith 1893:285; Chestnut and Davis 1975:57).



**FIGURE 34. Menhaden Fishermen on WA Mace, 1935-1940 (Charles A. Farrell Collection, North Carolina State Archives, PhC.9.2.20, Raleigh).**

As capture technology improved, more fishers entered the industry resulting in climbing harvest levels through the 1920s. During the Post World War II era, shad and river herring fishers diversified into shrimping and crabbing, starting first in Brunswick County and spreading North to Pamlico Sound by the 1930s (Heath 1997:114). Several key factors led to an increase

in shrimp catch volume, including the use of powerboats, creation of the otter trawl, and introduction of shrimp canning factories. The otter trawl has been referred to as the greatest of all fishing gear innovations, and its use in conjunction with powerboats, developed at the end of the nineteenth century, realized a greater production yield per unit of effort. By 1931, the American shrimp industry was sixth in volume, and seventh in value among food fisheries. The peak year was 1923, with a value of \$51,000. The first shrimp canning facility established in New Orleans in 1867; North Carolina followed suit with a facility in Southport by 1915 (Figure 35, 36) (Maiolo 2004:18-19, 24). These plants made possible the ability to export large quantities of shrimp outside the region, making commercial shrimping feasible.



**FIGURE 35.** *Sea Gannett*, hailing from Ocracoke, NC ca. 1935-1940 (Charles A. Farrell Collection, North Carolina State Archives, PHC.9.2.61.18, Raleigh).



**FIGURE 36.** Shrimping in Southport, ca. 1935-1940 (Charles A. Farrell Collection, North Carolina State Archives, PhC.9.2.25.23, Raleigh).

The commercial fishing market profited greatly by the concept of freezing fish for transport. Although introduced in the 19<sup>th</sup> century, refrigeration in North Carolina primarily produced ice for shipping fishery products until the late 1920s. By 1940, the Division of Commercial Fisheries reported that as many as one thousand people were directing their efforts toward harvesting, processing, and marketing of shrimp. Although Southport was an early leader

in the shrimping industry, Pamlico Sound began a steady increase at this time, proving a strong competitor to Southport (Maiolo 2004:29).

As the abundance and economics of the fishery changed, adaptive harvesting activities began to emerge as a response by fishers. Starting in the 1920s, these activities increased until practiced extensively by the 1930s. Due to the migratory nature of shrimp, and seasonal rounds of other species, work patterns developed that allowed fishers to either follow the shrimp to other geographic areas or change to another type of fishing. This response to changing economic and environmental conditions has been termed “opportunistic,” indicating the ability of North Carolina commercial fishers to adapt to changing economic and environmental conditions. Crabbing became a favorite catch change for many fishers, and the crab industry began to see a boom in the early 1900s (Maiolo 2004:30).

The fishing industry suffered reduced profits in the beginning of the 1930s due to the Great Depression. By 1933, production had increased steadily, and harvest quantities began to jump dramatically. In 1934, catch quantities increased by 13.5% over the 1931 total of 338,000 pounds, and by 1935 had increased nearly 20%. The number of commercial fishing vessels increased from 62 boats out of Southport in 1931 to more than 100 by 1933 (Figure 37). Despite the explosion of the industry, discontent spread widely as low prices were received from dealers for fish and shellfish, with average 1931 earnings for North Carolina fishers of only \$169 (Maiolo 2004:47).



**FIGURE 37. Southport Shrimp Trawlers, ca. 1935-1940 (Charles A. Farrell Collection, North Carolina State Archives, PhC.2.25.6, Raleigh).**

The fishing industry recovered in the decade after World War II due to increased demand, the improvement of capture technology, and territorial expansion. Diesel powered trawlers increased in size and sophistication of fishing gear. The most important expansion of the shrimping industry in North Carolina occurred with the opening of Pamlico Sound in 1951. A 1934 ruling by the Board of Conservation and Development had curtailed trawling in the sound in an attempt to protect small finfish. Although limitations eased in 1938, shrimp did not become an important fishery in Hyde, Pamlico, and Beaufort counties until the opening of the sound (Maiolo 2004:59-61). By 1953, shrimp had become the most valuable seafood product in the United States, peaking at a harvest of 14.6 million pounds (Kelly 1993:33; NCMH 2008:9). Tyrell County fisher Willy Phillips states of the shrimpers, “We called them ‘drifters’ because they drifted up and down the coast into Florida chasing shrimp, then they’d come up and trawl the sound” (Phillips 2010).

Along with shrimp, North Carolina profited from an abundance of blue crab, harvesting 6.7 million pounds of hard, blue crabs in 1950 (NCDMF 2008:26). The importance of the blue



crab fishery increased, and by 1965, North Carolina landings reported 22.3 million pounds (NCDMF 2008:23). The fishery hit a peak in 1998, with fishers harvesting 65.6 million pounds of hard-shell, blue crab. Blue crabs of the soft and peeler variety accounted for an additional 1.4 million pounds. Although still the most important fishery from an economic standpoint, recent landings show a decline in the pounds of hard-shell, blue crabs harvested, citing 20.5 million pounds in 2007 (NCDMF 2008:9-12)

### **Regulation of the Commercial Fishing Industry**

As the United States fishing industry prospered, the number of fishers began to grow, and the strain on the industry's wild-caught resources was soon apparent. Spurring the beginnings of a conservation movement by 1871, a joint resolution of Congress established the U.S. Commission on Fish and Fisheries (Godwin et al. 1971:1). Headed by Spencer Baird, the agency saw a need to reach a scientific understanding of the threatened marine environment. The need for scientific research resulted in the first fisheries surveys of the United States by George Brown Goode (1880). In 1915, the North Carolina Fisheries Commission organized, forming the forerunner to the current NCDMF (Godwin et al. 1971:1). The Division's initial duties were limited to law enforcement and oyster rehabilitation until the founding of the University of North Carolina's Institute of Fisheries Research in 1947 (Godwin et al. 1971:36). Research on North Carolina marine species began in earnest, although law enforcement remains the major Division activity.

As industry production continued to grow in North Carolina fisheries, the rapid expansion overwhelmed the management capacity of authorities, fishers, and dealers. Increasing competition for a fluctuating resource led to the escalation of conflict, and legislative government quickly introduced statutes to restore order (Godwin et al. 1971:2). By the 1960s,



fisheries management regulations caused the closing of approximately 46% of estuarine waters to trawling to protect the habitat and its juvenile animals. In the late 1970s, the implementation of the nationwide Magnuson Fishery Conservation and Management Act assured every special interest group representation in decision making regarding fisheries. The Fisheries Reform Act followed in 1997, regulating harvest participation to restrict those with outside, non-fishing income from unfairly competing with those whose livelihood depends almost completely on fishing (Maiolo 2004:111).

### **North Carolina Fisheries - Economic Issues**

Despite a rising demand for fishery products, commercial fishers in North Carolina face a growing number of economic, political, and environmental concerns that pose serious threats to their livelihood. Some of these challenges include decreased fishery production due to the alteration of habitat, restrictive state regulations and management plans, increased operating expenses, lower market prices, and lack of access to waterfront areas. Decline in the seafood economy generated on the Pamlico-Albermarle Peninsula could affect the economy of the peninsula and the entire state (Epperly 1984:3). The ramifications of these challenges are evident in the increase of abandoned and derelict vessels in the state and the closure of local fish houses.

Environmental conditions have taken a toll on the commercial fishing industry. Several hurricanes have ripped through the area, including Floyd in 1999, the latter filling the rivers and sounds of North Carolina with waste, toxins, and sludge, resulting in hypoxia or “dead water” zones. These zones brought lasting changes to the health of fisheries stocks (Cheuvront 2005:11; Burgess 2007:xviii). The 1999 hurricane season contributed to significant decline in hard blue crab landings, the effects of which persisted for an extended period of time (Burgess 2007:xviii).

More devastating to commercial fishers is the damage to gear, vessels, and personal property caused by hurricanes, resulting in a reduction in harvest and fishing mortality, as well as a loss of income for fishers (Burgess et al. 2007:xvii-xviii) (Figure 38, 39). Pollution has also been the cause of closings to 12,000 acres of oyster and clam beds, the result of new developments springing up on the waterfront (Maiolo 1982:217). The number of new developments along the waterfront has grown significantly, leading to runoff that pollutes the rivers and sounds, contributing to the decline of species health.



**FIGURE 38.** Vessels after August 1929 storm, Onslow Club (North Carolina Maritime Museum Photo Collection, No. A156, Beaufort).



**FIGURE 39.** "Flotsam" after August 1929 storm (North Carolina Maritime Museum Photo Collection, No. A148, Beaufort).

Waterfront development is another issue that affects access to prime areas for the fishing industry. The recent boom in the tourism and real estate industry has resulted in a demographic trend transforming coastal communities (Garrity-Blake and Nash 2007:3). Through tourism, the recreational and sport fishing industry has grown in areas commonly used by commercial fishers. Heated debates and controversy over market competition between these two actions led to several strict regulations, such as the Fisheries Reform Act discussed previously (Maiolo 2004:111). The popularity of North Carolina's Outer Banks, and recently the Inner Banks, led to its status as a prime location for second-home buyers, driving real estate prices and resulting

property taxes upward. The western Pamlico Sound region, long a rural and sparsely inhabited area, has shown population increases in the neighborhood of 40% since 1970. Carteret County has grown as much as 120% since 1970 (Fish et al. 2003:49). Residents living along the outer banks recently experienced property value increases with resultant taxation of more than 300% (Garrity-Blake and Nash 2007:6).

Combined with declining economic fortunes in commercial fishing, demographic and property value changes exponentially increase financial pressures on fishing families. As high-dollar developments increase, infrastructure critical to sustaining the fishing industry decreases. Fish houses, marine railways, and working harbors disappear, giving way to condominiums and private marinas. Garrity-Blake and Nash's (2007:10) *Inventory of North Carolina Fish Houses* indicates a 33.3% decline of wholesalers since 2001. Small boatbuilding and repair companies are driven out of business, replaced by high-priced yacht builders and exclusive marinas, making docking and boat repair costly or impossible for commercial fishers. Recent inflation and the soaring price of gas also add considerably to operating expenses.

Compounding a growing list of problems is the globalization factor on the price received by fishers for their catch. The domestic value of seafood has declined due to a flood of farm-raised, less expensive imports into the United States (Leavenworth 1994). In 2004, fishers were receiving less per pound of shrimp than they did in the late 1960s, accounting for inflation (Burgess and Bianchi 2004:108). This decrease is significant, as shrimp was one of the state's most valuable fisheries for a long period. Imports have also affected the prices of other shellfish such as crab, finfish, flounder, and grouper.

Fisheries management is another factor influencing the seafood industry. State and federal fishery regulations have closed or curtailed many fisheries relied on by the industry.

Large mesh gillnetting on the Pamlico Sound has virtually been eliminated, as well as the offshore dogfish and monkfish population (Garrity-Blake and Nash 2007:5). The restrictions on net size and the inclusion of Turtle Excluder Devices (TEDs) has also been a factor, leading some fishers to claim decreased shrimp catches (Allegood 1992). State regulations reduced the harvest of the state's most valuable fin fishery, southern flounder, by 70% (Garrity Blake and Nash 2007:5).

Decline is evident in a lack of support infrastructure for the seafood industry. Boat building, once dedicated to the craft of wooden boat building, turned its attention to fiberglass vessels and high priced yachts. A large share of boatbuilding for fishing historically took place in Beaufort, Marshallberg, and Harker's Island (Maiolo 1982:215). Generations of boatbuilders, such as the Varnams and Bellamys, practiced their art of vernacular watercraft construction for nearly one-hundred years (Kelly and Kelly 1993:111). Boatwrights also practiced the trade in their own backyard (Figure 40).

One does not have to look hard to see evidence of decline in commercial fishing, and the seafood industry in general, in North Carolina. Fish houses and landings are disappearing or relocating, forcing fishers to travel farther to offload their catch. Once well-maintained, sturdy trawlers lie abandoned and listing at neglected docks. One can also see a change in the industry infrastructure, such as a lack of boat builders who specialize in construction of commercial fishing vessels. Evidence is also apparent in the labor shortage or "aging out" of fishers, resulting in a dearth of "young blood" to continue the industry (Cheuvront 2002:25; Garrity-Blake and Nash 2007:5) (Figure 41).



**FIGURE 40. Backyard Boatbuilding, North Carolina, ca. 1935-1940 (North Carolina Maritime Museum Photo Collection, No. A315, Beaufort, NC).**



**FIGURE 41. Youth Shrimp Processing at Southport, ca. 1935-1940 (Charles A. Farrell Collection, c. 1925-1945, PhC.9.2.25.39, North Carolina State Archives, Raleigh).**

The generational loss of traditional knowledge in the boatbuilding industry is paralleled in the commercial fishing industry. Declines in fish stock, coupled with a low return price for fisheries product in North Carolina led to a fall in the number of youth carrying on a family's commercial fishing roots. This loss has considerable economic and sociocultural ramifications for an industry long known for generational continuity and cultural identity (Garrity-Blake 1996:2; Garrity Blake and Nash 2007:5). A 2007 *Fayetteville Observer* article reported dwindling numbers and little optimism from commercial fishers in Sneads Ferry. Long

struggling fishers in this community are encouraging their children to pursue other work, leading to the realization that the generation fishing North Carolina waters today may be the last to exploit this independent lifestyle.

### **North Carolina Commercial Fisheries – Economic Trends**

Fishing has a long history as America's "first industry," but seafood does not comprise a large part of the economy. In 1954, fishing accounted for less than 1/10 of 1% of the nation's income, and fish consumers purchased only 11 pounds of seafood per person, per annum (Woodward 1956:6). The commercial fishing industry is primarily one of small business and individual proprietorships. North Carolina's commercial fishery, located in the South Atlantic Region with South Carolina, Georgia, and Florida, grew slowly after World War I compared to other regions, and within its own region (Woodward 1956:12). Recent years show a change in this pattern, as National Oceanic and Atmospheric Administration (NOAA) statistics for the 2007-2008 years show a significant increase in catch value and pounds in North Carolina, compared to South Carolina, Georgia, and Florida. In 2007, North Carolina harvested 71,331 thousand pounds at a value of \$86,716. Compared to the other seven regions located within the United States, South Atlantic Region ranks sixth, behind the Middle Atlantic Region, with the Pacific Coast Region ranked first (Pritchard 2009:7).

#### *Historical Trends in Commercial Fishing Landings 1880-2008*

In order to understand historical trends of North Carolina's commercial fishing industry at the state level over time, statistical tables allow queries comparing catch value and pounds, persons employed in the industry, and the number of registered commercial fishing vessels. Several sources allowed tracking of this data for the 1880-2008 periods, including the NCDMF and NMFS, as well as Earll (1887), and Taylor (1927) (Appendix D). North Carolina ranks third in

the South Atlantic Region in terms of total landings revenue, as well as sales, income, and employment impacts, falling behind Florida and Georgia, but significantly ahead of South Carolina (NMFS 2006:98).

Using a chart to track the total landings in weight of all North Carolina Commercial Fisheries for the years 1880-2008 an increase is apparent from 1880 through the early 1900s, with high value spikes occurring in 1918 and 1929 (Figure 42). These years correspond with both the end of World War I, and the beginning of the Great Depression (1929-1939). A decline in weight occurs in years 1930-1931, followed by twenty years of similar catch weights. A rise in total harvest weight to a level higher than that found in the early 1900s occurs in 1952, peaking at 265,248,200 pounds in 1960, before plummeting near 1930 totals by 1965. A rebound in weight harvested occurred in the years following 1970, reaching its apex in 1980 at 356,192,806 pounds. A steady decline in harvest weight is apparent after 1980, reaching its lowest level in 2008 at 71,188,548 pounds.

The picture of harvest value for the state's commercial fishing industry is slightly different from that of the total weight harvested (Figure 43). The harvest starts low in 1880 at \$846,000, with a rise to the 1918 high of \$2,979,000. The value of harvest falls again in the 1930s, making little recovery until 1945. This is followed by slow but steady gain until 1969, at which point the rise in value is precipitous, peaking at \$68,783,510 in 1980. According to Diaby (1999:3), the majority of this raise in value is due to increased landings of blue crab, tuna, and shark in recent years. Values remain consistent through the next decade, with another peak in value after 1990, reaching an all-time high of \$108,315,339 in 2000. Totals fall after this peak, declining steadily to the recent 2008 harvest valuing \$86,813,005.

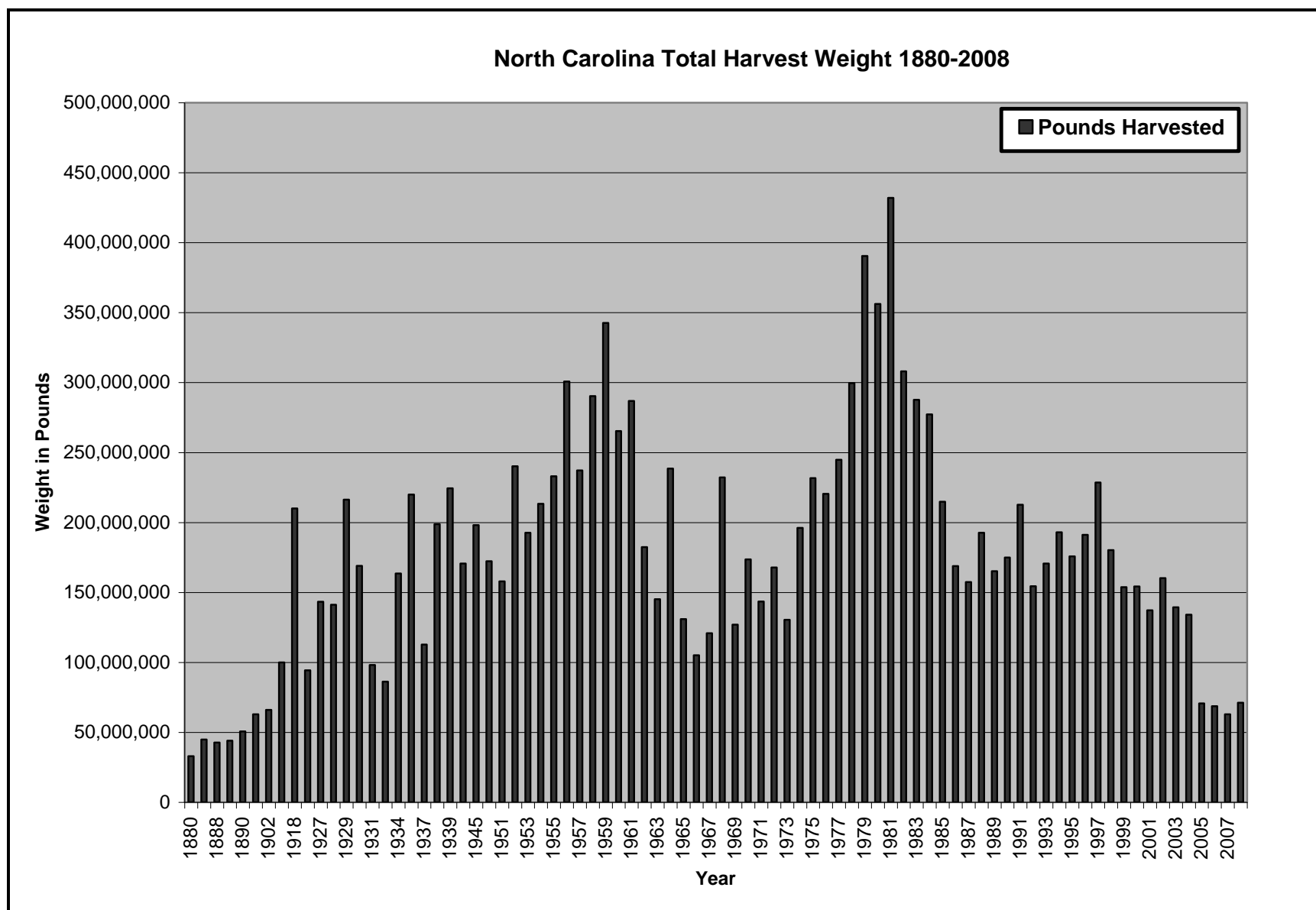


FIGURE 42. Chart of North Carolina Harvest Weight 1880-2008 (Goode 1880, Earll 1887, Phillips 1927, Taylor 1951, NCDMF 2008, NMFS 2008).



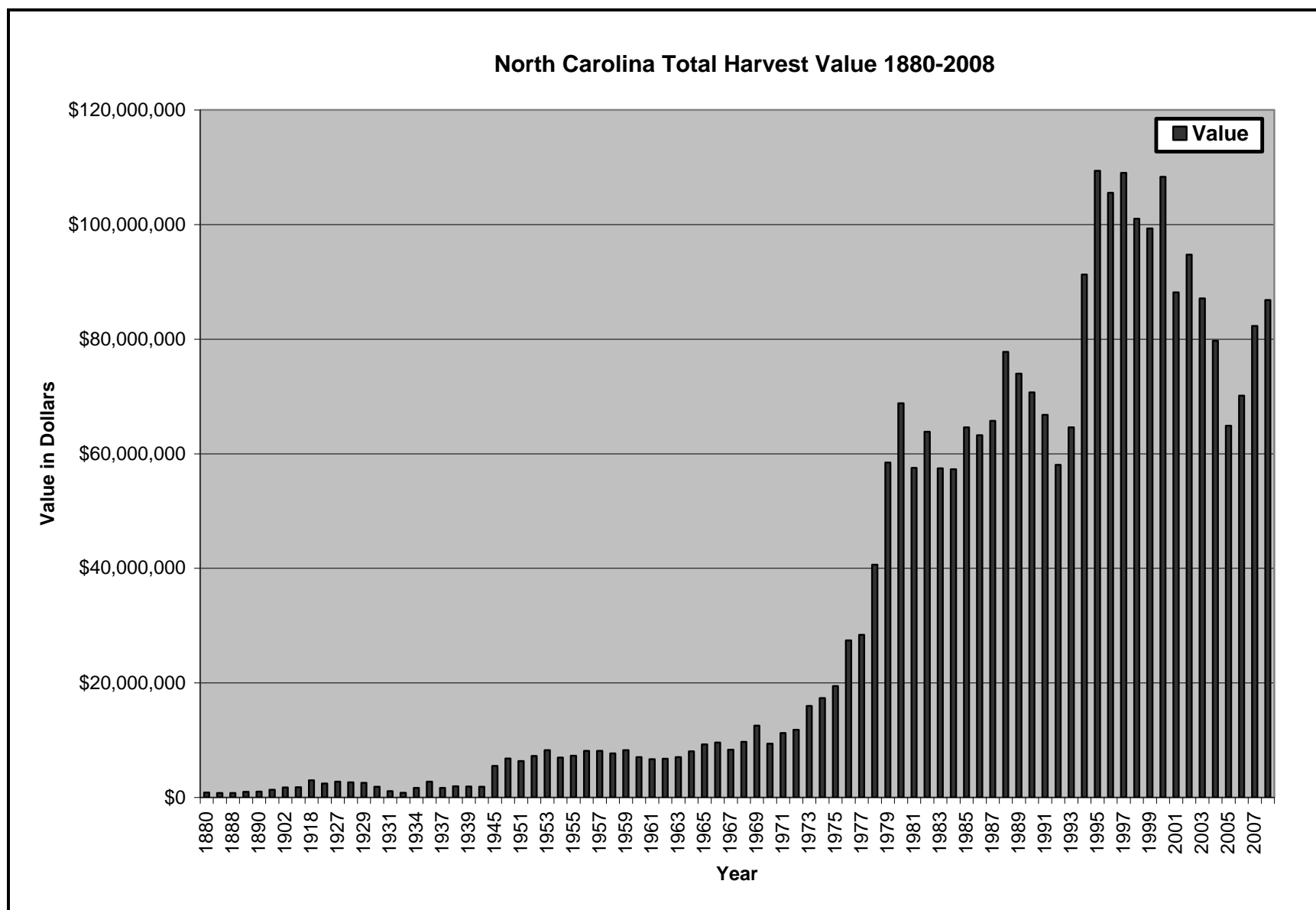
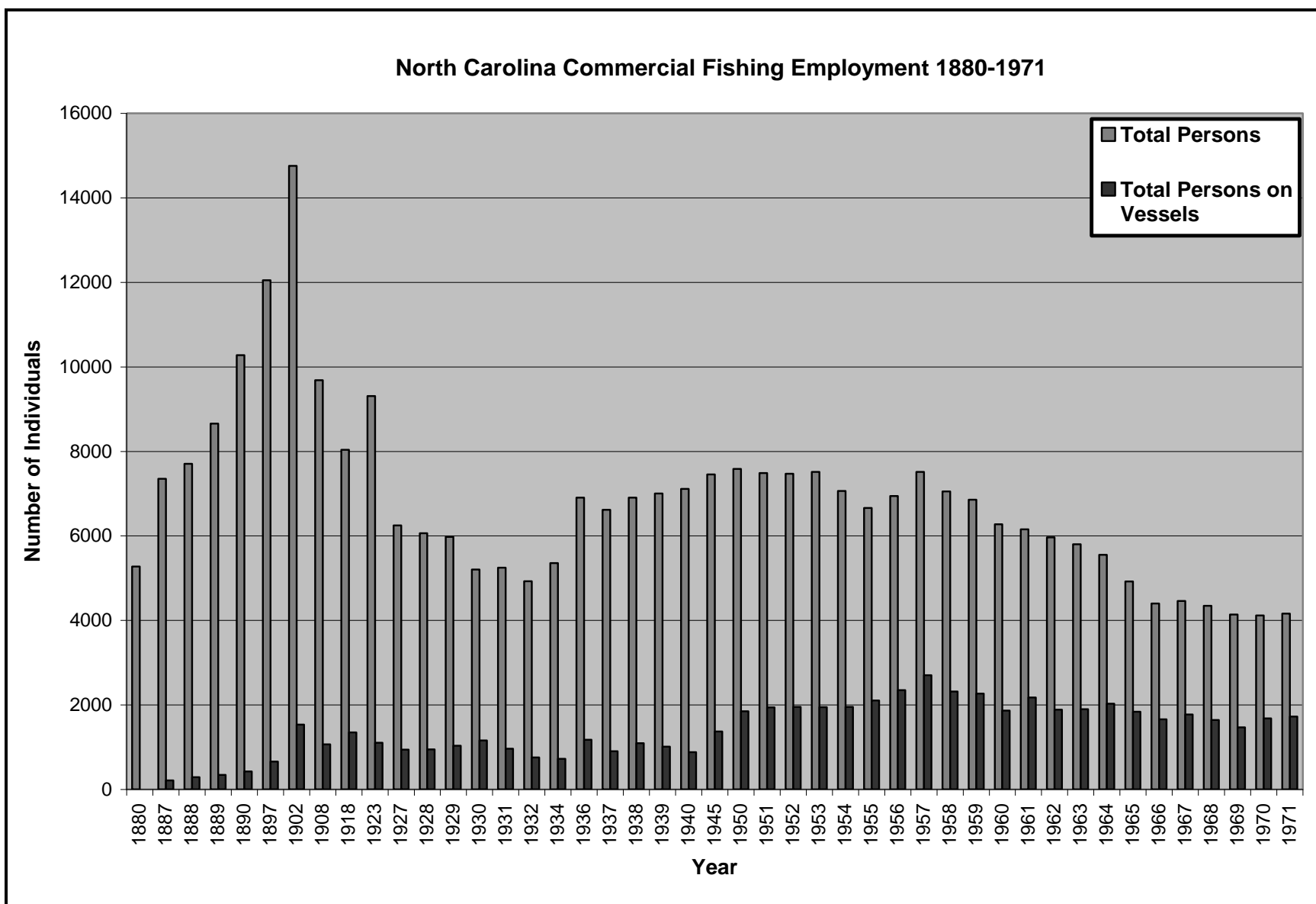


FIGURE 43. Chart of North Carolina Harvest Value 1880-2008 (Goode 1880, Earll 1887, Phillips 1927, Taylor 1951, NCDMF 2008, NMFS 2008).

In a comparison of harvest weight and value, it is clear that landings fluctuated significantly, particularly during the 1900s. In 1929, the first year of the Great Depression, harvest weight increased, while value remained similar to previous years. The years 1930-1933 show a decrease in harvest weight and value, followed by signs of recovery in 1934, experiencing a sharp drop in 1937 concurrent with the final years of the Great Depression (Rothbard 1972:xii-xvii). The value, conversely, remained similar through the early 1940s, increasing steadily after 1951. Values for catch landed for the years 1880-1940 are so low as to be barely discernable on the chart, while the weight for the corresponding years remains steady near 50,000,000 pounds. During 2006, the harvest weight decreases, while harvest value begins a steady climb. In 2007, value surges, while catch weight remains low, this pattern continuing through 2008.

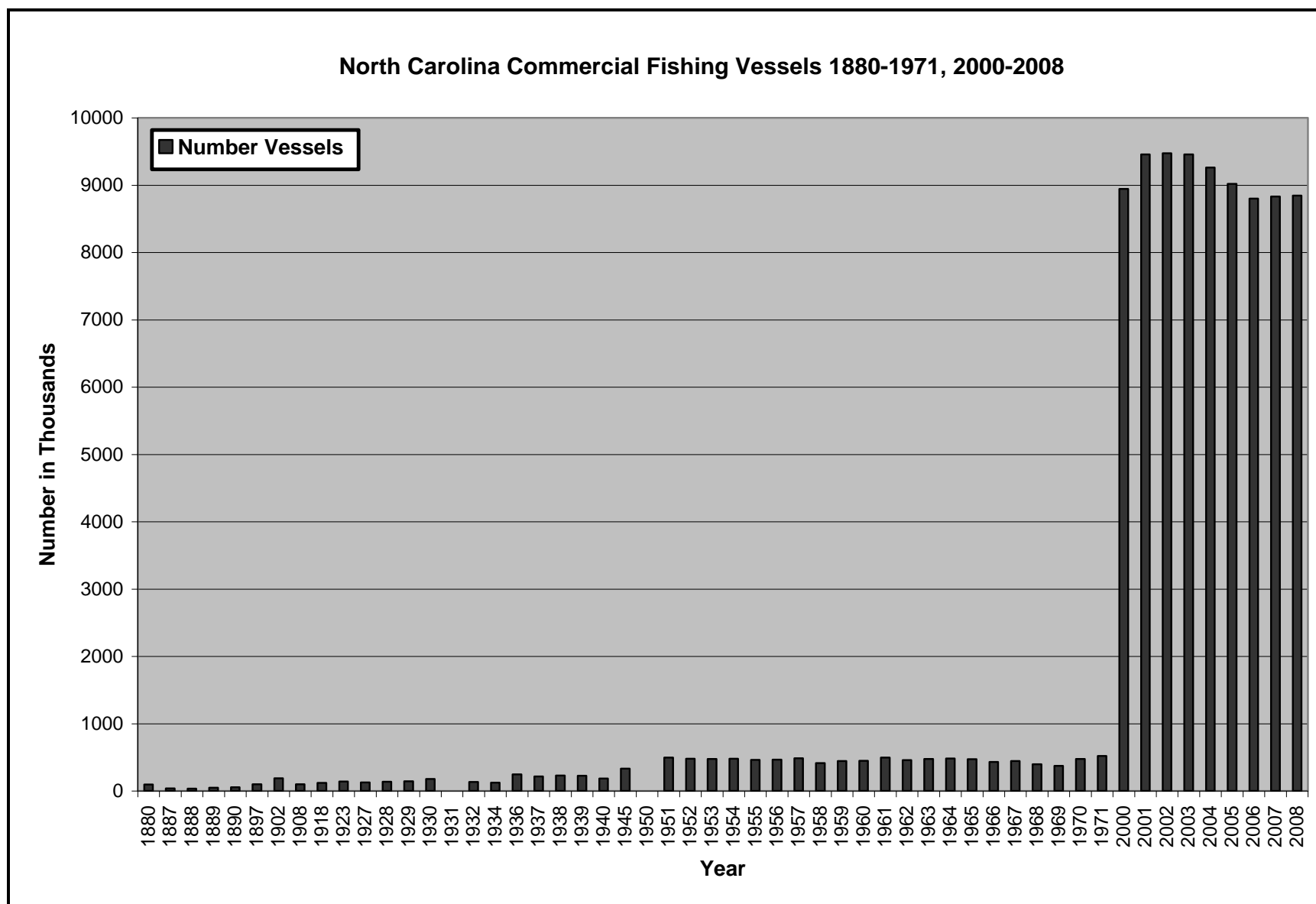
Many communities participating in North Carolina's commercial fishing are small, and their local economies rely heavily on the industry. Total personnel employed in the commercial fishing industry are listed in a chart (Figure 44) for the years 1880-1971. The total persons working on fishing vessels is displayed for the same period, showing the distribution of employees working from land, processing and marketing the catch. A significant number of employees reliant on the fishing industry are involved in this aspect of the seafood industry. Following the chart of total persons employed in the industry, a steady rise is apparent from 1880, peaking in 1902 with 14,755 reported employees. This precipitous rise is followed by a decline in industry workers to a number similar to that of the late 1800s, reaching a record low in 1932 of 4,923, during the Great Depression. Employee numbers rise again with some regularity, experiencing a slight decline in the 1950s, only to rise and decline once again, with 1971 seeing the employment of only 4,160 individuals.



**FIGURE 44. Histogram of North Carolina Commercial Fishing Employment 1880-1971(Goode 1880, Earll 1887, Phillips 1927, Taylor 1951, NCDMF 2008, NMFS 2008).**

The number of commercial fishing vessels plying North Carolina waters for commercially marketed seafood resources is also an area of enquiry helpful for understanding the industry's economic contribution and trends. Several interesting patterns are apparent upon analyzing a chart of the state's registered commercial fishing vessels (Figure 45). First, there is a gap in the register's record in both 1931 and 1950. While it is tempting to associate this lack of information to the Great Depression (1929-1939) and the Korean War (1950-1953), this gap is not visible concerning the number of industry employees working on vessels. Clearly, some information exists pertaining to the number of vessels registered at that time, but it is unavailable. With little fluctuation, the number of registered vessels increases with regularity until 1945, with a sharp rise to 331 vessels mustering out pay, just before another gap in registration data for the years 1946-1950. This gap again corresponds to conflict, the year 1946 directly following the United States' involvement in World War II (1941-1945), and the beginning of the Korean War (1950). Registration records return in 1951 with 491 vessels, the number continuing to grow with little fluctuation until 1971 with 521 working fishing boats.

Recent data from the years 2000-2008 are included directly to the right in the graph, intended for comparison. It is obvious that between the years 1971-2000, the number of commercial fishing vessels plying North Carolina waters increased substantially. This period corresponds to an increased importance placed on the harvest of shrimp and crabs, corresponding to a rise in catch value (NCDMF 2008:9-12). Within the last decade, the state reached a pinnacle with the registration of 9,472 fishing vessels in 2002. The 2008 registration has fallen slightly from that number to 8,846 working fishing vessels.



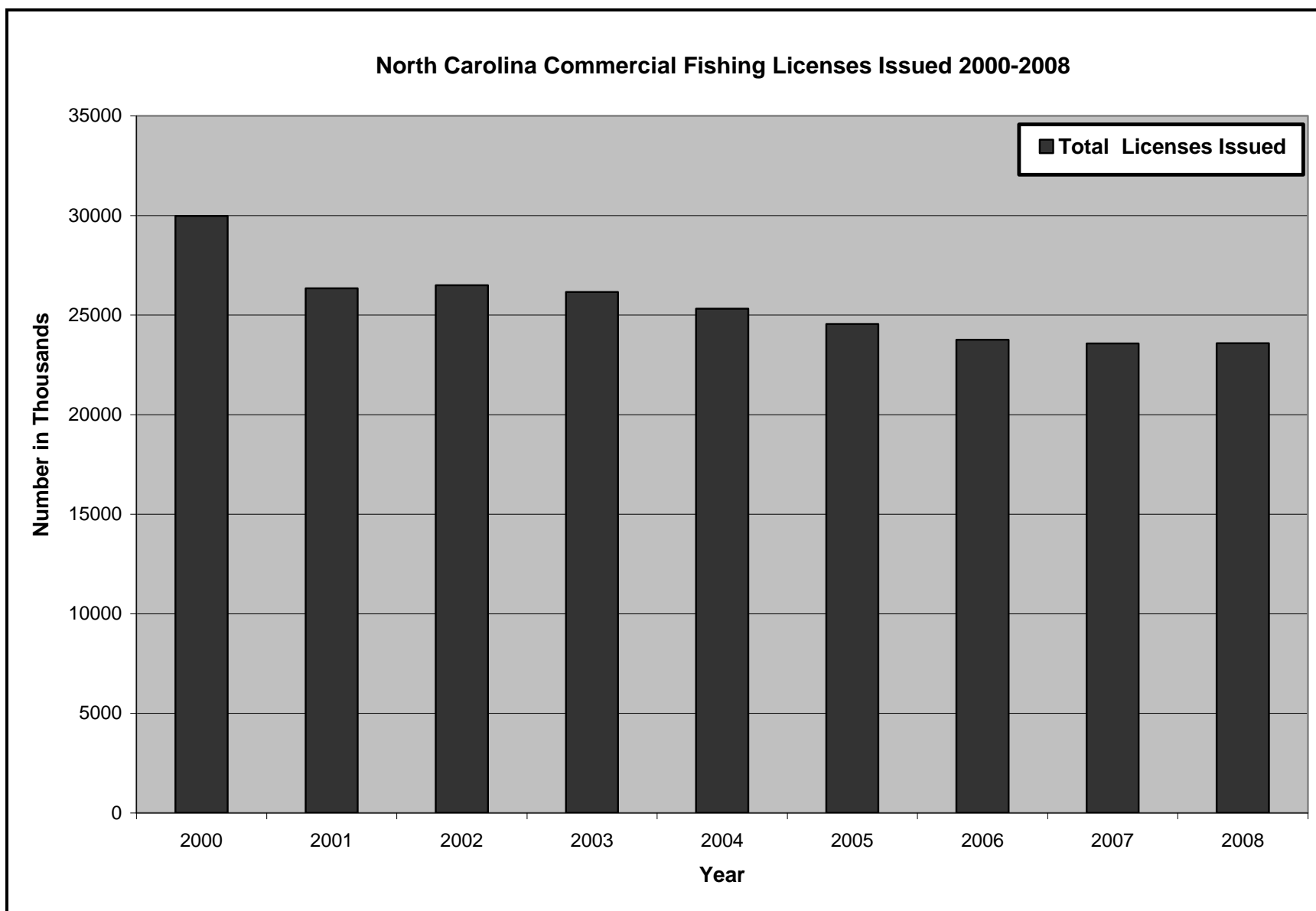
**FIGURE 45. Histogram of Registered North Carolina Commercial Fishing Vessels 1880-1971 (Goode 1880, Earll 1887, Phillips 1927, Taylor 1951, NCDMF 2008, NMFS 2008).**

### *Current Economic Trends 2000-2008*

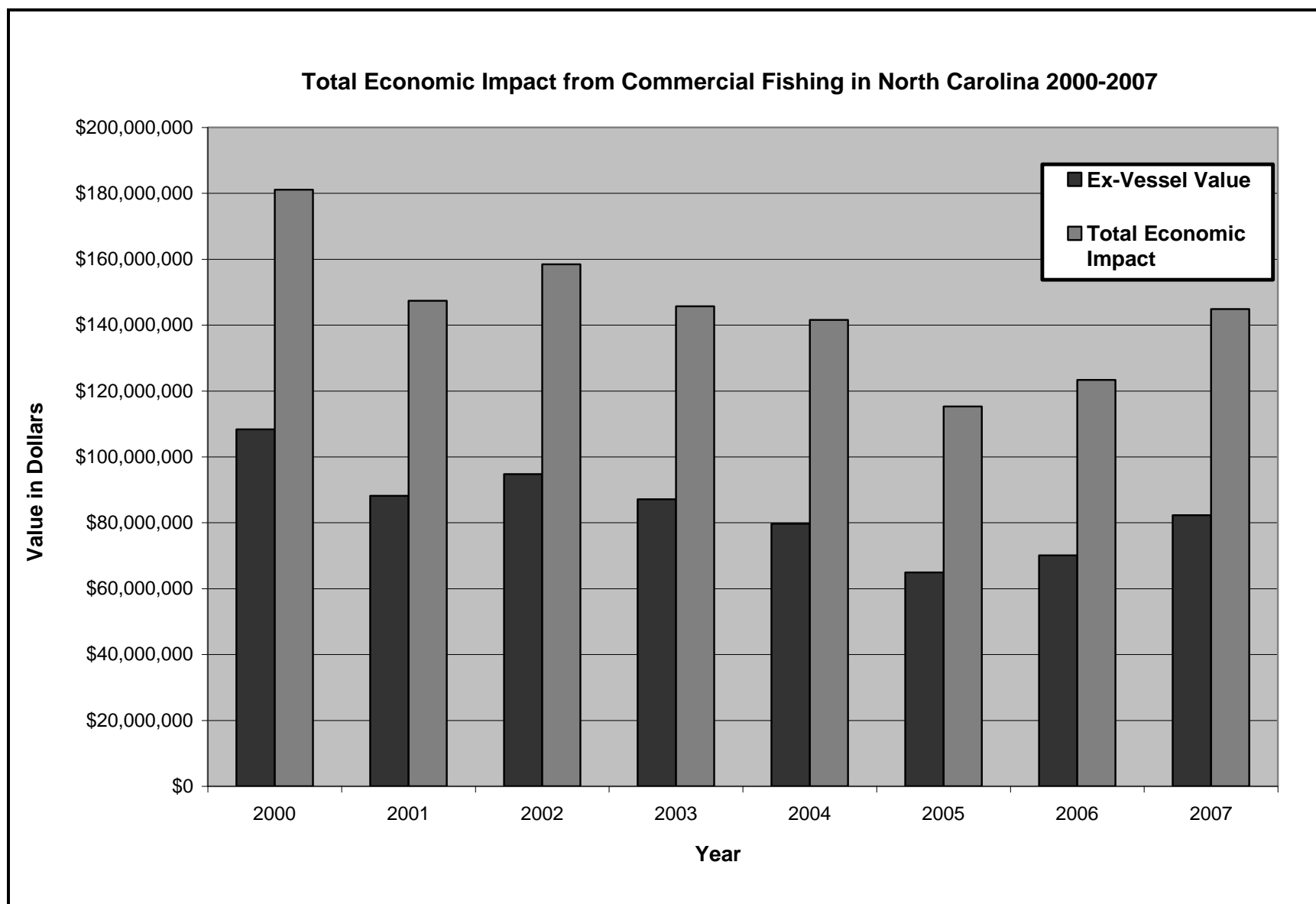
The analysis of current economic trends in the commercial fishing industry is possible through data supplied by the NCDMF, reflecting the number of commercial fishing licenses issued by the state, and the economic impact of the fishing industry. An inventory of fish houses, supplied by a study undertaken in 2007 by Garrity-Blake and Nash, is also a critical component of the commercial fishing infrastructure. Researchers surveyed current fish-house owners concerning gross annual sales, plans for the business, past fish-houses in the area, and a host of other questions concerning economic and social impact.

The number of commercial fishing licenses issued by the state is an excellent indication of the overall health of the industry, as a decline in licenses generally indicates a decline in wild-caught produce. A chart of the registered licenses (Figure 46) displays a peak number in 2000 with 29,971 registered commercial fishers, followed by a slight, but steady decline to the 2008 level of 23,584 licensed fishers. This decline could well represent the loss of “young blood” in the industry, as well as an ageing out of the population that has been sustaining the industry since the mid-20<sup>th</sup> century.

The economic impact felt by the industry is summarized in the data compiled by the NCDMF, and assembled in a chart (Figure 47) tracking the totals from 2000-2007. The chart tracks the ex-vessel value (value of the catch off-loaded from the vessel), and the total economic impact of the catch in the community. It is not difficult to see the total economic impact for North Carolina is significantly higher than the ex-vessel value of the commercial fishing catch itself. The ex-vessel value and total economic impact display some economic fluctuation, but a general decline is seen compared to the high values of 2000. The NCDMF recorded 5,434 new jobs created through the commercial fishing industry during the years 2000-2007.



**FIGURE 46. Chart of North Carolina Commercial Fishing Licenses Issued 2000-2008 (NCDMF 2008, NMFS 2008).**



**FIGURE 47. Chart of Economic Impact of North Carolina fisheries 2000-2007 (NCDMF 2008, NMFS 2008).**



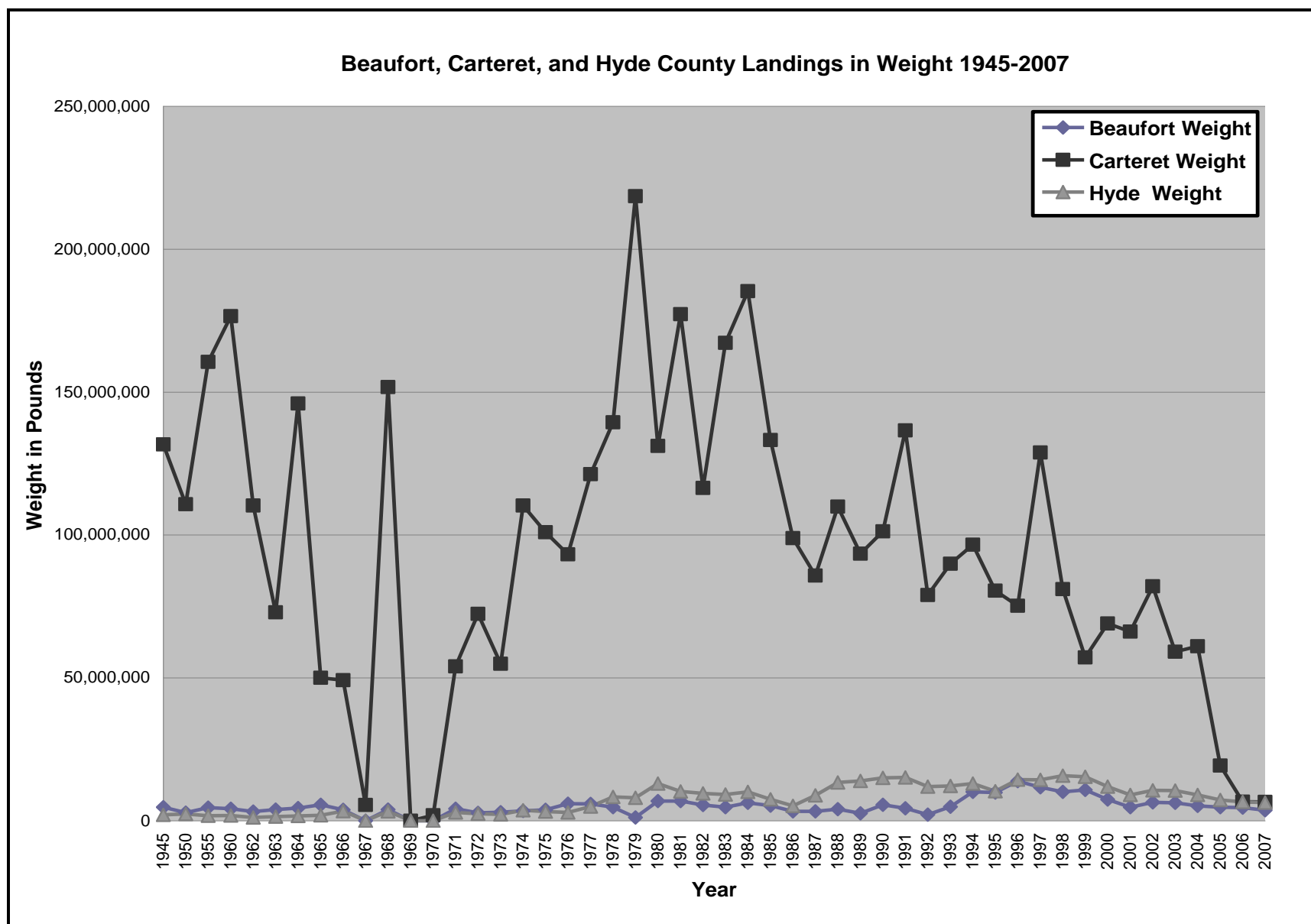
The study of North Carolina fish houses provides an assessment of fish houses or seafood wholesale facilities that land and distribute domestic product to market (Garrity-Blake and Nash (2007:3, 14). Tallies were compared to fish house totals in 2000, demonstrating a 33% reduction in seafood packing capacity, primarily occurring in the central region. Fish house owners face declining incomes and rising property taxes, forcing some to consider relocation or closure. Statewide, landings exhibit a steady decline since 1997, the lowest value on record occurring in 2005. The ex-vessel value or catch offloaded from boats dropped from \$108,325,352 in 2000 to \$64,896,645 in 2005 (NCDMF 2006a:81). The central region is experiencing the highest number of fish house closures in the state, largely due to the number of small proprietorships that recently closed in Pamlico, Hyde, and Beaufort Counties (Garrity-Blake and Nash 2007:12). These areas, heavily dependent on crab, flounder, and trout, are experiencing tighter fishing regulations and increased picking house closures. Large trawlers that plied the Pamlico Sound for shrimp are forced to utilize northern fisheries or remain dockside.

### **Beaufort County Commercial Fisheries – Economic Trends**

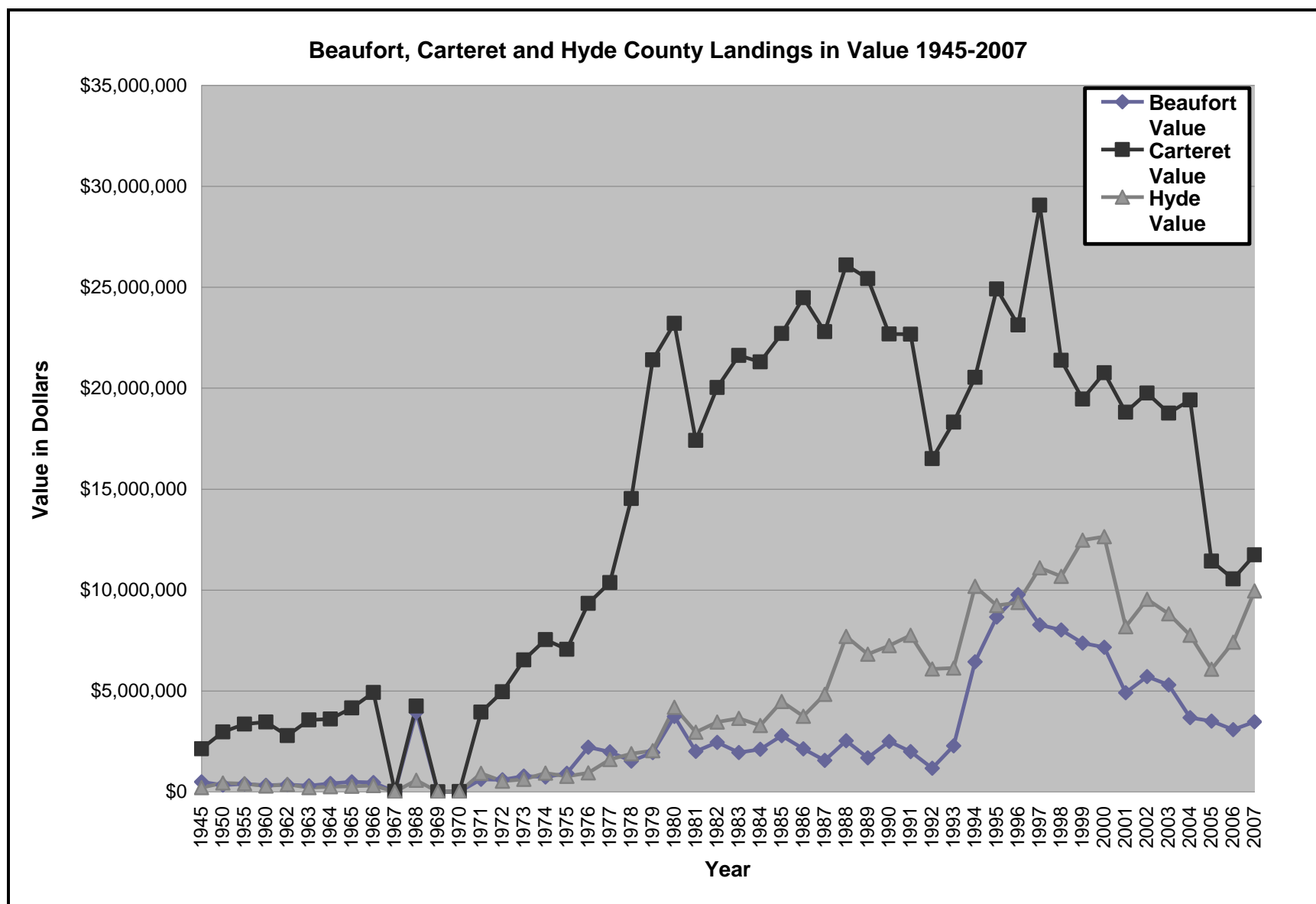
In order to understand the economic trends that most influence the Wright's Creek commercial fishing community, queries of fisheries data at the county level is necessary. Located in the central region of North Carolina's fishery, Beaufort County provides convenient locations for small, fishing towns, including Belhaven. These communities include those found in Beaufort, Bertie, Brunswick, Camden, Carteret, Chowan, Craven, Currituck, Dare, Hertford, Hyde, New Hanover, Onslow, Pamlico, Pasquotank, Pender, Perquimans, Tyrrell, and Washington counties (Diaby 1999:14). The fishers of Wrights Creek primarily off-load their catch and sell their product to fish houses within their community. Fishers are opportunistic, however, and search out fish houses paying top dollar for their catch.

Analyzing historical trends at county level is difficult, as reliable data extends back only to 1950. In order to grasp Beaufort's economic status in comparison to other counties with commercial fishing landings, a three county comparison of landings weight and value is charted between Beaufort, Hyde, and Carteret for the years 1950-2005. From the chart for landings in weight (Figure 48), it is apparent that Beaufort and Hyde Counties have historically landed significantly less catch weight than Carteret County, and Beaufort and Hyde counties historically display similar catch weights. Carteret and Hyde display similar catch weights through 1975, diverging with Hyde slightly in the lead for total landings in weight after that year. Possibly more interesting is the rock-bottom figures for all three counties for the years 1967, and 1969-1970. This is likely the effect of fisheries regulation discussed previously, including the 1960s harvest closings, and the institution of the 1970s Magnuson Act. While Hyde historically led all three counties in capture weight, it is apparent that this trend begins a downward track after 1985, resting near similar Beaufort and Hyde capture weights.

A line chart (Figure 49) tracking the value of the catch between the three counties during the years 2000-2007 follows a similar pattern in that Beaufort and Hyde share similar catch values through 1980, diverging after that year with Hyde in the lead for catch landed values. Carteret's catch was valued at \$2,960,927, while Hyde reported a value of \$434,218, and Beaufort reported \$326,616. As might be expected, all three counties show a zero value for 1969, as no catch weight was reported for that year. Of the three counties, Carteret is the only one reporting catch weight and value for the years 1967, 1968, and 1970, although the amounts were greatly reduced from their usual trends in 1967 and 1970. Further, while a small increase in value is seen after 2005 for Carteret and Hyde Counties, Beaufort exhibits a slight decline. In general, values appear to have declined to a rate similar to that found in 1980.



**FIGURE 48. Line Chart of Total Landings in Weight for Beaufort, Carteret and Hyde Counties 1950-2007 (NCDMF 2008, NMFS 2008).**



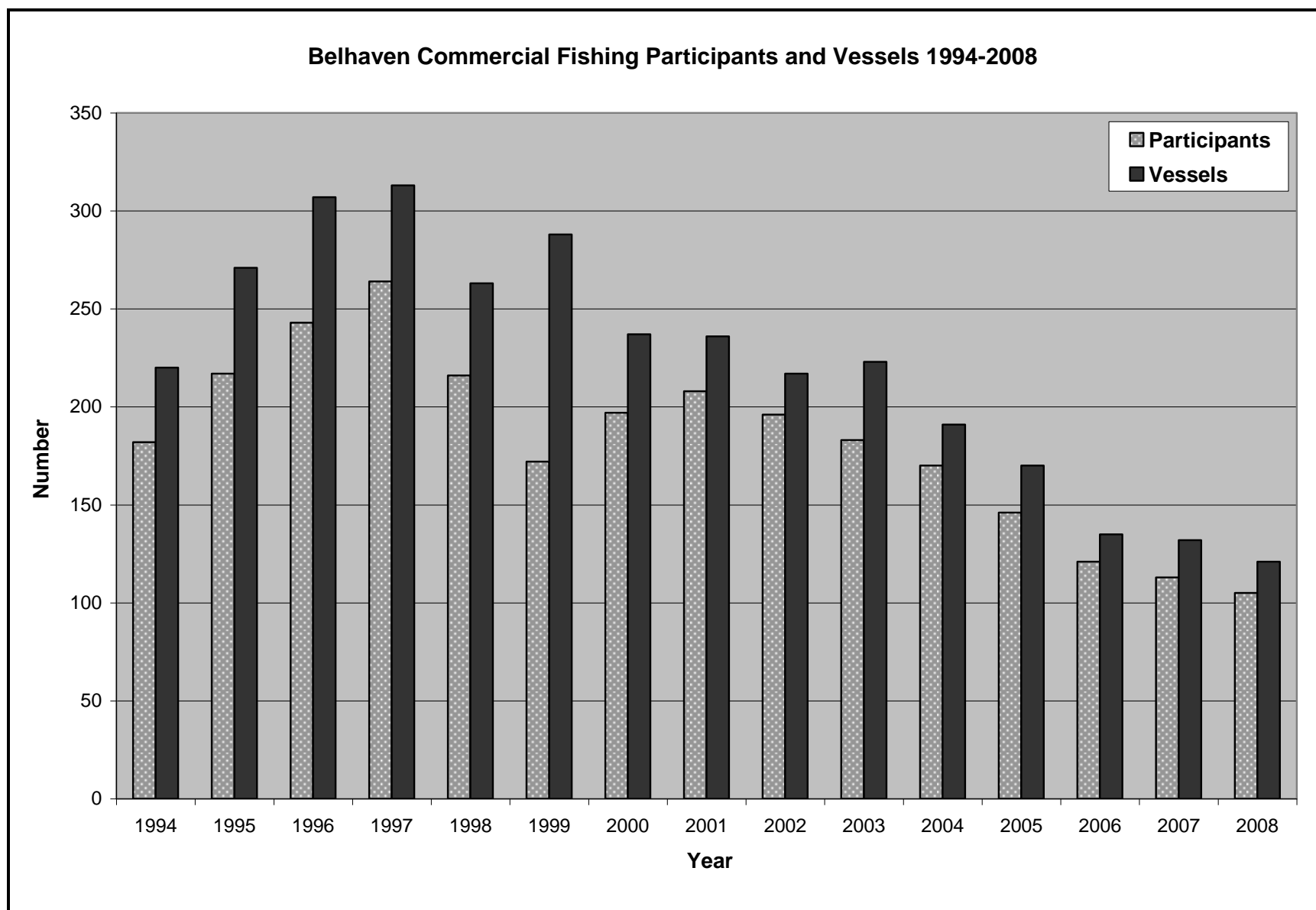
**FIGURE 49. Line Chart of Total Landings in Value for Beaufort, Hyde, and Carteret Counties 1950-2007 (NCDMF 2008, NMFS 2008).**

### **Belhaven's Commercial Fisheries – Economic Trends**

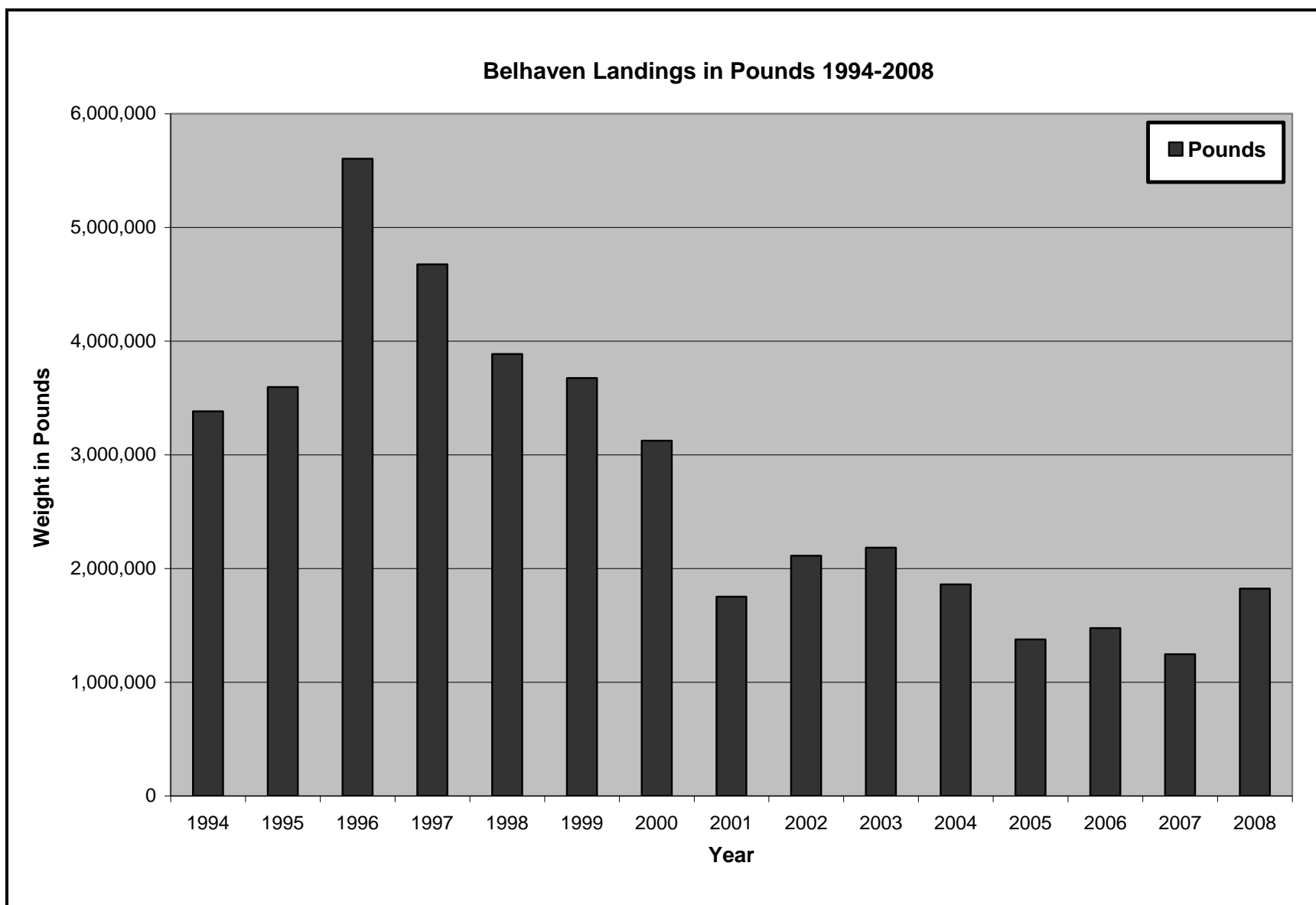
Belhaven landings data is not in the NCDMF published record, and much of the information at city level is not available to the public in an effort to protect the individual privacy of commercial fishers. Fortunately, Alan Bianchi, of NCDMF understood the need for research at the city level, and generously compiled data concerning commercial participants and vessels, pounds harvested, and number of trips for the years 1994-2008.

The number of Belhaven's commercial fishing participants and vessels for the years 1994-2008 displays a significant rise in participants and vessels for years 1994-1997. Participants in Belhaven's commercial fisheries numbered 182 in 1994, and 220 vessels. Aside from some fluctuation, data for both categories reflects a downward trend after 1997, culminating in the lowest totals in 2008. Participants fell to 105, and vessels to 121, the lowest numbers in the 14-year time span. It is also interesting to note that vessels outnumber participants through the years 1994-2008, reflecting the use of smaller crews for harvest.

Considering the landings in weight for Belhaven, a chart (Figure 51) displays its catch in pounds for the years 1994-2008. Similar to the chart for participants and vessels, Belhaven displays rising weights from 1994-1997, with a total weight landed of 3,381,614 pounds in 1994. After 1997, the port's totals begin a steady decline until 2001 with a total catch of 1,751,904. Although experiencing a slight rise in weight after 2001, the totals fluctuate, declining through the lowest numbers found in 2007 of 1,246,167 pounds, rebounding only slightly in 2008 with a catch of 1,823,655.



**FIGURE 50. Chart of Belhaven Commercial Fishing Participants and Registered Vessels 1994-2008 (NCDMF 2008).**

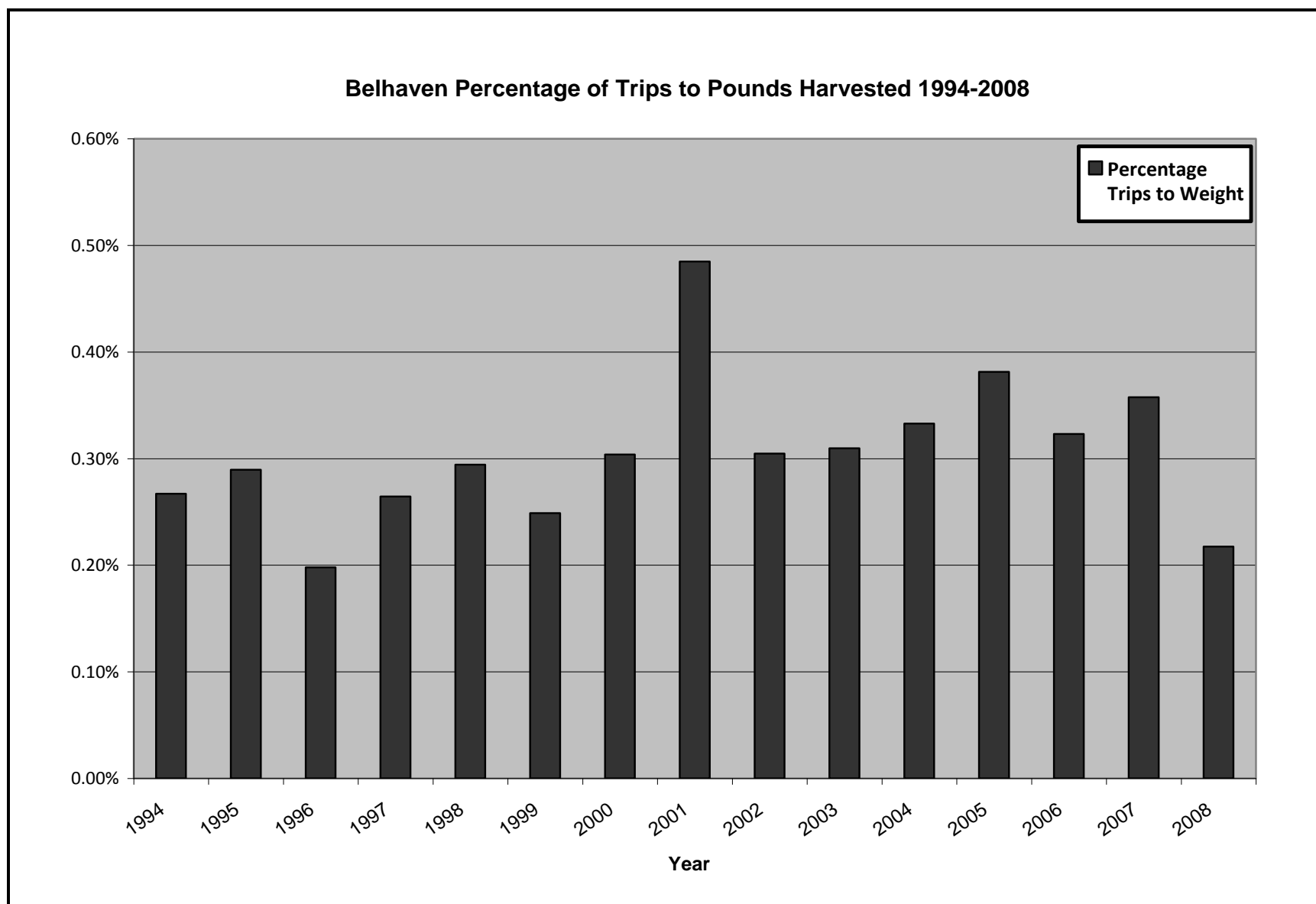


**FIGURE 51. Chart of Belhaven Total Landings in Pounds 1994-2008 (NCDMF 2008).**

In addition to the economic issues mentioned earlier, commercial fishers face an additional problem with decreasing catch weight, and the need to perform frequent trips to land a sufficient harvest. Decreasing catch weight is the result of falling fish species numbers, as well as the impact of fisheries regulations that restrict access to some fishing areas. This means extra expenses for the captain and crew of fishing vessels, as they must spend more in gas to motor to their fishing grounds, and buy more supplies for additional outings. Rising prices at the gas pumps heighten this effect, removing more from the boat owner and crew's profit.

A chart (Figure 52) of the percentage of trips to pounds harvested displays the ratio between the weight of the catch, and the number of trips needed to land the catch for the years 1994-2008. The ratio shows a significant amount of fluctuation, with a slight rise in the number of trips required from 1994-1995, with a significant drop in trip numbers in 1996, only to rise again and fluctuate through the year 2000. A significant spike in the number of trips necessary to land a sufficient harvest is seen in 2001, with a landed weight of 1,751,904 made in 8,493 trips. This spike represents a lower catch weight, harvested through an increased number of trips, the effect of a declining harvest, and the need to travel farther for the catch. The previous year, fishers needed only 9,485 trips to land 3,123,284 pounds. After 2001, the trip to harvest weight ratio declines to near 2000 numbers, then rises and fluctuates until a decline in the ratio is again evident in 2008 with 1,823,655 pounds landed in 3,964 trips.





**FIGURE 52. Chart of Percentage of Trips to Pounds Harvested for Belhaven 1994-2008 (NCDMF 2008).**

## **Demographics**

Understanding the issues of the commercial fishing industry, and thereby the factors contributing to the creation of a fishing graveyard, requires knowledge of the social and economic characteristics of the industry. In addition, focusing on the demographics of the commercial fishers in the Pamlico and Albemarle Sounds allows a better understanding of fishers within the Wright's Creek study area. The NCDMF (2008) and United States Census (USCB 2000) provided data for the demographic characteristics of this area.

The fishers of the Albemarle and Pamlico Sounds work the area defined by the Outer Banks, from the Virginia border to the Core Sound area, but do not include the Core Sound. Dividing this area into twelve interconnected water bodies, the NCDMF includes the more than twelve counties within these waters. These waters consist of approximately 1.9 million acres (Crosson 2007:4). In a 2005 study, the NCDMF queried 1,633 licensed commercial fishers of the Albemarle and Pamlico Sounds on demographics, dependence on commercial fishing, as well as the estimates of the costs and earnings associated with commercial fishing.

According to the study, the fishers working the Albemarle and Pamlico Sounds are primarily men (95%) and white (94%) (Crosson 2007:6). The majority of those surveyed had been fishing for an average of 26 years, integrating deeply into their communities, many having lived there for nearly 40 years. The most common counties of origin included Beaufort, Dare, Currituck, Hyde, and Pamlico. In addition to longstanding ties to the community, these fishers displayed longstanding ties to commercial fishing; a large majority came from fishing families. According to Crosson, the median number of generations in a fishers family is three, meaning several fishers in this sample had a grandparent who fished. In fact, 64% of those surveyed had a father who fished, and 58% had grandparents who fished. In the case of these fishers, however,

the youth in their families has fallen away from the profession, with only 38% recording children that fish (Crosson 2007:7).

Two-thirds of the fishers consider themselves full time fishers, although this does not inhibit them from earning income elsewhere. For 39% of those queried, fishing is their sole source of income, and for others, fishing counts for at least two-thirds of their income. Median household income is \$40,000, comparable to that of North Carolina's median household income of \$40,572 (USCB 2000). However, less than 11% reported earning over \$30,000 in 2004 (Crosson 2007:11). In addition, 97% of the fishers owned boats, and many own more than one boat. Vessel size appears to play a part in ownership as well, with 60% of the boats between 19-38 ft. in length, and only 8% owning large vessels over 38 ft. Mean and median boat expenditures were calculated for fishers of the Albemarle and Pamlico area. A share system for boat expenditures is shown to be in use by 23% of the fishers, and most (86%) deduct the price of fuel from the trip. According to 62% of those surveyed, the price of ice and any groceries is an added deduction, and many deduct the price of bait. After deductions, division of the profits occurs between boat/captain/crew, usually in a 50/25/25 split (Crosson 2007:9).

### **Conclusion**

The data for North Carolina's fisheries, spanning the years 1880-2008, represents an economic and socio-cultural record of the commercial fishing industry. In terms of total harvest weight and value, the commercial fisheries display a fluctuating trend, rising and declining with periods of conflict, and the inherent bias in the record. In the case of harvest weight, a steady decline begins after 1980, while a decline in value is more recent, occurring after 2000. Employment in the fishing industry is another economic category that is registering decline, with the total persons employed in the industry decreasing steadily since 1957. This is reflected in the

decline of commercial fishing licenses issued, as well as total economic impact felt by North Carolina, both falling significantly since 2000.

On a county level, three counties in the central fisheries area of North Carolina display a declining trend in total landings in both weight and value. Although both weight and value display fluctuations in the historical record, Beaufort, Carteret, and Hyde shows declines since 2000. In the Belhaven study area, the number of fishers and vessels in the industry has declined steadily since 1997. This is nearly the same time and decline evident in Belhaven's total landings in pounds, the highest levels not seen since the nearly 5.5 million landed in 1996.

The seafood industry in North Carolina is changing, and the long-standing tradition of commercial fishing is in danger of disappearing. Economic fortunes that began on the Chowan River and spread throughout North Carolina's central region have disappeared, as evidenced by the loss of bustling waterfront fishing communities, and the rise of high-dollar real estate and recreational industries. Ironically, this decline continues to occur despite a growing market demand for fresh, local seafood, likely due to the low ex-vessel prices received by dealers.

The support infrastructure that enables commercial fishers to continue their way of life is also changing. As real estate values increase, property taxes follow driving fish houses to close or relocate inland. Inland relocation also has a negative effect on fishers, as docking, repair, fueling, and unloading stations provide services critical to the trade. Longer travel to distant landing stations further influence the fortunes of these fishers, as gas prices increase. The growing list of problems facing commercial fishers led to a labor shortage, and the traditional way of life that accompanies fishing is beginning to disappear from North Carolina's waterways. Vernacular boat builders are disappearing, failing to pass on their valuable knowledge to a new

generation, while older fishers are landing the last of their catches with no sons, or daughters, interested in carrying their legacy forward.

The commercial fisher's plight is well known in North Carolina. A search of any newspaper database springs forth a flow of articles related to the economic plight of fishers, citing reasons such as inflation, foreign imports, and declining health of the fisheries to name only a few. Government co-ops and funding opportunities persist in several areas, including Belhaven, but with limited success. Although interest in commercial fishing's plight is on the rise and some financial assistance programs instituted, irreparable damage to the small, rural commercial fisher is likely.

## CHAPTER 6: ARCHAEOLOGICAL SURVEY RESULTS

### **Introduction**

The discarded materials of the commercial fishers of Wright's Creek represent the history and culture of the surrounding rural community. In an effort to document abandoned watercraft locations, a survey of the Pamlico River conducted by ECU (Babits and Kjorness 1995) led to discovering the study area. The data produced by this survey lacked sufficient information to answer questions posed in this thesis, necessitating additional research and fieldwork in order to generate data related to specific archaeological themes. To expand the archaeological knowledge of the project site, fieldwork occurred over several visits during 2007-2010. The additional archaeological surveys augmented data collected during previous surveys, providing a means to explore theoretical questions based upon the presence of the archaeological record, historical documentation, and oral interviews. The archaeology of Wright's Creek encompasses the forty watercraft discovered in various states of discard or abandonment near the shores of the commercial fishing community. This chapter focuses on the location of graveyards and vessels within Wright's Creek, the condition of their associated cultural material, and observed formation processes.

Reconnaissance of Wright's Creek conducted in November 2008 resulted in visual confirmation of several possibly abandoned vessels. Upstream from its mouth approximately 0.6 mi., Wright's Creek divides into north and south prongs. Twenty-five sites are located in the north prong near working docks, while the south prong contains fifteen sites. Of the forty sites visually confirmed, fourteen presented conditions favorable for physical survey. During initial pre-disturbance survey, the majority were located at an average depth of 2 ft. of water, although later survey averaged approximately 8 ft. The survey area substrate is a thick layer of soft mud,

at times with a depth of more than 6 ft. Debris from submerged vessels and human activity permeates the deep sediment layer.

Formation processes at these sites involve a combination of cultural and non-cultural transforms. Cultural transforms include salvage, reuse, and discard activities. Initial discard events may be temporary, while vessels and associated equipment await reactivation through recycling. These events are often followed by permanent discard through abandonment. Non-cultural, or natural transforms, cause damage to the vessels wrought by wind, wave action, water pH and salinity, as well as acidic mud. A combination of natural factors affects environmental conditions on the Pamlico's northern bank, including wind, water depth, stream configurations, and dry land (Babits et al. 1995:4). Sea level change causes damage through slow erosion, while damage from wind and wake rapidly alter the terrain. Storms have the most dramatic effect on the topography (Garrett 1983:39). According to Babits and Kjorness (1995:4), this survey area suffers from a combination of northeasters and hurricanes on a regular basis.

North Carolina has experienced several prominent storms throughout its history, with 17% of all hurricanes in the U.S. reaching its shores (Blake et al. 2005:5). Since 1950, 42 storms have entered the United States' Exclusive Economic Zone (EEZ) in North Carolina, an area within 3 to 200 nautical miles from the coast (Burgess et al. 2007:11). Several hurricanes affected the current study area of Wright's Creek, including the Storm of 1913, Hazel in 1954, Floyd in 1999, and Isabel in 2003. After all four hurricanes, reports of damage to public and private property soared into the millions of dollars, and scores of damaged and abandoned boats littered the waterways (Smith 2004a:16, 2004b:14; Burgess et al. 2007:xvii)

Bradley Creek, a smaller slough within Wright's Creek, is shallow and ringed with *Spartina* (cord grass), creating the only area of semi-solid ground around the shallow waterway.

Babits and Kjorness' (1995:53) survey in 1994-1995 noted thirteen vessels at the head of this creek. During the 2008 survey, only six of the vessels were still awash, with another three vessels visible just beneath the water's surface. Use of this location appears primarily as a vessel abandonment site, isolated from the working docks and homes of the local community.

### **Current Archaeological Surveys and Site Identification**

Current archaeological surveys include reconnaissance and research conducted during the years 2007-2010. Of the 40 vessels surveyed during those years, 22 bear site numbers from the UAB based upon Babits and Kjorness (1995) reconnaissance. Since several vessels were not included in this survey, having entered the archaeological record after 1994, numbering included all the vessels to aid in identification during 2008-2010 survey (Figure 53). The basis of number assignment is the date of survey, proceeding by geographical location and designation to a specific vessel complex, rather than numerical order. Table 3 provides a synthesis of vessel information, including assigned numbers (both ECU and UAB), location, name, description, observed site formation processes, and vessel dimension.

The following vessel descriptions list the site numbers assigned during 2008-2010 survey, followed by UAB numbers where applicable. Site descriptions include a discussion of the location and ownership of individual graveyard complexes, observations of construction processes and site formation on individual vessels, photographs, and site plans created by graduate students participating in the study (Campbell 2008; Hayman 2008; Hicks 2008; Latta 2008; MacKenzie 2008; Morra 2008; Ray 2008; Smith 2008; Steinmetz 2008; Thompson 2008; Wagner 2008; Wyllie 2008). A brief discussion of the histories of individual vessels, where known, is included.



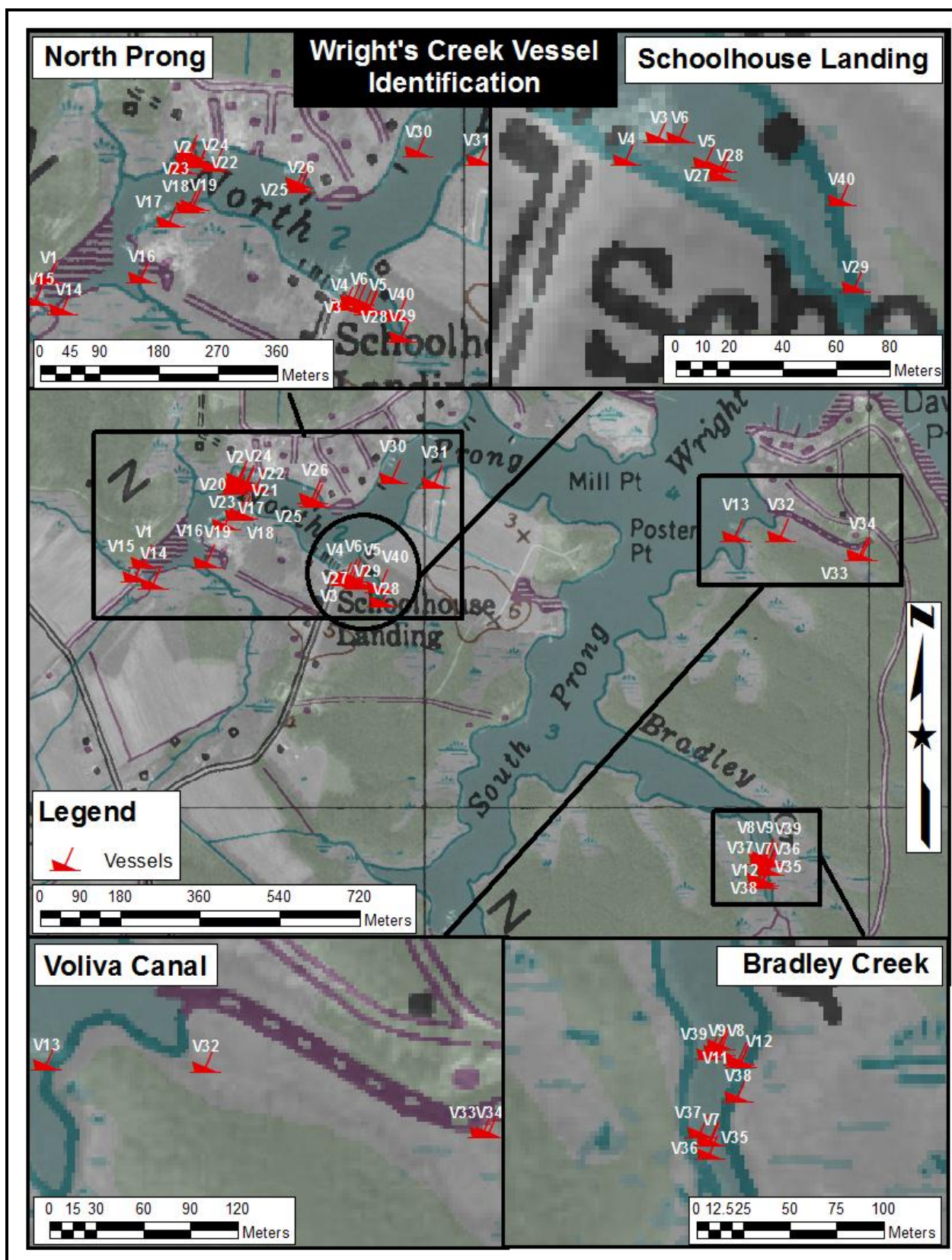


FIGURE 53. Map of vessel identification in Wright's Creek and its tributaries (USGS [North Carolina 1998] [92801 AERIAL] Reston, VA, USDA [Hyde County, North Carolina 2007] [NC095] Washington, DC.)

TABLE 3

TABLE OF WRIGHT'S CREEK SURVEYED VESSELS – ORGANIZED BY 2007-2010 VESSEL NUMBER (REG\* = REGISTERED IN 2008).

Vessel Number	1994 UAB Site Number	Location	Vessel Name	Vessel Description	Observed Formation Processes	Length (ft.) (Reg*)	Beam	Build Year (Reg*)
V1	0026PUR	North Prong - far west section on the north shore.	<i>Miss Shirley</i>	Wooden sloop. Longitudinal plank, carvel plank hull, round stern, V-bottom, copper fastening, wheelhouse. <b><i>Rebuilt in 1949, likely built in 1920s.</i></b> Used as oyster and scallop boat.	Reconstruction, hurricane (oral), disarticulated due to rescue attempts, parallel to shore, tied to tree.	*31.5	*10.4	*1949
V2	None	North Prong - Foster Complex west end - north shore - bow facing shore.	<i>Miss Betty J</i>	Wooden trawler, raked transom, forward deck house.	Accidental fire damage, total loss, no attempts at restoration, CF & marine debris, bow toward shore.	45	15	*1972
V3	0008PUR	North Prong - Schoolhouse Landing - west shore nearest old dock - stern facing shore.	<i>Miss Dorothy</i>	Wooden trawler, square transom, forward deckhouse, low freeboard.	Total salvage - in situ - only steering gear & 2 gas tanks remain, CF & marine debris, stern to shore, tied to dock.	36	11	Ca. 1920-1940
V4	0007PUR	North Prong - Schoolhouse Landing - west shore south of V3 - stern to shore .	<i>Bumper</i>	Wooden net-haul boat. Plywood, dory style, flat bottom & transom, high bow, sheer slope bow 2 stern, long plank, bottom first.	CF debris, bow to shore, repairs to port.	22	8	Ca. 1950
V5	None	North Prong - Schoolhouse Landing - grounded with bow facing west shore.	<i>Miss Amber</i>	Wooden trawler/rum/oyster boat. Carvel, longitudinal planking, round stern, wheelhouse.	Total salvage - in situ, CF & marine debris, rigging, bow toward shore, hold awash.	47	13	1928
V6	None	North Prong - Schoolhouse Landing - bilge pumping when first surveyed - parallel to shore - grounded bow facing south.	<i>High Roller</i>	Wooden trawler, square transom, keel first, machine cut - standardized.	Undergoing salvage, marine debris, rigging & gear, recent squatter (criminal element), hold awash.	57	19	*1968
V7	0040PUR	Bradley Creek - furthest south near head of creek - grounded nearest west shore, bow to shore.	Unknown	Wooden "Fernandina Beach" style trawler. Flat bottom, carvel, raised forward deck, portholes, likely transom stern.	Placement assurance port side, CF & marine debris.	46	13	Ca. 1920

<b>Vessel Number</b>	<b>1994 UAB Site Number</b>	<b>Location</b>	<b>Vessel Name</b>	<b>Vessel Description</b>	<b>Observed Formation Processes</b>	<b>Length (ft.) (Reg*)</b>	<b>Beam</b>	<b>Build Year (Reg*)</b>
V8	0031PUR	Bradley Creek - northwest shore - grounded bow to shore.	Unknown	Wooden trawler. Flat bottom, lapstrake, square transom flare bow. Likely factory. Compare to 0045PUR.	Salvage, CF & marine debris, A-frame rigging, no outriggers, placement assurance @ stern, bow into shore.	26.1	9.5	Ca. 1920-1940
V9	0030PUR	Bradley Creek - northwest shore, grounded bow to shore.	Unknown	Wooden fishing boat. Long plank, flat bottom, square transom, possible sail or boom (skiff-crabbing-outboard, bottom-base-hull-first, likely vernacular).	Salvage, CF & marine debris, bow into shore.	22	11	Ca. 1980
V10	0029PUR	Bradley Creek - northwest shore - grounded bow to shore.	Unknown	Wooden fishing boat. Core Sound design above waterline, flat bottom, horizontal planking, copper fastening, hull first.	Total salvage, CF & marine debris, tools, bow to shore. 6 cylinder engine & marine battery <i>in situ</i> .	23.7	6	Late 1970s
V11	0033PUR	Bradley Creek - south shore - grounded bow to shore.	Unknown	Harker's Island workboat, converted yacht, decorative bow feature, round stern.	Total salvage, CF & marine debris, bow to shore, small piling placement assurance @ stern.	36	10	Ca. 1950-1970
V12	0032PUR	Bradley Creek - south shore - grounded bow to shore.	Unknown	Wooden fishing boat	Total salvage, CF & marine debris, bow to shore, possible piling placement assurance @ stern.	26.4	9.5	Ca. 1920-1940
V13	0015PUR	South Prong - south shore - grounded with bow to shore.	<i>Fred W. Olcott</i>	Steel barge/tow boat, "Louisiana Pusher, I and L frames.	Salvage, placement assurance w/spuds-stakes & tied to shore, bow to shore, CF & marine debris.	110	40	*1948
V14	None	North Prong - far west end, secured to dock on south shore.	Unknown	Wooden trawler, forward deckhouse, raised deck, transom stern	Salvage, placement assurance - tied to dock, marine debris, fishing gear - part of A-frame.	28	13	Ca. 1970
V15	None	North Prong - far west end - secured to dock - used for storage.	Unknown	Wooden trawler, transom stern, forward deckhouse, used as storage vessel.	Rigging & equipment salvaged, holes in hull at bow slightly above waterline, crab pots stowed at stern, placement assurance - tied to dock & small pilings on SBD.	42	14	Ca. 1970-1980

<b>Vessel Number</b>	<b>1994 UAB Site Number</b>	<b>Location</b>	<b>Vessel Name</b>	<b>Vessel Description</b>	<b>Observed Formation Processes</b>	<b>Length (ft.) (Reg*)</b>	<b>Beam</b>	<b>Build Year (Reg*)</b>
V16	None	North Prong - Hopkins Complex - west end - south shore - V by Tina Marie.	Unknown	Small wooden trawler, transom stern, forward deckhouse. <i>Measurement is approximation.</i>	Salvaged (rigging after 3/08 survey), placement assurance - tied to shore, large portions of hull missing port side.	24	8	Ca. 1960-1970
V17	None	North Prong - Hopkins Complex - south shore (adjacent Foster property), 1/2 vessel secured to east-west running dock.	Unknown	Wooden trawler, round - rebuilt stern, A-frame rigging.	Entire vessel broken & submerged FWD midships, reconstructed stern, rigging present until after 10/08 when disarticulated & submerged.	N/A	N/A	Ca. 1960-1970
V18	None	North Prong - Hopkins Complex - south shore (adjacent Foster property), secured to east-west running dock.	<i>Terry Sue</i>	Wooden trawler, transom stern, forward deckhouse. <i>Measurement is approximation.</i>	Total salvage, rigging & exhaust present until post 3/08 survey.	36	12	Ca. 1960-1970
V19	None	North Prong - south shore (adjacent Foster property), secured to east-west running dock.	Unknown	Wooden trawler, round - rebuilt stern, forward deckhouse. <i>Measurement is approximation.</i>	Total salvage, some marine debris.	32	11	Ca. 1960-1970
V20	0024PUR	North Prong - Foster's Complex - SBD of V2 (MBJ) (SBD side of ribs). Almost completely submerged, bow to shore.	<i>Cheryl Ann</i>	Wooden vessel, longitudinal planking. <i>Measurement is approximation.</i>	Accidental fire damage, total loss, only a few frames visible above water..	36	12	Ca. 1970
V21	0023PUR	North Prong - Foster's Complex - SBD V20 - west Dock 1. Bow to shore, listing to port.	<i>Pearl Dee</i>	Wooden trawler, forward deckhouse, longitudinal planking, transom stern.	Total salvage, some marine debris associated. As of 13 Apr 2010, remaining vessel was pulled onto shore and completely broken up.	N/A	N/A	Ca. 1960-1970
V22	None	North Prong - Foster's Complex (Betty Rebecca)- east dock 1.	<i>Betty Rebecca</i>	Wooden trawler, forward deckhouse, longitudinal planking, transom stern. <i>Length measurement approximation.</i>	Partially salvaged, winches & A-frame remaining - no outriggers, wheelhouse elements remaining.	*48.2	16	*1955

<b>Vessel Number</b>	<b>1994 UAB Site Number</b>	<b>Location</b>	<b>Vessel Name</b>	<b>Vessel Description</b>	<b>Observed Formation Processes</b>	<b>Length (ft.) (Reg*)</b>	<b>Beam</b>	<b>Build Year (Reg*)</b>
V23	None	North Prong - Foster's Complex - SBD Betty Rebecca - bow to shore.	<i>Little Henry</i>	Small, sharpie like wooden vessel w/low freeboard to stern, transom, aft wheelhouse. <i>Measurements approximation.</i>	Salvage not detected.	24	8	Ca. 1960
V24	None	North Prong - Foster's Seafood - Miss Allena - SBD Betty Rebecca.	<i>Miss Allena</i>	Wooden trawler, forward deckhouse, longitudinal planking, transom stern.	Partially salvaged (cabin intact b4 11/09's total salvage), winches & A-frame remaining, no outriggers, wheelhouse elements remaining. Cabin	*53.7	18	*1970
V25	None	North Prong - north shore east of Foster's - W. side dock, stern north to shore - completely submerged.	Unknown	Wooden trawler, transom stern.	Unknown	N/A	N/A	N/A
V26	None	North Prong - north shore E. of Foster's - east side dock - completely submerged.	Unknown	Unknown	Unknown	N/A	N/A	N/A
V27	0007PUR	North Prong - Schoolhouse Landing - approx 14 ft. east of V5 <i>Miss Amber.</i>	Unknown	Wooden net-haul boat.	Unknown	N/A	N/A	N/A
V28	0008PUR	North Prong - Schoolhouse Landing - Underneath & off bow V6.	Unknown	Wooden net-haul boat.	Unknown	N/A	N/A	N/A
V29	0012PUR	North Prong - Schoolhouse Landing - Head of gut - small skiff.	Unknown	Small wooden skiff.	Unknown	N/A	N/A	N/A
V30	None	North Prong - north Shore - E end - dock in front Kirk house.	<i>Gladys Dawn</i>	Wooden trawler, forward deckhouse, longitudinal planking, transom stern. <i>Width measurement is approximation.</i>	No salvage - fully rigged & fully equipped, awash, listing to port & tied to w. side dock.	*43.8	14	*1973

Vessel Number	1994 UAB Site Number	Location	Vessel Name	Vessel Description	Observed Formation Processes	Length (ft.) (Reg*)	Beam	Build Year (Reg*)
V31	None	North Prong - South shore - E end - Careened on SBD, line to shore as placement assurance.	<i>Miss Alicia</i>	Wooden trawler, forward deckhouse, longitudinal planking, round stern, aft helm & house. <i>Measurements approximate, based on Babits and Kjorness 1994.</i>	No salvage - fully rigged & fully equipped, careened on port side & tied south shore.	51	N/A	Ca. 1970
V32	0018PUR	South Prong - Voliva Canal (by steel barge) east shore - southeast V32 - on shore.	Unknown	Wooden trawl boat run into marsh northeast of Vessel 13.	Hull split and collapsed	45	N/A	N/A
V33	0021PUR	South Prong - Voliva Complex - south shore adjacent docks - west side.	Unknown	Wooden "shrimper" w/Chesapeake Bay stern configuration. "File bottom" plank pattern (i.e. in DR boat bottom planking longitudinal. File bottom = transverse). Staved bow. <i>Measurements approximate, based on Babits and Kjorness 1994.</i>	1994-Superstructure missing & burned, still contained unsalvaged structural elements.	30	9	Ca. 1920-1940
V34	0022PUR	South Prong - Voliva Canal - south shore adjacent docks - east side V35.	Unknown	Wooden trawler, forward deckhouse, transverse planked, deadrise (Babits). <i>Measurements approximate, based on Babits and Kjorness 1994.</i>	2007 - Total salvage - bow on shore & stern awash/disarticulated. 1994 - rusted machinery on aft deck & portions of damaged superstructure.	28	10	Ca. 1920-1940
V35	0039PUR	South Prong - Bradley Creek - directly SBD V7.	Unknown	Plank-on-frame, longitudinal plank work boat w/cabin area under foredeck. On top of V38. <i>Measurements approximate, based on Babits and Kjorness 1994.</i>	Submerged in silt, only scantlings visible above water, stringer below.	35	N/A	Ca. 1940-1960
V36	0038PUR	South Prong - Bradley Creek - SBD V37 - Stringer/Above to land.	Unknown	Plank-on-frame, longitudinal plank work boat w/cabin area under foredeck. 0039PUR resting on top of this vessel. <i>Measurements approximate, based on Babits and Kjorness 1994.</i>	Fully submerged, only stringer visible underwater, 1994 pictures show salvaged, bow to shore.	35	N/A	Ca. 1940-1960

<b>Vessel Number</b>	<b>1994 UAB Site Number</b>	<b>Location</b>	<b>Vessel Name</b>	<b>Vessel Description</b>	<b>Observed Formation Processes</b>	<b>Length (ft.) (Reg*)</b>	<b>Beam</b>	<b>Build Year (Reg*)</b>
V37	0035PUR-0037PUR	South Prong - Bradley Creek - SBD V37 - Stringer/Above to land.	Unknown	Area noticed by Babits as Cluster III. Could be 0035PUR-0037PUR, or "possible vessel" noted with these. Harkers Island and commercially built wooden vessels, and a skiff.	Fully submerged, only engine and transmission visible when water undisturbed. Engine in south to north heading, engine to shore.	N/A	N/A	Ca. 1940-1960
V38	0034PUR	South Prong - Bradley Creek - SBD V11.	<i>Marena</i>	Wooden, transverse planked (stave bottom), dead rise work boat, possible square stern, FWD cabin. Filled w/marine debris – <i>measurements approximate based on Babits and Kjørness 1994.</i>	Total salvage - submerged, only portions of hull & frames visible during blow outs. CF & marine debris, bow to shore.	36	10	Ca. 1940-1960
V39	None	South Prong - Bradley Creek - Forward V8-10 - Fiberglass skiff.	Unknown	Fiberglass skiff. <i>Measurements approximate, based on Babits and Kjørness 1994.</i>	Completely broken-up fiberglass.	12	4	N/A
V40	0011PUR	North Prong - Schoolhouse Landing - southeast of V5 & V6. Bow toward shore.	Unknown	Centerboard schooner, noted by Babits in 1994-1995 survey.	Submerged, centerboard trunk visible beneath water's surface.	N/A	N/A	Late 19 <sup>th</sup> Century

The north prong of the creek provides docking for working fishing vessels, many using the now defunct Hopkins' Seafood wharves, others using Foster's Seafood (Figure 54). Survey was performed on four vessels located at Schoolhouse Landing near Hopkins' Seafood, all awash but visible above the water's surface. At least four other vessels are present in Schoolhouse Landing's gut, submerged and covered with silt. In addition to vessels in Schoolhouse Landing, documentation occurred on one vessel near Foster's Seafood, Inc., with five vessels recorded via GPS and photography. The remaining recording in the north prong took place on Vessel 14 at its western end. Photography and GPS recording was completed on three other north prong vessels, one located at its western end, two located at its eastern end.

The Fulford family owns the western shoreline of the creek's north prong. Recording of three vessels occurred here, two included site plans. Researchers recorded four vessels via GPS and photography in the eastern section of the north prong, located on the properties of the commercial fishing families of the Kirks, Wilkins, and Tates. Students recorded fourteen vessels along the shores of the south prong (Figure 55). This prong is shallow, lacking the larger fishing operations of the north prong. However, some residents located along this section of the creek participate in commercial fishing, one family digging a canal to facilitate waterfront access to their property. Voliva Canal, located slightly south of the creek's mouth, is named after the fishers that live and work at the water's edge. Bradley Creek, located approximately .5 mi to the southwest of the creek's mouth, is shallow with a bottom of deep sediment, ringed with marsh grass. There is little evidence of commercial fishing or residential activity in this creek, aside from the derelict vessels located near the head of the waterway, out of the public eye.



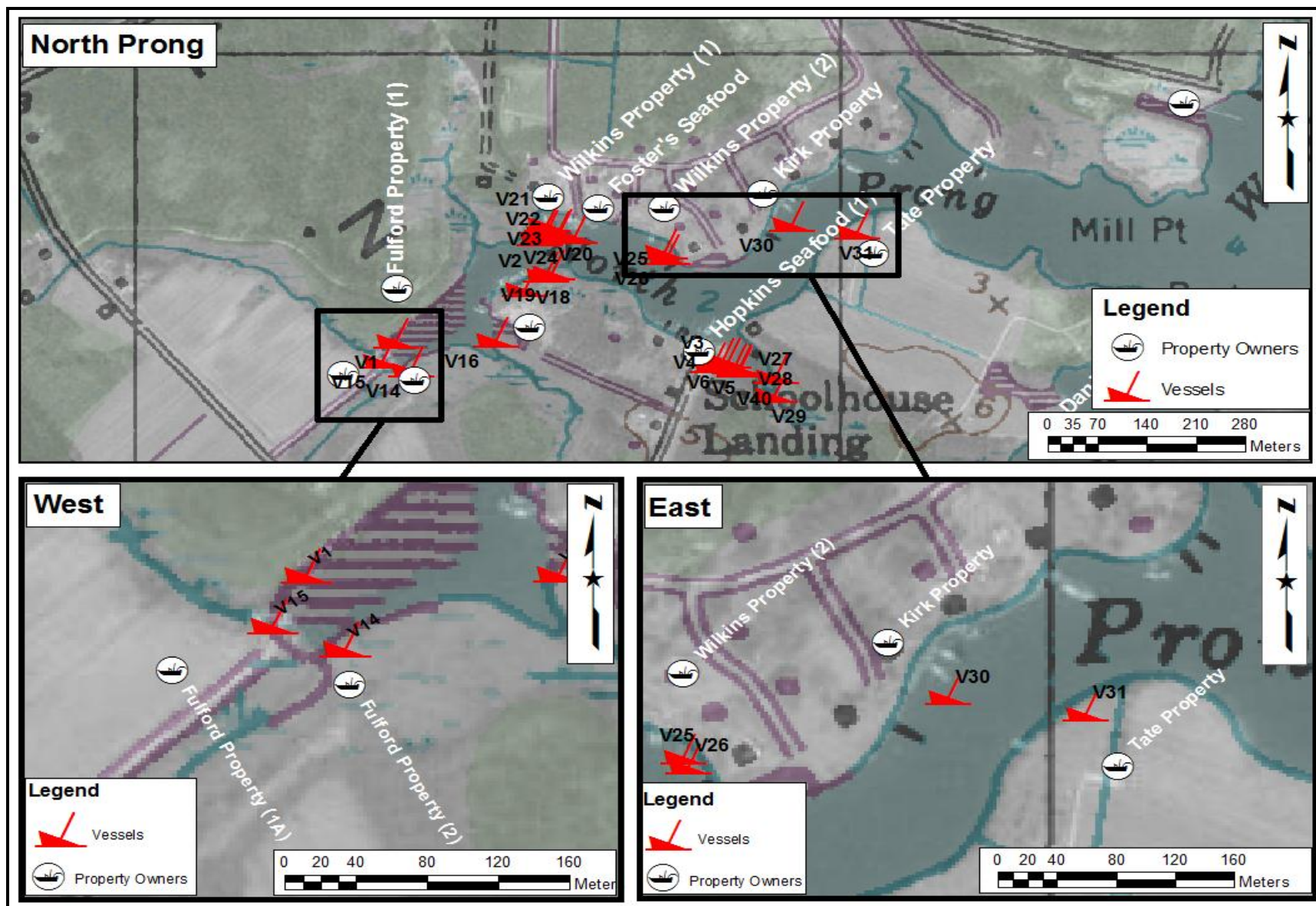


FIGURE 54. Detail of Wright's Creek North Prong - West and East Sections, including property owners (USGS [North Carolina 1998] [92801 AERIAL] Reston, VA, USDA [Hyde County, North Carolina 2007] [NC095] Washington, DC.).

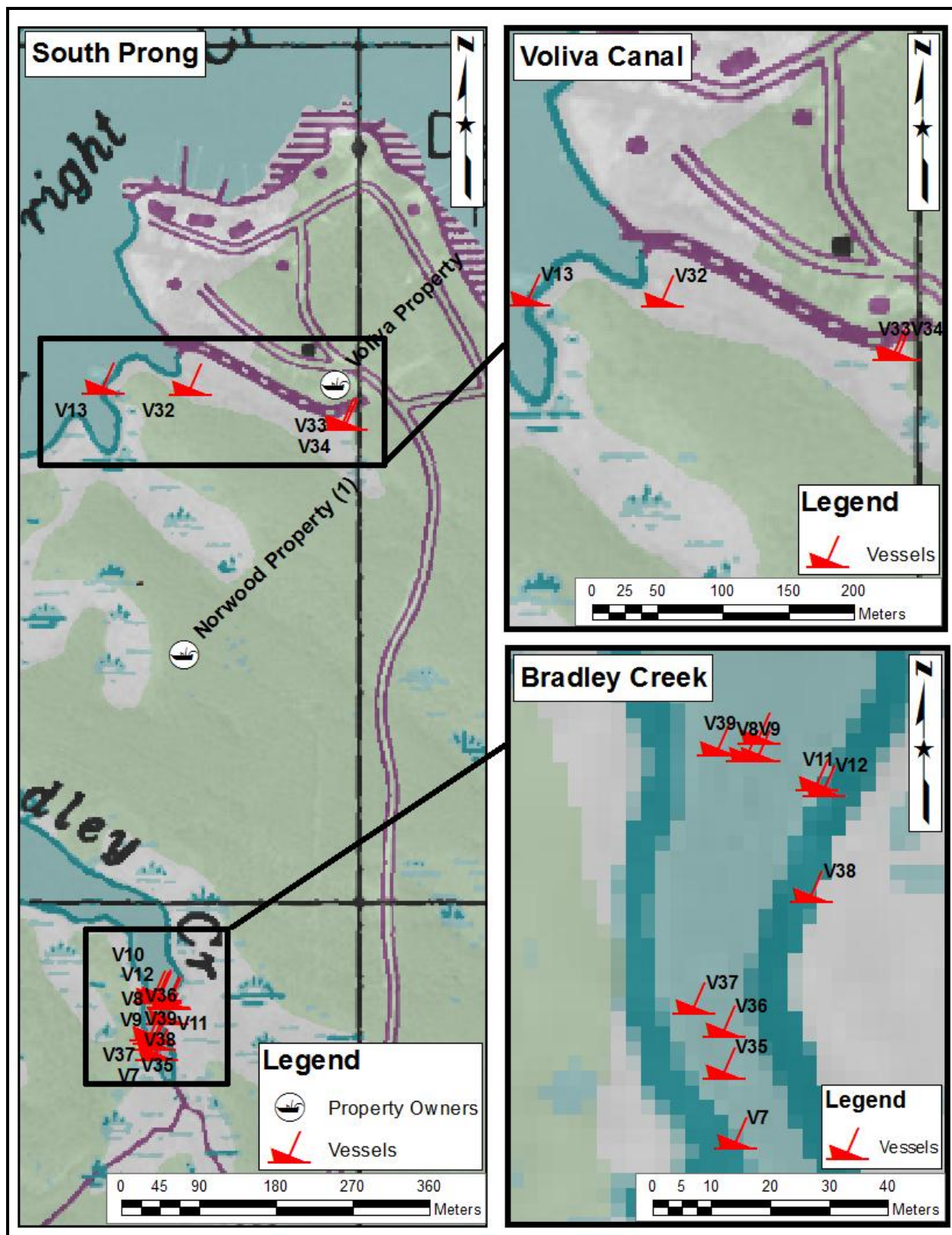


FIGURE 55. Wright's Creek - South Prong, including Voliva Canal and Bradley Creek (USGS [North Carolina 1998] [92801 AERIAL] Reston, VA, USDA [Hyde County, North Carolina 2007] [NC095] Washington, DC).

### *Fulford Complex*

The Fulford complex consists of three boats including Vessel 1 (*Miss Shirley*), and Vessels 14-15. These boats are located along the Fulfords' shoreline property, at the western terminus of the creek's north prong. The Fulford family is comprised of commercial fishers who have been residing along this shore for many generations, working in the oyster and scallop industry (Steven Fulford 2008 pers. comm. in Ray 2008:17-20).

*Vessel 1 (0026PUR)*. Vessel 1 (Figure 56) is located on Fulford family property at the western edge of Wrights Creek's north prong, resting parallel to shore on its starboard side, bow facing east, with half the vessel submerged. Of wooden construction, the vessel has a rounded, staved stern and raked stem, measuring 38 ft. length during survey, displaying the name *Miss Shirley* on the port side bow. Construction elements present on this vessel, such as curved rather than scarfed cypress frames point to materials and techniques used in construction of wooden vessels prior to the 20<sup>th</sup> century (Ray 2008) (Figure 57). Registered to Floyd Fulford as an 85 hp fishing vessel in 1973, it was rebuilt on Ocracoke Island in 1947 and utilized as an oyster dredge (Steven Neal Fulford 2008, pers. comm. in Ray 2008:17-20).

The stern rests upright and out of the water, the upper decking pulled off the frames. The disarticulated remains of a wheelhouse rest onshore near the vessel's port side. Evidence of the transponder for a depth sounder is present, and a bowline secures the vessel from the stem-bitt to a tree on shore. A large tree measuring approximately 8 in. diameter protrudes amidships, the trunk penetrating the starboard side of *Miss Shirley*, the result of a collision during a hurricane in the late 1990s (Steven Fulford, personal communication 2008 in Ray 2008:17-20). A site plan (Ray 2008) reflects the construction features, and effects from formation processes acting on the vessel (Figure 58).

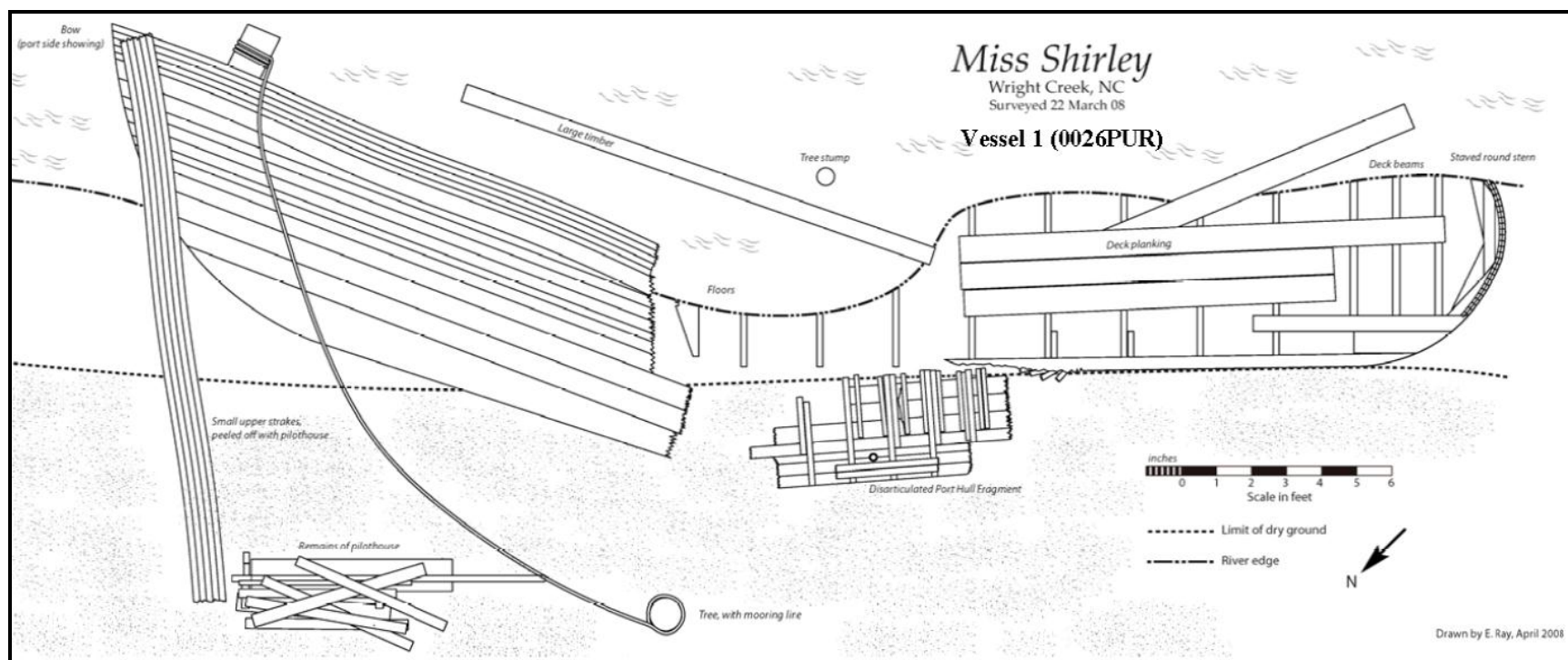




**FIGURE 56.** Vessel 1 (*Miss Shirley*), north prong (Marcotte 2008).



**FIGURE 57.** Vessel 1 (*Miss Shirley*), cypress compass timber scantlings (Ray 2008).



**FIGURE 58. Site Plan of Vessel 1 (0026PUR) (*Miss Shirley*) (Ray 2008).**

*Vessel 14.* Vessel 14 (Figure 59) rests on the creek bottom at the far western end of the north prong, attached by a line to a worn dock on the south shore serving as placement assurance. The wooden vessel is completely submerged, save a small section of the forward cabin's plywood roof, and the mast from the fishing rigging. The vessel, 30 ft. long and 10 ft. wide, lists to port at a 45° angle, with bow facing northeast, parallel to the dock and shore. The hull is articulated, except for a small section near the bow previously supporting a raised deck. A robust samson post protrudes 3 ft. abaft the stem, with a rope attached. The deckhouse has collapsed on its port side, only a small starboard section of the cabin remains above the water (Figure 60). The vessel has a square transom and flat bottom, with a raised stern deck that displays longitudinal planking. The orientation of deck planking was indiscernible; however, investigators observed a winch still attached abaft the cabin. No propulsion mechanisms were detected at the stern. Side scan survey data collected in 2008 included a representation of the collapsed cabin, its features reflecting the typical stylistic features of a small fishing trawler.

Although researchers detected a small amount of debris within the interior, the maritime related debris found cluttering the decks of most vessels in the creek is decidedly absent. A large hole on the port side remnant of the deckhouse ceiling show possible evidence of equipment salvage. Some fishing rigging remains, including the center mast and boom. No marks or license information were visible on the vessel. Further inquiry into this vessel's history led to its likely construction by local resident Major Wilson Foster in the 1970s, and its ownership by the Fulford family (Foster Sr. 2009). A site plan was completed for this vessel during a November 2008 survey (Marcotte 2008; Wyllie 2008) (Figure 62).

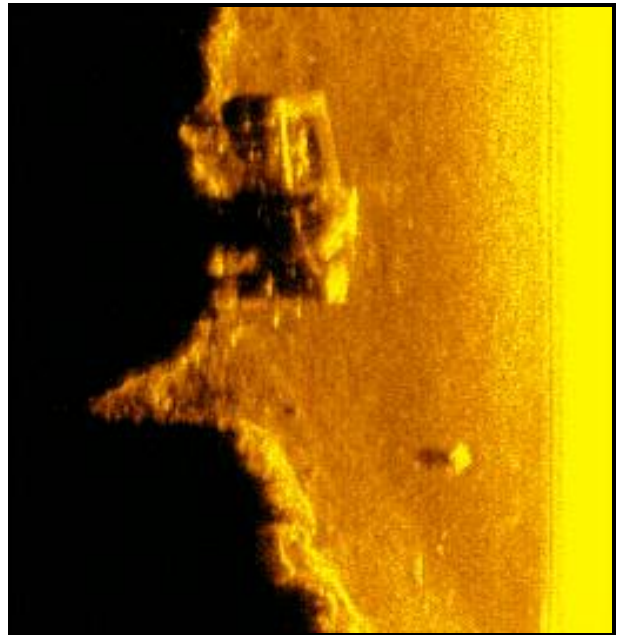




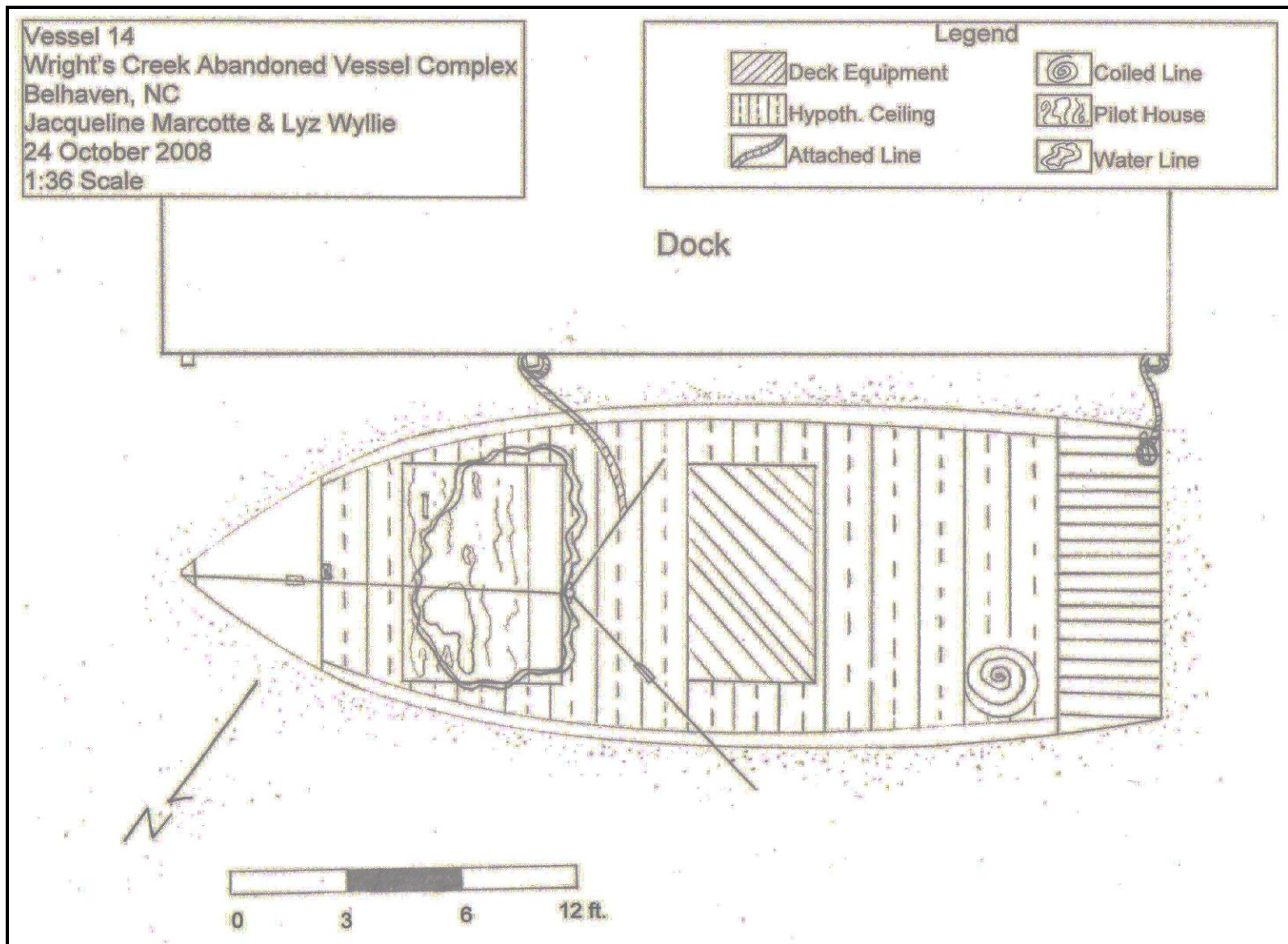
**FIGURE 59.** Vessel 14, north prong, seen during period of wind driven blowout with low water levels (Marcotte 2007).



**FIGURE 60.** Vessel 14, submerged during survey, and tied to dock (Marcotte 2008).



**FIGURE 61.** Vessel 14, detail of side scan sonar captured August 2008.



**FIGURE 62. Site Plan of Vessel 14 (Marcotte 2009).**



*Vessel 15.* Vessel 15 (Figure 63) sits awash on the creek bottom at the far western end of the creek's north prong, bow facing directly west toward shore, next to a dilapidated dock that runs in a general east-west direction. The wooden vessel is approximately 55 ft. in length, and 18 ft. beam. Of typical trawler style, it is longitudinally planked, with forward wheelhouse and galley, transom stern, flat bottom, straight stem, and low freeboard. Two sections of starboard frames above the wale are missing, one section missing approximately 4 ft. aft of the stem, extending approximately 10 ft. aft, while the second section extends for approximately 4 ft. just aft of the galley.

The vessel currently serves as a storage vessel, attached to the dock from bowlines on the port side. Planks lead from the dock to the scuppers for access to the vessel's interior. Researchers observed additional placement assurance installed on the starboard side, in the form of 2 by 4 ft. piles, driven into the creek bed, snug at the vessel's midships. Although the vessel's stern was empty when recorded, it is typically filled with crab pots, likely moved temporarily to harvest crabs. Other maritime related debris is located at the stern, including a rubber hose, and a length of line. A large piling and two cement blocks rest on the port gunwale. The vessel has been salvaged of all other fishing related equipment, such as rigging. A winch that would have been located abaft the galley against the cabin wall is represented by a large hole. In addition, recovery of all cabin gear occurred, and the galley is missing window glass (or possibly Plexiglas). Near the stem, on the port and starboard sides, small square holes are visible in the bow, and a looped tow-cable protrudes from the port side opening, features used in towing the vessel (Foster Sr. 2009).



**FIGURE 63. Vessel 15, north prong (Marcotte 2009).**

### *Wilkins Family Complex*

The Wilkins family complex consists of two vessels (25 and 26), submerged along the northern shoreline of north prong, .08 mi. southeast of the Fosters' Seafood Complex. The Wilkins family has lived in the community for generations and owns several tracts near Foster property. In addition to these vessels, the Wilkins family owns and maintains working and discarded vessels within the nearby Fosters' Seafood Complex.

*Vessels 25 and 26.* Vessels 25 and 26 (Figure 64) are located approximately 265 ft. east of Foster's Seafood, near Wilkins' family property. They are completely submerged, and only rarely visible at the surface during blowouts. Although on-site photographs were attempted, the best visible representation of these vessels was in the aerial photograph provided by the U.S. Geological Survey (USGS 2009). Vessel 25, submerged on the west side of the dock, appears to be of wooden construction, with transom stern. The vessel's remains hint at a length of more than 40 ft., and approximately 14 ft. at the beam. Vessel 26, on the west side of the dock, is more of an interpretation challenge, as its outline is rarely visible. The vessel's remains appear

small, approximately 24 ft. in length, and 10 ft. beam, possibly a small skiff. No other marine debris is associated near the vessels.



**FIGURE 64.** Vessels 25 and 26, north prong (USDA [Hyde County, North Carolina 2007] [NC095] Washington, DC).

#### *Individual Vessel Discard*

The Kirk and Tate families own the remaining vessels located in the eastern section of the north prong. Both families have lived along the shores of the creek since the early 20<sup>th</sup> century, utilizing its convenient location to practice commercial fishing. Discard of both these vessels occurred in the recent past, one the result of the death of the vessel's owner and operator (Foster Sr. 2009; Daniels 2010). This seems to be a recurring theme, as abandoned vessels within the Hopkins' graveyard represent similar behavioral processes.

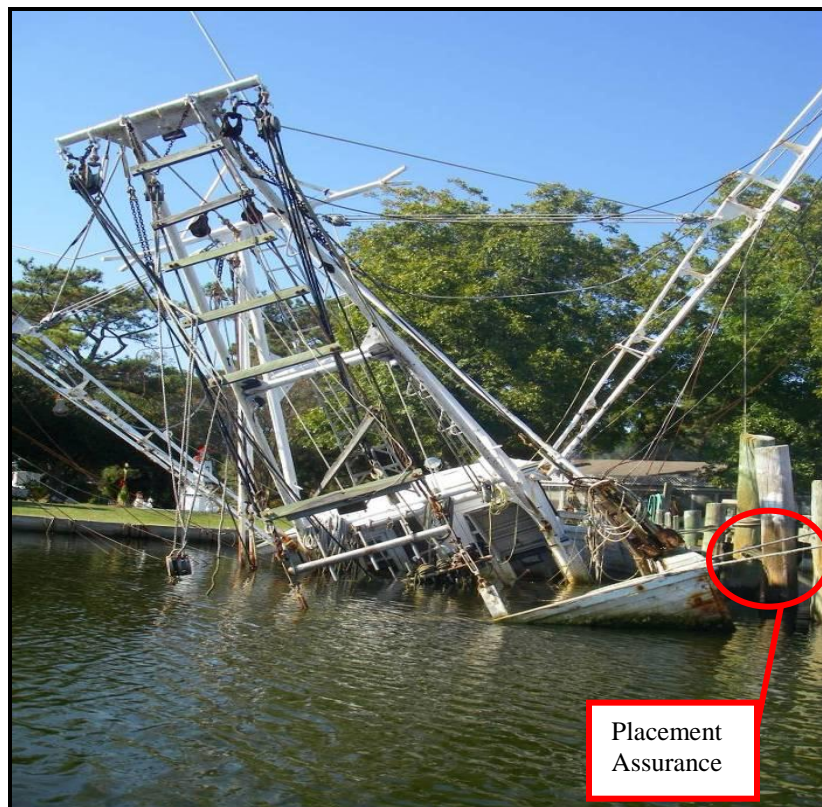
*Vessel 30.* Vessel 30 (*Gladys Dawn*), is located 330 yards east of the Fosters' Seafood Complex, on the north shore, docked in front of a well-maintained residential property owned by the Kirks. Vessel 30 is awash and listing to starboard on the west side of the dock. During the November 2007 pre-disturbance survey, this vessel was riding high in the water with a working pump (Figure 65). The wooden trawler, approximately 45 ft. in length, and 14 ft. beam, is western style with a forward wheelhouse and galley, transom stern, and longitudinal planking. Painted white and fully articulated with all planks and vessel elements intact, it sits at dock with its A-frame trawler rigging, outriggers partially stowed or in the "up" position. Although weathered, the vessel appears in fair condition, with no obvious hull damage and little corrosion evident on the rigging.

This vessel has not been salvaged, and has a full complement of deck and wheelhouse equipment, including standing rigging, otter trawl doors, winches, and exhaust pipes. The cabin and galley appear intact, with a fully equipped helm and running lights, and placement assurance via a line tied from the bow to the dock (Figure 66). Corrosion is evident near swamped areas of metal rigging. After the death of its owner, his wife and offspring cared for the vessel. Vessel 30 subsequently fell into disrepair, finally listing and awash with a failed onboard pumping system (Daniels 2010). The vessel continues in this state, with no apparent attempt by the deceased owner's family to salvage any valuable electrical, rigging, and propulsion components.





**FIGURE 65. Vessel 30, *Gladys Dawn*, afloat with a working pump November 2007 (Marcotte 2007).**



**FIGURE 66. Vessel 30, *Gladys Dawn*, north prong (Marcotte 2009).**

*Vessel 31.* Vessel 31 (*Miss Alicia*) (Figure 67), is careened on its port side, adjacent to Vessel 30, on the south shore in front of a residential property. Parallel to shore, with bow facing east, the wooden vessel possesses a forward cabin and galley, longitudinal planking, round stern, flat bottom, and an aft helm and wheelhouse. Approximately 40 ft. length by 14 ft. beam, the vessel is completely articulated, and although weathered, appears in fair condition with no obvious wood rot or cracking. The water level present on the port side is shallow, reaching just above the deck. The 2007 photograph shows the wheelhouse attached at the center stern.

This vessel has not been salvaged, and in addition to the standing rigging, winches and exhaust pipes are still present, along with line, and a hand-held fishing net. The cabin and galley appear completely unaltered, with a fully equipped helm and running lights. Placement is assured via a line tied from the bow to a tree. During an additional survey in November 2008, photographs revealed the disconnection of the stern deckhouse, and its subsidence into the port railing (Figure 68).



**FIGURE 67.** Vessel 31, *Miss Alicia*, north prong (Marcotte 2007).





**FIGURE 68.** Vessel 31, *Miss Alicia*, with stern wheelhouse slumped to the port railing (Marcotte 2008).

### *Foster's Seafood Complex*

Foster's Seafood Complex includes vessels owned by the family, as well as those belonging to the Wilkins family. Six vessels in various stages of decay were recorded in this complex (Figure 69), one included a site plan (Steinmetz 2008). There are more vessels located in this graveyard, fully submerged, and covered with silt, underneath the Fosters and Wilkins' working vessels. Although remote sensing was attempted in this area, working vessels and the shallow environment obstructed the towfish pass over buried vessels and debris.

It must be noted that the Foster and Wilkins families continually recycle these vessels, removing working structure and electronics for installation on newer, working vessels. Many old boats continue to be broken in this manner, until the remaining strakes are finally pulled onto shore ("onto the hill"), leaving little or no material traces (Foster Sr. 2009). Rather than a traditional abandonment site, whereby the vessels are abandoned and left relatively unaltered by cultural formation processes, the Foster's Seafood Complex is dynamic, undergoing the various stages of salvage and recycling on a regular basis.

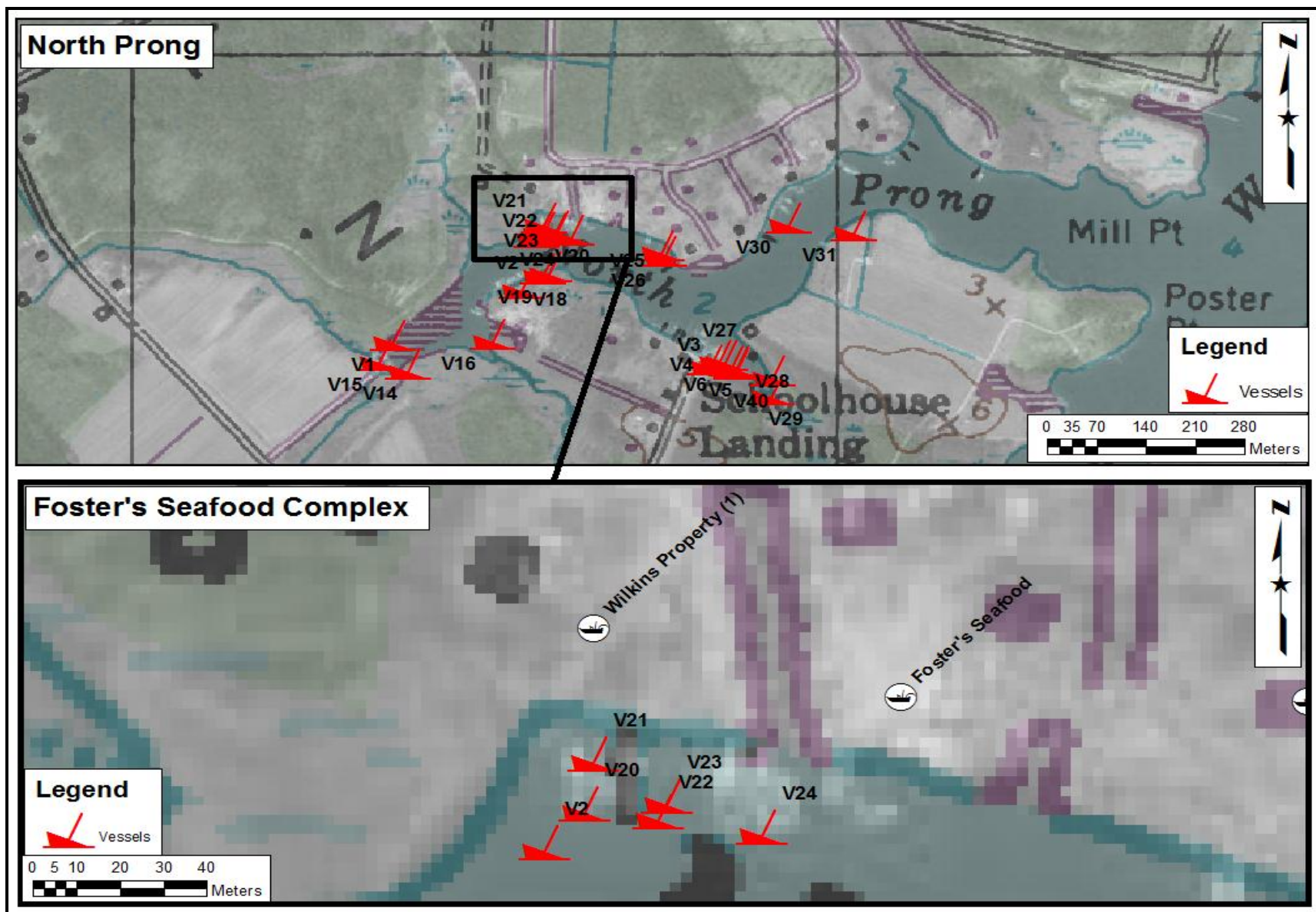


FIGURE 69. Foster's Seafood Complex, north prong of Wright's Creek (USGS [North Carolina 1998] [92801 AERIAL] Reston, VA, USDA [Hyde County, North Carolina 2007] [NC095] Washington, DC).



*Vessel 2.* Vessel 2 (Figure 70), *Miss Betty J*, is part of a larger complex of derelict vessels located in front of Foster's Seafood, Inc. The wooden fishing trawler, built by Major Wilson Foster in 1972, rests on the bottom, perpendicular to shore, bow facing north and rudder hard to port. Measurements recorded during survey list *Miss Betty J* as 47 ft. in length, and 15.5 ft. beam. The vessel's depth and angle of chine were not recorded as it is sunk deep into the soft sediment. Although badly damaged by fire, the line of the sheer, and footprints left by remains of the superstructure identify the vessel's use as a trawler, similar in construction to working vessels docked nearby (Figure 71). The line of fire damage on the vessel indicates it burned to the waterline, suggesting the vessel was awash before catching fire. (Steinmetz 2008). Subsequent interviews with the boat owner indicate the burning was accidental (Foster Sr. 2009).

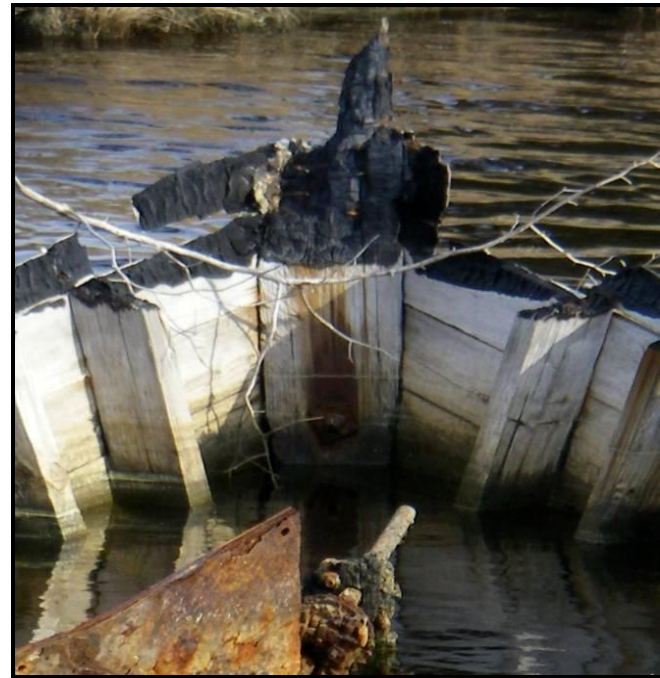
Fire damage consumed the vessel's superstructure, burning it below the deck clamps in the foreword section, destroying the deckhouse and gunnels (Figure 72). Aft of the cabin's footprint, the vessel's deck is present and stacked with crab pots and other commercial fishing debris. In addition to crab pots, standard rigging elements used in trawling for fish are present, such as the outrigger stabilizer, or "bird" as it is often referred (Foster Sr. 2009). The forward area of *Miss Betty J* also contains an engine, a muffler, an oven, and a sink. A large tank occupies a section of the bow's starboard side, and steering components are visible running aft. Visits to the site in April and May 2010, resulted in discovering shipworm damage to the vessel's stern that caused it to detach and fall into the water. The site plan completed for this vessel details construction features and damage from cultural formation processes (Steinmetz 2008) (Figure 73).



**FIGURE 70. Vessel 2 (*Miss Betty J*) Foster's Seafood Complex, north prong (Marcotte 2007).**



**FIGURE 71. Fire damage to bow of Vessel 2 and remaining footprint of superstructure (Steinmetz 2008).**



**FIGURE 72. Detail of fire damage to hull of Vessel 2 (Steinmetz 2008).**

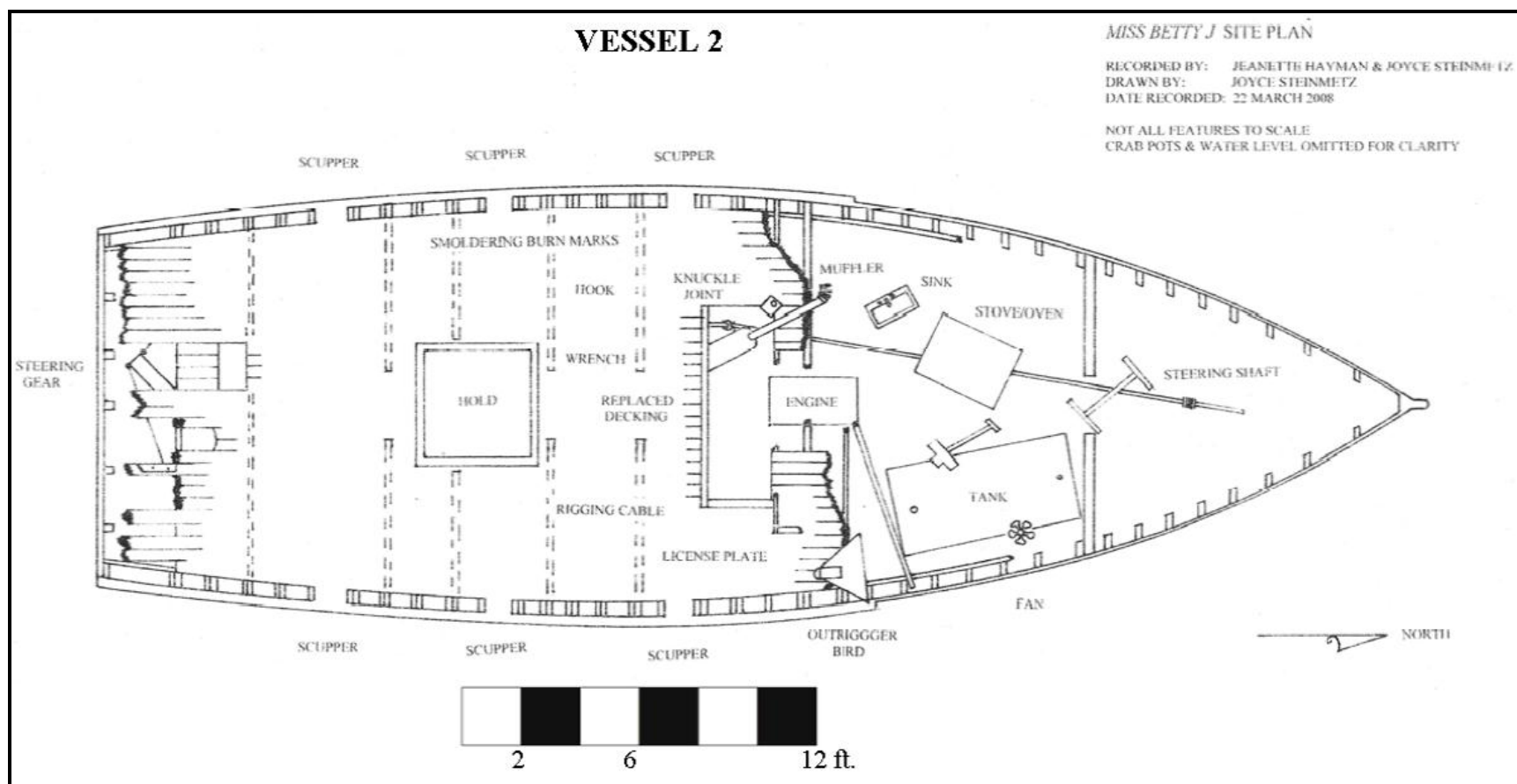
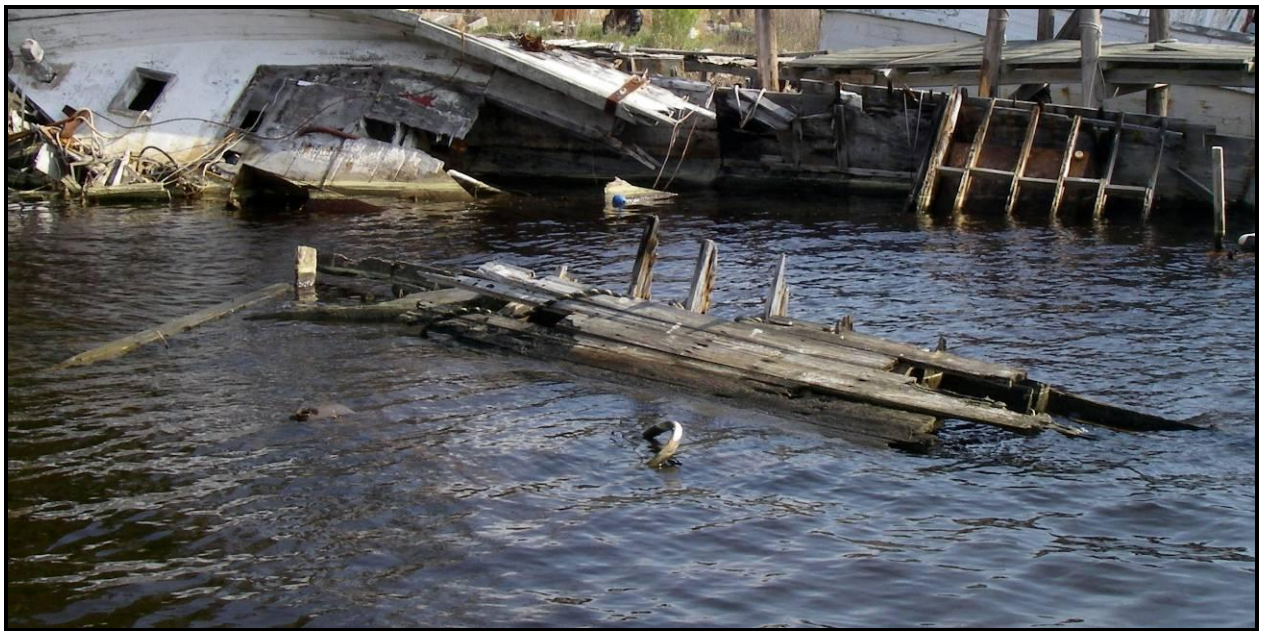


FIGURE 73. Site Plan of Vessel 2 (*Miss Betty J*) (Steinmetz 2008).



*Vessel 20 (0024PUR)*. Vessel 20 (*Cheryl Ann*) (Figure 74), is part of the Foster's Seafood Complex, located 15 ft. starboard of Vessel 2 (*Miss Betty J*), disarticulated and almost fully submerged. The vessel is rarely visible above the surface, appearing only during periods of blowout from high winds. During these periods, a 16 ft. section of the vessel's side of approximately 10 frames and a few feet of longitudinal planking appears. Earlier estimates during Babits and Kjørness' (1995:70) survey place the vessel's size at approximately 36 ft. in length, by 12 ft. breadth. The wooden vessel rests 25 ft. off the north shore.



**FIGURE 74.** Vessel 20 (*Cheryl Ann*), damaged by fire. Foster's Seafood Complex, north prong (Steinmetz 2008).

*Vessel 21 (0023PUR)*. Vessel 21 (Figure 75) (*Pearl Dee*) was originally located 10 ft. east of Vessel 20, listing to port at a 45° angle, bow to shore on the west side of Foster's dock. The bow rests on shore with stern submerged. Vessel 21 is a wooden trawler with transom stern, flat-bottom, longitudinal planking, and a forward cabin and galley. Almost completely disarticulated in 2007, the cabin and galley slid off the deck into the water on the port side. Site visits in April 2010 revealed the boat's removal and continued breaking by Carl Foster, Sr. (2010, pers. comm.) (Figure 76).





**FIGURE 75.** Vessel 21 (*Pearl Dee*), Foster's Seafood Complex, north prong (Marcotte 2007).



**FIGURE 76.** Vessel 21 (*Pearl Dee*), after boat breaking. Note the propeller to right of photo (Marcotte 2010).

*Vessel 22.* Vessel 22 (Figure 77), *Betty Rebecca*, is part of the Foster's Seafood Complex located on the creek's northern shore. *Betty Rebecca* rests on the creek bottom, awash and listing to port, tied to the eastern side of Dock 1. This wooden vessel, registered at 48.2 ft. in length, with a beam approximately 12 ft. has a western style forward cabin and wheelhouse, transom stern, longitudinal planking, and a flat-bottom. It is painted white and fully articulated, all planks and structural elements essentially intact. The boat is clearly weathered, and displays damage to the port side stern planking.

The watercraft's cabin has been salvaged of all but the wheel, all running lights and electrical equipment is missing (Figure 78). Certain deck elements are still present, including the otter trawl doors, winches, exhaust pipe, and A-frame rigging minus the outriggers. The cabin and galley appear relatively intact, aside from a few small holes in the ceiling.



**FIGURE 77.** Vessel 22 (*Betty Rebecca*), Foster's Seafood Complex, north prong (Marcotte 2007).



**FIGURE 78.** Vessel 22 (*Betty Rebecca*), showing salvage to wheelhouse (Marcotte 2010).

*Vessel 23.* Vessel 23 (*Little Henry*) (Figure 79), rests with the remains of other Foster's Seafood vessels stern in, toward the north shore, immediately starboard and tied to Vessel 22 (*Betty Rebecca*). Approximately 22 ft. length by 10 ft. beam, the vessel is eastern style with a stern wheelhouse. The wooden vessel's bow is awash, with the stern resting high out of the water. The vessel has a raised, enclosed stern, and a sharpie-like open bow. The wheelhouse has a steering helm visible on the outer forward wall. The wheelhouse's port and stern doors are open, and its ceiling appears relatively undamaged, lacking the large holes found in many boats. No marine debris of any kind is present. In April 2010, researchers noted the vessel's return to a buoyant state, although it still listed to starboard.



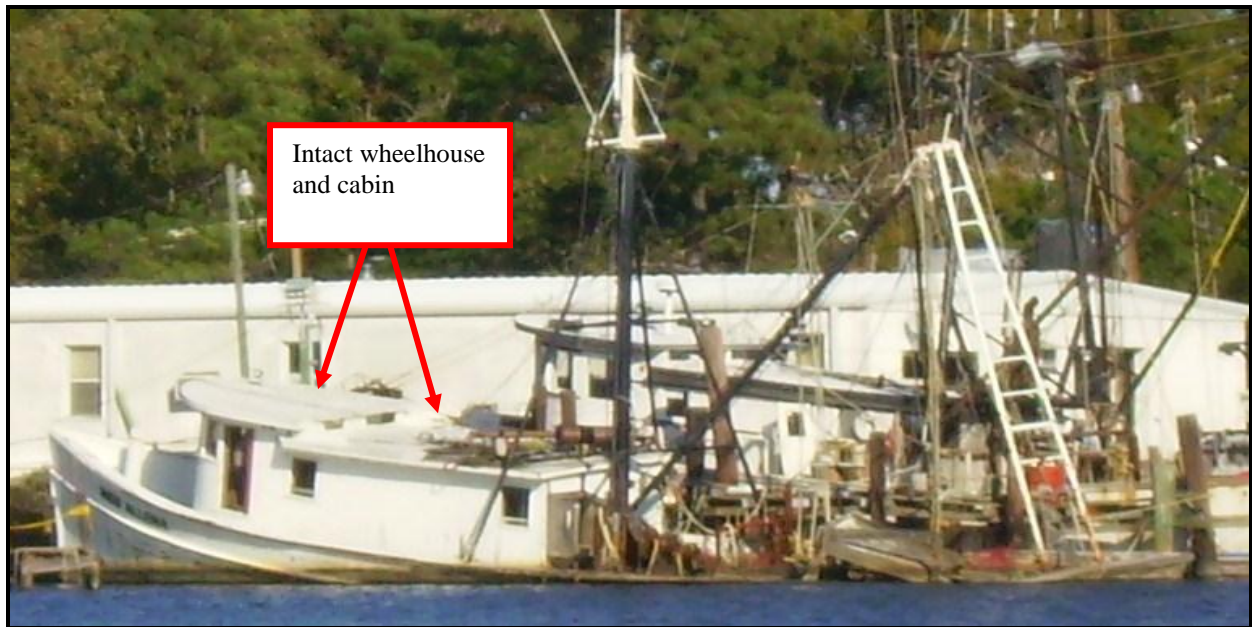


**FIGURE 79. Vessel 23 (*Little Henry*), Foster's Seafood Complex, north prong (Marcotte 2009).**

*Vessel 24.* Vessel 24 (*Miss Allena*) (Figure 80), is moored on the dock's west side, awash and listing to starboard. The wooden vessel, approximately 50 ft. in length and 12 ft. beam, has a forward cabin and galley, transom stern, longitudinal planking, and a flat-bottom, resembling Vessel 22. Fully articulated with all planks and vessel elements intact, the vessel retains its trawler rigging, except for the outriggers. The vessel is weathered, exhibiting cracked areas in the stern and extreme deterioration, likely from the shipworm *Teredo navalis* (Grave 1928:260). The vessel's cabin is painted white, but the hull and stern sections have shed all traces of marine paint, returning to their natural wood grain stained with tannin from the creek water.

During initial survey, the majority of this vessel had not been salvaged, and in addition to the standing rigging, otter trawl doors, winches, crab pots, line, and exhaust pipes were still present. The cabin and galley appeared relatively untouched with intact running lights. A later visit in April 2010, discovered the salvage of the vessel underway. The wheelhouse is slated for

placement on a newer, working vessel, *Morning Star*, owned by Carl Foster's son (Carl Foster Sr. 2010, pers. comm.) (Figure 81).



**FIGURE 80.** Vessel 24 (*Miss Allena*), Foster's Seafood Complex, north prong (Marcotte 2007).



**FIGURE 81.** Vessel 24 (*Miss Allena*), after salvage of wheelhouse components for working vessel *Morning Star* (Marcotte 2010).



### *Hopkins' Seafood Complex – North Prong*

The Hopkins' Seafood Complex is named after the family that lives and works along the southern shores of the creek's north prong and Schoolhouse landing. The Hopkins' Seafood fish house, in operation from 1964 to the 1990s, is no longer servicing the public; however, family members continue to operate a commercial fishing operation, and maintain ownership of waterfront property. The complex of salvaged and discarded watercraft includes 12 vessels, with 4 located in the north prong, and 8 located within Schoolhouse Landing (Figure 82). Of the vessels mapped in Schoolhouse Landing, four received investigation that included creation of a site plan. While the majority of the discarded watercraft is the result of Hopkins family operations, others likely represent deposition by the Guthrie family, previous owners of the fish house and landing (Foster Sr. 2009; Foster 2009).

Vessels located and recorded within the Landing and along the adjacent north prong are the result of active processes of salvage and discard. While several vessels have been salvaged, and appear in a state of permanent discard, one vessel is currently undergoing the salvage process. Like that of the previously discussed Fosters' Seafood Complex, hulked vessels in the Hopkins' Seafood Complex appear in stratified layers, with degraded vessels lying in the silt, underneath more recent discarded watercraft. Side scan sonar was difficult due to its shallow, silt-laden nature, only the vessels visible near the mouth of the Landing, in the deeper section of the waterway could be recorded.

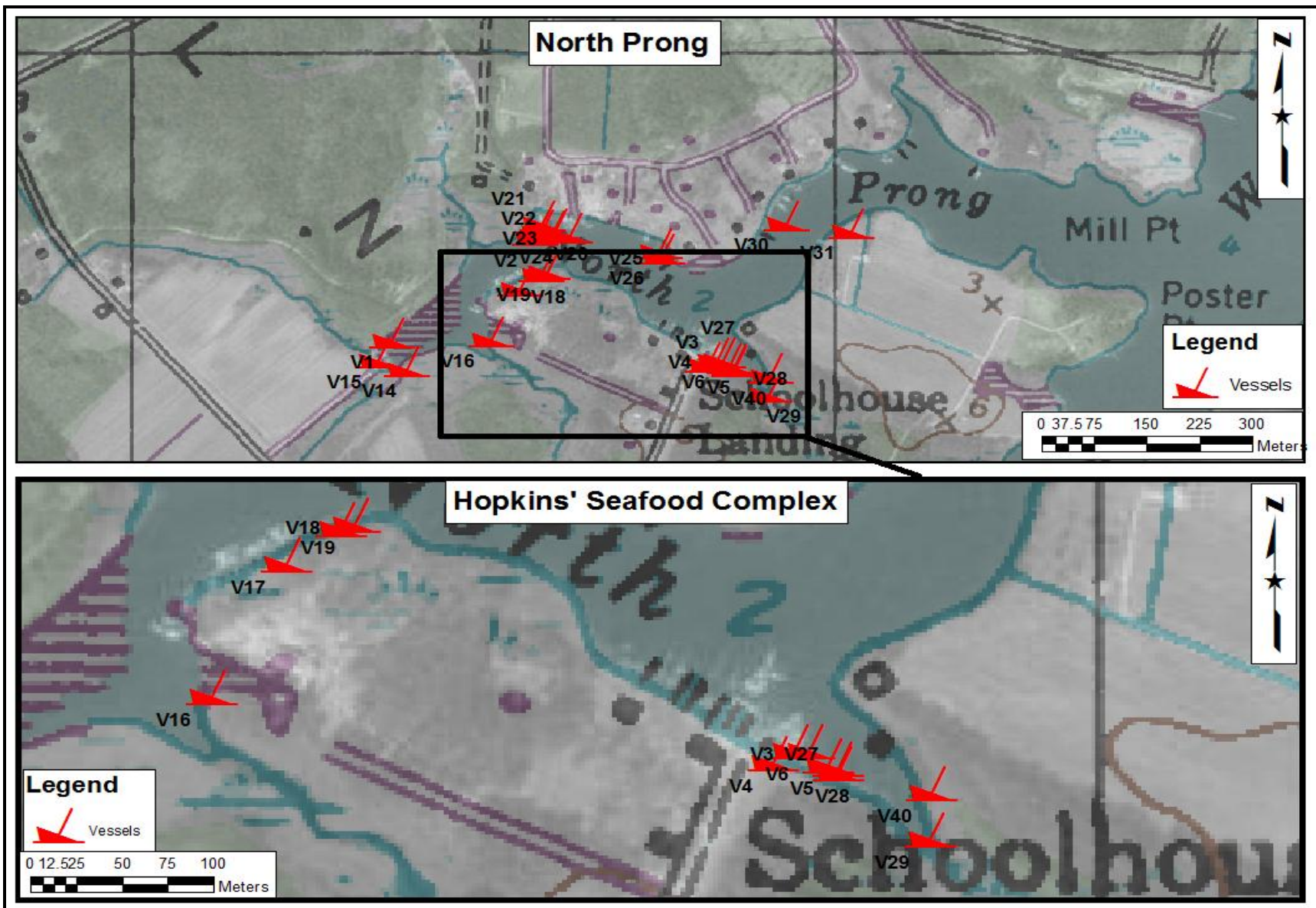


FIGURE 82. Hopkins Seafood Complex, north prong, Wright's Creek (USGS [North Carolina 1998] [92801 AERIAL] Reston, VA, USDA [Hyde County, North Carolina 2007] [NC095] Washington, DC).

*Vessel 16.* Vessel 16 (Figure 83) rests awash on the creek bottom, parallel to the southern shore, in the southwestern section of the Hopkins' property. Resting a few feet from shore, the wooden vessel is approximately 35 ft. in length, and 10 ft. beam, with longitudinal planking, transom stern, and forward wheelhouse. Although largely intact, the port side of the vessel is badly damaged, the hull strakes broken and partially submerged from approximately 15 ft. aft of the stem to the stern. Several layers of paint are peeling from the wooden vessel, showing it was at one time gray, but spent the majority of its working life painted white.

Removal of the vessel's trawler rigging took place sometime before November 2008, but after initial observations in 2007. According to Carl Foster, Sr. (2010 pers. comm.), it was salvaged for scrap as metal prices were good in 2007. In addition, all wheelhouse equipment was salvaged. A wooden plank leads from the Hopkins' seawall to the stern gunnel for access to the deck. The deck is largely devoid of any maritime related debris, while the bow displays blue and white line still attached to the samson post (Figure 84).



**FIGURE 83.** Vessel 16, Hopkins' Seafood Complex, north prong (Marcotte 2007).



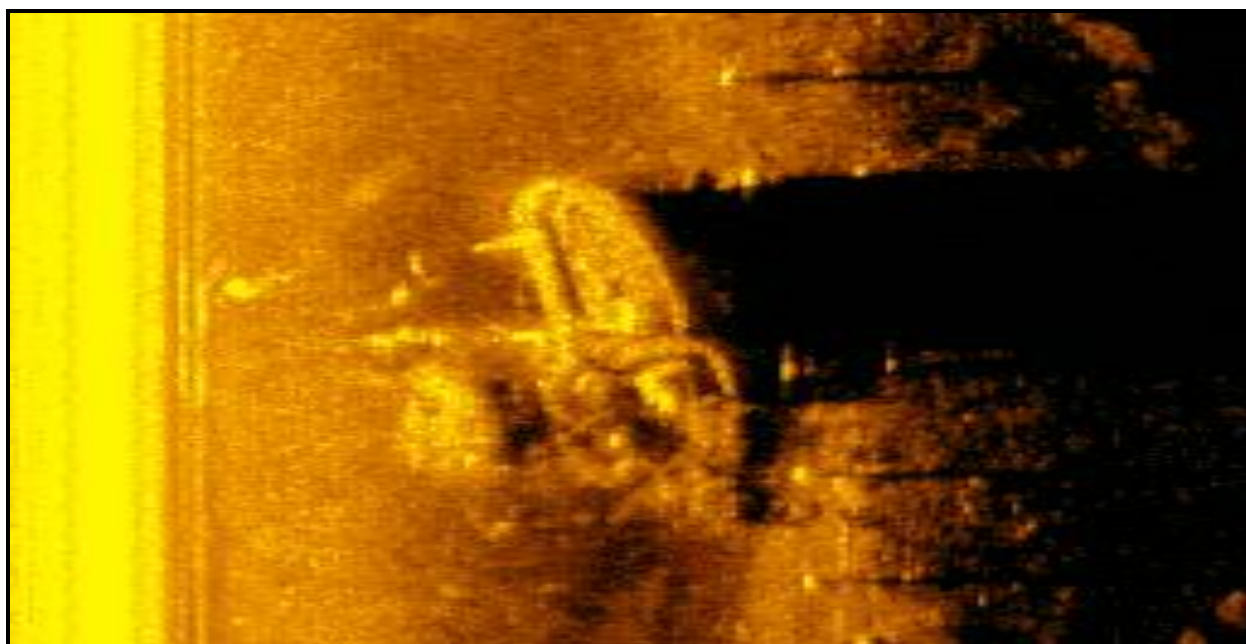


**FIGURE 84. Vessel 16, after salvage of trawl rig on stern end, and deteriorated port side (Marcotte 2009).**

*Vessel 17.* Vessel 17 (Figure 85) is almost completely submerged, only the port section of the stern remains above the waterline, while the bow has disarticulated from the midsection aft of the deckhouse. The remains are slightly over 10 ft. to the north of a dock running northeast to southwest along the Hopkins property. The bow faces southwest. Given the approximate length of the remaining stern at 22 ft., it is likely this vessel's overall length was 40 to 45 ft., with a 12 to 15 ft. beam. The rounded stern and bottom was reconstructed, according to Carl Foster, Sr., (2009), explaining the difference between its disarticulated bow section and intact stern. The bow's deterioration was evident in the side scan sonar images (Figure 86). During several surveys, the standing trawler rigging was present, but badly corroded and disarticulated in some areas. It has since collapsed into the creek, with no signs above the waterline of its former presence.



**FIGURE 85.** Vessel 17, Hopkins' Seafood Complex, north prong (Marcotte 2007).



**FIGURE 86.** Side scan sonar of Vessel 17, visible partially above water. This vessel's stern was rebuilt, explaining the extreme deterioration of the bow.

*Vessel 18.* Vessel 18 (Figure 87) rests dockside, approximately 60 ft. aft of Vessel 17, its bow in a general southwest direction, awash and listing slightly to port. This wooden vessel, approximately 40 ft. in length and 12 ft. beam, has a square forward-wheelhouse, transom stern, and longitudinal planking. Several layers of peeling paint give evidence of previous colors, grey, off-white, and white. Although largely articulated, several planks are missing from the bow and

stern sections, and most frames and the port side stern gunnel are rotted and have fallen onto the deck, and into the water.

The cabin has been salvaged, and most outer planks, as well as the roof, with only the frames port and starboard side remaining. Fiberglass and rope litters the deck, along with other debris, such as a plastic alcohol and soda bottle. Small bushes are growing from the port side at the bow and amidships. The vessel is tied to the dock from its port side just aft of the wheelhouse. The vessel's A-frame trawler rigging and exhaust pipe, underwent salvage sometime between November 2007 and 2008.



**FIGURE 87. Vessel 18 (*Terry Sue*), Hopkins' Seafood Complex, north prong (Marcotte 2007).**

*Vessel 19.* Vessel 19 (Figure 88) lays dockside just aft of Vessel 18, bow facing southwest, awash and listing to port at a 45° degree angle, exposing the hull. The wooden trawler has a square forward-wheelhouse, rounded stern, longitudinal planking, and round bottom, construction traits similar to Vessel 17. The bow appears more heavily degraded and weathered than the stern. The hull has a large hole on the port side. Local resident Carl Foster, Sr. claims



the vessel's stern was reconstructed, like that of Vessel 17 (Foster Sr. 2009) (Figure 89). The caprail is missing from the vessel's centerline toward the starboard side, exposing frames. The cabin has been completely salvaged of all equipment and electrical components; a large, rectangular hole, approximately 7 ft. in length by 4 ft. wide, is present in the roof from removal of the engines. Line from port side attaches the vessel to the dock, and a small buoy is located within the stern, no other debris is visible.



**FIGURE 88. Vessel 19, Hopkins' Seafood Complex, north prong (Marcotte 2008).**



**FIGURE 89. Vessel 19, port side bow deterioration and reconstructed stern. Salvage hole visible in roof (Marcotte 2008).**



### *Hopkins' Seafood Complex - Schoolhouse Landing*

Schoolhouse Landing is located in the southwestern section of Wrights Creek's north prong.

The site consists primarily of vessels associated with commercial fishing operations conducted by Hopkins' Seafood, although several fully submerged vessels were likely abandoned by the previous owners, the Guthrie family.

*Vessel 3 (0008PUR)*. Vessel 3 (*Miss Dorothy*), identified as *Emily* in 1994, is part of a larger complex located at Schoolhouse Landing near the Hopkins Seafood docks currently in use (Babits and Kjorness 1995; Daniels 2010) (Figure 90). Used as a "run-boat" while working, it provided a platform to collect the catch from other vessels, and return to the fish house for sale, allowing the fishers to keep harvesting (Daniels 2010). The vessel is secured to the dock from its port side, still articulated, awash, and resting on the bottom. It is positioned stern first, perpendicular to shore. The vessel is 36 ft. length, and 11 ft. beam, but may be slightly narrower as damage to the cap rail made accurate recording difficult. The vessel construction is carvel style, the planks laid end-to-end, with transverse bottom planking, and a square transom. Frames are of identical measurement with consistent spacing throughout (Wagner 2008).

There is significant damage to the bow in the form of a large hole. The deck has decayed, causing the wheelhouse to fall into the hull (Figure 91). There is evidence of salvage (Figure 92). Crab pots and other fishing debris litter the hull; no engine is present. Two, cube shaped fuel tanks were visible beneath a plywood platform placed amidships, and the remains of a steering mechanism are present at the stern (Figure 93). John Wagner (2008) completed a site plan for this vessel during the March survey (Figure 94).



**FIGURE 90.** Vessel 3, Schoolhouse Landing, north prong (Marcotte 2008).



**FIGURE 91.** Vessel 3, detail of damage to bow near starboard side of stem (Wagner 2008).



**FIGURE 92.** Vessel 3, evidence of salvage to upper wheelhouse and railing, and marine debris (Wagner 2008)



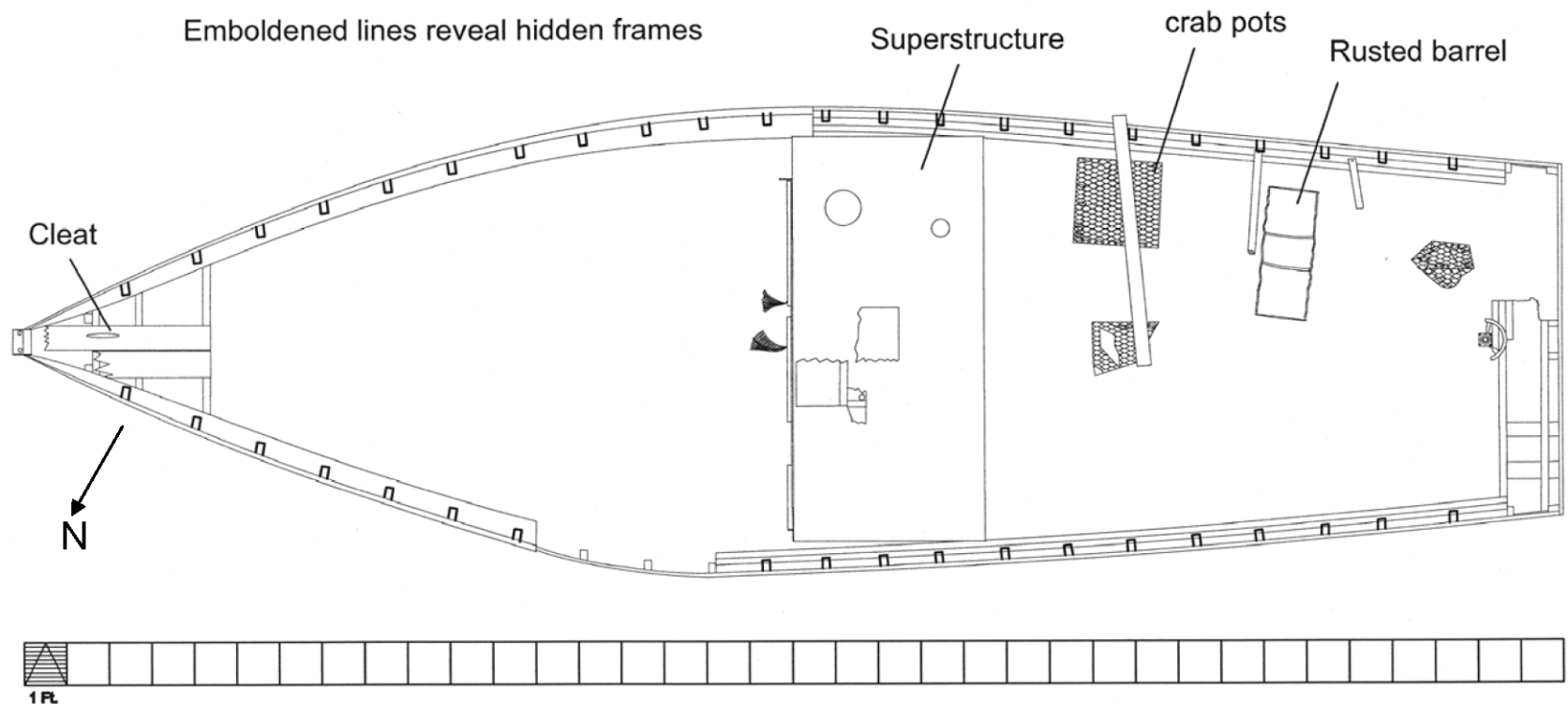
**FIGURE 93.** Vessel 3, remaining steering column (Wagner 2008).

# Vessel # 3 Schoolhouse Landing

## 3/22/2008

Not all debris to scale

Emboldened lines reveal hidden frames



Recorded by John Wagner & Morgan Mackenzie  
Drawn by John Wagner 4/14/2008

FIGURE 94. Site Plan of Vessel 3 (0008PUR) (Wagner 2008).

*Vessel 4 (0007PUR)*. Vessel 4 (*Bumper*) is located immediately south of Vessel 3, with its bow facing the western shore, awash but largely articulated, resting on the creek bottom perpendicular to shore (Figure 95). The wooden skiff with square transom and v-bottom was recorded as 22 ft. length, and 8 ft. beam, with a length to beam ratio approaching 3:1 (Figure 96). The vessel's gunnel is composed of five scantlings, the two outer scantlings acting as rub rails, the two inner scantlings supporting the sheer timber. The boat contains two wooden bulkheads, one in the forward bow, and the other approximately 10.5 ft. abaft the stem (Thompson 2008). This wooden “net haul” boat served in a support capacity for a larger boat, towed behind to aid in deploying the fishing net (Sainsbury 1986:114-117; Daniels 2010).

Although the boat is largely articulated, changing water levels have led to varying degrees of deterioration as the scantlings above the waterline experience recurring periods of saturation and rapid drying, causing warping and splitting of the wood. The vessel has been stripped of any working machinery, and the engine has been removed. There is evidence in the form of indentations on the transom pointing to the previous existence of an outboard engine; however, there is no indication of steering machinery. A single crab pot is inside the hull. There is no evidence of line securing the watercraft to shore.



**FIGURE 95.** Vessel 4 (*Bumper*) (0007PUR), Schoolhouse Landing, north prong (Marcotte 2008).





*Vessel 5.* Vessel 5 (*Miss Amber*) (Figure 97), is located approximately 8 ft. from Schoolhouse Landing's south shore, bow pointing south. The wooden vessel, recorded as 47.4 ft. length, 13.4 ft. beam, has a rounded stern, with stern wheelhouse and galley. It is awash and listing slightly to starboard, resting on the creek bottom. Sections of the stern are deteriorated, collapsing into the water, as are several strakes in the forward hull section. In addition, the deck planking has deteriorated, some areas are completely disintegrated such as that found near the forward section of the wheelhouse. A site plan reflects construction features typical of a western style trawler (Wyllie 2008) (Figure 98). Vessels of this type were used as oyster buyboats, modified later for trawling as evidenced by portions of the remaining rigging still aboard (Warner 1976:1).

Commercial fishing debris, including otter trawl doors, litters the forward deck of *Miss Amber*; standing rigging elements rest near the wheelhouse. All traces of mechanical equipment have been removed, and the interior of the vessel has been salvaged thoroughly (Figure 99). A large hole has been cut into the roof of the wheelhouse, and all interior workings including electrical wiring, steering gear, and navigational equipment have been removed. The galley is empty of any equipment, only the wooden sleeping bunks remain. The floor of the wheelhouse and galley is also missing, offering a view of the swamped hull compartment. A few artifacts relating to the galley are strewn about on the port deck near the wheelhouse entrance. There is no evidence of mooring lines, or other placement assurance devices present on or near *Miss Amber*. U.S. Coast Guard (2009) registration records for this vessel list the owner as James Medford Daniels, Sr., a local resident, fisher, and boatbuilder who died of cancer during the 1990s (Foster Sr. 2009; Daniels 2010).

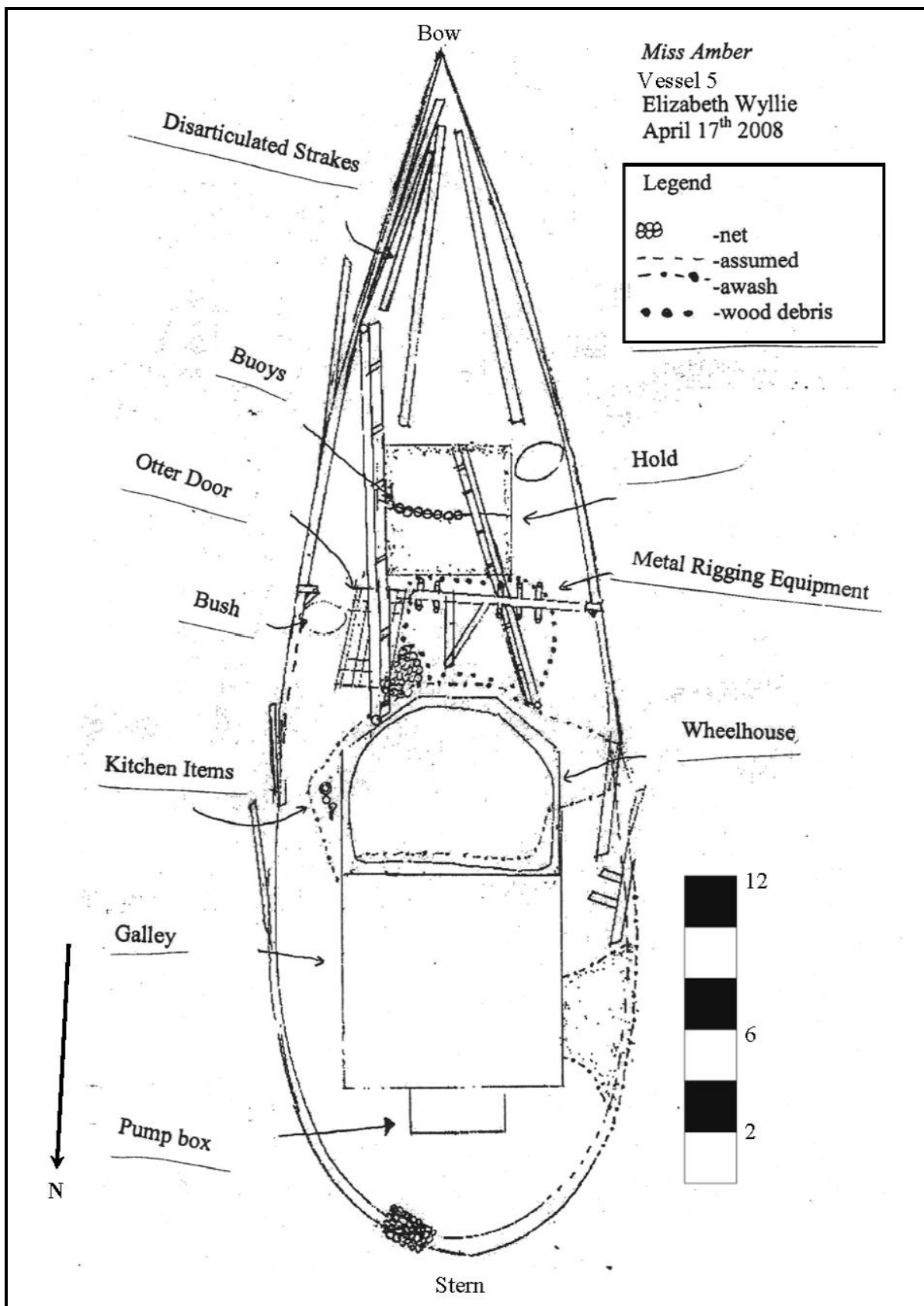


**FIGURE 97.** Vessel 5 (*Miss Amber*), Schoolhouse Landing, north prong (Marcotte 2008).



**FIGURE 98.** Vessel 5 (*Miss Amber*), showing detail of wheelhouse salvage and removal of roof (Marcotte 2008).





*Vessel 6.* Vessel 6 (*High Roller*) (Figure 100), rests near the center of the gut at Schoolhouse Landing, immediately north of Vessel 5 (*Miss Amber*). Listing slightly to starboard, this wooden vessel with transom stern and forward cabin is essentially parallel to shore, with bow facing southeast. Approximately 55 ft. from shore, it is fully articulated with the standing rigging used for trawling intact, although badly corroded. Several areas of deck planking show evidence of decay. At 57 ft. in length, with a 19 ft. beam, the *High Roller* displays the sloping freeboard, low stern, and general characteristics of wooden trawlers found in this area. Built in 1968, this vessel is one of the last existing vessels constructed by B-Var boatyard in Varnamtown, North Carolina. Evidence of repair, replacement, and modification is evident in several places on the vessel, including some glass cabin windows replaced by plastic (Smith 2008).

Vessel 6 has undergone phases of salvage, as well as possibly providing housing sometime recently. An abundance of commercial fishing debris and personal items is strewn around the vessel's deck and cabin. Removal of electrical equipment took place in the wheelhouse, and operations manuals found dated no later than 2003. A plywood hopper and sorting table remain on the stern of the boat. Damage to the transom stern indicates the rigging ladder was pulled from its position. An otter trawl door is secured to the starboard side near the cargo hatch (Figure 101), while the port side door is lying in the water, adjacent to the hull. The hull is flooded and exhibits evidence of a pump leading from the interior (Figure 102). The windlass and associated deck machinery has been salvaged, leaving a footprint for heavy equipment aft of the cabin. According to local resident Johnny Daniels (2010), the vessel was owned by his uncle, now deceased, a member of the Tate family. The family experienced hardships continuing in the fishing industry since his death. A site plan was completed for this vessel during the March survey (Smith 2008) (Figure 103).



**FIGURE 100.** Vessel 6 (*High Roller*), Schoolhouse Landing, north prong (Marcotte 2007).



**FIGURE 101.** Vessel 6 - starboard otter trawl door and remaining deck equipment (Latta 2008).



**FIGURE 102.** Flooded hold in Vessel 6. Note rubber pump hose running from bottom left (Latta 2008).

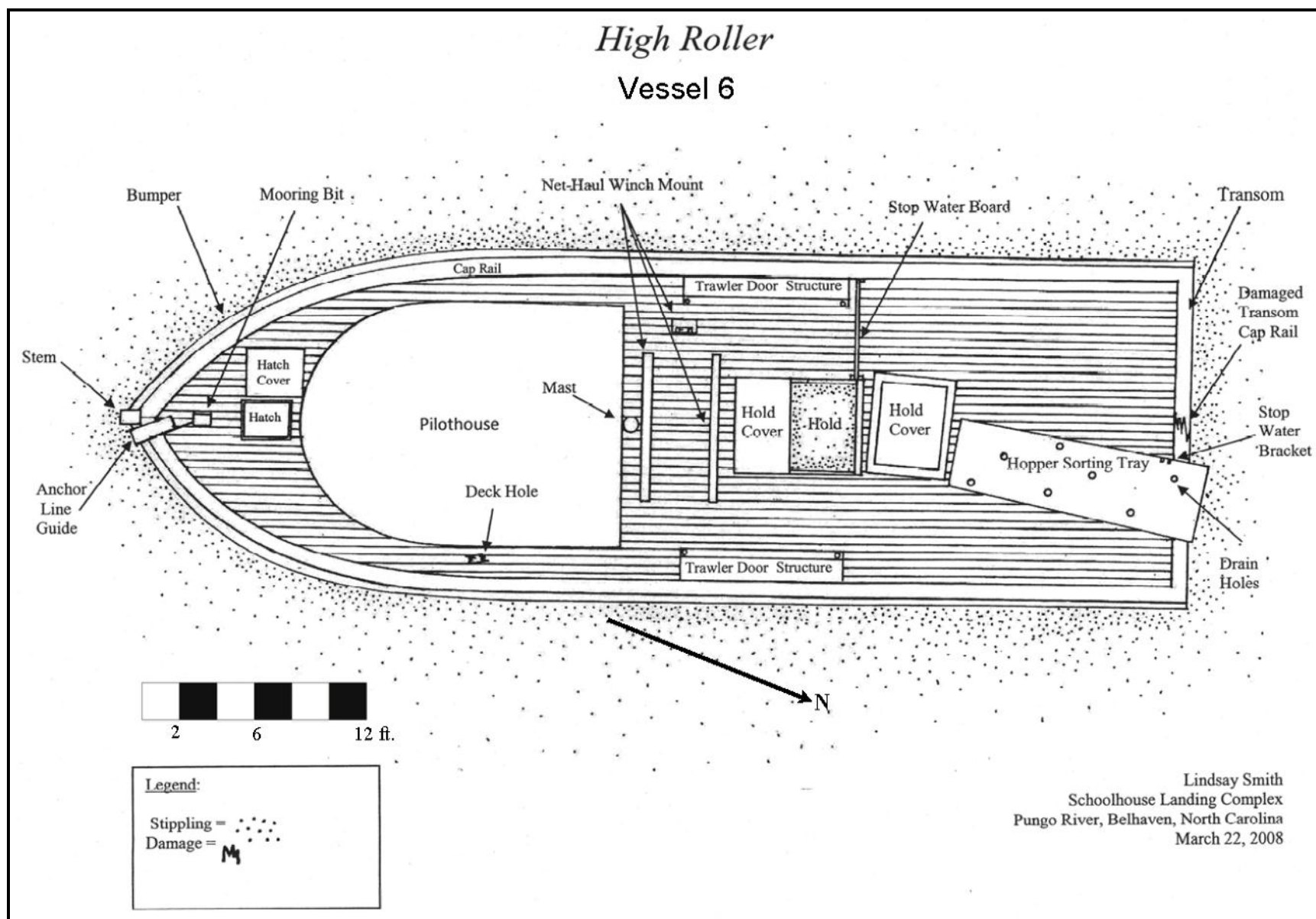


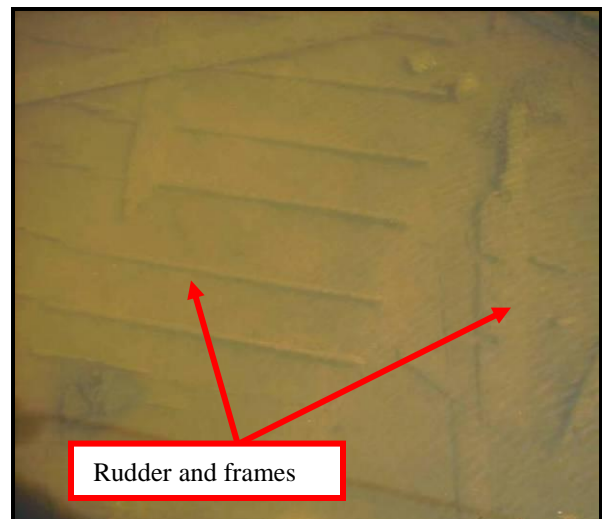
FIGURE 103. Site Plan of Vessel 6 (*High Roller*) (Smith 2008).



*Vessels 27-29.* Vessels 27-29 (Figures 104, 105) are located in Schoolhouse Landing's gut and completely submerged, save Vessel 29, which appears during periods of extreme wind blowout. Wooden Vessel 27 is directly to starboard and beneath Vessel 5 (*Miss Amber*). Vessel 28 rests directly beneath Vessel 6 (*High Roller*), its frames and strakes visible beneath the water's surface having broken at the turn of the bilge. The remains of both vessel's appear small, likely skiffs utilized as net-haul boats similar to Vessel 4 (*Bumper*). Vessel 29 (Figure 106) is located near the head of the gut, lying on its side. Composed of wood, the vessel is small, only 13 ft. of its length visible, likely representing a small skiff or possibly another net-haul boat.



**FIGURE 104.** Vessel 27, Schoolhouse Landing (Marcotte 2008).

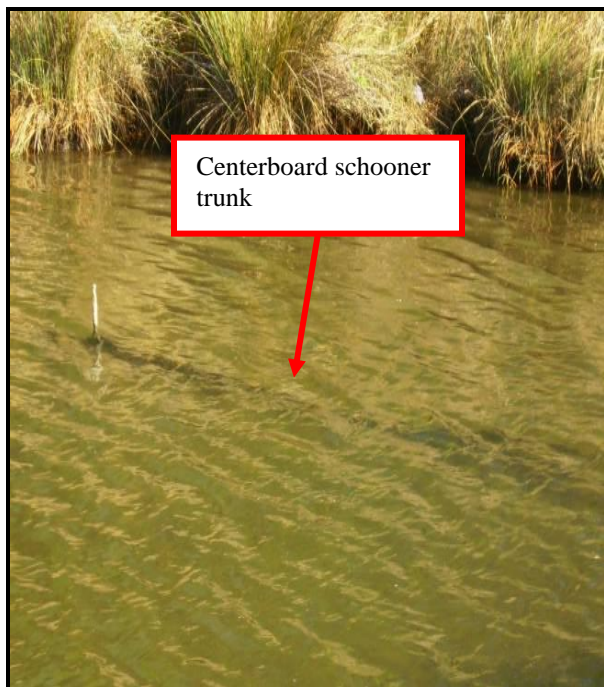


**FIGURE 105.** Vessel 28 rudder and frames (Marcotte 2008).



**FIGURE 106.** Vessel 29, Schoolhouse Landing (Marcotte 2007).

*Vessel 40 (0011PUR)*. The remains of vessel 40 (0011PUR) can be seen in the form of a centerboard schooner trunk, occasionally visible from the water's surface (Figures 107, 108). According to Babits and Kjørness' (1995:68) survey, the trunk was approximately 10 ft. in length, and contained the centerboard. Ground truthing of the vessel proved its extension of at least 7 ft. to either side of the centerboard, giving a beam of over 10 ft., and length approximately 40 ft., with the vessel's bow run onto the eastern bank. A two-cycle engine and flywheel, called a "spanker engine" was found associated with Vessel 40, although it did not appear to be an integral part of the vessel, but rather a later deposition (Glen Credle 1995 pers. comm. in Babits and Kjørness 1995:68).



**FIGURE 107.** Vessel 40-centerboard schooner trunk (Marcotte 2007).



**FIGURE 108.** Vessel 40 – engine (Marcotte 2007).

### *Voliva Complex*

The eastern shore of the creek's south shore consists of sandy points of land, and small inlets as it extends to the south. The most visible part of the landscape upon entering the channel is the steel barge *Fred W. Olcott* (Vessel 13) abandoned near its mouth. While several other vessels



were recorded in this area in 1994-1995 (Babits and Kjorness 1995), only two vessels remain visible to the eye, and side scan sonar.

*Vessel 13 (0015PUR).* Vessel 13 (0015PUR) (Figure 109) is located near the mouth of Wright's Creek, approximately 200 ft. south of Voliva Canal, bow facing east, approximately 50 ft. from shore. The *Fred W. Olcott* is a steel barge commonly known to creek locals as a "Louisiana Pusher" (Foster Sr. 2009). The vessel is awash at the stern, the bow resting slightly higher above the water. Corrosion is present throughout the barge, and its location at the mouth of the creek exposes it to constant wind and wave action. The vessel measured 110 ft. length and 40 ft. beam, a considerable presence at the mouth of the small creek (Morra 2008).

A considerable amount of marine debris, primarily crab pots, litters the deck and inner holds of the barge. The vessel's original superstructure has been completely salvaged, but remnants of tile and electrical outlets form a virtual footprint of previously existing structures. Some machinery from the vessel's previous working life still exists in the form of a windlass and its driving machinery located below deck. There are no remaining elements of the propulsion system. Holes from corrosion breach the hull, and exfoliation of the vessel's steel exterior is visible. Long, wooden posts have been driven through the vessel's spud sleeves into the creek's bottom, and a small line secures the vessel to a tree on shore (Figure 110). A site plan completed for this exhibits elements of the vessels construction and observed formation processes (Morra 2008) (Figure 111).



**FIGURE 109.** Vessel 13 (*Fred W. Olcott*), south prong near Voliva Canal (Marcotte 2007).



**FIGURE 110.** Vessel 13 (*Fred W. Olcott*), detail of placement assurance and deterioration (Marcotte 2007).

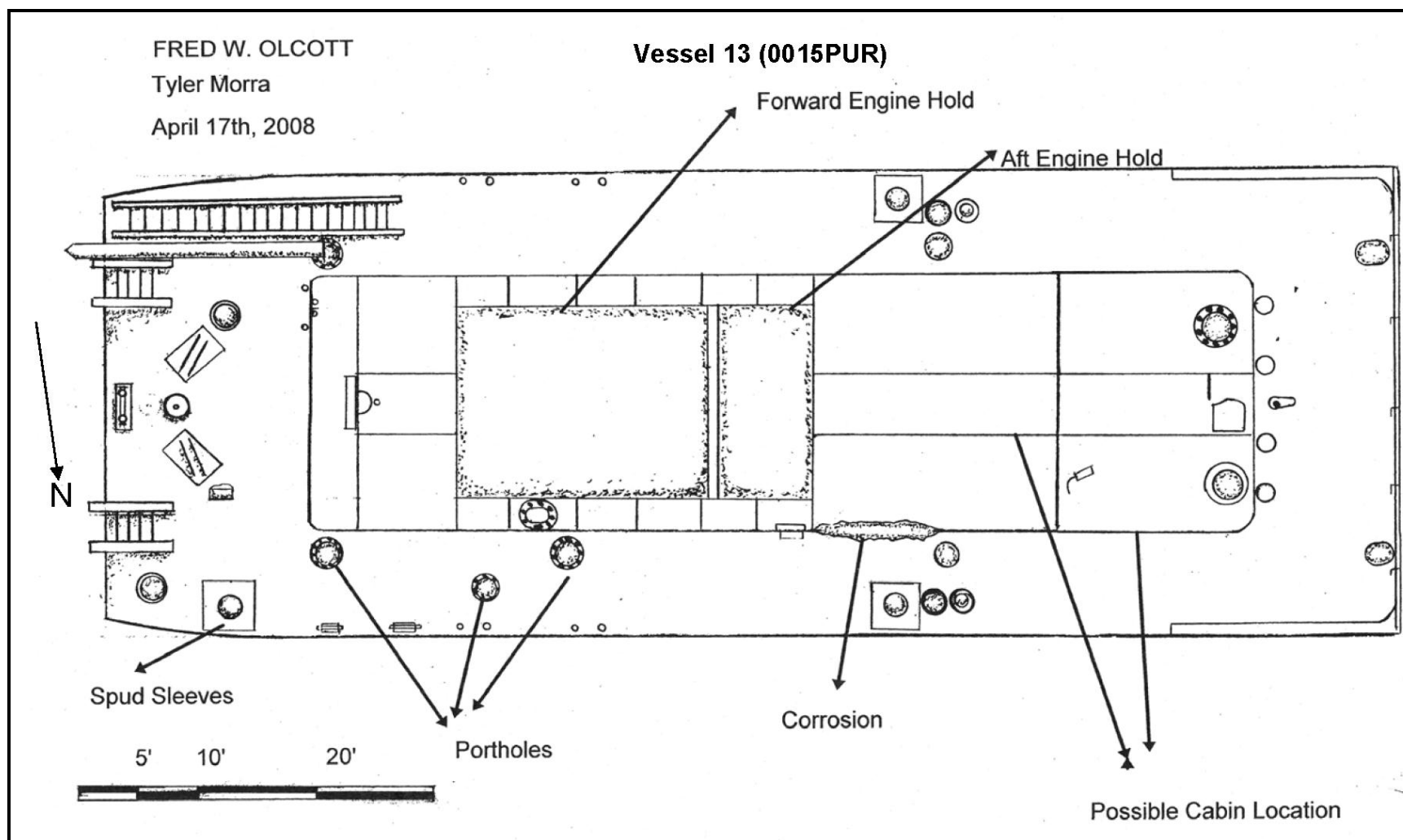


FIGURE 111. Site Plan of Vessel 13 (0015PUR) (Fred W. Olcott) (Morra 2008).



*Vessel 32 (0018PUR)*. Vessel 32 (Figures 112, 113) is located near the mouth of Wright's Creek, near its junction with the Pungo River. The vessel sits on the eastern shore, near the entrance to Voliva Canal, near the mouth of a natural creek just south of the canal. Only the bow of this wooden vessel was visible during the November 2007 pre-disturbance survey, indicating a possible skiff or workboat. Later survey indicated a completely submerged wooden vessel, noticeable only through undisturbed water and ground truthing. The vessel is in an advanced state of degradation, and it is impossible to determine approximate dimensions or further details.



**FIGURE 112:** Vessel 32 (0018PUR), south prong (Marcotte 2007).



**FIGURE 113:** Vessel 32, south shore (USGS [North Carolina 2007] [n36w077] Reston, VA).

*Vessels 33 (0021PUR) and 34 (0022PUR)*. Vessels 33 and 34 (Figure 115) are located at the far eastern section of the Voliva Canal. Vessels 33 and 34 rest on the canal's south shore, near a commercial fishing dock. The two wooden vessels are juxtaposed, Vessel 33 lying immediately west of Vessel 34. Babits and Kjorness (1995:48) described the vessel as a “shrimper,” with a Chesapeake Bay stern configuration, possessing transverse planking and a staved bow. Vessel 34 is a wooden, dead-rise trawler with forward wheelhouse and transverse planking.

Both vessels were salvage during the 1994 survey. Vessel 33’s superstructure was missing and showed evidence of burning, and un-salvaged structural materials remained onboard the hulked watercraft. Vessel 34 was partially salvaged at the time of survey, with rusted

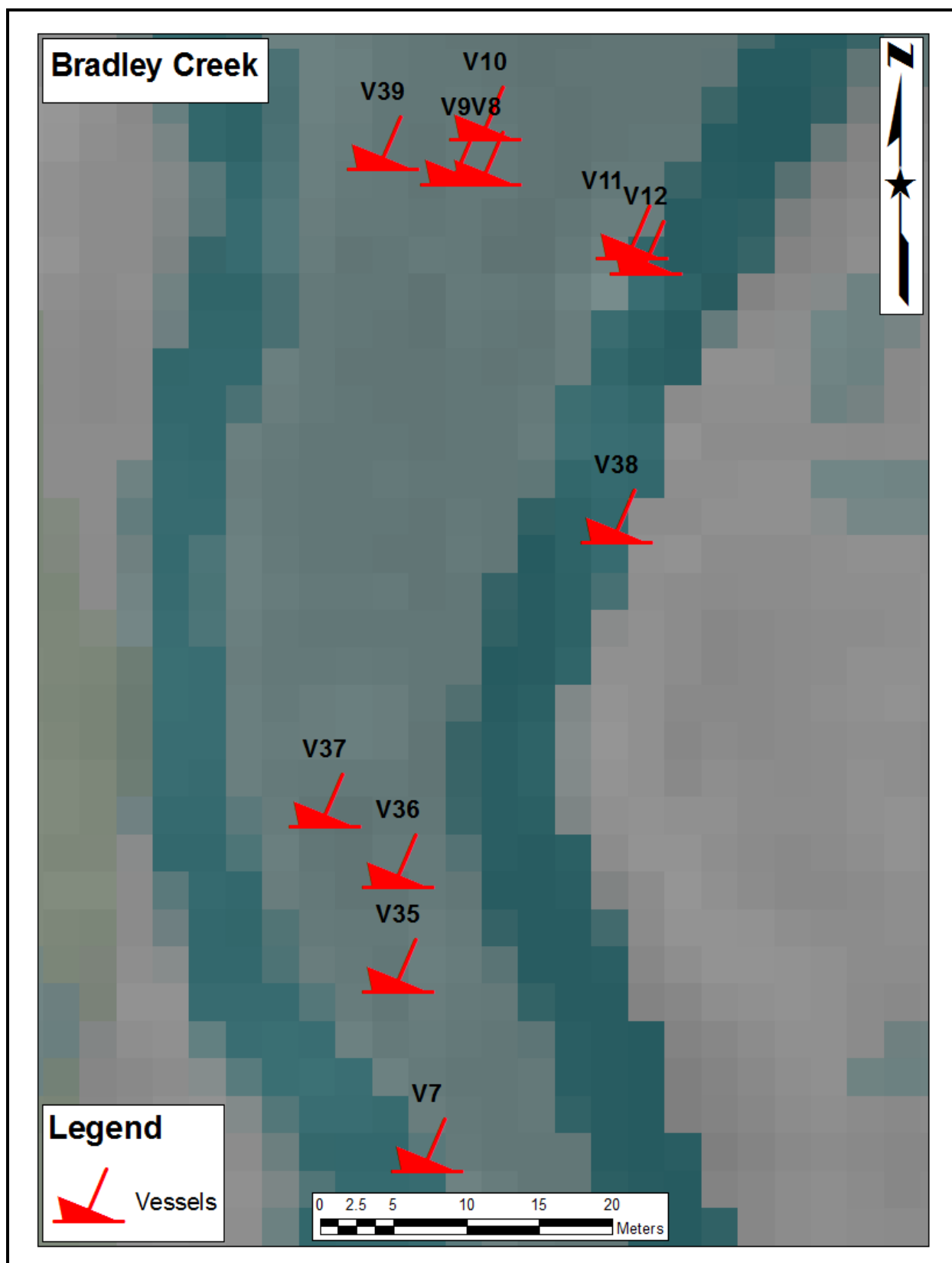
machinery on its aft deck, and damage to the superstructure (Babits and Kjorness 1995:48-49). Salvage was completed on both vessels by 2007, and Vessel 33 is virtually invisible, subsiding into the canal and marsh grasses. A portion of its keel assembly and a few strakes remain visible, resting on the starboard stern of Vessel 34.



**FIGURE 114. Vessels 33 and 34, Voliva Canal, south shore (Marcotte 2007).**

### *Bradley Creek*

Students recorded 11 vessels clustered along the shores of Bradley Creek, all in an advanced state of deterioration (Figure 116). In addition to vessels visible on the surface, several completely submerged vessels were located near other vessels, in some cases directly underneath. The vessels within Bradley Creek remain largely unidentified, as they are all in an advanced state of deterioration, and in many instances, identification numbers have been deliberately removed. Without identification, documentation could not provide a link between these vessels and possible owners in the area. Questioning local residents returned no further information, or possible timelines for the vessels' disposal. Due to the location of this creek away from the main hub of human activity, the site remains relatively undisturbed.



**FIGURE 115. South Prong, Bradley Creek Vessel Identification (USGS [North Carolina 1998] [92801 AERIAL] Reston, VA, USDA [Hyde County, North Carolina 2007] [NC095] Washington, DC).**



*Vessel 7 (0040PUR)*. Vessel 7 (Figure 116) is located at the southwestern edge of Bradley Creek, bow facing north, perpendicular to the marsh grass, listing to port approximately 70°. This wooden boat is highly disarticulated on the port side, and no superstructure, transom, or identifying markings remain. The starboard side has detached from its thick, bottom wales, and leans to port, exposing large iron drift pins. Two round portholes are visible forward the vessel's midsection on the port and starboard sides (Figure 117). A deteriorated plank of plywood rests in a horizontal orientation and upright, near its midsection, possible remnants of a superstructure wall. Slightly abaft midships, the starboard planking deteriorates further, exposing more iron bolts, eventually slipping under the water's edge and into the mud at the stern. The vessel measured approximately 38 ft. length, 10 ft. beam during survey; however, it must be noted that an exact overall length measurement is impossible due to the missing transom (Marcotte 2008).

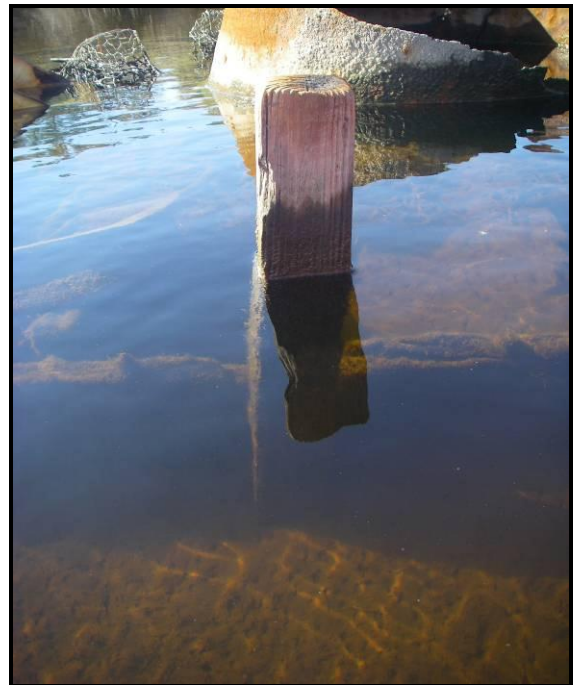
The vessel is completely filled with cultural materials related to commercial fishing, and a tree trunk measuring approximately 6 in. diameter rests on the port side. Personal items, i.e. an old VHS player, are present in the extant pile. The sheer volume of material placed on this vessel made identification of decking features impossible. The vessel has undergone salvage of all electrical, propulsion, and rigging components, as well as the superstructure. Reconnaissance in waist deep mud around the perimeter revealed the presence of other vessel remains lying beneath, and to the west of Vessel 7. A large piling was driven into the creek bottom near the vessel's port side as a form placement assurance (Figure 118). A samson post rises above the waterline near the stern, the feature used as a terminating point for recording dimensions. A site plan displays the construction techniques and site formation processes observed concerning the vessel (Marcotte 2008) (Figure 119).



**FIGURE 116.** Vessel 7, Bradley Creek, south prong during extreme low water from wind blowout, showing vessel's burial in silt (Marcotte 2008).



**FIGURE 117.** Vessel 7 - porthole, and pattern of fastening on strakes (Marcotte 2007).



**FIGURE 118.** Vessel 7 - wooden pile placement assurance on port side (Marcotte 2009).

Vessel 7 – UAB 0040PUR  
 Wright's Creek Abandoned Vessel Complex  
 Belhaven, NC  
 Jacqueline Marcotte  
 April 16, 2008  
 1:36 Scale

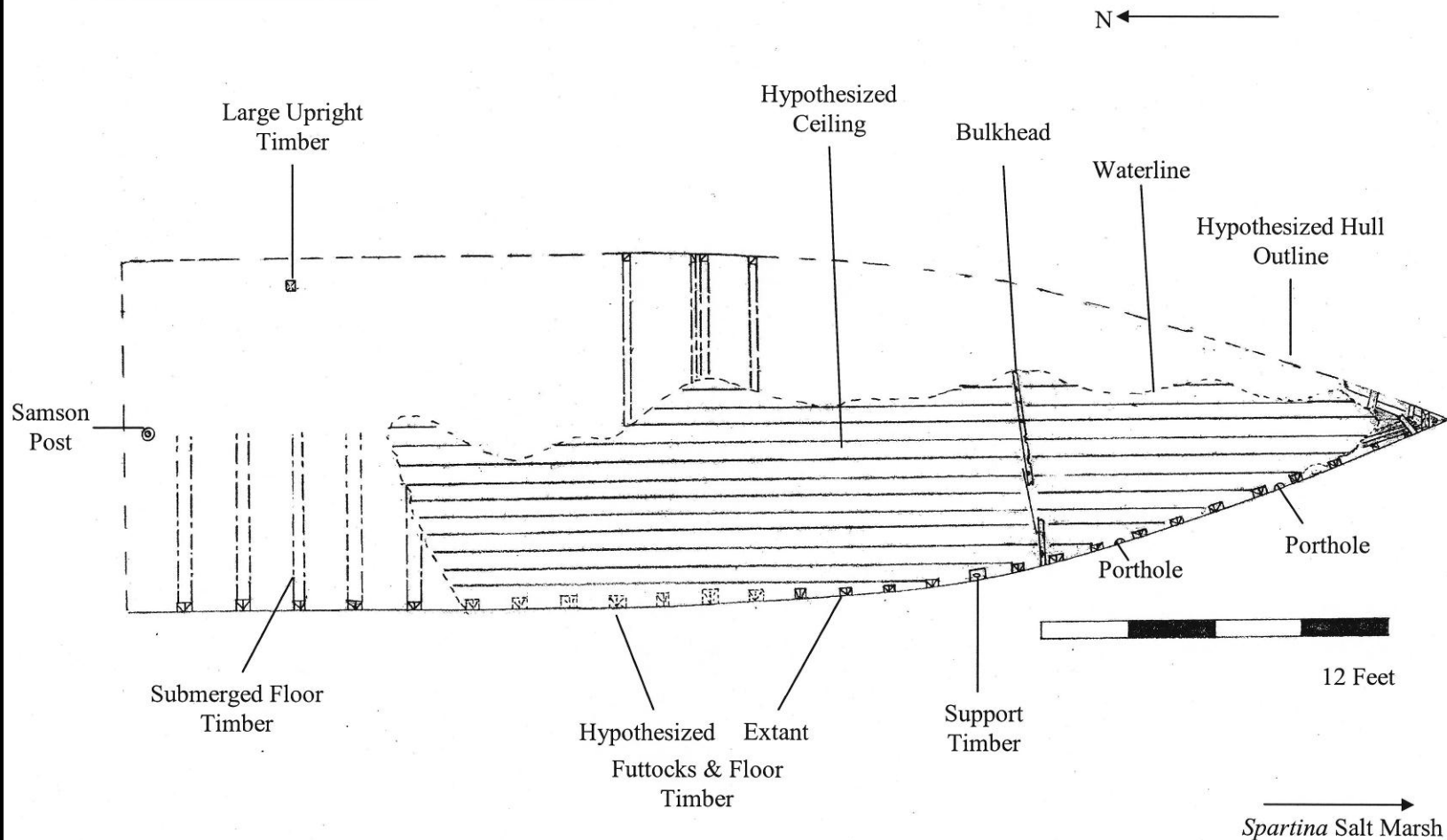


FIGURE 119. Site Plan of Vessel 7 (0040PUR) (Marcotte 2008).

*Vessel 8 (0031PUR)*. Vessel 8 (Figure 120) rests at the southernmost end of a cluster of vessels on Bradley Creek's western shore, approximately one quarter of a mile from the creek's mouth. The wooden vessel is awash, sitting on the bottom, listing to port, with the bow resting on shore, its starboard side resting atop Vessel 9. Its position above another vessel holds clues to its entrance into the archaeological record sometime after Vessel 9, likely during high water to facilitate placement. Its position resulted in a list to port, hastening the wheelhouse's disarticulation from the deck. The wheelhouse, largely intact, rests partially on the port side and in the water. The center-frame rigging is still attached, but the outriggers have been removed with no sign of their existence in the creek bed around the vessel. Standing 26.1 ft. in length by 9.5 ft. beam, it is constructed of plywood and machine cut timbers, with steel and copper alloy fastenings, resembling a "factory-made" vessel. The hull was constructed in lapstrake style, with a square transom, and hard chine near the vessel's bow, demonstrating generalized characteristics of a working fishing vessel (Hicks 2008).

This vessel appears to have undergone phases of salvage, evidenced by the lack of fishing and navigation equipment in the cabin, and the lack of any propulsion system (Figure 121). Clues pointed to the use of an inboard motor on this vessel, such as curved cut-outs found near the stern end of engine rails, and holes cut near the transom for exhaust. Further probing resulted in the discovery of an intact propeller and rudder. Crab pots and other fishing debris litter the cabin interior. A large post exists outboard, near its starboard stern, likely placement assurance. Theresa Hicks (2008) completed a site plan for this vessel during the March survey (Hicks 2008) (Figure 122).





**FIGURE 120.** Vessel 8, Bradley Creek, south prong (Marcotte 2007).



**FIGURE 121.** Vessel 8, detail of salvaged wheelhouse and deck components, remaining debris (Marcotte 2009).

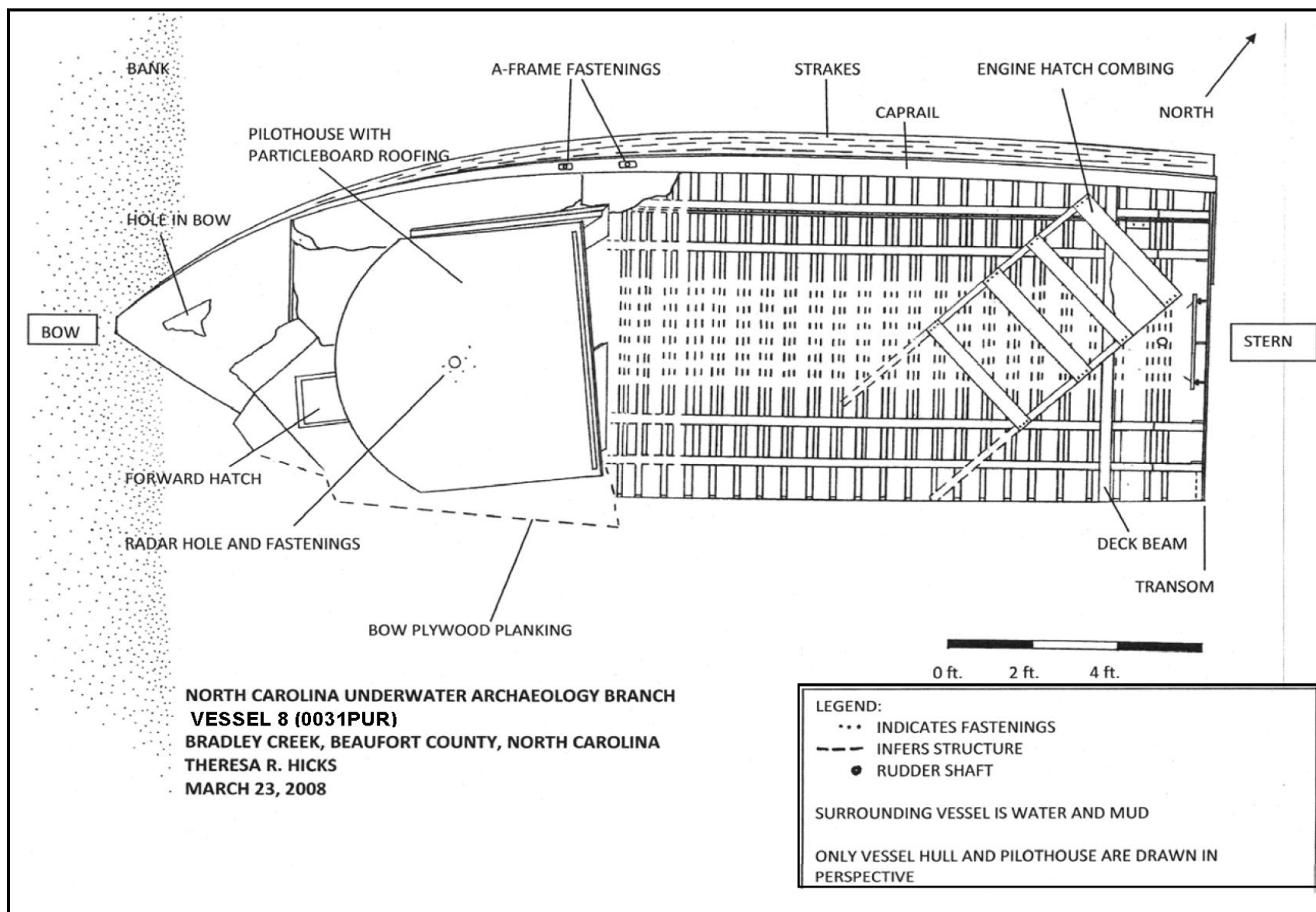


FIGURE 122. Site Plan of Vessel 8 (0031PUR) (Hicks 2008).



*Vessel 9 (0030PUR)*. Vessel 9 (Figure 123) sits awash, in the center of the west shore cluster, bow to shore, situated underneath Vessel 8, and flanked by Vessel 10 to starboard. The wooden vessel is articulated, except for a few elements including the rope-held cutwater at the stem, and missing hull features, such as the upper planks and cap rail. The square-bottomed vessel, 22.1 ft. long and 8 ft. beam, displays longitudinal planks with a square transom, and a carvel-planked hull. The frames, while identical in size, are irregularly spaced. A piece of wood protruding from the transom may be an outboard motor mount, possibly employed as a safeguard for fishing equipment lowered into the water. No further evidence of a motor was found, but it is of interest that large timbers were located inside the hull beneath a large pile of debris, possibly a wooden boom from fishing or sailing equipment (Hayman 2008) (Figure 124).

Commercial fishing refuse in the form of crab pots, line, and electrical appliances fill the entire hull. Evidence of a superstructure was not found, nor was there any evidence of bench seats, typically used in small, working craft. The vessel's upper strakes and cap rail are missing, and the wet-dry cycles experienced during water level changes have caused warping and cracking of the remaining structure. A site plan records elements of this watercraft's construction and evidence of active site formation (Hayman 2008) (Figure 125).



**FIGURE 123.** Vessel 9, Bradley Creek, south prong (Marcotte 2007).



**FIGURE 124.** Possible fishing, or sailing boom located within Vessel 9 (Hayman 2008).

# VESSEL 9 (0030PUR)

23 March 2008

Recorder: Jeanette Hayman

Partner: Joyce Steinmetz

\*The port side of the vessel is hypothetical, based on the offsets from the starboard side.

\*The riders, floor beams, and mud rakes are all possible construction types that could have occurred on PUR0030, based on other similar vessels.

--- : Boundary of debris inside boat

--- : Boundary of PUR0029, butted against PUR0029

--- : Boundary of water that is over the vessel

--- : Boundary of PUR0031, lying over PUR0030

--- : Boundary of iron rust on curved metal object

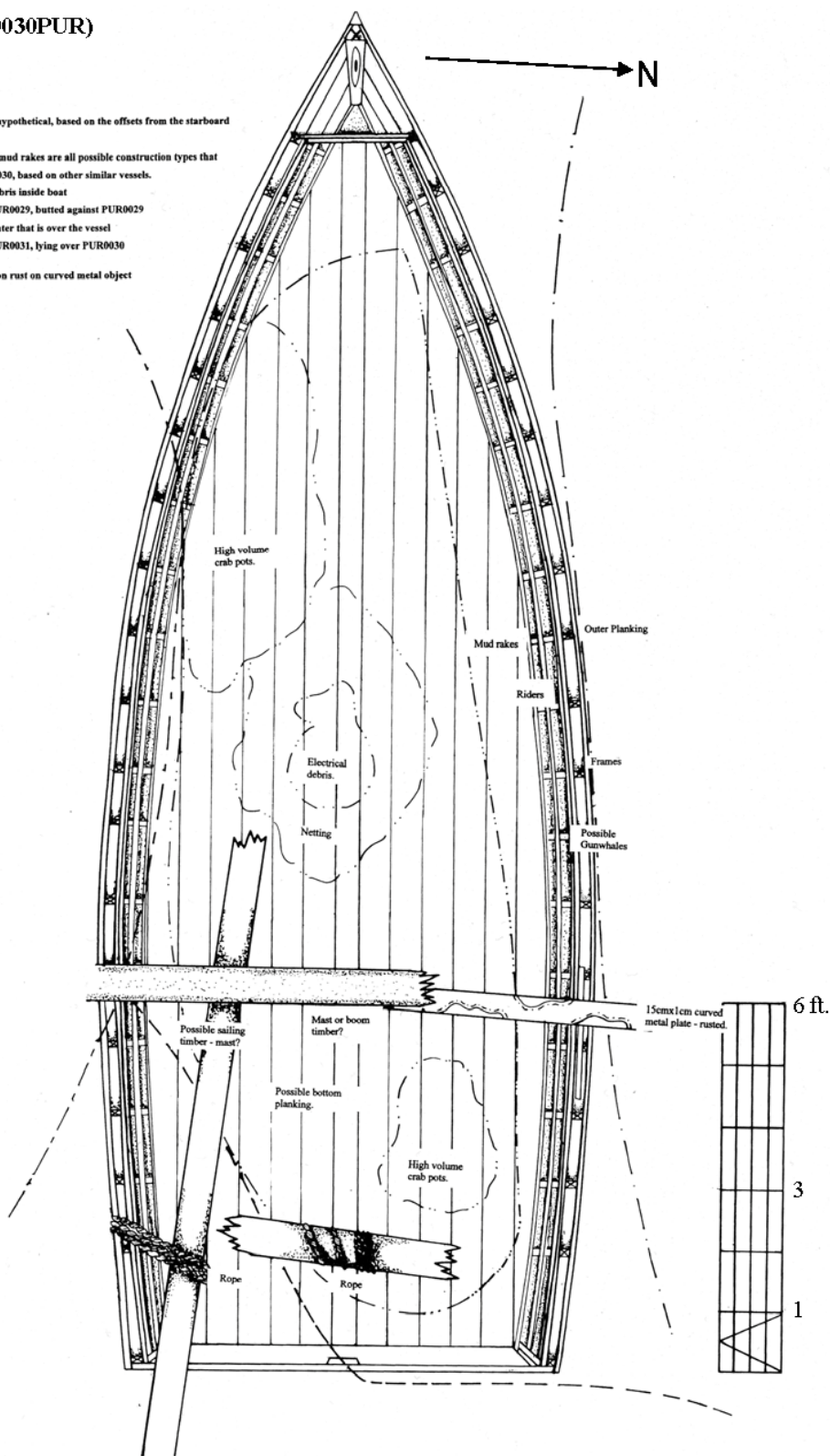


FIGURE 125. Site Plan of Vessel 9 (0030PUR) (Hayman 2008).

*Vessel 10 (0029PUR)*. Vessel 10 (Figure 126) rests at the northern edge of the first cluster of vessels as one nears the creek's head, bow facing the western shore, immediately starboard of Vessel 9. The vessel, 23.7 ft. long and 6 ft. wide, is wooden, and possesses a slight flare to the bow typical of "Core Sounder" or Harkers Island Style watercraft (Alford 2004:14). The vessel lacks a keel, being built with a chine or flat bottom, square transom, and forward superstructure. Certain construction elements are still visible on this vessel, including an intact cap rail, and a simple forward housing, likely the bottom of a two-story wheelhouse structure. While the vessel is largely articulated, strakes at the bow are disconnected and resting partially in the water, near the location of other wooden planks likely belonging to this vessel (Figure 127). Further strakes rest in the debris lining the deck (Campbell 2008). Peter Campbell (2008) completed a site plan for this vessel during the March survey (Figure 128).

Crab pots, and other fishing related debris litters the interior of Vessel 9 (0029PUR). Other discarded materials included a marine battery, a plastic container containing a few, small, corroded tools, and a 1993 Amstel bottle. Included within the list of artifacts is a six cylinder engine, missing a cylinder cover. A further search of the vessel yielded no corresponding equipment, such as gas tanks, or a propeller and shaft, and no steering gear was present. Plexiglas fragments with fastening holes litter the top of the housing, along with light bulb fragments and a light fixture, as well as visible fastening points for an added structure on its port side (Campbell 2008).





**FIGURE 126.** Vessel 10, Bradley Creek, south prong (Marcotte 2008).



**FIGURE 127.** Vessel 10 with partially disarticulated starboard and port strakes, and forward wheelhouse (Marcotte 2008).

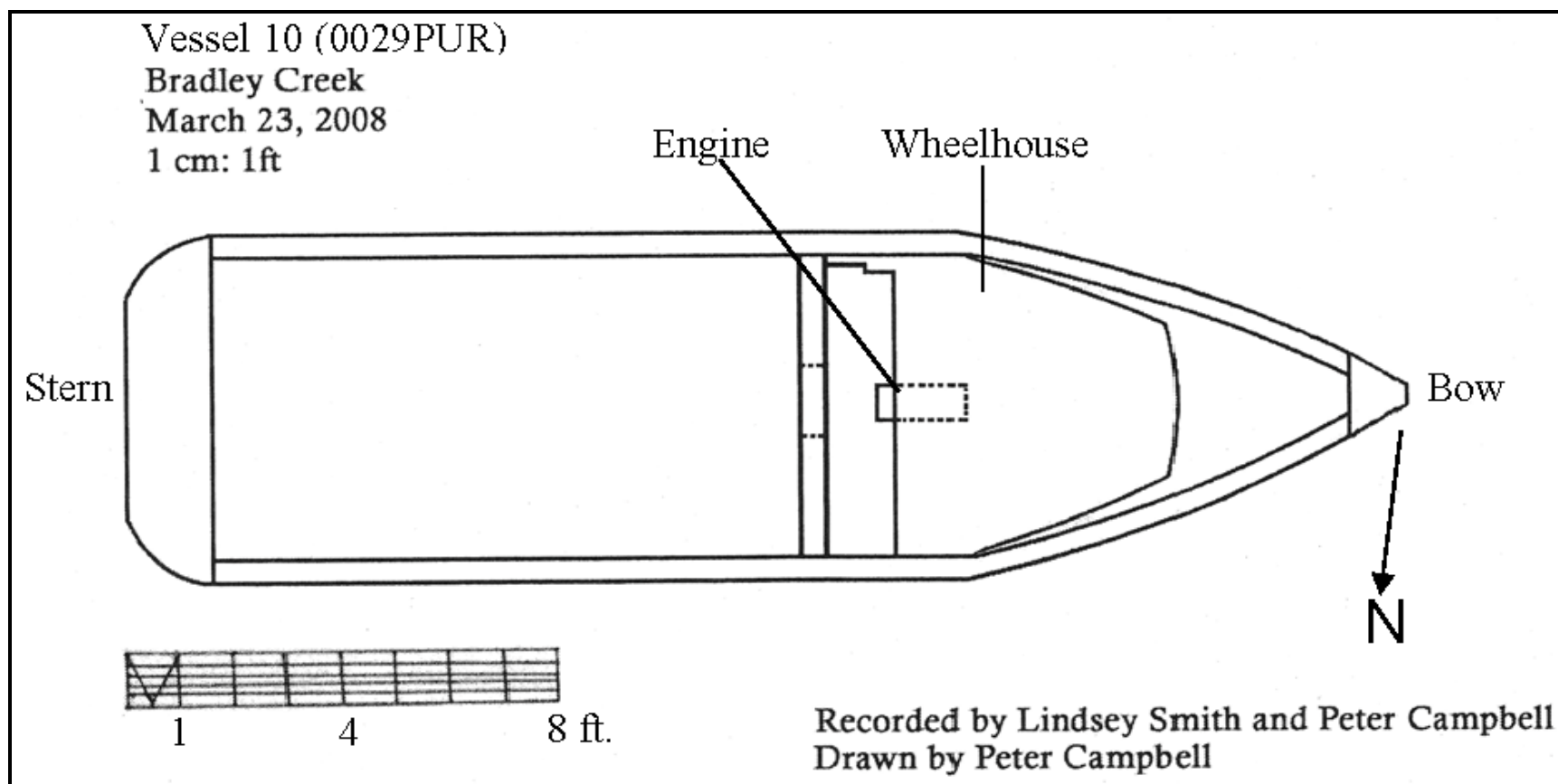


FIGURE 128. Site Plan of Vessel 10 (0029PUR) (Campbell 2008).

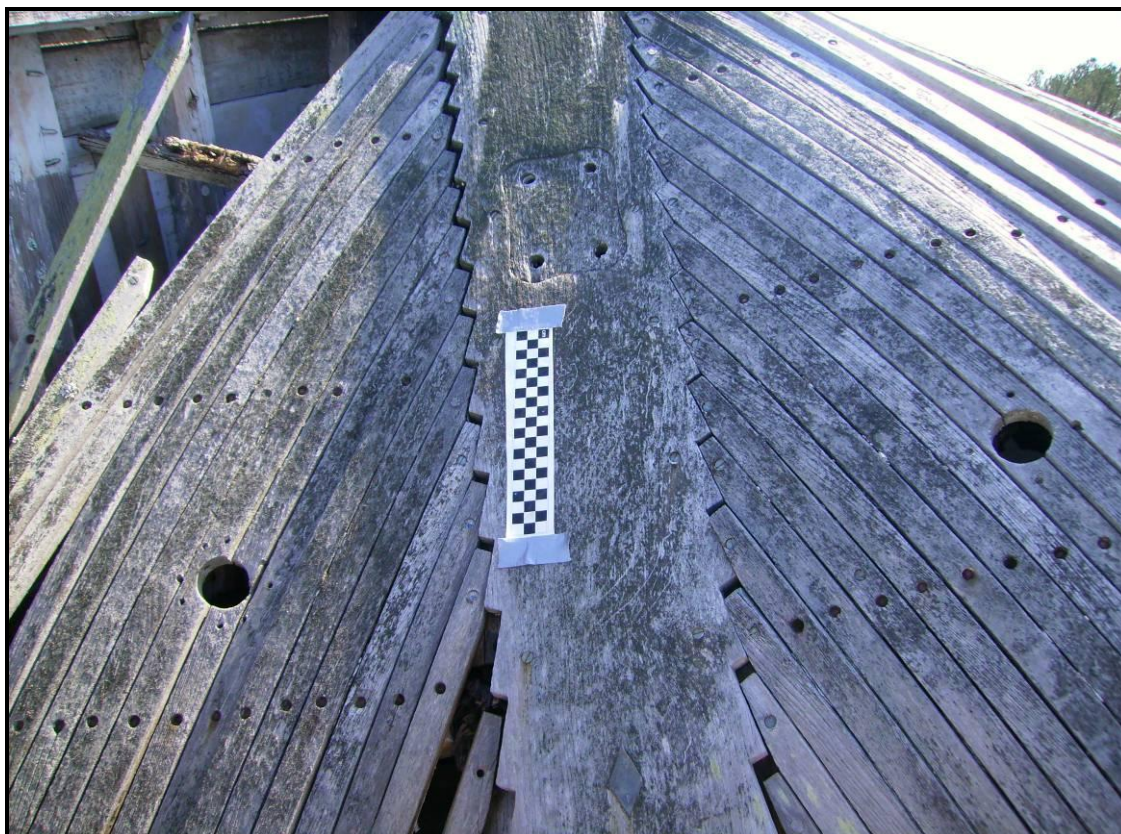
*Vessel 11 (0033PUR)*. Vessel 11 (Figure 129) rests starboard of another vessel on Bradley Creek's southeastern shore, bow facing south, its stern angled 45° toward shore, approximately 6 ft. from the marsh grass. The wooden vessel lies awash, and listing slightly to starboard, with dimensions recorded as 34 ft. long and 10 ft. wide. Sections of the vessel's hull are beginning to give way, and the deck has collapsed into the flooded hull, along with the fiberglass-encased deckhouse. The vessel has a rounded stern, laid strip on the forward deck near the bow, and bulwark stanchions in the forward hull (Figure 130). The bow of the vessel is slightly flared, reminiscent of a "Core Sounder" (Alford 2004:14). Copper bolts are used throughout the vessel, particularly in support of the remaining cap rail. A crossbeam runs transversely across the vessel approximately 14 ft. forward of the stern, rabbeted to fit over the cap rail. Babits and Kjørness (1995:58) suggest the vessel may have been a conversion from a pleasure craft to a working vessel. Morgan MacKenzie (2008) completed a site plan of this vessel during the March survey (Figure 131).

The vessel's hull is littered with marine debris, including many crab pots, and a metal-backed chair. A superstructure was noted during Babits and Kjørness (1995:59) survey that was salvaged at some point before work in 2008. Although the forward deckhouse has collapsed, brackets survive atop its ceiling, possible evidence of a previous wheelhouse structure. Two large holes are also present in the deckhouse ceiling, possibly from equipment salvage. Although no evidence exists of a motor or steering mechanism, marks on the stern indicate a prop driven vessel.





**FIGURE 129. Vessel 11, Bradley Creek, south prong (Marcotte 2007).**



**FIGURE 130: Vessel 11 - laid strip decking, similar to that found on sailboats or pleasure craft (MacKenzie 2008).**

# Vessel 11 (0033PUR)

Plan View

Bradley Creek, North Carolina

Morgan MacKenzie

2008

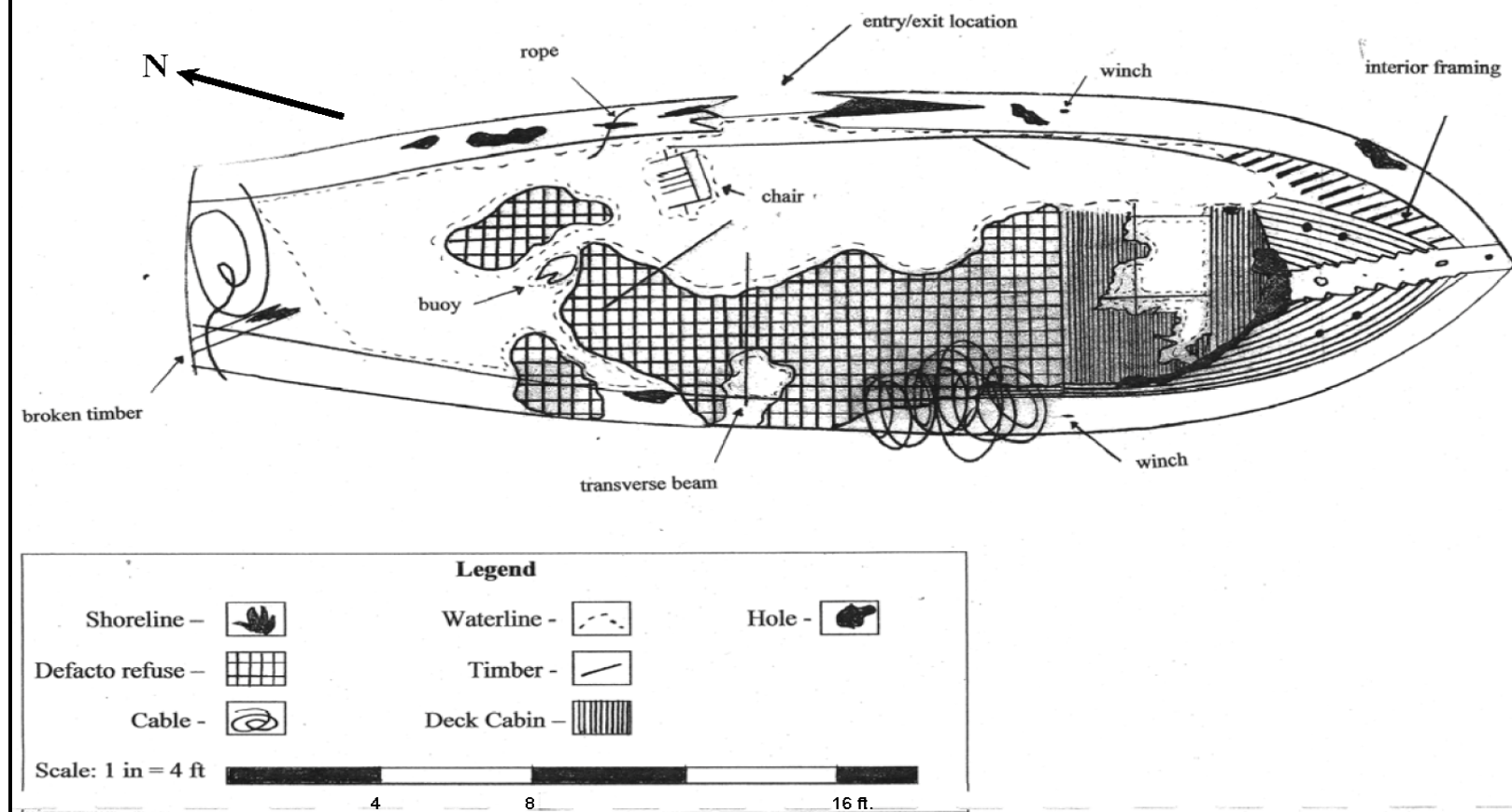


FIGURE 131. Site Plan of Vessel 11 (0033PUR) (MacKenzie 2008).



*Vessel 12 (0034PUR)*. Vessel 12 (Figure 132) rests on the creek bottom, off the port side of Vessel 11's (0033PUR) stern, 16 ft. from shore. The vessel is in a similar position to its starboard neighbor, bow pointing south, stern fully submerged at a 45° angle to the marsh, listing to port. No transom remains on this vessel, causing researchers to record dimensions based on the presence of a structural timber 26.4 ft. aft of the stem. Beam dimensions are estimates with a maximum of 8 ft. A small amount of longitudinally planked decking is visible in the bow of the vessel, along with cotton caulking between strakes (Figure 133). The boat disarticulation increases toward midships, and the warped and cracked wood shows evidence of prolonged wet-dry cycles. Fastenings appear to be primarily iron and steel nails, with some copper alloy bolts. A site plan was completed for this vessel during the March 2008 survey (Latta 2008) (Figure 134).

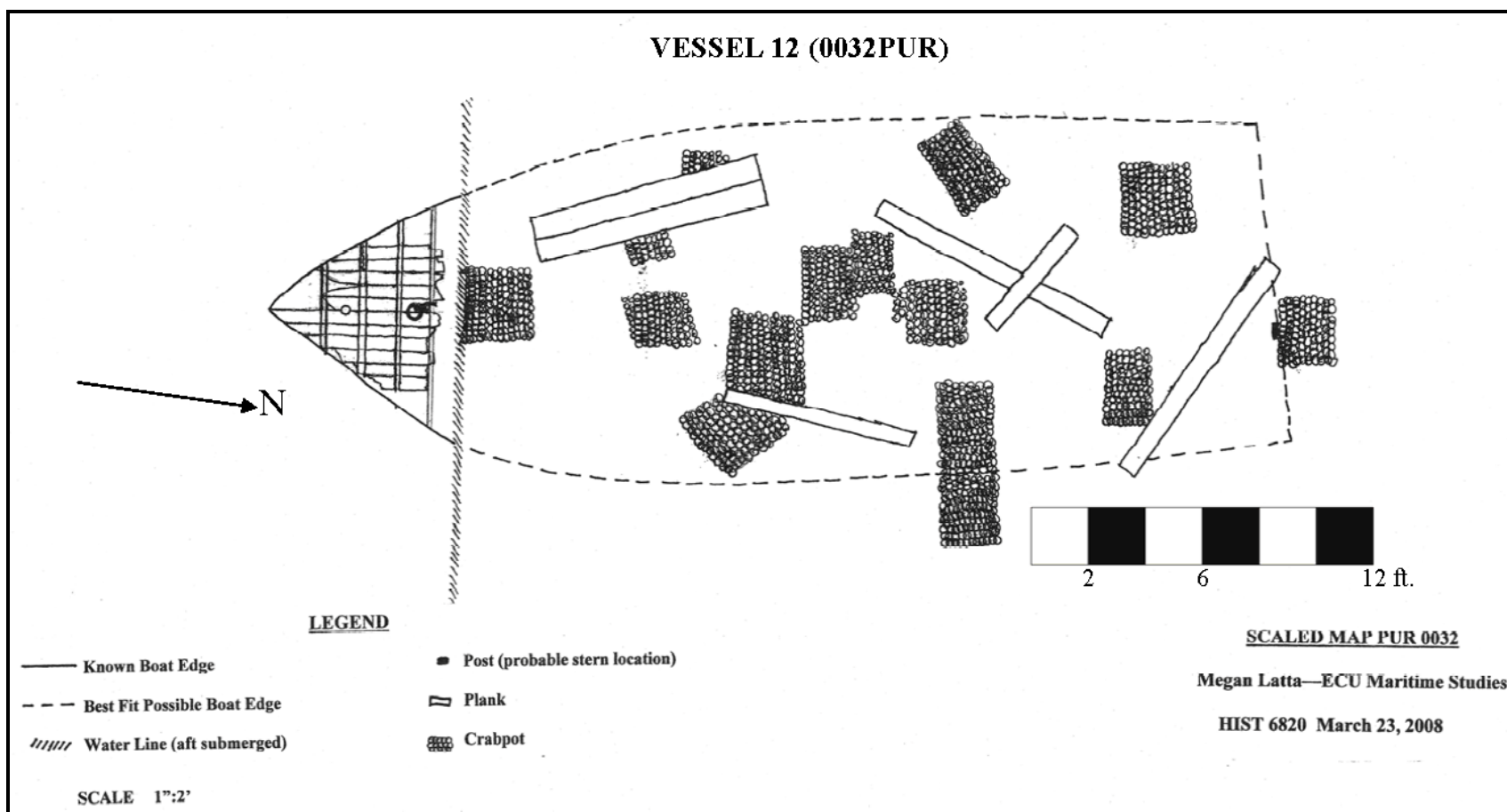
The hull of Vessel 12 (0034PUR) is filled with wooden planks, crab pots, and other marine debris, obscuring the hull beneath the water. No electrical equipment or evidence of propulsion was discovered in the sediment around the vessel. Copper alloy bolts were missing along areas of the hull. The vessel's registration number, once enumerated on the hull in white paint, has worn away with only a "C 7" remaining.



**FIGURE 132.** Vessel 12, Bradley Creek, south prong (Marcotte 2008).

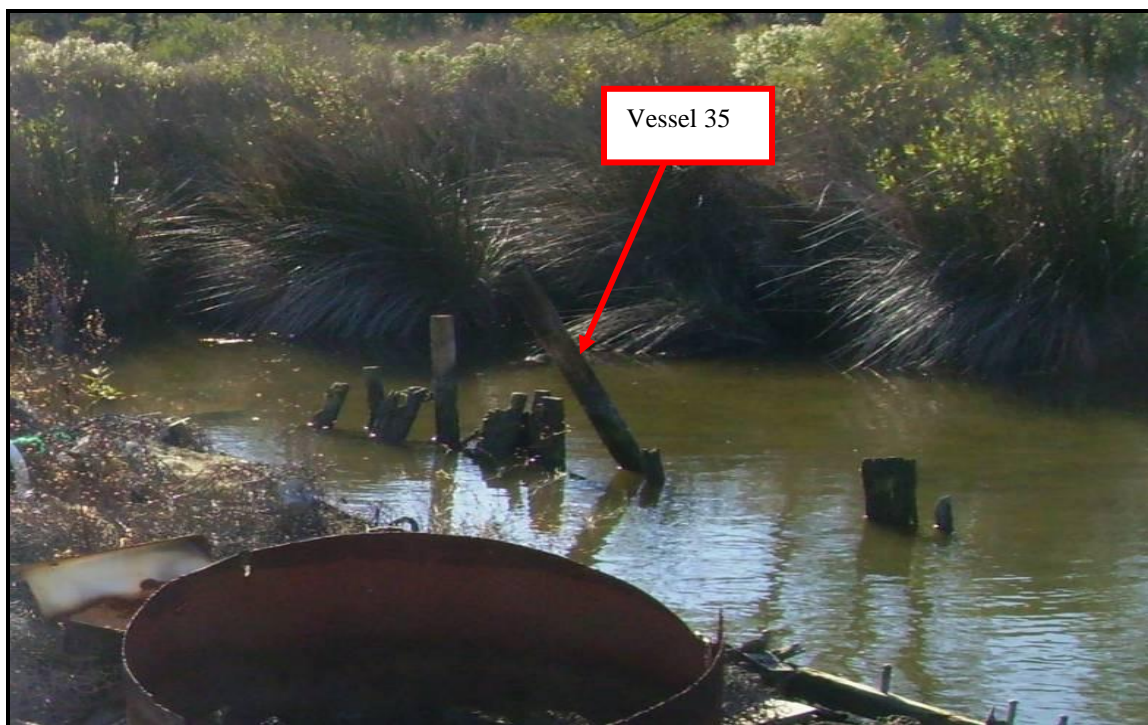


**FIGURE 133.** Vessel 12, detail of longitudinal bow planking and caulking (Latta 2008).



**FIGURE 134. Site Plan of Vessel 12 (0032PUR) (Latta 2008).**

*Vessel 35 (0039PUR)*. Vessel 35 (Figure 135) lies immediately west of Vessel 7, with few structural remains for detailed interpretation. A long wooden strake runs the length of Vessel 7, in a north to south direction. Small, wooden frames protrude at regular intervals from the strake, some rising above the water's surface. A large piling, approximately 3 in. by 5 in. is driven into the sediment near the center of the strake on its west side. Rising more than 1 ft. above the water, the piling leans across the strake toward the east. During Babits and Kjørness' (1995:61) survey, the vessel was almost completely submerged, and resting atop Vessel 36 (0038PUR). It was described as a longitudinally planked workboat with cabin area under the foredeck.

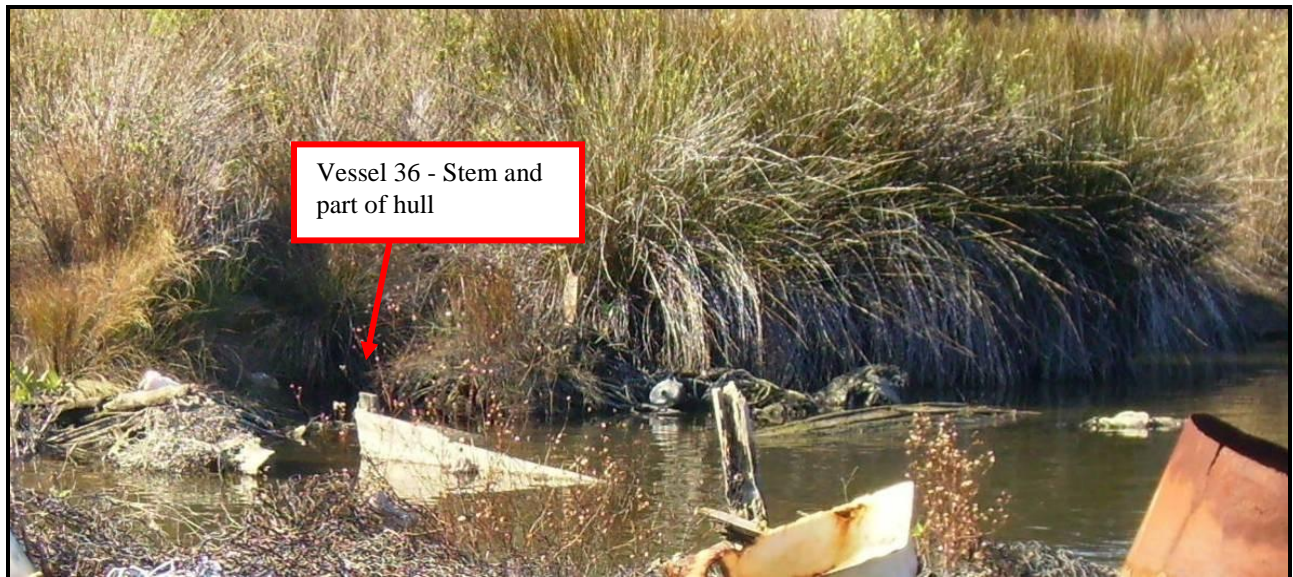


**FIGURE 135.** Vessel 35, Bradley Creek, south prong (Marcotte 2007).

*Vessel 36 (0038PUR)*. Vessel 36 (Figure 136) lies immediately west of Vessel 35 (0039PUR). It is completely submerged and rarely visible above the surface, with bow toward the southern shore. A long wooden plank or wale can be seen beneath the water's surface during calm periods (Figure 137). During Babits and Kjørness' (1995) survey, the vessel was observed as a longitudinally planked workboat with cabin area under the foredeck, much like Vessel 35. As



noted previously, Vessel 35 rested atop Vessel 36 during the 1995 survey (Babits and Kjorness 1995:61).



**FIGURE 136.** Vessel 36, Bradley Creek, south prong (Marcotte 2007).



**FIGURE 137.** Vessel 36, associated wale or strake, facing south (Marcotte 2008).



*Vessel 37 (0035PUR-0037PUR)*. Vessel 37 (0035PUR-0037PUR) (Figure 138), although listed as a single vessel in this thesis, is actually a composite of several vessels, all submerged and visible as planks and equipment under the water and silt of Bradley Creek. Deemed “Cluster III” in Babits and Kjorness (1995:57) survey, the cluster contained three vessels partially visible above the surface (0035PUR-0037PUR). Although not designated with a UAB number, a fourth pile of strakes was noted near the creek’s northern shore as a possible vessel. In addition, an intact engine and transmission was found associated with wooden planks, and a wooden piling protruding from the water (Figure 139). Located at the northern boundary of the cluster and almost completely submerged, vessel 0035PUR, was identified as a Harker’s Island style skiff, estimated at 24 ft. in length. Vessel 0036PUR was partially submerged, bearing resemblance to 0035PUR in construction techniques. The last vessel in the cluster, 0037PUR, was awash with portions of the bow and forward cabin above water. It had a square stern, and was estimated at 26 ft. length and 8 ft. beam (Babits and Kjorness 2005:60-61).



**FIGURE 138.** Engine from Vessel 37 cluster (Marcotte 2009).



**FIGURE 139.** Engine and transmission from Vessel 37 cluster (Marcotte 2009).

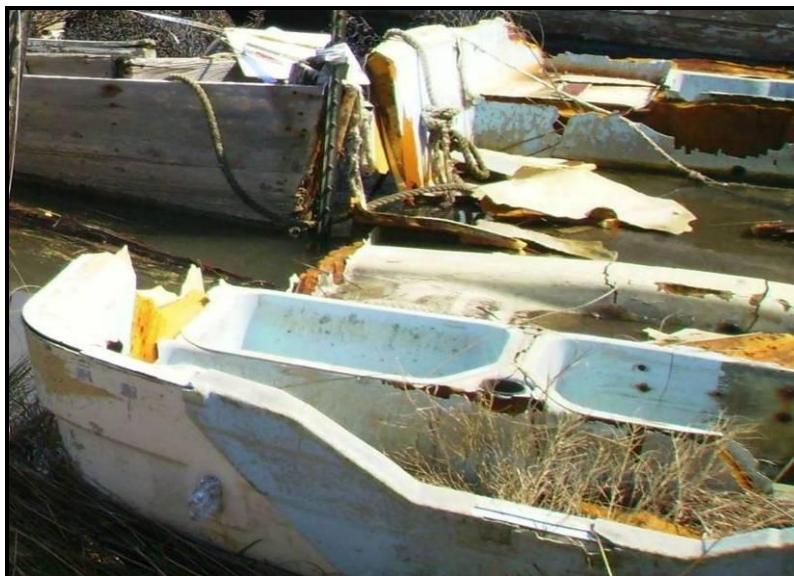
*Vessel 38*. Vessel 38 (0034PUR) (Figure 140), *Marena*, is completely submerged and juxtaposed to Vessel 11 (0033PUR), lying immediately to its south, bow facing the eastern shore. During Babits and Kjorness (1995:59) survey, Vessel 38 was described as a transverse planked, dead rise workboat with a forward cabin, approximately 36 ft. long by 10 ft. in beam.

The stern of the vessel was broken up, but elements of visible construction suggest for a square shape. The vessel at the time of the 1995 survey was fully awash and filled with marine debris.



**FIGURE 140.** Vessel 38, Bradley Creek, south prong (Marcotte 2008).

*Vessel 39.* Vessel 39 (Figure 141) rests on Bradley Creek's western shore, directly in front of Vessels 8-10, oriented in a northeast to southwest direction, its bow facing southwest. Vessel 39 is small at approximately 12 ft. length by 4 ft. beam, and constructed completely of fiberglass. The vessel is almost completely broken up, with sections of fiberglass missing from the hull, amidships, and stem. In addition, the inner fiberglass core is exposed in several areas.



**FIGURE 141.** Vessel 39, Bradley Creek, south prong (Marcotte 2008).

## **Conclusion**

There are two main types of cultural material associated with a commercial fishing graveyard – discarded vessels with associated equipment, and related refuse. The rural commercial fishing graveyard assemblage contains commercial fishing vessels purposefully discarded on or near the vessel owner's property for a variety of reasons including, but not limited to, technological change, economic hardship, and use-wear. These cast-off fishing vessels are potentially complex artifacts holding information about technology, chronology, manufacture, use, and eventual disposal. Fishing gear and other maritime related equipment consist of crab pots, buoys, line, and personal items accumulates on site and is found in association with the vessels,. The location of a rural commercial fishing graveyard is an important aspect of archaeological and cultural interpretation. Given the technical aspects of boat breaking and discard, and the isolation associated with rural commercial fishing, it is impractical to float watercraft long distances from the breaking area in a stripped-down state. Logically, this would force most commercial fishing operations to discard vessels on or near their commercial or residential property. In fact, in many instances, a fisher's commercial and residential property is one and the same.

The vessels discovered within Wright's Creek are the discarded cultural materials of the surrounding community, representing their maritime heritage. Discovered during the 1994-1995 survey conducted by Babits and Kjorness (1995), forty vessels were recorded in varying states of discard and abandonment. The majority of the watercraft recorded in this study appeared to be wooden workboats used primarily in the commercial fishing industry. Other vessel types include a steel barge, a wooden schooner, and a centerboard schooner, the latter representing a time depth to the late 19<sup>th</sup> century. The additional archaeological fieldwork conducted in the year

2007-2010, located eighteen of the vessels recorded during Babits and Kjorness' (1995) previous survey, the remaining vessels having decayed and disarticulated above the surface, subsiding beneath layers of silt. Aside from the eighteen previously noted vessels, the additional fieldwork discovered twenty-two more vessels discarded after 1995. The more recently discarded vessels are primarily wooden workboats once used in the commercial fishing profession, the construction techniques represent a date range from the early to late 20<sup>th</sup> century.

## CHAPTER 7: USELIFE, THE GRAVEYARD, AND MEMORY

### **Introduction**

This chapter will examine the meaning and purpose of the commercial fishing graveyard through exploration of its primary feature, the commercial fishing vessel. The perception of a vessel held by its owner or surrounding community influences how its uselife proceeds, and finally terminates. Analysis of artifact uselife and function, the creation of a fishing graveyard, and the effects of memory on behavioral processes leading to vessel discard, can inform archaeologists on possible signatures of these processes found in the archaeological record.

Understanding the fishing boat as an artifact requires an examination of its variability and lifecycle. This includes an analysis of the formal and stylistic characteristics of individual vessels. Analysis of artifact lifecycle includes a discussion of materials procurement, manufacture, phases of uselife, and conservation processes geared toward extending the use. In addition to observations concerning artifact uselife, this chapter explores functions served by the vessel while acting in the systemic context, and the intrinsic tie such functions have on creating the fishers' memory. In particular, this section evaluates technofunctions, sociofunctions, and ideofunctions served by the vessel.

The study of the graveyard's creation and its location within the rural landscape allows a clearer understanding of the decision-making processes that led to its existence, and the factors that maintain its continued upkeep. A final section explores the connection between the graveyard and memory, exploring how the community's shared memories influences perception and meaning of the graveyard held by those responsible for its existence.

## **Vessel Uselife**

The full lifecycle or “uselife” of a wooden commercial fishing boat was readily apparent during prolonged study of the Wright’s Creek Commercial Fishing Graveyard, highlighted through the medium of photographs and oral accounts of local residents and commercial fishers. Through physical observations and memories of the people who participated in its construction, a comprehensive understanding of artifact variability and lifecycle is possible within the context of the rural commercial fishing graveyard.

### *Artifact Variability*

The Wright’s Creek Commercial Fishing Graveyard is composed of discarded vessels and equipment belonging to the professional fishers residing along the creek’s shores. The majority of the vessels, with few exceptions, are wooden with a flat bottom or chine, shallow draft, carvel planking, and transom stern, reflecting the western style with a wheelhouse toward the bow. These boats also possessed motorized systems for propulsion and running of the deck gear. Construction of this boat type occurred frequently within North Carolina, and at times took place in the backyards of Wright’s Creek residents.

The primary fishing equipment installed on deck appears to be trawl rigging; however, fishers in North Carolina are opportunistic gleaners, and will often modify their gear to suit the harvest season. Trawl gear observed within the graveyard appears to be of main mast type, with a single mast running up the center of the metal rigging, rather than the more modern A-Frame rigging found on the working fleet (Figure 142). Most of the trawl gear on working or discarded vessels is double rig style, with an outrigger on both port and starboard sides near midships (Sainsbury 1986:85-93).





**FIGURE 142. Foster's Seafood Complex vessels displaying both main mast rigging and A-frame rigging (Marcotte 2008).**

Variations on the construction theme witnessed within the graveyards occur occasionally, including a change in material as seen with Vessel 13, the steel barge located in the creek's south prong, and Vessel 39, the small fiberglass skiff abandoned in Bradley Creek. In the north prong, this includes two vessels with rounded sterns on the Hopkins' property (Vessels 17, 19), Vessel 5 (*Miss Amber*), the eastern style oyster boat at Schoolhouse Landing, and Vessel 2 (*Miss Shirley*), the wooden schooner on the Fulford Property.

The current fleet of working vessels bears a strong resemblance to those located within the graveyard (Figure 143). The working fleet represents the last vestiges of wooden trawler construction in North Carolina, and possibly the nation. Although many of the working boats are larger than the discarded craft, their formal, functional, and stylistic characteristics are similar.

They range between 40 to 75 ft., a breadth spanning 10 to 20 ft., and a chine bottom with shallow draft. Most of the currently working watercraft are built of wood, in the western style, with carvel planking, transom stern, and chine bottom. Only two fishing boats, *Miss Kirk* and *Lady Carolyn*, owned by the Kirk family and Hopkins family respectively, are steel.

It is interesting that some older vessels do not necessarily fit the pattern of the round-bilge popular before the 1970s (Michael Alford 2008, pers. comm.). Boatbuilders of Wright's Creek preferred a chine bottom to avoid the steaming process required of rounded bilges. It should be noted that many of these vernacular boatbuilders used hand-powered tools, avoiding power tools, this situation obviously heightened by the fact that electricity wasn't widely available until the 1960s (Foster Sr. 2009). This shows a local preference based on the simplicity of the chine-bottom design.



**FIGURE 143. Working fleet of wooden vessels at Foster's Seafood (Marcotte 2008).**

### *Artifact Lifecycle*

As discussed in Chapter 3, the vessel's lifecycle and equipment discarded in the graveyard is visible through observation of those still in use within the systemic context. Composed of stages, the lifecycle of an artifact is traceable from procurement of materials, construction or manufacture, use, maintenance, and deposition. Although construction of these vessels no longer occurs along the creek's shores, data pertaining to these boatbuilding activities is available through oral interviews and photographs generously donated by residents and commercial fishers.

Material procurement for building these wooden commercial fishing vessels occurred primarily within North Carolina. The materials composing vernacular built wooden fishing vessels consisted longleaf heart pine, loblolly pine, and cypress, all species located within the state and Wright's Creek basin (Kelly and Kelly 1993:117-130; Foster Sr. 2009). Once finished, a vessel was fitted-out with electronics, equipment, and a motor. Major Wilson Foster, creek resident and boatwright, acquired these materials locally, installing them in his finished vessels along the shoreline (Foster Sr. 2009). Although it is not known if this was a common practice for all the creek boatwrights, Major Wilson Foster's use of local materials demonstrates their availability.

In addition to local procurement, the majority of these vessels were constructed within North Carolina, and at times in the backyards of Wright's Creek residents. A scan of the 2009 Beaufort County Vessel Registration (USCG) lists several Belhaven residents as wooden boatbuilders, including Major Wilson Foster, George L. Credle, David L. Kirk, James W. Hooten, Hoyt T. Spencer, and J.R. Hopkins Sr. It is likely that all these boatwrights constructed vessels in a vernacular style in their backyards, as there is no associated listing for a shipyard in



the registry. Of these Belhaven boatwrights, Foster, Kirk, and Hopkins reside along Wright's Creek, and have constructed vessels in their private yards.

The formal, stylistic, and functional characteristics of the wooden commercial fishing vessels constructed in a vernacular manner are similar, despite the lack of blueprints. They are typically shell-based, with the framing constructed first, providing a flat bottom or chine, negating the need to steam and bend the ribs often found with round bottom vessels (Figure 144, 145). Planking follows, fastened to the frames, with floor timbers bolted through the keel (Kelly and Kelly 1993:117; Foster 2009). Framing is normally 4 x 8 in., deck beams are 4 x 12 in., and planking and decking are approximately 2 in. thick. Vessels are usually double-planked inside with a 12 in. wide keel (Kelly and Kelly 1993:117).



**FIGURE 144.** Comparison chine bottom vessel (*Morning Star*, left) and vessel constructed of steamed, curved ribs (*Cracker Boy*, right) (Marcotte 2008).



**FIGURE 145. Shell-first construction practiced by boatwrights of Wright's Creek, this shell constructed by Major Wilson Foster Ca. 1964 (Carl Wilson Foster Collection, Belhaven, NC).**

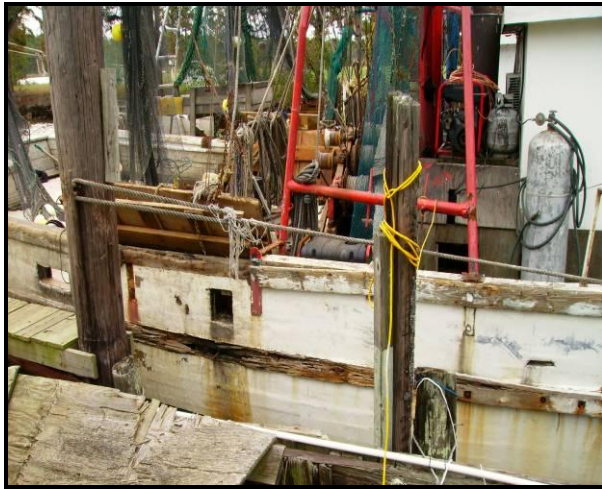
The continued importance of a vessel within the systemic context can also be gauged through examination of its uselife phase, and function within a primary or secondary capacity. The working vessels of Wright's Creek are purpose-built for use by commercial fishers, geared toward trawling and navigating North Carolina's shallow rivers and sounds (Phillips 2010). These wooden vessels, largely the product of generational boatbuilding activities, represent the major output of capital investment for Wright's Creek fishers. In addition to providing a fishing platform, the vessel essentially serves as life support, providing shelter from harsh conditions and a temporary home on the water, while life aboard includes a fisher's familial and social hierarchy. For the small fishing operations conducted from Wright's Creek, these vessels are the primary means by which they provide the bulk of their income, necessitating a great deal of importance placed on their maintenance and longevity. In other words, the currently working vessels are acting in a primary mercantile phase, serving their original intended purpose. None of boats observed at dock or entering the creek appeared to have any associated primary support vessels, as would be expected if the fishers were harvesting shad or mullet. The archaeological

record, however, reflects the use of a primary support vessel (Vessel 4) by the Hopkins family, used as a net-haul boat and towed behind Vessel 3 (*Miss Dorothy*) (Daniels 2010). Currently, these fishers use their larger, purpose-built, commercial vessels to trawl and store their catch aboard in the iced or refrigerated hold, rather than catch their harvest in smaller boats, and bring them to a central or “mother” fishing vessel. According to Carl Foster Sr. (2009), the majority of the vessels in the fleet still use ice as a method of refrigeration. Although the working fleet is currently utilized in a primary mercantile phase, vessels within the archaeological context demonstrate use in a primary support capacity, such as Vessel 3 (*Miss Emily*), previously utilized as a run boat. In addition to the use of vessels in a primary mercantile phase, one vessel is currently in use as a secondary support boat. Near the far western edge of the creek’s north prong, salvage of Vessel 15 is complete and it sits on the creek bottom, now acting as a platform for the storage of crab pots and other gear. The boat is tied to the dock, and placement assurance is installed on the starboard side in the form of 2 x 4 ft. wooden stakes, combined with bowlines tied from the vessel to shore.

The importance placed on boat longevity is visible in the continued maintenance or curate behaviors of the rural commercial fishing fleet operating within the creek. A scan of vessel registration for 2009 (USCG) is a testament to the craftsmanship prevalent in North Carolina, as many vessels are well over thirty years old. Of the 30 working commercial fishing vessels calling Belhaven port, and observed in Wright’s Creek, 73% (22) are at least 30 years old, and of these 36% (8) are at least 40 years old. One of the oldest vessels in the fleet, *Cracker Boy*, was built in 1947 in St. Augustine, Florida (Figure 146, 147). An examination of the vessel shows use wear throughout many areas, including the rub-rail and planking along the vessel’s port and starboard sides. During a trip to the project site one month earlier, in November 2008,



the residents spied the investigator's SCUBA gear, and commented on their need for an inspection of *Cracker Boy*'s hull, as it was taking on water.



**FIGURE 146.** Starboard side *Cracker Boy*, showing wear and degradation of wooden elements (Marcotte 2009).



**FIGURE 147.** *Cracker Boy* after maintenance – marine paint and replacement of rub and cap rails (Marcotte 2010).

Typical maintenance for these vessels includes painting, replacement of planking, railing, and entire sections of hull if necessary. A fresh coat of marine paint is essential for continued preservation, and white is the predominant color applied. Several vessels received a coat of new marine paint in 2010, including *Cracker Boy*, and *Capt. Sam* (Figures 148, 149). Aside from the working vessels used by fishers to ply their trade, some abandoned vessels in Wright's Creek display evidence of reconstruction and conversion.



**FIGURE 148.** *Capt. Sam* in November 2007, with worn marine paint (Marcotte 2007).

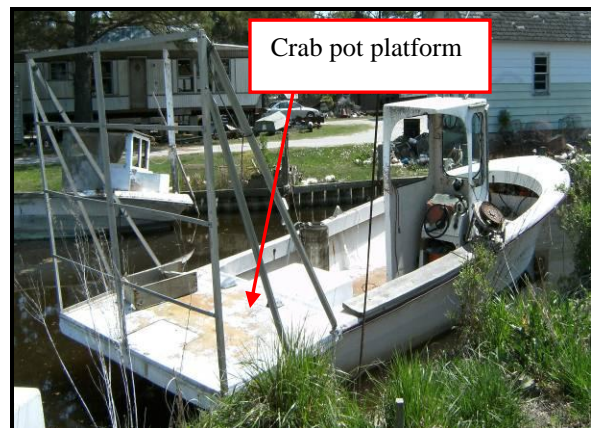


**FIGURE 149.** *Capt. Sam* in April 2010, with fresh coat of white marine paint (Marcotte 2010).

Vessels 17 and 18 within the Hopkins Seafood Complex both show signs of reconstruction to their rounded sterns, this observation confirmed by local resident Carl Foster, Sr. (2009) (Figure 150). According to Steven Fulford (2008, pers. comm. in Ray 2008:17-20), *Miss Shirley* (Vessel 1) was *rebuilt* on Ocracoke Island in 1947, and Steven reasons she was originally built in the 1920s. Conversion is apparent on smaller, fiberglass working vessels lining the Foster's Seafood canal. One vessel shows evidence of adaptation from a simple skiff to a working crab boat with a platform on the stern (Figure 151). Although not a part of the working fleet, Vessel 11 in Bradley Creek displays the remains of decorative, laid-strip decking near the bow, likely signs of conversion from a pleasure craft to working boat.



**FIGURE 150.** Vessel 17 Hopkins Seafood dock, with reconstructed stern (Marcotte 2008).



**FIGURE 151.** Conversion/Modification of fiberglass skiff's stern as crab pot platform (Marcotte 2010).

### Vessel Function and Memory

An analysis of artifact function as it acted in a systemic context reveals clues as to its importance, and the possible regard placed upon it by its users. These functions, referred to as *technofunctions*, *sociofunctions*, and *ideofunctions*, describe the utilitarian, social, and ideological capacities served by the activities of the artifact while in use. The working vessels of Wright's Creek serve all three functions, often acting in many phases of uselife before eventual discard, and it is likely the same is true for the vessels that have been retired and discarded. It is

through performance of these functions as a vessel acts in the systemic context that memories are made with its owner(s), thereby influencing the import placed upon the vessel, and the behaviors related to its maintenance and eventual disposal.

### *Technofunction*

The vessels serve a clear utilitarian purpose, or technofunction (Schiffer 1992:10). In order for a fisher to participate in harvesting particular species, a purpose-built vessel equipped with modern harvesting gear is essential. The vessels serve as transport to and from fishing sites, provide the main platform from which to conduct fishing, and serve as the main storage area for the product sold at the fish house. The boat and its associated fishing equipment represent an integral part of the commercial fisher's life, without which the fisher would be unable to make a living. In order to provide this necessary technological tool, several fishers living along the creek participated in boatbuilding in their own back yards, constructing vessels purpose-built for commercial fishing (Figure 152). This activity provided not only the fishing platform, but also a ready savings on the expenditure of purchasing a shipyard built boat. Residents with a solid boatwright reputation built vessels not only for their own use, but also for sale to other community residents. An example of this is *Miss Voliva*, built by Major Wilson Foster for the Voliva family located in the south prong (Foster Sr. 2009). In fact, the building of a vessel was often a familial event, the knowledge passed down to generations along with family-held preferences that influenced technological and stylistic variability. It is therefore not surprising to find that the importance placed on a vessel as it serves a technological or utilitarian capacity reflects also on its social and ideological importance.





**FIGURE 152. Major Wilson Foster and son with *Miss Voliva*, built for the Voliva family (Carl Wilson Foster, Sr. Collection, Belhaven, NC).**

### *Sociofunction*

The very same vessels that hold such importance in a utilitarian capacity also provide important *sociofunctions* (Schiffer 1992:10). These functions include the transmission of information concerning social phenomena between members of a particular group, or between one group and others, serving as signs or a social symbol. The fishers of Wright's Creek maintain intimate ties with their working vessels, and often with those that are retired and eventually disposed within the boat graveyard. These vessels serve as not only symbols of their social standing as commercial fishers, but also reflect their familial ties to the profession. Many fishers name their vessels after family members, and their social ties are reflected through photographs and memories shared with the community through oral recall.

A significant example of the social function served by these vessels is evident in the naming or christening of boats by their owners. The Foster family christened several boats with the names of their family members, including but not limited to *Miss Allena*, named after Carl

Foster, Sr.'s mother, *Betty Rebecca* named after his sister, and *Miss Betty J* named after his wife (Foster Sr. 2009). The Hopkins family has *Tina Marie*, named after its owner and operator, while the Tate family has *Gladys Dawn* (Vessel 30) named after their matriarch Gladys, and her daughter Dawn (USCG 2009; Daniels 2010). The vessels also carry names of male family members, such as the *Capt. Wilson* named after Major Wilson Foster.

The identity of the Wright's Creek fisher families, symbolized through their connection with the commercial fishing boat, is frequently commemorated via photographs. During interviews, Carl Foster would comment on photographs, recalling events related to the vessels built and/or used by his family. This is particularly true of *Miss Allena* and *Betty Rebecca*, the vessels named for his mother and sister. Several photographs showed the building and pre-launch of these vessels, and family members are photographed on their decks (Figure 153, 154).



**FIGURE 153.** *Miss Allena*, with family and the *Capt. Wilson*, both built by Major Wilson Foster (Carl Wilson Foster, Sr. Collection, Belhaven, NC).



**FIGURE 154.** *Betty Rebecca*, built by Clyde Varnam in 1955, with family aboard (Carl Wilson Foster, Sr. Collection, Belhaven, NC).

Ties to the social community reach beyond the shores of Wright's Creek and into the neighboring community of North Creek, particularly in reference to the Credle family. The Foster family collected photographs of not only the Credle's fishing vessels, but those of several other families. Aside from shared photographs, camaraderie is evident in the fact that the Fosters allow others to dock their working vessels at their fish house (Figure 155). Carl commented on pictures of his son's vessel *Morning Star* and its longevity, originally constructed in 1968 and still among their working fleet (Figure 156).



**FIGURE 155.** George Credle's vessel, *Starlon C*, at Foster docks ca. 1970 (Carl Wilson Foster, Sr. Collection, Belhaven, NC).



**FIGURE 156.** *Morning Star* ca. 1970 at Foster family docks (Carl Wilson Foster Sr. Collection, Belhaven, NC).

Aside from the memory-recall created and accessed by the collection of photographs and care of a photo album, the fishing community of Wright's Creek demonstrates amazing oral recall in connection with its vessels and their histories. Stimulation of this oral recall often occurs in the presence of the graveyard the fishers have created at their doorstep. During visits with both Carl and Floyd Foster, discussion of vessels in their past incarnation as working boats occurred, along with postulation as to the status of other fisher's retired boats, such as the Hopkins vessels visibly located across the waterway. Carl Foster, Sr. in particular holds vast



memories of a lifetime involving the use, care, maintenance, and enjoyment of the vessels now in the graveyard, and those currently in use.

During conversation near the graveyard, other members of the community would frequently appear, sharing their memories and stories, including Randy Lozon, the current owner of *Miss Allena*. Randy is a member of the Wilkins family who plied their trade next door to the Fosters, contributing to the creation and maintenance of the graveyard termed the Foster's Seafood Complex. Transfer of *Miss Allena*'s ownership from the Fosters to the Wilkins is an example of *lateral cycling*, whereby an artifact's user changes, but no change occurs to the artifact's form or function (Schiffer 1987:29). Randy expressed the desire to share his family history through pictures of their family owned vessels, but regretted that these memories burned when a fire destroyed his grandmother's house, previously located near the shoreline graveyard (Randall Lozon 2010, pers. comm.). The memories created by these families include their commercial fishing boats, the symbolism strengthening their identity as commercial fishers and all that title implies. The importance of the vessel as it acts in this sociofunction overlaps in many ways with its function in an ideological capacity (Schiffer 1992:10).

### *Ideofunction*

The importance placed on the commercial fishing boats of Wright's Creek in regard to both technological and social functions is mirrored by its significance in serving activities representing ideofunctions (Schiffer 1992:11). Fishing boats serving in this capacity represent the ideas, values, knowledge, and information transferred from parents and other community members directly to their younger counterparts, essentially perpetuating the commercial fisher's way of life. This includes knowledge of boatbuilding, the proper maintenance and use of the fishing vessel, and proper business practices. The vessels themselves serve as a platform for the

transmission of these values and ideas, as family members teach their offspring the tools of the trade while trawling the sounds and rivers. Evidence of this is visible in family photographs, sons and daughters frequently depicted working and posing on fishing boat decks. This is the case with the Foster family possessing photographs of their boys participating in a harvest from the deck of *Miss Allena* (Figure 157). Another photograph depicts a youth proudly posed near the wheelhouse (Figure 158).



**FIGURE 157.** Young Foster (ca. 1970) sorting the harvest on the *Miss Allena* (Carl Wilson Foster, Sr. Collection, Belhaven, NC).



**FIGURE 158.** A youthful Foster aboard the *Miss Allena* (Carl Wilson Foster, Sr. Collection, Belhaven, NC).

### **Creation of a Commercial Fishing Graveyard**

The decision-making processes that led to creating the commercial fishing graveyards are much the same as those found in relation to other ship graveyards, individual vessels, or rural farm graveyards; mainly obsolescence and economic hardship, although other reasons exist such as catastrophic damage, and death of the fisher. According to Nathan Richards (2008:148), salvage activities link with the economics of obtaining materials for boatbuilding, construction, and further maintenance. While the discard of a vessel is costly to its owner, its abandonment can be an economic boon, as the continued maintenance of a vessel requires continued financial input.

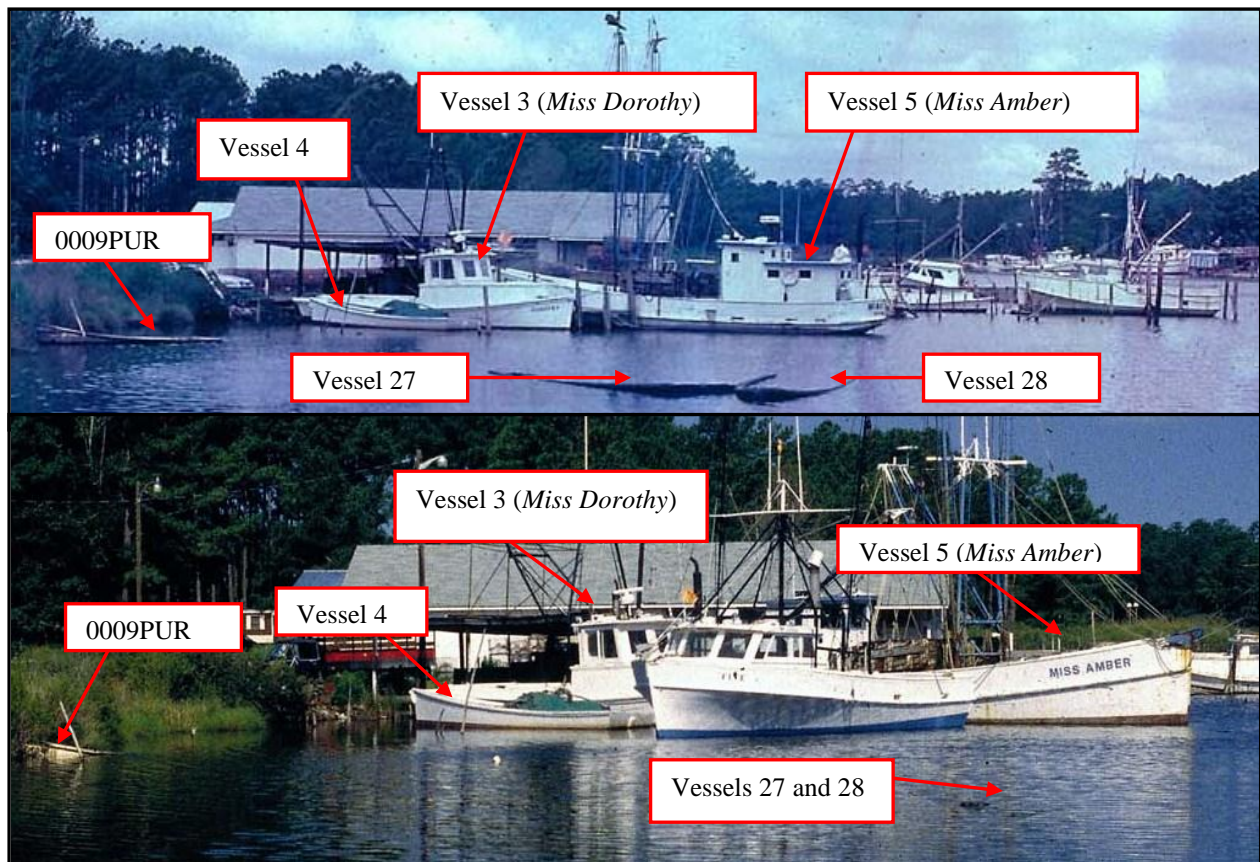
The cycle of discard predicated on economic factors is supported by evidence discussed in Chapter 5 concerning trends in North Carolina commercial fisheries. Economic data spanning the years 1880-2008 displays a fluctuating trend, rising and declining with periods of conflict, stricter fishing regulations, importation, and a host of other factors. In particular, a declining harvest value is inherent after the year 2000, concurrent with decline of issued commercial fishing licenses. Perhaps of more interest is the decline in registered commercial fishing vessels in Belhaven in 1998, followed by a significant drop in commercial fishers in 1999. Heavy declines in harvest value, commercial fishing licenses and registered vessels during this period correlates with increased salvage, reuse, and discard activities conducted at the Wright's Creek commercial fishing graveyards.

The significance of the graveyard found in association with the small scale, family operated commercial fishing operations of Wright's Creek resides in the continued maintenance of the graveyard, and the meaning and purpose that it holds for the community. These rural fishing families have long-standing ties to their land, and view the waterfront as an extension of that property. Much like agricultural graveyards present on the rural properties of farmers across the country, a commercial fishing graveyard is the repository of technologically obsolete or worn equipment stored upon the property. This equipment, although largely obsolete or so worn as to be unusable, provides a store of materials for recycling, as well as a nearby dumping area. Wooden boat breaking is a time-consuming and expensive operation. For commercial fishers, the ability to conduct this type of operation on their own property, without incurring transportation and labor costs, is a necessity.

The continued presence of the commercial fishing graveyard within daily view of the community, and within inches of working vessels, necessarily calls for some form of

maintenance from its caretakers. The continued maintenance, often seen as movement or recycling of the vessels, results in an ever-changing, dynamic site. This is particularly the case with the Foster Seafood Complex, an extremely active boat breaking and recycling site. The Fosters' graveyard is located on the shores directly in front of their fish house and the property of their next-door neighbor Randy Lozon, who is also responsible for its maintenance.

The Hopkins Seafood Complex, while not as active as the Foster Seafood Complex, displays regular changes due to non-cultural and cultural formation processes, including those brought about due to the nearness of working vessels. The Hopkins graveyard spans their property at Schoolhouse Landing, and their docks along the western edge of the property. Reconnaissance of the Landing ca. 1992-1993 (Babits) and survey in 1994-1995 (Babits and Kjørness 1995) resulted in photography of many Hopkins' vessels in working order, near the remains of older, submerged, discarded vessels (Figure 159). A scan of the photographs displays discarded Vessels 3-5 in apparent working order. Vessels 3 and 4 are in their berths near the dock in both photographs with a fishing net placed inside the net-haul boat. Vessel 5 (*Miss Amber*) is near the dock in both photographs, the oyster buy-boat moored bow first in the ca. 1993 photograph, and stern first in 1994. Sections of Vessels 27 and 28 are clearly visible in the 1993 photograph, subsiding beneath the water through the process of degradation in the next year. By 2008, most working vessels within the photograph had undergone salvage and are now *in situ*, left to degrade through non-cultural formation processes.

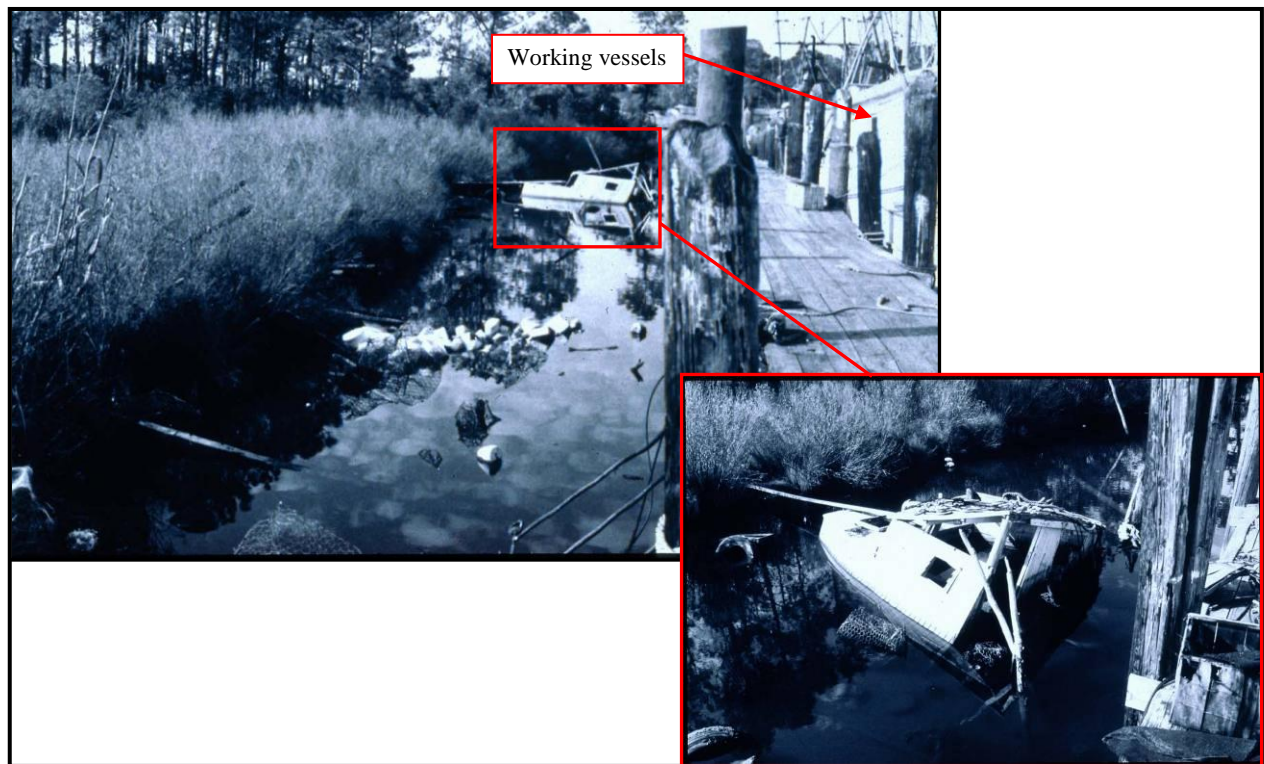


**FIGURE 159.** Schoolhouse Landing ca. 1993 top, and 1994 below with locations of previous discard and working vessels (Babits 1993; Babits and Kjørness 1995).

Photography of the Hopkins' docks on the south side of the north prong (Babits 1992-1993) depicts a small discard area on the south side of the docks, including the cabin of a small wooden fishing vessel and fishing related debris (Figure 160). Several working fishing vessels are moored on the north side of the docks. No identifying marks are visible in this photograph, making it difficult to determine if the vessels pictured in working condition are in fact the same salvaged vessels currently located at the dock. Considering the Hopkins' family preference for salvaging and abandoning their vessels near the area where it docked during its uselife, these may in fact be Vessels 17-19. According to Carl Foster Sr. (2009), Vessel 17 (*Terry Sue*) had a flaw in its construction, causing it to roll over. During its last commercial fishing trip, the vessel was returning home to its berth along the north prong, when the vessel rolled over in the channel



just yards away from its final destination at the Hopkins' docks. The vessel was righted, moored, and retired after the incident and has not left the dock since.



**FIGURE 160.** Hopkins' Seafood Complex north prong, on south side of docks near working vessels (Babits 1992-1993).

In the south prong of the creek, the Voliva family has a small graveyard along the south shore of their property, near working fishing vessels, and in the south prong near the entrance to their canal (Figure 161). The Volivas' smaller commercial fishing operation creates a need for vessel and equipment discard, and much like other fishing families, this graveyard is on or close to their property, within daily view, requiring occasional maintenance. Much like the north prong families, the vessels discarded near the Voliva family property are known vessels, the history of their discard held in memory.

By creating sites out of cultural materials derived from their commercial fishing lifestyle, fishers naturally confer meaning and purpose on the graveyard. The sites contain not just obsolete, worn, damaged, and discarded tools of their trade, but rather the nostalgia born from



generations of families and the community located along the creek shores. The continued maintenance of these sites results in their dynamic and fleeting nature, proving ephemeral and subject to destruction through further cultural and non-cultural formation processes.

### **The Commercial Fishing Graveyard and Memory**

The functions served by these commercial fishing boats clearly influence the import and regard placed upon them by their owners, thereby stimulating and creating memories for the individual, and the entire community. Ties between function and memory appear almost absolute, making a discussion of memory alone almost superfluous. It is, however, through these memories that we may come to understand the meaning and purpose of the rural commercial fishing graveyard from the perspective of the community responsible for their creation and maintenance.

As discussed in Chapter 3, the memories of this community of commercial fishers, considered *social memory*, are the means by which information is transmitted between individuals, groups, and generations (Crumley 2002). In relation to the graveyard, these memories are intrinsically tied to the technofunctions, sociofunctions, and ideofunctions served by the discarded and recycled graveyard vessels (Schiffer 1992:10). Through these functions, the Wright's Creek fishers transmit information to successive generations of family members, and to other commercial fishers in their community, uniting these groups through common memories or images of their past. Equally important to the perception of the graveyard is the community's cultural memory, tied to the strengthening of identity within the group (Assman 1995:124). The cultural memories shared by the Wright's Creek community strengthen their identity as small, independent commercial fishers plying their generational trade in the waters of North Carolina. These social and cultural memories, passed to successive generations of family

and between members of the community, are strengthened through memory retrieval. The existence of the graveyard provides not only a practical dumping ground for vessels, but also a repository for the memories of the Wright's Creek community. These concepts concerning memory, tied so closely to the functions served by vessels within the graveyard, demonstrate an intangible connection between generations of commercial fishers through preservation of their maritime heritage in the palpable form of the commercial fishing graveyard.

The creation and maintenance of the commercial fishing graveyard along the commercial fishers' property lines, and the resulting shared memories held by the community, are comparable to Diana Smith's (2005) findings in the archaeological study of Australia's rural farm graveyards. Farm graveyards are located on the farmer's property and consist of their obsolete vehicles, machinery, and implements required for agricultural production (Smith 2005:30). Smith found that the farm graveyards served a wide range of functions, from physical systems of reuse to repositories of memories and attitudes about the rural farmer's agricultural past (Smith 2005:41). The creation and continued employment of graveyard sites by the farmers conferred meaning, giving it a definitive purpose. In addition to these similarities with the commercial fishing graveyard, Smith (2005:43) disclosed that the landscape of these sites changes from reuse processes, creating a dynamic and fragile environment for archaeological study. Further, these sites may be abandoned for an indefinite period, until the family finds a need for maintenance or removal of an item, whereas other sites remain abandoned (Smith 2005:346).

### **Conclusion**

A vessel's uselife is intrinsically tied to its owner, influencing the owner's behaviors and decision-making processes concerning its use, maintenance, and longevity. Economic,

technologic, and social factors influence these behaviors and decision-making processes and reflect the owner's ability to adapt to constant fluctuation. This is especially the case with small, owner-operated commercial fishing businesses, wherein the fishing vessel represents the main outlay of capital and maintenance. Further, the events experienced by these owner/operators have an effect on a vessel's uselife through the creation of memories. This is especially the case with the fishers of Wright's Creek, a community that has built and maintained commercial fishing vessels and their way of life for generations (Schiffer 1987:48-49; Smith 2005:19-25).

For some vessels, uselife persists well past what is standard, prolonged until its emergence in a dynamic archaeological site, subject to recycling activities, further boat-breaking, and sometimes to eventual abandonment to non-cultural formation processes. Something that sets these sites apart from that typically found with a true abandonment is not only the dynamic nature of these sites, but the memory of these vessels held by the community of commercial fishers.

## CHAPTER 8: THE DYNAMIC AND STATIC GRAVEYARDS

### Introduction

Several commercial fishing graveyard complexes observed within Wright's Creek present an active picture of salvage, reuse, discard, and eventual abandonment. Their dynamic nature is largely the result of cultural formation processes, and the fact that they still function largely within the systemic context. In contrast, the Bradley Creek Complex appears to have experienced little cultural transformation since original deposition, its current state is the result of non-cultural formation processes, and an entrance into the archaeological context through abandonment. Truly abandoned in every sense of the word, these latter sites have obscure histories. The disparity between the two types of sites, the *dynamic graveyard* and the *static graveyard*, is the product of several factors, including topography, the intent of abandonment, and the location of the larger commercial fishing operations within the north prong.

The dynamic graveyards, located primarily within the north prong, are the result of the commercial fishing community's pre-depositional salvage, recycling, and discard of their vessels and associated equipment. The active cultural site formation processes at these sites result in a fragile, fleeting system, its primary features subject to constant change. Analysis of site formation processes provides a platform for interpretation concerning the site's chronology, patterning, and activities involved with salvage, reuse, and discard.

Factors contributing to the disparity between site types have likely contributed to the lack of information concerning the static graveyard. Located in a shallow tributary, it exists out of sight of residents and commercial fishers, buffered from cultural intrusion, strong winds, and wave action. Residents offered only vague information relating to deposition, and attempts to contact property owners were unsuccessful. Repeated observation of this graveyard showed

little change to the graveyard's features, save for the transformations from non-cultural formation processes. The non-cultural transforms acting on the vessels in the static graveyard stand in stark contrast to the cultural transforms acting on vessels in the dynamic graveyard, subjected to persistent activity and the continued formation of memories.

### **The Dynamic Graveyard**

The north prong is the main waterway utilized by most of the commercial fishing community, containing the most dynamic graveyard sites. Analysis of site formation processes acting on these primary discard sites provides a better understanding of the events influencing creation and maintenance of the graveyards (Rathje and Schiffer 1982:116; Schiffer 1987:58). Investigation includes interpretation of site chronology, providing a possible timeline for the creation of graveyard complexes, and deposition of individual vessels. A comparison of vessel orientation within graveyards, and preferred methods of placement assurance allows interpretation of activities involved in deliberate discard. Active cultural formation processes at these sites include salvage, reuse, and discard activities. Comparison of these activities provides a clearer understanding of the decision-making processes driving site formation, and the resulting signatures of these processes in the archaeological record.

#### *Chronology*

Original deposition dates for many complexes within Wright's Creek are unknown; however, as discussed in Chapter 4, the current resident families extend back to the mid-19<sup>th</sup> century. It is reasonable to infer that the waterway was utilized as a discard site for obsolete and damaged vessels as early as this period, and the stratified layers of vessels discussed in Chapter 6 support this claim. Tables 4-7 contain information on likely initial disposal dates for individual vessels, the source of these dates, the original build date, and observed formation processes.

**TABLE 4**  
**FOSTERS' SEAFOOD COMPLEX VESSELS AND TIMELINE**

Location	Vessel Number	UAB Site Number	Recording Medium(s)	Vessel Name	Observed Formation Processes	Timeline of Discard	Source of Discard Date	Build Year (Reg=*)
<b>FOSTER'S SEAFOOD COMPLEX</b>	V2		Site Plan, Photography, GPS, Side Scan Sonar	<i>Miss Betty J</i>	Accidental fire damage, total loss, no attempts at restoration, CF & marine debris, bow toward shore.	1998-1999	Oral Interview - Carl Foster 2008, 2009. USGS Aerial Photograph - 2/1/1998 (Afloat), 10/17/2005 (Awash).	*1972
	V20	0024PUR	Photography, GPS	<i>Cheryl Ann</i>	Accidental fire damage, total loss, only a few frames visible above water.	Salvaged ca. 1994, Loss 1998-1999	Babits 1994-1995 Survey.	Ca. 1970
	V21	0023PUR	Photography GPS	<i>Pearl Dee</i>	Total salvage, some marine debris associated.	Salvage ca. 1993, Discard complete ca. 2007	USGS Aerial Photograph - >3/7/1993. Babits 1994-1995 Survey.	Ca. 1960-1970
	V22		Photography, GPS	<i>Betty Rebecca</i>	Partially salvaged, winches & A-frame remaining - no outriggers, pilothouse elements remaining.	1998-2005	Oral Interview - Carl Foster 2008, 2009. USGS Aerial Photograph - 2/1/1998 (Afloat), 10/17/2005 (Awash).	1955
	V23		Photography, GPS	<i>Little Henry</i>	Partial salvage.	2007-2010	USGS Aerial Photograph - >10/4/2008. Marcotte Survey November 2010.	Ca. 1960
	V24		Photography, GPS	<i>Miss Allena</i>	Partially salvaged (cabin intact b4 11/09's total salvage), winches & A-frame remaining - no outriggers, pilothouse elements remaining.	1998-2005	Oral Interview - Carl Foster 2008, 2009. USGS Aerial Photograph - 2/1/1998 (Afloat), 10/17/2005 (Awash).	1970



**TABLE 5**  
**HOPKINS' SEAFOOD COMPLEX VESSELS AND TIMELINE.**

Location	Vessel Number	UAB Site Number	Recording Medium(s)	Vessel Name	Observed Formation Processes	Timeline of Discard	Source of Discard Date	Build Year (Reg=*)
<b>HOPKINS SEAFOOD COMPLEX - NORTH PRONG</b>	V16		Photography, GPS	Unknown	Salvaged (rigging after 3/08 survey), placement assurance - tied to shore, large portions of hull missing port side.	1998-2005	USGS Aerial Photograph - >2/1/1998, <=10/17/2005	Ca. 1960-1970
	V17		Photography, GPS, Side Scan Sonar	Unknown	Entire vessel broken & submerged FWD midships, reconstructed stern, rigging present until after 10/08 when disarticulated & submerged.	1998-2005	USGS Aerial Photograph - >2/1/1998, <=10/17/2005	Ca. 1960-1970
	V18		Photography, GPS, Side Scan Sonar	<i>Terry Sue</i>	Total salvage, rigging & exhaust present until post 3/08 survey.	1994-1998	USGS Aerial Photograph - >3/7/1993, <=2/1/1998. Babits 1994-1995 Survey.	Ca. 1960-1970
	V19		Photography, GPS, Side Scan Sonar	Unknown	Total salvage, some marine debris.	1994-1998	USGS Aerial Photograph - >3/7/1993, <=2/1/1998. Babits 1994-1995 Survey.	Ca. 1960-1970
<b>HOPKINS SEAFOOD COMPLEX - SCHOOLHOUSE LANDING</b>	V3	0008PUR	Site Plan, Photography, GPS	<i>Miss Dorothy</i>	Total salvage - in situ - only steering gear & 2 gas tanks remain, CF & marine debris, stern to shore, tied to dock.	Ca. 1998	USGS Aerial Photograph - 1/31/1998	Ca. 1920-1940
	V4	0007PUR	Site Plan, Photography, GPS	<i>Bumper</i>	CF debris, bow to shore, repairs to port.	Ca. 1998	USGS Aerial Photograph - 1/31/1998	Ca. 1950
	V5		Site Plan, Photography, GPS	<i>Miss Amber</i>	Total salvage - in situ, CF & marine debris, rigging, bow toward shore, hold awash.	Ca. 1998	USGS Aerial Photograph - 1/31/1998	1928

Location	Vessel Number	UAB Site Number	Recording Medium(s)	Vessel Name	Observed Formation Processes	Timeline of Discard	Source of Discard Date	Build Year (Reg=*)
<b>HOPKINS SEAFOOD COMPLEX - SCHOOLHOUSE LANDING</b>	V6		Site Plan, Photography, GPS	<i>High Roller</i>	Undergoing salvage, marine debris, rigging & gear, recent squatter, hold awash.	Ca. 2007	USGS Aerial Photograph - 10/3/2008	*1968
	V27	0007PUR	Photography, GPS	Unknown	Unknown	<1994	Babits 1994-1995 Survey.	N/A
	V28	0008PUR	Photography, GPS	Unknown	Unknown	<1994	Babits 1994-1995 Survey.	N/A
	V29	0012PUR	Photography (GPS)	Unknown	Unknown	<1994	Babits 1994-1995 Survey.	N/A
	V40	0011PUR	Photography (GPS)	Unknown	Submerged, centerboard trunk visible beneath water's surface.	<1993	USGS Aerial Photograph - <=3/7/1993 & Babits 1994-1995 Survey	Late 19th Century

**TABLE 6**  
**NORTH PRONG - FULFORD, WILKINS, TATE AND KIRK VESSELS AND TIMELINE.**

Location	Vessel Number	UAB Site Number	Recording Medium(s)	Vessel Name	Observed Formation Processes	Timeline of Discard	Source of Discard Date	Build Year (Reg=*)
NORTH PRONG	V1	0026PUR	Site Plan, Photography, GPS, Side Scan Sonar	<i>Miss Shirley</i>	Reconstruction, damage from hurricane surge late 1990s (likely hurricane Floyd 1999), disarticulated due to rescue attempts, parallel to shore, tied to tree.	1999	Oral Interview - Fulford 2008	Ca. 1920
	V14		Site Plan, Photography, GPS, Side Scan Sonar	Unknown	Salvage, placement assurance - tied to dock, marine debris, fishing gear - part of A-frame.	1998-2005	USGS Aerial Photograph - <10/17/2005 (possibly afloat@ dock 2/1/1998)	Ca. 1970
	V15		Photography, GPS	Unknown	Rigging & equipment salvaged, holes in hull at bow slightly above waterline, crab pots stowed at stern, placement assurance - tied to dock & small pilings on SBD.	2007-2008	USGS Aerial Photograph - >3/23/2007, <=10/3/2008	Ca. 1970-1980
	V25		Photography (GPS)	Unknown	Unknown	<=1998	USGS Aerial Photograph - 2/1/1998.	N/A
	V26		Photography (GPS)	Unknown	Unknown	<=1998	USGS Aerial Photograph - 2/1/1998.	N/A
	V30		Photography, GPS	<i>Gladys Dawn</i>	No salvage - fully rigged & fully equipped, awash, listing to port & tied to w. side dock.	2007-2008	Marcotte Site Photographs - >11/2007, <2/2008	1973
	V31		Photography, GPS	<i>Miss Alicia</i>	No salvage - fully rigged & fully equipped, careened on port side & tied south shore.	2007	USGS Aerial Photograph - 3/24/2007, Marcotte Site Photographs 11/2007.	Ca. 1970

**TABLE 7**  
**VOLIVA COMPLEX VESSELS AND TIMELINE.**

Location	Vessel Number	UAB Site Number	Recording Medium(s)	Vessel Name	Observed Formation Processes	Timeline of Discard	Source of Discard Date	Build Year (Reg=*)
<b>VOLIVA COMPLEX - SOUTH PRONG</b>	V13	0015PUR	Site Plan, Photography, GPS	<i>Fred W. Olcott</i>	Salvage, placement assurance w/spuds-stakes & tied to shore, bow to shore, CF & marine debris.	<1993	USGS Aerial Photograph - <=3/7/1993 & Babits 1994-1995 Survey	1948
	V32	0018PUR	Photography (GPS)	Unknown	Hull split and collapsed.	<1993	USGS Aerial Photograph - <=3/7/1993 & Babits 1994-1995 Survey	N/A
<b>VOLIVA COMPLEX - VOLIVA CANAL</b>	V33	0021PUR	Photography (GPS)	Unknown	1994-Superstructure missing & burned, still contained un-salvaged structural elements. Bow onto shore.	<1993	USGS Aerial Photograph - <=3/7/1993 & Babits 1994-1995 Survey	Ca. 1920-1940
	V34	0022PUR	Photography (GPS)	Unknown	2007 - Total salvage - bow on shore & stern awash/disarticulated. 1994 - rusted machinery on aft deck & portions of damaged superstructure.	<1993	USGS Aerial Photograph - <=3/7/1993 & Babits 1994-1995 Survey	Ca. 1920-1940

Comparison of 1993 and 1998 aerial photographs of the study area allows for creating a site formation timeline (Figure 161). Vessels within individual family graveyards appear largely intact and working in 1993, located near the fishers' shorelines in different locations than those recorded during survey. Observation of the north prong graveyards in 1998 shows a noticeable shift of working vessels, several moved to positions away from the working vessel's navigation zones.

Dates of discard for recorded vessels in the Fosters' Graveyard Complex span the years 1993-2010, but it is evident that other vessels are buried under the silt, while still others have been recycled to rubbish. In fact, several vessels under salvage during Babits' and Kjørness' (1995:69-71) survey, were not present during the 2007 reconnaissance, including the vessel *Myrts*. After observing boat-breaking processes utilized by the Fosters, it is a likely assumption that any evidence of these vessels exists only within the remaining structures of working vessels, in the county landfill, or up "on the hill" as it burned (Foster Sr. 2009). The 1998 aerial photographs show the presence of Vessel 2 and Vessel 20 intact and undamaged by fire, but *in situ*.

In addition to the Fosters' Graveyard, site formation is visible in 1998 with the deposition of Vessel 5 (*Miss Amber*) in Schoolhouse Landing, and Vessels 3 (*Miss Dorothy*) and 4 permanently berthed on the southern side of the Hopkins' Seafood docks. Vessels 18 and 19 also appear secured to the Hopkins' north prong docks located at the far eastern end. It appears that the Fulford boats (Vessels 1 and 14) were working at this time; however, both are at or near their recorded positions discard. Wilkins Vessel 26 is also noted in its current position, although afloat in 1998.

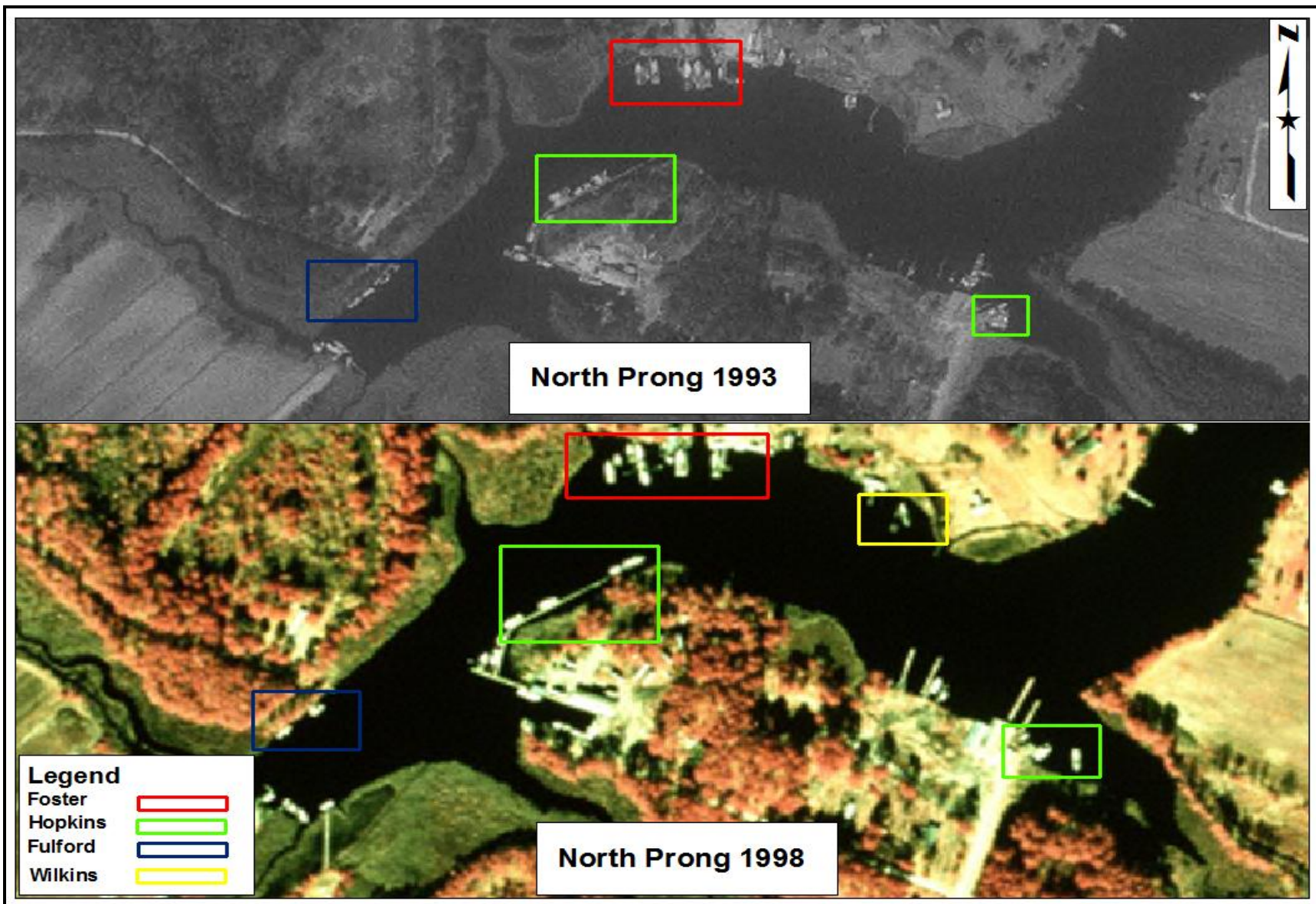
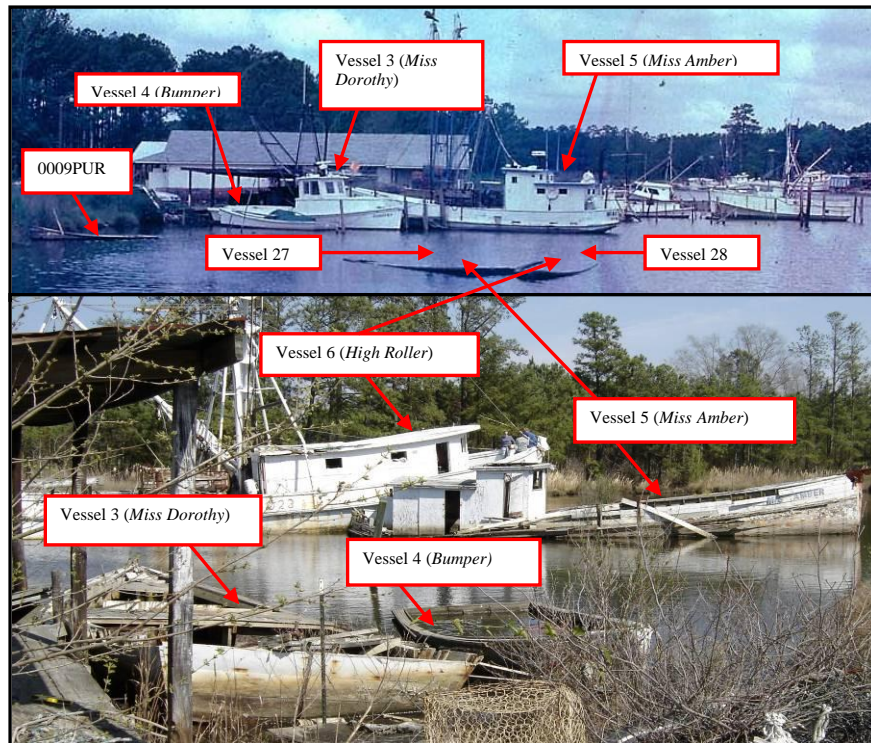


Figure 161: Comparison of 1993 and 1998 aerial photographs of Wright's Creek study area, north prong (USGS [North Carolina 1993] [3507636 AERIAL] Reston, VA, USGS[North Carolina 1998] [pamlbh1.sid] Raleigh, NC).

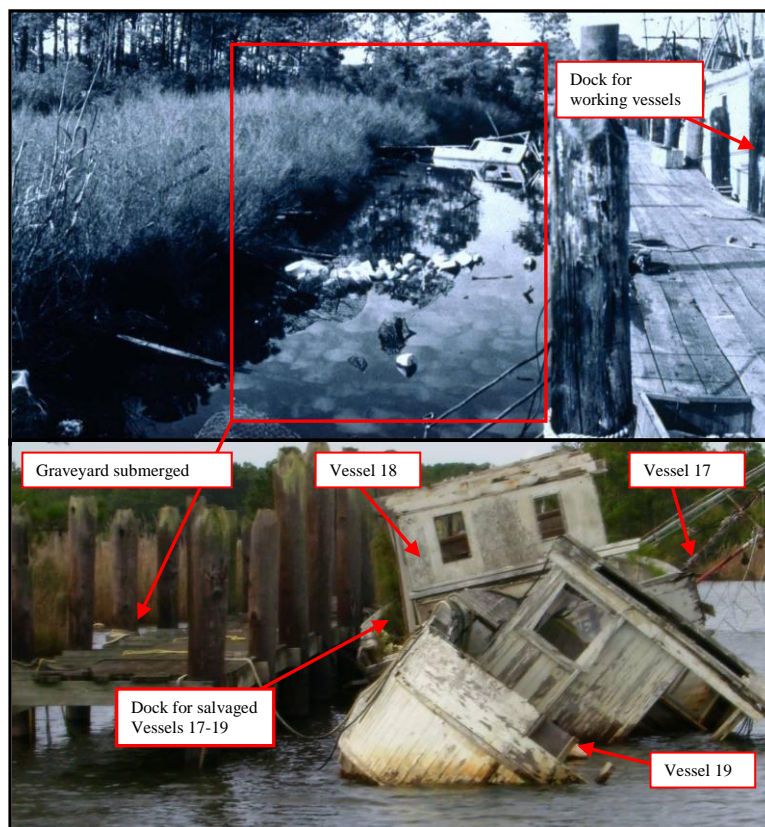


The original date of deposition within the Hopkins' Seafood Complex is difficult to determine. Considering the construction date of vessels observed within the creek and the longevity of fishing operations operated before the Hopkins' arrival in the late 1960s, it is reasonable to assume this area was utilized for the salvage and discard of vessels during the early 20<sup>th</sup> Century. Comparison of ca. 1993 and 2008 photographs of Schoolhouse Landing show a change in the landscape, the working vessels cycled to their present salvaged state (Figure 162). Vessel 5 was moved ca. 1998 to its current position near the center of the gut over vessel 27 and salvaged extensively. Vessels 3 (*Emily*) and 4 (*Bumper*) remained in their berths near the dock, and were salvaged *in situ* during the same period. Based on aerial photographs (USGS 2007), Vessel 6 (*High Roller*) appeared at its current position above Vessel 28 and to the stern of Vessel 5 ca. 2007. Vessel 0009PUR, seen to the left of the photograph, could not be relocated during the 2008 survey.

Comparison of the ca. 1992-1993 and 2008 photographs of the north prong docks also reveal a change in landscape, the disappearance of the small graveyard on the south side of the docks, and the appearance of salvaged vessels on its north side (Figure 163). The graveyard to the south was comprised of at least one small wooden fishing boat and equipment that has since subsided beneath the water's surface; none of its elements are visible. On the dock's north side, salvaged Vessels 17-19 replaced working vessels. Based on the 1994 survey (Babits and Kjorness 1995) and aerial photographs (USGS 1998), Vessel 18 appeared in its current position ca. 1994-1998. Vessels 17 and 18 (*Terry Sue*) appeared in their current locations ca. 1998.



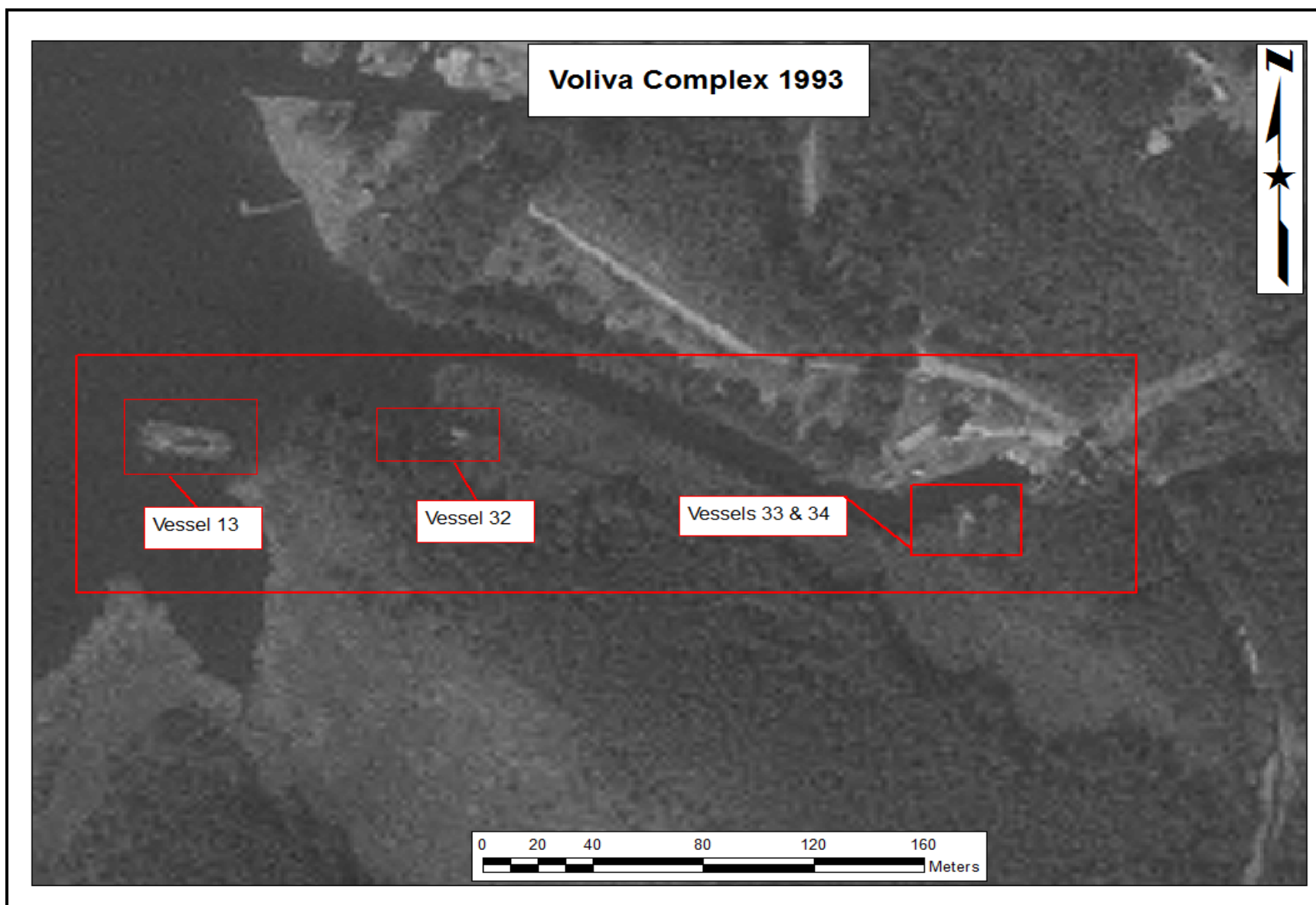
**FIGURE 162.** Hopkins Seafood at Schoolhouse Landing ca. 1993 above, and 2008 below (Babits 1993; Wagner 2008).



**FIGURE 163.** Hopkins Seafood at north prong docks ca. 1992-1993 above, and 2008 below (Babits 1992-1993; Marcotte 2008).

Aside from the Fosters and Hopkins fishing graveyards, the Fulford, Kirk, Tate, and Wilkins families utilize their waterfront properties for primary discard of their vessels and associated equipment. Vessels 1 (*Miss Shirley*), 30 (*Gladys Dawn*), and 31 (*Miss Alicia*) are currently in a state of discard, and the future possibility of salvage is unknown. The date of deposition in the archaeological record is known for several boats. The deposition of Vessel 1, the shad boat used for the Fulfords' oystering and scallop operation, occurred as a result of natural processes resulting from storm surge related to hurricane Floyd in 1999. Based on aerial photographs (USGS 1998-2005), Vessel 14 arrived at the Fulfords' south-shore dock ca. 1998, and fell into disrepair and salvage by 2005. Nearby, Vessel 15 arrived in its present location as a storage boat ca. 2007-2008. Vessel 30, high and dry in November 2007, fell into disrepair and swamped before February 2008. Directly across the waterway, Vessel 31 appeared in its present location along the shores of the Tate family property ca. 2007.

Babits and Kjorness (1995:46-49) recorded the presence of seven vessels in the area of the Voliva Complex. Of that number, only four were observed for mapping in 2008. Considering the descriptions of these vessels recorded in 1994, it is likely they have degraded past the point of recognition due to non-cultural processes. The exact dates of deposit, primary salvage, and discard are unknown for these vessels (Richards 2008:155-156). All watercraft observed within this graveyard were recorded by the 1994 survey (Babits and Kjorness 1995). Aerial photographs of the creek from 1993 (USGS) reveal the presence of all four vessels in their current locations (Figure 164). Although the quality is grainy, it is clear that Vessels 32-34 are in an advanced state of degradation, deposited in the environment some years earlier. The state of Vessel 13 is less obvious, but its lack of superstructure strengthens statements of oral accounts that the vessel was purchased and deposited in its current salvaged state.



**FIGURE 164.** U.S. Geological Service 1993 Aerial Photograph of Vessels 13, and 32-34 in state of degradation (USGS [North Carolina 1993] [3507636 AERIAL] Reston, VA).



### *Orientation and Placement Assurance*

The placement assurance methods utilized to stabilize the vessels undergoing salvage, reuse, and discard at the Fosters' Seafood Complex are primarily grounding (scuttling) and mooring lines, and vessel orientation is chiefly bow facing toward shore. Vessel orientation and placement is constrained by working docks surrounding the retired vessels, necessitating bow-first orientation and security so as not to pose a navigational hazard. According to Richards (2008:176) beaching the vessel bow-first, at low speeds and a right angle to shore are important factors in maximizing refloating potential. The location and orientation also demonstrates the fishers' intent for future salvage. The only exception to this standard appears to be Vessel 23 (*Little Henry*), moored to starboard of Vessel 22 (*Betty Rebecca*) with its stern facing north to shore. This may be a function of the mooring, as the best tie off point appears to be the cleat on Vessel 23's stern, as well as the fact that its owner Carl Foster, Sr. periodically refloats it (Figure 165).



**FIGURE 165.** Placement assurance and orientation of Vessel 23 (left) and Vessel 24 (right), grounded and secured to dock and between vessels (Marcotte 2010).

Orientation and placement at the Hopkins' Seafood Complex varies, perhaps constrained by the property chosen for salvage activities and discard. Of the vessels visible on the surface at Schoolhouse Landing, they are grounded and awash, but Vessel 3 (*Miss Dorothy*) and Vessel 4 (*Bumper*) remain in their original berths, oriented as they were while performing in the systemic context. Vessel 5 moved to the center of the gut, facing the west shoreline bow first at a 45° angle. Vessel 6, the most recent arrival and in the process of salvage, is grounded parallel to shore, perhaps presenting easier access for approach by boat. Vessels 16-19 in the north prong all face with bows west, secured on their port sides to docking facilities. Placement assurance for salvaged or discarded vessels in this complex includes grounding, the placement of piles near the bow or stern of grounded vessels, and mooring to dock structures. Deliberate scuttling of vessels at this site is difficult to determine as the signatures have disappeared through the natural process of degradation; however, it is likely that many were taking on water during the salvage process and didn't require such measures, much like that seen with Vessel 6 (*High Roller*).

Orientation and methods of placement assurance utilized by other families in Wright's Creek are affected by location on the landscape and current use. Vessels 14 and 15 are moored alongside dilapidated docks. Vessel 14 faces bow east, tied to the west-east running dock on the Fulfords' south shore property. Vessel 15 faces bow west, moored to the dock at the terminating west end of north prong. The remaining Fulford boat, Vessel 1, was pulled partially out of the water, resting perpendicular with the shore, its orientation the result of storm surge. Vessel 30, owned by the Kirk family, rests facing bow to shore at their north south dock, while the Tate's Vessel 31 is on the bottom, running parallel to the south shore. Placement assurance for the vessels includes grounding, piles inserted into the creek floor near the vessel, and mooring lines.



All the vessels within the Voliva Complex are grounded bow first, near or onshore. Of four vessels within the graveyard, Vessels 13 and 32 are the largest, and it's a reasonable assumption that discard was better served along the more open south prong, than in the confined canal shore with Vessels 33 and 34. The two vessels in the south prong face generally southeast, while the vessels in the canal are bow first facing south. Placement assurance for the large "Louisiana Pusher" is seen in timbers run through spud sleeves and bowlines to a tree onshore. Placement assurance for the remaining three vessels appears to be grounding, as no evidence of lines or piles driven near the sterns exists (Figure 166).



**FIGURE 166.** View of the stern of Vessel 13, highlighting spud sleeves (left, facing southeast) (Marcotte 2007). View of Vessel 13's bowlines (right, facing northwest) (Marcotte 2008).

Spatial patterning found within the graveyards of Wright's Creek is naturally constrained by the waterway, access to the shoreline, construction along the shoreline (i.e. docks), the presence of working craft, and the owner's plans for future salvage. Of forty vessels recorded within the creek, 60% (24) were grounded or moored perpendicular to shore, bow toward land. Of the remaining 16 vessels, the primary orientation is parallel to shore or unknown. Parallel orientation is often the result of docks constructed parallel to shore, as is the case with 31% (5) of the watercraft. The desire to contain these vessels in their discard place until further salvage, recycling, or permanent abandonment occurs is seen by the placement assurance utilized. Commercial fishers primarily use the methods of *grounding* or scuttling, securing to dock or shore via bow or stern lines, and placing piles near the hulked vessels. Rather than scuttling by

deliberately opening hatches or forcing holes into the hull, the fishers prefer grounding, or rather flooding their vessels by turning off active pumps, allowing water to seep through the wooden planks. Piles are used near the stern, or vessel sides to secure it. This keeps the boat partially buoyant until separation of wooden planking allows grounding. Of the 40 vessels discovered in the creek, 65% (26) of the vessels displayed placement assurance via one or more of these methods.

Orientation and placement assurance methods utilized in the dynamic graveyards are similar to those seen in other graveyards, including scuttling (or grounding), and the use of piles. Richard (2008:162-176) discussed the use of a pile as placement assurance on the paddle steamer *Jupiter*, in the Mutton Cove Ships' Graveyard in South Australia. In this instance, the pile was driven through the bow of the vessel, securing it to the seabed. While the method is similar in intent, Wright's Creek fishers prefer pile placement close to or abutting the vessel's exterior, rather than installation directly through its interior.

### *Salvage*

Primary salvage is a main component of cultural formation process activities occurring in the dynamic graveyards of the creek (Richards 2008:155-156). This stage of hull minimization includes scrapping and recovery of valuable marine equipment. Scrapping activities are initially focused on rigging components, followed by fittings during the final stages of discard. Recovery of marine equipment includes the electrical and propulsion components, and remaining commercial fishing equipment. Continued hull minimization often occurs through disassembly of the remaining vessel, or final destruction onshore by burning.

Primary salvage is a necessary and early stage of discard at the Fosters' Seafood Complex, providing components for reuse and assisting in hull minimization. Vessels observed

under salvage at the Fosters' docks include Vessel 21 (*Pearl Dee*), Vessel 22 (*Betty Rebecca*), and Vessel 24 (*Miss Allena*). After March 1993, but before the Babits and Kjorness (1995) survey, Vessel 21 was secured to the Fosters' west dock for salvage. Vessel 22 and 24 fell into disrepair and were grounded in their current location after February 1998. It is of interest to note, however, that Vessel 22 was photographed in dry dock as late as May 1997. These vessels were under partial salvage conditions during survey through the years 2007-2010. In addition to the salvage of outriggers on both boats, Vessel 22 was salvaged of all lighting and wheelhouse electronics during an earlier period (Figure 167). Vessel 20 (*Cheryl Ann*) was observed under salvage in 1994 (Babits and Kjorness 1995), along with another vessel *Myrts*. Unlike previous vessels, Vessel 20 was still afloat during its salvage period (Figure 168). In November 2007, Vessel 21 was completely salvaged and pulled ashore.



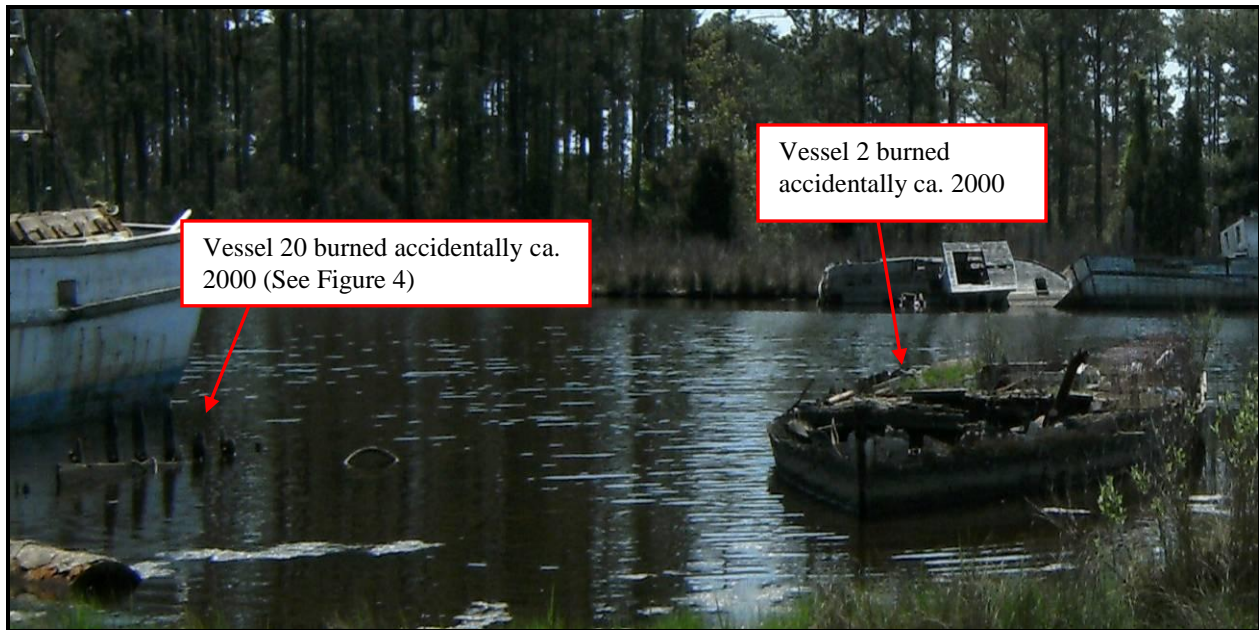
**FIGURE 167.** Vessel 22 (*Betty Rebecca*) left, and Vessel 24 (*Miss Allena*) right, both under partial salvage in November 2007 (Marcotte 2007). Note presence of fishing gear on stern of Vessel 24, as well as intact wheelhouse structure (Marcotte 2007).



**FIGURE 168.** Vessel 20 (*Cheryl Ann*) under salvage in 1994, moored at the Foster's Seafood Complex docks (Babits and Kjorness 1994).

Often used as a method of hull minimization, burning also completes the salvage process of vessels at the Fosters' Graveyard Complex. Evidence of fire is present on the remains of Vessel 2 (*Miss Betty J*) and Vessel 20 (*Cheryl Ann*) (Figure 174). According to Carl Foster, Sr. (2009), these vessels accidentally caught fire while burning another vessel on shore to salvage its fittings. Embers from the fire traveled south on the wind, catching both wooden vessels alight, and causing their total loss before the fires could be extinguished. This story is consistent with archaeological evidence, as burn marks on Vessel 2 terminate at the water line. Awash before the fire, Carl had plans to haul ashore and rebuild Vessel 2. Vessel 20 was afloat after salvage that occurred ca. 1993-1994, the fire led to its sinking.



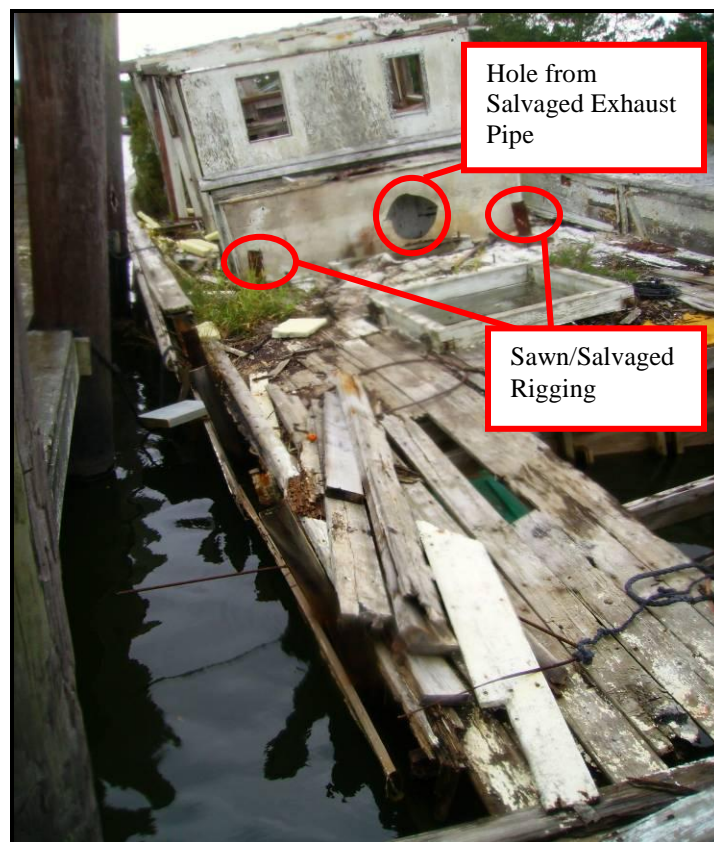


**FIGURE 169.** Vessel 20 (left) and Vessel 2 (right) after fire ca. 2000 (Marcotte 2010).

Vessel's observed undergoing primary salvage at the Hopkins' Seafood Complex include Vessel 16 and Vessel 18 (*Terry Sue*) (Figure 170), both docked in the north prong, as well as Vessel 5 (*High Roller*) grounded in Schoolhouse Landing. Vessels 16 and 18, observed with rigging intact in November 2007, underwent scrapping to remove these elements before March 2008. Signatures of scrapping on Vessel 18 include the hole in the wheelhouse's aft wall, and saw marks observed on remaining rigging components (Figure 171). An online check for scrap metal prices during this period (November 2007-March 2008) confirmed a price hike in 2007, and predicted fall in 2008 (Universal Wrecking Corp. 2010:1). These vessels underwent salvage operations before the scrapping activity, both boats lack any electrical components, propulsion systems, or running lights. Although the exact date of primary discard and salvage of these vessels is not known, a date range ca. 1994-1998 is reasonable based on Babits and Kjorness 1994 survey and aerial photographs for Vessel 18, while Vessel 16's initial salvage likely occurred between 1998-2005.



**FIGURE 170.** Vessel 18, Hopkins' Seafood Complex, north prong (Marcotte 2007).



**FIGURE 171.** Vessel 18 after salvage of trawl rigging on stern (Marcotte 2008).



Signatures of reclaiming valuable components were evident on vessels at the Hopkins' Seafood Complex. Vessel 6 in Schoolhouse Landing was undergoing partial salvage during the 2008 survey. The motor for a pump was installed, but not operating and the vessel's hull was awash. The wheelhouse was salvaged of electrical equipment and valuable elements, while the galley's electrical equipment and structural elements remained intact (Figure 172). The vessel's engine, standing rigging, and running lights were also intact. Posted in the deckhouse is the most recent commercial fishing license issued by the South Carolina Department of Natural Resources, expired on 20 June 2004. The most recent North Carolina Department of Marine Fisheries Commercial Fishing Vessel Registration was for 2004-2005. In light of this information, it is reasonable to infer that the vessel was unfit for commercial fishing purposes by the end of 2004. Although the last posted vessel registration expired in 2005, the United States Coast Guard Vessel Registration lists the vessel in 2008. Local residents confirm the vessel was undergoing salvage, and currently under the ownership of the Tate family; however, little cultural transformation has occurred on the vessel since removal of the remaining otter trawl door at some point between March 2008 and April 2009 (Daniels 2010).



**FIGURE 172.** Wheelhouse of Vessel 6, salvaged of electronics and other valuable elements (left, facing bow), and existing equipment in the galley (right, facing starboard) (Latta 2008).

Aside from vessels observed under active salvage in Schoolhouse Landing, three other vessels underwent total salvage before the 2008 survey. Vessels 3-5 were aground, awash, and undergoing degradation from wet-dry cycling and other environmental factors. Vessels 3 (*Miss Dorothy*) and 5 (*Miss Amber*) were primary mercantile vessels during their working life, serving as fishing trawlers. Vessel 4 (*Bumper*) was a net-haul boat, serving a role as a primary support vessel, requiring little to no salvage. Minimization to the superstructure of Vessel 3 was completed at some point after the 1994 (Babits and Kjorness 1995) survey, when the wheelhouse, rigging, deck equipment, and engine were removed. Vessel 5 was moved to its current position and grounded ca. 1998, undergoing salvage of nearly all elements, save the superstructure and a small amount of rusted rigging previously located on the bow (Figure 173).

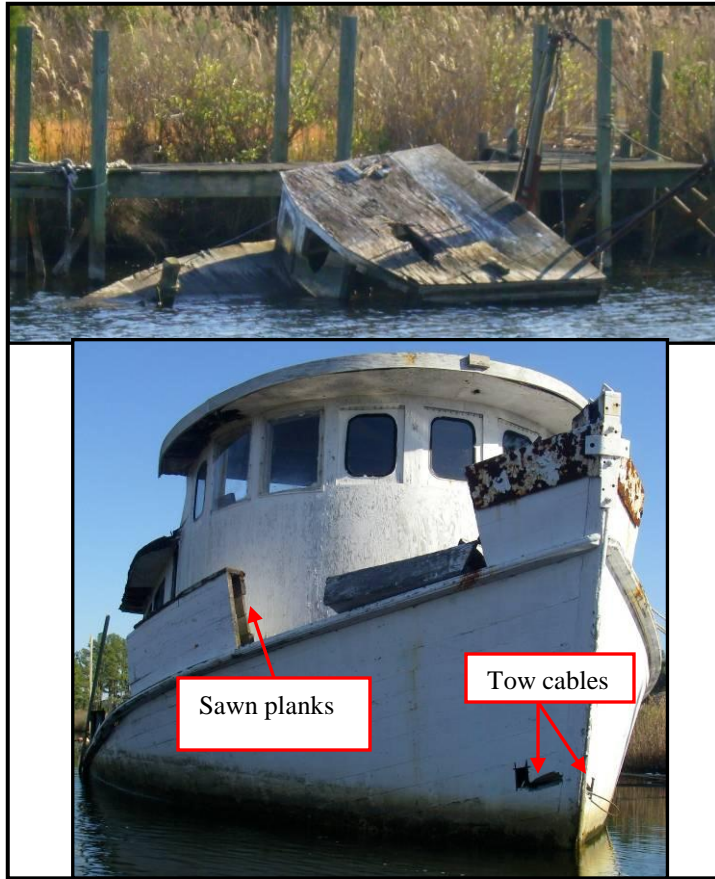


**FIGURE 173.** Vessel 5 salvaged wheelhouse, including hole in roof for removal of engine (left), salvaged galley (right), and remaining rigging (bottom right). Salvaged remains of Vessel 3 (*Miss Dorothy*), and the net-haul boat Vessel 4 (Latta 2008, Marcotte 2008, Wagner 2008).

Salvage activities are visible in the archaeological signatures found on Vessels 14 and 15, and photographed in 2007 and 2008 (Figure 174). In extreme low water during initial reconnaissance, this vessel has undergone primary salvage, displaying partial scrapping of rigging, and complete salvage of the electrical, lighting, and propulsion elements (Richards 2008:155-156). The majority of the vessel is now located underwater in poor visibility, but investigation revealed a small winch near the midsection, abaft the wheelhouse, and a rope on the covered stern transom. The vessel's remaining windows, seen in the 2007 photograph, were removed as the result of the wheelhouse roof collapsing on the port side ca. 2008.

Vessel 15 arrived in its current state of salvage, likely floated to its location by another working Fulford vessel via the tow cables installed in its bow. This vessel was salvaged of its most valuable elements, and damage can be seen to its structure, a likely result of these activities. Damage is present to the cabin's roof, and holes appear in the planking from removal of deck equipment. It is difficult to determine if this vessel's state is the result of ownership transfer after primary salvage, or if secondary salvage activities occurred before its eventual resale and use by the Fulford family. It is also possible this vessel was a Fulford working vessels that underwent primary salvage at a different location, and then was floated to its current site. While not discussed in detail, it bears mentioning that the Fulford family has plans to salvage the remains of Vessel 1 (*Miss Shirley*) through burning, to recycle the valuable fittings (Steven Fulford 2008, pers. comm. in Ray 2008:17-20). As of April 2010, this activity had not yet occurred.

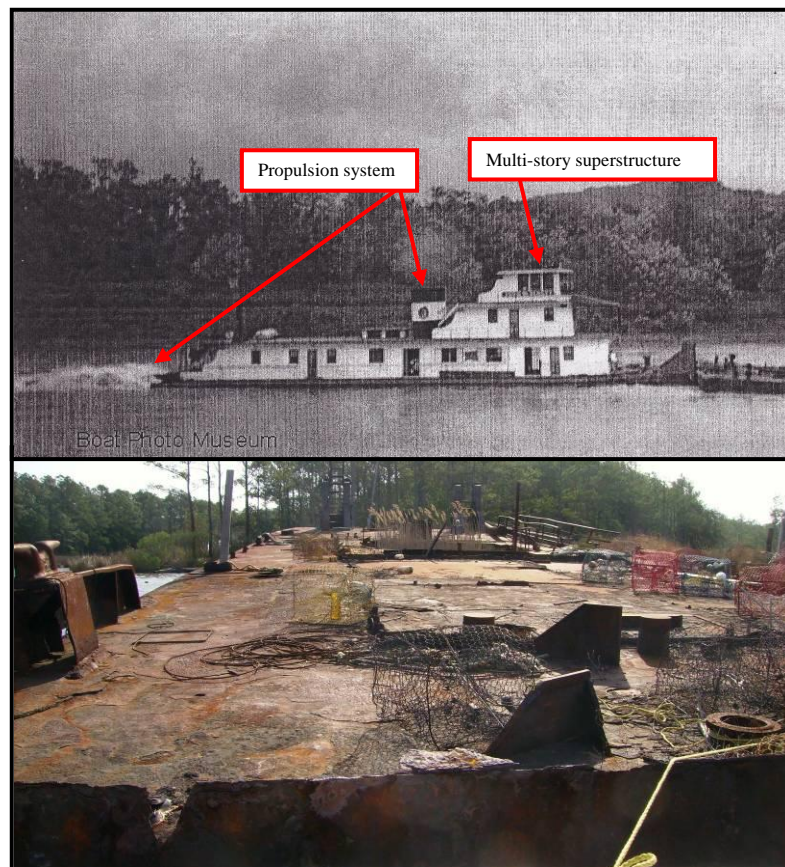




**FIGURE 174.** Vessel 14 salvaged of all propulsion, electrical, lighting, deck, and major rigging equipment (above, facing south) (Marcotte 2007). Vessel 15 salvaged of the same elements as Vessel 14 (below, facing west) (Marcotte 2010).

Vessels 13 and 34-35 in the Voliva Complex all appear to have undergone salvage before discard. According to oral accounts, Vessel 13 arrived at the site after having undergone primary salvage (Figure 175). A photo from the Boat Photo Museum in Maryville, Illinois, depicts the steel pusher moving barges under propulsion during its systemic career, equipped with steam propulsion and a multi-story superstructure. Physical evidence of the photographed superstructure is visible in its footprint and fastening marks upon the remaining vessel's deck. Built in Leavenworth Kansas in 1948, official records of the *F.W. Alcott's* service terminate in 1977. This final service date indicates primary salvage occurred on the vessel between the years 1978 and March 7 1993, the date of the aerial photograph showing its presence in Wright's

Creek. The vessel's steel hull and construction techniques provide a sturdy surface for secondary use. According to oral accounts, the Volivas' purchased the salvaged vessel as a barge from which to conduct maritime salvage operations in North Carolina. Upon arrival, the new owners' realized the hull was unsound and proceeded to secure the vessel in its current position with bowlines, eventually installing piles through the spud sleeves (Glen Credle 1995, pers. comm. in Babits and Kjorness 1995:46; Foster Sr. 2009). Babits and Kjorness (1995:47) recorded 0017PUR, identified as two skiffs, one riding as cargo in/on the other. Local resident Curtis Wilkins (1995, pers. comm. in Babits and Kjorness 1995:46) claimed they were discarded near the iron barge after salvage. These vessels are included among the three not found during current survey.



**FIGURE 175. Vessel 13 (*Fred W. Olcott*) during use in systemic context (above) (Boat Photo Museum). Vessel 13 salvaged of its multi-story superstructures, interior fixtures, and propulsion (below) (Latta 2008).**

Salvage also occurred on Vessels 34 and 35, located on the south shore of Voliva Canal. According to Babits and Kjorness (1995:48), both boats were undergoing salvage at the eastern end of the canal. Vessel 34 showed evidence of burning, leaving little in the way of structural elements valuable to the Volivas. It is unclear if this burning was an activity related to purposeful, ongoing salvage or accidental as in the case of Vessels 2 and 20. Vessel 35, a 28 ft. wooden workboat, appears to have undergone little cultural formation processes since the 1994 survey (Babits and Kjorness 1995:48-49), the rusted equipment still rests in the open stern, although slightly askew from previous photos due to degradation of the vessel's hull.

### *Reuse*

Reuse activities in these dynamic graveyards include lateral cycling, secondary use, and recycling (Schiffer 1987:29-30; Richards 2008:55). Lateral cycling is visible in the transfer of ownership of these vessels between family members, and among the community in general. Recycling activities include the destruction of obsolete vessels for reuse of materials on working vessels. Secondary use includes a change in function, primarily seen in the use of vessels as permanent storage facilities.

Lateral cycling and recycling activities are common within the Fosters' Seafood Complex. The wheelhouse and galley structure of Vessel 24 (*Miss Allena*), intact and in fair condition as of November 2007, underwent salvage in 2010. Currently owned by Wilkins' grandson Randy Lozon, the superstructure roof was salvaged for reuse on Carl Foster, Jr.'s working vessel *Morning Star* (Carl Foster Sr. 2010, pers. comm.). Repair of this vessel included elements of Vessel 24's roof, as well as new planks (Figure 176). The two vessels are similar in construction, and built within two years of each other by local boatwrights. As discussed previously, Vessel 24 construction occurred in 1970 by local resident Carl Wilson Foster, Sr.



Slightly older, *Morning Star* was constructed in 1968 by Hoyle Varnam in Supply, North Carolina. The Varnams are a boatbuilding family renowned for their craftsmanship (Kelly and Kelly 1993:112; USCG 2009). The similarity in building styles, apparent in the line of the vessels, aids material recycling between vessels, as does the close relationship between the Fosters and Wilkins families.



**FIGURE 176.** Vessel 24 (*Miss Allena*) top-left and top-right undergoing salvage for recycling. Working vessel *Morning Star* (bottom left and bottom right), utilizing Vessel 24's recycled material with new lumber to facilitate maintenance of wheelhouse and galley (Marcotte 2010).

Some interesting forms of reuse were observed in relation to vessels in Schoolhouse Landing. During survey, students noticed the presence of numerous personal items, such as clothing, empty food and beverage containers, and paperwork including a court summons indicating likely recent occupation (Figure 177). Although an exact date for this occupation could not be determined, the fair condition of these articles points to vessel use as a possible

hideaway to escape unwanted attention. Reuse of the vessel in this manner demonstrates the process of lateral cycling, changing the original use from a commercial fishing vessel to a sanctuary, without transforming form or structure.

It appears reuse is a common theme with this boat, particularly in relation to the boat's associated equipment. An example of secondary use is visible in the form of two wheelhouse navigators' chairs, slightly modified from a plastic lawn chair and a stuffed desk chair. Although both chairs continue to serve a sitting function, slight modifications were required to secure them to the vessel. The blue plastic lawn chair was relieved of its legs and mounted to the original captain's chair stand, while the desk chair was stripped of its legs, and secured to a makeshift wooden platform (Figure 177).



**FIGURE 177.** Vessel 5's recently occupied bunk (left), a recycled plastic chair (center), and a recycled office chair (right) (Latta 2008).

Vessel 15, a western-style wooden trawler, is currently being utilized as a storage vessel and an extension of the Fulford dock (Figure 178). The boat's change in use from a fishing vessel to a storage area and dock extension demonstrates secondary use. Gangplanks lead from the floating dock near shore on the boat's port side, allowing access to the open stern and wheelhouse. The vessel's attachment to the dock is ensured via the bowline, and pilings driven into the creek bottom on its starboard side. Timber, cinder blocks, line, rubber hose, and various

tools and equipment are stored in the boat's open stern. Although the inside of the boat was not accessible, items were visible in the stern cabin.



**FIGURE 178. Vessel 15 showing construction of gangplanks (left) and placement assurance (right) for storage vessel (Marcotte 2010).**

### *Discard*

Discard activities observed within active graveyard areas include aspects of hull minimization, including destruction through burning and disassembly or “boat-breaking.” In other areas, salvaged and discarded vessels are left *in situ*, degrading through non-cultural formation processes. Both intentional and unintentional vessel discard is apparent within the creek.

Unintentional discard is often related to the death of the vessel owner.

The most dynamic discard activities were observed in relation to the Fosters’ Seafood Complex. During a visit in April 2010, Vessel 21 (*Pearl Dee*), initially observed in 2007 completely salvaged and pulled onto shore, had been reduced to a pile of wreckage. Salvage and recycling of Vessel 21 minimized the super-structure and hull, resulting in its 2007 condition (Figure 179). Aground, awash, and pulled bow into shore, the vessel remained near the dock until Carl Foster, Sr. removed the vessel with a tractor and completed the breaking process on land. At some point in the future, the remains of this vessel will be loaded and hauled to the county landfill in Washington, North Carolina, or burned. While recycling of this vessel was not



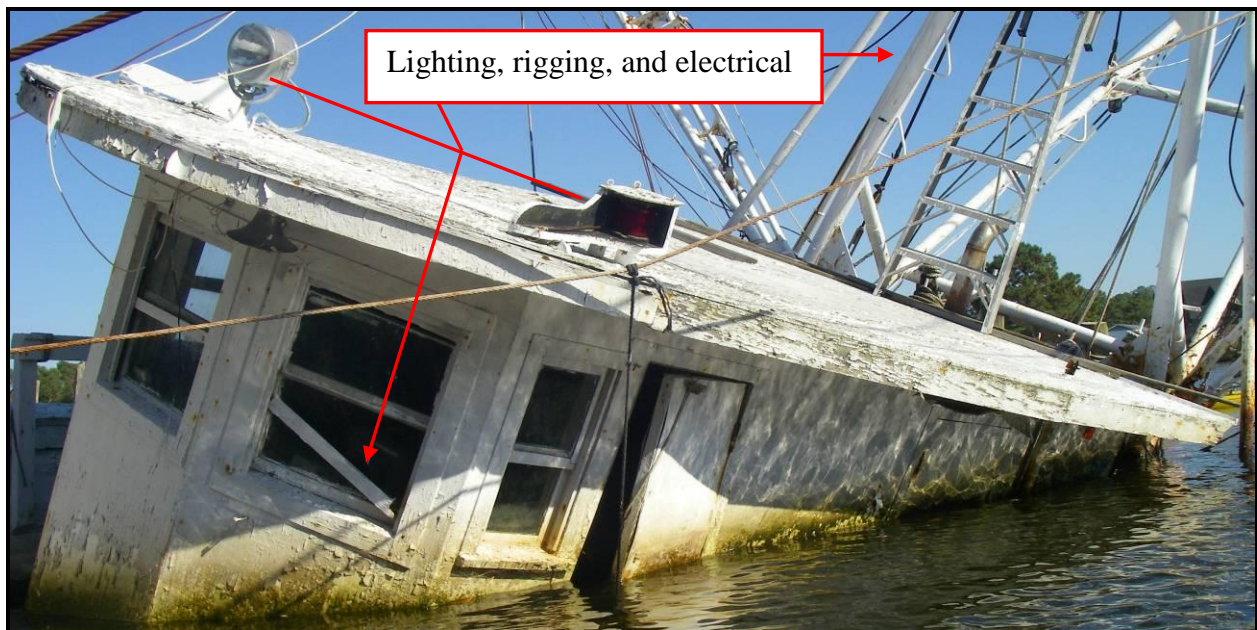
witnessed before 2007, it is reasonable to assume that these activities occurred during salvage and before the final boat breaking.



**FIGURE 179.** Vessel 21 (*Pearl Dee*) above, after salvage grounded bow to shore, awash, and listing to port (Marcotte 2007). Vessel 21 below, after salvage and recycling, ready for discard at its final destination - the county landfill (Marcotte 2010).

Discard activities at the Hopkins' Seafood Complex are linked with the working lives, retirement, and salvage of the vessels. Unlike the Fosters, known to break their vessels to the point of discard at the county landfill, Hopkins' graveyard consists of vessels stripped of the most valuable materials, remaining *in situ* to degrade through non-cultural formation processes. Vessels 3-5 and 16-19 are examples of this, while Vessel 6 remains under the processes driven by the cultural transformation of salvage. While a significant portion of fishing related refuse and material is located along the Schoolhouse Landing shoreline, there is no evidence of vessel timbers or related equipment indicating previous boat-breaking activities.

Examples of unintentional discard were observed in relation to Vessels 1 and 30-31 that appear to have entered the archaeological record for different reasons. Vessel 1, destroyed by wake surge, was discarded after failed attempts to free it from impalement and conduct repairs. The owner has expressed desire to finish hull minimization through burning to recover fittings (Fulford 2008). Vessel 30 (*Gladys Dawn*) fell into disrepair after the owner's death, leading to its current swamped and listing state, and discarded appearance. Un-salvaged, the boat's electrical system, lighting, deck equipment, and rigging remain articulated (Figure 180). Vessel 31 is grounded parallel to shore and listing to port. It is secured by a line from starboard to a tree, and does not appear to be swamped. No cultural transformations were observed in relation to this vessel during survey. While these vessels appear discarded and abandoned in their current state, it is reasonable to assume, based upon cultural formation processes observed at other graveyards, they will be salvaged of remaining electronics, deck equipment, and rigging in the future.



**FIGURE 180.** Vessel 30 (*Gladys Dawn*) showing lack of salvage of costly components (Marcotte 2010).

Evidence of cultural transformation processes on vessels within the Voliva Complex appears to have ceased near the time of the 1994 survey (Babits and Kjørness 1995). During the current survey, this area seems to be an occasional repository for small, wayward skiffs possibly drifting there from unsecured moorings, but these vessels disappear during consecutive visits. The recorded vessels in this complex remain in the same positions mapped during the 1994 survey, and transformation in their appearance is linked primarily to natural formation processes.

### **The Static Graveyard**

Unlike the dynamic graveyards located near active commercial fishing operations, the static graveyard in Bradley Creek is isolated near the head of a shallow tributary. The shallow nature of the tributary may have led to this area's seclusion, unfit for residential occupation or the berthing of large commercial fishing vessels. This isolation creates an ideal site for secondary discard and abandonment of obsolete, damaged, and salvaged vessels away from working vessel navigation and daily view of the community (Rathje and Schiffer 1982:116; Schiffer 1987:58). This fact certainly did not escape local residents and commercial fishers, and the lack of "memory" concerning this site may be intentional, related to the fact that these vessels are not discarded along property lines of commercial fishing families, and therefore are subject to legal retribution from the State of North Carolina.

To gain a better understanding of site formation processes in the static graveyard, analysis considered aspects of site chronology, vessel orientation and methods of placement assurance, and the processes of salvage and reuse related to discard. Salvage activities include primary salvage, and possibly secondary salvage, although these signatures in the archaeological record are blurred with that of primary salvage (Richards 2008:155-162). Table 8 contains approximate disposal dates for individual graveyard components and related sources.



**TABLE 8**  
**BRADLEY CREEK VESSELS AND TIMELINE.**

Location	Vessel Number	UAB Site Number	Recording Medium(s)	Vessel Name	Observed Formation Processes	Timeline of Discard	Source of Discard Date	Build Year (Reg=*)
BRADLEY CREEK	V7	0040PUR	Site Plan, Photography, GPS	Unknown	Placement assurance port side, CF & marine debris.	<1993	USGS Aerial 3/6/1993 Babits 1994-1995	Ca. 1920
	V8	0031PUR	Site Plan, Photography, GPS	Unknown	Salvage, CF & marine debris, A-frame rigging - no outriggers, placement assurance @ stern, bow into shore.	Ca.1993-1994	USGS Aerial Photograph - 5/6/1993 Babits 1994-1995	Ca. 1920-1940
	V9	0030PUR	Site Plan, Photography, GPS	Unknown	Salvage, CF & marine debris, bow into shore.	Ca.1993-1994	USGS Aerial Photograph - 5/6/1993 & Babits 1994-1995 Survey	Ca. 1980
	V10	0029PUR	Site Plan, Photography, GPS	Unknown	Total salvage, CF & marine debris, tools, bow to shore. 6 cylinder engine & marine battery <i>in situ</i> .	Ca.1993-1994	USGS Aerial Photograph - 5/6/1993 & Babits 1994-1995 Survey	Late 1970s
	V11	0033PUR	Site Plan, Photography, GPS	Unknown	Total salvage, CF & marine debris, bow to shore, small piling placement assurance @ stern.	<1993	USGS Aerial Photograph - 3/6/1993 & Babits 1994-1995 Survey	Ca. 1950-1970
	V12	0032PUR	Site Plan, Photography, GPS	Unknown	Total salvage, CF & marine debris, bow to shore, possible piling placement assurance @ stern.	<1993	USGS Aerial Photograph - <3/6/1993 & Babits 1994-1995 Survey	Ca. 1920-1940
	V35	0039PUR	Photography, GPS	Unknown	Submerged in silt, only scantlings visible above water, stringer below.	<1993	USGS Aerial Photograph - <=3/7/1993 & Babits 1994-1995 Survey	Ca. 1940-1960
	V36	0038PUR	Photography, GPS	Unknown	Fully submerged, only stringer visible underwater, 1994 photos show salvaged, bow to shore.	<1993	USGS Aerial Photograph - <=3/7/1993 & Babits 1994-1995 Survey	Ca. 1940-1960

Location	Vessel Number	UAB Site Number	Recording Medium(s)	Vessel Name	Observed Formation Processes	Timeline of Discard	Source of Discard Date	Build Year (Reg=*)
BRADLEY CREEK	V37	0035PUR-0037PUR	Photography, GPS	Unknown	Unknown	<1993	USGS Aerial Photograph - <=3/7/1993 & Babits 1994-1995 Survey	Ca. 1940-1960
	V38	0034PUR	Photography, GPS	<i>Marena</i>	Total salvage - submerged, only portions of hull & frames visible during blowouts. CF & marine debris, bow to shore.	<1993	USGS Aerial Photograph - <=3/7/1993 & Babits 1994-1995 Survey	Ca. 1940-1960
	V39		Photography (GPS)	Unknown	Completely broken-up fiberglass.	1998-2006	USGS Aerial Photograph - <=5/30/2006.	N/A

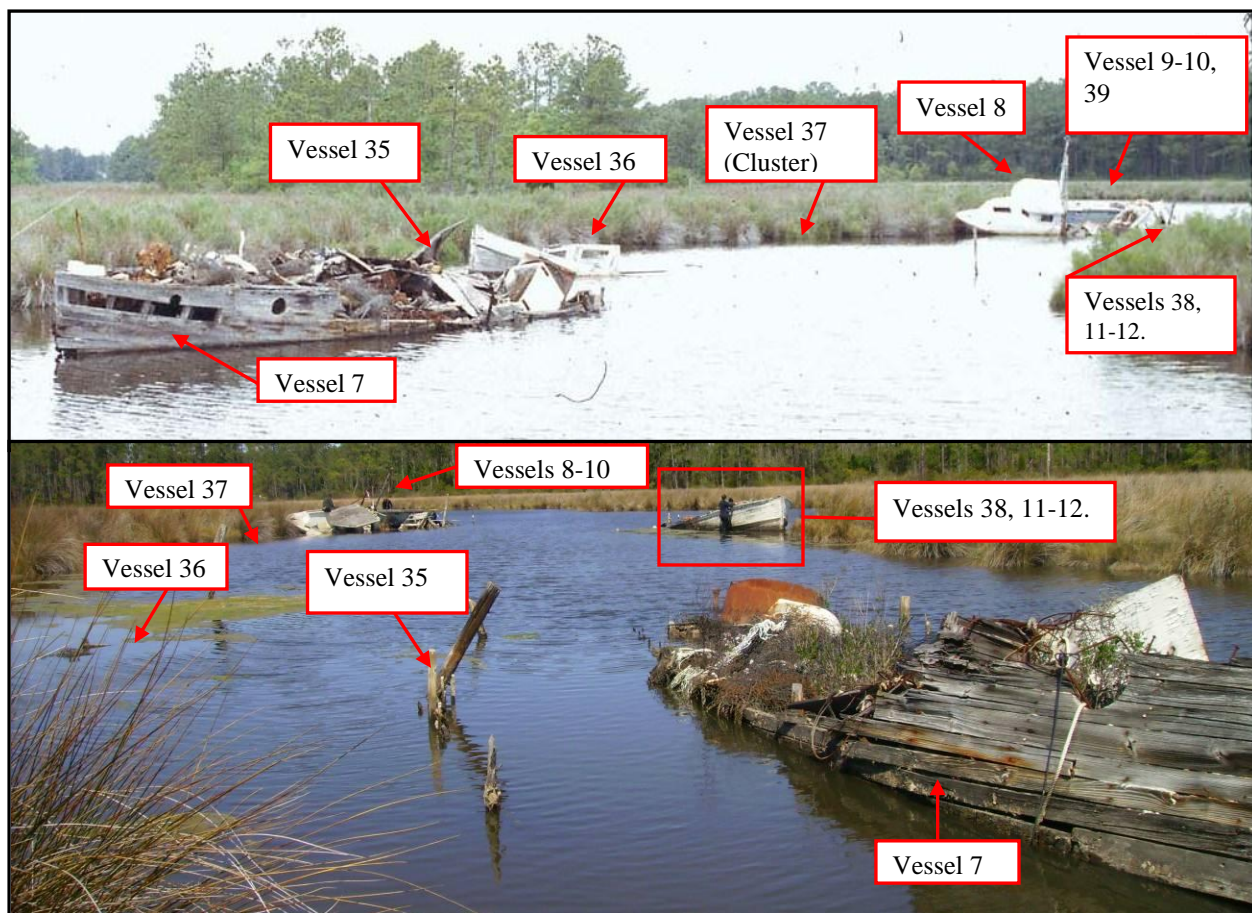
### *Chronology*

Considering the stratigraphy of vessels, it appears this site has been used for discard over an extended period, likely dating back to the mid-20<sup>th</sup> century or before. Vessels in this graveyard are smaller, on average, than those observed within dynamic graveyards. Further, the technology is obsolete, and the techniques utilized on several vessels places construction in the early 20<sup>th</sup> century. Aside from the occasional addition of new vessels, this site appears relatively unaltered by cultural transformation. Archaeological signatures on the Bradley Creek boats indicate the occurrence of a significant amount of cultural and non-cultural formation processes. Of the 14 vessels originally recorded during previous survey, re-identification of only 12 occurred during the current survey. The vessel nearest the mouth of the creek, 0028PUR (*Miss Lorene*), was involved in a court case, and the owners blew it up to avoid prosecution, leaving no material traces (Larry Babits 2011 pers. comm.) (Appendix C). Vessel 0041PUR has degraded to a point as to be undetectable in the silt (Babits and Kjørness 1995:55-47). One small boat, Vessel 39, the fiberglass skiff, appeared in its position ca. 1998-2006.

Given the lack of information available on this graveyard, date estimations for vessel deposition were made possible through aerial photography (USGS 1993-2007), expired vessel licensing, likely dates of vessel construction, and the stratigraphy of vessels within the landscape. A comparison of the photographs taken during the 1994 survey (Babits and Kjørness 1995) and that of 2008 reflect previous cultural formation activities, and the active natural formation processes (Figure 181). Vessels appear to have been deposited in separate clusters, their placement perhaps influenced by the position of previously discarded boats. During the 1994 survey (Babits and Kjørness 1995:57), researchers classified the vessels into four clusters. They postulated successive depositions, beginning with the vessels located in the cluster closest to the

head of the creek (Vessels 7, 35-36) as the earliest, with the cluster near the center of the creek following (Vessel 37). The cluster along the east shore was deposited third (Vessels 11-12, 38), while the west shore cluster was most recent (Vessels 8-10, 39). Based on stratigraphy, aerial photographs, and the likely construction dates for the vessels, this is a solid conjecture. In fact, all boats in this creek were deposited before 1993, except the last cluster, appearing on the shoreline ca. 1993-1994 sometime before researchers at East Carolina University visited the site (USGS 1993; Babits and Kjorness 1995). This final deposition corresponds to a period of economic downturn of harvest volume and value in North Carolina. As discussed in Chapter 6, one of the earliest depositions, Vessel 7, is likely an early “Fernandina Beach” style fishing-trawler (ca. 1920). An average useful life span for this vessel of 30-40 years would place possible deposition ca. 1960. Given the commercial fishers proclivity to maintain and conserve vessels for extended periods, deposition could have occurred as late as ca. 1980.

Many construction techniques noted on wooden vessels in the creek indicate local manufacture dating to ca. 1940, strengthening the interpretation that this creek was used as a graveyard by at least ca. 1980. Interestingly, Vessel 10 had remains of its last vessel registration and commercial fishing license still on display. The last commercial fishing license observed on the vessel, issued by the North Carolina Department of Marine Fisheries, expired in 1988, while the latest Commercial Fishing Vessel Registration expired in 1990, possibly indicating its secondary use in a function other than commercial fishing. Vessel 10 fits the model of the cycle of abandonment, with vessel licensing expiring in 1990, a sufficient period to conduct salvage, i.e. 3-4 years, and deposition between the years 1993-1994.



**FIGURE 181.** Bradley Creek 1994 displaying vessel location, orientation, and formation processes (top, facing northwest) (Babits and Kjørness 1995). Bradley Creek 2008, displaying active formation processes occurring on vessels (Marcotte 2007).

### *Orientation and Placement Assurance*

Orientation and placement assurance utilized in Bradley Creek is similar to that seen in other graveyards. Richards (2008:176-177) addressed the issue of orientation in his studies of the Garden Island Ships' Graveyard, noting that vessels were beached at an angle between 45° and 90°, or parallel to shore. Although the sites in a dynamic graveyard are constrained by the presence of working vessels and the construction of docks, Bradley Creek vessels are beached, bow to shore, within the angle range discussed by Richards (2008:176-177). Clusters of vessels face in the same direction, situated at the same angle (Figure 182). Given this site's ideal environment for creating a graveyard, discard may have been somewhat pre-planned, resulting in



the clustering of vessels to maximize space. The first vessels appear near the head of the gut, facing the southern shore bow first. As successive vessels were deposited, maneuvering them into dissimilar positions next to previously hulked vessels would have been difficult, a more likely method for placement assurance and security, as well as the consideration of space, would be to ground the vessel in a similar fashion as the previously placed vessel. The only apparent exception to this rule is Vessel 39, located bow to shore, but facing bow northwest rather than southwest. Placement assurance in the form of grounding is visible in all boats. It is difficult to tell if deliberate scuttling took place afterwards, as all the watercraft are degraded to the point that they are awash, and any signatures of scuttling have disappeared beneath mounds of maritime detritus, silt, and degradation.



**FIGURE 182.** Vessels 8-10 and 39 (not visible) along west shoreline, grounded bow to shore, awash, and with placement assurance and some marine debris (top, facing southwest) (Marcotte 2008). Vessels 10-12 on adjacent east shoreline, grounded bow to shore, awash, with placement assurance and marine debris (bottom) (Marcotte 2008).



## Salvage

The vessels within Bradley Creek have undergone extensive salvage, resulting in reduction of superstructures, and removal of rigging, electrical, and propulsion elements. Exceptions to this pattern exist in Vessels 8 and 10. A comparison of Vessel 8 between 1994 (Babits and Kjorness 1995) and 2008 displays an articulated superstructure and mainmast rigging remaining after salvage. The 1994 survey occurred soon after salvage and discard, so it is unlikely that gleaning created the stripped appearance of the vessel (Cameron and Tomka 1993:4; Richards 2008:148-154) (Figure 195). The wheelhouse has collapsed and subsided, its appearance the result of non-cultural formation processes, the fittings coming loose from the vessel's hull. The rigging, pictured with a coat of white paint in 1994, has also corroded and disarticulated from the hull.



**FIGURE 183.** Vessel 8 in 1994 (above) with articulated wheelhouse section, rigging, and placement assurance (Babits and Kjorness 1995). Vessel 8 (below) in 2008 showing disarticulation of wheelhouse and rigging due to non-cultural processes (Marcotte 2008).

Although the propulsion system was no longer attached to Vessel 10, a marine engine and battery were found within its open stern (Figure 184). A small metal box containing tools suitable for engine work was also found near the battery. Given the appearance of crab pots and other fishing related artifacts situated over the engine, it is likely that removal occurred during salvage operations, placing it inside the stern in preparation for towing to site. The engine's presence indicates either its deliberate abandonment with the vessel, or a forgotten item during discard. Local informants suggest purposeful disposal of the engine, as items such as these can be recovered and rebuilt later (Foster Sr. 2009; Daniels 2010).



**FIGURE 184.** Marine engine and battery recovered in Vessel 10 with scatter of fishing related equipment (Campbell 2008).

### *Reuse*

Signatures of reuse are more difficult to determine on the Bradley Creek vessels because they are in an advanced state of degradation and have been abandoned for an extended period. Considering the construction techniques used on the vessels, including the decorative strip-laid decking and splash rail noted during the 1994 survey (Babits and Kjorness 1995), it is likely Vessel 11 was built as a luxury vessel (Figure 185). The Harker's Island style boat underwent a functional change at some point in its uselife, switching to commercial fishing. This argument is strengthened by the presence of fishing gear within the open hull, surrounding the collapsed cabin.

The presence of fishing related equipment illustrates the secondary use as a repository maritime related refuse for watercraft in this graveyard. It is unclear whether these materials were disposed of at the time of discard, or were added as successive discard events continued onsite; however, photographs from the 1994 survey show a considerable amount of maritime detritus already in the open stern of Vessel 7.



**FIGURE 185.** Vessel 11, decorative laid strip (left), and detailed view (right) (MacKenzie 2008). Vessel 7 (bottom left) and Vessel 11 (bottom right) used as repositories for commercial fishing debris and equipment (Marcotte 2008, MacKenzie 2008).

### *Discard*

The vessels within Bradley Creek are a model of abandonment through discard. All the boats have undergone primary salvage, transportation to site, and discard with the intention of abandonment. Although difficult to determine given their condition, it does not appear that any secondary salvage or gleaning occurred after secondary discard on site (Cameron and Tomka 1993:4; Schiffer 1996:30; Richards 2008:148-154). Evidence indicates activities are largely concerned with

deposition, rather than salvage, with the possible exception of 0028PUR (*Miss Lorene*) discussed previously. Their purposeful discard is visible in their stripped and salvaged nature, as well as the placement assurance installed to prevent their dislocation and possible hazard to navigation. Repeated visits to the site during survey did not reveal evidence of cultural formation processes acting on remaining vessels, their transformation being a function of non-cultural processes.

### **Non-Cultural Formation Processes**

Non-cultural formation processes acting on the creek's graveyards are primarily the result of coastal weather patterns and submergence within the water column. Hurricanes pose a persistent and significant threat to archaeological remains, bringing high winds and wake surge. High velocity, onshore winds are responsible for periodic "blowouts" of the creek, resulting in lower water levels, exposing wooden vessels to dry cycling. Submergence in the water column poses multiple threats to the artifacts, including damage from marine organisms and corrosion.

#### *Weather Damage*

Wake surge from a coastal hurricane is responsible for the disarticulated condition of Vessel 1, leading to its current discarded status. Winds and surge from hurricanes can result in heavy losses and repair for fishing vessels in this area. While Vessel 1 is the only direct link to discard from this non-cultural process, it is likely that other vessels, working or abandoned, suffered similar consequences. Onshore winds, or "blowouts," occur frequently in the area, scouring the vessels and exposing their hulls to dry-cycles because of extreme low water. Evidence of this is seen in a photographic comparison from the 1994 survey (Babits and Kjorness 1995) and a February 2008 site reconnaissance (Figure 186). The 2008 photograph occurred during a period of blowout, showing the bow to mid-section of Vessel 7 high and dry. Disarticulation of the portside hull from degradation is visible, and the hull contains a significant amount of maritime related artifacts.



Further evidence of degrading processes is visible in the presence of Vessels 35 and 36 in the 1994 photograph, now barely visible beneath the water.

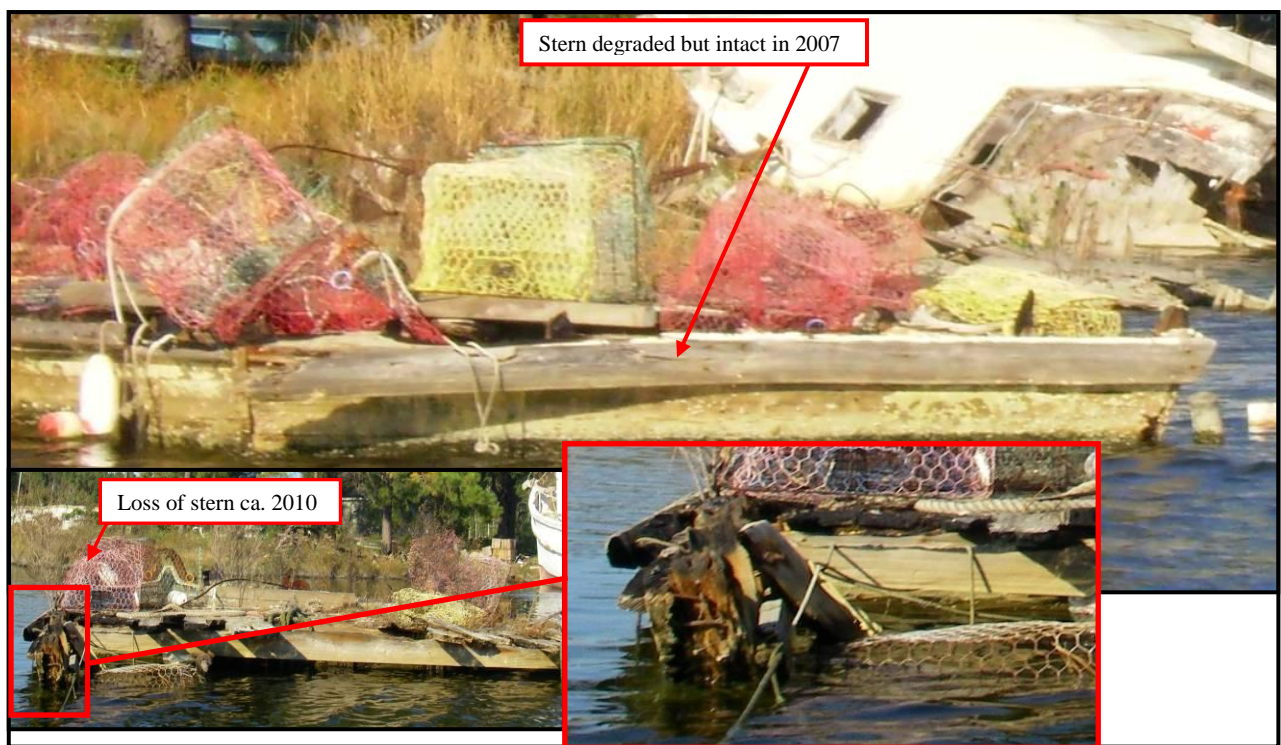


**FIGURE 186.** Vessel 7 (forefront, above), 35 and 36 in 1994 (Babits and Kjorness 1995). Vessel 7 in February 2008, note the absence of Vessels 35 and 36 (Marcotte 2008).

### *Submergence Damage*

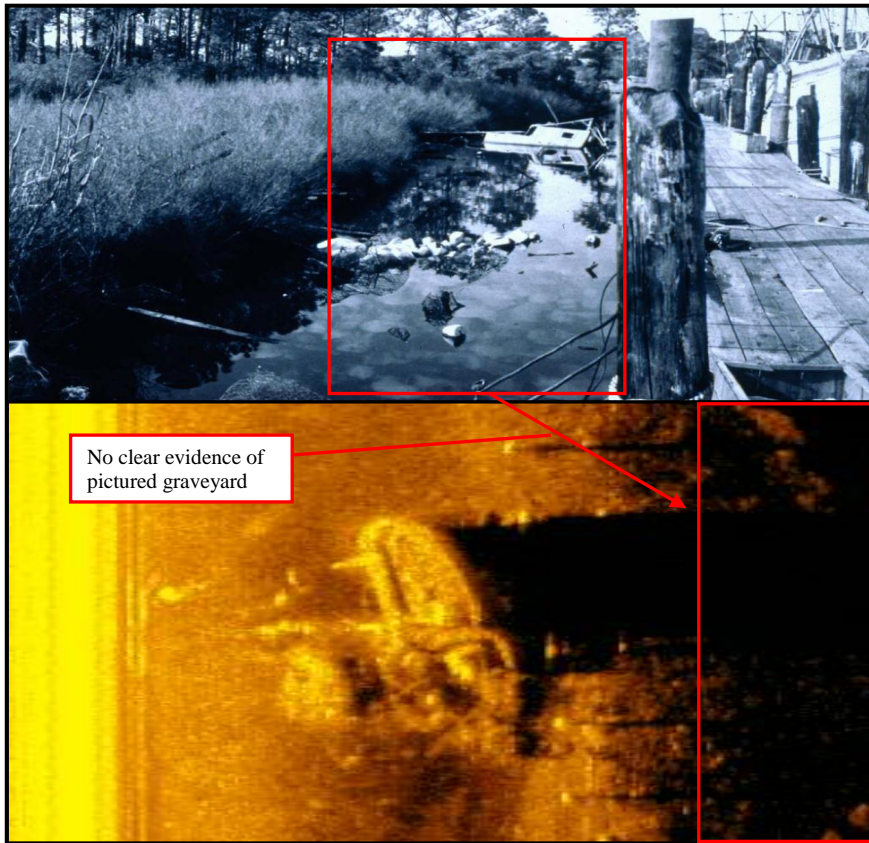
Damage from submersion in the water column is evident on vessels and equipment within the graveyards. Immersed in the brackish waters, Vessel 2's stern, photographed intact during 2007-2009, disarticulated by August 2010 (Figure 187). Its disarticulation is the result of a combination of fire damage and the naval shipworm *Teredo navalis* (Grave 1928:260). Vessels discarded and submerged show active degradation from wet-dry cycling, corrosion, and weathering. Evidence of this is visible in the subsidence of the graveyard along the south side of the Hopkins' docks in the north prong, as well as the loss of rigging on Vessel 17. Side scan sonar conducted in 2008 displays no significant contacts on the south side docks; however, the shadow is dark and cultural materials may be present within the silt (Figure 188). It is unlikely, given the presence of other discarded vessels along the property, that the family removed the graveyard present in the earlier

photograph. Non-cultural formation processes are also visible in Vessel 17's rigging subsidence into the creek. A comparison of photographs taken in 2008 and 2010 shows a degraded vessel aground, awash, and listing to starboard, its bow section disarticulated (Figure 189). Remaining intact through 2009, the rigging subsided before an August 2010 site inspection. Degradation to structural elements from continued submergence is also visible in Vessels 14, 15, and 30 (*Gladys Dawn*), and corrosion is present on all metal rigging and fittings. The vessels recorded near Voliva Canal's entrance are exposed to higher winds and wave action present at the mouth of the creek near Pungo River. Vessel 13, the steel barge is continuously subjected to the process of corrosion, its byproduct rust visible on every surface.



**FIGURE 187.** Vessel 2 (*Miss Betty J*) with intact stern in 2007 (above - facing northeast) (Marcotte 2007). Loss of Vessel 2's stern to natural and cultural formation processes ca. 2009 (bottom left, facing northwest). Detail of stern failure (bottom right) (Marcotte 2010).





**FIGURE 188.** Hopkins' graveyard at south side of docks in north prong (above, facing west) (Babits ca. 1993). Side scan sonar results for scan of the dock area (below, facing east).



**FIGURE 189.** Vessel 17 photographed with rigging present in 2008 (above, facing northwest) (Marcotte 2008). Photograph of same vessel after loss of rigging to natural formation processes in 2010 (below, facing north) (Marcotte 2010).

## **Conclusion**

The dynamic graveyards of Wright's Creek, created and maintained by local commercial fishers, provide a staging area for the salvage, reuse, and discard of vessels and equipment used in their trade. Continued maintenance of these sites demonstrates the usefulness of the discarded vessels for reuse and recycling, as opposed to the view of the graveyard as mere refuse. Spatial patterning at individual graveyard sites shares common features, and a common link to the active formation processes that alter the patterning. The abandoned graveyard of Bradley Creek, created in an area away from the daily view of the commercial fishers, shares certain similarities in the spatial patterning found within sites that are more dynamic. The abandoned site lacks the continued formation processes visible in the sites along the shores of the commercial fishers' properties.

In addition to the orientation displayed by the sites, there is also a chronological patterning. Vessels that have reached a state of degradation to the point of subsidence into the silt-laden creek bottom provide an open staging area for discarding other vessels. This results in stratigraphic layers of vessels, the oldest subsiding into the silt, while depositions that are more recent degrade in a partially submerged environment directly above older layers. In the case of graveyards near working fishers, discard is often the result of disposing inherited vessels and equipment of successive generations.

The similarities in patterning between the dynamic and static graveyards are restricted to orientation and placement assurance. The active processes of salvage, reuse, and discard so prevalent within graveyards located near commercial fishers' properties is absent in the static graveyard. The reason for this appears to be that these activities were carried out to satisfaction with the vessels abandoned in Bradley Creek, therefore their permanent discard and abandonment

was warranted. Salvageable materials of true value to the commercial fishers was scrapped for sale, or harvested for reuse on working vessels. Holding no foreseeable future value, fishers floated watercraft near the head of Bradley Creek for permanent discard. Consequently, their disappearance from the daily view of the community has resulted in a lack of memory pertaining to these vessels, likely heightened by possible legal ramifications if ownership of these vessels is discovered by the state's derelict vessel program (Hills 2007).

Spatial patterning displayed within the graveyards of Wright's Creek holds some similarity to that found at farm graveyards studied by Smith (2005). In particular, Smith found a chronological order to discard, creating stratigraphy as successive generations of farmers passed down their lands and equipment to family members. It is interesting to note some contrast in the placement of the farm graveyards within the locus of individual properties. Smith (2005:335) noted that farmers preferred to locate their graveyards away from roads and public view. Due to their rural environment near a small waterway, the commercial fishers' graveyards are not on display for the public to see, but are limited to those with access to the creek. While not a large population, the graveyards are in view of the entire community and not just the family responsible for its creation and maintenance. The complete disappearance from public and community view can be found in relation to the forgotten graveyard located in Bradley Creek and composed of abandoned vessels no longer subjected to the processes of reuse.

## CHAPTER 9: CONCLUSION

### **Introduction**

Studies of vessel abandonment sites have shown that they serve as more than simple refuse piles along shorelines and waterways. This is especially true with the commercial fishing graveyard. The use, reuse, and maintenance of these graveyards by successive generations of commercial fishers endow them with recognition as a significant area on their properties. The commercial fishing graveyard serves an important function as an assemblage of material culture, viewed through the discarded vessels and equipment of the surrounding community. Moreover, the retention of obsolete vessels and equipment for future reuse demonstrates the graveyard's significance to the commercial fishers past, present, and future. Their continued caretaking of the graveyard bestows these artifacts with meaning and purpose, passed on through the memories of the commercial fishers to successive generations.

Opportunities to examine these aspects of rural maritime history and culture are rare, and the dynamic archaeological nature of these sites includes a wide range of salvage, reuse, and discard activities that culminate in the physical graveyard. The location of the graveyard contributes to the range of activities conducted at the site, as well as the retention of memory concerning its individual vessels. Graveyard complexes located along individual fishers' waterline property demonstrated continued active site formation processes and a dynamic environment. In contrast, the complex located in Bradley Creek is affected by its isolation. Abandoned vessels ultimately create a static environment virtually unaffected by cultural transformation. Non-cultural processes are responsible for site formation on vessels within the static graveyard.

## **Observations**

The correlation of archaeological methodology, historical research, and oral interviews provided a means to reveal a connection between commercial fishers and the graveyards with their discarded vessels and equipment. Their discarded cultural materials represent a microcosm of the social, economic, and technological development of the commercial fishing community, and the surrounding rural town of Belhaven. Moreover, boats present in the graveyard and those of the working fishers nearby are the inherited legacy of the community's commercial fishing heritage. As such, these individual vessels hold meaning and purpose, and cannot be seen as mere rubbish. Investigation of the vessels as they act in a systemic context and within the archaeological record, allowed analysis of the behavioral processes that led to the creation and maintenance of the graveyard, and the site formation processes of salvage, reuse, discard, and abandonment.

The Wright's Creek commercial fishing community provided an impetus for documenting a maritime way of life that is quickly fading. Historical research revealed a community with longstanding ties to the landscape dating back to the 18<sup>th</sup> century, with a history of commercial fishing. These families pass on not only their knowledge of the commercial fishing industry, but often their entire business, their fishing vessels, and the associated graveyard.

Boats associated with graveyards are a testament to the history of regional, vernacular boatbuilding and its persistence in this North Carolina locality. Of the 40 vessels recorded in the Wright's Creek graveyards, the majority represent regional wooden boatbuilding construction. The working fleet of vessels continues that pattern, as most boats are vernacular-built wooden fishing vessels. Boatbuilding traditions along the Pamlico and Pungo rivers are an under-studied aspect of maritime culture. The remaining vessels of the commercial fishers, and those contained



within the graveyards, are the last of these vernacular craft; they will soon add to the fishers' graveyards.

The working boats of Wrights Creek mainly serve a primary mercantile context, serving the original function intended by their construction. One vessel serves in a primary support capacity as a storage platform, while at least one other vessel in the archaeological record serves a secondary support function as a net-haul boat for a larger commercial fishing vessel. Vessels observed within the working fleet and the graveyards have close ties to the graveyard owner, some having been constructed by family members now dead. Emotional ties are formed by the functions a vessel served during its uselife, influencing the observed discard processes. Differences are evidenced in the indefinite retention of vessels within the graveyard, and utilization of its parts for recycling.

Regard for individual vessels is sustained through shared memories. Social and cultural memories are further connected to the technofunctions, sociofunctions, and ideofunctions served by the discarded and recycled graveyard vessels. These functions serve as a conduit through which information is passed to successive generations of families, and to others in the community, uniting these groups through a common memory or image of their past, and strengthening their identity. A graveyard's location on the personal property of these fishers, within daily view and near working vessels, stimulates memory recall, strengthening the intangible connection between generations of commercial fishers by preserving their maritime heritage in the physical form of the graveyard.

Statistical data of North Carolina's fisheries demonstrates declines in catch volume, commercial fishing licenses, and fishing vessel registration corresponding to heavy periods of salvage, reuse, and discard represented in the archaeological record. The Fosters salvaged several

boats to the point of discarding in the county landfill during the late 1990s, while other obsolete vessels were grounded or scuttled for reuse later. This pattern is also present within the Hopkins' Seafood Complex, and appears again with the last cluster of vessels (Vessels 8-10) discarded in Bradley Creek.

The dynamic graveyards found along the Wright's Creek shorelines are the result of primary discard processes performed by individual families, and sometimes a group of families as seen with the Fosters' Seafood Complex that is also maintained by the Wilkins family. These graveyards provide a staging area for the salvage, reuse, and discard of the vessels and equipment used in their trade, supporting the idea that the graveyard serves a useful purpose. This stands in contrast to the idea of a vessel graveyard as a trash dump or "eye-sore." Activities conducted in the dynamic graveyards include primary salvage, reuse, and discard. Primary salvage activities include scrapping and burning the watercraft to obtain metals and reduce the hull structure. Salvage behaviors are also conducted for reuse, removing equipment and even structural elements from obsolete vessels for use on the working fleet. Discard at the graveyard comes in several forms, including complete dismemberment and final disposal at the county landfill, as seen in the case of several vessels at the Fosters' Seafood Complex. Other vessels were held *in situ* with placement assurance, left to degrade through non-cultural processes. In the case of vessels within Bradley Creek, their abandonment was deliberate, having been floated to their current location, secured in place, and abandoned to non-cultural formation processes.

The static graveyard, created in an area away from daily view, lacks the active cultural formation processes visible in sites along shores of the fishers' properties. There are stratified layers of vessels within this complex, evidence of long-term use as a discard site, supporting Schiffer's (1996:62) assertion that there is a tendency for people to dump materials in the same

location others previously used. The active processes of salvage, reuse, and discard are visible only in the remaining archaeological record of vessels present in Bradley Creek. These boats were salvaged of valued materials, save for a portion of remaining rigging on Vessel 8, and permanently discarded. Their removal from public view adds to the lack of information concerning their history and eventual abandonment.

### **Limitations and Potential Future Studies**

Several limitations were faced in the study of the Wright's Creek graveyards, primarily stemming from the lack of identification found about individual watercraft. While some limitations were overcome through historical research and oral interviews, the bias of historical documentation and potential inaccuracy of shared memories proved challenging. Other limitations included site condition, the degraded nature of many boats proving problematic for detailed study without danger to the researchers. Decomposition of discarded wooden vessels left an abundance of debris across these sites. Disarticulated wooden scantlings, iron fastenings, and nails are constantly a hazard, particularly those lurking beneath the water in deep mud. Water and silt levels affected the researchers' ability to collect data on keel assemblies, dimensional data on profiles, or signatures of deliberate scuttling.

The study of vessel graveyards has only recently become the focus of research in the field of maritime archaeology. Researchers have recently conducted several studies on abandonment sites in North Carolina, including Sami Seeb's (2007) work in Wilmington, and Lindsay Smith's (2010) study of abandoned barges in Elizabeth City. These studies made several strides toward understanding vessel repositories and the formation processes that led to their creation. The study of the commercial fishing graveyards in Wright's Creek adds to the body of archaeological

knowledge pertaining to vessel accumulation sites, discovering an intimate relationship between these sites and the rural commercial fishing community.

Further research on this community and their associated cultural materials is suggested. The working and hulked vessels are the last remaining vestiges of vernacular boatbuilding techniques practiced in North Carolina. According to Michael Alford (2008, pers. comm.), “finding an authentic working drawing of a modern (1930s- to date) trawler (or any vernacular boat) is a near hopeless pursuit. These boats are not built from drafted plans.” These smaller, wooden fishing vessels are no longer constructed in the backyards of Wright’s Creek fishers, or in the smaller, rural boatyards. Systematic study of vessel construction would increase the knowledge concerning vernacular, North Carolina, wooden boats. In addition to Wright’s Creek, other vessel discard sites, both individual and accumulations, were noted within the Pamlico River’s tributaries. Systematic study of these discarded vessels could possibly provide correlative research for regional comparison.

Further correlative studies of rural North Carolina commercial fishing graveyards is warranted. Approximately three miles west of Wright’s Creek is North Creek, surveyed by ECU in 1994 (Babits et al. 1995). Researchers discovered at least three graveyards, and several individual discard sites, some of these likely created and maintained by fishers. Approximately 10 miles east of Wright’s Creek, several discarded, wooden fishing vessels were located in Rose Bay, a tributary of the Pungo River. A significant collection of these wooden vessels was found in, and around the existing Rose Bay Oyster Company, and near private residences. Another commercial fishing graveyard of interest is the collection of discarded steel vessels in and around Wanchese, North Carolina. Wanchese is a commercial fishing port located in Pamlico Sound just west of the outer banks, the community holding longstanding ties to the coastal area. Comparative research on

these regional commercial fishing graveyards and their surrounding communities may support the model of salvage, reuse, and discard processes found at the Wright's Creek graveyards. Perhaps of more interest would be a comparison of meaning and purpose in the context of these regional, North Carolina commercial fishing graveyards.

### **Conclusion**

The study of the commercial fisher's vessel and equipment graveyards demonstrates that these discard sites are more than aesthetically displeasing piles of refuse. Instead, they act as a repository of memories and nostalgia. They serve a further useful purpose as a staging area for salvage, reuse, and discard of obsolete or damaged vessels. The dynamic graveyards, owned and maintained by the community, stand in sharp contrast to the abandoned site at Bradley Creek. The collection of vessels and equipment, the discarded cultural materials of the commercial fishers, is a microcosm of the social, economic, and technological changes occurring in this rural North Carolina area.

The commercial fisher's economic future is uncertain, and their dilemma is widely known in North Carolina. A search of local, regional, and national databases reveals numerous articles related to the economic plight of fishers, stemming from multiple causes including declining harvest volume, increased fisheries regulations, soaring gas prices, and foreign imports. This uncertain economic future has resulted in a lack of generational knowledge concerning boatbuilding and fishing techniques. These techniques, previously passed down to successive generations, are beginning to disappear as younger generations look elsewhere for financial stability. Combined with an aging fleet of working wooden vessels, and the dynamic site formation processes observed in their vessel graveyards, evidence points to an eventual loss of this maritime lifeway in rural North Carolina.

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## APPENDIX A

Interview Transcripts, Consent Forms, and  
University Medical Center Institutional Review Board (UMCIRB) Forms

Floyd Foster  
Interview at Foster's Seafood, Belhaven, NC  
By Jacqueline Marcotte  
31 March 2009

I conversed with Floyd Foster while visiting the Wright's Creek Project area, at Foster's Seafood, in Belhaven, North Carolina. When asked about the main reason he felt fishing vessels were abandoned in Wrights Creek, Floyd replied firmly that it was due to government regulations on the fisheries. He said that all the regulations were keeping them from catching fish and making a living. He said, "they don't regulate pollution, which kills the fish, they only regulate commercial fishermen." One of the regulations Floyd specifically mentioned was the turtle excluder devices (TED) required on all North Carolina trawl gear. Floyd said he has only ever caught one turtle in his whole life, and the device decreases the intended catch by as much as 10%-15%. In addition, fuel prices, currently at \$4.00 per gallon, make running extra trips to make up for the loss nearly impossible. Net restrictions were also a concern for Floyd, who said the government tells fishermen where they can use their nets and the type of nets they are allowed to use. Competition from sports fishers was also listed as a problem for commercial fishermen.

Floyd said it is also difficult to deal with all the licensing required to fish in North Carolina waters. State permits are only valid up to three miles offshore, and fishermen must also be permitted by species of catch. Fishing on the ocean outside the three-mile limit requires a federal permit. In addition to the fishing permit, Floyd said they have to tag the catches brought into the fish house, and call in all catch information to the government at the end of every day.

Floyd commented that North Carolina Fisheries (NCDMF) sends out about 1000 proclamations per year, and it "takes a New York lawyer to understand them." Floyd claims they have so many proclamations that the inspectors can't keep up with them. Floyd said

fisheries inspector Eric Smith cited him for the violation of a 2002 proclamation in 2003, after that particular law had been changed. He said the inspector used Trip Ticket to identify his catch counts at the end of every day to fine him for species catch violations. Trip Ticket reporting became mandatory in 1994, but Floyd said that commercial fishermen only agreed to cooperate with the program as the government guaranteed, in writing, that the information would only be used for conservation. Access of Trip Ticket statistics to fine Foster's Seafood was a clear violation of the law, according to Floyd. He said the judge in the case was "Duke," and found for the State, forcing Floyd to appeal. After realizing he could no longer defend himself with any success, he hired a \$2,500.00 lawyer, and won his case. Floyd also mentioned another case where he was fined for unloading a catch of oysters at night, but claims he was doing nothing of the sort, so he appealed and won that case as well.

Foster's fish house is located on the north prong, in the northwest section of Wrights Creek. Floyd said that the fish house has been in operation in that location since 1990 or 1992, but that they have been in business since the 1980s. The fish house serves local fishermen, and the catch is distributed to a domestic market. In addition, the Fosters own three vessels, but they are in the process of attempting to sell one. Floyd said the demand for commercial fishing vessels is so bad, they might have to give it away.

Floyd expressed his opinion that commercial fishing is a dying trade. I asked him if he would recommend commercial fishing to any youngsters, or friends looking to change careers, and Floyd said he would not recommend commercial fishing to anyone.

## CONSENT DOCUMENT

Title of Research Study: Hard Times for Small Craft: An Archaeological Survey of the Wrights Creek Abandoned Vessel Complex  
Principal Investigators: Dr. Nathan Richards and Jacqueline Marcotte  
Institution: East Carolina University  
Address: 302 E. Ninth St., Greenville, NC 27858  
Telephone #: 252-328-6097

### **PURPOSE AND PROCEDURES**

In participating in this research, you will be adding to the historical and archaeological knowledge of North Carolina in general, and the community surrounding Wright's Creek specifically. The focus of this research concerns data collection in relation to maritime trades conducted by the Wright's Creek community, particularly those connected to shipwrecking/abandonment, commercial fishing, and boatbuilding. Data collection procedures include oral and phone interviews with participants, in either their homes or their place of business. Interviews will be recorded via digital voice recorder, from which transcripts will be compiled.

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By participating in this research study, you may receive the benefit of documenting family and business history to communicate the importance of your maritime heritage to the public.

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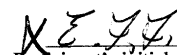
This research is concerned with the knowledge of traditional boatbuilding, commercial fishing, and shipwrecking/abandonment in the area. The information will become part of the historical and archaeological record. Participation in the collection of data for this research is strictly voluntary.

### **COSTS OF PARTICIPATION & COMPENSATION**

By participating in this research study, you will incur no costs. You will not receive any monetary compensation for your participation in this study.

Version date: 05/04/09

- 1 of 2 -

  
Participant's initials

### VOLUNTARY PARTICIPATION

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### CONSENT TO PARTICIPATE

**Title of research study:** Hard Times for Small Craft: An Archaeological Survey of the Wright's Creek Abandoned Vessel Complex.

I have read all of the above information, asked questions and have received satisfactory answers in areas I did not understand. (A copy of this signed and dated consent form will be given to the person signing this form as the participant or as the participant's authorized representative.)

Ernest F. Foster  
Participant's Name (PRINT)

Ernest F. Foster  
Signature

12:46p.  
Date

4-13-10  
Time

PERSON ADMINISTERING CONSENT: I have conducted the consent process and orally reviewed the contents of the consent document. I believe the participant understands the research.

Jacqueline Marcotte  
Person Obtaining consent (PRINT)

Jacqueline Marcotte  
Signature

4-13-10  
Date

Nathan Richards  
Principal Investigator's (PRINT)

Nathan Richards  
Signature

4-30-10  
Date

Version date: 05/04/09

- 2 of 2 -

X E F F.  
Participant's initials

Robert Wilkinson  
Interview at Wright's Creek Marina & Seafood, Belhaven, NC  
By Jacqueline Marcotte  
31 March 2009

Robert Wilkinson was keeping his brother, Mark, company at Wrights Creek Marina & Seafood when I entered the fish house located on the north-shore of Wrights Creek. Robert grew up on Wrights Creek, living in the same house he occupies now. Robert is a part-time, retired commercial fisherman. During the conversation, the two gentlemen discussed the crab fishery, and the fact that they are seeing more crab pots out in the last two years. Robert commented that the crab this year is up by approximately 1/4 in the Pamlico and Albermarle sounds.

The conversation turned to boat building, and Robert commented that his grandpa, Jasper Hopkins, and Jim Wilkins built wooden fishing vessels in their back yards, which were/are located along Wrights Creek. Robert also commented that there are a lot of Hood-Wilkinsons living along Wrights Creek.

When queried about the longevity of Wrights Creek Seafood and Marina, Robert said the current owner is Jim Kirk, the previous owner had been Avis (Hopkins), and the fish house had been in operation under the name Buddies Seafood for approximately 30 years, from around 1979 to the present. Robert and Mark both said that this fish house caters to local fishermen, and a local market. Robert also said that fishermen are very independent, and will compare prices at different fish houses before offloading their catch. The reason for catering to a small, local market, according to Robert, is due to a lack of advertising about the availability of seafood. He mentioned the fact that people bring oysters from the Gulf of Mexico into North Carolina for sale, as customers are unaware of the availability and quality of the North Carolina oyster. He also said that there are many species of North Carolina fish that are not marketed to the general public that are "good for eating," like the eel; however, most North Carolinians have never tasted eel.

I asked Mark and Robert about the reasons for the abandoned vessels in the Wright's Creek area, particularly those awash and un-salvaged at private docks. According to Robert, the vessels have a lot of problems with worms, and that the copper wears off the bottom after some time, and the worms eat through the hull. He also mentioned that no one would salvage a vessel if metal prices were low as it's not worth the work. Robert said the Hopkins brothers, Murphy and Paul, owned both the vessels in Schoolhouse Landing (*High Roller* and *Miss Amber*). The



brothers owned and operated Hopkins Seafood located at Schoolhouse Landing on the north prong of Wrights Creek. Murphy died of pneumonia, and Paul died of lung cancer, leaving the family to deal with the vessels. Robert said the vessels were abandoned due to family issues after the death of the brothers, but Murphy Hopkins, Jr. still owns/operates the fish house. In addition, Robert said that his dad owned/operated the large trawler *Big N Lil Chris* in dry-dock at Wrights Creek Seafood and Marina. The vessel was originally purchased for \$100,000.00 and his father dropped the price to \$5,000.00 in order to sell.

I commented that the property surrounding Wrights Creek appeared to have a long timeline of property ownership, and if the inhabitants typically passed their land from generation to generation. The men said that had previously been the case, but only roughly 30% of the property owners were “locals,” and that there is a new influx of property owners coming primarily from “up north.” Robert said this is a problem for fishermen and fish houses for waterfront access as the new owners drive the price of waterfront property up. Robert said Wrights Creek and Schoolhouse Landing were pumped out, and built up, and dikes were later added. Some of these dikes have resulted in an inability for some of the land to drain, creating large areas of swampland.

Robert commented that commercial fishing is a good living if you can live with what you need, not with what you want. When asked if he would recommend commercial fishing to anyone thinking of changing professions, Robert said, “absolutely not.” He mentioned he had a friend who was in the trucking business and recently purchased a vessel, and gear, and plans to switch to full time fishing for a living. Robert said, “I laughed at him and told him he was going to regret it.” I asked him if he thought there might be a chance that the industry might rebound and he said, “You’re documenting the end of it,” meaning the end of the commercial fishing trade.

Robert also talked about the dangers of fishing, and that his family had lost three generations of men to fishing. He said his uncle by marriage, a commercial fisherman, had attempted to raise \$15.00 for a niece’s cheerleading camp by fishing. While alone on his fishing boat on Thanksgiving Day, a yacht crossed too close, swamping his uncle’s boat and knocking him unconscious, drowning him in the process.

In addition to the above personal communication, Robert also mentioned that his son had completed an interview with his mother before she died, and he would try to contact his son to get a copy of the interview.

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Version date: 05/04/09

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Participant's initials

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Robert Williamson Robert Williamson 5-21-10 1:12pm  
Participant's Name (PRINT) Signature Date Time

PERSON ADMINISTERING CONSENT: I have conducted the consent process and orally reviewed the contents of the consent document. I believe the participant understands the research.

Jacqueline Marcotte JM 5-21-10  
Person Obtaining consent (PRINT) Signature Date

Nathan Richards NR 4.4.11  
Principal Investigator's (PRINT) Signature Date

Version date: 05/04/09

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X RM  
Participant's initials

Carl Wilson Foster, Sr.  
Interview at Carl's Home, Belhaven, NC.  
By Jacqueline L. Marcotte  
16 April 2009

Carl Wilson Foster invited me into his home at approximately 8:30 a.m. After setting up my digital recorder and scanning equipment, I asked Carl if he wanted to do the interview, and he assented, allowing me to digitally record the conversation as well as take notes.

Upon queries into the community's origin, Carl claimed that the Fosters have been here longer than the Wilkins family, who moved here from the Outer Banks. James Albert Wilkins was a general in the Civil War. According to Carl, their family arrived in Wright's Creek courtesy of the famous pirate Blackbeard. Apparently, two Foster brothers provided pirating services for Bath Township's legendary Blackbeard, also known as Edward Teach. The Foster brothers had a reputation for quarreling, and on a return trip to Bath, Blackbeard tired of the noisy brothers and ordered them thrown into the Pamlico River. The two brothers swam to Wade's Point near Wright's Creek, and the Foster family began their settlement of the Pamlico region (Foster Sr. 2009).

I asked Carl about his father's contribution to wooden boatbuilding in North Carolina. Carl rattled off several vessel names, including the *Betty Rebecca*, *Capt. Wilson*, *Betty Faye*, *Miss Betty J*, *Miss Allena*, *Miss Vollmer*, *Bobby Wes*, and *Little Henry*. Carl's father, Major Wilson, built the boats where piles of crab pots currently stand, only feet from the family home. These vessels were built by "wrack of the eye," his father never used any formal plans to guide the construction. A customer would simply relay the desired length of their boat, and Major would build it. For trawlers, he would use a three to one length-to-beam ratio, and build it by the wrack of the eye." Carl also said that his father would dream about the vessel before he built it, saying "he would dream about what the vessel looked like, and wake up and build her like that." Carl's father had no education, bought he could read one book and knew it by heart, the Bible. Carl said his father continued to build the vessels by hand even after electricity came to the area in the 1961. His father was frugal, and didn't want to spend even \$1.00 a month on electricity for lights, much less for boats. Aside from boatbuilding, Major participated in subsistence farming to supplement the family income, and animal husbandry, raising cattle, goats, and pigs. Carl said Major was very fond of his animals, and named his favorite bull after himself.

Carl Foster also participated in boatbuilding while growing up with his father. When asked about materials, Carl said they primarily used longleaf heart pine, and cypress. Once constructed, the vessel was fitted-out with electronics, equipment, and a motor by his father who acquired the materials locally, installing them in his finished vessels along the shoreline. In addition to vessels built for use by the Foster family, Carl pointed out that his father also built vessels for other fishers in the community, including the *Miss Voliva*, built by Major Wilson Foster for the Voliva family located in the south prong. Carl also said that the vessel on the south side of the Fulford property was built by Major Wilson Foster, although he couldn't recall the exact construction date, he believed it was sometime in the 1970s.

Upon looking over several of the vessels built by Major Foster, I asked Carl if there was a particular reason to build a fishing vessel with a hard chine as opposed to a round bottom. He indicated that bending the wood through a process of steaming made round bottom boats more difficult to build. In addition, a hard chine requires no steaming, and is easier to repair than a round bottomed wooden hull. Carl also mentioned Jim Hooten as another area boatbuilder. Jim Hooten's mother, according to Carl, was a Foster before she married. The Braddys built boats as well. At this point Carl began to speak of his family lineage again, stating Major Wilson Foster had 7 brothers and sisters, and was married in 1859. Carl retrieved a genealogy the Elaina "Dee" Foster completed on the family, and offered it to me on a temporary basis for my research.

Carl was born and raised in the home that is currently condemned after suffering a kitchen fire. The remains of this house can be seen just a few yards from Carl's current home. Carl is a retired tugboat captain having worked for Express Marine, Inc. He operated ocean tugboats between North Carolina and Baltimore on a two-week-on, two-week-off shift. During his two-weeks-off from tug boating, he would board his wooden trawler, *Miss Betty J*, and fish with his wife Betty Jean, the boat's namesake, sometimes earning more than fifteen hundred dollars per week for their catch. Carl said Betty Jean was a better fisherman than he was. Carl said the family christened several of their boats with names of their family members, including *Miss Allena*, named after his mother, and the *Betty Rebecca* named after his sister.

At this point, I queried Carl about the vessels abandoned near Foster's Seafood, and about possible methods of abandonment and their potential signatures. Carl said that the vessels in the graveyard are named (proceeding west to east) *Betty J*, *Cheryl Ann*, *Pearl Dee*, *Betty Rebecca*, *Little Henry*, and *Miss Allena*. Carl said the *Betty J* and *Cheryl Ann* were burned



accidentally. The *Cheryl Ann* was under salvage, and the *Betty J* was awash, but Carl had plans to bring her ashore and repair her. While burning a vessel onshore for salvage, the embers from the fire traveled south and caught the *Cheryl Ann* on fire, spreading to the *Betty J*. The *Pearl Dee* was pulled ashore and salvaged onshore, and Carl said he would take the remaining pile to the dump.

Carl said there are old sailboats under the *Betty J*; one of them is a centerboard schooner. They tried to pull it out of the creek sediment to provide an unobstructed harbor, but the boat wouldn't move. Carl said there's another of these vessels in Schoolhouse Landing under the *High Roller*. Carl said that Murphy Hopkins owned the *High Roller* and the *Miss Amber* before he died, and after the family couldn't keep up with them. The *Miss Amber* is an old run boat out of the Chesapeake Bay. Carl also told me that they were the owners of the *Terry Sue*, the vessel hulked adjacent to the Foster property. The vessel turned over on a dime, his son Carl Jr. having flipped her while coming into the creek one day. Carl claims the vessel's stern was reconstructed, explaining the degraded state of its bow in comparison with its stern. Carl said that the vessel abaft *Terry Sue* also had its stern rebuilt, and the vessel in front of it was named *Fiesta*, and owned by Allison Potter.

Carl and I began discussing other commercial fishers in the area. Carl said that the Hopkins family arrived sometime in 1964, buying the fish house and property from the Guthrie family who had lived and worked in this area for generations. Murphy Hopkins owned and operated Hopkins Seafood until his death in the 1990s. He then passed the business his sons Murphy, Jr., and Paul.

I then questioned Carl about the Bradley Creek vessels. He said most of them are Harker's Island, Core Sound boats and real old. He doesn't have any knowledge of who owned them or when they were abandoned except it was before his time. He said he knew about the steel barge at the head of the creek. Carl said it is usually called a "Louisiana Pusher," and was purchased by J.T. [Voliva] to use as a platform for salvage. The hull was all rotted, so J.T. put in spud sleeves, tied it off and left it.

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C.W.F. JR  
Participant's initials

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### **CONSENT TO PARTICIPATE**

**Title of research study:** Hard Times for Small Craft: An Archaeological Survey of the Wright's Creek Abandoned Vessel Complex.

I have read all of the above information, asked questions and have received satisfactory answers in areas I did not understand. (A copy of this signed and dated consent form will be given to the person signing this form as the participant or as the participant's authorized representative.)

CARL WILSON FOSTER *Carl W. Foster* 9-24-09 10:28 AM  
Participant's Name (PRINT) Signature Date Time

PERSON ADMINISTERING CONSENT: I have conducted the consent process and orally reviewed the contents of the consent document. I believe the participant understands the research.

*Jacqueline Marcotte* *J. Marcotte* 9-24-09  
Person Obtaining consent (PRINT) Signature Date

*Nathan Richards* *N. Richards* 4.30.10  
Principal Investigator's (PRINT) Signature Date

Version date: 05/04/09

- 2 of 2 -

*C. W. F. SR* ✓  
Participant's initials

Jonathan (Johnny) Daniels  
Interview at Schoolhouse Landing, Belhaven, NC.  
By Jacqueline L. Marcotte  
13 April 2010

The interview with Johnny Daniels occurred with his permission at the Schoolhouse Landing docks, Wright's Creek, Belhaven in April 2010 during a survey of the Hopkins Seafood Complex. No tape recorder was utilized given the outdoor nature of our discussion, and the fact that the interview was unplanned, Johnny arriving spontaneously and offering information concerning his family and others living in the Wright's Creek community.

Johnny commented that his family has been living and working in the Wright's Creek area as long as he could remember. Johnny and his uncle Henry, who also lives along the creek, make and repair fishing nets. He said he spent his lifetime in this area, grew up commercial fishing, and he is retired now at age 67. Johnny also said his son, Jimmy Daniels, rents Wright's Creek Marina and Seafood from the Kirks, renamed Endless Days. Before the Kirks, the fish house was owned by Avis Hopkins. He also said his son constructed over 1500 crab pots for use this year. He said his brother owned *Miss Amber*, and that it was an old oyster boat. He also said that the *High Roller* belonged to his uncle, until his death. Johnny said that the run-boat (Vessel 3) was named after his mother *Miss Dorothy*. Vessel 4, the net-haul boat, was named *Bumper*, and they had another one named *Loretta*.

I asked Johnny what he thought fishers would do as their vessels continued to rot away, especially with the state of the fishing economy and the lack of boatbuilders. He said what they do as boats fail is to fiberglass them over. He said they have a 50 year old boat named *Miss Betty*, purchased for \$30,000 in Virginia. The 73 ft. vessel will undergo \$100,000 in repairs including the fiberglass coating, and last another 30 to 40 years. He said they were made out of Juniper and Cypress that will last a long time. Johnny said there are still a few people building boats on Harker's Island.



## CONSENT DOCUMENT

Title of Research Study: Hard Times for Small Craft: An Archaeological Survey of the Wrights Creek Abandoned Vessel Complex  
Principal Investigators: Dr. Nathan Richards and Jacqueline Marcotte  
Institution: East Carolina University  
Address: 302 E. Ninth St., Greenville, NC 27858  
Telephone #: 252-328-6097

### **PURPOSE AND PROCEDURES**

In participating in this research, you will be adding to the historical and archaeological knowledge of North Carolina in general, and the community surrounding Wright's Creek specifically. The focus of this research concerns data collection in relation to maritime trades conducted by the Wright's Creek community, particularly those connected to shipwrecking/abandonment, commercial fishing, and boatbuilding. Data collection procedures include oral and phone interviews with participants, in either their homes or their place of business. Interviews will be recorded via digital voice recorder, from which transcripts will be compiled.

### **POTENTIAL RISKS AND DISCOMFORTS**

This research involves no more than minimal risk to participants, meaning the probability and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests.

### **POTENTIAL BENEFITS**

By participating in this research study, you may receive the benefit of documenting family and business history to communicate the importance of your maritime heritage to the public.

### **SUBJECT PRIVACY AND CONFIDENTIALITY OF RECORDS**


This research is concerned with the knowledge of traditional boatbuilding, commercial fishing, and shipwrecking/abandonment in the area. The information will become part of the historical and archaeological record. Participation in the collection of data for this research is strictly voluntary.

### **COSTS OF PARTICIPATION & COMPENSATION**

By participating in this research study, you will incur no costs. You will not receive any monetary compensation for your participation in this study.

Version date: 05/04/09

- 1 of 2 -

  
Participant's initials



## VOLUNTARY PARTICIPATION

Participating in this study is voluntary. If you decide not to be in this study after it has already started, you may stop at any time without losing benefits that you should normally receive. You may stop at any time you choose without penalty.

## PERSONS TO CONTACT WITH QUESTIONS

The investigators will be available to answer any questions concerning this research, now or in the future. You may contact the investigator Jacqueline Marcotte at 360-513-6969 at any time, or 252-328-6097 Monday through Friday, 8:00 am to 5:00 pm. If you have questions about your rights as a research subject, you may call the Chair of the University and Medical Center Institutional Review Board at phone number 252-744-2914 (days). If you would like to report objections to this research study, you may call the ECU Director of Research Compliance at phone number 252-328-9473 (for research studies conducted through ECU).

## CONFLICTS OF INTEREST

This study is funded by North Carolina Sea Grant, which is supporting the costs of this research. Neither the research site, nor Dr. Nathan Richards or Jacqueline Marcotte will receive any financial benefit based on the results of this study.

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John David Daniels 3/11/11 3:30  
Participant's Name (PRINT) Signature Date Time

PERSON ADMINISTERING CONSENT: I have conducted the consent process and orally reviewed the contents of the consent document. I believe the participant understands the research.

Jacqueline Marcotte 3/15/11  
Person Obtaining consent (PRINT) Signature Date

Nathan Richards 4.4.11  
Principal Investigator's (PRINT) Signature Date

Version date: 05/04/09

- 2 of 2 -

JD  
Participant's initials

Willy Phillips  
Telephone Interview from Full Circle Crab Company, Inc.  
Columbia, North Carolina  
By Jacqueline Marcotte  
2 March 2010

The telephone interview was spurred by information received from Larry Babits concerning the remains of a skiff located outside Willy Phillips business, Full Circle Crab Company, Inc. In his communication, Larry suggested the vessel was constructed by Wright's Creek resident Major Wilson Foster. Willy confirmed this fact, and expanded on the history of Pamlico Beach, and its Wright's Creek residents.

Willy purchased vessels from Wright's Creek residents and boatbuilders Major Wilson Foster and Jim Hooten. Foster, or "Wilson," was quick and built air-cooled deadrise fishing boats. He used hammer, saw, and patch only, no electrical tools. They were cheap, only costing about \$150-500. Jim Hooten was real slow but a very good builder and he had a good eye. He said the Pamlico Beach builders got their construction techniques from Marshallberg boatwrights, responsible for building the Belhaven Fish & Oyster fleet. At that time, they were able to build them cheaply as 24 in. heart pine was available. Willy said of the deadrise boat that it is, "not an easy boat to build, chunk is easier." The Pamlico Beach builders modified their construction, and the boats have their own shape for the waters. He said there was no clutch, you had to turn it off and glide into the dock. These vessels didn't last very long, but you knew they wouldn't. The short life allowed you to change the design and make improvements regularly. Willy also said "the life of these vessels is finite, and they are rotting away. If they don't get studied and recorded now, all we will have left is pictures."

Willy grew up on Masonboro Sound in North Carolina and has worked as a fisherman for more than thirty years. He said he lived for hurricanes, so he and his brother could collect the small vessels that washed ashore, fix them up, and use them again on the creek. Back then, everybody did a little of everything, and you would trade with other folks. People built a lot of boats then. That was the only way you could really get around. You really needed boats then, and people in North Carolina copied designs from the Chesapeake. After World War II and the invention of the diesel engine, people started building fishing boats to go after shrimp. He said, "We called them 'drifters' because they drifted up and down the coast into Florida chasing shrimp, then they'd come up and trawl the sound."

Willy also commented on the history of the Pamlico Beach area, particularly the origin of the Pamlico Beach population. He mentioned the incident of rowdiness on Blackbeard's pirate ship as it returned to Bath, echoing an earlier story told by Carl Foster, Sr. Apparently, the groups of pirate's rowdy behavior caused Blackbeard to toss them overboard while traveling up the Pamlico River. The northern shore of Pamlico Beach offered the nearest spit of land, the pirates reaching the area and settling down. He said the resulting offspring was a mix of dark Irish and Indian ancestry. He also said Pamlico Beach was a rough area, and that fishing produced a mean, tough culture that can't be romanticized, "it was just down and gritty."

## CONSENT DOCUMENT

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Principal Investigators: Dr. Nathan Richards and Jacqueline Marcotte

Institution: East Carolina University

Address: 302 E. Ninth St., Greenville, NC 27858

Telephone #: 252-328-6097

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### **COSTS OF PARTICIPATION & COMPENSATION**

By participating in this research study, you will incur no costs. You will not receive any monetary compensation for your participation in this study.

Version date: 05/04/09

- 1 of 2 -



Participant's initials



## **VOLUNTARY PARTICIPATION**

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WILLY PHILLIPS [Signature] 3/7/11 9:20  
Participant's Name (PRINT) Signature Date Time

PERSON ADMINISTERING CONSENT: I have conducted the consent process and orally reviewed the contents of the consent document. I believe the participant understands the research.

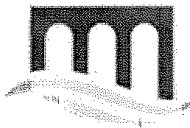
Jacqueline Marcotte [Signature] 3/15/11  
Person Obtaining consent (PRINT) Signature Date

Nathan Richards [Signature] 4.4.11  
Principal Investigator's (PRINT) Signature Date

Version date: 05/04/09

- 2 of 2 -

[Signature]  
Participant's initials



## EAST CAROLINA UNIVERSITY

University & Medical Center Institutional Review Board Office  
1L-09 Brody Medical Sciences Building • 600 Moye Boulevard • Greenville, NC 27834  
Office 252-744-2914 • Fax 252-744-2284 • [www.ecu.edu/irb](http://www.ecu.edu/irb)

TO: Nathan Richard, PhD, Maritime Studies, ECU—Mailstop 149

FROM: UMCIRB *wn*

DATE: May 4, 2010

RE: Expedited Continuing Review of a Research Study

TITLE: "Hard Times for Small Craft: An Archaeological Survey of the Wrights Creek Abandoned Vessel Complex"

### UMCIRB #09-0427

The above referenced research study was initially reviewed and approved by expedited review on 5.4.09. This research study has undergone a subsequent continuing review using expedited review on 5.3.10. This research study is eligible for expedited review because it is on collection of data from voice, video, digital, or image recordings made for research purposes. It is also a research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies. (NOTE: Some research in this category may be exempt from the HHS regulations for the protection of human subjects. 45 CFR 46.101(b)(2) and (b)(3). This listing refers only to research that is not exempt.)

The Chairperson (or designee) deemed this NC Sea Grant sponsored study **no more than minimal risk** requiring a continuing review in **12 months**. Changes to this approved research may not be initiated without UMCIRB review except when necessary to eliminate an apparent immediate hazard to the participant. All unanticipated problems involving risks to participants and others must be promptly reported to the UMCIRB. The investigator must submit a continuing review/closure application to the UMCIRB prior to the date of study expiration. The investigator must adhere to all reporting requirements for this study.

The above referenced research study has been given approval for the period of **5.3.10 to 5.2.11**. The approval includes the following items:

- Continuing Review Form (date 4.29.10)
- Protocol Summary
- Informed Consent (date 5.4.09)
- Interview Questions

The Chairperson (or designee) does not have a conflict of interest on this study.

**The UMCIRB applies 45 CFR 46, Subparts A-D, to all research reviewed by the UMCIRB regardless of the funding source. 21 CFR 50 and 21 CFR 56 are applied to all research studies under the Food and Drug Administration regulation. The UMCIRB follows applicable International Conference on Harmonisation Good Clinical Practice guidelines.**

IRB00000705 East Carolina U IRB #1 (Biomedical) IORG00000418  
IRB00003781 East Carolina U IRB #2 (Behavioral/SS) IORG00000418  
IRB00004973 East Carolina U IRB #4 (Behavioral/SS Summer) IORG00000418  
Version 3-5-07

UMCIRB #09-0427  
Page 1 of 1



**Behavioral/Social Sciences IRB  
ECU**

**East Carolina University**

Mailstop 682, 1L-09 Brody Medical Sciences Bldg. • 600 Moye Blvd. • Greenville, NC 27834 • 252-744-2914 • Fax: 252-744-2284

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**CONTINUING REVIEW SUBMISSION FORM**

Date: March 26, 2010

Investigator: **Nathan Richards, PhD**

Protocol: Hard Times for Small Craft: An Archaeological Survey of the Wrights Creek Abandoned Vessel Complex

ID: 90427

Protocol#: 09-0427

Initial BSS Approval Date: 05/04/2009

Previous Continuing Reviews: N/A

Approval Expiration: 05/03/2010

The UMCIRB continuing review of human subject research is a requirement under the federal regulations according to OHRP at 45 CFR 46.109. Research studies must undergo review regardless of what activity occurred during that approval period. For instance, investigators must still submit a continuing review application for their study even if no participants were enrolled, or their study never started for any reason. Investigators must also submit a continuing review form to close the study if all research-related activity has been completed. If you have received this notice then the UMCIRB office has determined that your research study meets the federal requirements for continuing review and you must submit a continuing review application.

<http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.htm#46.109>

The UMCIRB processes provide for sending three email notices of continuing review approximately 75 days prior to expiration, 50 days prior to expiration, and 30 days prior to expiration. The UMCIRB processes also provide that expired research studies will be reported to relevant institutional offices and administration. Any research study that has not been renewed will automatically expire. Research participants may not be enrolled into a study outside the period of UMCIRB approval dates. The UMCIRB is not permitted to grant approval to cover any period of lapse or to provide any type of retrospective approval. If you have a special circumstance, please contact the UMCIRB office immediately.

A research study's expiration date can be found on the approval letter and on the continuing review notices. Additionally, you may call the office at any time to request your study's expiration date.

The continuing review/closure form is located on the UMCIRB web site at [www.ecu.edu/irb](http://www.ecu.edu/irb) under "forms and documents". You must then follow the link to either the Behavioral/Social Sciences or Biomedical forms. The continuing review/closure forms are located beneath the application form for new studies. Please read the instructions for completing these forms for detailed information, or contact the UMCIRB office at 744-2914.

If your research study must undergo full committee review, please ensure that it is submitted in time to meet the full committee deadlines prior to expiration. The UMCIRB meeting deadlines may be found on our website at [www.ecu.edu/irb](http://www.ecu.edu/irb) under "meeting information". If your research study is eligible for expedited review, please ensure that the continuing review form is submitted at least 10 business days prior to expiration. The UMCIRB will reset the approval date and period when review and approval are conducted prior to the expiration date.

Please contact the UMCIRB office at 744-2914 or via our e-mail address at [umcirkb@ecu.edu](mailto:umcirkb@ecu.edu) for assistance.

## **SAMPLE QUESTIONS**

Questions for oral history participants residing near the shores of Wrights Creek.

### **Fish Houses and Commercial Fishermen**

1. Name and owner of company?
2. How many years has the business been in operation?
3. How many employees working currently?
4. Does the company employ fishermen? If so, how many?
5. Does the company own boats? If so, how many?
6. Does the company supply docking facilities?
7. What services does the company supply to fishermen?
8. How much of the company's business is derived from the distribution of domestic seafood harvested by local fishermen?
9. Is this seafood distributed locally, regionally, nationally, internationally?
10. Has the company's sales increased, decreased, or stayed the same over the last decade?
11. Was this fish house in operation under previous owners before you purchased it? If so, do you know if they were a resident of Wrights Creek?
12. Of the many challenges facing the success of the commercial fishing industry, what do you see as your top 3?
13. If a young person expressed a desire to become a commercial fisherman, how likely would you be to support him/her?
14. Are you familiar with any of the abandoned vessels located in or around Wrights Creek? If so, can you describe how it/they came to be in their current position?

15. Of the many factors that may lead one to abandon a boat, what would you see currently as the most influential?

16. Can you describe at least one method a person might use to break or discard a boat?

Residents with family histories of vernacular boatbuilding

1. Did anyone in your family practice backyard boatbuilding?

2. What type of vessels did he/she build?

3. Do you have a list of vessels built?

4. What method did they use to build the vessels?

5. Where were the vessels fitted out?

6. What reasons might someone have to “break” a boat?

7. What are some of the methods one might use to “break” a boat?

8. What reasons might someone have to abandon a boat?

9. What are some of the methods one might use to abandon a boat?

10. Are you familiar with any of the abandoned vessels located in or around Wrights Creek?

If so, can you describe how it/they came to be in their current position?

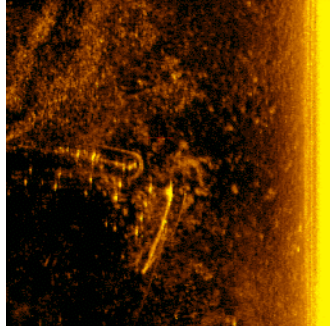
## APPENDIX B

Side scan Sonar Report 2008

# SIDE SCAN SONAR REPORT – WRIGHT’S CREEK

## 7 AUGUST 2008

### Target Image



### Target Info

#### Contact0007

- Sonar Time at Target: 08/07/2008 19:18:28
- Click Position (Lat): 35.4090955
- Click Position (Lon): -76.5933332
- Map Projection: WGS 1984 UTM, Zone 18 North, Meter
- Click Position (X): 355,326.87
- Click Position (Y): 3,919,577.46
- Acoustic Source File: C:\Users\admin\Desktop\Pungo20080807\XTF\LINE-1-024.XTF
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- Fish Height: 1.46 Meters
- Event Number: 0
- Line Name: LINE-1-024
- Area / Block:

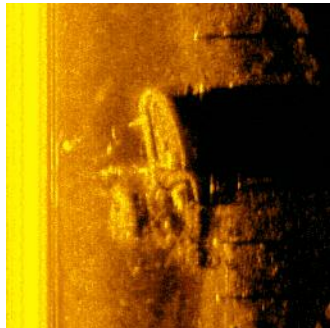
### User Entered Info

#### Dimensions

Target Description:  
Target Height = 0.00 Meters  
Target Length: 10.60 Meters  
Target Shadow: 0.00 Meters  
Target Width: 3.97 Meters

#### Magnetic Anomaly Assoc

#### Avoidance Criteria



#### Contact0014

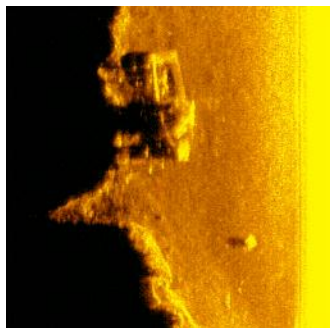
- Sonar Time at Target: 08/07/2008 17:50:22
- Click Position (Lat): 35.4114973
- Click Position (Lon): -76.6016090
- Map Projection: WGS 1984 UTM, Zone 18 North, Meter
- Click Position (X): 354,579.67
- Click Position (Y): 3,919,856.02
- Acoustic Source File: C:\Users\admin\Desktop\Pungo20080807\XTF\LINE-1-012.XTF
- Ping Number: 4621
- Range to Target: 10.58 Meters
- Fish Height: 1.46 Meters
- Event Number: 0
- Line Name: LINE-1-012
- Area / Block:

#### Dimensions

Target Description:  
Target Height = 0.57 Meters  
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Target Shadow: 7.62 Meters  
Target Width: 3.34 Meters

#### Magnetic Anomaly Assoc

#### Avoidance Criteria



#### Contact0017

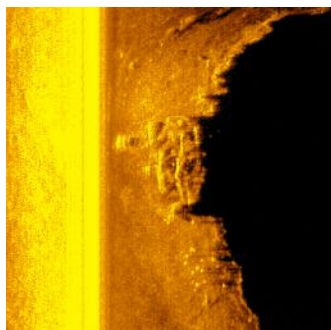
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- Map Projection: WGS 1984 UTM, Zone 18 North, Meter
- Click Position (X): 354,432.01
- Click Position (Y): 3,919,714.85
- Acoustic Source File: C:\Users\admin\Desktop\Pungo20080807\XTF\LINE-1-018.XTF
- Ping Number: 2244
- Range to Target: 11.65 Meters
- Fish Height: 1.46 Meters
- Event Number: 0
- Line Name: LINE-1-018
- Area / Block:

#### Dimensions

Target Description:  
Target Height >= 0.58 Meters  
Target Length: 6.13 Meters  
Target Shadow: 3.52 Meters  
Target Width: 2.50 Meters

#### Magnetic Anomaly Assoc

#### Avoidance Criteria



#### Contact0018

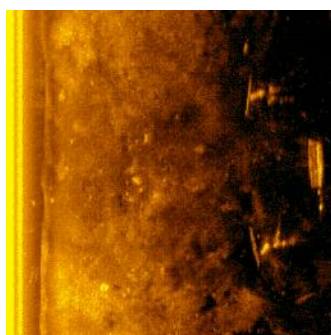
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- Click Position (Y): 3,919,767.98
- Acoustic Source File: C:\Users\admin\Desktop\Pungo20080807\XTF\LINE-1-011.XTF
- Ping Number: 27138
- Range to Target: 5.97 Meters
- Fish Height: 1.46 Meters
- Event Number: 0
- Line Name: LINE-1-011
- Area / Block:

#### Dimensions

Target Description:  
Target Height  $\geq$  0.42 Meters  
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Target Width: 3.42 Meters

#### Magnetic Anomaly Assoc

#### Avoidance Criteria



#### Contact0021

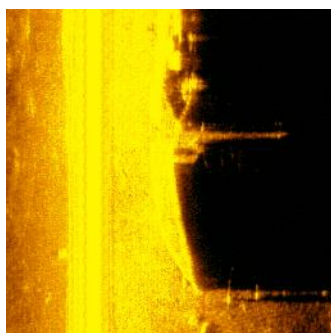
- Sonar Time at Target: 08/07/2008 17:42:54
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- Click Position (Lon): -76.6008262
- Map Projection: WGS 1984 UTM, Zone 18 North, Meter
- Click Position (X): 354,651.88
- Click Position (Y): 3,919,924.07
- Acoustic Source File: C:\Users\admin\Desktop\Pungo20080807\XTF\LINE-1-011.XTF
- Ping Number: 19616
- Range to Target: 23.59 Meters
- Fish Height: 1.46 Meters
- Event Number: 0
- Line Name: LINE-1-011
- Area / Block:

#### Dimensions

Target Description:  
Target Height = 0.00 Meters  
Target Length: 5.87 Meters  
Target Shadow: 0.00 Meters  
Target Width: 1.33 Meters

#### Magnetic Anomaly Assoc

#### Avoidance Criteria



#### Contact0027

- Sonar Time at Target: 08/07/2008 17:50:49
- Click Position (Lat): 35.4116288
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- Map Projection: WGS 1984 UTM, Zone 18 North, Meter
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- Click Position (Y): 3,919,870.12
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- Range to Target: 5.83 Meters
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- Event Number: 0
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- Area / Block:

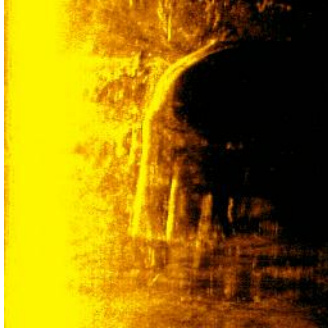
#### Dimensions

Target Description:  
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Target Width: 2.30 Meters

#### Magnetic Anomaly Assoc

#### Avoidance Criteria





#### Contact0029

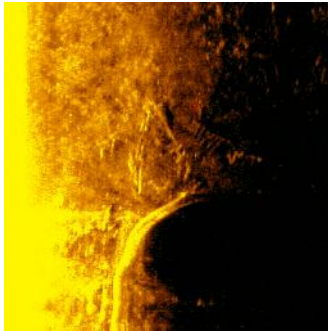
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- Click Position (Lon): -76.5982032
- Map Projection: WGS 1984 UTM, Zone 18 North, Meter
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- Acoustic Source File: LINE-1-015.XTF
- Ping Number: 1354
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- Fish Height: 1.46 Meters
- Event Number: 0
- Line Name: LINE-1-015
- Area / Block:

#### Dimensions

Target Description:  
Target Height = 0.54 Meters  
Target Length: 17.57 Meters  
Target Shadow: 4.83 Meters  
Target Width: 6.79 Meters

#### Magnetic Anomaly Assoc

#### Avoidance Criteria



#### Contact0030

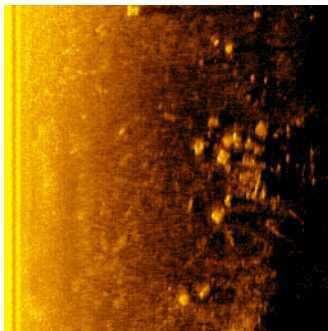
- Sonar Time at Target: 08/07/2008 18:24:21
- Click Position (Lat): 35.4103617
- Click Position (Lon): -76.5980417
- Map Projection: WGS 1984 UTM, Zone 18 North, Meter
- Click Position (X): 354,901.57
- Click Position (Y): 3,919,724.80
- Acoustic Source File: LINE-1-015.XTF
- Ping Number: 1647
- Range to Target: 13.30 Meters
- Fish Height: 1.46 Meters
- Event Number: 0
- Line Name: LINE-1-015
- Area / Block:

#### Dimensions

Target Description:  
Target Height = 0.00 Meters  
Target Length: 8.93 Meters  
Target Shadow: 0.00 Meters  
Target Width: 9.52 Meters

#### Magnetic Anomaly Assoc

#### Avoidance Criteria



#### Contact0031

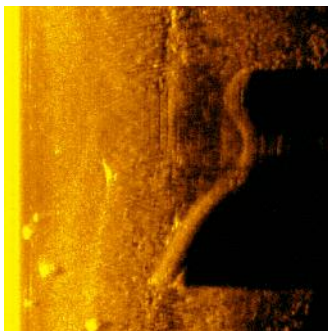
- Sonar Time at Target: 08/07/2008 17:41:09
- Click Position (Lat): 35.4117693
- Click Position (Lon): -76.5993995
- Map Projection: WGS 1984 UTM, Zone 18 North, Meter
- Click Position (X): 354,780.79
- Click Position (Y): 3,919,882.93
- Acoustic Source File: C:\Users\admin\Desktop\Pungo20080807\XTF\LINE-1-011.XTF
- Ping Number: 16468
- Range to Target: 18.64 Meters
- Fish Height: 1.46 Meters
- Event Number: 0
- Line Name: LINE-1-011
- Area / Block:

#### Dimensions

Target Description:  
Target Height = 0.00 Meters  
Target Length: 0.00 Meters  
Target Shadow: 0.00 Meters  
Target Width: 0.00 Meters

#### Magnetic Anomaly Assoc

#### Avoidance Criteria



#### Contact0032

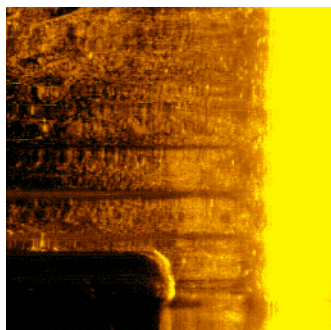
- Sonar Time at Target: 08/07/2008 17:57:27
- Click Position (Lat): 35.4124537
- Click Position (Lon): -76.5961543
- Map Projection: WGS 1984 UTM, Zone 18 North, Meter
- Click Position (X): 355,076.69
- Click Position (Y): 3,919,954.07
- Acoustic Source File: C:\Users\admin\Desktop\Pungo20080807\XTF\LINE-1-012.XTF
- Ping Number: 17377
- Range to Target: 18.45 Meters
- Fish Height: 1.46 Meters
- Event Number: 0
- Line Name: LINE-1-012
- Area / Block:

#### Dimensions

Target Description:  
Target Height = 0.07 Meters  
Target Length: 6.74 Meters  
Target Shadow: 0.82 Meters  
Target Width: 1.91 Meters

#### Magnetic Anomaly Assoc

#### Avoidance Criteria



#### **Contact0033**

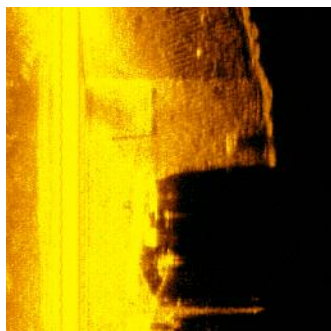
- Sonar Time at Target: 08/07/2008 18:33:25
- Click Position (Lat): 35.4105880
- Click Position (Lon): -76.6020418
- Map Projection: WGS 1984 UTM, Zone 18 North, Meter
- Click Position (X): 354,538.74
- Click Position (Y): 3,919,755.79
- Acoustic Source File: LINE-1-017.XTF
- Ping Number: 134
- Range to Target: 9.52 Meters
- Fish Height: 1.46 Meters
- Event Number: 0
- Line Name: LINE-1-017
- Area / Block:

#### **Dimensions**

Target Description:  
 Target Height = 5.89 Meters  
 Target Length: 8.31 Meters  
 Target Shadow: 9.52 Meters  
 Target Width: 2.48 Meters

#### **Magnetic Anomaly Assoc**

#### **Avoidance Criteria**



#### **Contact0034**

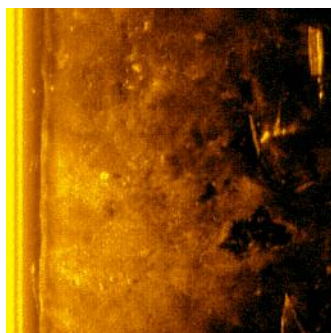
- Sonar Time at Target: 08/07/2008 17:51:00
- Click Position (Lat): 35.4117103
- Click Position (Lon): -76.6010435
- Map Projection: WGS 1984 UTM, Zone 18 North, Meter
- Click Position (X): 354,631.41
- Click Position (Y): 3,919,878.80
- Acoustic Source File: C:\Users\admin\Desktop\Pungo20080807\XTF\LINE-1-012.XTF
- Ping Number: 5763
- Range to Target: 7.62 Meters
- Fish Height: 1.46 Meters
- Event Number: 0
- Line Name: LINE-1-012
- Area / Block:

#### **Dimensions**

Target Description:  
 Target Height = 0.69 Meters  
 Target Length: 9.53 Meters  
 Target Shadow: 6.70 Meters  
 Target Width: 2.89 Meters

#### **Magnetic Anomaly Assoc**

#### **Avoidance Criteria**



#### **Contact0035**

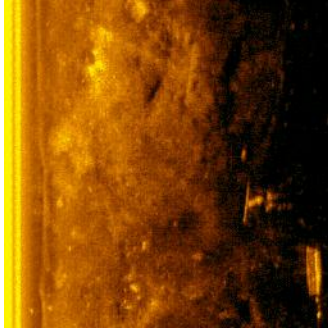
- Sonar Time at Target: 08/07/2008 17:42:45
- Click Position (Lat): 35.4121226
- Click Position (Lon): -76.6006982
- Map Projection: WGS 1984 UTM, Zone 18 North, Meter
- Click Position (X): 354,663.51
- Click Position (Y): 3,919,924.02
- Acoustic Source File: C:\Users\admin\Desktop\Pungo20080807\XTF\LINE-1-011.XTF
- Ping Number: 19352
- Range to Target: 17.72 Meters
- Fish Height: 1.46 Meters
- Event Number: 0
- Line Name: LINE-1-011
- Area / Block:

#### **Dimensions**

Target Description:  
 Target Height = 0.00 Meters  
 Target Length: 5.37 Meters  
 Target Shadow: 0.00 Meters  
 Target Width: 4.43 Meters

#### **Magnetic Anomaly Assoc**

#### **Avoidance Criteria**

**Contact0036**

- Sonar Time at Target: 08/07/2008 17:43:02
- Click Position (Lat): 35.4121055
- Click Position (Lon): -76.6009353
- Map Projection: WGS 1984 UTM, Zone 18 North, Meter
- Click Position (X): 354,641.94
- Click Position (Y): 3,919,922.48
- Acoustic Source File:  
C:\Users\admin\Desktop\Pungo20080807\XTF\LINE-1-011.XTF
- Ping Number: 19865
- Range to Target: 17.53 Meters
- Fish Height: 1.46 Meters
- Event Number: 0
- Line Name: LINE-1-011
- Area / Block:

**Dimensions**

Target Description:  
Target Height = 0.00 Meters  
Target Length: 4.93 Meters  
Target Shadow: 0.00 Meters  
Target Width: 3.55 Meters

**Magnetic Anomaly Assoc****Avoidance Criteria**

## APPENDIX C

Michael Alford E-Mail 2008, Larry Babits E-Mail 2011

**From:** alfordmb@aol.com [alfordmb@aol.com]  
**Sent:** Wednesday, October 29, 2008 12:11 AM  
**To:** Marcotte, Jacqueline  
**Subject:** Re: Wooden fishing trawlers

Hello Ms. Marcotte,

Thanks you for your inquiry. I can tell you off hand that finding an authentic working drawing of a modern (1930s- to date) trawler (or any vernacular boat) is a near hopeless pursuit. These boats are not built from drafted plans. I am of course excluding steel vessels here but they are not generally built by too different a method. The general practice in wooden construction is for the builder to draw on a scrap of plywood or cardboard a general "profile" and "plan view" of the vessel's hull. This consists of the chine, sheer, and keel "rabbet" in plan and profile. It is usually done to a scale where 1/8" on the rule equals 1" on the full size vessel. So the same measuring rule is used for the drawing and the actual boat. Of course, the drawing reflects the learned proportions the builder has adopted through experience and from his/her mentor. The builder lays off the frame intervals and then scales his half beams and heights above baseline for each frame. This method works only when the form and proportions for proper vessel hull shape are fully conceptualized in the builder's mind -- his mind's eye. It is usually referred to as the sense of "wreck of eye". If the vessel is round bilged rather than hard chine, then the builder may use either a diagonal or the load waterline instead of the chine. Round bilge is more complicated to fair up than is hard chine and is usually done with ribbands on the actual vessel after the a few frames are set up. A naval architect would do this on the drawing table.

Regional variation in trawlers (say Gulf Coast around and up to Maryland) is minimal. They work in offshore and near shore environments that don't vary so much in that geographical spread. Therefore, the boats are not that different in design. there will be regional variation in the construction details and materials from which they are built.

I don't know if this answers your question sufficiently and I don't want to burden you with more information than you need so please feel free to query me further if you want. My comments assume you are referring to the larger trawlers 50-75 feet in length. The last examples of the vernacular wooden trawlers were built probably in the last 10 years. There is a great need to measure and draft lines and details of examples of various age back to the

1930s at least. Older boats were round bilge. Most trawlers built since 1970 are hard chine models. The changes over time have been subtle and no attempt has been made to correlate changes in vessel morphology to external or internal causation. Technology? Resource regulation? Consumer taste? Fashion? The question of smaller inshore trawling vessels is more complex. They will vary from region to region, even community to community, but the basic premise applies. Same approach to builder's conception and method of realizing the conception in the actual vessel.

Please feel free to stay in touch as your project progresses.

Mike  
Michael Alford

-----Original Message-----

From: Marcotte, Jacqueline <JLM1123@ecu.edu>

To: alfordmb@aol.com

Sent: Mon, 27 Oct 2008 10:22 am

Subject: Wooden fishing trawlers

Mr. Alford,

My name is Jacqueline Marcotte and I am a graduate student in the Maritime Studies Program at ECU. I'm currently working on a thesis involving the study of a boat graveyard on a tributary of the Pungo River named Wrights Creek. The creek is situated in Belhaven near Wade's Point, and the local community is comprised mainly of small, commercial fisherman and three fish houses. Dr. Babits suggested I contact you to inquire if you know of any construction plans or scale drawings of wooden trawlers from the early to mid 21st century, between 80-100 feet in length. I have access to vernacular built vessels of this type, however, all of them are still working and creating scaled drawings may be difficult.

Thank you for your time,

Jacqueline Marcotte  
Graduate Candidate  
Program in Maritime Studies  
East Carolina University



RE: Miss Lorene (0028PUR)  
Babits, Lawrence [BABITSL@ecu.edu]  
Sent: Tuesday, March 08, 2011 12:51 PM

I can't remember about Lorena/e. The pump ran out of gas whilst it was being taken up to the graveyard. Some yankee who moved a doublewide onto the point of land that is due north of that part of Bradley Creek called DNR and they came out and arrested the owner. There were actually two boats and one of them, the one that was blown up was brought in there by Voliva. The DNR guy was sort of exasperated about this and said if there wasn't any evidence, there couldn't be any guilty verdict. Voliva blew up the one he was responsible for (it came from the southern end of his canal where he'd been stripping it I think he got it from Curtis Wilkins and need to put it back into operation or adapt it but it was too far gone. Voliva was acquitted but when he was in the parking lot outside, he mooned the guy who complained and the DNR guy. They busted him for that.

Old Captain Tate built the Miss Lorene right there on his property with wood from his property. It was funded with his mustering out pay from his World War II service. The hulk was pulled up on dry land but not burned because it had oil and grease in the bottom and they didn't want it to get into the creek Another reason was that Captain Tate was dying and they didn't want to destroy it until after he died We went down and recorded it one day in the rain. I remember Deirdre O'Reagan and Wayne Lusardi were on that crew and there should be pictures of us doing it somewhere in our files. Despite that, Judge Paul fined him. I spent some time in chambers with the judge trying to explain that the whole end of the creek was eligible for the National Register for research potential and that Cultural Resources had that in our 1995b report. He said, it was obvious DCR was not talking with DNR I was told by two different people that one of the DNR guys who carried a gun was lucky he was still alive. He was definitely not a popular man in that neck of the woods. I think he was transferred later.

Not far from the Miss Lorene/a where it was pulled up were at least two other boats on the hill that were decaying and mostly just rotted wood. No one said anything about them.

As an epilogue, the yankee had access to his doublewide by the good graces of the Captain Tate. After this, the Tate's wouldn't let him use the path so he had to move. He was made to feel right uncomfortable. You can come in and look through my images as they are around Eller somewhere.

## APPENDIX D

### North Carolina Commercial Fishing Statistics 1880-2008

**TABLE 9**  
**NORTH CAROLINA COMMERCIAL FISHING STATISTICS 1880-2008.**

Year	Pounds Harvested	Value	Trips by Major Gears	Active Fishermen	No. CF Lic Issued	No. fish Dealer Licenses
1880	32,902,000	\$846,000				
1887	44,809,000	\$773,000				
1888	42,720,000	\$776,000				
1889	44,063,000	\$950,000				
1890	50,604,000	\$1,028,000				
1897	62,963,000	\$1,316,000				
1902	66,071,000	\$1,740,000				
1908	99,891,000	\$1,767,000				
1918	210,080,000	\$2,979,000				
1923	94,364,000	\$2,414,000				
1927	143,396,000	\$2,760,000				
1928	141,122,000	\$2,624,000				
1929	216,314,000	\$2,536,000				
1930	168,989,000	\$1,856,000				
1931	98,161,000	\$1,088,000				
1932	86,214,000	\$827,000				
1934	163,462,000	\$1,672,000				
1936	219,879,000	\$2,735,000				
1937	112,755,000	\$1,658,000				
1938	198,764,000	\$1,950,000				
1939	224,457,000	\$1,890,000				
1940	170,581,000	\$1,865,000				
1945	198,169,000	\$5,495,000				
1950	172,338,600	\$6,800,155				
1951	157,864,800	\$6,329,071				
1952	240,191,800	\$7,216,001				
1953	192,647,600	\$8,265,392				
1954	213,265,600	\$6,936,434				
1955	233,096,200	\$7,284,336				
1956	300,717,900	\$8,114,891				
1957	237,157,500	\$8,123,426				
1958	290,250,900	\$7,695,608				
1959	342,612,100	\$8,242,485				
1960	265,248,200	\$7,019,879				
1961	286,750,800	\$6,668,518				
1962	182,384,200	\$6,755,327				
1963	145,152,770	\$7,046,900				
1964	238,579,200	\$8,023,052				

Year	Pounds Harvested	Value	Trips by Major Gears	Active Fishermen	No. CF Lic Issued	No. fish Dealer Licenses
1965	130,903,490	\$9,241,354				
1966	105,177,310	\$9,570,941				
1967	120,742,970	\$8,327,807				
1968	232,178,900	\$9,704,541				
1969	126,925,980	\$12,525,421				
1970	173,641,535	\$9,365,845				
1971	143,474,800	\$11,227,262				
1972	167,901,560	\$11,798,839				
1973	130,452,662	\$15,954,632				
1974	196,049,202	\$17,324,437				
1975	231,703,491	\$19,452,677				
1976	220,477,235	\$27,409,284				
1977	244,750,585	\$28,374,435				
1978	299,541,347	\$40,608,865				
1979	390,472,084	\$58,454,065				
1980	356,192,806	\$68,783,510				
1981	432,005,883	\$57,520,010				
1982	307,967,923	\$63,823,852				
1983	287,732,830	\$57,424,985				
1984	277,168,991	\$57,263,068				
1985	214,874,088	\$64,592,866				
1986	168,881,625	\$63,230,849				
1987	157,323,919	\$65,707,286				
1988	192,693,176	\$77,756,754				
1989	165,197,479	\$73,957,607				
1990	174,992,869	\$70,692,290				
1991	212,641,148	\$66,787,706				
1992	154,429,821	\$58,024,644				
1993	170,697,476	\$64,603,792				
1994	192,912,325	\$91,270,634				846
1995	175,765,017	\$109,367,972				849
1996	191,122,684	\$105,530,636				918
1997	228,561,353	\$108,987,538				851
1998	180,230,384	\$101,018,264				853
1999	153,741,306	\$99,323,217				883
2000	154,229,116	\$108,315,339	259,746	5,031	29,971	850
2001	137,163,960	\$88,143,090	246,914	3,076	26,343	836
2002	160,171,058	\$94,747,649	213,513	4,694	26,497	844
2003	139,423,516	\$87,112,849	197,315	4,352	26,155	874
2004	134,107,316	\$79,705,177	185,715	4,255	25,313	872

Year	Pounds Harvested	Value	Trips by Major Gears	Active Fishermen	No. CF Lic Issued	No. fish Dealer Licenses
2005	70,628,690	\$64,889,275	155,354	3,890	24,551	832
2006	68,758,033	\$70,120,027	150,128		23,752	769
2007	62,903,307	\$82,284,514	159,037		23,574	746
2008	71,188,548	\$86,813,005			23,584	738

**TABLE 10**  
**NORTH CAROLINA COMMERCIAL FISHING - TOTAL PERSONS EMPLOYED AND NUMBER OF VESSELS**

Year	Total Persons	Total Persons on Vessels	Number Vessels
1880	5274	0	95
1887	7352	212	37
1888	7704	288	35
1889	8655	343	47
1890	10274	426	54
1897	12045	657	98
1902	14755	1533	188
1908	9681	1066	99
1918	8036	1349	118
1923	9308	1106	141
1927	6249	939	125
1928	6063	944	138
1929	5975	1032	144
1930	5205	1159	177
1931	5248	960	0
1932	4923	758	132
1934	5355	723	123
1936	6902	1175	247
1937	6619	900	214
1938	6905	1091	230
1939	7005	1012	225
1940	7113	883	185
1945	7456	1372	331
1950	7585	1851	0
1951	7487	1940	497
1952	7470	1952	480
1953	7513	1944	474
1954	7063	1953	479

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Year	Total Persons	Total Persons on Vessels	Number Vessels
1955	6662	2102	462
1956	6941	2347	466
1957	7512	2701	487
1958	7052	2318	412
1959	6853	2266	444
1960	6274	1863	447
1961	6155	2172	496
1962	5962	1886	458
1963	5802	1898	475
1964	5551	2027	481
1965	4920	1839	471
1966	4396	1659	431
1967	4458	1775	446
1968	4345	1642	398
1969	4135	1470	372
1970	4114	1682	475
1971	4160	1725	521
2000			8,943
2001			9,457
2002			9,472
2003			9,455
2004			9,260
2005			9,020
2006			8,801
2007			8,831
2008			8,846



**TABLE 11**  
**TOTAL COMMERCIAL FISHING LICENSES AND FISH DEALER LICENSES ISSUED 1994-2008.**

Fiscal Year	Total Licenses Issued	Total FD Licenses Issued
1994		846
1995		849
1996		918
1997		851
1998		853
1999		883
2000	29971	850
2001	26343	836
2002	26497	844
2003	26155	874
2004	25313	872
2005	24551	832
2006	23752	769
2007	23574	756
2008	23584	738

**TABLE 12**  
**TOTAL ECONOMIC IMPACT FOR NORTH CAROLINA COMMERCIAL FISHING INDUSTRY 2000-2007 (NCDMF 2008:171)**

Year	Ex-Vessel Value	Total Economic Impact	Participants	Jobs Created	Total Jobs
2000	\$108,314,852	\$181,098,319	6,931	934	7,865
2001	\$88,143,204	\$147,383,339	7,067	760	7,827
2002	\$94,747,541	\$158,421,943	6,743	817	7,560
2003	\$87,112,849	\$145,661,032	6,177	752	6,929
2004	\$79,705,177	\$141,572,974	6,154	612	6,766
2005	\$64,889,275	\$115,256,742	5,504	498	6,002
2006	\$70,085,521	\$123,348,669	5,120	488	5,608
2007	\$82,292,834	\$144,832,507	5,338	573	5,911

**TABLE 13**  
**BEAUFORT, HYDE, AND CARTERET COUNTIES COMMERCIAL FISHING LANDINGS IN WEIGHT**  
**AND VALUE 1945-2007.**

Year	Beaufort		Carteret		Hyde	
	Weight (lbs)	Value (\$)	Weight (lbs)	Value (\$)	Weight (lbs)	Value (\$)
1945	4,783,300	488,038	131,649,600	2,127,914	2,066,100	200,741
1950	2,808,100	326,616	110,766,200	2,960,927	2,348,200	434,218
1955	4,616,000	384,544	160,544,900	3,345,633	1,793,500	396,393
1960	4,212,000	320,799	176,531,000	3,451,000	1,833,000	281,032
1962	3,186,800	352,262	110,299,600	2,779,185	1,135,000	370,361
1963	3,892,800	302,119	72,893,470	3,561,594	1,443,800	208,289
1964	4,415,700	407,615	146,011,600	3,599,904	1,653,500	256,739
1965	5,577,600	492,164	50,033,190	4,147,297	1,883,100	269,428
1966	3,855,800	455,482	49,202,410	4,915,113	3,384,800	305,954
1967	0	0	5,497,600	27,498	0	0
1968	3,937,300	3,937,300	151,741,700	4,242,415	3,311,600	574,707
1969	0	0	0	0	0	0
1970	0	0	1,925,735	9,631	0	0
1971	4,219,500	612,744	53,979,300	3,945,222	2,944,100	913,614
1972	2,790,289	589,440	72,359,105	4,958,032	2,448,435	531,414
1973	2,971,873	773,498	54,932,175	6,528,120	2,224,540	615,937
1974	3,437,377	733,580	110,276,372	7,536,820	3,663,667	924,528
1975	3,802,110	916,736	100,941,760	7,062,131	3,203,818	769,914
1976	5,964,262	2,202,949	93,212,768	9,329,389	2,875,720	938,959
1977	5,864,808	1,983,389	12,281,802	10,367,106	4,993,276	1,604,012
1978	4,736,063	1,525,129	139,365,478	14,527,552	8,327,769	1,885,751
1979	1,147,150	1,941,975	218,540,649	21,396,881	8,014,483	2,040,360
1980	6,867,847	3,732,881	131,156,111	23,207,684	13,055,684	4,181,970
1981	6,895,157	2,006,372	177,208,124	17,406,837	10,251,802	2,956,529
1982	5,552,376	2,446,716	116,427,330	20,028,014	9,537,139	3,457,336
1983	4,728,171	1,944,485	167,199,484	21,620,473	9,190,366	3,632,096
1984	6,260,734	2,109,096	185,268,781	21,299,023	10,121,620	3,286,808
1985	5,309,486	2,776,841	133,175,357	22,707,433	7,479,009	4,470,615
1986	3,299,166	2,123,922	98,899,661	24,478,964	5,238,109	3,734,769
1987	3,296,819	1,550,486	85,811,501	22,790,252	8,922,881	4,829,627
1988	4,069,784	2,528,514	109,943,042	26,105,193	13,395,274	7,698,443
1989	2,632,337	1,675,668	93,410,724	25,431,593	13,925,983	6,819,235
1990	5,556,306	2,493,771	101,254,152	22,683,982	15,028,053	7,239,892
1991	4,377,009	1,989,928	136,587,982	22,665,854	15,183,668	7,753,016
1992	2,108,611	1,170,303	78,968,484	16,506,222	11,970,320	6,089,075
1993	4,918,238	2,272,079	89,947,140	18,309,071	12,189,360	6,131,467
1994	10,076,108	6,442,223	96,559,262	20,535,216	12,990,775	10,180,616
1995	9,905,250	8,658,047	80,532,094	24,906,953	10,334,382	9,234,070

Year	Beaufort		Carteret		Hyde	
	Weight (lbs)	Value (\$)	Weight (lbs)	Value (\$)	Weight (lbs)	Value (\$)
1996	13,854,084	9,773,319	75,236,813	23,130,863	14,371,620	9,379,684
1997	11,730,954	8,272,671	128,823,406	29,062,208	14,289,840	11,092,556
1998	10,104,914	8,015,017	81,009,265	21,377,140	15,799,661	10,669,813
1999	10,820,570	7,370,878	57,126,855	19,451,867	15,414,173	12,464,501
2000	7,394,463	7,156,348	69,004,112	20,757,749	11,914,417	12,638,552
2001	4,776,900	54,907,553	66,193,598	18,800,443	9,064,325	8,180,903
2002	6,409,978	5,702,674	82,063,534	19,750,593	10,645,158	9,538,591
2003	6,277,212	5,290,595	59,161,337	18,759,619	10,575,955	8,822,317
2004	5,218,169	3,671,694	61,071,095	19,414,006	9,027,344	7,759,552
2005	4,733,634	3,499,334	19,297,720	11,424,680	7,284,221	6,069,640
2006	4,613,054	3,072,646	6,690,483	10,542,785	6,621,105	7,410,166
2007	3,642,129	3,465,855	6,574,909	11,737,490	6,377,297	9,951,601

**TABLE 14**  
**BELHAVEN COMMERCIAL FISHING STATISTICS 1994-2007.**

Year	Dealer City	Participants	Vessels	Pounds	Trips	Percentage Trips to Weight
1994	Belhaven	182	220	3,381,614	9,028	0.27%
1995	Belhaven	217	271	3,596,109	10,407	0.29%
1996	Belhaven	243	307	5,602,941	11,088	0.20%
1997	Belhaven	264	313	4,675,687	12,357	0.26%
1998	Belhaven	216	263	3,886,402	11,440	0.29%
1999	Belhaven	172	288	3,675,056	9,147	0.25%
2000	Belhaven	197	237	3,123,284	9,485	0.30%
2001	Belhaven	208	236	1,751,904	8,493	0.48%
2002	Belhaven	196	217	2,111,507	6,435	0.30%
2003	Belhaven	183	223	2,183,126	6,762	0.31%
2004	Belhaven	170	191	1,858,816	6,185	0.33%
2005	Belhaven	146	170	1,376,264	5,249	0.38%
2006	Belhaven	121	135	1,476,548	4,769	0.32%
2007	Belhaven	113	132	1,246,167	4,456	0.36%
2008	Belhaven	105	121	1,823,655	3,964	0.22%