Tributaries

A PUBLICATION OF THE NORTH CAROLINA MARITIME HISTORY COUNCIL

OCTOBER 1991 VOLUME 1, No.1

Tributaries

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About the Maritime History Council

The North Carolina Maritime History Council came together in 1988 when a group of individuals professionally involved in maritime history programs began meeting informally to share information and to discuss issues of mutual concern. Aware that the sheer size of the state's coastal area, increasingly rapid development, and the variety of coastal waters have tended to fragment efforts to preserve the state's maritime history, the group began to explore ways to pool the resources of disparate state and federal agencies. In 1990 the North Carolina Maritime History Council was incorporated with the charge:

". . .identify and encourage historical and educational projects that have as their purpose the enhancement and preservation of the state's maritime history and culture and that create public awareness of that heritage."

The council views this heritage in broad perspective, noting that its influence extends to the heads of navigation of the state's rivers. Council membership is limited to non-profit organizations and institutions directly involved in the study and teaching of the state's maritime culture and to selected individuals recognized for outstanding contributions in the field.

Rodney Barfield

Vice Chairman

Expedition
to the
Cape Fear Mystery Wreck

By
Mark Wilde-Ramsing
Underwater Archaeology Unit

Only when eighth-grader Melanie Brice stood knee-deep in slippery, black muck did she begin to see what the world of underwater archaeology was all about. She was one of "Baker's kids," a group of ten middle-school students from the Pender County Academic Enrichment Program. Her teacher, Charlie Baker, and underwater archaeologists from Fort Fisher were giving them an insider's look at a real-life research project. Their assignment lay before them: identify the wreck whose wooden ribs protruded from a mud flat in the Cape Fear River.

Earlier they had looked at slides and artifacts and had talked about underwater archaeology. It was only after they pushed back the marsh reeds, smelled the river's strong odor, heard the lapping of the water, and slopped around the remains of a once proud 100-foot steamer, that they understood what we had been saying to them: archaeology is much more than talk and dusty books.

Although the wreck was discovered in the early 1970s, its specific identity was a mystery, despite attempts by North Carolina underwater archaeologists to link it to historical events. Was it an old blockade-runner used during the Civil War to bring Confederate supplies to the vital port of Wilmington? Or was it, perhaps, the remains of the magnificent *Sylvan Grove*, a New York-built excursion steamer that reportedly burned to the waterline in the same vicinity as the Mystery Wreck in January, 1891?

The students, organized into teams, set out to determine the nature of the site by collecting detailed measurements and samples from what remained. This is the first objective of underwater archaeology. Danny Rivenbark, Chris Davis, Freddy Simpson, and Baker proceeded to "get down and dirty." Their mission was to dig around the ends of the wreck to determine bow and stern and later to excavate within the hull in an attempt to recover artifacts.

Ms. Julep Gillman-Bryan, archaeological technician with the Fort Fisher unit, supervised Malinda Carter, Tyree Sykes, Charlie Carr, and Melanie in their quest to record overall wreck measurements. While periodically probing the mud, they found that the deck was completely intact about a foot below the surface. In the one place where they penetrated the deck, perhaps through a hatchway, they could feel the bottom of the wreck fully six feet below. Under the mud where they now stood was a well-preserved steamship from many years ago—an archaeological treasure!

My group, with Juliet Tate recording the information and Matt Wilson and Dwayne Woodcock taking measurements, concentrated on mapping specific features of the wreck. The bottom of the boiler, engine bed, and remnants of the paddlewheels were of primary interest. At first they tried their best to avoid getting muddy, especially Juliet, but it was a situation where one simply couldn't keep clean. As each student became resigned to that fact, many became outright playful, enticing the clean ones to share in the fun. Big, muddy handprints on the shoulders of Juliet's clean white tee-shirt highlighted those mischievous feelings.

An excavator, designed to explore the hold of the wreck, was placed where the probes had

Wilmington's Cape Fear Memorial Bridge rises behind students of Charlie Baker's special group as they comb the wreck site and plan excavation strategy with State archaeologists. The wreck is situated just across the river, within view of the city's waterfront. (Photograph by Julep Gillman-Bryan, UAU.)

penetrated the deck. Armed with posthole diggers and a screened sifter box, the digging team attempted to enter the interior of the hull to retrieve telltale artifacts that might help date the wreck. Although Danny and his cohorts valiantly pushed the excavator's spoils through the screen—and became caked with a layer of grime themselves, the digging was impractical. As they went deeper, groundwater rushed into the hole, collapsing side walls and making efforts to reach the hull bottom six feet below impossible. However, during their exploration of the bow, they were successful in recovering several metal spikes that had fallen from the wreck. When analyzed these might prove helpful in estimating the date of construction for the Mystery Wreck.

After several hours, the tide began to bring water back over the site preventing further examination. By that time, though, the enthusiastic crew had accomplished all delegated tasks, at least as far as the environment would allow. It was time to leave the Mystery Wreck, which now wasn't quite as mysterious, and take the information back to a clean desk where it could be studied. We combed the wreck site for tools, shoes, and students that might have become mired in the mud (into which one could imagine slowly sinking out of sight to be lost forever, or at least until missed at dinner time). Luckily, all equipment and personnel were accounted for as we loaded the trucks.

As we drove off, I had a pleasant feeling of satisfaction. For one thing, no one had gotten hurt; the students had avoided stepping on a dreaded rusty spike, a common and especially wicked hazard on old wrecks. The day had been one of the Cape Fear's best, the somewhat warm, "bugless" fall day that makes a person want to roar with vigor—a great day for an archaeological adventure.

The day had pleased me for other, more important reasons. The students adjusted well to the messy, alien environment where underwater archaeologists often work. Moreover, they took the archaeological exercise seriously, recording precise information that would be vital for success when they searched for the Mystery Wreck in the historical records. They even found a touch of humor in their activities, a lesson they could use throughout their lives.

Previous documentary investigations, based primarily on *The Golden River*, a book published in 1956 by Louis Phillip Hall, had tentatively identified the Mystery Wreck as the *Sylvan Grove*. In the book Hall says that the *Sylvan Grove* burned, while tied at a dock on the west side of the river across from Nun Street, during the winter of 1891. He goes on to say, "For many years the hulk of this grand old steamer, which had burned to the waterline, was still visible from the docks of Wilmington, N.C."

The *Grove* was one of a fleet of passenger steamers that operated in New York harbor from the 1860s until the late 1880s. First leased and later bought by the Southport Steamboat Company, the steamer came south to run excursions from Wilmington to the resort hotel at Carolina Beach during the summer seasons. It was a total loss when it burned and sank, and it was soon replaced by the excursion steamer *Wilmington*. The new steamer operated well into this century, and is fondly remembered by the older residents of the Cape Fear.

Several months after their day at the wreck site, Baker's kids sat in the New Hanover County Library conference room. They listened to their briefing in preparation for the day's work, but it was obvious that they wished to be out on the

Tyree Sykes (left) and Archaeological Technician Julep Gillman-Bryan look on as Malinda Carter records measurements onto the site map. (Photograph by Mark Wilde-Ramsing, UAU.)

river again, digging and exploring. The prospects of searching books, listening to museum curators or librarians, and interviewing "old-timers" were less appealing than sifting through the mud of history.

They looked at slides of last fall's expedition and discussed fact sheets that we handed out. These contained a record of the measurements and all other information collected at the wreck site. Previously collected documentary sources, mostly about the *Sylvan Grove*, were also included. Although the *Grove* shared some general characteristics with the wreck, its specific measurements and features, especially the engine type, left considerable room for question. The students formed into teams to tackle a variety of research topics in the North Carolina Room, a section of the library that contains a wealth of local history. Beverly Tetterton, a librarian, oversees the collection.

One group studied maps hung on the walls, stored in drawers, and recorded on microfilm. They searched for clues that might pin down the exact locations mentioned in newspaper accounts of the *Sylvan Grove*'s burning and sinking. Names like Kidder's Mill and Northrop's Mill, Carolina Oil and Creosote Works, and McClammy's Wharf represented lumber-related businesses long since faded away when the area's forests were depleted early in this century.

Another group searched two dozen articles in the 1889 *Wilmington Star* for references to the *Sylvan Grove*. They were hoping to find a description, or perhaps a sketch, revealing significant alterations to the *Grove*'s hull and engines that might help match it with the wreck remains.

Nearby, two students interviewed Dr. Fales, an octogenarian whose father ran a busy fish market in downtown Wilmington. As a youth, Dr. Fales had spent considerable time on the river. Using

Preservationist Leslie Bright instructs students on proper conservation methods for artifacts recovered from the wreck site. (Photograph by Julep Gillman-Bryan, UAU.)

instructions from a recently acquired article on "How To Conduct Oral Interviews," they put the interviewee at ease by letting him talk about his early life in the county. Fifteen minutes later he was deeply mired in an interesting but not too relevant discourse on the early twentieth century local fishing and retailing business. They deftly steered his attention to the primary subject, the Mystery Wreck and the *Sylvan Grove*, but it quickly became evident that the doctor's memory would be of little help. Perhaps the steamers' exploits in Wilmington were not considered remarkable enough to be passed along to his generation.

In an attempt to extract candidates other than the *Sylvan Grove*, another team searched the Wilmington port records for names of nineteenth-century steamboats matching the 130-foot length of the Mystery Wreck. Later, spokespersons from each group summarized their findings. Chris, who had been quiet during the interview, eagerly told the group that although Dr. Fales could not recall the wreck or the *Sylvan Grove*, he did remember the area as a ships' graveyard.

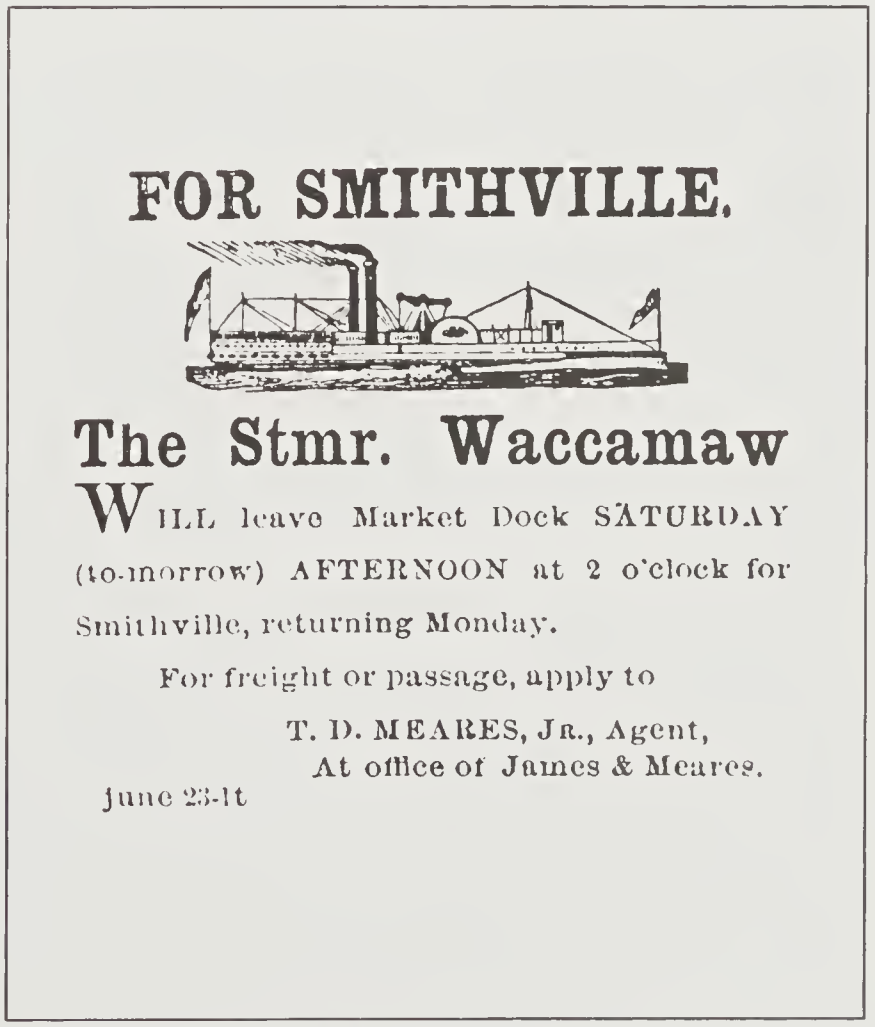
Meanwhile the group that was studying the maps reported that the most likely site for the wreck of the *Grove* was not the site of the Mystery Wreck. They figured it to be on the same side of the river but a half-mile downstream.

Dwayne and Tyree turned up no references in the newspaper to major renovations of the *Sylvan Grove*. They did find an advertisement for the Grove that included a sketch of a steamer with the same boiler and smokestack arrangement as the wreck. It was not clear whether the sketch was intended to be the *Sylvan Grove* or was merely a generic illustration for advertising purposes. If it was the former, here for the first time was the steamer with the machinery laid out as on the wreck.

Finally, Malinda reported that her group had found the names of three vessels of the right size and type. All were known to have operated in the Wilmington area during the nineteenth century. They were the *Evergreen*, *General Howard*, and the steamer *Waccamaw* (formerly the *Nuestra Señora de Regla*). We had lunch at the Cape Fear River Rowing Club, situated on the picturesque grounds where Skinner's shipyard once operated. The Mystery Wreck lay on the opposite bank of the river.

Afterward, the group headed to the New Hanover County Museum where curator Kiki Freer-Parsons hustled the students into the basement of this former armory. These tight quarters, once used by reserves for firing practice, now house the museum's many artifacts, photographs, and documents. Here the students would find out what the museum had in its collection that might help with their research on the *Sylvan Grove* and the other wreck candidates.

There were no photographs of the ship, but the museum did have some rather interesting artifacts relating to the *Grove*. Encased in plastic sleeves for protection were two season tickets for the year 1888 and a lithograph advertising excursions to Carolina Beach.



FOR SMITHVILLE.

The Stmr. Waccamaw

WILL leave Market Dock SATURDAY (to-morrow) AFTERNOON at 2 o'clock for Smithville, returning Monday.

For freight or passage, apply to

T. D. MEARES, Jr., Agent,
At office of James & Meares.

June 23-1t

The June 23, 1871, *Wilmington Star* newspaper ran this advertisement for the *Waccamaw*, announcing biweekly trips between Wilmington and Smithville, on the Cape Fear River. (Photograph courtesy of the Underwater Archaeology Lab.)

Unfortunately the museum collection contained no information relating to the *General Howard*, *Evergreen*, or *Waccamaw*, and at my suggestion, the students explored another avenue. Several students were outfitted in dainty white gloves, bringing snickers from their classmates. However, it was a necessary precaution to avoid getting fingerprints and body oils on the old, original photographs that they were about to examine.

They proceeded to look through prints catalogued under Eagles' Island in hopes of seeing the wreck in a better state of preservation. One aerial photograph, taken in 1926, showed the shoreline of Eagles' Island, and students could just make out the wreck. Under close inspection with a magnifying glass, the boiler and port paddlewheel could be seen. The students continued to search photographs under other subjects hoping to get a better view of the wreck, but their efforts went unrewarded.

From the confines of the museum, Baker's kids proceeded to a totally different setting. William Reaves is a local historian who has spent a lifetime collecting information on Wilmington and the surrounding area. Most of his old books and newspapers were stored in a wooden shed behind his house, which he had sold several years before. Now, with the help of the students, we made arrangements to move the collection to more appropriate facilities at the Archaeology Lab at Fort Fisher. In return for their efforts, Mr. Reaves promised to share information that he had collected on the *Sylvan Grove*, and perhaps, the other three steamers, all of which was buried in the shed.

The shed door fell apart when we pried it open. Inside was a museum curator's nightmare. A multitude of books and boxes of documents were stacked to the ceiling in total disarray. Rats, roaches, silverfish, and who knows what else had inhabited the place for quite some time. Much to the disgust of the students, they had left their droppings to prove it. They had gnawed away at the binder's glue in many books, but worse, they had been very untidy "researchers," having eaten many papers and made nests in others.

There was nothing for the students to do but dive right into the work, just as they had done in the mud of the river the previous fall. The students formed a line and, like a bucket brigade, gingerly handed boxes of files and books out to others who placed them on a trailer. They kept constantly alert for any creepy-crawlers that might be hitching a free ride. Baker, who was on the front line handing things out as he searched for the steamboat records, slowly worked his way into the room. The van and utility trailer were nearly full when he finally located a box that held file folders labeled, "steamboats."

The box contained information on all the candidates except the *Evergreen*. Several students, who were eagerly searching through the files, were startled when they realized that they were perusing the original clippings taken from newspapers over one hundred years old. The file for the *Sylvan Grove* was particularly exciting, because it appeared to be very full. Later that week, when they had time to investigate the folders more carefully, the students found an item in the *Waccamaw* file that read:

> The Last of the Waccamaw
>
> The old side-wheel steamer Waccamaw, that has been lying for a long time on the west side of the river, opposite Capt. Skinner's ship-yard, was burned to the water's edge yesterday forenoon. The fire broke out about eleven o'clock, and is thought to have been caused by some boys who were seen leaving that side of the river in a small boat just before the fire broke out.
>
> *Wilmington Star* 9/7/1886

Due to the thorough research of Malinda and Melanie in the port records, and the work of Mr. Reaves, the students concluded with reasonable certainty that the Mystery Wreck was the *Waccamaw*. The Mystery Wreck was no longer a mystery.

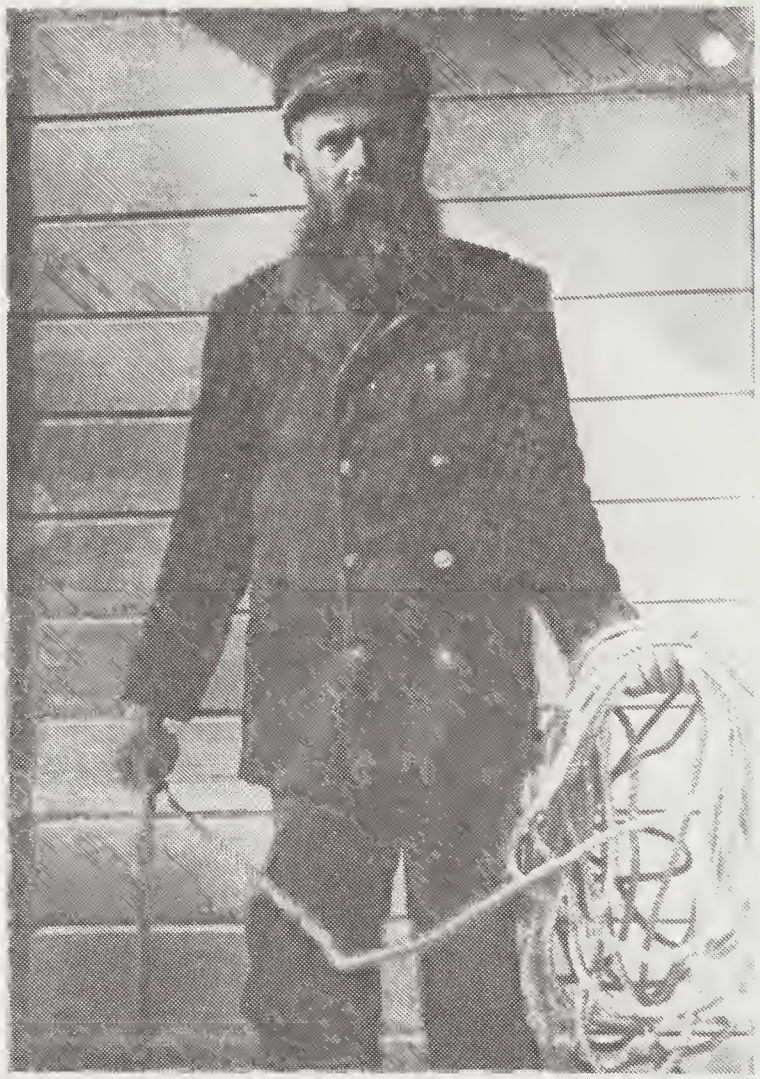
Two months later the students were at Fort Fisher to comb through historical documents relating to the *Waccamaw*. Little can be said of the history of any wreck whose name is not known, but now, the door had been opened on a vast amount of information.

New documentation further supported identification of the Mystery Wreck. The *Waccamaw*'s

registered measurements and engine type fit very neatly with recorded data from the wreck site. By the end of the day the students had pieced together an exciting history for the vessel.

Originally named the *Nuestra Señora de Regla*, the *Waccamaw* was built in 1861, in New York City. It was to be a ferry for Havana, Cuba. On its maiden voyage, however, it was captured as a blockade runner and later sold and converted to a Union gunboat under the name *Commodore Hull*. From 1862 to 1865 it played an active part in the sounds and rivers of eastern North Carolina, including the critical three-hour engagement with the CSS *Albemarle* in May of 1864. After the war, the steamer was decommissioned, sold to private interests in Wilmington, and renamed the *Waccamaw*. It continued on the Cape Fear River as a passenger and freight carrier, and later as a wrecking vessel, until it burned and sank in 1886.

Our examination of the Mystery Wreck with the Pender County students was complete. If nothing else, they had gained an awareness and appreciation of the past simply because they were able, physically, to touch it. The muddy wreck lying under their feet, the yellowed newspaper articles crumbling in their hands, the old photographs—it all brought into focus what once was. It is irrelevant whether the students grow up to become developers, sport divers, politicians or maybe even underwater archaeologists. Their participation in this comprehensive educational program will help them be sensitive to the need for protection and careful study of submerged archaeological resources. Beyond that they experienced the joy of learning—finding new things and solving old mysteries—a way to take their minds off today's troubles and discover the amazing world around them.

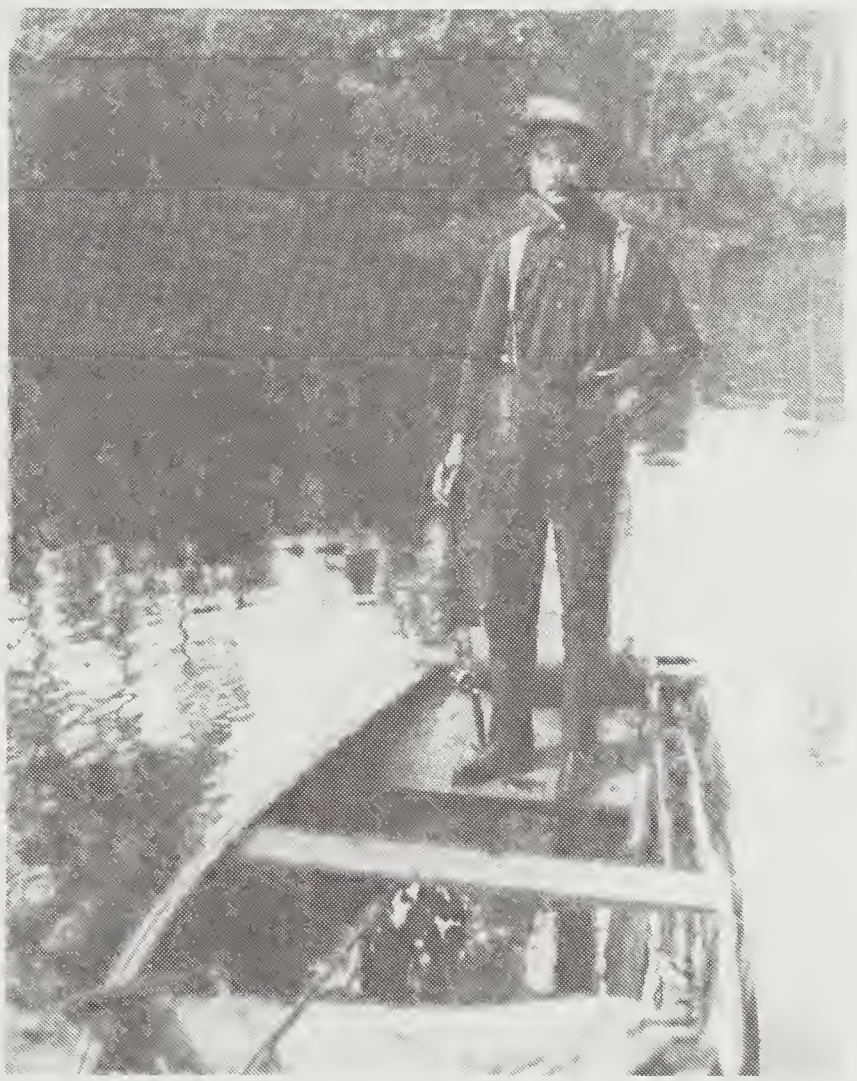


A View of History

LEFT: Captain Pat Etheridge of the United States Life-Saving Service (*ca.* 1889–1915).

BELOW: Richard Etheridge, the first black keeper in the Life-Saving Service, recruited an all-black crew for the Pea Island Station in 1880. Black crews manned that station for sixty-seven years, compiling an exemplary record.

Photographs from the Collection at the North Carolina Maritime Museum



RIGHT: H.H. Brimley on a fishing trip on Slocumb's Creek, May 5, 1903.

BELOW: Windmill on a Carteret County shoreline serves as a backdrop for children playing amid skiffs and kunners.

The Ferry from Trent

Researching Colonial River Ferries

By
Michael B. Alford
Curator of Maritime Historical Research
North Carolina Maritime Museum

In eastern North Carolina, a land that is profusely mingled with water, even the shortest overland journey is likely to entail an encounter with a body of water. Whether it is a creek, a river, a canal, or perhaps a bay or sound, it can either be crossed, or it can become the "roadway." In either case, a boat usually provides the solution.

Boats have become quite commonplace in our consciousness in coastal Carolina. Bridges and roads make the water more a part of the scenery, and less an obstacle. The hypnotic reflections of boats and fish houses on tranquil waters belie the real impact that the water has had on the lives of generations of people. Hidden beneath this serenity is the hard, day-to-day reality of a society dependent upon boats for almost every need, from simple travel to obtaining food and other vital supplies.

In a world where airmail, overnight parcel delivery, microwaves, television, and dozens of other modern conveniences are commonplace, it is difficult to imagine a lifestyle dependent on boats. The old boats, and what remains of them, hold the key to renewing that vision.

Historical Background

Many early travelers in eastern North Carolina left first-hand accounts of the frequent use of boats—ferries and other watercraft—in their journals and correspondence. Universal in these accounts are the ferries. Records show that government licensed ferries operated at river crossings in North Carolina as early as 1699.[1] Today the state continues to operate an extensive system of automobile and passenger ferries to augment its network of roads and bridges.

During the colonial period, the most common type of boat used for ferrying was the flatboat or flat. Both public records and travelers' accounts in the 1700s make frequent reference to the use of flats on the rivers in North Carolina.[2] Flats are low-sided boats with flat bottoms and square ends. This simple shape means that they can be built by people who are not shipwrights.

In terms of capacity and stability, flats are generally great haulers if restricted to protected waters where they do not have to contend with waves and swift currents. Historically, their primary use, other than as ferries, was for the transportation of produce, timber, and naval stores between river landings on the plantations and the markets located in river towns and ports downstream.[3]

Moving a flat from point to point was not always a simple matter. The problem was only a little less acute when the current or tide happened to be in the desired direction of progress. The

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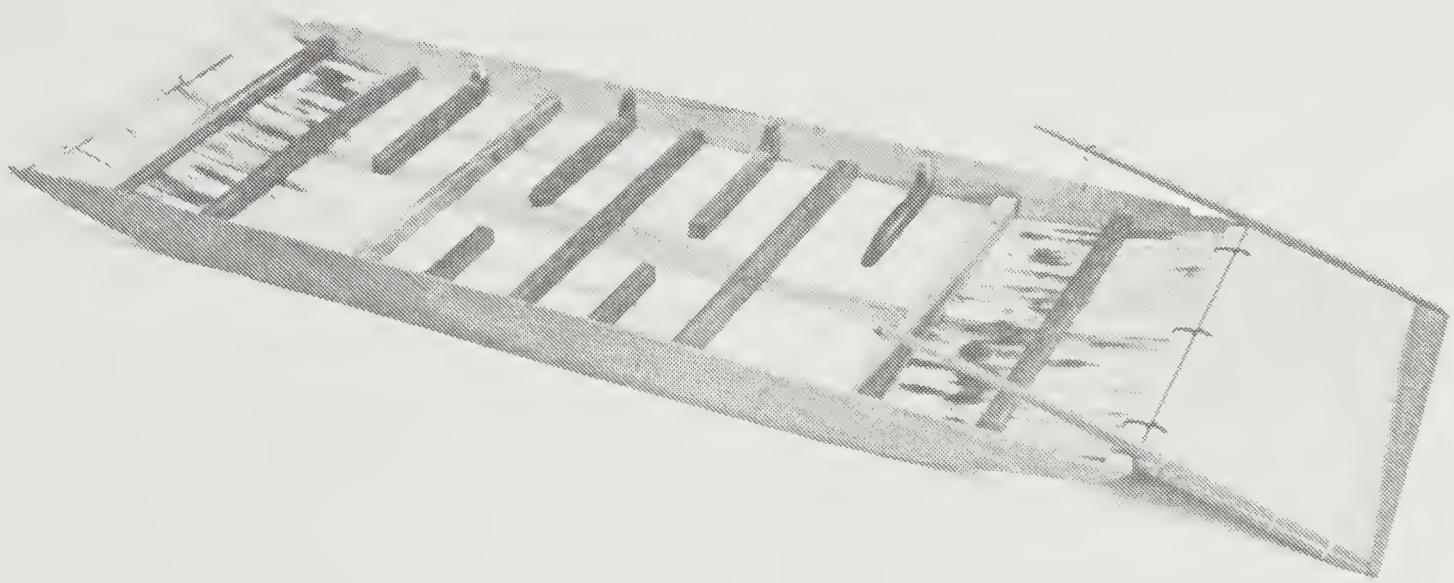
[1] F.W.Clonts, "Travel and transportation in Colonial North Carolina," *North Carolina Historical Review*, III, No. 1 (January 1926), p. 27.

[2] C.C. Crittenden, *The Commerce of North Carolina 1763–1789*, The Yale University Press, New Haven, 1936, pp. 16, 17. Not all ferries were flats, of course. There are accounts of horses and people being ferried across rivers in small, open boats. One colorful account is in Alonzo Dill, "Eighteenth Century New Bern: A History of the Town and Craven County, 1700–1800," *North Carolina Historical Review*, XXII, 1945, p. 478. Ferries that carried carriages or wagons, in most cases, would have been flats.

[3] *Ibid.*



Each recovered part of the flatboat was "replicated" in miniature, down to the size and placement of holes for the spikes and treenails. The parts were then assembled by matching up the physical evidence. The apron is conjectural, based on historical evidence, and there would have been one on each end of the ferry. (Photograph by Diane Hardy, NCMM.)

crew used sweeps, or long oars, to steer clear of snags and shoals, and the momentum of the stream carried the burdensome vessel on its way. On tidal waters, it was possible to go up or down the river, depending on the stage of the tide. During the unfavorable stage, the crew might anchor the flat, or moor it to the bank, until the current changed.[4]

Working a loaded flatboat upstream without the help of the tide could be a grueling affair for the crew. Progress was possible only by winching or pulling on a long warp attached to a stout tree on the bank. One crew member had to be put on the bank to move the warp ahead from tree to tree while those on board coaxed the vessel along.[5] It was literally a case of moving the flat by hand.

Crossing a river from one bank to the other was another matter. Where river currents were strong and the width of the river permitted, it was common practice for small ferries to track back and forth on a cable stretched across the river. Early flats were propelled by means of a large sweep oar at each end of the boat, or in some cases by means of a hand lever, by which the operator virtually "jacked" the ferry along its way. Where the river was subject to navigation, the cable could be slacked off and lowered into the river to allow river traffic to pass over it.[6] Strong men

[4] Janet Schaw, *The Journal of a Lady of Quality*, Eds. Evangeline Walker Andrews and Charles McLean Andrews, Yale University Press, New Haven, 1923, p. 185.

[5] Elizabeth W. Allston Pringle, *Chronicles of Chicora Wood*, Cherokee Publishing Company, Atlanta, 1976, p. 28; Crittenden, *The Commerce of North Carolina*, p. 18.

[6] The Elwell ferry on the Cape Fear River, near Carvers in Columbus County, operates on a cable that is lowered to allow for river traffic. This ferry, although steel-hulled and mechanized, operates in the traditional manner, carrying up to two automobiles across the river at a time—upon demand, not on a schedule.

manning long sweeps propelled ferries at crossings where the river was too wide for a cable.

An interesting variation of the cable ferry capitalized on the river's current for locomotive power. The angle that the ferry made with respect to the flow of current could be altered by adjusting the length of the lines securing the ferry to the cable. Deflection of the current along the side of the vessel imparted a substantial motive force, "squeezing" the ferry across the current to the opposite bank. Reversing the angle sent the vessel back the other way.

Overall dimensions might vary over time, but it is more likely that the size and proportions of flats depended upon the requirements of the particular employment and the conditions at a specific site. Most flats seem to have been between thirty and forty feet overall, and the beam varied widely depending upon use. The small amount of available evidence hints that flatboats used as river ferries were probably narrower in beam than those employed in the general transport of goods. The minimum width of the waterways could be the overriding limiting factor, however. Flats operating in the canals of the Great Dismal swamp, for instance, were only four to six feet wide.[7] There are accounts of flats having overall beams of up to twenty feet, while ferries were usually twelve feet or less in beam.[8] Flats whose primary source of mobility was derived from the tidal or river current were likely to have the greater beam while ferries, whose usual course was across current, were usually only a little wider than the width of a cart or wagon.

The square, box-like form of a flatboat provides a very stable platform, ideal where it is necessary or expedient to load or unload livestock, or wheeled vehicles, without the amenity of a wharf. Its usefulness in rural North Carolina should not be underestimated.

Some boat evolution theorists believe that flats owe their origins to rafts, not shipbuilding traditions.[9] Regardless, they are important forms of water transport and are interesting because their construction reflects regional practices of both technique and material utilization. The flatboat's modern counterpart is the steel barge used to transport bulk cargoes on the rivers and inland waterways.

Documentation and Research

Given the significance and widespread use of flats historically in North Carolina, it is unfortunate that very little was recorded about their construction and appearance. This situation is typical and has long hindered efforts to study the evolution and development of early watercraft, particularly in the south. As a result, researchers place a great emphasis on archaeology as a source of data. Dependence upon archaeological—rather than documentary—material has made watercraft research tedious, time-consuming, and largely dependent upon opportunity.

Researchers concentrate their efforts on recording and analyzing vessels site by site, as they are discovered. Studies therefore progress in what may seem an erratic fashion, flip-flopping from flat to schooner to primitive canoe, and back and forth, in whatever order the discoveries dictate.

The discovery of a flat lying in a meander of the Trent River near New Bern, during the winter of 1989, proved to be especially rewarding. Its construction is very similar to several ancient

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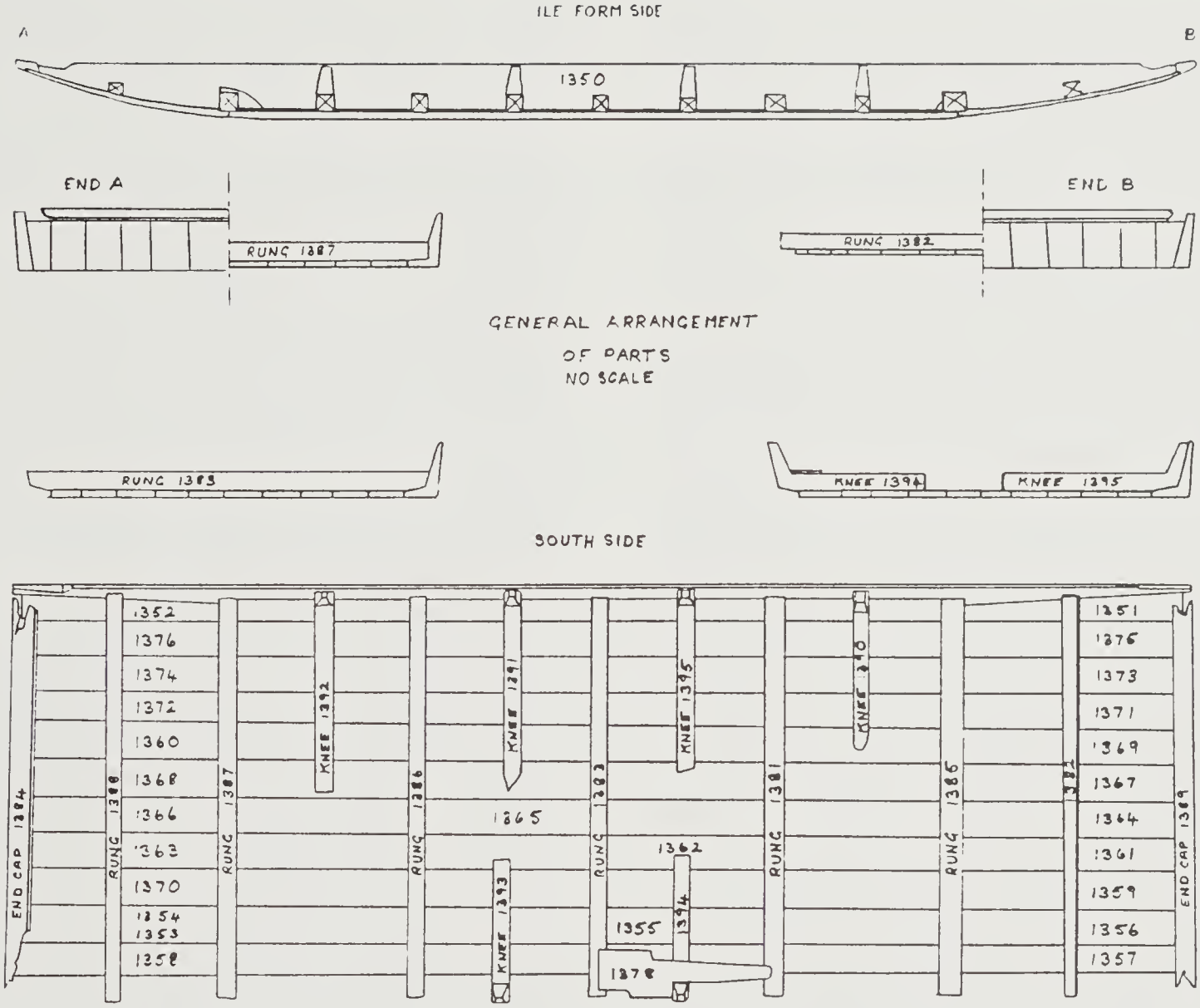
[7] Alexander Crosby Brown, "The Dismal Swamp Canal,", *The American Neptune*, Vol. V, No. 3, 1945, p. 213.

[8] Ulrich Bonnell Phillips, *A History of Transportation in the Eastern Cotton Belt to 1860*, Columbia University, 1908. (Reprint Octagon Books, Inc., 1968, pp. 71, 101); Gordon P. Watts and Wesley K. Hall, *An Investigation of Blossom's Ferry on the Northeast Cape Fear River*, East Carolina University, Greenville, ECU Research Reports No. 1, January 1986, pp. 26, 30.

[9] McKee, Eric, *Working Boats of Britain: Their Shape and Purpose*, Conway Maritime Press, Greenwich, 1983, pp. 54–55. There are many boat types that owe their origins to simple floats or rafts. Some of these descendants are very conventional boats in their present construction, having evolved through more classic traditions in the Mediterranean countries, and in northern Europe. The flat, however, has come down rather directly, apart from the mainstream of boat evolution, because its form was so perfected in its narrow application over a long period of time. Evolution has been mainly confined to technological factors such as developments in the way timber was harvested and processed, and with the manufacture and use of fasteners, for instance. For more on the origin of boat types, see Basil Greenhill, *The Archaeology of the Boat*, Wesleyan University Press, Middletown, Connecticut, 1976, Chapters 4 and 5.



Measured drawing of the assembled flatboat. This drawing shows only the components of the vessel that were recovered. (Geoffrey Scofield, NCMM.)

flats reported from Europe and some eighteenth and nineteenth century flats recently found in South Carolina, but it was the first of its kind found in North Carolina. Its presence on the Trent River added a new dimension to the search for the origins of North Carolina's boatbuilding traditions.

The wreck of the Trent River flat, as it was soon named, lay in the path of destruction. Fabrication of a shoreline bulkhead, already in progress, threatened to destroy the historic timbers. Archaeologists launched a rescue excavation to salvage as much of it as possible. Had it not been for the alertness of the operator of the pile-driving machinery who reported the site, one of the most informative sites in recent years might have disappeared forever.

Construction of the Trent River Flat

The initial report from the archaeologists left no doubt that this was a significant find, and that it would make a major contribution to the study of boatbuilding in North Carolina. Archaeologists, assisted by museum staff, recovered one side and most of the bottom structure of this vessel and took the waterlogged timbers to the North Carolina Maritime Museum for study and preservation during late winter, 1989.[10]

[10] The descriptive and analytical material presented here is taken from personal observation and documentation of the vessel now on file at the North Carolina Maritime Museum. Geoffrey Scofield carried out the recording procedure, made the technical drawings, and constructed a 1:10 scale archaeological model to substantiate his reconstruction.

The Trent River flat is just over thirty-one feet long and eleven feet in breadth. Calculations show that the flat probably weighed nearly two long tons when built and could be expected to carry just over four and a half tons of cargo, livestock, or vehicles.[11]

Among its significant structural features are the manner in which the sides are made, the relieves and housings in some of the joinery, and the fastening pattern. There are numerous tool marks that offer clues as to the methods and techniques used by the builder.

The archaeologists were able to locate only one of the two sides. It is hewn in one piece from a cypress log. The lower edge has a flange-like projection that gives the piece an L-shaped cross-section throughout its mid-length. The transverse bottom frames rest on this flange and the longitudinal bottom planks abut it. The lower edges of the sides rake upward in a gentle arc at the ends. The unrecovered side can be expected to share these same characteristics.

The bottom planks run fore and aft and are fastened to heavy transverse bottom timbers and knees with a combination of un-wedged, polygonic trunnels and iron spikes. The floor timbers, or more properly, rungs, rest on the hewn flange of the side pieces. The bottom structure is attached to the sides by spikes driven through the sides into the ends of the rungs, and trunnels and spikes driven into the natural-crook knees.

The flange functions to increase the area of contact between the bottom structure and side, and, like a boss or flange on a metal casting, provides a solid attachment point. This configuration moves the joint line from the corner of the chine, a geometrically weak position, to the straight, unjointed, stronger bottom timber. The strength of this joinery technique could not be surpassed until threaded fastenings made their appearance in the early nineteenth century.

The L-section side planks closely parallel those observed in examples of ancient European split-dugout practice. The significance of this has not been fully explored, but there is evidence that French Huguenots brought this practice to this country prior to 1700.[12] Because the French were settling on the Trent River in the first decade of the eighteenth century, the flat could have international significance.[13]

There are many unanswered questions about the construction of the Trent River flat, but research currently in progress will eventually provide most of the answers. Although the construction strongly reflects methods practiced in the early eighteenth century, dating the boat precisely has been problematic and remains an unanswered question at this time.[14]

Is the Trent River flat an old ferry, or was it used to haul plantation products down the river to markets in New Bern? Since the eighteenth century, several ferries have operated on the Trent River above New Bern, and several plantations have existed on the river during that time.[15] Close examination of the vessel's structure reveals some helpful clues to its identification.

The asymmetry of the transverse frames suggests that this flat was a cable (or rope) ferry.[16] There are other features that support this

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[11] The long ton is a unit of weight that is standard in the shipping and shipbuilding industries. It is equal to 2240 pounds, which is the weight of thirty-five cubic feet of seawater or thirty-six cubic feet of fresh water. The relationship between weight and volume is important in many necessary ship calculations.

[12] M.B. Alford, "Origins of the Carolina Split-dugout Canoe," mss. submitted to *International Journal of Nautical Archaeology and Underwater Exploration* in 1991 for publication.

[13] John Lawson, *A New Voyage to Carolina*, Ed. Hugh T. Lefler, University of North Carolina Press, Chapel Hill, [1709] 1967, p. 90.

[14] Researchers encounter great difficulty in working with the remains of vessels of colloquial origin in poorly documented areas. Old methods, isolated in rural or remote regions, can survive for decades beyond their obsolescence in more industrialized centers. In the vernacular context, builders tend to be nonconformists regarding material and techniques, diverging from standard practice and relying on native ingenuity. Comparative data, crucial for accurate identification and precise dating purposes, is sketchy or nonexistent for our area.

[15] Alonzo Dill, "Eighteenth Century New Bern," p. 478.

[16] *Ibid.*

suggestion, such as the two iron staples that are driven into knees on only one side of the flat. Their position is where cable guides, or control lines, for a rope ferry would be expected. Also, holes in the end caps suggest that aprons (loading ramps) were fitted to both ends of the flat.

Construction Considerations for Flats

To appreciate the ingenuity of the construction method seen in the Trent River flat, it is helpful to know a little about the general structural requirements of a flat.

The straight, simple lines of a flat facilitate the use of primitive building sites, such as the bank of a river at ferry or plantation landings. The square joinery requires no more than ordinary carpentry skills. A barn builder could build a creditable flat with few special instructions. There are few bevel joints and these are simple and usually constant over their length. Moreover, the materials used in the construction of flats are simple and unspecialized. In earlier days, the large members were hewn from the trees where they fell, and later, when sawmills became more commonplace, builders made use of straight-edged, "stock" lumber. Knees are of the simplest form and do not present a problem for the procurer or the builder.

Although the mechanics of construction are straight forward, the simple geometry, coupled with extreme shallowness in relation to length and beam, has its own inherent problems. Flats are particularly susceptible to wracking, hogging and sagging stresses, and the bottom is subject to plate deflection from buoyancy and loading forces. The dilemma the riverbank boatbuilder faces is this: how to join the simple, square timbers in a manner to overcome these problems and create adequate strength for reasonable utility and longevity.

The bottom of a flat, which is structurally a flat plate, must derive all its strength from the design of the supporting frames. Flat shapes lack the stiffening inherent in a hull shape of more complexity. Buoyancy, acting in an upward direction on the bottom, causes a deflection that is concentrated near the middle, away from the edges where the sides and ends offer support. These stresses result in movement between the various structural elements (frames, knees, planking, fasteners, *etc.*). Eventually, mechanical fatigue takes its toll and leads to structural failure. A comparatively short life may be expected for such vessels, shorter for the poorly built boats and longer for the better-built craft.

The need for additional structure grows more critical as vessel size increases. The builder must achieve sufficient stiffness in the bottom without introducing additional structure that might adversely affect the serviceability of the vessel. The solution depends on which of two types of bottom methods the builder selects.

Flats may be constructed with either transversely or longitudinally planked bottoms. The two methods result in vessels with certain significant differences, each with its own advantages and limitations. The simplest and most practical way to build a straight-sided, flat-bottomed hull is with a transversely planked bottom. However, boat archaeologists believe the older of the two methods is the longitudinal style.

Longitudinally planked bottoms are supported by a system of transverse frames consisting of floor timbers or rungs, and knees that run at right angles to the length of the boat. Ceiling planks can be laid directly over the frames to provide a smooth deck for vehicles and animals.

Transversely planked bottoms, unless they are very narrow, must be supported by fore-and-aft, or longitudinal stiffeners. Fore-and-aft stringers are longer than athwartship frames, and therefore must be either deeper or heavier, to achieve the necessary stiffness. Longitudinal stringers may be made lighter if supplemental transverse stiffening backs them up. However, this entails additional materials, weight, and maintenance and results in a complicated structure of higher cost, detracting from the simplicity of the vessel, which is its fundamental virtue.

A second problem area for the flat builder is the chine, the joint between bottom and sides. Loading and unloading concentrates lateral strain at the chine, and failures are common.

The unique side structure of the Trent River flat addresses both problem areas: the plate-bottom structure, and the weak, straight chines. The solid flange on the sides of the boat simpli-

fies attachment of the rungs and knees and compensates for the weaknesses of fastening techniques that limited the riverbank boatbuilder in the eighteenth and nineteenth century.

In later years, ferries built in the flatboat style were often decked over at the height of the sides, as some photographs from the early 1900s show. This permitted the use of internal girders below the deck where they would not interfere with cargoes or passengers. The method provides more strength and a reasonable solution to the problem of obtaining adequate bottom stiffness, as well as resistance to lateral stress. The resulting higher center of gravity would not normally be a liability, although when carrying livestock, the operator might take care to limit its movement about on deck.

Remarkable ingenuity is manifested in the design, construction, and employment of flatboats, contrasting with the simple, almost primitive concept of form and construction. Thus, flats can be a unique reflection of the independent nature and ingenuity of the community of their origin.

As a type, flatboats had a quiet but important impact on economics and transportation in North Carolina. Not very glamorous, very rudimentary, and to the casual observer perhaps crude, flats were nonetheless functional elements of a unique transportation network in a land where water has played a major role in shaping the growth and development of a state.

Fair Hair and Blackfish

By
Michael Luster
Folklife Specialist

Roughly fifteen years into the present century, Beaufort's predominantly African-American menhaden crews were joined by another group of fishermen who were different from Carteret County's Anglo-Celtic majority. These were the blackfisherman, men who went after the black sea bass, a delicacy once popular in the restaurants of New York. Blackfish, as they were known in North Carolina, feed near wrecks and submerged rocks out in the open ocean. The local fishermen liked to fish closer to shore, preferably inside, or even setting their seines off the very beach, but in 1913 a Dutchman, a few Swedes and a handful of Norwegians came to Carteret County and found their niche.

Jess Pagels had left his home in the Netherlands, at fifteen, as an apprenticed rigger, and traveled across the sea to Nova Scotia just in time to watch the century turn. He fished the waters there and off Newfoundland and New England, in the region of the Grand Banks. Since about 1855 that had been a lucrative and attractive fishing ground and many a young man had been tempted to leave home and try his hand. It was indeed his hand he tried because fishing for cod on the Banks was all by handline. A schooner would travel to the Banks with a nest of dories stacked on its deck, dories from which young men, singly or in pairs, would work their handlines and carry their catch back to the schooner.

The *Alice* was a smaller, single-masted version of the typical blackfishing boat. (Photograph courtesy of the North Carolina Maritime Museum.

Among these young men were several others who had immigrated to the region of the Grand Banks from Sweden and Norway only to discover that the cod fishery was headed for a decline. Anton Thomas Neilsen ended up working on a dairy farm after coming from Norway at sixteen.

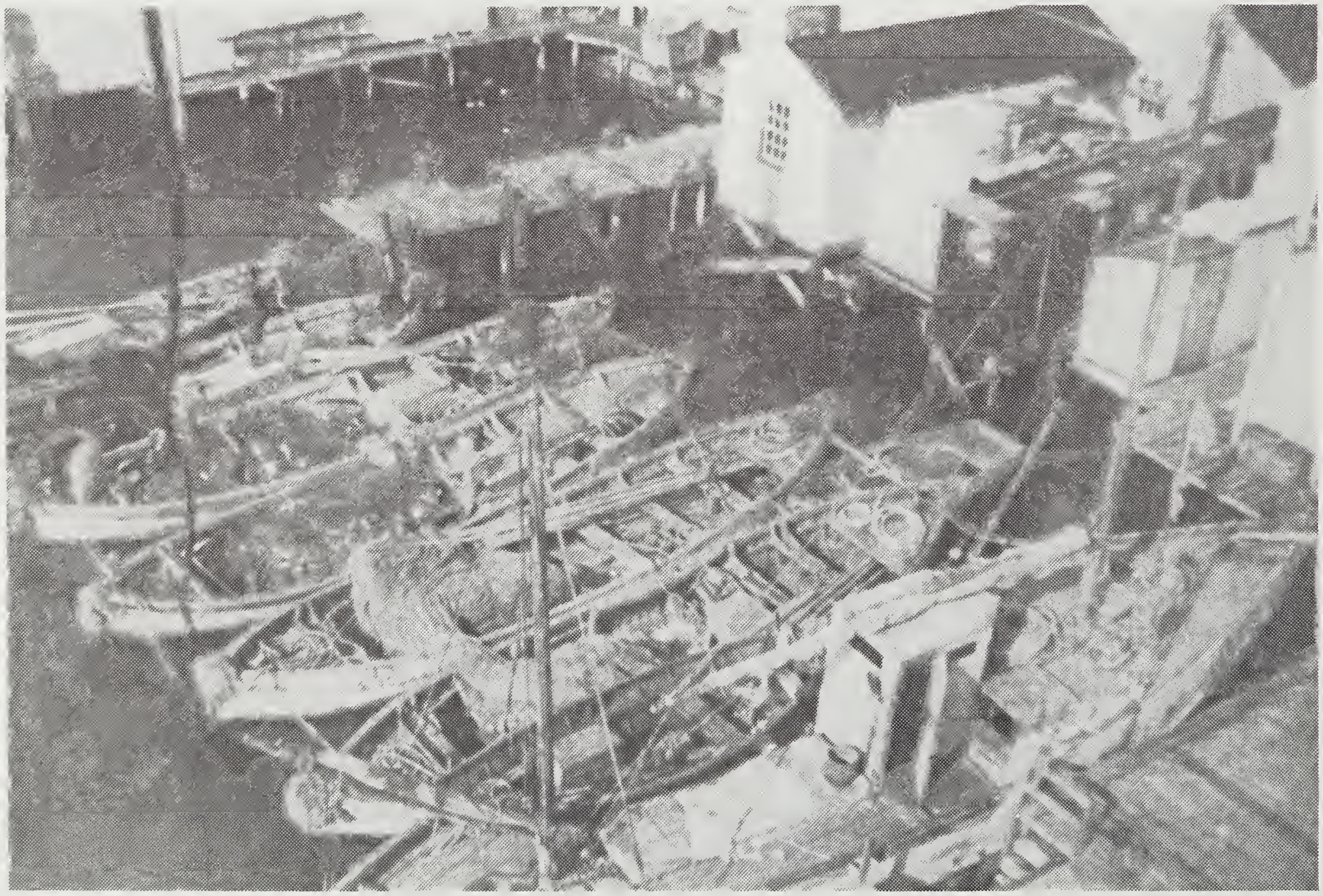
Just who got up the idea, and who came with whom is not clear, but a number of these fair-haired deep-water fishermen began heading south after 1913 to Beaufort, where the blackfish wintered. In addition to the Dutchman Jess Pagels and the Norwegian Tom Neilsen, there were Tom's brothers Einar and Peter, and the Swedes Alex Ericksen and Eric Andersen. There were Chris Hansen, Billy Olson, Carl Johnson and Tom Iverson, also, Charlie Wolfe, Jim Ireland and Jack O'Brien.

Here they handlined for blackfish in crews of three or four, dispersed and working from dories launched from the decks of double-ended "blackfish boats," as the locals called them. These boats, brought south from the Maritimes and adjacent areas, were better suited to working in the open waters and breaking seas than anything locally available. During the winter months, they would stay in the North Carolina waters, carrying groceries and ice enough for two or three days and delivering their catch back to the fish houses of Way Brothers or J. H. Potter and Son.

Toward the end of April, they would leave and head north following the fish, and work out of the Angelsey-Wildwood, New Jersey, area. It was here that many of the Beaufort menhaden fishermen also summered. Both groups would head back south when the fish did, in October.

The Beaufort News always reported the comings and goings of both menhaden men and blackfishermen, for both groups played a significant role in the lives and fortunes of the local citizenry. When Tom Neilson's boat, the *Alice*, ran into a storm on Pamlico Sound, late in

An unidentified two-masted blackfishing boat, foreground, docked with a fleet of menhaden purse boats. (Photograph courtesy of the North Carolina Maritime Museum.)



September of 1922, the paper reported that he and his crew of four might surely have been lost but not for superior seamanship and their "sturdy little smack." Tristram Tupper captured some of the emotion in his romantic novel of 1923, set against a background of Beaufort and its blackfishermen:

> There is a handful of these men, and they know the sea as the farmer knows the soil, all its moods and vagaries. Most of them are "furerners"—Norwegians with gaunt bodies, high cheek bones and faded blue eyes. They are insensible to danger, or else have innate within them the hardihood to conquer the storms that pile tramp steamers upon the shoals and rive befogged liners to their doom upon this coast. In stubby two-masted schooners they go out under sail, or power, or both, it matters not the weather; and they keep on going until the shoreline has long been lost to sight. Above the submerged wreck of a blockade runner of Civil War days they lower their anchors. And here they pull fathoms of fishline in over the low gunwales, one line then the other, until the hold is filled with a smothered mass of blackfish. They stay until the hold is filled, through calm and hurricane, or else go to the bottom. And when they weigh anchor a pennant is hoisted, and when they come in across the bar the people ashore have a way of saying, "They're coming with the flag flying. They got fish. They got blackfish." A day or two later the mothers of large cities remove the bones and feed their children on several ounces of human courage; or, more vividly, one may imagine the number of people who, signaling the waiter for the next course, complain cause it is drizzling outside.

The selling of these lucrative fish, almost exclusively to the New York market, meant cash flow to the Beaufort economy. It was news when "Tom Nelson," as he was always called in the Beaufort paper, brought in 4,000 pounds of blackfish aboard the *Alice*. Tom Neilsen fished for J. H. Potter and Son, as did his brother Pete. Einar Neilsen was in charge of the *Margaret*. Jess Pagels captained the *Annis* for Way Brothers. Independently, Jack O'Brien was captain of Hal Potter's boat the *Etta*, and people would say that the *Gem* was run by Jim Ireland and his dog. In the fall of 1925, both the J. H. Potter Company and its chief competitor, Way Brothers, commissioned boats to be built along the lines of the successfully imported "blackfish boats." Both boats were built by the yard of Jule Whitehurst and John Rice, located on Beaufort's west end. For the Potter Company, they built the *Piggie*, thirty-eight feet in length by ten and one-half feet in beam. For the Ways, they built the *Johnnie and Elinore*, forty-two feet by twelve and one-half feet, with a forty-horsepower motor. Pete Neilsen would captain the *Piggie*, and Jess Pagels took over the *Johnnie and Elinore*, leaving the *Annis* to "Gus" Andersen. The blackfish boom had also inspired the building locally of the *Gem* and the *Margaret*, and the good money led to the building of at least one boat, the scaled-down *Harvest*, in a Beaufort back yard.

But there was more than just financial interest in the blackfishermen. There were wives and families on shore watching for the pennants. For the most part, these "foreigners" lost little time making themselves accepted members of the community, marrying into a number of local families. Jess Pagels married Dora Rice in 1916, and Tom Neilsen married Mary Johnson in 1920, the same year Eric Andersen married Carrie Willis. Andersen served as a witness the following year when Alex Erickson married Betty Congleton. Alex was the youngest to marry. He was twenty-nine; most were in their thirties or forties.

Most seem to have been good, if hard-working, family men. Tom Neilsen was forty-two when he married Mary Johnson. It was his second marriage. He had lost a wife in New York. He wrote regularly to his sister in Norway and would speak a little Norwegian when Chris Hansen, Tom Iverson or brother Einar came to the house on Saturday nights for bakery goods and big mugs of coffee. His daughters Edith and Ann Marie never learned his language, but remember fondly his inflected English, how he would say "used finished" when he meant "just finished," and how he would sing softly to himself in Norwegian. He liked to cook things like turkey with sausage dressing, and the big cakes of codfish he and the others bought in great profusion from Paul Jones' grocery. He kept his Lutheran upbringing largely to himself except when his anti-Catholicism overrode his Democratic politics and kept him from voting for Al Smith.

Chris Hansen, Tom Neilsen's crewmate, sang Norwegian songs to his daughters when they

were very small, but he balked at teaching them the language. He was extremely proud of being a new American, of the wealth of American history he learned in preparation for his citizenship. He too would write letters home to Norway, using his native language, and he would use his good English to reminisce about his boyhood, skating on the frozen fjords near Oslo. His stepson William Harry Bates followed him for awhile into the blackfishing, but it was his daughter Christine, proud of her heritage, who dreamed of taking him back to visit his native land.

Christine Hansen Greenman's memories of her father's pride and good spirits are especially vivid for her because she got to see him so infrequently. Blackfishing was a good living until the 1930s when the Great Depression all but killed it. The New York markets dried up, bank failures made equipment purchases impossible, and the blackfishermen themselves were getting a little old for the lonely handlining twenty miles from shore. What blackfish were taken were increasingly caught with log-weighted trawl nets, like those Chris Hansen left home to fish from a boat based in Norfolk. He would travel as far as Nova Scotia catching redfish, some blackfish, and a few blues.

He made it home only twice a year, when the trawler went up on the railway, and he found many things changed. J. H. Potter and Son gave up blackfish altogether and went full-tilt into the menhaden fishery. Both Alex Erickson and Tom Iverson became house painters, carrying their extension ladder through the streets of Beaufort, in tandem, on bicycles. The bachelor Pete Neilsen became known for his fine finish work and the way he would tip his hat. His brother Tom passed away in 1938 at Wildwood, New Jersey, on what was probably one of the last appearances there by a Beaufort-based blackfisherman. Eric Andersen died the following year. Jess Pagels, like Chris Hansen, was fiercely proud of his adopted home. He lived until 1953, just finishing his fiftieth year in Beaufort.

In 1970, the year William Way finally sold the *Johnnie and Elinore*, Tom Iverson, the last of the blackfishermen, passed away. He had left his grandparents' home in 1906 to become a cabin boy on a square-rigged Norwegian merchant ship, and followed that trade until he was injured, when both he and this century were in their twenties. A hospital stay cost him his berth, so he took up fishing, first at New York's Sheepshead Bay and then, in the late 1920s, in Beaufort. He handlined from one of the *Alice*'s dories, within earshot of the softly inflected voices of Tom Neilsen and Chris Hansen.

Chris and Christine Hansen never got to travel together to visit the ancestral home, nor did Jess Pagels ever show his daughter Jess his native Netherlands. Tom Iverson never showed Norway to Tom Jr. But each of Beaufort's blackfishermen left behind a lasting legacy, an enduring reminder that we are all immigrants at some remove, and that homes, once chosen, are made best by those who care to be there.

This piece was made from information shared by Jess Pagels Leinthall, Edith Neilsen Miller, Anne Marie Hansen, William Harry Bates, Christine Hansen Greenman, Tom Iverson, Jr., William Way, Paul Jones, and Benny Noe. I also worked from back issues of the Beaufort News, *Carteret County records, and the novel* Adventuring *by Tristram Tupper. Additional information came from Howard Chapelle's* American Small Sailing Craft, *D. H. Cushing's* The Provident Sea, *and from conversations with Michael Alford and David Baumer.*

Book Reviews

Confederate Goliath: The Battle of Fort Fisher. By Rod Gragg. Harper Collins, Publisher, N.Y. 1991. 343 pages. Hard-cover. Reviewed by Rodney Barfield

Confederate Goliath is simply the best piece of research and writing ever done on the building and the destruction of Fort Fisher, the "Gibraltar of the South" on the Cape Fear that protected Wilmington from union attack and, in the final year of the war became, literally, the "lifeline" of the Confederacy. Rod Gragg collected material for more than a decade before he began marshalling his mass of information into a very orderly and impressive monograph. His research is exhaustive, both in the military records and in the personal papers of the major participants.

Mr. Gragg has excellent control over his material and delivers his narrative with the fine eye of a novelist. He leads his readers through the deep sand around the fort, kicks sand in their faces, singes their nostrils with black powder, deafens them with naval barrages, and lets them witness the carelessness of killing. He also escorts his audience through war-time Wilmington, a seedy, bedraggled little town of bored British seamen, raucous longshoremen, high-living war speculators, and miserable prostitutes, who share the town's neglected brick avenues with starving dogs nosing through uncollected garbage.

While providing a splendid account of the December 1864 and January 1865 battles for the fort, this book is really a morality drama played out between the unscrupulous politician-generals in the top command and their dedicated officers in the field. Union naval commander Admiral David Porter lounges in his opulent stateroom aboard the command ship U.S.S. *Malvern* while his brave field officer, Colonel Martin Curtis, is fighting hand-to-hand against the Confederates atop the traverses, saving the day for Porter. General Braxton Bragg mixes in polite Wilmington society while his long-suffering field commanders, General W.H.C. Whiting and Colonel William Lamb, personally direct the defense of the fort against overwhelming odds. The top commanders on both sides are vain, egotistical, indecisive, and they issue orders designed to accommodate their personal ambitions, obscuring the realities of the battle situation and the needs of their troops. Porter sends his troops in a suicidal assault against the fort in an effort to deny the vainglorious General Benjamin Butler an army victory. General Bragg refuses to send thousands of troops at his disposal to save Whiting and Lamb even as the fort is being overrun.

Mr. Gragg would have the battles of Fort Fisher elevated to the status of one of the "great" battles of the war. While that point may be debated, anyone with the slightest interest in the Civil War will enjoy this fine work, and no scholar of the war can ignore it. Fort Fisher has found its Shelby Foote.

Park Service Issues Works on Historic Vessels

Two new titles issued by the U.S. National Park Service have been greeted with enthusiasm by the maritime preservation community. The first is the long-awaited and badly needed *Secretary of the Interior's Standards for Historic Vessel Preservation Projects with Guidelines for Applying the Standards*. The second book is the *1990 Inventory of Large Preserved Historic Vessels*. Both publications represent the results of the combined efforts of the National Park Service, The National Trust for Historic Preservation, and members of the maritime preservation community, under the umbrella of the National Maritime Initiative.

The Initiative was created under a 1984 Congressional request to the NPS, asking it to conduct a survey of historic maritime resources and to recommend standards and priorities for their preservation. Michael Naab developed the *Standards* and James P. Delgado, with the able

assistance of Candace Clifford, spearheaded the *Inventory*.

The 101-page *Standards* is an excellent resource for any museum or organization responsible for historic vessels, whether floating or dry-docked. The author says in the introduction that the document is not a "manual" for maritime preservation. What it does do, and quite well, is to define ideal practice over a range of physical conditions. It also presents guidelines that will help project managers come closer to that ideal. The work is destined to become an important document for preservationists.

The *Inventory* is a larger publication and will be useful to a broader audience. The bulk of the volume is a catalog of vessels, over forty feet in length, that have been listed or determined eligible for listing in the National Register of Historic Places. The compilation of this list has had a long and sometimes stormy history, but the results justify the blood, sweat, and tears of its producers. The catalog lists vessels alphabetically by name and includes a photograph with useful data concerning the ownership, age, construction type, condition, location, and preservation goals. In addition to the catalog of vessels, there are interesting statistical charts that break the listing down by region, by type of vessel, by significance level, by "afloat versus on land" status, and more. The appendices include lists of vessels not included as part of the catalog and indices listing vessels by state and type.

The publications are available from the National Park Service, History Division (418), P.O. Box 37127, Washington, D.C., 20013-7127.

Books Noted

The North Carolina Maritime Museum has announced two new titles in its growing list of publications. Both are written by museum staff and are available from the Museum Store.

Discover Maritime North Carolina: This is a "have fun while you learn" book of activities and information that includes something for everyone. By means of games for children and pictorial overviews, the drawings and clear narrative take the reader through the important eco-systems, seasonal fishing activities, boats and boatbuilding, and the history and culture of the coast. The 64-page publication is also suitable for classroom use. It includes a glossary of special terms, and the patterns for a cardboard toy boat.

Traditional Work Boats of North Carolina: North Carolina waters have been home to a number of classes of unique small vessels. This 64-page book presents descriptions and illustrations of twenty significant examples, both historical and contemporary. The author discusses the important characteristics of each type and comments on their significance and historical roles in a clear, non-technical style. Appendices include a glossary of nautical terms, sources of additional information on small craft, and a discussion of wood species used for boatbuilding.

News

East Carolina University

Program in Maritime History and Underwater Research Conservation

ECU's important new conservation laboratory has taken on the task of conserving more than 700 artifacts from the Yorktown Shipwreck Archaeological Project. The state of Virginia recently curtailed excavation at the site and turned to ECU for help with the burdensome conservation effort. The ships, which are believed to have sunk during the last major battle of the Revolution, were part of the British fleet stationed on Chesapeake Bay.

According to Brad Rodgers, who is in charge of the conservation program at ECU, the artifacts are from a brig that archaeologists believe is the *Betsy*. Facing a French fleet and American land forces, and sensing that the tide of victory was turning in favor of the revolutionaries, the crew scuttled the brig along with at least fifty other vessels, either to prevent their capture or deter the French from landing. She sank with all her furnishings and many personal belongings of her officers and crew, and represents a treasure trove of the life and times of the Revolutionary sailor.

Two new buildings comprise ECU's conservation facilities, giving the Program 2500 square feet of laboratory with seven large-capacity treatment tanks and other equipment. A darkroom, a classroom, environmentally controlled artifact storage, and chemical treatment and storage rooms round out the complex. Rodgers has built up the conservation library with approximately 350 books, journals, and papers covering the latest research.

This facility will have important academic and practical benefits for North Carolina. The training and experience that students receive in the lab will greatly enhance their value as historians and archaeologists. On the practical side, many fascinating and informative artifacts will be conserved and placed in exhibits where they can be seen and appreciated by everyone.

1991 Summer Field School

In July East Carolina University sponsored its thirteenth annual Field School in Maritime History and Underwater Research. The program provides a limited number of students, who meet certain qualifications, with a basic background in American maritime history and the scientific methods and techniques employed in underwater archaeological research. The students participate in classroom lectures, seminars, workshops, and field research.

The field portion of the program this year took place on the Roanoke River near Plymouth, N.C. Archaeologists from the Fort Fisher Preservation Lab and a marine vessel specialist from the North Carolina Maritime Museum joined in the project. The objects of the underwater research were several vessels sunk by Union forces during the Civil War. Derelict vessels were placed across the river and scuttled in 1864 in an attempt to prevent the Confederates from moving the ram CSS *Albemarle* down the river and into the sounds where it might do serious damage to the northern naval forces. The students and archaeologists documented the site, catalogued the dimensions and characteristics of the sunken ships, and gathered data that might lead to their identification by name.

Underwater Archaeology Unit

The U.S.S. *Huron* : A New Park, A New Concept For North Carolina

On a stormy night in November, 1877, the histories of the steamer U.S.S. *Huron* and North Carolina became forever entwined. Tragically, while the nearby Nags Head life saving station was closed, the *Huron* crashed onto the treacherous shoals. Local residents stood by helplessly as all but thirty-four of the 132 crew members perished in the night. The disaster shocked the nation and became a factor in the eventual estab-

lishment of funds for the United States Lifesaving Service. By 1883 fifteen new stations had been built along the North Carolia coast.

Since January, 1990, the Underwater Archaeology Unit of The State Historic Preservation Office has been exploring the idea of creating one or more shipwreck preserves. The federal Abandoned Shipwreck Act of 1987 has spurred interest in this activity and encourages states to develop appropriate historic shipwreck sites as underwater parks. Existing programs in Florida and Vermont were studied, and recommendations subsequently made to designate the U.S.S. *Huron* site as North Carolina's first shipwreck preserve.

Now, a memorandum of agreement between the state and the town of Nags Head provides for the day-to-day operation and monitoring of diving activities from the beach. A similar agreement with the U.S. Navy, which still has jurisdiction over the wreck, has been signed. The site is popular with divers, but few are aware of the ship's history. A thick layer of concretion and marine growth covers the wreck, making it difficult to discern structural features. Plans for the site include marking its location with buoys and installing signs on board to identify points of interest.

This fall, with help from a grant from the Outer Banks Community Foundation, the Underwater Archaeology Unit will construct an exhibit on the shore, to interpret the history and current condition of the ship. A dedication ceremony has been tentatively scheduled for November 24. Divers will be on their honor not to disturb the wreck or remove souvenirs, so that the site will remain a "living museum" for all to enjoy.

Richard Lawrence
Underwater Archaeology Unit

North Carolina Maritime Museum

Champney Civil War Drawings on Exhibit January–March, 1992

Fifty-nine pen-and-ink drawings executed by Edwin Champney in 1862 will be displayed at the North Carolina Maritime Museum January through March, 1992. Scenes of the Outer Banks and coastal mainland—landscapes, seascapes and military—make up Mr. Champney's portfolio. Champney drew the scenes while stationed in North Carolina with the Fifth Massachusetts Volunteer Regiment. His artist's eye was drawn to shipwrecks, windmills, wind-sculpted live oaks, and the Hatteras Light. But he also documented boats, military camps and refugee slaves. The collection was purchased in 1990 by the North Carolina Maritime History Council and donated to the N.C. Division of Archives & History. They are under the care of the Outer Banks History Center, where they have been on view this year. The OBHC makes it available for exhibit to accredited museums in the state.

Rodney Barfield
N.C. Maritime Museum

North Carolina Division of Archives and History

Research Branch Reports Available on Microfilm

For many years the Research Branch of the North Carolina Division of Archives and History, Department of Cultural Resources, has conducted research and compiled reports for use in the various programs sponsored by the division. As internal working documents these reports seldom were seen outside the program area which initiated the original research request. However, a number of the reports contain information of sufficient value to students of North Carolina history to justify a greater availability. It was with this in mind that the first series of seventy-four research reports was microfilmed in 1987, and that a second series of thirty-four reports was filmed in 1990. Because a large number of these reports are related to maritime or coastal history, it was thought that they might be of interest to readers of this, the first issue of *Tributaries*.

Listed below are the relevant titles in both the first and second series. Series I is comprised of three reels of 16-mm. microfilm (numbers S.8.204-S.8.206). Series II consists of one reel of 16-mm. microfilm (number S.8.207). Copies of these reels can be obtained from the North

Carolina State Archives for $10.00 each. Orders should be addressed to:

Correspondence Archivist
North Carolina State Archives
109 East Jones Street
Raleigh, North Carolina 27601-2807

When ordering, please stipulate the series and reel numbers desired.

Wilson Angley
Compiler and editor

Series I
(Reel Numbers S.8.204-S.8.206)
Reel 1 - S.8.204

4. Angley, Wilson. "An Historical Overview of the Beaufort Inlet-Cape Lookout Area of North Carolina." Research Branch Report, North Carolina Division of Archives and History, 1982. 63 pp. Appendixes.
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