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Flotsam and Jetsam - December 1997

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Underwater Archaeology

Formerly, *Flotsam and Jetsam*, Newsletter of the Underwater Archaeology
Division of SCIAA

Sea and Swamp Craft: The Utility of Canoe and Canoe-built Vessels in the Lowcountry

By Lynn Harris

Early travelers in South Carolina, like John Lawson, discuss a variety of canoes and more spacious canoe-built vessels (also referred in historical literature as dugouts, periaguas, pettigours and perrigaers) which were poled, rowed, sailed, and paddled through the lowland waterways. Lawson describes his African guide paddling a canoe "...the most difficult Way I ever saw, occasioned by Reason of the Multitude of Creeks lying along the Main, keeping their course through the Marshes, turning and winding like a Labyrinth." These narrow-beamed, shallow-draft, maneuverable vessels were extremely useful watercraft for the swampy, riverine

network of the low country rivers when roads and bridges were still poor or non-existent.

Traders shipped huge loads of animal hides from the settlement of Dorchester down the Ashley River to Charleston in periguas propelled by both sails and oars. A perigua rowed

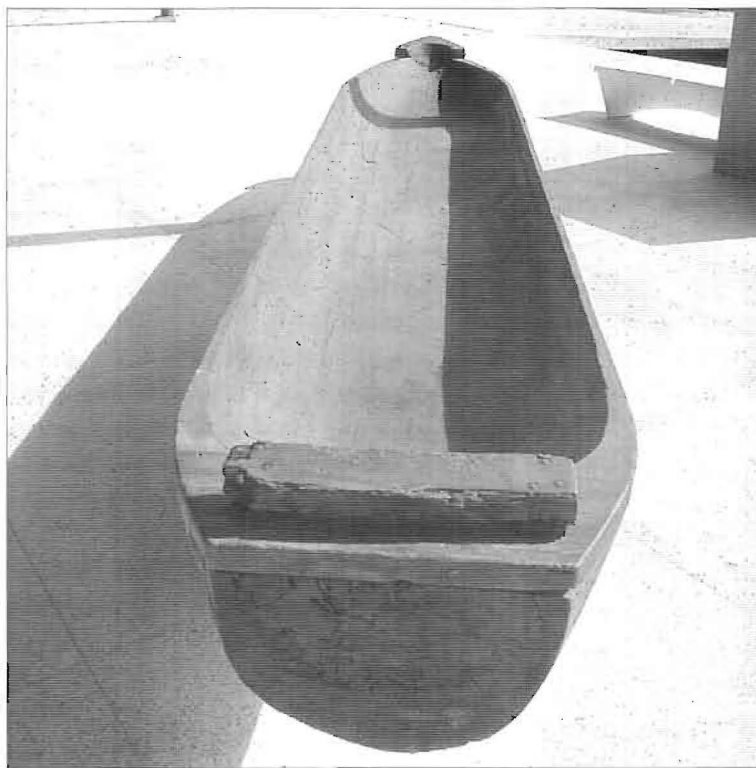
by a crew of seven or eight slaves could carry a cargo of 500 to 700 deerskins. A common sight at trading venues like Dorchester was a busy wharf dotted with periaguas and

make the larger canoe, or periagua, the sides of the log were built up with planking, or two logs were joined along the keel line giving the boat additional beam for cargo without

significantly increasing its draft. Fifty to 100 barrels of tar or rice could be ferried along shallow creeks and shoals in these vessels. They were frequently equipped with one or even two portable masts for sailing and often ventured out into the open water. A great deal of information on the boats used by the native Americans and the early traders is contained in the early journals and documents of the *Commissioners of Indian Trade*.

Canoes also served as versatile work boats. In later years, a visitor to Charleston discusses how an entire class of "fishing

Negroes" had emerged replacing the Indians as masters of the plentiful waters around South Carolina. These fishermen handlined their catch to the surface (often weighing between 12 to 15 pounds), harpooned them, and then hauled their catch into dugout canoes. A person aboard a ship anchored near



Historic dugout on display at the Santee Canal State Park. (SCIAA photo)

schooners landing and loading their cargoes, and merchants and planters conducting business transactions. In return for these deerskins, merchants traded a variety of items with the Native Americans. This included guns, gunpowder, agricultural implements, liquor, and clothing. To

the confluence of the Cooper and Ashley river in 1817 found himself in the midst of "twenty-five dug-outs each containing four Negroes who were having excellent fishing as one might well desire on the eve of Good Friday." These dexterous canoe fishermen apparently provided steady profits for colonial slave owners.

On plantations, canoes were popularly used by both hand slaves who were often kept apart from house and field slaves. Boat hands had access to outside information and contacts, knowledge of the surrounding landscape, and relatively more freedom in their movements. Letters written by planters living along the Cooper River suggest that valuable African patroon's (boat captains) had sole responsibility of a particular boat, despite laws to regulate registration of the boat under a white patroon's name. Newspaper advertisements reveal that these plantation canoe craft varied considerably in size and were often brightly painted. A 1737 notice in the *South Carolina Gazette* describes a cypress canoe of 15 feet by 8 inches long with a beam of 4 feet which had a white bottom, yellow sides, black gunnels, and storm sheets painted Prussian blue. Black canoe crews from different plantations sometimes rowed against one another in races.

Frequent references to these watercraft are made in a number of historical documents. Canoes were some of the most popular vernacular vessels used in the southeast during the 18th and 19th centuries for general transportation, fishing, scouting, piloting, recreational, and plantation purposes. Quite possibly, canoes represented a combination of boat-building cultures of the Native Americans, Africans, and Europeans who came from coastal or riverine areas. Long before the Europeans or



Illustration of Indian method of making a dugout canoe. (Drawing by John White)

Africans arrived in South Carolina, Native Americans carved dugout canoes using fire and stone tools. African slaves came from coastal and riverine environment in Sierra Leone and Angola where boats were also important commodities.

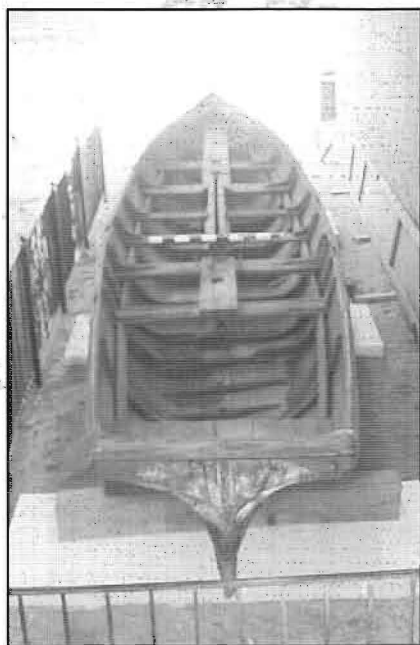
Lawson describes how the vast cypress trees, of which "...the French make canoes...are innumerable between the French settlement and Charleston." Another reference about the French in the Caribbean islands states that "...the French learned from the Savages to hollow out trees to make canoes—they did not learn from them to row them, steer them, or to jump overboard to right them when they are overturned wetting their clothes, losing anything, or drowning, but most French fear all these things...everyday one sees disastrous accidents." While the ethnic complexity and exact origins of canoe-building may be too difficult to unravel, it is most likely that these building practices merged through time to represent the South Carolina tradition. An important part of the story about these vernacular craft is how they were used here and the social and economic

interactions that these vessels symbolize.

Two of the best preserved examples of large sailing plantation canoes are those which are part of the Charleston Museum collection recorded by SCIAA during weekend workshops for divers and non-divers—the *Bessie* and the *Accommodation*. The *Bessie*, exhibited in the courtyard, was donated to the museum by Arthur Middleton Manigault. It was used on White Oak plantation on the North Santee River in the mid 1800s. With dimensions of 29 feet in length by 5 feet 10 inches in beam with a plumb bow and wineglass-shaped stern, the *Bessie* exhibits qualities that suggest it may have been used for sailing in the harbors and sounds as well as in the rivers. Other structural features include a centerboard trunk (possibly added at a later date), seats, two mast steps, half frames, and knees.

The *Accommodation* is stored in a shed on Dill plantation on James Island. This boat has a length of 28 feet 2 inches in length, and a beam of 5 feet. Two logs forming the lower hull are joined along the centerline and

See CANOES, Page 22



Historic period sailing canoe, the *Accommodation* stored at Dill Sanctuary, owned by The Charleston Museum. (SCIAA photo)

exhibit evidence of gauge holes.

Twenty-three small framing and floor members 1 and a half to 2 inches in thickness run along the length of the vessel. Seven seating thwarts are located approximately 2 feet, 7 inches apart. The second seat from the bow has a hole in the middle which may have been utilized for a removable mast, awning pole, or cargo loading boom. Extra strakes were added above the logs to increase the free-board. Museum notes reveal that the *Accommodation* was used on the Waccamaw River and that W. G. Hinson, whose name is stenciled into the stern, paid \$150 for it in 1855.

Our SCIAA database lists a total of 19 canoes located underwater in local rivers like the east and west branches of the Cooper River, the Edisto, Waccamaw, Wateree, and Combahee rivers. Examples of a variety of canoes types can be viewed by the public at locations such as Santee Canal State Park, Middleton Place, the South Carolina State Museum in Columbia, the Charleston Museum, and the Horry County Museum.

Hunley Update

By Christopher F. Amer

"Moving forward on the Hunley" read the lead editorial in the November 3 edition of Charleston's *Post and Courier* newspaper. The South Carolina *Hunley* Commission met on October 30, 1997 in Charleston. The main item on the agenda was to establish an eleemosynary corporation called "Friends of the *Hunley*" that will oversee the raising of some \$10 million to fund and endow the project. Plans at present are to raise, conserve, and curate/exhibit the submarine. The Commission also discussed various possible locations for a permanent home for the *Hunley*. Experts agree that the vessel, when raised, should not be subjected to excessive transportation that may damage the hull and its contents. To date, both the Patriot's Point Maritime Museum, located in Mt. Pleasant, and the Charleston Museum have expressed interest in taking on the project. Once the Commission and US. Naval Historical Center agree on a site, the recommendation will be sent to the SC General Assembly for final approval. Senator Glenn McConnell, Chairman of the *Hunley* Commission, anticipates a decision in the legislature during the next session.

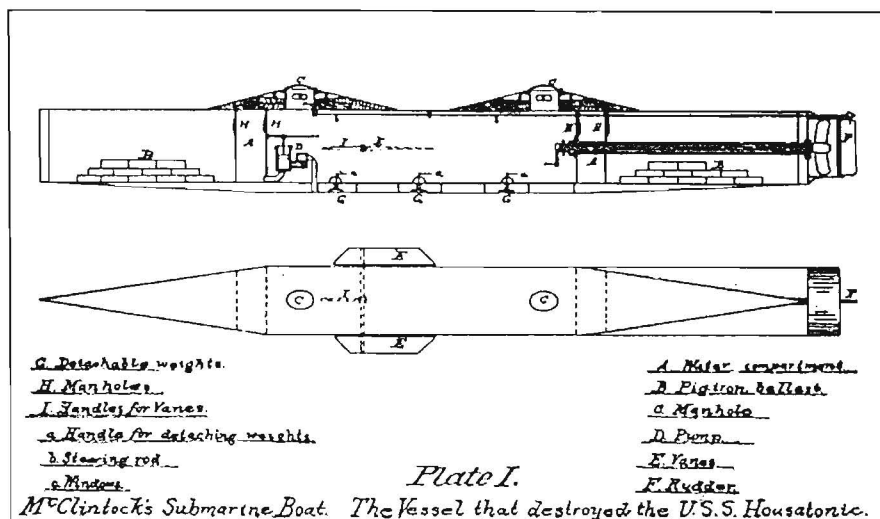
The US Naval Historical Center, the SC Institute of Archaeology and Anthropology, and the *Hunley* Commis-

sion are currently working on the scopes of work to set the standards and parameters of future work on the submarine. These documents cover the various stages of the project, and include the archaeology, lifting, and transport to a conservation facility, as well as requirements for the building of a conservation facility, excavation of the interior of the boat (remember, the *Hunley* appears to be filled with sand), conservation of the hull and contents, appropriate treatment of the remains of the crew, and exhibition and long-term curation of the boat. Requests for proposals will be published in the *Federal Register* and interested and qualified parties who desire to conduct work on the project may submit proposals.

Currently, the Commission anticipates raising the *Hunley* at the turn of the millennium. Many factors will come into play to determine when the raising will be undertaken, not the least of which is having the necessary funding available and a conservation facility built and operational prior to the hull being removed from its protected location.



Top view of snorkel box and stub of the port snorkel. (Photo by Christopher F. Amer)



Drawing erroneously labeled the *Hunley*, but is actually the *American Diver*, McClintock's second submarine. (Courtesy of the US Naval Institute; researched by Mark Ragan)

The Institute has been working with a naval architect to anticipate necessary requirements to safely lift the hull without sustaining damage to either the structure or interior of the boat. Calculations of the combined weight of hull and contents, including the wet sand, range from approximately 21-25 long tons. The low number is based on a 1/4-inch hull plate thickness traditionally used in descriptions of the *Hunley*. The 25 ton figure takes into account a 5/8th-inch thickness of plate. After the Civil War, James McClintock wrote to captains in the Royal Navy in Halifax detailing the measurements and features of his three submarines, the *Pioneer*, *American Diver*, and the *H. L. Hunley*. Evidently McClintock's intent was to garner interest in his work from that quarter. In that letter McClintock states:

"I modeled her [*Hunley*], and built Expressly for hand Power. This Boat was of an Eliptical (sic) Shape, with modeled ends. And looked similar to Surf, or Whale Boats, placed one on top of the other. She was Built of Iron 5/8 inch thick, 40 feet long top and bottom, 42 inches wide in the middle, & 48 inches high, fitted with Cranks

Geared to her Propeller, and turned by 8 persons inside of her. And although she was a beautiful Model Boat, and worked to perfection. Yet like her Predecessors, the Power was too uncertain to admit of her Venturing far from Shore. This Boat was taken to Charleston, SC, and destroyed the Sloop-of-war *Housatonic*, Myself nor the Sub Marine's Gallant Commander, who lost his life in demonstrating... considered there was any danger in going out and destroying any vessel. But the danger was in having sufficient Power to bring the Boat Back. I would here state I do not believe the Sub Marine Boat was lost in the operation of destroying the *Housatonic*, But was lost in a storm which occurred a few hours after. I am aware the Federals has made diligent Search for her, And have made three different reports of having found her. Yet no descriptions that I have ever read are correct." [brackets added] (ADM 1/ 6236, Public Records Office, British Admiralty, Surrey, England)

Note—A transcription of the complete text of McClintock's letter will appear in a later update.

OPPORTUNITIES TO GET INVOLVED IN UNDERWATER ARCHAEOLOGY PROJECTS

By Lynn Harris

Are you SCIAA Underwater Archaeology Field Training certified, and do you feel comfortable working in low visibility riverine conditions? Do you have underwater photography and videography skills? If you do, you might be interested in participating in some upcoming projects in the Lowcountry. The SCIAA Underwater Archaeology Division has recently received a grant from the South Carolina Humanities Council to start a photographic inventory of a diverse selection of shipwreck sites in Charleston, Dorchester, and Berkeley counties which will be used as visual aids as part of a State Maritime Web page. The virtual diving experience will also benefit those non-divers who have never had the pleasure of wallowing in our murky river waters and experiencing history on a first-hand basis. In addition, we hope to have links to lists of literature references, historical scenes, and technical drawings which will serve as a South Carolina bibliography for maritime archaeology and history scholars.

An Underwater Heritage Trail Project in the West Branch of the Cooper River has received financial assistance from the National Recreational Trails Grant Program in cooperation with the SC Department of Parks, Recreation, and Tourism and Federal Highway Administration of the US Department of Transportation. A submerged plantation watercraft and dock structure, a sea-going sailing craft, a Revolutionary War shipwreck, a postbellum towing barge are the types of underwater resources included on the trail. Steps will be taken to enhance safety, accessibility, and public educational potential of these sites. For example, it will entail installing permanent mooring buoys near each structure, publishing brochures with information about the trail, and preparing laminated underwater maps that will be used to orient scuba diving visitors to the site. Public volunteers, we hope, will play an active role in assisting SCIAA in creating the trail and in continued routine maintenance.

Please contact Lynn Harris in Charleston at (803) 762-6105 or Jim Spirek in Columbia at (803) 777-8170, if you are interested in working with us on either of these projects.

SCIAA's Underwater Archaeology Division Completes First Phase of the Port Royal Sound Survey

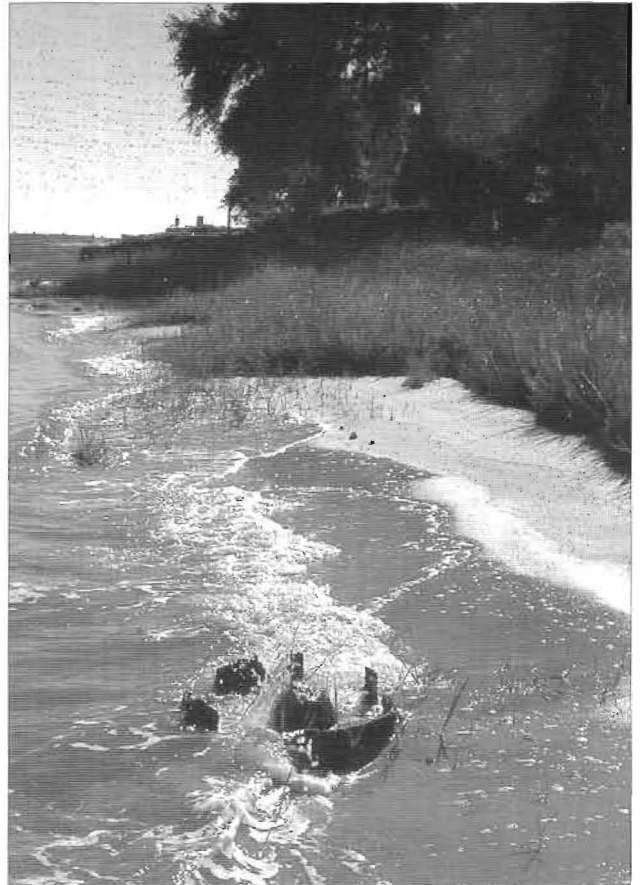
By James D. Spirek and Christopher F. Amer

The Underwater Archaeology Division of the SC Institute of Archaeology and Anthropology at the University of South Carolina is currently undertaking a comprehensive inter-tidal and submerged cultural resource survey of Port Royal Sound. Funded in part by a National Park Service Historic Preservation Survey and Planning Grant, administered through the SC Department of Archives and History, the project is under the direction of co-principal investigators James D. Spirek and Christopher F. Amer, assisted by Division personnel Lynn Harris, Joe Beatty, and Carl Naylor. Laura Von Harten, a local maritime historical researcher specializing in the fishery industry of Port Royal Sound, is a consultant to the project. Additionally, the project is supported by local institutions and groups, as well as by individuals, interested in the maritime history of the sound. The survey began this summer and will continue until August 31, 1998. Research components to complete the project will be implemented as funding permits.

The mission of the Port Royal Sound Survey-phase one, is to study and develop the historical, archaeological, and geographical context of the region's prehistoric and historic maritime past. Research methods include locating archival documents and historical references, reviewing the Archaeological Site Files and Hobby Diver reports for previously documented sites, studying maps and remote imagery, among other research avenues to build a database of known and potential archaeological sites in the project area. Besides relying on

texts and pictures, we will interview local watermen, divers, and others who are familiar with underwater and inter-tidal features such as unknown obstructions, snags, rock piles, pilings, landings, shipwrecks, and other items of interest. The information assembled through this research will provide a baseline of information by which to plan and conduct field work to record archaeological sites in and along the periphery of the sound.

The fieldwork for the first phase of the project is largely complete. Field methods for phase one included conducting aerial reconnaissance of the sound's shoreline and implementing a pedestrian survey, supported by small boats, along the shoreline, both accomplished during low tide. During the three-week-pedestrian survey more than 60 archaeological sites were newly located, or re-visited. Previously unrecorded sites were documented, i.e., measured drawings and photographed, for inclusion in the State Site Files. With the assistance of John Peterson, on loan to us from Steve Smith's Cultural Resource Consulting Division, the latitude and longitude of



A barrel well associated with Fort Frederick, a colonial fort built ca. 1730s to 1750s, overlooking the Beaufort River. (Photo by Christopher F. Amer)

the individual sites was recorded using a hand-held GPS unit. A GIS-compatible computer database, composed of information relating to a site, will be constructed for analysis and managerial purposes.

Based on the gathered research and field data the project team will demarcate areas for planned marine remote sensing operations, for the, as yet, unfunded phase two of the project, to locate submerged archaeological sites. Criterion to determine areas for survey include proximity to known historical activity or archaeological sites, information acquired from watermen and divers, and geographi-

cal features or ship "traps," i.e. sandbars and shoals. Using funds appropriated through the South Carolina General Assembly 1997 legislative session, the division has purchased an integrated marine data-gathering system. The ensemble, which is being custom designed by Sandia Research, Inc. in New Mexico, will consist of a cesium magnetometer, a side scan sonar, a DGPS unit, and a digital fathometer. Incoming electronic data obtained during the survey will be processed by an on-board computer system using proprietary software from Sandia.

Following the electronic survey, we will process the magnetic, acoustic, bathymetric data and devise GIS overlays in order to analyze and prioritize anomalies for visual inspection. Equipped underwater archaeologists and volunteers will ground-truth targets to identify and record those anomalies that are archaeologically significant.

By these means, the division will begin to construct a comprehensive inventory of inter-tidal and underwater archaeological sites in the sound that include shipwrecks or abandoned water craft, landing and wharf remnants, prehistoric sites, and other materials on state-owned bottom lands. The division will use the gathered information to develop guidelines for the preservation of these cultural resources; for example, addressing issues concerning access and suitability of a site's recreational, educational, or scientific benefit to the citizens and tourists of South Carolina. Other management issues of concern include possible, or on-going, impacts to these resources due to development, erosion, and artifact collecting. Eligibility for nomination to the National Register of Historic Places or Areas will be determined for those

sites bearing historical or archaeological significance to the maritime history of South Carolina. The Port Royal Sound Survey will initiate a program of long-term and comprehensive regional surveys throughout South Carolina under the direction of the Underwater Archaeology Division of the SCIAA with the support of local organizations and volunteers.

One of the more interesting sites near Beaufort is a barrel well associated with Fort Frederick. The wooden barrels, of which only the top of the uppermost barrel is exposed, were placed one atop the other down to the level of fresh water to line the well and prevent it from collapsing. The close-fitting barrel staves would also deter salt water from contaminating the well

water. Because the barrel is exposed to the effects of current and boat wake, the crew stabilized the site against further erosion. A second site, located downstream, revealed the bottom planking and frames of an early 20th-century boat, possibly used in the oyster industry.

SCIAA wishes to thank those volunteers who flew the aerial reconnaissance with us, and who battled rain, deep pluff mud, and razor-sharp oyster shells, for helping make this first phase of the survey a success. If anyone has any information pertinent to this survey, please contact James Spirek or Christopher Amer at SCIAA (803)777-8170 or spirekj@garnet.cla.sc.edu or amerc@garnet.cla.sc.edu.



Hull fragments of a 20th century wreck on Cane Island on the Beaufort River. (Photo by Christopher F. Amer)

The Mepkin Abbey Wreck: A Sport Diver's Experience

By Drew Ruddy

In the 1960s, some folks just didn't bother with a scuba diving certification course. They strapped on their gear, proceeded to the river, and swam around until they felt like they knew what they were doing. So it was with R. D. Densler, Jr., affectionately known as "Captain Bob" by the early South Carolina diving community.

By 1970, Captain Bob was the senior diver for the North Charleston Volunteer Rescue Squad. As the water was warming that year, he took a fellow rescue squad member, Don, on an "indoctrination dive" in the Cooper River near Mepkin Abbey. Although Don had never been underwater before, all was proceeding quite well as they reached the bottom of the anchor line. To maintain contact with the boat, the two held onto the anchor line and drifted down stream as the

anchor bounced gently along the hard marl. Don apparently maintained some semblance of comfort in this new environment until Bob changed the game plan.

Spotting an abandoned anchor line laying lazily on the bottom, Bob suddenly ventured away from the security of the link with the boat in hopes of recovering some fisherman's lost anchor. Bob followed the line into the "ribs" of an old wooden wreck. Meanwhile, Don's heart beat faster as he saw Bob leaving their anchor line, and suddenly he could take no more.

In his panicky effort to follow Bob, Don managed to fin Bob in the face, flooding his mask. In the minutes that ensued, both divers made it safely back to the boat where Don recovered from the experience of his first and, as far as I know, last dive.

Later, Bob phoned and told me of their escapades and about the wreck he had touched for only a moment. The following Saturday morning, we

bottom, the anchor line carried me directly to the port side of the wreck. I could not have kicked more than two strokes when I encountered a beautiful stoneware jug. With the almost surrealistic exhilaration of discovery, I retraced the route up the anchor line to bring the jug to the surface. In moments, Bob, Muck, and I were canvassing this approximately 50-foot long sailing vessel. It seemed to be

loaded with a cargo of assorted lumber of various shapes and sizes. In a short time, Muck located another jug and a "black glass" bottle toward the impressive mast step near the bow section.

Meanwhile, as I proceeded down the starboard side of the wreck, I could hear a scream from Bob as if he were in trouble, although I could not see him. As I moved to investigate his plight, I found him

amidships on top of the wooden cargo, pulling stoneware jugs from the rubble. I assisted in swimming them to the surface as he continued to discover them. At the end of our dive we had recovered two bottles, a hammer, and nine stoneware jugs. Subsequently, we returned to the wreck and Bob retrieved two more jugs, bringing the total to eleven.

I'm sure that it is quite evident that our approach to diving this wreck was anything but an archaeological endeavor. In fact, at that time, the state did not have an underwater



Drew Ruddy, Julian Muckenfuss, Bob Densler, and R. D. Densler, Sr. (Photo courtesy of Drew Ruddy)

were out at the crack of dawn to return to the site. Along for the occasion were Julian "Muck" Muckenfuss, who was Bob's longtime diving buddy, and Bob's father, R. D. "Papa D" Densler, Sr., as boat tender. When we arrived at Mepkin Abbey, Bob carefully sighted landmarks to anchor us over where he calculated the wreck to be. I enthusiastically geared up and proceeded down the anchor line to see if we were on the wreck. As I descended I could tell that the Cooper River was in its prime. Visibility was good and the current was minimal. As I neared the

archaeologist. The first law governing the recovery of underwater antiquities had only been passed about two years previously. The whole state of underwater archaeology might best be described as being in its embryonic stages.

Sensing that the Mepkin Wreck was of significance, I reported the finds to Dr. Robert L. Stephenson, then director of the SC Institute of Archaeology and Anthropology and one of the nicest men I have ever met. The information remained dormant for several years, when in 1978 Alan Albright, Ralph Wilbanks, and Darby Erd from SCIAA and myself returned to the wreck. It was a privilege to watch them scientifically map the wreck, as is evidenced when one reads Ralph Wilbanks' exceptional report. During this project, the sternpost and rudder, which had dislodged, was salvaged and taken by the state for conservation and study.

Today, more than 25 years since its initial discovery, I'm sure many divers have enjoyed observing the impressive features of this relic of our state's past, and perhaps felt the ambience of its proximity to the beautiful banks of Mepkin. It is my hope that divers in the future may continue to enjoy this site as we continue to respect its historic significance. I would like to think that this story is an illustration of some of the benefits which can be derived when recreational divers and SCIAA work together.



Brother Stephen Petronek with pot from the Mepkin Abbey wreck. (Photo courtesy of Drew Ruddy)

HISTORY AND ARCHAEOLOGY OF THE MEPKIN ABBEY SHIPWRECK

By Lynn Harris

For several years the Mepkin Abbey shipwreck, thought to be an early 19th-century merchant vessel, has been used as a SCIAA Field Training site for the Underwater Archaeology Division. Scuba divers learn how to recognize ship construction details and interpret clues about the cargo and reasons for the demise of the vessel. The Mepkin wreck will also be part of the new Underwater Heritage Trail on the Cooper River due to open in Fall 1998.

In November 1980, the Underwater Archaeology Division spent two weeks mapping the wreck which is approximately 48 feet long with an 11 foot beam. The bow structure is comprised of a stempost and inner apron. The outer and false stem is missing. The sternpost and rudder were recovered for conservation and closer study. There are 18 floor timbers and 14 first futtocks which are joined at or pass under the keelson. The

vessel had one mast, stepped approximately 9 feet from the bow. The mortise for the saddle maststep, designed to straddle the keelson, had distinctive tool marks indicating that it was cut with an auger and chisel. An especially interesting construction feature of this vessel are the three notches on top of the keelson that were 5 and 1/2 feet apart and might represent the presence of stanchions in the major cargo area. These supports might have held a ridge pole for a tarp to cover the open cargo area. The boat was built from a combination of local woods—southern pine, live oak, and bald cypress.

The vessel was designed to carry a heavy cargo, probably between the plantation and the harbor, and perhaps even offshore. Her last cargo appears to be cut lumber, possibly cypress shingles. The wreck lies in proximity to former Mepkin plantation owned by the illustrious Henry Laurens—a wealthy planter,

merchant, and Revolutionary War leader. The records of his estate written in 1766, reveal that he owned a schooner called the *Baker* valued at 2,600 pounds and crewed by four slaves. This boat plied between Mepkin plantation and his wharf in Charleston. Although the *Baker* was rigged as a schooner, a letter written by Henry Laurens in 1771 describes how he had seen vessels with one mast of similar hull form to the *Baker* in Pennsylvania and Jersey. He had been told that this one-masted rig could save the labor and expense of one crew member, and furthermore, would gain some advantage in point of sailing. He then ordered that the *Baker* be immediately converted into a sloop rig. We do not know, at this point, if the Mepkin wreck is the *Baker*, but it does deserve some consideration.