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Flotsam and Jetsam - July 1996

South Carolina Institute of Archaeology and Anthropology--University of South Carolina

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Legacy

South Carolina Institute of Archaeology and Anthropology

Charlesfort Discovered!

By Chester B. DePratter, Stanley South, and James Legg

On June 6, 1996, University of South Carolina President John Palms announced our discovery of French Charlesfort. The announcement ceremony was held at the Ribaut Monument located on the south end of Parris Island, home of the U.S. Marine Corps Recruit Depot. The ceremony was attended by local dignitaries, invited guests, and numerous members of the press. We were gratified by the interest shown in this once-in-a-lifetime discovery.

What is Charlesfort?

Charlesfort was constructed in 1562 on Parris Island in Port Royal Sound, near present-day Beaufort, South Carolina, by Captain Jean Ribault. Ribault and his followers were French Huguenots seeking a place for Huguenot refugees to settle in order to escape religious persecution in their homeland. After building a fort, which was named



USC President John Palms joins Bruce Rippeteau, Stanley South, and Chester DePratter at Charlesfort ceremony.

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H. L. Hunley Assessment Expedition Fieldwork Completed

By Christopher F. Amer, Steven D. Smith and Jonathan M. Leader

The South Carolina Hunley Commission and the U.S. Navy/Naval Historical Center initiated on 29 April a jointly funded assessment survey of the remains of the submarine *H.L. Hunley*. The survey was conducted during a five-and-one-half-week period. The principal goals of this survey were to confirm the identity of the object at the site as the *Hunley*, document the site to the extent conditions would permit, ascertain condition of the hull, and to evaluate the feasibility of a future

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Flotsam and Jetsam

JAMES D. SPIREK JOINS UNDERWATER ARCHAEOLOGY DIVISION STAFF

The South Carolina Institute of Archaeology and Anthropology has a new underwater archaeologist on staff. James D. Spirek, most recently of Pensacola, Florida, joined the Underwater Archaeology Division at the beginning of March.

Prior to coming to South Carolina, Jim spent more than three years as Field Director of the Pensacola Shipwreck Survey and the Emanuel Point Shipwreck Project, both for the Florida Bureau of Archaeological Research.

Jim has a master's degree in maritime history and nautical archaeology from East Carolina University in Greenville, NC. While in North Carolina he also worked as a field archaeologist on the Atlantic Beach Project and on the Savannah River Survey for Tidewater Atlantic Research.

Jim served as principal investigator on the *Southfield* Project, as archaeologist on the Mobile Bay Search, as an assistant on the Western Ledge Shipwreck Project and on the Apostle Island Survey, all under the auspices of East Carolina University. Finally, he also worked as an excavator on the Yorktown Shipwreck Project for the Virginia Department of Natural Resources.

Jim brings to SCIAA vast experience in remote sensing, public education, shipwreck excavation, underwater photography and videography, archaeological and historical research, and report writing. In addition, he is an accomplished illustrator.

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recovery project. The principal parties tasked to carry out this expedition were the National Park Service-Submerged Cultural Resource Unit (NPS-SCRU), the South Carolina Institute of Archaeology and Anthropology-Underwater Archaeology Division (SCIAA), the Naval Historical Center-Underwater Archaeology Program (NHC), and the South Carolina Department of Natural Resources (DNR).

Mr. Daniel Lenihan (NPS-SCRU) and Mr. Christopher Amer (SCIAA) were Co-Principal Investigators for the project and Mr. Larry Murphy (NPS-SCRU) was Field Director. The U.S. Coast Guard, the Naval Weapons Station, and the Naval Criminal Investigative Service provided site security. A South Carolina Educational Television crew lived with the archaeology crew and documented all phases of the project. Several private companies and not-for-profit groups donated their unique expertise and an array of state of the art technology for remote sensing, geology, marine biology, sedimentology, and corrosion engineering. These groups include Marine Sonic Technology, Inc., Edgetech Corporation, Oceaneering Inc., Geometrics Inc., Sandia Research Associates, Inc., Jim Graham and Associates, and the Institute of Nautical Archaeology.

Phase One of the *H.L. Hunley* Expedition was carried out from April 29 through May 6. This Phase consisted of non-invasive, remote sensing using a marine proton magnetometer, a RoxAnn bottom classification unit, a side-scan sonar, and a digital sub-bottom profiler. This sophisticated

magnetic and acoustic sensing equipment relocated the site of the *Hunley*, defined the limits of the archaeological site, discovered other areas possibly associated with the site, and profiled the depth of the submarine below the sediments. Additionally, information from cores taken around the site provided environmental contextual information to assist in the assessment.

After several "down days" due to a series of weather fronts passing through the region Phase Two began on May 9. This phase was designed to uncover and positively identify the *Hunley* by discovering and recording several of the hull attributes unique to the submarine. Attributes included the forward and aft hatches with portholes and cutwaters forward of the hatches, torpedo spar, diving planes, air box and snorkel, propeller, rudder, and external iron keel ballast. On May 17 the identity of the *Hunley* was confirmed with the identification of five of the seven attributes unique to the vessel. While areas of the hull



View of forward hatch. 3/4 view of port (left) side. On left of the photo is the cutwater. The large jagged hole in the hatch coaming we suspect is the location of a viewport. (SCIAA Photo)

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Some members of the *H.L. Hunley* joint assessment project. (left to right) Dave Conlin, Jahn Brooks (NPS), Warren Fouche (SCETV), Rich Wills (Naval Historical Center), Christopher Amer, Carl Naylor (SCIAA), Larry Murphy (NPS), Jim Spirek, Steve Smith (SCIAA), Larry Nordby, Daniel Lenihan, Matt Russell (NPS).

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were exposed and being recorded, Mr. Dan Polly, a corrosion engineer from Jim Graham and Associates, conducted studies of the corrosion levels of the metal. Both phases were hindered by high winds and heavy seas.

Once Phase Two was completed the submarine was reburied under protective sediments. The site of this significant find is currently protected by physical barriers, electronic surveillance and sensing devices to provide continuous security. The analysis of the data gathered during this expedition will take many months to evaluate. However, some preliminary results include the following: The *Hunley* is completely buried in the harbor sediments, lying at a 45 degree angle on the starboard side with the bow facing the shore and dive planes elevated. The evidence suggests that, after the initial sinking, the hull became buried within 10 to 15 years in a single event. The hull still contains much metal, however there is active corrosion taking place throughout the vessel. There is little apparent damage to the hull in the areas investigated (less than one-quarter of the vessel). However, the forward face of the forward hatch coaming is fractured, possibly where a porthole once

existed.

The construction of the submarine, *H. L. Hunley*, at the Park and Lyons machine shop in Mobile, Alabama, in 1863, was overseen by one Lieutenant William Alexander. Some 40 years later, Lieutenant Alexander published a description and sketch of the vessel in the New Orleans *Picayune*. Architecturally, the *Hunley* differs in a number of ways from Alexander's description and bears much more similarity to Conrad Wise Chapman's painting of the vessel done shortly after it was built. The hull investigated has a hydrodynamic shape with smooth lines converging at bow and stern. The hull is 39 feet, 5 inches long, and approximately 3 feet, 10 inches in diameter. A 4-3/4-inch external keel runs along the bottom of the hull. Both hatches are present, each located approximately 9 feet from either end of the hull. Each hatch coaming contains a small view port on its port (left) side, while the forward hatch coaming

apparently contained one facing forward but which is broken. The dimensions and configuration of the hatches approximate those noted by Alexander. A cutwater, formed from a single plate of iron, angles forward from the forward hatch toward the bow. The air box/snorkel is located directly aft of the forward hatch, although only stubs of the snorkel tubes remain. Between the air box and the aft hatch, evenly spaced along the hull, and to either side of the centerline, are 5 pairs of flat-glass deadlights, presumably to facilitate illumination of the interior of the vessel. The port dive plane, located below the air box, is 6 feet, 10 inches long (longer than the 5 feet noted by Alexander), 8-1/2 inches wide, and pivoted on a 3-inch pivot pin. No evidence for a spar was found during the assessment.

When all of the studies have been completed, a final report of the expedition and recommendations for the preservation and recovery of *H.L. Hunley* will be delivered to the South Carolina *Hunley* Commission and U.S. Navy.



Underwater archaeologists from SCIAA and the National Park Service prepare to dive from the Department of Natural Resources support boat *R/V Anita*, while the SCIAA *R/V Sea Hawk* (foreground) holds SCUBA tanks and water induction dredge used for excavating the site. (SCIAA Photo)

Sport Diver, Underwater Site Data Shows Interesting Trends

By Lynn Harris and Carl Naylor

Now that readily available sources of information have been entered into the Underwater Archaeology Division's hobby diver and site data bases, we have reached a plateau of sorts, and a report is underway. Here is a sample of some of the preliminary information.

Looking at the types of shipwrecks we have in South Carolina, so far the majority we have recorded are sailing vessels, dating to the antebellum (21%) and Civil War Years (27%). Cross references to the hard copies reveals that most of the sites (mainly artifact scatters) reported by divers are located in rivers rather than offshore. So, come on divers—where are all those steamboats and offshore shipwreck sites? We need to fill in the gaps.

As anticipated, most hobby diving (47%) takes place in the Cooper River, followed by the Ashley River (20%). The Ashley River? Of course, not all our data comes from hobby divers. Most is through historic research (72%), followed by hobby reports (43%) and from site files submitted by SCIAA archaeologists (22%). The latter category can be misleading since many sites reported by hobby divers have subsequently been listed in the files under the name of the archaeologist who went out to assess the site. Recently we have been trying to encourage divers, especially Field Training Course participants, to submit this extra paperwork so that their name, as the discoverer, will appear in the official records.

In terms of hobby diver trends, the most licenses between 1995 and 1996 were issued to the coastal areas—Charleston area (61%), followed by

Beaufort (28%) and Georgetown (11%). The majority of out-of-state hobby divers come from Georgia and North Carolina, with Florida lagging in the rear.

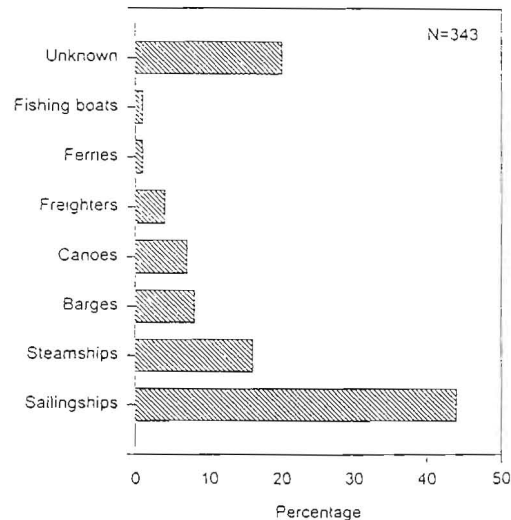
Since 1989, when we started offering training courses, 123 divers have been certified. Carl Naylor notes that 98 (80%) of these have been male

and only 25 (20%) female!

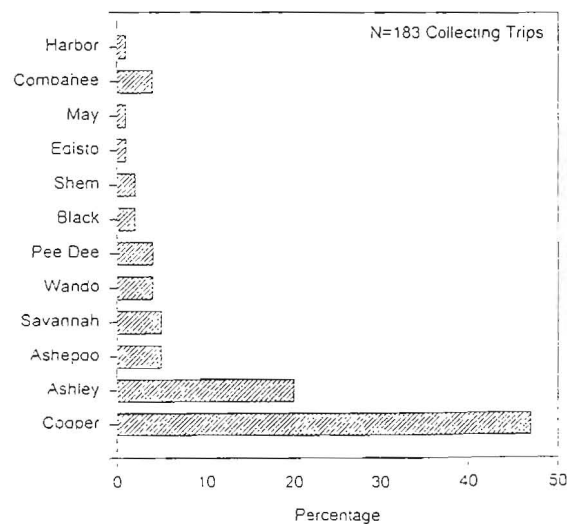
Of the total number of hobby reports submitted by divers, 25% included maps showing site locations and 15% included drawings and photographs.

Good work! Hopefully the number will be even higher next year. Let us hear from you!

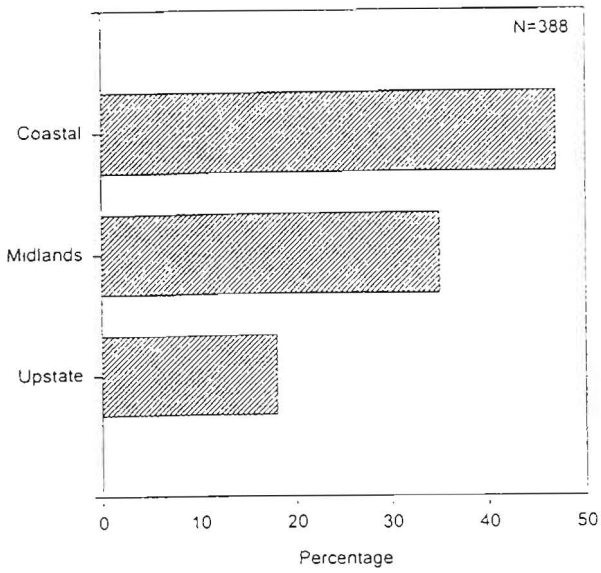
Shipwreck Types in South Carolina



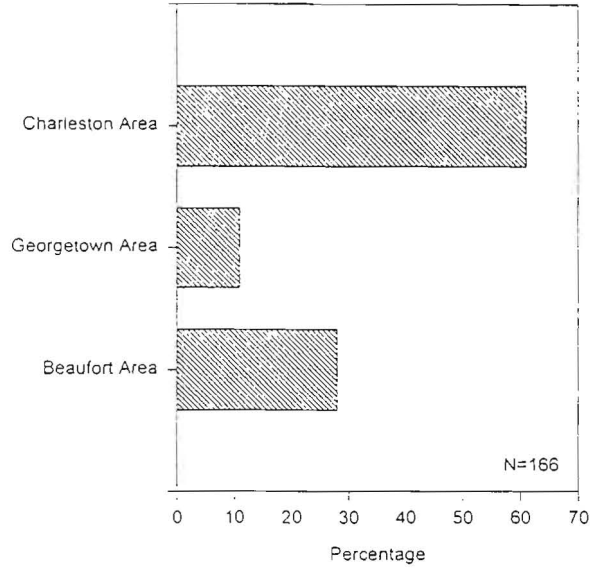
Recoveries Reported in SC Rivers During 1995



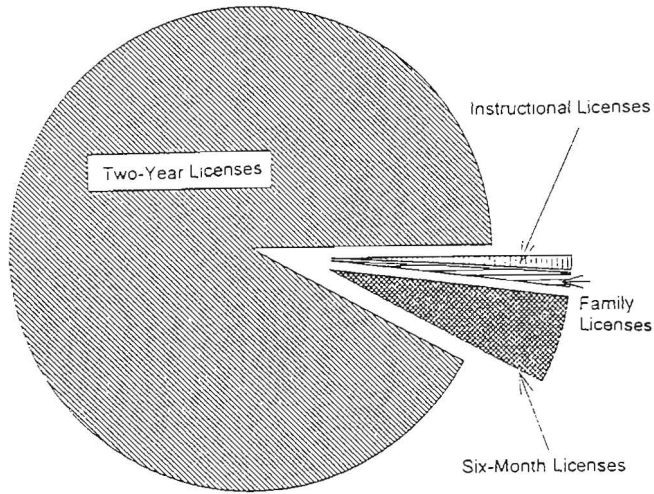
Distribution of Hobby Licenses issued to Geographic Regions of SC



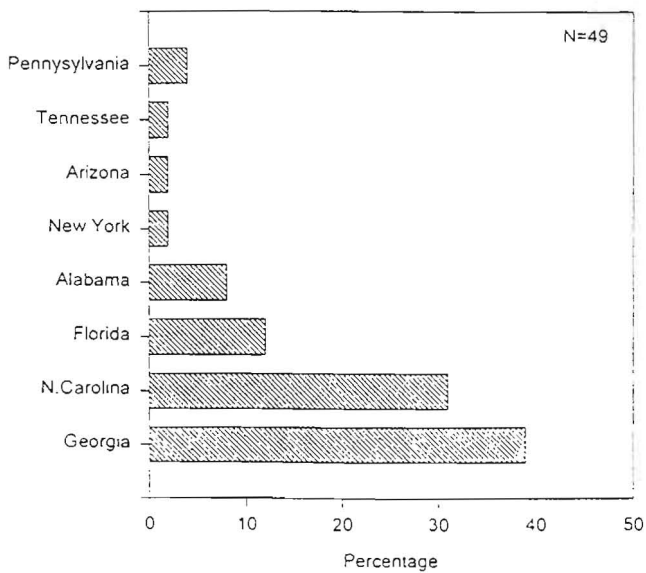
Distribution of Hobby Licenses in Coastal Areas



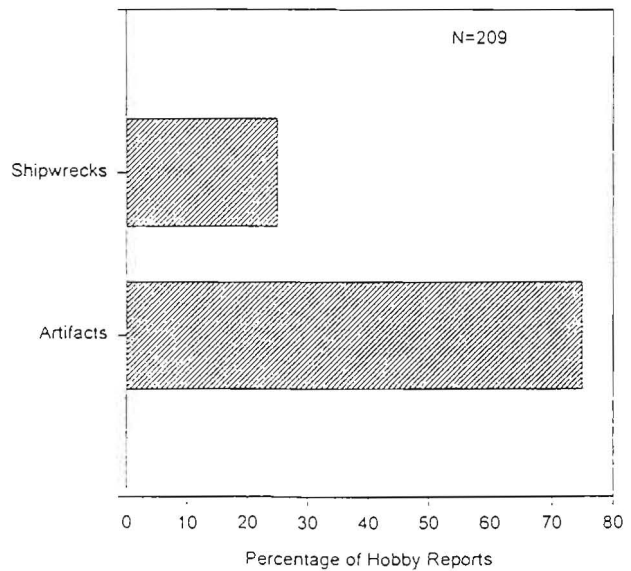
Percentage of Hobby License Types issued During 1996



Distribution of Out-of-State Hobby Licenses in 1995



Site Types Reported by Hobby Divers during 1995



Shipwreck Work Continues on Banks of Ashley River

By Lynn Harris

During the winter months, the Charleston office staff and trained avocationalists have been putting in many muddy hours working on the banks of the Ashley River. Billy Judd, a SCIAA Research Associate, reported several shipwrecks in this historic area to SCIAA last year (see *Flotsam and Jetsam*, May 1995 issue), and we are now in the process of documenting these watercraft which date from colonial times to the twentieth century. Funding for the project is being provided by an award from the Robert L. Stephenson Archaeological Research Trust.

Three sites were selected for this season of initial research. Selection was based on criteria such as how vulnerable the specific area was to boat wake, the practical logistics involved in recording important features without removing large quantities of overburden, and how these sites could contribute towards filling in the gaps in our historical knowledge of the construction and utility of these boats in the larger context of South Carolina's inland transportation and economic setting. Essentially, we were trying to combine research and management goals.

The project also provided opportunity for SCIAA Part I Field Training Course students to obtain field experience and accumulate credits towards Part II certification. Many thanks to Doug Boehme, Dee

Boehme, and George Pledger for all their hard work. Equipment donations such as a tall ladder for aerial photographs and plastic for artifact tags helped to stretch the grant money ever further.

Additionally, we had enthusiastic assistance from College of Charleston Anthropology major Rusty Clark and history major Eddie Weathersbee. April Cox from the James Island High School mentorship program joined us on-site for a day—the only day that it

These riverbank sites required careful planning since the work had to be conducted within tidal windows.

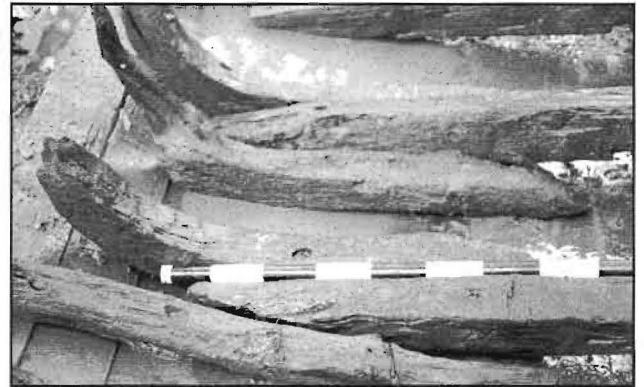
snowed in the Charleston area this winter!

These riverbank sites required



Shaft log on motorized vessel shows shaft hole. (SCIAA Photo)

careful planning since the work had to be conducted within tidal windows. Usually we managed to work for at least two or three hours around the



Frames indicate original curve of hull on sailing vessel. (SCIAA Photo)

low tide window while the sites were exposed. Part of the crew uncovered the timbers using garden hoses with water pumped from the river. Others recorded measurements and construction features. Wood samples were taken from each component (keel, keelson, frames, planking, etc.) to determine what types of woods were

being used to build these boats. The wood expert, Lee Newsom of the Center for Archaeological Investigations at Southern Illinois University, will be identifying and analyzing these samples for us in the coming months.

The three vessels that were documented include a tugboat (with a length of 20.62 meters and beam of 6.45 meters), a motorized wooden vessel (length 17 meters and beam 2.82

meters), and a probable sailing ship, although sections of the keelson are missing so there is no evidence of maststeps and rigging arrangements. For particulars on the tugboat, see

Flotsam and Jetsam, May 1995 issue.

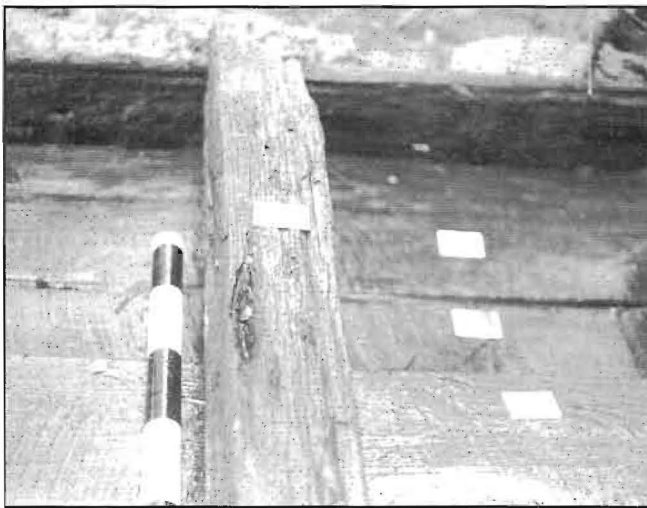
The framing pattern on the sailing vessel consisted of sets comprised of a floor timber and two first futtocks on either side fastened together laterally with metal bolts. The very square 90 degree rise of first futtocks, almost resembling standard "knees," is unusual compared to the earlier nineteenth century vessels the Institute has recorded. This was evidently a very boxy-shaped boat. The floor timbers and a disarticulated keelson both displayed distinctive slots cut to fit snugly together, locking the floor timbers into place.

On the motorized vessel site, a shaft log used to support the propeller shaft and engine beams straddling the keel provide clues that this vessel

was motorized and dated to the latter part of the 1800s or early 1900s. The hull of this vessel was heavily planked, with three layers of outer hull planking in the aft section near the shaft log and two layers in the forward areas. One of the technical problems with early propeller-driven wooden vessels was that the vibration of the shaft caused hull planking to loosen and leak. The weight of an engine on a wooden hull also probably required additional reinforcement such as extra layers of hull planking.

Apart from dates provided from construction clues and fastening types, both vessels yielded small chunks of what we believe to be phosphate in the bilges. This geological substrate was

mined extensively along the rivers in the postbellum years for agricultural fertilizer. Some of the most notable productive mines were situated along the upper Ashley River. The first mines were established in 1867, and by the 1880s several operations flourished, due largely to South Carolina's virtual monopoly of phosphate production in its early years. In the 1890s, however, natural disasters, financial woes, and competition from



Framing of motorized vessel shows boxiness of hull. (SCIAA Photo)



Exposed remains of sailing vessel. (SCIAA Photo)

mines and mills in other Southern states combined to send the Charleston area industry into a slump. It is very likely that these vessels we are studying were part of the phosphate mining business and used to transport miners, equipment, and phosphate up and down the Ashley River. It is interesting to note how far upriver vessels of this size could maneuver.



Eddie Weathersby, left, Dee Boehme and George Pledger take a break from recording timbers on the sailing vessel. (SCIAA Photo)