

BERMUDA FIELD SCHOOL INVESTIGATES "STONEWALL WRECK"

Under the direction of **Gordon P. Watts, Jr.** and the supervision of Diving Safety Officer **Steve Brodie**, ECU students **Darryl Byrd**, **Wayne Lusardi**, **Coral Magnuson**, **John Rossi**, and **Rob Westrick** completed excavation of the Stonewall Wreck located near Western Blue Cut in Bermuda. In addition to training students in archaeological methods and techniques, project objectives were to finish the excavation and recording of a previously unworked ten meter section of the port side of the vessel and to remove starboard bilge ceiling in order to expose and study the underlying frames.

The Stonewall wreck was originally discovered and partially salvaged by Mr. Teddy Tucker in 1950. A high concentration of charcoal on the site, the absence of any heavy ordnance or substantial cargo indicated burning and contemporary salvage of the vessel. In 1975 Dr. Edwin S. Dethlefsen of Franklin Pierce College excavated a portion of the site and published an interim report in *The International Journal of Nautical Archaeology*, vol. 6, no. 4 (1977: 315-329). East Carolina University first conducted a field school on the site in 1994, and by the completion of the 1995 field season, had excavated approximately 85 percent of the lower hull of the vessel. Artifacts present on the site indicated Spanish origins, and a mean ceramic date placed the wreck at circa 1685. The framing pattern of the vessel, however, suggested possible English construction, and the data obtained this season will contribute to the identification and nationality of the ship. New finds included clay and ceramic pipe bowls, lead bale seals, a bone or ivory die, pottery sherds, musket shot, and faunal remains. The results of this year's excavation are presently being analyzed by **Gordon Watts**, Bermuda Maritime Museum archaeologist **Billy Ray Morris**, and ECU student **Kelly Bumpass** who has selected the wreck to be the subject of his thesis.

When time allowed, field school students visited other sites to see first hand

a chronology of ship construction methods represented by the wrecks off Bermuda. Using tow boards, students also located the remains of two previously unrecorded wrecks dating to the 18th and 19th centuries.

A film production crew, under the direction of George Stover of Baltimore, Maryland was present for a portion of the field school. The film crew recorded students excavating the Stonewall wreck, tow boarding, and diving on other sites. The crew also filmed students drawing and computer digitizing site plans and analyzing artifacts. The one-hour television documentary focusing on archaeology and Bermuda shipwrecks should be completed in early 1997.

Overall, the 1996 fall field school in Bermuda proceeded without any significant problems and only a few bad weather days. The students involved gained valuable experience in underwater archaeology and, at the same time, completed the meticulous excavation and recording of an important wreck site. The television documentary will allow others to share in the adventure of nautical archaeology, and the analysis of data will contribute to our understanding of late 17th century ship construction techniques. No additional field research is planned on the Stonewall wreck.

Wayne R. Lusardi



Bermuda Field Crew 1996: John Rossi, ECU; Coral Magnuson, ECU; Cissy Deas, ECU; Gordon Watts, ECU faculty; David Wohl, Volunteer; Darryl Byrd, ECU; Wayne Lusardi, ECU; Billy Ray Morris, Bermuda Staff Archaeologist; Mike Phillips, Volunteer; Rob Westrick, ECU; Steve Brodie, ECU--Dive Safety Officer. (Photo: Nan Godet)

“DON’T GIVE UP THE SHIP”

ECU MARITIMERS SAIL THE U. S. BRIG NIAGARA

“Don’t Give Up the Ship!” Or at least not until Quebec. Nine East Carolina University maritime graduate students (**Robert Church, Sarah Waters, Charles Bayman, Deirdre O’Regan, Nathan Henry, Coral Magnuson, Peter McCracken, Chris Kirby, and Rusty Earl**) and Professor **Larry Babits** embarked on a new program last summer when they signed on board the U. S. Brig *Niagara* for a three week passage. Between Rockland, Maine and Quebec City, Quebec these students put aside conventional classroom assignments and participated in the voyage as volunteer crew for *Niagara*’s homeward bound leg of her 1996 East Coast tour.

The U. S. Brig *Niagara*, owned and operated by the Pennsylvania Historical and Museum Commission (PHMC), hails from Erie, Pennsylvania. As a reconstruction of Commodore Oliver Hazard Perry’s historic flagship from the Battle of Lake Erie in 1813, the vessel’s mission is to bring historical interpretation to the public both as a museum and as a fully operational lake and ocean-going ship. At sea, *Niagara* needs approximately forty hands to operate the ship twenty-four hours per day as twenty volunteers assist the professional crew in the sailing and maintenance of the ship.

With 15 sails, nearly 13,000 square feet of canvas, and miles of line (rope) to manipulate, everyone on board gets plenty of opportunity to learn and practice the arts of traditional seamanship in a real life context—skills mostly lost to today’s mariners. As maritime historians and nautical archaeologists, ECU students learned first hand what “Let Go and Haul,” “Right Full Rudder,” and “All hands for below decks clean-up” really meant. Marlinspike seamanship found meaning as ECU students spliced lanyards on their rigging knives, tied knots both while aloft furling sails and below securing their hammocks.

Captain Walter Rybka, who has sailed and restored large traditional sailing ships including the bark *Elissa* in Galveston, Texas, commanded the ship and his crew and graciously made himself available to ECU students for question and answer sessions. He gave both formal lectures and informal talks on the construction of the ship—noting differences between the original design

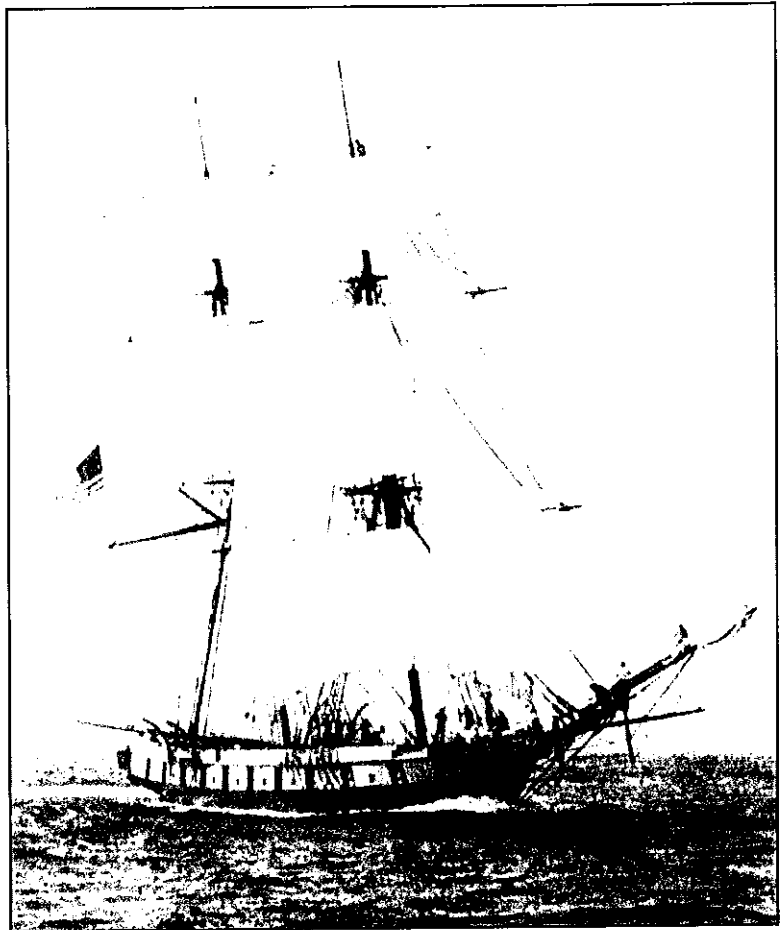
and construction materials and her modern rebuild. Naturally, the Battle of Lake Erie and Commodore Perry’s tactics inspired several discussions. Rybka ran the crew through tacking drills, explained wearing ship, and discussed ship handling with his working simplified hull and spar model, the “Nyajara.”

ECU’s involvement in the summer voyage began last year when a new ECU student, Deirdre O’Regan, who had worked on sail training ships for several years before enrolling in the Maritime Program, brought up the idea of starting an ECU program at sea. Dr. Timothy Runyan, then Interim Director, responded with enthusiasm and provided support in getting approval from the rest of the department. Dr. Larry

Babits, a frequent historical re-enactor, agreed to accompany the student group.

Along the twenty hour drive from Greenville to Rockland, Maine, O’Regan coordinated an itinerary that included full tours of Mystic Seaport, the barkentine *Gazela* of Philadelphia, Bath Iron Works (shipyard in Bath, Maine, builders of Arleigh Burke class destroyers), Nathaniel S. Wilson’s sail loft in East Boothbay, Maine, and the schooner *Harvey Gamage*.

Once on board, the chief mate assigned ECU maritimers to different divisions on either port or starboard watch. Now, they were *Niagara* crew and the ship became the focus of their lives for the next three weeks. Only a few bouts of seasickness distracted individuals for a short time, but with the land be-



U. S. Brig *Niagara* (Photo: Matthew Pundt, Hamot Medical Center, Erie, Pennsylvania)

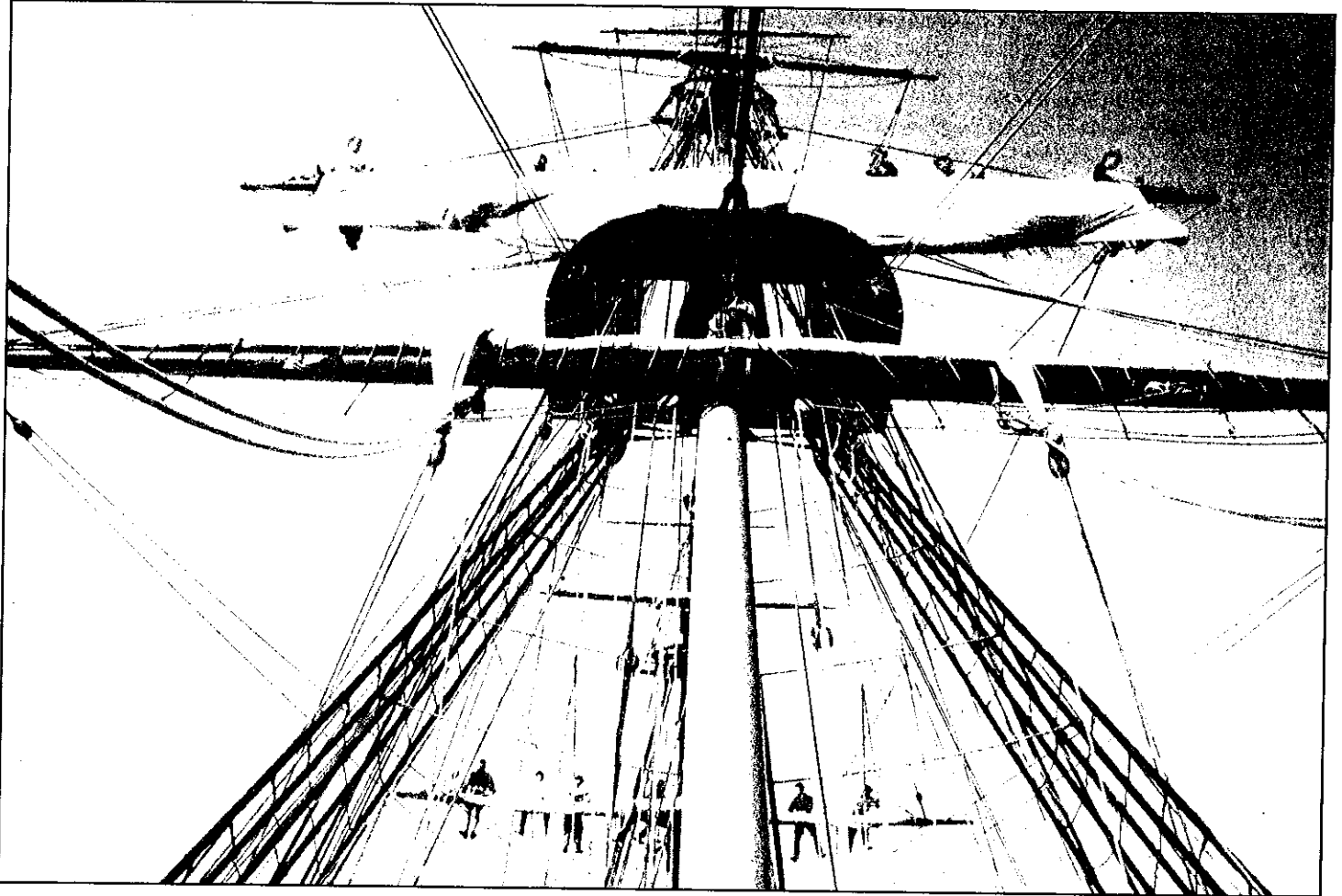
hind them, they sailed into a world they had only studied in books. For the nautical archeologists, it was a chance to see and feel a wooden ship operating instead of just recording its parts on the ocean floor. For historians, sailing on the *Niagara* provided the opportunity to discover the realities of life at sea—both the hardships and beauty of living at sea under sail.

Sailing on the *Niagara* is no vacation and is definitely not for everyone. The ship supplies hammocks and heads, but there is no privacy, no shower, and plenty of sleep deprivation. Nonetheless, for those who are willing, it provides an opportunity to step into the past. The smells of tar in the rigging (and the bilge), sounds of reef nettles flapping against the sails, the motion of

the ship through the water, and the callouses on their hands all induce the true maritimer to further investigate the histories of ships and people at sea.

For information on volunteering for the Brig *Niagara*, contact the Flagship Niagara League, East Front Street, Erie PA, 16507.

Deirdre O'Regan



ECU students tuck a reef in the fore topsail. (Photo: Deirdre O'Regan)

NEW COURSES OFFERED

This year, the Program in Maritime History and Nautical Archaeology implemented two new courses, both featuring practical experience as their main focus. A one hour credit course will be offered in conjunction with the North Carolina Maritime Museum. This intensive, hands-on course teaches the skills of recording watercraft. It will involve the techniques of documenting watercraft for inclusion on the National Register and the Historic

American Engineering Record. Plans are still underway to offer this course during a Spring Break weekend. The vessels will be among those already held by the museum but not yet completely documented. Assistance by the National Park Service in providing sophisticated recording equipment is still in the planning stage, but the future for this linkage looks very good.

The second new course takes place on board a reproduction of an early 19th century vessel. The setting for this three week

(3 hour) course participating in all aspects of shipboard life will take place on the US Brig *Niagara* during late July and early August. This is the result of the successful experiment conducted last summer on the *Niagara* which we now hope to continue on a regular basis. As with last year, students will help man the vessel in what amounts to a near "total immersion" into life aboard a War of 1812 man-of-war. The only things missing are grog, flogging, and fighting.

Larry Babits

Lecture on the Two Corinthian Harbors: Lechaion and Kenchreai

One of the strengths of the Maritime History and Nautical Archaeology Program at East Carolina University is the wide spectrum of lectures that the program hosts each academic year. On October 24, we had the great pleasure of listening as Dr. Richard Rothaus presented a lecture on the topic: "The Ups and Downs of Corinthian Harbors: Geomorphology and Archaeology." Dr. Rothaus specializes in Roman and post-classical history and archaeology. He is currently teaching in the History Department and directing the Archaeological Computing Laboratory at St. Cloud State University. The Maritime Studies Association (MSA), and the Program of Maritime History and Nautical Archaeology organized the presentation which was heartily attended by the Maritime History students and staff, and a number of individuals interested in Greek maritime history and

archaeology.

Dr. Rothaus presented a slide lecture on the two Corinthian harbors: Lechaion, and Kenchreai. Corinth was one of the major trade cities and naval powers of the ancient Mediterranean world primarily because of its strategic location on the narrow Isthmus of Greece. Its harbors, Lechaion on the west, and Kenchreai on the east were two of the most important maritime trade cross-roads of antiquity in the Eastern Mediterranean area, and as such, they have been in use for over 3,300 years. Besides Corinth's geographically significant location, linking and facilitating trade between West and East, it was the geomorphologic aspects of the Isthmus that shaped the history and archaeology of this area in an unprecedented way. The high seismic activity of this area affected, and as a result changed dramatically, the landscape of

the two harbors between ancient and modern times. Lechaion suffered from uplift, and is now largely on land, and Kenchreai subsided periodically, and is now mostly underwater. During his lecture, Dr. Rothaus identified the major geomorphologic factors and events that took place in this area since ancient times, and elaborated on the implications of these for both the history of the harbors and the archaeological record.

Dr. Rothaus' work and research of the two Corinthian harbors is preliminary and part of a larger project, the 'Corinthian Littoral Project' that involves the seismic, geomorphologic, climatic and environmental study of the coastlines of the Corinthia, Greece.

This was a very enlightening lecture on how the history and archaeology of harbors can be affected by the geological formations and phenomena of the surrounding area.

Elefthera Mantzouka

Outstanding in the Field

Each Spring ECU offers its graduate students two classes which emphasize a hands-on approach to learning Research Methodology in Nautical Archaeology and Ship Construction. Under the direction of Gordon Watts, students literally get their feet wet in the field. In the Methods class, students learn how to digitize maps using Autocad. They also learn how to use magnetometers and side-scan sonar. This year's class participated in a survey project in conjunction with the State of North Carolina's Underwater Archaeology Unit which searched for the remains of the Nutfield, a Confederate blockade runner lost off New Inlet, NC. Each year, students from both classes go on a day trip to Washington, NC where they study the remains of several ships located in the Tar River. This year's class examined a wide variety of shipwrecks including a center-board schooner, Civil War gunboat and a 19th century lumber barge.

Rob Westrick

Gordon Watts discusses the history of ship construction of the Eureka tugboat with a group of his students. (L-R) Wayne Lusardi, Coral Magnuson, Deirdre O'Regan, Darryl Byrd, Gordon Watts, Rob Westrick. (Photo: Christopher Olson)



SUMMER FIELD SCHOOL 1997

There have been some changes in the field archaeology courses. For one, the Scientific Diver Training Course will now be taken during Summer Session I. This is a prerequisite for the Summer Archaeological Field School, which is now offered in Summer Session II. The Summer Archaeological Field School is, in turn, now a prerequisite for the Fall Archaeological Field School.

The Scientific Diver Training Course will have a lab fee to cover the cost of dive vessels and other expenditures. At present, the planning includes a variety of in-depth work not previously attempted. Depth will be extended to about 100 feet on some occasions. More intensive and extensive low visibility work will also occur on at least three sites. Students will be given more practical experience with still and video cameras as well.

The Summer Field School under the

direction of **Larry Babits** will work on two gunboats (136 and 137) from the Chesapeake Flotilla scuttled during the War of 1812 and recently located by Donald Shomette. The work is part of a major project involving Shomette, the US Navy, the State of Maryland and other groups. Additional sites to be inspected include a 17th century vessel and a cluster of merchantmen scuttled in 1814. The two gunboats were part of Joshua Barney's Flotilla that attempted to protect the southern Chesapeake from the British Navy. In 1814, they were located by a large British fleet. Eventually, the entire flotilla was sunk when it ran out of river to operate in. Barney and his men went on to be the only American heroes at the battle of Bladensburg.

The sites are well preserved. The shallow gunboats are buried in mud that extends over their gunwales. While

some salvage occurred in the early 19th century, virtually everything they were carrying went down with them. According to Dr. William Dudley of the Naval History Division, the flotilla is "The *Vasa* of American Waters." Unlike the *Vasa*, the flotilla provides a range of vessels from the same time period that went down at the same time. That makes the site(s) even more important than a single, royal vessel.

The fall field school location has not yet been determined. It will be under the direction of **Gordon Watts** who promises interesting, historically important sites in warm water with good visibility. He has been exploring several possibilities but a final decision on the fall field school location has not been made yet.

Larry Babits

DR. McCANN: GUEST LECTURER AT ECU

In the spring of 1996 Phi Alpha Theta and the Maritime Studies Association hosted guest lecturer, Anna Marguerite McCann, Ph.D.. Dr. McCann is a pioneer in the field of Underwater Archeology and a leading authority on ancient Roman sculpture. She and her husband have endowed the "Anna Marguerite McCann-Robert D. Taggart Lectureship" for the Archaeological Institute of America. The current recipient of this award is ECU graduate James Delgado.

Dr. McCann presented two slide lectures on April 10th. In the morning she spoke on "Underwater Archaeology: Past, Present and Future" which she followed with an evening lecture on "The Roman Port and Fishery of Cosa: A Center of Ancient Trade." Dr. McCann directed a team of archaeologists, geologists, engineers, and others for twenty-two years at the Cosa excavation. The Cosa site revealed the earliest dated example of hydraulic concrete and the earliest known Roman lighthouse. The Sestii, an important Roman political family, controlled the remarkable commercial complex at Cosa.

Dr. McCann spent a great deal of time discussing archaeology with our students before and after her lectures. It was a privilege to have Dr. McCann speak at ECU and listen to her share her experience in Mediterranean archaeology. For her next project, Dr. McCann will use a deep water nuclear submarine to conduct archaeological research on the floor of the Black Sea.

Robert A. Church

Graduate Theses In Maritime History

In 1996 Students in the Program in Maritime History and Nautical Archaeology completed the following theses.

James Allan. "Fort Ross Cove: Historical and Archaeological Research to Identify the Remains of California's First Shipyard."

Edwin Combs. "On Duty at Wilmington: The Confederate Navy on the Cape Fear River."

Michael P. Coogan. "The War Career of the Union Gunboat *Louisiana* and the Fall of Fort Fisher."

Sabrina S. Faber. "The Origins of the Minaret: A Study of the Functional and Formal Antecedents of the Islamic Tower."

Rick Jones. "Site Report on the MacKnight Shipyard Wreck, Currituck County, North Carolina."

Amy Jo Knowles Marshall. "Frequently Close to the Point of Peril: A History of Bouys and Tenders in the Costal Waters of the United States."

Ann Merriman. "North Carolina Schooners, 1815-1902, and the S. R. Fowle & Son Company of NC."

Martin Peebles. "CSS *Raleigh* The History and Archaeology of a Civil War Ironclad in the Cape Fear River."

Matthew Russell. "An Historical and Archaeological Investigation of Three Beached Shipwreck Scatters at Channel Islands National Park."

ECU Scientific Diver Training

Why would any self-respecting scuba diver climb through barrels, crawl under nets, and buddy breathe with an EXO-26 full-face-mask? Each year as a precursor to the ECU Maritime summer field school and as a prerequisite to "Scientific Diver" status, a cadre of brave souls partake in a two-week long ECU scientific diver block course. This year's participants were **Darryl Byrd, Wayne Lusardi, Coral Magnuson, Deirdre O'Regan, Mike Phillips, John Rossi, Dr. Tim Runyan, and Rob Westrick**. ECU Diving Safety Office (DSO) staff included **Steve Brodie, Steve Sellers, and Jim Sibthorp**.

Scientific diver training at ECU provides divers with the necessary basis to safely and effectively perform working scientific dives. As a member of the American Academy of Underwater Science (AAUS), the ECU Diving Safety Office supports all educational and scientific diving operations conducted under University auspices.

The two-week summer training period began with a pool evaluation and swim test where ECU maritime students demonstrated their athletic prowess. Rolesville Rock Quarry, just east of Raleigh, provided opportunities for open water skills review, advanced dive training, practice and evaluation, as well as several accident management scenarios. Ocean dives aboard the M/V *Pelican* out of Morehead City provided an excellent opportunity for the ECU divers in training to experience some of North Carolina's wreck diving, practice old and new skills, combat seasickness, and wrestle stone crabs.

Back on campus, the students learned

how to use full-face masks, underwater communication equipment, and Nitrox diving. **Dr. Larry Babits** taught underwater mapping techniques. In addition to specific skills training, DSO instructed participants in first-aid, CPR, and oxygen administration. One of the highlights of the block course and one of ECU's hallmarks is the Zero-Visibility Training Module. The module consists of a zero-visibility obstacle course, maze, composure skills, classroom, and open water training. The in-water exercises are designed to provide information on the diver's reactions to the stressful zero-visibility environment and always incurs some humorous moments. This year's participants invented some

never-before-seen ways to climb through barrels, crawl into and out of chicken-wire, and grapple with nets, all while remaining relatively oriented. Composure skills allowed the divers to push the limits of their comfort zones and provided an opportunity for divers to test their own problem-solving abilities while in a controlled environment. The U.S.S. *Picket* in the Pamlico River—General Burnside's flagship, provided a first-rate site for some genuine zero-visibility and tidal current diving experience. The divers who participated in the summer training block made great individual strides. All laid the foundation to be safe, efficient scientific divers.

Jim Sibthorp



Wayne Lusardi (L) and Deirdre O'Regan (R) buddy breathe from an EXO full-face mask. (Photo: Jim Sibthorp)

DSO NEWS

With the departure of **Jim Sibthorp** to pursue a Ph.D. at the University of Indiana, **Steve Brodie**, former DSO graduate assistant, filled the staff position. **Fil Ronca** will be the new graduate assistant in the Diving Office starting this Spring Semester. Formerly, many DSO graduate assistants were maritime students. Starting in the Spring 1997 semester this assistantship will be offered jointly though the DSO and History Department with the stipulation that the DSO graduate assistant be selected from the maritime program.

The DSO will expand the scientific diver training this summer. In the past, dive training had shared the first summer session with the summer field school. The scientific diver training utilized the first two weeks of the semester. As the 1997 summer field project has been moved to the second summer session, the Diving Safety Office will have the entire first session to conduct dive training. With the added three weeks DSO will incorporate additional workshops into the summer training course: underwater video/photography, dives towards the scientific 100 feet depth certification, drysuit training, Nitrox instruction, surface supplied and Hookah diving, a dive computer workshop, and Staff Archaeologist Frank Cantelas will teach an archaeological methods workshop.

For more information on the ECU Diving Safety Program or a schedule of upcoming training, visit our web site at <http://ecuvax.cis.ecu.edu/academics/schdept/diving/diving.htm>.

CIVIL WAR RESEARCH IN BERMUDA

One of the often overlooked aspects of the Bermuda field school is the opportunity for students to do research with primary source material is not available in the United States. Graduate students **Rob Westrick, Wayne Lusardi, John Rossi, Darryl Byrd, and Coral Magnuson** had the opportunity to research the important and fascinating role which Bermuda played during the American Civil War as a base of operations for blockade runners smuggling supplies to the Confederacy. Students spent time doing research at the Bermuda Maritime Museum on Ireland Island, the Bermuda Public Library, Bermuda Archives in Hamilton, and the Confederate Museum in St. George's.

Soon after the Civil War began in 1861, the Union began blockading southern ports to cut off Confederate supplies. Blockade runners became the Confederacy's lifeline. By 1862, Bermuda had become a strategic point for funneling supplies from Europe to the Confederate States. Bermuda's geographic location, only 674 miles from Wilmington, North Carolina, made it an important base of operations for runners trying to slip into that port. Not only was Bermuda ideally situated for blockade running, but its people sympathized with the South. Bermuda's daily newspaper *The Royal Gazette* was staunchly pro-southern and felt, "The Confederates have as much right to self government as we have" (*Bermuda Royal Gazette*, February 17, 1865).

Early in 1861, Queen Victoria declared that Britain would remain neutral in the conflict and forbid "all British subjects from taking part, or participating in anyway whatsoever, either by land or sea, in the existing hostilities between the United States and the Confederate States" (*Bermuda Royal Gazette* July 3, 1861). Bermudians would, however, virtually ignore the queen's Proclamation of Neutrality. The local ports of St. George's, and to a lesser degree Hamilton, figured prominently in the trade carried out by Confederate vessels running the Union blockade. Overnight, St. George's transformed from a sleepy community into a boom town, with a harbor full of ships and sailors, and warehouses full of goods.

As the Union added more warships to the blockade, the task of slipping through became increasingly difficult. British shipyards soon built vessels specifically for running the blockade. Shipwrights designed blockade runners to be hard to see, hard to recognize, and hard to stop. The process was extensive; they shortened masts, painted vessels dull gray for camouflage at night, and used smokeless anthracite coal for fuel. Captains outfitted their vessels with telescoping smokestacks, which collapsed during the run through Union lines, and installed fittings to vent off the steam underwater. One blockader reported following a runner only by the spray produced by her paddles. Stealth, secrecy and deception were the keys to success. Frequently vessel owners changed names, appearance, and official papers to make them more difficult for Union agents to identify.

On these nearly invisible, speedy, little steamers war supplies of all kinds flowed through Bermuda in a seemingly endless stream. Runners smuggled through a variety of cargo, in addition to war supplies. An examination of the cargo manifests of blockade runners plying between Bermuda and the Confederate States gives a picture of the type and quantity of supplies being run through to Southern ports for both military and civilian use. Among the civilian articles

and merchandise there were cigars, soap, pepper, coffee, whisky, bonnet frames, wine, hams, cheeses, dry goods, rum, brandy, shoes, candles, tea, silks, and wire frames for hoop skirts. In turn, the runners sent out cotton to England in other vessels. Money earned from trading cotton paid for much needed Confederate supplies.

Blockade runners needed as short a time as possible to unload their cargo, refuel, resupply and load new cargo for the return journey to the South. The merchants of St. George's did everything they could to accommodate these needs. Early in 1862 John Tory Bourne "arranged the depot business (so) that a ship can coal, land and take in her cargo and water all at the same time" to minimize time in port.

Risks were great, but the enormous rewards outweighed the hazards. In 1864, either Union forces or natural hazards, subsequently captured, wrecked, or destroyed 43 of the 71 runners which stopped in Bermuda. It took, however, only two successful trips to realize a profit. A net return of \$150,000 each way was not uncommon. A seaman could earn more in three trips aboard a runner than in a whole year of regular maritime service. Many blockade running captains could afford to retire after six successful months in the trade.

The end of blockade running in Bermuda came with the fall of Fort Fisher and Fort Caswell, two vital Atlantic forts, which guarded Wilmington. Bermuda learned of the fall in January 1865 when the blockade runner *Owl* returned prematurely. The news devastated St. George's. Charles Maxwell Allen, the U.S. Consul in Bermuda, reported "had they known that the island were to sink in 20 minutes, there could hardly have been greater consternation."

Although the American Civil War ended over 130 years ago, remnants of this by-gone-era still remain. For myself, one of the highlights of the Bermuda field school occurred on our final day of diving when we able to dive on two blockade runners, the *Nola* and the *Mary Celestia*. Both sites are impressive, the scattered remains of the *Nola* lie in 30 feet of water approximately 6 miles northwest of the Royal Navy Dockyard on Ireland Island. Her bow is relatively intact, while her engine stands upright with her paddle wheels easily recognizable. The *Nola's* stern section is slightly separated from the main wreckage. In the stern we found her elliptical fantail heavily overgrown with coral.

The remains of the *Mary Celestia* lie in a sand hole in 60 feet of water approximately one-half mile south of the Gibb's Hill Light in South Hampton Parish. The starboard side paddle wheel stands upright while the port wheel lies outside the wreck amid fragments of the hull and deck structure. The huge boiler and engine remain intact.

Both vessels provide archaeologists with a wealth of information about the design and construction of such steamers. According to **Gordon Watts** the archaeological record associated with these ships is especially valuable because few plans for blockade runners have survived.

Rob Westrick

Dr. Still's Lost Civil War Notes

This is an appeal from Dr. William N. Still, Jr., for the return of a sizable number of his notes dealing with North Carolina shipbuilding in the Civil War. All the notes were on half-sheets of yellow paper. If you borrowed them, please get in touch with Dr. Still at (808) 329-2215 or Karen Underwood at the Program in Maritime History and Nautical Archaeology (919) 328-6097.

Under Anguillan Waters: Archaeological Investigation of *El Buen Consejo*

In the summer of 1772, a Spanish flotilla heading for Mexico ran into trouble as it crossed into the Caribbean from the Atlantic. One night, their two escort ships, a Spanish ship-of-the-line and a heavily armed merchantman, failed to see the low eastern tip of Anguilla and ran ashore on either side of the narrow cut between Anguilla and Scrub Island. Documents confirmed that all the crew survived and successfully salvaged most of the cargo.

When a hurricane finished off the remains of the two ships six weeks after they wrecked, interest in the site diminished until more than two hundred years later. Just off the shoreline lie the remains of *Nuestra Senora Del Buen Consejo* and *Jesus Maria Y Jose* (referred to as *El Prusiano*). The *El Buen Consejo* site consists of eighteen can-

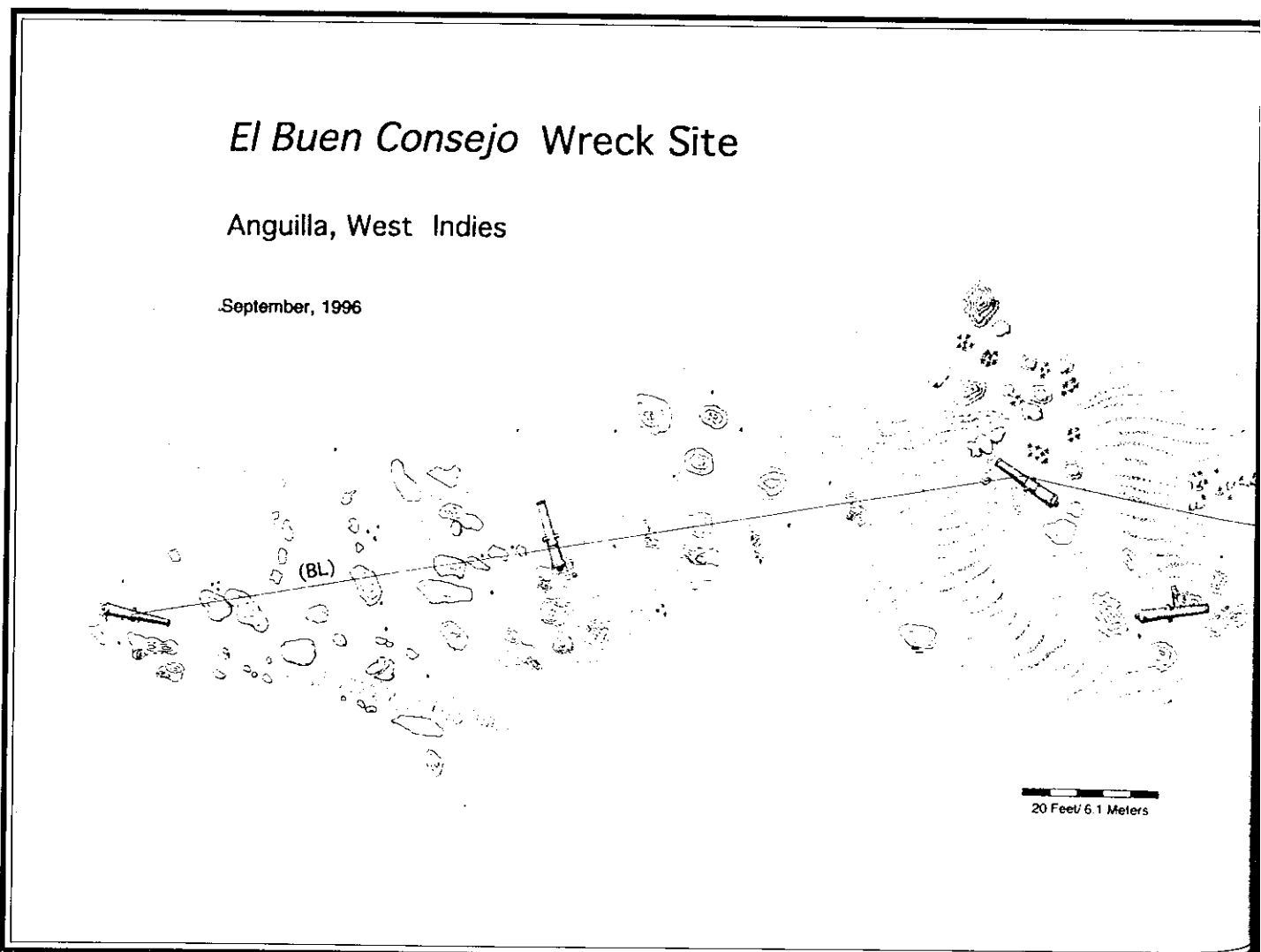
nons, cannonballs, two piles of concreted boxes, lead and copper rolled sheathing, two huge anchors, hundreds of brass religious medallions, and miscellaneous artifacts such as thimbles, sewing needles, eating utensils, etc. The anchors reveal the path the ship took as it went ashore, and the remaining items were carried some 1500 feet from the original wreck site when the hurricane washed the remains of the ship off the beach.

Anguillans have always known about the site called "The Cannons," especially the fishermen who lay traps around the island and dive for conch. One fisherman, Leander "Bull" Webster, rediscovered the site several years ago and reported his findings to the Anguillan government. The report sparked a flurry of activity with several



Above: Two volunteers help ECU and
(Photo: Steve Sellers)

Below: Site Map of *El Buen Consejo*





document one of the anchors off *El Buen Consejo*.

groups presenting proposals to the government for rights to research, record, and salvage the site. As a result, the government sought out East Carolina University to conduct a primary survey, document, and make recommendations on future action the government might take in managing the site. Currently, *El Buen Consejo* is restricted and no one can dive on it without permission. Mapping became a timely issue as the site had been heavily looted and Anguillans feared the remains would be gone before they even knew what they had.

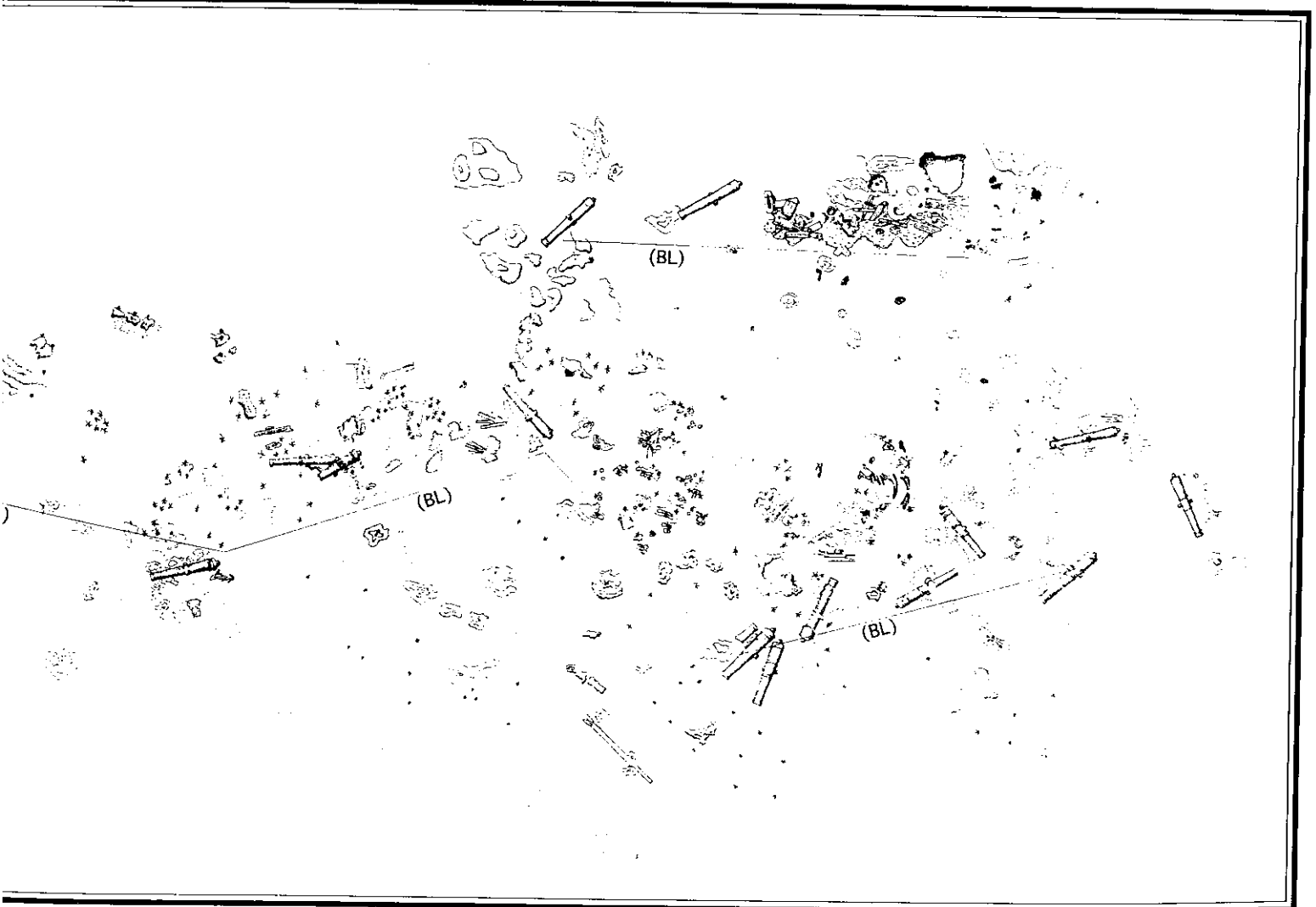
Staff and students (Project Director, **Dr. Bradley Rodgers**; ECU Staff Archaeologist, **Frank Cantelas**; Dive Safety Officer, **Steve Sellers**; students **Deirdre O'Regan** and **Rusty Earl**, and volunteer **Dr. Timothy Runyan**) from East Carolina University conducted a Phase II Pre-Disturbance survey of the site in the fall of 1996 as a field school and incorporated the help of six volunteers from the Maritime Archaeologi-

cal and Historical Society (MAHS) from the Washington, D. C. area.

Anguilla is a British Colony in the Leeward Islands of the Caribbean, immediately north of Sint Maarten/St. Martin. Conducting the Anguilla project proved to be as much a lesson in logistics, politics, and patience as nautical archaeology. While the details of this project were slowly hammered out, mother nature stepped in with hurricanes Edouard, Fran, and Hortense which delayed shipment of the team's gear. In a last ditch effort, Tim Runyan orchestrated the air transport of 1400 pounds of equipment. Then Rodgers and his crew got to work setting up the site from both the shoreline and under the water.

The *El Buen Consejo* site lies in approximately ten to forty feet of water off the windward tip of the island. Dive Safety Officer, Steve Sellers, was concerned about diver safety in the water because of the sizable onshore swell and chop on the surface and a strong

(Continued on page 14)



ANGUILLA

(Continued from page 13)

surge on the bottom. The adjacent shoreline provides no shelter nor any safe exit area should a diver surface away from the boat and too close to shore. Divers were briefed on the dangers and made aware of conditions throughout the duration of the project. While a dive team laid down a steel wire cable as a baseline connecting the cannons over a 480 ft. path, another team surveyed the shoreline and endpoints of the baseline. Rodgers chose a tensioned high tensile steel cable as a baseline to keep it from shifting in the heavy surge. It proved especially useful for divers who grabbed it when surprised by a particularly strong wave. Once the team completed the survey, they drafted a 6 ft. by 2 ft. site map and began documenting individual sections.

The most obvious features were eighteen cannon, each measuring 10.5 ft. long, lying in a trail along the baseline with smaller artifacts scattered between. In two areas, piles of rectangular concreted boxes seem to have contained trade goods which survived the total destruction of the ship's hull. Spread throughout the site are brass religious medallions of no monetary value, some molded into larger clumps by two hundred years of corrosion and concretion formation.

These religious medallions were apparently under the custody of fifty Franciscan monks headed for Mexico on board *El Buen Consejo*. Whatever their specific use, the medallions clearly had little economic value at the time. *El Buen Consejo* rested on the beach for six weeks before the hurricane, and nearly everything of value was salvaged, but the medallions remained.

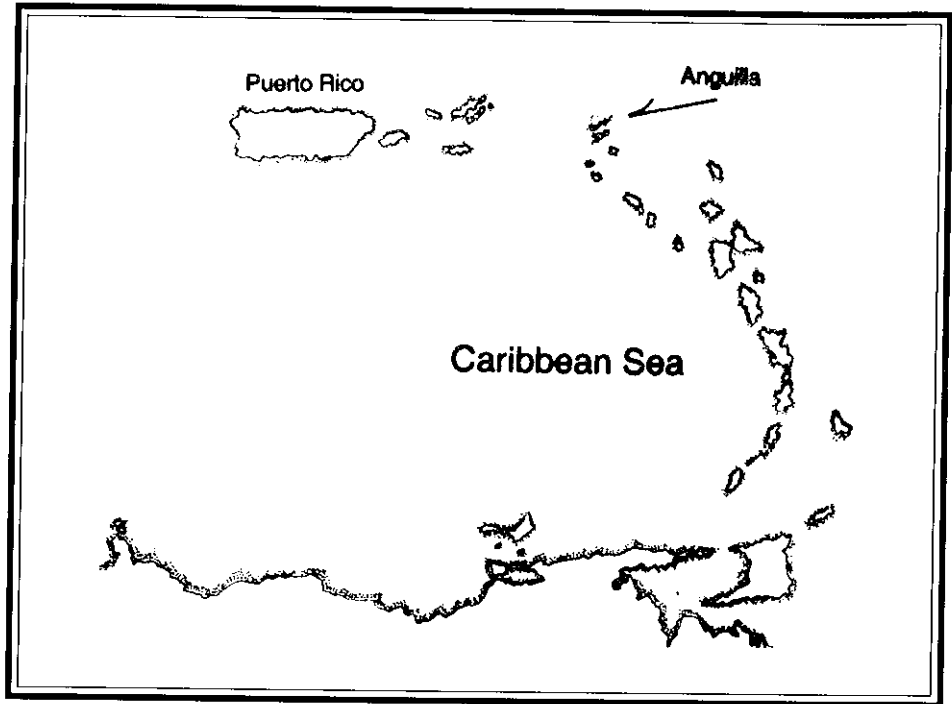
On shore, iron fastenings concreted into the limestone coral rock and can be seen easily underfoot, scattered along the water's edge. These fastenings comprise the only evidence of the ship's hull remains, and lie in an area in direct line with the anchors offshore. The two large anchors measure more than eighteen feet on the shank. One lies on end, and although the wooden stock has rotted away, coral grown around it keeps it upright with its fluke dug in, still oriented towards the original wreck site on shore. After spending a considerable amount of time mapping a section along the baseline, archaeologists became accustomed to features and discovered artifacts they had missed ear-

lier because they blended so well with the natural sea bed. Drawing and re-drawing areas along the baseline, the crew completed the site map in a week's time. Video and still photography were employed in site documentation.

The team spent the remainder of their time in Anguilla towboarding along the island's extensive reef system looking for other undiscovered sites. Included in this quest was the search for the other

anchors, piles of anchor chain, and an iron knee.

The *El Buen Consejo* wreck site belongs to the Anguillan government and currently, is not open for public inspection. Anguilla is still considering a range of options for the future management of the site. Funding for the 1996 Shipwreck Survey came from ECU's Program in Maritime History and Nautical Archaeology with stu-



Anguilla is located just north of St. Martin in the Leeward Islands of the Caribbean.

escort ship *Jesus Maria Y Jose* known to lie in the shallows off Scrub Island. After two days of towboarding over the reef in that region, Rodgers led a dive team in a search line pattern near shore that located the guns of this Spanish ship. This site lies in an extreme high energy environment that has worn the cannon down to smooth, rounded, nearly unrecognizable shapes. Mingled with the cannons of *El Prusiano* rest the remains of an unreported nineteenth century wreck indicated by fastenings, two

dents and volunteers covering their own expenses. The Anguillan government provided in kind support by furnishing transportation and lodging through the Ministries of Fisheries and Tourism. During the survey, Anguillans demonstrated their renowned gracious hospitality. In this light, the ECU staff and students would especially like to thank Don and Maggie Mitchell who generously supported them with housing, advice, and good humor.

Deirdre O'Regan

VOLUNTEER OF THE YEAR

The REAL Crisis Intervention Center named graduate student **Rusty Earl** "Volunteer of the Year" for 1996. REAL is a comprehensive non-profit organization, designed to accommodate the Pitt County need for free and confidential support counseling, information, and referral service. Rusty donated more than 450 hours to the center in the past three years. In addition, he served as president for the Student Volunteers for REAL and holds a spot on the REAL speakers bureau. The Maritime Program extends its congratulations and appreciation to Rusty Earl.

YORKTOWN SHIPWRECK ARCHAEOLOGICAL PROJECT

FINAL REPORT NOW AVAILABLE

A final report on the Yorktown Shipwreck Archaeological Project was printed in February, 1996. Compiled and edited by John D. Broadwater, it includes contributions from more than a dozen specialists. The Yorktown Project, conducted during 1978-1990 by the Virginia Department of Historic Resources (VDHR), located nine sunken British ships from the 1781 Battle of Yorktown. The best preserved of the shipwrecks, the naval transport *Betsy* (Site 44YO88), was completely excavated within a steel cofferdam. The project yielded new and significant information on the Battle of Yorktown as well as on the merchant vessels that served as British transports. Information from the project has already been disseminated through the series of popular and technical articles and museum exhibits. National Geographic magazine featured it in the June 1988 edition, and a new permanent display at the Yorktown Victory Center exhibits the project.

John Broadwater served as project director throughout the Yorktown Project and simultaneously acted as senior underwater archaeologist for the VDHR. In 1990, then-governor Douglas Wilder abolished the state's underwater program, thus bringing research and report preparation to a halt. In 1992, more than a half year after his VDHR job was terminated, Broadwater obtained an individual grant from the National Endowment for the Humanities for completion of the report.

The report is 1407 pages long, contains 333 illustrations and five plates, includes twenty-six appendices, and is bound in five volumes. The report's size precludes wide distribution at this time; however, the report will be pub-

lished in condensed form in 1997. In the meantime, copies will be available at the VDHR Research Library, the Colonial Williamsburg Foundation Research Library, The York County Public Library, The Mariner's Museum Research Library, the research libraries of the Program in Maritime History and Nautical Archaeology, East Carolina University, and the Nautical Archaeology Program, Texas A & M University, and other repositories. Comments and inquiries are welcome and should be directed to John D. Broadwater, 295 E. Queens Drive, Williamsburg, VA 23185, (804) 878-2973 e-mail: jbbroadwater@ocean.nos.noaa.gov.

John Broadwater

John Broadwater, adjunct lecturer at East Carolina University, has also recently published: "In the Wooden Walls: Naval Transports During the American War of Independence," *The Archaeology of Ships of War*, Oxford University Press, 1995 and presented "Rescuing the Monitor: Stabilization Efforts at the Monitor National Marine Sanctuary," submitted for publication in the *Proceedings of the 1996 SHA Conference in Historical and Underwater Archaeology*.

FROM THE DIRECTOR: PH.D. PROPOSAL UPDATE

UAU Summer Internship 1996

The Underwater Archaeology Unit at Fort Fisher offers opportunities for ECU students to conduct research on North Carolina's Maritime History and to assist in training students in underwater archaeology field methods. Fortunately I had the opportunity to work with the UAU staff on various archaeological projects during the 1996 summer field season. My duties included assisting with historic research and underwater survey of the Civil War blockade vessels: *Emily of London*, *Dee*, and *Fanny and Jenny*, as well as the *USS Columbia*. These vessel remains lie off Wrightsville Beach near Masonboro Inlet, NC.

In addition to this project, I also assisted in conservation and documentation of the *Estelle Randall* artifact collection. This collection of artifacts is intended for eventual exhibition in Columbia, NC. Lost in January 1910, the *Estelle Randall* burned while docked at Columbia. Constructed in 1898 in Baltimore, Maryland, this passenger and freight steamer utilized screw propulsion and reported the following dimensions: 111.5 feet in length, 24.9 feet beam and 211 gross tons. Contemporary newspaper accounts describe the vessel as large and magnificent. Its regular route ran from Elizabeth City to Norfolk via Columbia. The UAU staff assisted by volunteer divers recovered over 400 artifacts from the site. I helped conserve some of these artifacts in the UAU conservation lab. The materials were mostly iron, but included samples of ceramic, glass and leather. My experience at the UAU strengthened my skills as an underwater archaeologist, and I would like to thank the staff of the UAU for continuing to provide excellent archaeological experiences for ECU students.

Sarah Waters

I wish this were good news, but the situation at present is still up in the air. At present, the proposal to plan for a PhD program is on hold. My information is limited and generally second hand. This is due to a number of differing reasons. The General Administration people who have commented on the topic have not said anything bad about the proposal. The problems lie in other areas and depend on who is providing the information. One source informed me that this is the "best buy for the money" in a PhD proposal he has ever seen. Others have said there are no problems with the proposal itself, but that it relates to the political climate. One scenario points out that the University System's President has just stepped down and there is a feeling that his replacement should have some say about new programs. Another possible interpretation is that too many programs authorized to plan have not produced any plan. Lack of a plan is not something that affects the Maritime Studies PhD. We have a plan virtually completed already.

Despite this setback, I am confident that, ultimately, we will have a PhD program in place and that this will probably occur sooner, rather than later.

Larry Babits

NATIONAL MARINE SANCTUARY SHIPWRECK SURVEY AND ASSESSMENT

The National Oceanic and Atmospheric Administration recently proposed development of a Shipwreck Trail in the Florida Keys National Marine Sanctuary to "provide an on-water and on-land interpretive exhibit for the public." The Shipwreck Trail will not be a path in the physical sense but rather a thematic map to highlight the Florida

Keys' maritime heritage by accenting a variety of historic contexts and vessel construction types. The goals of the Shipwreck Trail project include: increasing public awareness and appreciation of maritime heritage, providing unique heritage tourism and recreational opportunities, and relieving heightened visitation pressure on nearby coral reefs.

NOAA contracted with East Carolina University's Program in Maritime History and Nautical Archaeology to conduct field investigations designed to document and evaluate four shipwreck sites in the Middle/Lower Keys. **Gordon P. Watts, Jr.**,

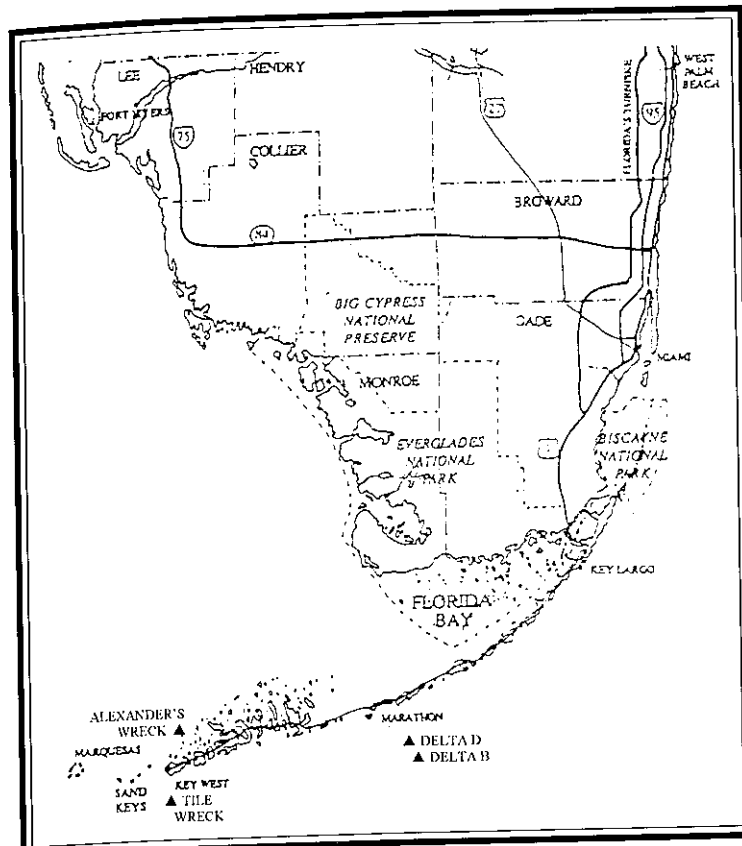
served as principal investigator for the project, **Karen Kozlowski** served as project director and **Steve Brodie** served as diving safety officer. Under the direction of Watts, graduate students **Cissy Deas**, **Wayne Lusardi**, **Steve Gibbons**, and volunteer **Mike Phillips** gathered historical, archaeological and biological data. With this information, NOAA will assess the suitability of each site and produce interpretive materials for those sites appropriate for

inclusion on the Shipwreck Trail. East Carolina University began field investigations on the morning of 15 July 1996 and completed on-site work on 26 August 1996. Researchers recorded each wreck with measured drawings and also documented structural material using underwater video and 35mm photography.

consisted of wrought iron frames, iron floors, stanchions, dead eyes, plates, pins, a box, wire rope, and iron and copper fasteners. The Delta B Site could represent an early example of composite construction, but an iron reinforced wood hull construction appears more likely.

Delta Shoals Shipwreck Site D

The Delta D Site is located in 15 feet of water north of Delta Shoals off Marathon, Florida. The lower portion of the hull and ballast protrudes above the sandy bottom. The wreck measures approximately 115 feet long and 32 feet wide. Exposed remains of the Delta D Site consist of various sizes and types of ballast rock. Heavy scantlings, including the keelson, bilge wales, and ceiling planking were identified on-site, along with butt scarfs, copper nails, and two sacks of cement. The design and construction features suggest the vessel was built during the nineteenth century,



Map of Southern Florida showing the location of the proposed Shipwreck Trail

Delta Shoals Shipwreck Site B

The Delta B Site is located in 15 feet of water on the south side of Delta Shoals off Marathon, Florida. Based on construction methods found in the wreck's framing pattern, the vessel appears to have been built between 1840-1860. The exposed wreckage is scattered over a 150 by 175 feet area. Archaeologists found no wood or ballast on-site. The exposed hull structure

most likely sometime between 1850 and 1890 and possibly in the northeast as the framing pattern is suggestive of a moderate size downeaster.

Rock Key Tile Wreck Site

The Tile Wreck is located in 5-15 feet of water on Rock Key, which is a section of the reef line off Key West Florida. Small pebble ballast of quartz and volcanic stone can be found in the

sand. An abundance of terra-cotta and decorated tiles have also been found on-site. The exposed remains of the Tile Wreck consisted of stud-link anchor chain and a scatter of debris associated with the vessel's machinery and cargo. The remains of chain-stoppers and backing plates identified the central area of exposed material. Additional material consisted of blocks, drift pins, hawsehole throats, and granite lintels. Nonetheless, researchers found no evidence of hull remains. Based on the historical and archaeological record, research thus far has not established a firm date for the site. The design, construction, and weight of the anchor chain suggest a large vessel which went aground sometime after 1850 when stud link chain became available.

Alexander's Shipwreck Site

Located in the Gulf of Mexico five miles west of Key West in 25-30 feet of water, the Alexander's Wreck is a former destroyer escort converted and officially rated as an APD or high-speed transport. Its original dimensions were 300 feet in length, a beam of 37 feet, and a draft of 12 feet. The exposed remains of the Alexander's Wreck can be found in two main wreckage fields. The bow section, approximately 160 feet long lying east-west in 22 feet of water, is located approximately 150 yards south of the stern section. The stern section is about 210 feet long and also lays east-west in 28 feet of water. The main structural feature is the bow itself, which lies on its starboard side. The bow structural remains still give an impression of the ship's hull form. Major features identified with the bow section are gun mounts, cylinders, a boiler, hull plating and pipes. Major features identified with the stern section include 40 mm anti-aircraft guns, large davits for launching LCVP's, windlasses, turbines, hull plating, and hatches.

Investigation of the four Middle and Lower Keys shipwrecks in conjunction

with the National Oceanic and Atmospheric Administration's proposed development of a Shipwreck Trail in the Florida Keys National Marine Sanctuary has generated data useful in assessing each site's suitability for inclusion in the program. One site, the Tile Wreck on Rock Key, does not appear to be appropriate for inclusion. This conclusion is based on the fact that, with the exception of the anchor chain and stopper, the site has no readily identifiable shipwreck remains. For that reason it would make a poor site for divers interested in vessel structure.

It appears reasonable to recommend three sites be considered for inclusion in the Shipwreck Trail. Those three sites are the Delta Shoals Shipwreck Site B, Delta Shoals Shipwreck Site D and Alexander's Wreck. The Delta Shoals sites provide access to the more traditional shipwreck types and the

Alexander's Wreck offers the public an opportunity to examine a World War II naval vessel.

The concept of a Shipwreck Trail in the Florida Keys is an excellent idea. It will focus additional attention on the maritime heritage of the region. In addition, the Shipwreck Trail provides public access to a variety of vessel types that represent the spectrum of navigation associated with the Florida Keys. Development of shipwreck sites to encourage visitation will generate interest in and support for historic shipwreck preservation. In the event that the Shipwreck Trail proves to be as popular in the Florida Keys as shipwreck access programs have in other areas, consideration will be given to identifying and periodically opening additional sites to the public.

Karen Kozlowski



Karen Kozlowski maps the Alexander's Shipwreck Site. (Photo: Gordon Watts)

For more information about the Maritime History and Nautical Archaeology Program visit our web site at <http://ecuvax.cis.ecu.edu/academics/schdept/hist/maritime/maritime.htm>

INVESTIGATION OF THE *HERMINIE* WRECK

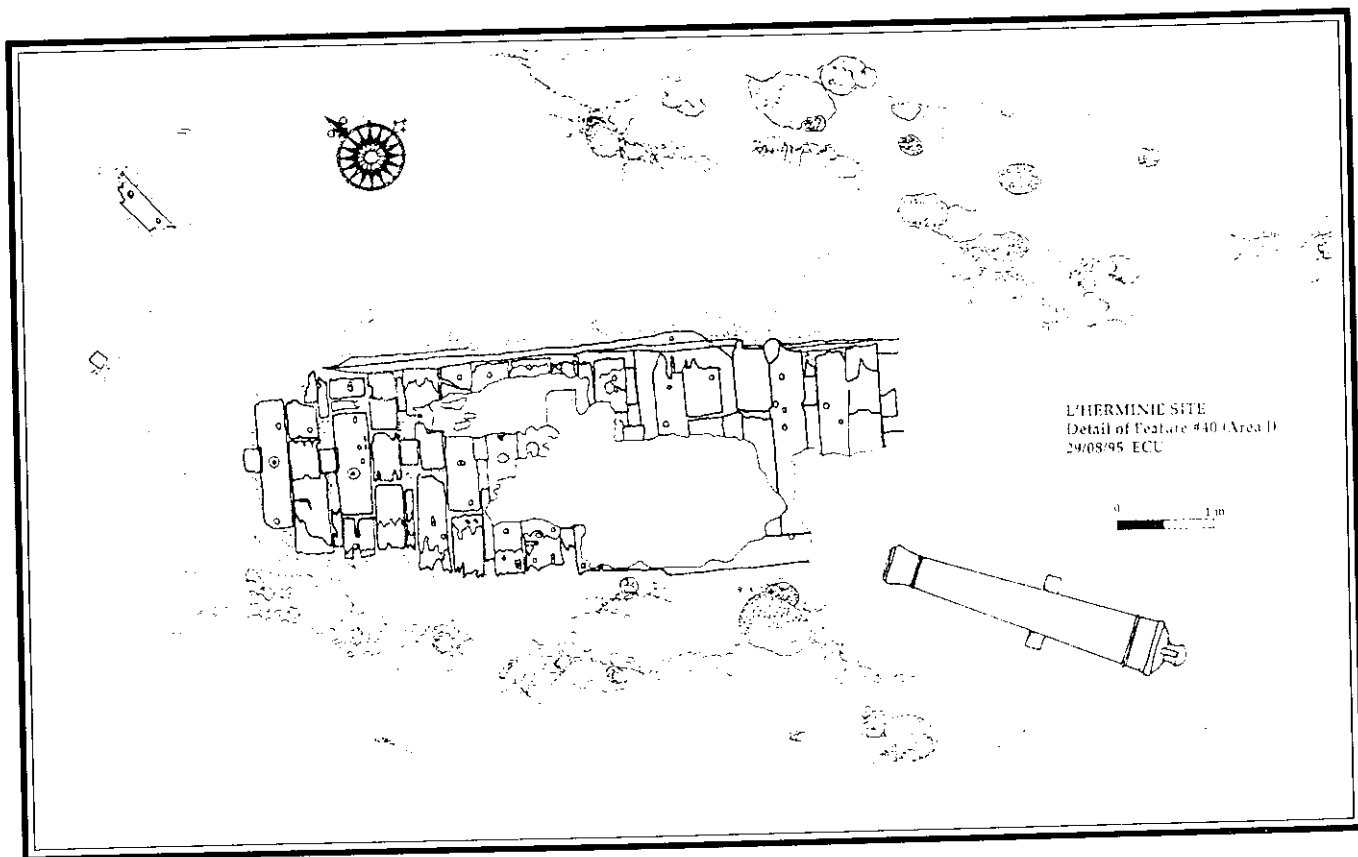
Last year's *Stem to Stern* mentioned the *Herminie* as part of the 1995 Fall Field Season in Bermuda. Investigation of the vessel's history has continued beyond this initial fieldwork into the archives of the Smithsonian Institution. A popular sport diving destination, the *Herminie* is an unprotected wreck under Bermudan law. Divers may explore the site but not disturb it in any manner. Despite its popularity, no archaeological documentation of the roughly one hundred and fifty meter artifact scatter referred to as the *Herminie* existed before East Carolina University initiated an investigation in 1995. Located by ECU students and staff during a routine survey in 1994, the site showed obvious signs of disturbance attributed to human activity. ECU researchers subsequently reported this disturbance to the Bermuda Receiver of Wreck. The potential for historical information on the remains of this French naval frigate, lost in 1838, and the additional threat of continuing disturbance

prompted a reevaluation of the wreck site as a research project. Members of the Maritime Archaeological and Historical Society (MAHS) and graduate students from East Carolina University carried out the project in conjunction with the Bermuda Maritime Museum. Objectives included recording the site's geographical position, examining exposed material cultural remains, creating a preliminary site plan with potential use as an underwater field guide, and assessing additional research potential.

Students and volunteers identified the exposed remains of *Herminie* in August, 1995. Using the geographical coordinates recovered in 1994, the 1995 participants determined the wreck's position using hand held GPS. Two 'aqua-scooters' manned by Bermudan volunteers conducted a visual search of the area and defined the perimeter of the artifact scatter. A baseline defined the 150 meter long site and connected

large concentrations of material. The final web-like baseline served to control mapping of the site and provided a reference for any future work. Archaeologists used no permanent markers for the baseline to avoid disturbing the site. Once the baseline was in place, volunteers mapped artifacts by using two meter increments on the baseline as reference points. Because the scatter of material from the vessel was so extensive, recording was limited to the most diagnostic features. Underwater video and photography were used to facilitate recording.

Among the most notable artifacts at the site were twenty-six, clearly defined cannon, a scatter of iron water tanks, the drum head of a windlass, an anchor, and a brick and iron galley basin. Hurricane activity just prior to the investigation exposed some hull remains covered since the vessel's initial discovery by divers in the 1960s. At the completion of fieldwork, divers re-



Site Map of the French Frigate *Herminie*'s hull remains. Drawn by Sarah Waters from data collected by Steve Brodie, Robert Church, and Tom Marcinko.

HERMINIE

covered the baseline and buoys, leaving the site unmarked, ready for the next group of visiting divers to enjoy.

Detailed artifact drawings are now linked to existing public and private collections. Three specific collections, one at the Bermuda Maritime Museum, one at Gibbs Hill Lighthouse in Bermuda, and a large collection at the North American Museum of History, Smithsonian Institution continue to enhance the story of the *Herminie*. These collections of material culture will help form the final analysis of the site, an example of French naval power during the transition from the age of great sailing navies to the rise of steam power.

Sarah Waters



Divers record a cannon at the Herminie site. (Photo: Sarah Waters)

Muck Mania—1996 Richmond Dock Survey

Archaeology without SCUBA equipment proved both enervating and messy for program volunteers this summer. From May 27 to June 14, 1996, students and staff of the Program in Maritime History and Nautical Archaeology conducted a Phase I shovel and test trench survey of the recently drained City Dock area of the James River and Kanawha Canal. The City Dock is located near downtown Richmond, Virginia. Historically, it represents an area where manufactured commodities were shipped into Richmond up the James River and exchanged for upland agricultural products such as tobacco, wheat, and flour. Today, the City Dock stretches three quarters of a mile within the canal. Approximately one hundred yards wide, it is filled with twelve feet of heavy sludge.

The canal was originally built in the early to mid-nineteenth century; however, the company that ran it could not remain solvent. Near the turn of this century, after a brief stint as a launching pad for newly constructed ships of the Trigg Shipyard, most of the canal property was purchased by the railroad for their road bed through Richmond.

Though continually filled with water, the City Dock area served no major commercial use from this period onward. Finally, in the late 1980s the City Dock area was cut off from the rest of the canal by the Richmond Flood Wall Project and eventually drained.

In the early 1990s, the Richmond Riverfront Development Corporation (RRDC) under Director Marc Hirth began a feasibility study to ascertain the viability of converting the City Dock area to a historic walking park. This conversion had already been accomplished to great aesthetic effect with other sections of the canal. Part of the study called for the archaeological investigation of the bottom of the drained canal. It was theorized that historic shipwreck material might lie in the bottom of the abandoned canal so the RRDC called the Maritime Studies Program at ECU to conduct the survey.

Six intrepid students (**Kelly Bumpass, Wendy Coble, Molly Conlin, Cissy Deas, Chris Kirby, and Christopher Olson**) followed Project Director **Dr. Brad Rodgers** and Assistant **Frank Cantelas** to the Ship Docks. On their arrival, the canal resembled nothing so much as a mile long overgrown quagmire of seven foot weeds and sucking mud from which more than one crew member would end up having to be physically plucked. Though hun-

dreds of test pits were dug, it was to no avail. Heavy equipment in the form of a track hoe revealed that the bottom of the canal lay under twelve feet of gelatinous silt and clay. Testing for historic remains in the canal bottom had to be abandoned.

Nonetheless, other areas of the City Dock held promise for cultural material. Test pits were sunk where historic maps suggested that ship slips crenelated into the sides of the canal. These slips were indeed located and found to have been filled at the turn of the century for the rail bed. Their depth of twenty-five feet, however, defeated even the efforts of heavy machinery to penetrate to the bottom, leaving them as mysteries to be solved another time. Though no specific targets were identified during the 1996 City Dock Survey, historically identified target areas may show promise for containing cultural material and perhaps a wreck or two. The crew would like to thank the city of Richmond for its hospitality and specifically Marc Hirth, Jim and Margaret Rogers, Jodi Miller, and Maureen Berry for their kindness and fine project logistical planning. We also would like to thank Dr. Walter Witschey for his generosity and sense of timing with refreshments for an exhausted and muddy crew.

Brad Rodgers

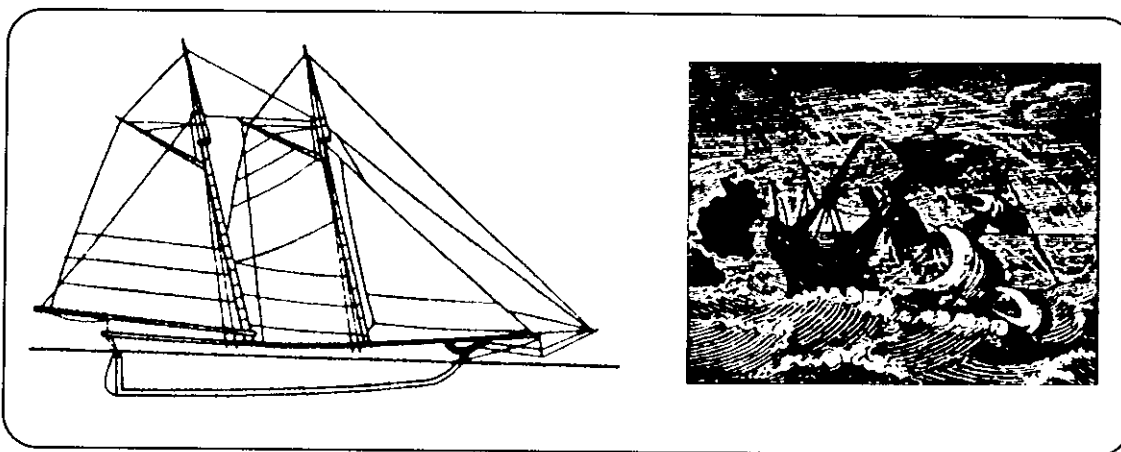
MARITIME STUDIES ASSOCIATION

The Maritime Studies Association (MSA) at ECU's Program in Maritime Studies provides a voice for students among faculty administrators, coordinates and promotes lectures and talks by visiting scholars, and performs the ever-important task of ordering t-shirts. Membership in MSA primarily consists of graduate students in Maritime History and Nautical Archaeology, but it is open to others as well. MSA officers must be enrolled graduate students in Maritime History and Nautical Archaeology; this year's officers are: **Peter McCracken**, President; **Deirdre O'Regan**, Vice-President; **Cora Magnuson**, Secretary; and **Avi Witz**, Treasurer. MSA's representative on the Graduate Student Advisory Council (GSAC) is **Darryl Byrd**. Deirdre O'Regan serves as the GSAC Vice-President. GSAC contributes funds to offset student's expense to attend conferences, workshops, etc. in their field of study.

On campus, MSA supports lectures by visiting scholars, such as Dr. Richard Rothaus of St. Cloud University who recently spoke on the harbors of Corinth, and Dr. Anna McCann, who discussed shipwrecks in the Mediterranean last spring semester. MSA will continue to provide funding to make these lectures possible.

ECU Maritime History and Nautical Archaeology t-shirts are available through MSA. Prices have dropped since last year to \$10 for MSA members and \$12 for non-members. This year's shirts come in two designs in a range of colors. Interested buyers should write to: MSA President, Program in Maritime History and Nautical Archaeology, Eller House, East Carolina University, Greenville, NC 27858.

Peter McCracken

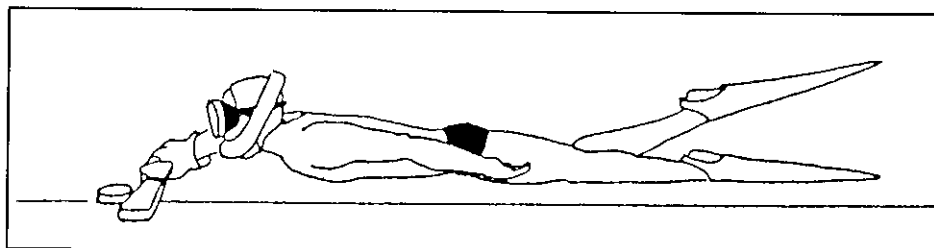


MSA's shirt designs are available. The "Classic" design, featuring the yacht America (left), is available in a polo style, while the "Shipwreck" design at right is available as a tee-shirt.

Underwater Hockey: Wooden Sticks and Iron Men (and women)

Underwater hockey is a relatively new sport. It is thought to have been created in the 1950s in South Africa by SCUBA divers who wanted to maintain and improve their physical fitness during the diving off-season. From that point on, underwater hockey has spread throughout the world. The sport is now played in over twenty countries. For the last ten years, East Carolina University underwater hockey participants have generally come from the Program in Maritime History and Nautical Archaeology.

Pat and Lynn Harris from South Africa started underwater hockey at East Carolina University in 1987. They arrived in North Carolina unintentionally when their sailboat lost its mast while on their way to California. During the repair stop in North Carolina, they extended their stay and never left. They attended ECU, where Pat ob-



tained an MS in Biology and Lynn a MA in Maritime History. Under the auspices of ECU Club Sports, Pat and Lynn started the Underwater Hockey Club.

When people think of Underwater Hockey, they immediately assume it involves wearing complete SCUBA gear. In reality, the game is played using the basic skin diving equipment of mask, fins, and snorkel. Participants, furthermore, need a well-padded glove to prevent injury from other player's errant slapshots. Underwater hockey sticks (the size of a large windshield ice scraper) are of two contrasting colors, usually black or white, for the purpose of identifying teams during play. The 4 lb. lead puck is approximately the same

size as an ice hockey puck. More modern pucks are teflon coated for less resistance against the bottom of the pool and protection to the pool tiles. Goals are eight feet wide and pool depth is approximately five to seven feet.

The size of the pool can vary, though a minimum of fifteen by twenty yards is needed for an adequate playing area. The East Carolina University swimming pool is ideal for underwater hockey because of its size (twenty by twenty-five yards), uniformity of depth, and tile floor construction. These attributes, and our central location along the east coast, allowed the ECU Underwater Hockey Club to host East Coast and regional tournaments in 1991, 1992

WHERE ARE THEY NOW?

James Allen - Institute for Western Maritime Archaeology, Berkeley, CA

Ray Ashley - Director, Maritime Museum of San Diego, CA

Adrienne Askins - Submerged Cultural Resources Unit, NPS, Santa Fe, NM

David Baumer - Curator of Small Boats, Mariners' Museum, Newport News, VA

David Beard - Underwater Archaeologist, State Historical Society of Wisconsin, Madison, WI

Colin Bentley - Sailing Instructor, College of Charleston

Kathryn Bequette - Director, Maritime Archaeology and Research, OELS, Evergreen, CO

Jemison Beshears - Vice President, Panamerican Consultants, Memphis, TN

Robert Browning, Ph.D. - Historian, US Coast Guard, Washington, DC

Frank Cantelas - Staff Archaeologist, East Carolina University, Greenville, NC

Edwin Combs - PhD candidate, University of Alabama

David J. Cooper - State Underwater Archaeologist, State Historical Society of Wisconsin, Madison, WI

Diane Cooper - Coordinator of Volunteers, San Francisco Maritime National Historic Park

Lee Cox - Contract Nautical Archaeologist, Dolan Research, Philadelphia, PA

James P. Delgado - Executive Director, Vancouver Maritime Museum, Canada

Stanley K. Duncan - Nautical Archaeologist, Panamerican Consultants, Memphis

Rita Folse-Elliott - Archaeologist, LAMAR Institute, GA

Robert Feingold - Program Specialist, NOAA, Florida Keys, FL

Paul Fontenoy - North Carolina Maritime Museum, Beaufort, NC

Kevin Foster - Maritime Historian, National Park Service, Washington, DC

Joe Friday - Sergeant, Greenville Police Department

Wesley K. Hall - Director, Mid-Atlantic Technology, Wilmington, NC

Lynn B. Harris - Assistant Head, Underwater Division, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia, SC

Rick Heron - PhD candidate, Texas A&M University

Bob Holcombe - Director, Confederate Naval Museum, Columbus, GA

Claude V. Jackson - Underwater Archaeology Unit, State of North Carolina, Kure Beach, NC

John O. Jensen - PhD candidate, Carnegie Mellon University, Pittsburgh

John Kennington - Curator, Coastal Heritage Society, Savannah, GA

Annalies Corbin Kjorness - PhD candidate, University of Idaho

Richard Mannesto - Great Lakes Historical Shipwreck Museum, Ste. Sault Marie, MI

Amy (Knowles) Marshall - Museum Curator, US Coast Guard, Washington, DC

I. Roderick Mather - PhD candidate, Oxford University

Ann Merriman - PhD candidate; University College London, Dept. of Egyptology

Amy Mitchell - Nautical Archaeologist, Panamerican Consultants, Memphis, TN

Dave Moore - Registrar, North Carolina Maritime Museum, Beaufort, NC

Stuart Morgan - PhD candidate, University of South Carolina

John W. (Billy Ray) Morris - PhD candidate, University of Florida, and Director, Southern Oceans Archaeological Research

Kaea Morris - Arch., El Paso, TX

Sam Newell - Public School Teacher, Greenville, NC

Martin Peebles - Underwater Archaeology Unit, State of North Carolina, Kure Beach, NC

Edward Prados - Asst Dir of Educ., US Navy Memorial Found., Washington, DC

Heidi Primo - Prof of Social Studies and Pacific Islands History, College of Micronesia, Kohlonia, Pohnpei

James R. Reedy, Jr. - Contract Archaeologist, Beaufort, NC

Shannon Richardson - Archaeologist, Fort Niagara, NY

Matthew Russell - Submerged Cultural Resources Unit, National Park Service, Santa Fe, NM

John Schaefer - Researcher, Naval Memorial Foundation, Washington, DC

James Schmidt - Nautical Archaeologist, Espey Huston Assoc., Houston, TX

Robert Schneller, Ph.D. - Historian, Naval Historical Center, Washington, DC

James Spirek - Underwater Archaeologist, SC Institute of Archaeology & Anthropology

Thomas Stoltman - Northwest Maritime Museum, Empire, MI

Bruce G. Terrell - Maritime Historian and Acting Maritime Archaeologist, NOAA, Washington, DC

William H. Thiesen - PhD candidate, University of Delaware

Ray Tubby - Naut. Archaeologist, Tidewater Atlantic Research, Washington, NC

Hans Van Tilburg - Maritime Archaeology Instructor, Univ. of Hawaii Marine Options Program; Archaeological Consultant, SHIP (Society for Historical Investigation and Preservation), Chuuk (Truk), Micronesia

Lolly Vann - Contract Archaeologist, MD

Daniel Warren - Archaeologist, Missouri Department of Transportation

Wilson West - National Maritime Initiative, Washington, DC

Underwater Hockey continued



(L-R) Ray Tubby, Rob Westrick, and Robert Church scrap for the puck.
(Photo: Christopher Olson)

and 1993 in which teams from Canada and the West Coast have attended.

Underwater hockey is similar to ice hockey in team numbers and positions. Teams are composed of six players and four substitutes. Games last one hour, with four fifteen-minute periods. A player cannot block or otherwise touch other players in any way, though there is plenty of "accidental" contact during play. Once a goal is scored, players have 30 seconds to get back to their respective sides of the pool.

Although underwater hockey is not a household word among most sport enthusiasts, it is gaining popularity. It is a fast-paced game requiring teamwork and strategy. The greatest shortcoming, however, is that it is not a spectator sport. Unless the game is played in an aquarium onlookers (except those in the water) can not truly follow the action. Underwater hockey may not be ready to replace baseball as the national pastime, but it is popular with ECU's Maritime History program.

Christopher Olson
Robert A. Church

FACULTY PAPERS AND PUBLICATIONS

Larry Babits:

Journal Articles

"A Working Definition of 'Periauger'," *Proceedings of the 29th Annual Conference on Historical and Underwater Archaeology*. Society for Historical Archaeology, Tucson, (1996) 22-28, w/ M. Alford and H. Pecorelli.

"Table of Organization: The American Line at Cowpens 17 January 1781," *Military Collector and Historian*. XLVI (4):158-162.

Book Reviews

Fighting for Liberty and Virtue: Political and Cultural Wars in Eighteenth-

Century America. Marvin Olasky. *Choice*, (January 1996).

A Succession of Honorable Victories. Richard A. Sauers. *Choice* (September 1996).

Historical Archaeology of the Chesapeake. Paul A. Shackel and Barbara J. Little, eds. *Historical Archaeology* 30 (no. 3, 1996):90-92.

The U. S. Army in the West, 1870-1880: Uniforms, Weapons, and Equipment. Douglas C. McChristian. *Historical Archaeology* 30 (no. 3, 1996): 98-99.

Hollandia Compendium: A Contribution to the history, archaeology, classification and exicography of a 150 ft. Dutch East Indianman, (1740-1750). Jerzy Gawronski, Bas Kist and Odilia

Stokvis-Van Boetzelaer. *Military Collector and Historian* XLVII (no. 1, 1996):48.

Papers

(w/Annalies Kjorness) "From Credle to Grave and Around the Point," Conference on Underwater and Historical Archaeology, Society for Historical Archaeology, Cincinnati, Ohio, 1996.

(W/Annalies Kjorness) "Investigations of Vessel Depository Sites: A New Approach," Museum Small Craft Association. Beaufort, NC, 1996.

"Confederate Earthworks in Eastern North Carolina," First Annual East Carolina University Civil War Symposium. Greenville, NC, 1996.

"Civil War Earthworks in the Southeastern US," Archaeological Institute of America Lecture, Charlottesville, Va, 18 November 1996.

"The Civil War from a Maple Leaf Perspective," Archaeological Institute of America Lecture, Great Neck, Long Island, NY, and Lynchburg, VA, - 17 and 19 November 1996.

Michael Palmer:

Book Reviews

The Naval Institute Atlas of the U. S. Navy (Annapolis, MD: Naval Institute Press, 1995), in *The Northern Mariner/Le Marin du Nord* 6 (July 1996): 93-94.

Prize Possession: The United States and the Panama Canal, 1903-1979 (Cambridge: Cambridge University Press, 1993), in *The Mariner's Mirror* 81 (November 1995): 503.

The Crescent Obscured: The United States and the Muslim World, 1776-1815 (New York: Oxford University Press, 1995) in the *Journal of the Early Republic* 15 (Winter 1995): 670-71.

The Persian Excursion: The Canadian Navy in the Gulf War (Toronto: Canadian Institute of Strategic Studies and Clementsport, NS: The Canadian Peacekeeping Press, 1995), in *The Northern Mariner/Le Marin du Nord* 5 (October 1995): 118-19.

Bradley Rodgers:

Guardian of the Great Lakes: The U. S. Paddle Frigate Michigan (Ann Arbor, Michigan: University of Michigan Press, 1996). Won the Cleveland State University Great Lakes History Prize for 1996.



Dr. Lawrence Babits sews a seabag for his voyage on the U. S. Brig *Niagara* in July 1996. Dr. Babits tested the durability of authentic early nineteenth century naval clothing for the length of his 3 week passage from Maine to Quebec.

GRADUATE STUDENT RESEARCH PROJECTS

The following list reflects current research interests of Program students:

Adriane Askins: Site Report on the *Sacred Heart of Jesus*, Edenton, NC.

Paul Avery: Phase II Survey of the USS Bazely including Union Naval Activity in Albermarle Sound

Charles Bayman: Operational Difficulties Experienced by Admirals Graves, Shuldhham, and Howe on the North American Station, 1775-1778

Jemison Beshears: Dutch Maritime Trade in the Caribbean and Related Shipwreck Sites

Kelly Bumpass: Archaeological Investigation of the Stonewall Wreck, Bermuda

Mark Burdette: Development of United States Navy Air Defense, 1929-1941

Darryl Byrd: Piracy in the Ancient Mediterranean

Joe Cato: Imperial Japanese Naval Planning and Maneuver Warfare

Marlo Chittick: Great Lakes Maritime

History, Specifically the Great Storm of 1913

Robert A. Church: The Shortage of Timber in England During the Seventeenth Century and the Effects on Ship Construction

Wendy Coble: S.S. *Paraguay* and What Her History Can Tell Us About the Time Period, 1900-1927

Molly Conlin: World War II Aviation

Cissy Deas: The "New Old Spaniard": A Dutch East Indiaman in Bermuda

Stuart Derrow: Historical and Archaeological Study of Sixteenth-Century Spanish Shipboard Subsistence

Wade Dudley: "That Splintered Wall: The British Blockade of the United States, 1812-1815"

Ted Dunlap: Development of US Naval Regulation Over its Historic Shipwrecks

Rusty Earl: American Naval Administration at the Turn of the 19th Century

Scott Emory: The Wilson Vineyard Shipyard: From Sail to Steam, 1896-1974

Jeffrey Enright: Dendrochronological

Record of Eighteenth Century Spanish Vessels

Patrick Fleming: Rumrunners of the Eastern US Seaboard, 1920-1934

Glenn Forest: Confederate Domestic Wooden Gunboat Programs: the Porter Gunboat program and the Chicod Creek Vessel, a *Macon* Class Porter Gunboat.

Steve Gibbons: Piracy and Economics of the Carolinas, 1675-1725: Emphasis on North Carolina after 1700

Jeff Gray: Claflin Point Wreck: Great Lakes Tugs, Steamers, and Lumber Trade

Richard Haiduven: Historical and Archaeological Examination of the Steamboat *Madison*

Tim Hastings: History and Archaeological Site Report of the CSS *Gaines* Sunk at the Battle of Mobile Bay

Nathan Henry: Site Report on the Civil War Gunboat USS *Underwriter*

Chris Kirby: Confederate Torpedo Boats: A Design, Construction, and Historical Survey

(Continued on page 24)

PAPERS AND PUBLICATIONS BY GRADUATE STUDENTS

Robert Church: "Blackfeet and Fur Traders: Storm on the Northwestern Plains," *The Journal of the West*. Manhattan, Kansas. Forthcoming.

Peter McCracken: "Symbolic History' and Sailors: Image Development Through Song at Sea." Paper presented at Mystic Seaport Museum's 1996 Sea Music Festival, 7-9 June 1996, Mystic, Connecticut.

"USS *Constitution* Sails Again." *Colonial Maritime Association Newsletter*. Vol. 6, (no. 1, Spring 1996), 3-4. From e-mail posting, "tallship" listserv.

"Britain's National Maritime Museum." *MAHD Bulletin*, Museums, Arts, and Humanities Division of the Special Libraries Association, Vol. 26, (no. 4, Spring 1996), 9-10.

"A History of the USS *Constitution* in Song," Paper presented at 1996 North American Society for Oceanic History (NASOH) Conference, Boston, Massachusetts, 28-31 March 1996.

Ann Merriman: "Nineteenth-Century North Carolina Schooners: Their Significance in the Development of North Carolina's Trade," *Society for Historical Archaeology: Underwater Archaeology*, 1996. Ed. Stephen R.

James, Jr. and Camille Stanley, Washington, DC: Society for Historical Archaeology, (1996).

Deirdre O'Regan: "Reconstructing a Periauger" Paper presented The Museum and Small Craft Association's 23rd Annual Conference at the North Carolina Maritime Museum, Beaufort, North Carolina, 12 Oct 1996.

Harry Pecorelli: "A Working Definition of 'Periauger'," *Society for Historical Archaeology: Underwater Archaeology*, 1996., Ed. Stephen R. James, Jr. and Camille Stanley, Washington, DC: Society for Historical Archaeology, 1996, w/M. Alford and L. Babits.

Hans Van Tilburg: "Sandalwood and American Ships in Hawai'i: Traditions of Pacific Trade," *Mains'l Haul: A Journal of Maritime History*. Maritime Museum Association of San Diego, (February 1996).

"Zero Visibility Diving: the Tricks of the Trade," *International Journal of Nautical Archaeology*. (Nov. 1995).

"Chinese Nautical Archaeology: Where have all the Ships Gone?" Paper presented at Australian Institute for Maritime Archaeology Conference, 1994, published in *The Bulletin of the*

Australian Institute for Maritime Archaeology. 18 (no. 2, 1995).

"Nootka Sound: 1788," *Foghorn Journal*. Underwater Archaeology Society of British Columbia, (1995).

"Hawai'i and the Chinese Desire for Sandalwood: Traditions of Pacific Trade," Paper presented at Symposium on Maritime Archaeology and History of Hawai'i and the Pacific, 1995.

"The Zero Visibility Shipwreck: *John Henry* vs. the ROV," Paper presented at Conference on Underwater Archaeology, 1995.

Sarah Waters: "Preliminary Investigation of an Early Nineteenth-Century French Vessel Located off Chubs Head, Bermuda," *Society for Historical Archaeology: Underwater Archaeology*, 1996. Ed. Stephen R. James, Jr. and Camille Stanley, Washington, DC: Society for Historical Archaeology, (1996).

"Investigation of the Herminie Wreck," *Maritimes: Bermuda Maritime Museum Journal*, (1996).

GRADUATE STUDENT RESEARCH

(Continued from page 23)

Mike Krivor: Research and Documentation of an Eighteenth-Century British Collier in Bermuda

Wayne R. Lusardi: Shipwrecked Swords: Edged Weapons from Spanish Colonial Wrecks

Eleftheria Mantzouka: Classical Transport Amphorae from a Shipwreck at Alonnesos, Northern Sporades, Greece

Tom Marcinko: Maritime History of Hatteras Inlet, North Carolina

Tim Marshall: Historical and Archaeological Examination of the Steamship *Arabian*

Heather McAllister: Eighteenth-Century Silver Trade From Mexico to Spain

Peter McCracken: 'Symbolic History' and Sailors: Image Development Through Song at Sea

Phil McGuinn: Shell Castle, A North Carolina Entrepot: A Historical and Archaeological Investigation

John McWatters: US Coast Guard Cutter *Northwind*, 1945-1989

Christopher Olson: History and Archae-

ological Site Report on the CSS *Curlew*

Kerry O'Malley: North Carolina Privateering in the War of 1812

Deirdre O'Regan: Sails and Sailmaking in The United States, 1700-1900.

Robert J. Owen: History of the *USS Marblehead* in the Asiatic Fleet, Dec. 7, 1941 - May 6, 1942: The Long Voyage Home

Harry Pecorelli: Eighteenth-Century Southeastern US Schooners

Darren Poupore: United States Naval Operations During the Battle of the Santa Cruz Islands, 26 October 1942

Coral Magnuson: Comparison of Hawaiian Canoes in the Archaeological to Historical Record

Phillip Reid: Segelschiffedammerung [Twilight of Sailing Ships]: Passat, Great German Barques, and the End of an Era

Shannon Richardson: History and Future of Waterlogged Artifact Conservation

Todd Robinson: Children of Empire: A Social and Political History of the Bucca-neers, 1605-1655.

John Rossi: Habsburg Imperial Navy during the Thirty Years War, 1625-1630

Jinky Smalley: Manila Galleon Trade and its Relation to Spanish, Filipino, and Chinese Intercourse as Evidenced in Ship Construction, Trade Goods, and Ship Complements

Joshua Smith: Sentinels of the Republic: Customs Collectors and the Rise of Federal Authority in the District of Maine, 1789-1820

Paul Steinberg: Historical and Archaeological Investigation of the *USS Flambeau*: A Civil War Blockader Located off Fort Fisher, NC

Lex Turner: Site Report of the Civil War Era Merchant Schooner *Scuppermong*

Dan Warren: History of the Steamship *Monumental City* and the Impact of American Shipping on British Colonial Policy in Australia

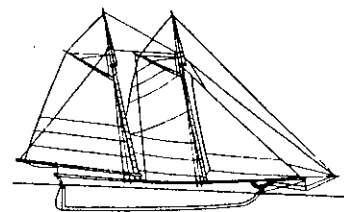
Rob Westrick: Investigation of the *USS Peterhoff*: A Civil War Blockade Runner/Blockader off Fort Fisher, NC

Avrahm Witz: History of the Shad boats in North Carolina

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UP AND STOW! Coral Magnuson (R) and Sara Beck (L) climb up the rigging to furl sail on the U. S. Brig Niagara. (Photo: Deirdre O'Regan)

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