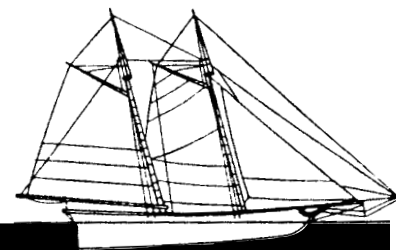


Stem to Stern



Program in Maritime Studies • East Carolina University • Greenville, NC

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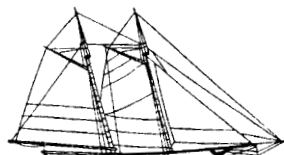
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Wayne Lusardi, ECU alumnus and Chief Conservator for the *Queen Anne's Revenge* project, assisted by smiling ECU Maritime students Mike Plakos, Matt Muldorf and Kim Eslinger, examine a cannon recovered from the wreck site.

Blackbeard and Queen Anne's Revenge

Blackbeard and Queen Anne's Revenge



Stem to Stern

... a newsletter of East Carolina University's
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We look forward to hearing from you.

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From the Editor:

It's been another busy year for the Maritime Studies Program. As you'll see by the articles in this year's edition of *Stem to Stern*, ECU Maritime students have been involved in projects from Maine to Micronesia and from the Channel Islands to the Caribbean. Summer and fall field schools included sites in North Carolina, Bermuda and Lake Michigan. The new Coastal Resources Management Ph.D. program is underway and continues to add students with diverse backgrounds to the core Maritime classes. R/V *Perkins* spent a few weeks in dry-dock, getting a much needed overhaul. Greenville-area clean-up and repair from Hurricane Floyd continued well into the summer months.

The Admiral Eller House continues to function as the "nerve center" of the program for students and faculty. The entering class of Maritime students brings a diverse set of life experiences to the Maritime Studies Program, and they are brimming with enthusiasm as many have already started research on their theses projects. New research sites in Florida, Maine, Mississippi, and North Carolina are being planned.

This year we bid farewell to Dr. Gordon Watts. He has been a cornerstone of the Maritime program since its inception, and his reputation for research on *Monitor* and *Alabama* have brought many students to ECU. A search to fill his faculty position will be conducted in spring 2001, but he will be difficult to replace. All in all, this has been a busy and productive year for those of us here at Eller House. Thanks to all of you who have supported us throughout the year.

— Steve Workman

From the Director:

The Program in Maritime Studies experienced a landmark year in its transition to the 21st century. The last year of the old millennium ended with the proverbial flood as Hurricane Floyd took a devastating toll in eastern North Carolina. Fortunately, some terrors of the previous era have been replaced by the promise of the new one.

Most notable in 2000 was the initiation of the new Ph.D. program. An interdisciplinary doctorate in Coastal Resources Management was initiated this fall. Maritime Studies, with a focus on underwater archaeology and cultural resources management, was established as one of four degree concentrations. Ecology, Geoscience and Social Sciences are the others. New funding was provided to initiate the CRM doctoral program and new staff hired, including Dr. Lauriston King as program director. Most students entering the program held MA degrees and had substantial practical experience in a variety of fields. East Carolina University made a substantial commitment to the doctoral program.

East Carolina University is a beneficiary of the \$3.1 billion bond referendum which passed with a state voter approval of over 70 percent. Over \$190 million will come to the university for capital improvements. Some funds will impact the maritime program. We expect to upgrade our Greenville campus facilities, especially the conservation laboratory. New space has been added at a former Voice of America site for both storage and the artifact conservation laboratory.

Conservation and field research are the focus of a proposal culminating a two-year effort to plan for a Coastal Studies Center on Roanoke Island in Dare County, North Carolina. The Center will be administered by ECU and include faculty and students from UNC-Chapel Hill, NC State, UNC-Wilmington and Elizabeth City State University. Plans for the facility were developed with the five universities, external consultants, the Dare County Commission on Higher Education and the UNC General Administration. The underwater archaeology research center and a major conservation facility are included in the proposed Center expected to cost \$10-12 mil-

lion. Dr. William Queen, director of the Institute for Coastal and Marine Resources led the effort along with vice chancellor Thomas Feldbush.

The most striking feature of the Atlantic coastline are the barrier islands along the Carolina coast. They are not only a natural wonder, but provide access to the hundreds of shipwrecks composing the Graveyard of the Atlantic. The maritime program is a partner with the North Carolina Center for the Advancement of Teaching to share use of the former U.S. Coast Guard Station at Ocracoke Island. The station will be transferred from the federal government to the state of North Carolina. We intend to use the docks and maintenance building for conservation, field schools, research and teaching, including short courses for public school teachers through NCCAT.

Academic programs thrive on the excitement generated by discoveries and new opportunities arising from creative and supportive members. Research projects discussed in this issue detail our achievements in Bermuda, Maryland, North Carolina, Maine, Wisconsin, Micronesia, California, Washington and elsewhere. Recognition is due to our partners in these efforts. Special relationships continue with the Bermuda Maritime Museum, the Mariners' Museum in Newport News, Virginia, and the Naval Historical Center in Washington, DC. In North Carolina, we continue to work closely with the state Underwater Archaeology Unit on the *Queen Anne's Revenge* site, thought to be Blackbeard's lost ship in 1718. Many present and former students worked on this project and several continue on a full-time basis. Students have undertaken research at the Mariners' Museum and the Naval Historical Center. The Maritime Research Institute at the University of Greenwich is directed by Dr. Sarah Palmer who visited ECU to help plan the Coastal Studies Center and discuss an agreement between our universities for exchange of faculty and students.

As noted above, programs require support in order to thrive. We have experienced this support in several forms within the university, especially by History chair Dr. Michael Palmer, Dean of the College of Arts and Sciences Dr. Keats Sparrow, and the Vice Chancellor for Research and Graduate Studies Dr. Thomas Feldbush. Outside the university, the generosity of Barbara and Matthew Landers' endowment of a scholarship fund allowed three awards to be made this fall. Leatrice and Milton Fields established a new scholarship. The Perkins Trust provided funding to support our research vessel R/V *Perkins*. Dr. Anna McCann and Robert Taggart provided important support for students' field work.

Special mention is due James Cheatham and wife Bren for their support and vote (chad-free!) of confidence in our program. A trust to create a named professorship was established that will bring further support and recognition to the maritime program. This recognition will complement that awarded to Dr. Lawrence Babits, the newly named George Washington Distinguished Professor of History.

Dr. Gordon Watts, co-founder of the Maritime Program, and stalwart for two decades, retired in January 2001. Gordon's retirement leaves a tall wet suit to fill. He was instrumental in projects such as the USS *Monitor*, that brought international attention to the program and ECU. The search for a new faculty member is underway. We will miss his expertise and down-home sense of humor. We will also lose a staunch supporter of over 13 years when popular Chancellor Richard Eakin steps down this year.

As I said at the beginning – a year of transition.

– Tim Runyan

Coastal Studies Center Planned for Roanoke Island

Several years of planning have resulted in a proposal for the creation of a Coastal Studies Center to be built on Roanoke Island, home of the famous Lost Colony. The proposal has cleared East Carolina University, a UNC planning committee, and the UNC General Administration. It also received approval by the Dare County Commission on Higher Education. The proposal calls for a \$10-12 million facility to be constructed on county land near the North Carolina Aquarium. Five universities will participate: ECU as lead partner, UNC-Chapel Hill, NC State, UNC-Wilmington and Elizabeth City State University. The focus will be on research, teaching, and public education. Topical areas included are Maritime Studies – Archaeology and Conservation, Ecology, Geoscience and Tourism. Offices for faculty, student housing, laboratories, and a large conservation facility are included in the planning document. Funding will come through the state legislature. The recent passage of a major university bond issue should speed development. The maritime program would gain 2-3 positions as partial staffing for the Center.

Planning for the Center included a workshop organized by Tim Runyan. Participants included conservators and museum administrators. An outstanding group of professionals participated in meetings held in Greenville: Dr. Edward Harris, Executive Director, Bermuda Maritime Museum; Dr. Sarah Palmer, Director, Maritime Research Institute, University of Greenwich; Dr. William Cogar, Chief Curator and Vice President, Mariners' Museum; Dr. Joseph Schwartz, Director, Graveyard of the Atlantic Museum (under construction); Dr. Donny Hamilton, Director of Conservation, Texas A & M University; Clifford Smith, Conservator and Archaeologist, Bermuda Maritime Museum; Curtiss Peterson, conservator for the USS *Monitor* at the Mariners' Museum; Katherine Singly, Conservator at Emory University; Wayne Lusardi and Nathan Henry of the North Carolina Underwater Archaeology Unit. It was a most productive gathering. Their suggestions shaped the final proposal and had the added benefit of bringing outstanding professionals to campus with an opportunity to examine our program and meet some of our students. ♪

Better Than Ever: R/V *Perkins* Benefits from Extensive Overhaul

R/V *Perkins*, the ECU Maritime Studies Program's recently acquired research vessel, underwent an extensive overhaul during Fall 2000. In early September, Dr. Tim Runyan and Dr. Brad Rodgers moved *Perkins* from her homeport in Washington, NC, to the state ferry system shipyard in Manns Harbor, NC. Graduate students, Alena Derby, Keith Meverden, and Marc Porter helped with the move.

The state shipyard at Manns Harbor is located across Pamlico Sound from Roanoke Island. The voyage took approximately eleven hours and was made under sunny skies and light winds. After safely navigating the tricky entrance to Manns Harbor, the ECU crew turned the *Perkins* over to the state-managed shipyard. The first step was to place the *Perkins* in dry dock where the hull was cleaned and painted. *Perkins* also underwent a thorough inspection which it passed with flying colors. During the dry dock period, a team of faculty and students helped perform repair work on the vessel. Dr. Runyan, Frank Cantelas, Keith Meverden, Vicky Martindale, Jeff DiPrizito, Alena Derby and Kevin Nichols spent a weekend needlegunning, scraping, and cleaning the forepeak and bilges so the shipyard could apply fresh coats of paint.

After the hull inspection was complete and a new coat of paint applied, *Perkins* was refloated and tied alongside a wharf. Shipyard workers then made a host of repairs and improvements including a new muffler system to help dampen noise from

the vessel's two generators and main engine. The generosity of Beard Industries in Shreveport, LA, makers of Maxim silencers, enabled the work to be done. New waterproof seals were installed around all hatches and portholes. Minor welding was done, window glass was replaced, the fire control system was inspected and recharged. The propeller shaft was reconditioned and the stuffing box fitted with new packing. The stack was painted and minor touch-up painting was done where needed.

On two occasions during October and November, another ECU team visited Manns Harbor to help with various projects. This group, consisting of Dr. Brad Rodgers, Frank Cantelas, and Marc Porter, insulated the new muffler system, repaired the spotlight, and tested various shipboard systems. By early November *Perkins* was ready for a return trip to Washington, NC. Dr. Rodgers, Frank Cantelas, and Marc Porter spent a day readying the vessel and left around dawn the following day. The return voyage was uneventful and eleven hours after leaving the shipyard, *Perkins* nosed into its familiar position alongside the bulkhead in Washington, NC.

The overhaul was most successful. Important repairs and upgrades were accomplished that will increase the vessel's utility as a research platform. These improvements will ensure that *Perkins* is ready when field work commences next Spring. While the vessel was in Manns Harbor, shipyard employees, led by Loch Weems, not only completed a number of

major projects but were also very generous in providing advice and assistance to ECU faculty/student repair teams. The Program in Maritime Studies would like to thank Ray Dossett, naval engineer, who surveyed the vessel, Jimmy Twiddy, manager Don Chapman, Richard Dewhurst and all of those at the shipyard, as well as everyone from ECU who participated in the overhaul, for the excellence of their work and assistance. *Perkins* is in better shape than ever. For the holiday season she is outlined in white lights on the Washington water front.

– Marc Porter

National Maritime Heritage Act

As of this printing, the presidential election may be resolved, but not all matters before Congress. In 1998, \$670,000 was distributed to 39 grant recipients from a total of 342 applicants through the National Maritime Heritage Act. Signed into law in 1994, the NMH Act provides federal funding for preservation and education related to America's maritime heritage. Funds were provided from profits generated by scrapping ships in the National Defense Reserve Fleet. Unfortunately, this source dried up because EPA regulations prohibit exporting of vessels with environmental problems such as PCBs, and there is no domestic market. The Maritime Administration is currently scrapping vessels at no profit.

The National Maritime Alliance, chaired by Tim Runyan, worked to persuade Congress to provide an alternative source of funding. The Alliance is composed of museums, lighthouse societies, waterfront organizations, historic ship associations and others. North Carolina Senators Jesse Helms and John Edwards, along with Senators John Warner (VA), Olympia Snowe (ME), and Christopher Dodd (CT) are supporting an amendment to fund the Act through the Conservation and Reinvestment Act funded by the profits of offshore drilling. Aided by Captain Channing Zucker of Historic Naval Ships and Washington attorney Duncan Smith (Captain, USCG Reserve), the effort continues. ⚓



R/V *Perkins* in overhaul status at Manns Harbor shipyard, NC.

NURC Demonstrates Remotely Operated Vehicles at ECU

The National Undersea Research Center (NURC) located at UNC-Wilmington conducted a remotely operated vehicle (ROV) seminar at ECU's Minges pool on October 27, 2000. NURC's Glenn Taylor and UNC-Wilmington's Diving Safety Officer Ken Johns gave an excellent demonstration of the Phantom S-300, and displayed the larger, more versatile Phantom S-2. After an introduction and short history of the scientific applications of ROVs, ECU students were allowed to operate the Phantom S-300 in the deep well of Minges pool. Under Taylor's guidance, students maneuvered the ROV around the pool while guiding it via a forward-mounted camera. By monitoring a computer screen and manipulating horizontal and vertical toggles, students could "fly" the ROV through the water column.

The S-300 is a small, highly maneuverable ROV fitted with only a single high-resolution camera and has no grasping or sampling capabilities. The S-2 is a larger ROV that can be used at depths exceeding 300 feet. The S-2 has the ability to take samples with several different attachments and can be fitted with multiple instruments, including digital and sonar imaging cameras.

The archaeological importance of ROVs has been proven on difficult submerged sites like USS *Monitor* and CSS *Alabama*. Both sites are located in deep, unpredictable waters where it is often safer to launch an ROV than risk divers. The ROV's virtually unlimited bottom time, compared to human divers,



NURC's S-2 ROV and Glenn Taylor at ECU's Minges pool.

makes ROVs invaluable assets in underwater exploration.

– Tane Casserley

Summer Field School 2000 – *The Wrath of Hurricane Floyd*

In June, Dr. Bradley Rodgers, nine students and three assistants completed summer field school in Washington, NC. Participants included Heather Cain, M.J. Harris, Dave Miller, Scott Whitesides, Marc Porter, Giovanni Wagemans, Sam Belcher, Matt Lawrence, Suzanne Finney, and Steven Hammack. They examined a concentration of wrecks around Castle Island to determine the effects of Hurricane Floyd, which struck the area in September 1999. The Castle Island wrecks have been the subject of two previous ECU field schools. So far, eleven wrecks have been found. Last season, field school students mapped, surveyed and documented one vessel, leaving several others for future research. The ship graveyard represents an important component of the maritime economy in North Carolina, tying it to more distant trade in the Caribbean and the American east coast.

Hurricane Floyd caused massive flooding along the Tar/Pamlico River creating shoals in some areas and causing tremendous erosion in others. Castle Island itself suffered severe undercutting and erosion. Relocating the Castle Island wrecks to identify any damage caused by the flood

became the field school's first task. During the first week students executed a line search locating seven of the nine wrecks known in one area. The extent of the damage became apparent after mapping the shore using a theodolite/EDM and comparing the results to maps of the previous year. Underwater, many wrecks were as much as fifteen feet deeper due to flood scouring action. Vessels that were once in five feet of water were now twenty feet deep, and many were buried, broken up, or shifted downstream. Their locations were recorded and changes noted.

Another field school goal was to increase public awareness of our activities to raise local interest in the Castle Island history, as well as to develop research through contact with the local community. Students set up a display addressing local history and the Castle Island underwater archaeology project on the adjacent riverbank. Many people stopped to share their stories and look at the display. This contact lead to the discovery of a previously unknown ferry. A visitor mentioned that when the water level was low he noticed a wreck about 200 yards upstream from Castle Island.

Week two began by examining the new area with a side-scan sonar, which quickly

located the sunken ferry. A baseline and cross-lines were laid down, and mapping began. Each student was assigned a section. Our recent dive safety training, particularly the zero-visibility training, proved invaluable, considering that some days we were working with only four-inch visibility.

The final week was spent on the Program's research vessel *Perkins*. The former Army T-boat needed preparation for an overnight trip on Pamlico Sound. We received a quick lesson in everything from engine maintenance to stocking the kitchen and navigation. The crew headed down the Pamlico River at 6 knots and once in deeper waters we deployed the side scan sonar, taking turns learning to operate the system and watching for possible targets.

Summer field school students participated in a wide variety of activities while gaining the opportunity to study the unexpected results of Hurricane Floyd. It may be that our current notions of gradual depositional process for these wreck sites will have to be altered in favor of a more catastrophic model. Fifteen feet of sand is a long way down.

– Heather Cain

Watts leads last ECU class before retirement . . .

Bermuda Field School 2000 Explores “Iron Knee” Shipwreck

The Fall 2000 Bermuda Field School was an unqualified success. Dr. Gordon Watts led his last ECU class before retirement. Five Maritime students, Tane Casserley, Russ Green, Stephen Hammack, Mike Hughes, and Kim Williams conducted a month long investigation of what has come to be called the “Iron Knee” wreck. This is most likely a late eighteenth century vessel, possibly a Bermuda sloop that foundered on one of Bermuda’s many coral reefs and sank in the early nineteenth century. The site acquired its name because cast iron knees were found on site. This type of knee is quite unusual, because most knees are made of wrought iron.

The crew stayed at the Maritime Museum, located on Bermuda’s “fishhook” and site of the Royal Navy Dockyard. Clifford Smith, resident conservator and underwater archaeologist, provided logistical assistance. Two museum interns, Sofia Persson (Sweden) and Maggie Pudden (Canada) worked with the crew. Duties consisted of moving ballast stone off the wreck, and then mapping 2 meter by 2 meter squares. After mapping was completed, the crew put the ballast back on the wreck to preserve it. Two iron knees were recovered and the concretions were removed at the museum. The crew met every night



ECU students working on the “Iron Knee” wreck site in Bermuda.

after supper to discuss that day’s work, and plan the next one. The site was in about 15 feet of water, and the visibility was at least fifty feet.

Barto Arnold of Texas A & M’s Institute of Nautical Archaeology graciously gave a couple of guest lectures while he was researching Confederate blockade runners and their connections with Bermuda.

Tane Casserley, cook extraordinaire, rustled up excellent vittles to keep the crew going, and Russ Green, Diving Safety Officer, supervised equipment problems and tank refills. Each crew member alternated as galley slave in order to give some relief to the cook.

Dr. Watts took the crew on a tour entitled “Four Hundred Years of Shipwrecks.” Students had a chance to dive on wrecks from the 1600s to the 1900s, explain the characteristics of each wreck, and then attempt to give a date for the vessel’s construction. The heat was intense, work was hard, but the experience gained was immense, and worth it all. The crew thanks Gordon for the work he has done at ECU, and wishes him well in whatever he chooses to pursue in the future.

“We will never forget his efforts to turn us into viable underwater archaeologists.”

Gordon – you are a treasure! God bless and God speed.

– *Stephen Hammack*



ECU students Mike Hughes and Russ Green document their observations on the “Iron Knee” wreck site.

At “Death’s Door”: Fall Research Semester 2000

This past fall students had the opportunity to choose between Fall Research Semester in Bermuda or Door County, Wisconsin. My first thought was Bermuda, however, working in Door County proved to be an incredible learning experience in beautiful surroundings—albeit cold. Joining me were M.J. Harris, Scott Whitesides, Marc Porter, and Cathy Fach under the direction of Dr. Bradley Rodgers and Wisconsin State Underwater Archaeologist Jeff Gray.

In four weeks we dived on nineteen different wrecks of varying vessel types and diving conditions in Sturgeon Bay, Green Bay, and Lake Michigan. Our project goals included: mapping a converted stone barge, *The City of Glasgow*; recording the car ferry, *The Straits of Mackinac*, for nomination to the National Register of Historic Places; locating, deciphering, and mapping a cluster of wrecks in Sturgeon Bay; and providing an opportunity for public education through a website updated daily with our activities. The field school and website, *Notes From the Field*, (www.shsw.wisc.edu/shipwrecks/notes) were made possible by grants from the State Historical Society of Wisconsin and Sea Grant Institute.

The first week and a half were spent in Lilly Bay at the cabin generously donated by the Tolison family on Lake Michigan mapping the steam barge, *The City of Glasgow*, which had been converted to a stone barge. *The City of Glasgow* sank in a storm approximately 200 feet from shore in waters ranging from 0-10 feet. The upper works have been destroyed but the remaining lower hull is well preserved. A baseline and cross-lines were laid and mapping began. Down time caused by adverse weather was used to record *The Straits of Mackinac*. This 1927 car ferry is privately owned, still floating, and exudes the air of a 1930’s relic in Kewaunee Harbor. It is eligible for nomina-

tion to the National Register of Historic Places. We recorded its dimensions and contents, particularly the triple expansion steam engine which is still intact. When the strong winds subsided we returned to *The City of Glasgow*, but from a slightly different perspective. Two students headed for the skies to search the area for possible pieces of the wreck, and to take aerial photos, while two other students remained in the water using a PVC pipe to scale the wreck for the aerial photos.

After documenting the *Glasgow*, we headed farther north to Gills Rock, where we examined several wrecks such as the *Fleetwing*, *Louisiana*, *A.P. Nichols*, and *Forrest* to study Great Lakes ship construction. We were given a “behind the scenes” tour of the Wisconsin Maritime Museum in Manitowoc by Sarah Waters, an ECU maritime graduate who is now the museum’s curator.



ECU faculty professor Dr. Brad Rodgers gets a helping hand from Heather Cain as M.J. Harris awaits her turn.

The remainder of the project was spent in Sturgeon Bay locating several wrecks known by locals to be in the area. A line search was conducted and floats were placed on all “large pieces” of vessels. We discovered a large debris field containing several wrecks including a large scow schooner. With time running short, we mapped the area’s location without undertaking an extensive examination of the sites. This area will be researched and mapped during next year’s field season.

– Heather Cain



ECU student Heather Cain surveys the *Fleetwing* wreck site near Gills Rock, Wisconsin.

The Penobscot Expedition and the Devereaux Cove Vessel

During the summer of 2000, the ECU Maritime Studies Program was awarded a grant from the American Battlefield Protection Program to carry out a Phase II archaeological survey of a potential Revolutionary War vessel. The vessel is believed to have been a transport attached to the Penobscot Expedition of 1779, and is located in the lower Penobscot River at Devereaux Cove, Stockton Springs, Maine.

The Penobscot Expedition of 1779 represented the largest American naval operation of the Revolutionary War and resulted in the greatest American naval disaster prior to Pearl Harbor. A force of over 3,000 seamen, marines, and militia was assembled by Massachusetts to dislodge a British garrison of 700 soldiers that had recently arrived to build and occupy a fort at Castine, Maine. The American naval force consisted of nineteen warships and twenty-five transports and was opposed by three British sloops. After three weeks of indecisive siege operations against the British fort, the American force fled up the Penobscot River when a Royal Navy relief force arrived from New York. All the American vessels were either captured or scuttled and burned by their crews. Remains of American vessels have been found from Sears Island at the mouth of

the Penobscot River to as far north as Bangor.

The aim of the 2000 fieldwork was to determine the extent of the vessel's remains, produce detailed site and wreck maps, determine the site's potential for further archaeological investigation, and begin the process of nominating the Devereaux Cove Vessel for the National Register of Historic Places. Directed by Russ Green, the fieldwork was carried out from 9-14 July with a hard-working crew of ECU Maritime Studies students including Kim Eslinger, Cathy Fach, Matt Muldorf, and Mike Plakos. Special thanks to Dr. Warren Riess of the University of Maine's Darling Marine Center for his guidance and assistance.

Because the Devereaux Cove Wreck is located in a tidal flat, visible remains are entirely exposed at low tide and completely submerged at high tide. Consequently, many of the vessel's timbers become waterlogged during high tide, only to dry out when exposed at low tide. This cycle accelerates wood decomposition and will eventually result in timbers too unstable for excavation or accurate archaeological information. Additionally, significant seasonal temperature changes result in ice formation and repeated expansion and contraction of the waterlogged timbers, further compro-

ming structural integrity. Ice formation over the site also produces "rafting", a condition where loose timbers may be worked free of the mud as the ice they are attached to drifts away from the site. Lastly, the wreck is being eroded by constant tidal changes and the movement of water over the exposed timbers. Those timbers not firmly ensconced in the mud bottom or attached to a more substantial part of the wreck are subject to being dislodged and carried away with the outgoing tide. Much of the vessel has already been lost via this process.

The Devereaux Cove Wreck covers roughly a 60 x 20 foot area. The visible remains consist primarily of floor timbers and first futtocks, which protrude several inches above the mud line. Just below the mud line, a significant portion of outer hull planking remains intact and securely treenailed to adjacent frames. Although the keelson is missing, probing along the vessel's centerline revealed that portions of the keel are extant, though much of it is severely degraded. Probing beneath two or three feet of mud at the wreck's approximate ends suggested that more of the vessel, perhaps the remnants of a stem or sternpost assembly, might also have survived.

Although no dateable artifacts were discovered, a curious "wedge", found between a floor timber and the adjacent outer hull planking proved interesting. One floor timber, with three octagonal trunnels partially intact, was removed from the site, photographed, sketched, and replaced. Additionally, several wood and stone samples were taken, and are currently being analyzed.

Clearly, the Devereaux Cove Wreck warrants a limited excavation, as features hidden well beneath the mud may significantly add to our understanding of eighteenth century ship construction. Moreover, substantial physical evidence may be found that will help substantiate the historical record, and more closely identify the wreck with the 1779 Penobscot Expedition. Unfortunately, time is a crucial factor, for natural processes will soon claim what remains of the Devereaux Cove Vessel.

– Russ Green



ECU students Mike Plakos, Cathy Fach, Kim Eslinger, and Matt Muldorf record measurements on the Devereaux Cove wreck site in Penobscot Bay, ME.

Deep Water Archaeology and USS *Monitor*

East Carolina University's Program in Maritime Studies and Diving Safety Office were invited to participate in this year's research expedition to the USS *Monitor* National Marine Sanctuary. Archaeologist Frank Cantelas, graduate student Tane Casserley, Diving Safety Officer Steve Sellers, and Assistant Diving Safety Officer Gary Byrd joined the survey team consisting of research divers from the Cambrian Foundation and NOAA's National Undersea Research Center (NURC) located at UNC-Wilmington. Diving off UNC-Wilmington's research vessel *Cape Fear*, the survey team combined their considerable talents to investigate the wreck site.

Launched on January 30, 1862 at the Continental Shipyard, Brooklyn, New York, USS *Monitor* had an immediate impact on naval warfare. The United States Navy had planned for some time to construct ironclad warships, or floating batteries as they were known, but since the War of 1812, the Navy had been given little funding. When news reached Washington that the Confederate Navy had raised the burned and scuttled USS *Merrimack* to convert it into an ironclad warship (CSS *Virginia*), a sense of urgency overwhelmed the Union. Under intense pressure, the U.S. Navy contracted John Ericsson to design a vessel to stop the Confederate threat. Ericsson's earlier successes in developing compact steam engines and the first screw propeller prompted him to make a radical departure in naval design. He then proceeded to defy engineering and naval skeptics by completing his prototype Civil War ironclad in less than 100 days.

Nicknamed "cheesebox-on-a-raft" because of its rotating turret and low freeboard, *Monitor* was unlike any other vessel built. Mounted with twin, 11-inch Dahlgren guns and placement of the engineering spaces and crew's quarters below the water line made *Monitor* a formidable adversary. Its battle with the CSS *Virginia* at Hampton Roads on March 8, 1862, may have been one of the most anticipated engagements in modern naval warfare. This was the first encounter between ironclad vessels.

The *Virginia* had already devastated the federal fleet blockading the area by the time *Monitor* arrived at Hampton Roads. The Confederate ironclad easily destroyed the wooden frigates USS *Cumberland* and USS *Congress*, and severely damaged USS *Minnesota*. The wooden-hulled vessels were no match for the *Virginia*'s iron armor.

The battle between *Monitor* and *Virginia* ended in a stalemate. Often fired at point blank range, cannon balls simply bounced off the protected hulls, without seriously damaging either vessel.

Naval traditionalists were very critical of these new ships' abilities, but the battle proved to the world that ironclads were an effective weapon and not a mere novelty. It was the beginning of the end for the age of sail and wooden hulls in warships.

Monitor sank in heavy seas while being towed by USS *Rhode Island* on December 31, 1862. Designed for coastal and riverine patrols, *Monitor* was never intended to operate in blue water. The ship quickly took on water through the turret, anchor well, and blower pipes, forcing the captain to abandon ship. She now lies upside down in 230 feet of water, approximately 20 miles off Cape Hatteras, North Carolina.

NOAA Project Director Dr. John Broadwater's objectives for the year 2000 expedition included a three-phase plan to recover *Monitor*'s vibrating side-lever engine. NOAA determined that a catastrophic hull collapse is imminent on the *Monitor* and the recovery of important historical artifacts, such as the engine, are imperative. An Engine Recovery Structure (ERS) was especially designed by the marine engineering firm Oceaneering to gently remove the engine, and raise it by crane to the surface. The massive structure includes a bridge and trolley that can be precisely maneuvered without damaging *Monitor*'s remains.

During the project's first phase, research divers were tasked with a pre-disturbance survey of the engine room. This included recording delicate artifacts such as the



Tane Casserley and Gary Byrd prepare for a deep-water dive on *Monitor*.

steam and mercury gauges, as well as critical measurements to assist positioning the ERS as it was lowered to the seabed. The second phase was conducted by Oceaneering and the U.S. Navy's Mobile Diving and Salvage Unit utilizing a 300- by 80- foot barge and crane to lower the 90- ton ERS down to straddle the wreck site. After successfully positioning the ERS, the dive survey team returned to begin the third phase of the project. Diving concurrently with the Navy's tethered, surface-supplied divers, the unencumbered researchers continued recording engine machinery and changes at the site.

Unpredictable Cape Hatteras weather delayed raising the engine this year. Under the supervision of the Cambrian Foundation's Terrence Tysall and NURC's Doug Kesling, the dive survey team did successfully complete 62 dive evolutions ranging from 20 to 35 minutes of bottom time. Breathing NOAA Trimix I, an 18% Oxygen, 50% Helium mix specifically designed for use on the *Monitor* project, decompression obligations typically ranged between 90 and 170 minutes. This year's successful expedition laid the groundwork for the engine recovery projected for the 2001 field season, and proved the research capabilities of a combined ECU, NOAA, NURC, US Navy, UNC-Wilmington, and Cambrian Foundation team.

– Tane Casserley

Archaeological Investigation of the Gold Rush Steamship *Winfield Scott*

In July 2000, ECU graduate students Deborah Marx, Matthew Lawrence, and Tane Casserley, along with Maritime Studies Program staff archaeologist Frank Cantelas, traveled to California to conduct a Phase II survey of the steamship *Winfield Scott* wreck site. Under the direction of Deborah Marx, a seven-day investigation focused on taking a closer look at the well-known wreck site off Anacapa Island, one of five islands comprising the Channel Islands group off the southern California coast.

In 1981 the National Park Service Submerged Cultural Resource Unit positively located and identified the wreck of *Winfield Scott*. Since the initial survey, National Park Service and National Oceanographic and Atmospheric Administration (NOAA) archaeologists have continued to document the site and monitor its condition due to its location in a popular recreational diving area. The shallow and readily accessible site has been subjected to damaging human and natural forces and the NPS was glad to have a new site survey reexamine the condition of the wreck and record rapidly deteriorating features.

Four objectives directed the project's fieldwork. The most important objective was to establish the wreck site's location in relation to Anacapa Island. Team members employed land survey equipment to locate the wreck on a USGS topographic map. Next, the crew completed detailed drawings of the engine components and remaining wooden hull structure. Following that, previously unidentified remains were recorded and identified. As the last objective of the survey, participants conducted underwater and land searches to locate new features around the main wreck area. Numerous remains were located and recorded by the team. All drawings were compiled with a Computer Aided Drafting (CAD) program to generate a complete site map containing detailed drawings of engine components and the wooden hull structure as well as the wreck site's relation to Anacapa Island.

Westervelt and MacKey, of Brooklyn, New York, built *Winfield Scott* in 1850 for Davis, Brooks and Company. The 1290-

ton wooden side-wheel steamer measured 225 feet in length with a 35 foot beam. Built for service between San Francisco and Panama during the California Gold Rush, it did not arrive on the West Coast until April 1852. The newly-established New York and New Orleans Steamship Company operated the vessel. *Winfield Scott* and the steamship *Union* provided regular and direct service between New York and New Orleans until January 1852, when *Winfield Scott* left New York for the last time and steamed to California to join in the Gold Rush frenzy.

Winfield Scott soon became a favorite among passengers on the San Francisco to Panama route, but its owners found it difficult to compete against the Pacific Mail Steamship Company's monopoly of that route. In July 1853, the Pacific Mail Steamship Company purchased *Winfield Scott* and added it to their fleet of Gold Rush steamers, where it provided regular service along the Panama route until December 1853.

On the morning of December 1, 1853, *Winfield Scott* steamed out the Golden Gate loaded with passengers and specie for Panama. The following foggy evening, the captain missed the Santa Barbara Channel and ran onto the rocks off Anacapa Island. Passengers quickly jumped into lifeboats and the crew rowed

them to shore, where they camped on the isolated island for a week before being rescued and taken back to San Francisco. Despite the passengers' week of hardship, all of them returned safely to the mainland and continued their journey.

The *Winfield Scott* wreck site is mainly comprised of engine components and various iron features. Numerous salvage attempts scattered the steamer's remains, but there is still an easily observed order to the site. Despite years in a dynamic environment a 10- by 14-foot section of bottom hull structure survives to provide valuable information on the construction of nineteenth century wooden steamships. Concretions obscure most of the vessel's iron remains, but abundant side-lever engine components are still readily identifiable, including portions of an engine cylinder, side-lever, paddle shaft support, paddle wheel, and boiler base.

Well-deserved thanks to the Channel Islands National Park, NOAA Channel Islands National Marine Sanctuary, California State Lands Commission, and California State Parks for their support of this project. Special thanks also to Otto and Bettie Marx for keeping the crew happy, warm, and well-fed onboard the research vessel *EDEB*. Without their help this project would never have been conducted with such ease and comfort.

For further information on the historical and archaeological research on SS *Winfield Scott* contact Deborah Marx at Dmarx0405@aol.com.

– Deborah Marx



Deborah Marx maps remains of *Winfield Scott*, near Anacapa Island, CA.

ECU “Pirates” in Pohnpei – Maritimers Look for Civil War Whaling Ships

One hundred thirty-five years ago, four American whaling ships were captured and burned at Ascension Island in the Pacific. This past August, Ascension Island (now known as Pohnpei in the Federated States of Micronesia) was the setting for an underwater archaeology investigation by a team of students and professionals from East Carolina University, the University of Hawaii, and the Pohnpei State Historic Preservation Office. Suzanne Finney, a Ph.D. student in the Coastal Resources Management Program, and Frank Cantelas, Maritime Studies Program staff archaeologist, led the project to locate and document the remains of the whaling wrecks. ECU graduate students Russ Green and Cathy Fach also participated in the survey effort.

The project was funded by a grant through the National Park Service American Battlefield Protection Program (ABPP). The project’s mission was to define what elements of the April 1865 events still exist and determine how they might best be preserved for future generations. To accomplish these goals, the team conducted a survey of Pohnahtik, or Lohd Harbor, in Madolenihmw Province on the southeast corner of the island. Pohnahtik Harbor was a popular rest stop and watering hole for whalers and traders during the nineteenth century. In April 1865, CSS *Shenandoah*, a Confederate raider commanded by North Carolina native Lt. Comdr. James Iredell Waddell, blocked the harbor’s entrance and captured the four whalers, *Edward Carey*, *Harvest*, *Hector* and *Pearl*. Three vessels were registered as American. *Harvest* was sold out of New Bedford, Massachusetts, to Hawaiian owners in 1862. Lieutenant Commander Waddell did not believe the sale to be legitimate and claimed her also as a prize despite Hawaii’s neutrality.

In August 1999, a small team led by Suzanne Finney located the remains of one suspected whaler in about twenty-five feet of water. Using that wreck as a starting point, this year’s team uncovered portions

of that wreck site revealing large sections of keel, bricks, and several large iron objects, possibly tryworks knees used to support the deck where whale blubber was melted into whale oil. These finds are extremely significant as they led the team to conclude that there are two wrecks at this site instead of one. Frank Cantelas made a careful exam-



The Pohnpei 2000 whaler project research team readies for another dive. (L-R) Russ Green, Megan Moews (U of HI), Allen the boat driver, Suzanne Finney, and Frank Cantelas.

ination of the exposed keel area from last year’s project and located the bow and stern of one vessel, bolstering the claim that two wrecks lie side by side along the harbor wall.

A local fisherman led the team to a third wreck site during the project’s first week. This third wreck was initially identified by the National Park Service Submerged Resources Center (formerly the Submerged Cultural Resource Unit) in 1992 as a possible whaler from the *Shenandoah* incident. The remains include a fairly large section of ceiling planking, pump wells and the main mast step. It is also in about twenty-five feet of water buried in coral. Emensio Eperiam of the Pohnpei State Historic Preservation Office first identified this wreck as a possible whaler and helped the National Park Service with their investigation.

The team spent nearly two weeks mapping and photographing the wrecks and surveying the harbor for other cultural material. In the final days, they mapped the harbor using transit gear supplied by the Pohnpei State Department of Land. This information will be compiled into a final report. Suzanne Finney will present the findings at the annual Society for Historical Archaeology conference in Long Beach, California in January 2001.

– Suzanne S. Finney

Wreck of the Steamship *Pomona* at Fort Ross, California

ECU graduate student Deborah Marx, along with colleagues from Indiana University and California State Parks, returned in August 2000 to Fort Ross State Historic Park to complete the survey of the steamship *Pomona*. The team, led by Charles Beeker, director of Underwater Science at Indiana University, completed the wreck’s documentation and finished a cultural resource management plan begun in 1998. During its third season at Fort Ross, the team placed a marker buoy on the wreck, developed an underwater tour guide, video documented the site, and analyzed possible locations for a land-based observation point.

Union Iron Works of San Francisco, California built the steamship *Pomona* in 1888. The 225-foot steamer was the first steel hulled coastal liner built specifically for Pacific Ocean service, where it steamed regularly between San Francisco and Vancouver until March 17, 1908. While heading north from San Francisco the ship struck a submerged pinnacle and ruptured its hull. The captain headed *Pomona* into Fort Ross Cove hoping to beach the vessel but instead hit another submerged rock that sank the ship.

The steamship *Pomona* lies in 25 to 40 feet of water, 90 miles north of San Francisco. Despite salvors’ use of dynamite, the wreck is the most intact nineteenth century coastal liner on the West Coast, displaying steam engine parts, Scotch boilers, and steel hull structure. Due to the wreck’s location in a dynamic area, archaeological work is severely limited by wave action. Cold water, low visibility, thick kelp, and marine life with teeth present a real challenge to underwater mapping and provide an excellent learning experience for maritime archaeologists.

Conservation of artifacts from the *Pomona* at the Maritime Studies Program’s Conservation Lab is planned under the supervision of Dr. Bradley Rodgers and Deborah Marx. After stabilization, the artifacts will be displayed at the Fort Ross State Historic Park museum located in Jenner, California.

– Deborah Marx

ECU Maritimers Intern on the *Queen Anne's Revenge* Project

In May 2000, four ECU Maritime students joined the Blackbeard Shipwreck Project at the facility in Morehead City, North Carolina operated by the NC State Underwater Archaeology Unit (UAU). Erich Bruning, Kim Eslinger, Matt Muldorf, and Mike Plakos, as well as UNC-Wilmington student Rob Stumley joined the team for a special emergency recovery dive on the suspected site of the *Queen Anne's Revenge* wreck.

The UAU established three laboratories for wet and dry artifacts, and for processing large artifacts such as cannons. Interns assisted in the documentation, processing, recovery, conservation and mapping of artifacts. They also updated the *QAR* website (www.ah.dcr.state.nc.us/qar).

The East Carolina crew worked at the UAU office for a period of six weeks. They assisted in the recovery of a section of planking located near the main ballast pile on the *QAR* site. This section of planking consisted of several pieces of sacrificial planking and outer hull planking. Hurricane Floyd struck in fall of 1999 with such force that the site was exposed and rescue work was necessary. Visibility is often limited at the site, but ECU students are trained in low and zero visibility diving.

At the end of the six-week internship the students were invited back for the fall field season. Kim Eslinger and Matt Muldorf returned while Mike Plakos was hired by the UAU as the new project archaeologist. Eslinger returned earlier in the season to begin an internship focused on the excavation methodology and material culture of several concretions attached to Cannon C4 that was raised in 1998.

Presently her research focuses on a major concretion filled with what appear to be sheathing nails and drift pins. Prior to the opening of this concretion no nails had been discovered on the site and it was believed that none existed, that only the larger ferrous artifacts (e.g. the cannons and anchors) had survived the 282 years on the ocean floor.

Muldorf returned in September as part of the field crew responsible for diving, mapping, establishing vertical relief, and excavating the site. During the three-week dive season Muldorf and Eslinger logged

dives on the site mapping, dredging, filling archaeological preservation devices, cleaning current meters, and assisting in the laying out of the site. A live feed of audio and video via the Internet allowed public school students and others to call in and communicate with the divers while they worked.

The fall 2000 excavation focused primarily on a ten by ten foot grid located directly on top of the area from which the hull structure was recovered. This ten by ten section was mapped and dredged to the sterile layer and then covered over with sandbags to provide an ending point for

future excavations. Mapping also took place next to the large ballast pile where several pieces of hull planking still protrude. With these areas mapped the crew is ready to raise a second concretion in the spring. Further fieldwork in the spring and fall seasons of 2001 is already in the planning stages.

Anyone interested in learning more about the *QAR* project or the internships should contact Kimberly Eslinger at keslinger@ncsl.dcr.state.nc.us, or Mike Plakos at mplakos@ncsl.dcr.state.nc.us, or call 252-726-6841, ext. 154.

– Kimberly Eslinger

The Loss of *Queen Anne's Revenge*

Edward Teach's famous career can best be traced back to his employment as a privateer with Captain Benjamin Hornigold during the latter part of 1717. In the spring of 1717, sailing between the West Indies and the Atlantic coast of America, Hornigold and Teach captured and plundered a total of seven merchant ships including *La Concorde*, out of St. Malo. There is no definitive historical record of *La Concorde*, but most contemporary accounts agree that she was both very large and used as a French slaver. Her actual origin might be French, Dutch, or even English.

Teach had admired *La Concorde* and with Hornigold's consent, claimed it as a prize and took command of the vessel. Accompanied by other pirates not interested in accepting the king's pardon, he mounted forty cannon aboard and renamed her *Queen Anne's Revenge* and began his short, but legendary career.

According to Captain Charles Johnson's *General History of Pirates*, during the first week of June, 1718, following a week long siege at Charles Town, (Charleston) South Carolina, three sloops of Edward Teach's flotilla sailed into Beaufort Inlet (Old Top Sail Inlet) under the cover of darkness to avoid detection and possible capture, for the purpose of careening their vessels. Due to the shallow water

and considerable draft of *Queen Anne's Revenge*, Teach had to wait outside the calmer waters of the inlet for a high tide in order to skirt the sandbar in front of the inlet and take the navigable line (noted on charts at the time) that indicated the safest route into the inlet. The following morning provided this high tide and *Queen Anne's Revenge* proceeded toward the inlet. According to Captain Ellis Brand, commander of the British man-of-war *Lyme*, who reported the wrecking of Teach's vessel:

"I am to acquaint you for Your Lordship's information that on the 10 June or thereabouts a large pyrate ship of forty guns with three sloops in her company came upon the coast of North Carolina where they endeavoured to goe into the harbour, called Topsail Inlett, the ship stuck upon the bar at the entrance of the harbour and is lost, as is one of the sloops (Brands 1718)."

Today, North Carolina's Underwater Archaeology Unit is directing the investigation of what appears to be Blackbeard's *Queen Anne's Revenge*, lost in 1718 just outside of Beaufort Inlet (Old Top Sail), North Carolina.

– Kimberly Eslinger
and Mike Overfield

“Don’t Give up the Ship!”: Sailing the US Brig *Niagara*

On 3 June 2000, Dr. Larry Babits and a crew of three East Carolina University students drove to Norfolk, Virginia for what would be the opportunity of a lifetime. We sailed aboard the Brig *Niagara*, a full sized representation of the original *Niagara*, which fought in the battle of Lake Erie during the War of 1812. She became Commodore Oliver Hazard Perry’s flagship when the Royal Navy shot *Lawrence* to splinters during the battle. It was then that Perry flew his famous signal “Don’t give up the Ship!” What follows is an account of our journey with quotes taken from my ship’s log.

As part of the *Niagara* crew, we were paid nothing but our food (it was all you could eat) while working the ship. This included standing 4-hour watches (port or starboard), working maintenance duty, assisting in the galley (we cooked on a wood stove, a luxury even Perry didn’t have in 1813), and giving tours. My first watch aboard, was a memorable one: “5 June, raining, stood the 0500 watch, watching the rainfall, drinking coffee as the ship slept on.”

The four of us spent the next three weeks sailing from Norfolk, VA, to Newport, RI, before returning south to Philadelphia. Our first night underway was memorable for all of us: “down here in the hull you can hear the water rushing past. We are underway and I am part of it.” The voyage held a different meaning for each of us, but an essential part was the fulfillment of our own separate desires to truly become a part of the ship.

The only concessions made to “modern life” aboard the vessel include three marine heads (for a crew of forty-nine), a wood galley stove, VHF radios, radar, a GPS unit, a weather fax, and two marine diesels used only when the wind died. The crew sleeps in hammocks or on the lower deck and take “bucket” showers (this involves dropping a bucket through a gun port and then over one’s head). Dishes are washed by “bucketing” for water, chlorinat-

ing the water in washtubs and then rinsing in chlorinated seawater.

The most important lessons learned came from those involving danger to the ship. Grave consequences can result from even small mistakes, if not for the quick thinking of the captain, mates, and crew. “All of a sudden we managed to get caught aground beam-ways. The bow hit first and it sort of twisted us with our beam in the narrow channel. I felt like I was living aboard the *Queen Anne’s Revenge* just then. It was, in fact, an important lesson in site formation processes... I [saw] a vessel...kedged free and how the site formation of a wreck is not always...simple.”

When the first three weeks of my tour on board expired, I signed on for an additional two and a half weeks. When that time ran out, I found myself hired as the new Assistant Steward, at one point cooking for a crew of fifty-two, which allowed

me to spend a grand total of almost three months aboard. Life on the ‘Brig’ was not always as exciting and romantic as we would like to believe though: “18 June, We are all exhausted and cranky. So much for our four-hour nap that would have given us a much needed respite. 30 minutes until dog-watch and none of us have slept a wink. It is going to be a long night.”

Anyone interested in learning more about opportunities to sail aboard the US Brig *Niagara* should contact either the author (kle0502@mail.ecu.edu), Dr. Larry Babits (babits@mail.ecu.edu), or volunteer coordinator Lisa Benson via the US Brig *Niagara* website (www.brigniagara.org). As a final note it is my privilege to thank Larry for his part in providing this rare opportunity to the students and faculty. “Don’t give up the Ship!”

– Kimberly Eslinger



The U.S. Brig *Niagara*. (Photo courtesy of Flagship Niagara League and Commonwealth Media Services).

Remote Sensing Survey Around Destruction Island, Washington

This past spring the Maritime Studies Program was awarded a contract to perform a remote sensing survey for the National Oceanic and Atmospheric Administration (NOAA) off Destruction Island in the Olympic Coast National Maritime Sanctuary. Jeff Morris, an alumnus from the Maritime Studies Program, and two current students, Matthew Muldorf and Michael Plakos, traveled to Washington state to carry out the project. The work consisted of two weeks of remote sensing activities. Historical records indicate at least thirteen ships were wrecked on or around Destruction Island, and the purpose was to determine if any evidence remains from these vessels, and, if so, identify their locations.

Operating out of La Push, WA, the survey ran from September 11 through September 25, 2000. Survey data was gathered by side scan sonar and cesium magnetometer. Archaeologist Bruce Terrell and Carley Alexander from NOAA provided oversight, along with Robert Steelquist, the education coordinator for the Olympic Coast National Marine Sanctuary. Bob Schwemmer from the Channel Islands National Marine Sanctuary also came out for two days; Schwemmer was responsible for the historical research used to set up the project's

research design.

As the survey effort moved closer and closer to Destruction Island, great care had to be taken to avoid large rock formations jutting up from the ocean bottom. At the same time, it was deemed necessary to get as close as possible to these rock features, for they were most likely the cause of the majority of the wrecks in the area. Therefore, if there were any indications of shipwrecks to be found, they were likely hidden among the rocks.

Working near the rocks kept the entire crew occupied. Captain Palmer carefully maintained his course to keep *Tatoosh* in designated survey lanes while keeping an eye on the approaching rocks and the depth sounder, making sure that his vessel did not join all the others that had gone down in this locale. Muldorf, Plakos, and Morris rotated between watching the side scan monitor looking for indications of man-made objects among the rock formations, someone else would keep an eye on the magnetometer data, whilst keeping track of completed survey lanes and determining the next lane. The final member of the crew was on standby on deck. Because of the shallow bottom and rocks the depth of the sonar tow fish was constantly adjusted.



Matt Muldorf monitoring a side scan sonar display.

The effort paid off. Close in among the rocks on one corner of the island the magnetometer picked up a large anomaly. The size and duration of the anomaly indicated a large amount of ferrous material. The historical data revealed a survivor's account of a vessel carrying a large quantity of railroad iron that struck the rocks and sank in almost the exact location where the anomaly was detected. Several other smaller anomalies were detected elsewhere in the survey by either the magnetometer or the side scan. Data from these sensors is currently being analyzed and compared with historical data to determine if there are any other high possibility targets in the survey area.

– Matthew Muldorf



Destruction Island, WA, part of the Olympic Coast National Maritime Sanctuary.

LASER DIGITAL MODELING and the Archaeological Investigation of USS *Schurz*

The USS *Schurz* Project was a Phase II archaeological investigation of USS *Schurz*, which sank off the North Carolina coast on June 21, 1918. The *Schurz*'s hull construction combined steel and wood planking covered by copper sheathing, and its use of both sail and steam for propulsion made it a prime example of the evolution from the traditional wooden sail fleets to the modern steel steam navies. Principal Investigator Tane Casserley's objective was to digitally map the site in order to study the construction techniques of this late nineteenth century vessel. The wreck lies 32 miles off Morehead City, North Carolina, in 115 feet of water.

Originally known as the SMS *Geier*, it was a 255-foot long German cruiser of the Bussard class built in 1894 by the Imperial Dockyard in Wilhelmshaven, Germany. Although the *Geier* (*Schurz*) was launched in 1894, it did not begin its overseas career until 1898 when it traveled to Haiti to suppress a native uprising. Later that year, the *Geier* participated in the Spanish-American War by evacuating German refugees from Havana, and spent the following two years steaming between Germany's foreign naval stations on South America's eastern and western coastlines. From 1900-1905, *Geier* was ordered to China to aid German allied forces during the Boxer Rebellion. In 1911, *Geier* participated in the Turkish-Italian War, protecting German investments until 1913 when it was sent to Dar es Salaam, Germany's East African Station in Tanganyika. The *Geier* remained there until 1914 when hostilities between Germany and Great Britain increased to the point the German High Command ordered the *Geier* to join Admiral Graf Spee's East Asia Squadron at Tsingtao as a reinforcement for the German colony there. World War I broke out as the *Geier* steamed towards Tsingtao, and Admiral Graf Spee's Squadron departed on a commerce-raiding mission in the south Pacific. Alone in the eastern Pacific, undergunned and underpowered, the *Geier*'s captain, Karl Grasshof, decided his best course of action

would be to intern in a neutral port. The Territory of Hawaii appeared the most benign, so the *Geier* made all possible speed to Honolulu. During its three-year internment in Honolulu, hostilities escalated between the United States and Germany until 1917 when the United States entered World War I.

The United States seized the *Geier* at the outbreak of the war and discovered the Germans had not been idle during their stay in Honolulu. The *Geier* had been transmitting messages to German agents in Japan while the ship's band played lively music to drown out the sound of the crackling wireless telegraph. When the captain's diary was confiscated, it was discovered that the officers and crew were not only attempting to smuggle themselves back to Germany, but were also spreading rumors that the United States was plotting to invade Canada.

After *Geier*'s seizure, it became property of the U.S. Navy, and underwent minor modifications to re-enter service as the USS *Schurz*. The *Schurz* spent most of its active life conducting escort duty and coastal patrols, first in the central Pacific and later in the Atlantic. While on its last patrol, the *Schurz* was rammed by the steamer *Florida* in the early morning of June 21, 1918, off Cape Lookout, North Carolina. Under full steam, but without running lights, the *Florida* crashed into the *Schurz* along the starboard bridge, penetrating twelve feet into the well and berth



Bow shot of USS *Schurz*, displaying ornate detail.

decks, causing one fatality and injuring twelve officers and crewmen. *Schurz* sank rapidly and at 7:58am disappeared beneath the waves.

Fieldwork for the *Schurz* Project ran from August 22-28, 2000. The archaeological investigation was non-intrusive, and limited to mapping and recording the site. The objectives for project team members Mike Hughes, Doug Jones, Matt Lawrence, and Diving Safety Officer Gary Byrd, were to digitally-mosaic the wreck site, and record hull construction techniques.

The mosaic was conducted with the use of a Laser Digital Modeler (LDM), specifically designed for the project by the principal investigator. The LDM is a hand held system consisting of a digital video camera and containing a laser reference system. Four lasers attached to the telescoping arms provide visual reference points for distance measurements. The LDM was towed behind a scooter at a fixed distance above the site, depending on daily visibility, and recorded the shipwreck below it. Individual still frames from the video were then used to create the digital-mosaic. This mosaic was later transferred to AutoCAD, transforming the archaeological data into a site map directly over the mosaic image.

While the mosaic was being created, the rest of the team recorded the fastener pattern and hull construction. The construction technique of the steel hull was of particular importance, covered by wood planking and copper sheathing. This construction was quite unusual for the time period and was scrutinized closely.

The team was able to complete 4 days of diving with 41 dives overall. Breathing 30% Nitrox, the team was able to record the site for 25 minutes a dive, with two dives per day. Visibility on the bottom ranged from 50-150 ft., and water temperature in the high 70's made for near ideal conditions to conduct an archaeological investigation. Although poor weather and large swells inhibited the team from utilizing all the time available, enough information was gathered to meet the project objectives.

– Tane Casserley

Phase I Survey: The British Incursion into the Upper Elk River

On April 28, 1813, British forces under Rear-Admiral George Cockburn ascended northern Maryland's Elk River attempting to disrupt maritime commerce in the Chesapeake during the War of 1812. The British had instituted a blockade of the Chesapeake and hoped to force the United States out of the war and divert attention from the Great Lakes. During the incursion, Cockburn's forces met with some resistance from local militia and were involved in minor skirmishes. For the people of Cecil County, these actions were dire. The British burned several vessels and destroyed buildings because of the resistance.

In August 2000, East Carolina University Maritime Studies Program student Michael Hughes, in conjunction with the Maryland Historical Trust and the National Park Service, conducted a Phase I survey of the Upper Elk River, Elkton, Maryland. The survey was part of a statewide initiative regarding the War of 1812. This initiative targeted the discovery and documentation of material culture related to the War of 1812 in Maryland, both on land and water. Another aspect of the initiative was to involve the public in the archaeological process by explaining the benefits of protecting their cultural resources.

While researching primary source documents, the crew uncovered references to potential material remains from the War of 1812. These items included a chain boom, wrecks of two packet ships, and cannon shot from Fort Defiance, Fort Hollingsworth, and Frenchtown, all located on the shores of the Elk River. The goal was to locate these artifacts, as well as any other relevant material because they would help (1) identify fort locations, (2) confirm the documentary evidence we had uncovered, and (3) add to the cultural history of Cecil County.

Working to get the public involved, Hughes, Maryland Historical Trust underwater archaeologist Steven Bilicki, and Tim Wallace from Macalester College in Minnesota, invited members of the local community to assist in the fieldwork. The volunteers were split into two groups, one to assist with the river survey, the other to assist with a land survey. The turnout was impressive and provided invaluable assistance to the archaeologists.

Hughes and the volunteers conducted the Phase I survey using a magnetometer to detect anomalies on the river bottom. Certain signatures from the magnetometer indicated possible locations for relevant material culture. The river geography

proved both a boon and a curse, however. The Upper Elk River was narrow at some very key points, facilitating the magnetometer survey, yet the tidal flow left some areas un-navigable except at extreme high tides, and sometimes not even then.

The survey yielded mixed results. There were a number of anomalies that looked promising, but when dived, were only junk thrown in the river, as with an old car engine. The process was to buoy possible hits, bounce dive on them, and conduct circle searches to find the detected anomaly. There were a few problems with a search of this type because the water was extremely murky and visibility was practically zero. Many times objects were buried due to the shifting of the sediment. There were many objects that set off the magnetometer – pipelines, metal refuse, etc.

Some artifacts of note were discovered, including concreted chain shot, used in its day to disable ships rigging. This was located in front of the possible Fort Defiance site. Some wrought iron chain was located, but it was not large enough to be considered as a chain boom. As for the vessels burned by the British, one had been located the previous October. This work is the subject of a thesis by ECU Maritime Studies student Michael Plakos. The other vessel is believed to be buried by sediment. Though on the last day of fieldwork, the team discovered some debris that may have been connected to the second vessel. Time prohibited confirmation, but more field work will be conducted in the future.

We would like to thank all the volunteers who showed up, the American Battlefield Protection Program, the Maryland Tourism Development Board, the Maryland Historical Trust, State Underwater Archaeologist Susan Langley, the Susquehanna Museum of Havre de Grace, and Michael Dixon from the Cecil County Historical Society, who all gave us assistance during this project.

Questions or comments can be forwarded to Michael Hughes at mikhugh@yahoo.com.

– Mike Hughes



ECU Maritime students Mike Plakos and Michael Hughes conducting a remote sensing survey on the Upper Elk River.

The Effects of Hurricanes Dennis and Floyd on the Tarboro Wreck Site

During the 1999 Maritime Studies Summer Field School, students documented the remains of *Oregon*, a small Tar/Pamlico River steamer. Built in Baltimore in 1846, the steamer passed through a new inlet in the Outer Banks as it steamed from Baltimore to Washington, North Carolina, in 1848. The inlet became known as Oregon Inlet after the steamer. After operating on the Tar/Pamlico River for more than a decade, the steamer joined the Confederate cause and was ultimately sunk in 1863 during a Union cavalry raid on Tarboro, North Carolina.

When the field school investigated the wreck site during June 1999, only one to two feet of water covered the site and most of the vessel's remains were exposed or lightly buried under three or four inches of sand. The sand was deepest at the extreme upstream end of the wreck where it reached a depth of one and a half feet. Water levels and sediment depths remained almost constant from June through the end of August. The back-to-back September Hurricanes, Dennis and Floyd, dumped a tremendous amount of rain on Eastern North Carolina and resulted in the Tar River's flooding. On 19 September, the recording station one mile upstream from the wreck site, registered the river's stage at 41 feet (19 feet is flood stage) and a river flow rate of 70,500 cubic feet/second. The mean flow rate for September is 1,500 cubic feet/second.

North Carolina's Underwater Archaeology Unit, Maritime Studies professors, and I worried that the tremendous flow of water might have washed the *Oregon's* remains into Pamlico Sound. The wreck's exposed nature did not offer much hope for its survival against the floodwaters and water-borne debris. High water during the following summer prevented a return to assess the flood's effects until October 2000, when Maritime Studies staff archaeologist Frank Cantelas, students Doug Jones, Dede Marx, and I ventured to the wreck site. Along the way, we saw many unusual things hanging from the tree



Matthew Lawrence, Frank Cantelas, and Doug Jones record measurements at the Tarboro river site.

limbs, ranging from underwear to a large steel dumpster.

Arriving at the site, our worst fears were manifest. Where the wreck site had lain exposed on a sandbank there was only the sandbank. After a few initial moments of unfruitful probing, our probes hit solid wood and we began to assess the wreck site's extent under the sand. The site's probed length and width matched the measurements taken during the 1999 investiga-

tion. Sediment depth measurements on the site indicated that the wreck was buried twice as deep. The site's resistance to such destructive flooding bodes well for its continued existence as a valuable archaeological resource representing southeastern steam navigation. The steamer *Oregon* and steam navigation on the Tar/Pamlico River are the subjects of my MA thesis. Please direct inquiries to mssl0808@mail.ecu.edu.

– Matthew Lawrence



Historic Naval Ships Executive Speaks to ECU Maritime and History Students

Captain Channing Zucker, USN (Ret.), visited the Maritime Studies Program in November and spoke to two groups of interested ECU students. Captain Zucker is the Executive Director of the Historic Naval Ships Association. The association's members include over 120 vessels, ranging from aircraft carriers and battleships to small craft, and employ hundreds of persons with a total combined budget of over \$68 million annually. Captain Zucker spoke on the association's history, operations, and job opportunities. Shown here after a presentation are: Heather Cain, Jeff DiPrizito, Capt. Zucker, Matt Lawrence, Alena Derby, and Kate Goodall.

Meet the Entering Maritime Studies Class at East Carolina . . .

The eleven students in this year's entering Maritime Studies class have remarkably varied backgrounds and diverse research interests. They are the twentieth class of students to enter the Maritime Studies Program since its founding in 1980.

John Hart Asher is a native of Jackson, Mississippi. He attended the University of Mississippi and graduated with a B.A. in History. John worked with that state's Department of Archives and History on the exhibits staff for the Old Capitol Museum. He became interested in archaeology when he worked on various pre-historic sites throughout the state. His thesis research deals with three Civil War side-wheel steamboat wrecks located in Mississippi's Big Black River.

Heather Cain started the Maritime Studies program in Spring Semester 2000. Heather is originally from Cincinnati, Ohio. She recently completed her B.A. in Anthropology at the University of Nevada, Las Vegas. Heather's research interests include the maritime culture of the Great lakes and artifact conservation.

Chris Cartellone was raised in Cedar Rapids, Iowa. He received his B.A. in History from Iowa State University. He did volunteer fieldwork with Earthwatch on a wreck site in Bermuda. Chris is married, and his wife Steffany teaches high school science. Chris' research interests include

diplomatic and military history.

Alena Derby grew up in upstate New York, and received a B.A. in Political Science/International Relations from the University of Rochester. After college, she moved to Colorado where she became a ski bum, working at Beaver Creek Ski Resort. She also spent summers as a whitewater rafting guide. Alena's research interests include the diplomatic history of the early nineteenth century U.S. Navy.

Kate Goodall is a British transplant who received her B.A. in English and French from North Carolina State University. She learned how to scuba dive while traveling in Madagascar. Her research interests include inundated terrestrial sites of the Great Smokey Mountains National Park, artifact conservation, and exhibit display.

Vicky Martindale grew up in northwestern Ohio. She attended Colgate University and graduated from the University of Central Florida with a B.A. in History. She has worked in the computer/information systems field for five years, consulting and teaching at Owens Community College in Toledo, Ohio. Now she's looking to get out of the computer lab and do some field work.

Keith Meverden grew up in northern Wisconsin, and received his B.S. in Psychology from the University of Wisconsin-Madison. Keith is an avid diver,

with Trimix and Full Cave certifications. Before coming to ECU, he worked a variety of jobs such as truck driver, welder, soldier, and psychopathy researcher. His current research interest is Great Lakes maritime history.

Kimberly Monk is from Toronto, Ontario. Kimberly received her B.A. in Anthropology from Western Ontario University and has done archaeological field work in the Caribbean, Texas, Florida, and Ontario. Kimberly is also a PADI scuba instructor. Among her current research interests are nineteenth-century Canadian canal boats, and the development of French naval architecture.

Michael Overfield is from East Haven, Connecticut. He received his B.A. in Anthropology from California State University, Hayward. While at Cal State, Mike was instrumental in developing the University's Virtual Museum, utilizing digital photography and the Quick Time Media player to create virtual exhibits. In 1998, Mike attended Cornell University's Shoal Marine Laboratory program in underwater archaeology. Mike and his wife Tressa have a one-year old son, Conner. Mike's primary research interest is piracy and its impact on early America.

Jason Paling is from Nashua, New Hampshire. He received his B.A. in Archaeology from Boston University. Prior to attending ECU, Jason studied evidence of the Mayan obsidian trade in Belize and Guatemala. He has also done fieldwork in Bermuda. Jason's primary research interests include the study of Bermudan shore-based whaling and applying principles of underwater archaeology to pre-Columbian cultures.

Steve Workman is from Minnesota, where he received a B.S. in Business Administration at Mankato State University. Steve was an intelligence officer in the U.S. Navy from 1977-2000, and served aboard aircraft carriers *Ranger*, *Kitty Hawk*, and *Abraham Lincoln*. He is a PADI scuba instructor and recently became a Civil War reenactor (1st Minnesota Infantry). Steve's wife, Terri, teaches high school math. They have two boys, Jim and John. Steve's primary research interest is the history of the U.S. Navy from 1775-1865.

– Steve Workman



The entering Maritime Studies class: (front row) Kate Goodall, Alena Derby, Kimberly Monk, and Vicky Martindale; (back row) Chris Cartellone, Jason Paling, Keith Meverden, John Hart Asher, Mike Overfield and Steve Workman. Not pictured is Heather Cain.

ECU Students and Faculty Visit Mariners' Museum

ECU students from the Maritime Studies and Coastal Resources Management programs, led by Dr. Timothy Runyan and Frank Cantelas, visited the Mariners' Museum in Newport News, Virginia, on 11-12 November. The trip was part of the continuing ECU-Mariners' Museum program to acquaint new students with members of the professional staff, museum resources, and the research library.

On Friday afternoon, the ECU group was greeted by Dr. William Cogar, vice president and chief curator for the museum, and formerly a faculty member at the US Naval Academy. The tour started with a short lunch generously provided by the museum during which the students met other members of the staff, including Lyles Forbes, Ben Trask, and Curtiss Peterson. Students also had a chance to introduce themselves and share current research interests with the staff members. ECU students in the group included John Asher, Sam Belcher, Heather Cain, Chris Cooper, Alena Derby, Kate Goodall, Vicky Martindale, Keith Meverden, Kimberly Monk, Jason Paling, and Steve Workman.

Following lunch, Dr. Cogar conducted an extensive "behind the scenes" tour for the group. Students were allowed guided access through the museum's numerous artifact and paintings storage rooms, office areas, design shops, and conservation labs. Curtiss Peterson, chief conservator for USS *Monitor* artifacts, led the group to a large covered outdoor tank containing the ship's propeller and shaft where he explained the on-going conservation process. Students got an up-close look at a very large artifact undergoing a lengthy conservation process that will soon result in a stabilized artifact for public display. The Museum plans to incorporate the propeller and shaft into a full-size mock-up *Monitor* exhibit. Initial plans are already in development to incorporate *Monitor*'s turret into the full-size display after its successful recovery, and conservation.



Chief conservator Curtiss Peterson shows visiting ECU Maritime students *Monitor*'s shaft and propeller currently undergoing conservation processes at the museum.

New assistant curator for small craft, Lyles Forbes, gave the group an interesting overview and tour of the museum's extensive inventory of small craft. Included in the collection are a mix of native American fishing canoes, a Brazilian deep-sea fishing raft, various models of competition class sailboats, lake ferry boats, and historic rescue craft.

After the guided tour, students had a chance to explore the various museum exhibits on their own for the remainder of the afternoon. Among exhibits currently on display are "Chesapeake Bay Gallery," a collection of paintings, photos, and artifacts examining the history of the Bay; "Waters of Despair – Waters of Hope," explores the impact of African-Americans on the maritime and naval economy of Chesapeake Bay from 1750-1950; "Age of Exploration," highlighting the early New World discoveries and early tools of ocean navigation; a display of classic Chris-Craft recreational boats from the 1920s and 1930s; "Defending the Seas," covering the historic role of the U.S. Navy from the age of sail to nuclear power; "Great Hall of Steam," detailing the story of oceangoing commercial steamships through models and paintings; "William Francis Gibbs: Naval Architect," chronicling the life of the

famous designer of naval and commercial vessels; and the Crabtree collection of miniature ships. The evening's activities included the opportunity to talk with Dr. John Broadwater, director of the NOAA *Monitor* project, which has offices located adjacent to the Museum.

On Saturday morning, the students were introduced to the museum's library and archives by Susan Berg, the new chief librarian. Students then had a opportunity to spend a few hours utilizing the library's resources to conduct research on their current paper topics.

The trip to the Mariner's Museum was a very useful experience for all ECU students. An important educational experience and source of rare research material, it also afforded the students a unique behind-the-scenes look into the museum world. All of those who participated would like to thank Dr. William Cogar and the staff of the Mariners' Museum for their hospitality, good humor, and research assistance. The Memorandum of Agreement between ECU's Maritime Studies Program and the Mariners' Museum has proven invaluable, and the relationship between the two institutions will continue to grow.

– Steve Workman

Maritime Studies Program Hosts State Maritime History Conference

East Carolina University's Maritime Studies Program hosted the 2000 North Carolina Maritime History Council annual conference in Greenville 6-7 October on the campus of ECU. The conference program included presentations on a range of nautical themes, from pirate ships to Revolutionary War and Civil War vessels.

Featured speakers for the two-day conference included Dr. William Dudley, Director of the Naval Historical Center, Virginia Steele Wood, author and historian at the Library of Congress, Richard Lawrence, Director of the North Carolina Underwater Archaeology Unit, and David Cecelski, Visiting Whichard Professor at East Carolina University. ECU Maritime Studies graduate students, including Doug Jones, Matthew Lawrence, and Kevin

Nichols also gave talks. Presentation subjects included row galleys of the Revolutionary War Georgia Navy; the search for Civil War Confederate navy schooners near Elizabeth City, NC; technical problems encountered during the recovery of Confederate submarine *H.L. Hunley*; and an update on the probable wreck site of Blackbeard's pirate ship, *Queen Anne's Revenge*.

Friday evening's activities included a reception and catered dinner at the Estuarium in Washington, NC. The Estuarium is a state and locally funded interpretive center devoted to the story of the North Carolina coastal estuaries.

The North Carolina Maritime History Council is a professional association of historians and academics that are devoted to studying the state's maritime history. ♪



Featured speakers at the North Carolina Maritime History Council annual conference included Virginia Steele Wood and Dr. William Dudley.

MSA News **MSA NEWS**

The Maritime Studies Association organized and sponsored many worthwhile events during 2000. Officers for the 2000-2001 academic year are: President Kevin Nichols, Vice President Kate Goodall, Treasurer Jeff DiPrizito, Secretary Steven Hammack, and Scott Whitesides, MSA representative to ECU's Graduate Student Advisory Council. MSA exists to help coordinate and fund academic aid, conduct social and professional functions, and serves as a round-table between students and faculty at ECU's Maritime Studies Program.

During the Fall 2000 semester, MSA helped fund a field trip to the Mariners' Museum in Newport News, VA. They also sponsored several social activities, including a reception for the incoming class, the annual Halloween party (that featured such inventive costumes as a triple expansion engine) and a Christmas party.

MSA's goals for 2001 include the presentation of several professional speakers, providing financial assistance to students attending or presenting at the 2001 SHA conference in Long Beach, CA, and continuing support of underwater hockey at ECU.

– Kate Goodall

Maritime Studies Web Page

The Maritime Studies Program offers a web page for researchers and prospective students interested in attending East Carolina University. The web page provides a description of the Maritime Studies Program, available academic courses, a list of current student projects, and current field school information. In addition, the web page allows access to past and present editions of the Maritime Studies newsletter, *Stem to Stern*, as well as information about the distinguished faculty members of the Maritime Studies Program at East Carolina University.

The Maritime Studies Program offers a master's degree in Maritime Studies through ECU's History Department. Students also have the option of pursuing a doctorate in Coastal Resources Management, with maritime history and nautical archaeology as one of four core emphasis areas. Combining classroom lectures and seminars with hands-on field projects and internships, the Maritime Studies Program provides a thorough education for those interested in a professional career in maritime history and nautical archaeology.

The Maritime Studies web page has links to key departments throughout the East Carolina University web page. Information can be accessed for financial aid, campus housing, graduate school, the diving safety office, and the Coastal Resource Management Ph.D. program's web page.

ECU's Maritime Studies web page can be accessed through East Carolina University's home page at www.ecu.edu/maritime. It can also be found via the Underwater Archaeology page on the Naval Historical Center's site of the U.S. Navy web page at www.navy.mil.

– Mike Overfield

Lawrence E. Babits

- "Identification and Analysis of Military Artifacts" - Society for Historical Archaeology, Quebec. (w/Charles Haecker)
- "A Derelict Small Boat Survey, Pamlico Drainage, North Carolina, USA" in *Down the River to the Sea*. Edited by Jerzy Litwin, pages 193-196. Proceedings of the Eighteen International Symposium on Boat and Ship Archaeology, Gdansk, Poland, 1997. (with Annalies Corbin).
- Visiting Lecturer, Naval War College - Lectures on Strategy in the American Revolutionary War.

Timothy Runyan

- "Ship" in *Encarta Encyclopedia* (Microsoft, online, 2000).
- "Naval Power and the Hundred Years War" in *Power and Dominion* (in press). R. W. Unger, J. Hattendorf, Fernando Dominques, eds.
- "Naval Warfare" in *Trade, Travel and Exploration in the Middle Ages*, J. B. Friedman and K. M. Figg, eds. (Garland).
- Elected Vice President, International Commission for Maritime History, Oslo, Norway, 2000.

Gordon Watts

- With I. Roderick Mather, "GIS: A New Tool for Underwater Archaeologists and Submerged Cultural Resources Managers" and "Ethics in Underwater Archaeology," in *International Handbook on Underwater Archaeology* (Plenum, in press).
- Archaeology director for the CSS *Alabama* project off Cherbourg, France.

Bradley Rodgers

- Keynote Address: Symposium on Maritime Archaeology and History of Hawaii and the Pacific. "*USS Arizona's Oil: Where Is It, How Much Is There, And Can We Find It Before It Finds Us?*" Published in April 2000 Proceedings.

William N. Still

- *Queenstown Patrol* (Naval Historical Center),
- *The Confederate Navy* (Naval Institute Press)



William Cheshire and James Cheatham of the North Carolina chapter of the Society of the Cincinnati, Dr. Keats Sparrow, ECU Dean of Arts and Sciences, and Dr. Larry Babits at the award presentation ceremony.

Dr. Larry Babits Named George Washington Distinguished Professor in History

In November 2000, The Society of the Cincinnati awarded Dr. Larry Babits, ECU Maritime Studies faculty member, the title of George Washington Distinguished Professor in History. Dr. Babits received this award for his research work on the American Revolution and particularly for his book, *A Devil of a Whipping: The Battle of Cowpens* (UNC Press). His book details the battle that occurred in South Carolina on 17 January 1781, when a force of Continental troops and militia routed British regulars and Loyalists. Babits combined meticulous research with his archaeological skills to produce the book. A battle scene in the recent movie *Patriot* is VERY loosely based on the battle of Cowpens.

The Society of the Cincinnati was founded by American officers who served in the Revolution and is the oldest veterans organization in the country. The award comes with a stipend of \$10,500 and the lifetime title. ⚓



The Maritime Program was honored to have Dr. Mark Staniforth (right) of Flinders University, Adelaide, Australia, and his wife, Paddy, as visiting faculty during Spring Semester 2000. Dr. Staniforth lectured while doing research on whaling. With the couple is ECU Maritime Studies Program Director Dr. Tim Runyan.



In October 2000, the Bermuda Maritime Museum celebrated the opening of the U.S. Navy room in the newly-restored Commissioner's House. The earliest known building to use cast iron construction, the House recently won a British architectural preservation award. Shown at the festivities are Paul Leseur, Chairman of the Board of Trustees of the Bermuda Maritime Museum; ECU Maritime Studies Program Director Dr. Tim Runyan; and Museum Director Dr. Edward Harris.

Where Are They Now? Where Are They Now? Where

Where Are They Now? - 2001

A

Shannon Adamczyk (nee Richardson)* - Government Loan Underwriter, Buffalo, NY
James Allen - Institute for Western Maritime Archaeology, Berkeley, CA
Ray Ashley - Director, Maritime Museum of San Diego
Adrienne Askins - Archaeologist, Southwest Archaeological Center, National Park Service
Paul Avery - University of Maine Law School

B

David Beard - Curator of Maritime Collections, Maryland Historical Society
Colin Bentley - Sailing Dockmaster, College of Charleston
Kathryn Bequette - Director, Maritime Archaeology and Research, OELS, Westminster, CO and consultant with Denver Ocean Journey Aquarium
Jemison Beshears - Butterfield & Butterfield Auction House
Robert Browning, Ph.D. - Historian, US Coast Guard, Washington DC

C

Robert Church - Nautical Archaeologist, C&C Technologies Survey Services
Wendy Coble - Aviation Archaeology Specialist, Naval Historical Center
Patrick Cole - Writer living in Barcelona, Spain
Edwin Combs - Ph.D. candidate, University of Alabama
Mike Coogan - Offering Development Manager, Federal Sources Incorporated, McLean, VA
David Cooper - Resource Manager, Grand Portage National Monument, MN
Diane Cooper - Consultant for the San Francisco Maritime National Historic Park.
Annalies Corbin, Ph.D. - Executive Director, P.A.S.T. Foundation
Lee Cox - Contract Nautical Archaeologist, Dolan Research, Philadelphia, PA

D

James P. Delgado - Executive Director, Vancouver Maritime Museum, Canada
Robert Dickens - DVM candidate, University of North Carolina School of Veterinary Medicine
Wade Dudley, Ph.D. - Visiting Assistant Professor, Department of History, ECU
Stan Duncan - Sales and Marketing Consultant, Knoxville, TN
Ted Dunlap - Merchandise Manager, Phobe.com, Beltsville, MD

E

Rusty Earl - Computer Science, NC State University
Rita Folsie-Elliott - Archaeologist for PBS&J, Texas
James Embrey - Archaeologist, John Milner and Assoc.
Scott Emory - Maritime Archaeologist, McCormick, Taylor and Assoc., Cherry Hill, NJ
Jeff Enright - Nautical Archaeologist and Diving Supervisor, PBS&J, Austin, TX

F

Sabrina S. Faber - Fulbright Coordinator, AMIDEAST, Yemen
Cathy Fach - Assistant State Underwater Archaeologist, State Historical Society of Wisconsin
Patrick Fleming - Computing Company, Raleigh, NC
Richard Fontanez - Contract Archaeologist, Puerto Rico
Paul Fontenoy - Curator of Maritime Research and Technology, NC Maritime Museum
Kevin Foster - National Maritime Initiative, National Park Service, Washington DC
Joe Friday - Sergeant, Greenville Police Department

G

Jeff Gray - State Underwater Archaeologist, State Historical Society of Wisconsin
Joe Greeley - Curator/Nautical Interpreter, Charles Towne Landing State Park, SC

Amy Gottschamer - Real estate agent, Santa Fe, NM

H

Wesley K. Hall - Director, Mid-Atlantic Technology, Wilmington, NC
Lynn B. Harris - Assistant Head, Underwater Division, South Carolina Institute of Archaeology and Anthropology.
Ryan Harris - Underwater Archaeology Intern, Parks Canada
Nathan Henry - Conservator, NC Underwater Archaeology Unit
William Herring - Senior Account Executive, Sprint. Ph.D. Candidate, ECU Coastal Resources Management Program
Robert Holcombe - Director, Woodruff Museum of Civil War Naval History

J

Claude V. Jackson - Book Editor, Wilmington, NC
John O. Jensen, Ph.D. - Assistant Professor, Department of History, University of Akron
Rick Jones - Ph.D. Candidate, Coastal Resources Management, East Carolina University

K

John Kennington - Manager, Borders Books, Atlanta, GA
Kurt Knoerl - Maritime Archaeological and Historical Society, Washington, DC
Mike Krivor - Nautical Archaeologist, Panamerican Maritime, Memphis

L

Wayne Lusardi - Conservator, *Queen Anne's Revenge* Project, NC Underwater Archaeology Unit

M

Richard Mannesto - Great Lakes Historical Shipwreck Museum
Amy (Knowles) Marshall - Archaeologist, US Army, Fort Bliss, TX
Coral Magnusson - International Archaeological Research Institute, Honolulu, HI.
Tom Marcinko - South Carolina Department of Natural Resources, Charleston
Rodrlick Mather, Ph.D. - Assistant Professor, University of Rhode Island

Are They Now? Where Are They Now? Where Are They

John McWatters – Ph.D. candidate,
Bowling Green State University, OH

Phillip H. McGuinn – Underwater
Communications, Bedminster, NJ

Salvatore Mercogliano – Ph.D. candi-
date, University of Alabama and Assistant
Professor, Methodist College, Fayetteville, NC

Ann Merriman – Ph.D. candidate,
University College of London and Minne-
sota Transportation Museum, Site Admin-
istrator

Sarah Milstead – Conservator and
archaeologist, R. Christopher Goodwin &
Associates

Amy Mitchell – Ph.D. candidate,
Pennsylvania State University

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

Scott Moore, Ph.D. – Lecturer, De-
partment of History, University of Dayton

Shawn Holland Moore - Cooperative
Education, East Carolina University

Stuart Morgan – Public information
director for South Carolina Association of
Counties

Jeff Morris - Office of Naval
Intelligence

John W. (Billy Ray) Morris – Ph.D.
candidate, University of Florida, and
Lighthouse Archaeological Maritime
Program, St. Augustine, FL

X

Sam Newell – Teacher, Greenville
Public Schools

O

Chris Olson – Curator, Minnesota
Transportation Museum, Railroad and
Minnetonka Divisions

Deirdre O'Regan – Instructor,
Seamster Program, Long Island University

Glenn Overton – Owner, Cape Fear
Yacht Sales and Carolina Beach Inlet Marina

P

Martin Peebles – Archaeological illus-
trator, St. Petersburg, FL

Larkin Post – Nautical archaeologist,
R. Christopher Goodwin and Associates

Edward Prados – Consultant, Navy
Memorial Foundation and Technical
Advisor, AMIDEAST, Yemen.

R

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

Phillip Reid – Consultant,
Wilmington, NC

Todd Robinson – Librarian, Medical
College of South Carolina, Charleston

Filippo Ronca – Underwater
Archaeology Intern, Parks Canada.

Matthew Russell – Submerged Cul-
tural Resources Unit, National Park Service

S

John Schaefer – Management
Consultant, Sacramento, CA

James Schmidt – Nautical
Archaeologist, Naval Historical Center

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

Joshua Smith – Ph.D. candidate,
University of Maine, Orono

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

Thomas Stoltman – Northwest
Michigan Maritime Museum

T

Lex Turner – G.I.S. Coordinator,
City of Greenville, NC

Ray Tubby – Underwater Archaeo-
logist, Tidewater Atlantic Research

Hans Van Tilburg – Ph.D.
Candidate, University of Hawaii

Bruce Terrell – Maritime Historian
and Maritime Archaeologist, NOAA

William H. Thiesen - Adjunct
Professor and Librarian, ECU

W

Kimberly Watson – Ph.D. candidate,
University of St. Andrews, Scotland

Daniel Warren – Nautical Archaeo-
logist, C&C Technologies Survey Services

Sarah Waters – Curator, Wisconsin
Maritime Museum, Manitowoc, Wisconsin.

Jenna Watts – Nautical Archaeo-
logist, PBS&J, Austin, Texas

Wilson West – Ph.D. candidate,
University of Alabama

Judy Wood – Archaeologist, Savan-
nah District, Army Corps of Engineers. ⚓

Graduate Theses & Student Reviews

Graduate Theses in Maritime Studies- 2000

• Adrienne Askins

*“Archaeological and Historical Site
Investigation/Thesis of the John’s Island
Wreck (EDS0001)”*

• Scott Emory

*“The Vinyard Shipbuilding Company:
From Wood Shavings to Hot Sparks”*

• Jason Lowris

*“A Reluctant Imperialist in an Age of
Shifting Paradigms: The Career of George
Dyer, USN, 1870-1908”*

• Tom Marcinko

*“The Maritime History of Hatteras
Inlet, North Carolina 1840-1862”*

• Phil McGuinn

*“Shell Castle, A North Carolina
Enrepot, 1780-1820: An Historical and
Archaeological Investigation”*

• Jeff Morris

*“A Historical and Archaeological Investi-
gation of the Chickahominy Shipwreck Site”*

• Ray Tubby

*“Historical and Archaeological Investi-
gation of the 1750 Spanish Plate Fleet
Vessel El Salvador”*

• Jenna Watts

*“Archaeological Investigation of the
Workboat Widgeon: A Possible Chesapeake
Bay Schooner”*

• Kimberly Williams

*“The Development of Alexandria’s Mari-
time Economy and Ptolemaic Naval Policy”*

Student Reviews- 2000

• Joseph Greely

Review of: *Bound by God for Maryland:
The Voyage of the Constant Friendship
1671-1672* (1999), in *Nautical Research
Journal*, Vol. 45, No. 3.

• David Miller

Review of: *The USS Essex and the
Birth of the American Navy* (1999), in
Nautical Research Journal, Vol. 45, No. 3. ⚓

Farewell Friends

Farewell from Dr. Gordon Watts

The first day of January 2001 will be the beginning of a new year, a new century and a new millennium. That cosmic date will also be the first day of my retirement. It is difficult to imagine a more appropriate time to start a new (renew the) direction in life.

What about retirement could possibly be so exciting? I think it is the potential for fulfilling dreams. For decades, I have put off countless research and writing projects. Some, like investigation of the *CSS Alabama*, are exciting candidates to continue to and I want to complete the restoration of the skipjack *Ada Mae* and put her under sail again.

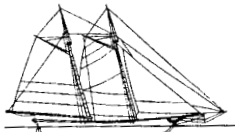
In almost thirty years of working in the field of underwater archaeology, I examined dozens of exciting shipwrecks that span almost four centuries. Projects awaiting completion are a volume on ship construction and a volume on shipwrecks of the American Civil War that Bill Still and I have in draft.

I will lament leaving behind my association with students. I have learned much from them. It would be impossible to look at the fields of maritime history, underwater archaeology, cultural resource management, contract archaeology and museology and not revel in the fact that graduates of the Program have worked their way into prestigious positions within state and federal government agencies, some direct museums, many conduct research through contract firms and teach maritime history and underwater archaeology. That is indeed gratifying.

When I try to envision my retirement, it is impossible NOT to be excited. Almost three decades of work in underwater archaeology has given me incredible opportunities to use the only real time machines we have...archaeology and history. I cannot imagine a life in any other career. For that very reason, I cannot imagine that retirement will be anything less than a continuation of those exciting journeys back through maritime.



Gordon Watts, getting ready for a research dive in the 1970's.



Stem to Stern

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