Stem to Stern
Program in Maritime History and Underwater Research
Volume 7, 1991

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ECSU graduate students uncovering secrets hidden in the Millecoqua wreck site on Michigan’s Upper Peninsula.
(Photograph: John R. Halsey)
FROM THE EDITOR

One year after moving into its new home at the Maritime Annex, the Program in Maritime History and Underwater Research has taken new strides to assure its prominence in the field. The dedication of the annex in the name of Admiral Ernest M. Eller commemorates an honorable man with a distinguished career of service to his country. Admiral Eller’s generous donation of his personal library to ECU promoted library use to the forefront of repositories holding naval history collections. The Admiral Ernest M. Eller Fellowship in Naval History symbolizes the effort currently underway to support research in naval history at ECU.

The Program continues to expand both in scope and size. Dr. Michael A. Palmer joins the Program from the Naval Historical Center in Washington, D.C. He will provide another valuable addition to the Program in its efforts to foster the study of naval history at ECU. By August, a new staff archivist should greatly expand the Program’s offices, providing necessary support for the burgeoning archaeology branch.

Dr. William N. Still, Jr., has been busier than ever providing direction to the Program. By networking with the increasing number of maritime history institutions, he has consolidated the Program’s leadership role in the field. With the help of Director of Underwater Research Gordon P. Watts, Jr., the program has signed agreements with the Bermuda Maritime Museum, the University of Exeter in England, and the Saint Johns Archaeological Expeditions, Incorporated (SJAEC) of Jacksonville, Florida. The agreement with the Bermuda Maritime Museum will insure valuable field experience for future scholars and much needed archaeological research for Bermuda. The agreement with Exeter will permit students to receive ECU credit for studying maritime history in the United Kingdom. The SJAEC project, involving the Civil War steamers Maple Leaf, will provide further field work in what may be the richest cache of Civil War artifacts ever discovered. Future agreements with overseas and domestic maritime history institutions and underwater archaeology projects are currently in the works.

Dr. Carl E. Swanson has accepted the position of Faculty Advisor for Stem to Stern, the program’s annual newsletter, in addition to his normal editorial and teaching activities. Professor Watts and Program Archaeologist and Conservator Beshear A. Rodgers have been hard at work leading field work in Alabama, Bermuda, Florida, Michigan, and North Carolina, in addition to their usual teaching responsibilities. Graduate field work has been national and international this year with students spending ECU’s former through Alabama, Bermuda, the Dominican Republic, Florida, Michigan, North Carolina, and Wisconsin. Bradley A. Rodgers, continues to win contracts for the Program’s Conservation Laboratory, while continuing his work on artifacts from the Yorktown Shipwreck Archaeological Site. Large-scale projects such as those have fostered expansion, developing the lab into one of the nation’s most comprehensive marine artifact conservation facilities, requiring the attention of a Conservation Technician. Accordingly, the Program has added David Whipple to the staff so that the conservation facilities will be managed properly.

In other news, by the beginning of 1992, state of the art Macintosh and IBM computers, including a plotter, will be installed in the Eller House. These machines should support the increasing volume of research performed by graduate students and staff.

The annual Brewster Lecture in history was given this year by Dr. Akira Iriye, Charles Warren Professor of American History at Harvard University. Dr. Iriye presented the lecture “The Significance of the Pearl Harbor Attack: A Fifty-Year Perspective.” Be prepared for further strides next year as the Program continues to set national and international standards, providing leadership in maritime history and underwater archaeology.

H. W. "Stem to Stern would like to congratulate Dr. William N. “Grandpa” Still, Jr., on the new addition to his family, granddaughter Aislinn Rose Still, born in August. Congratulations to Roderick Mather and Amanda Powers, who were married in December 28th and Kurt Knoeri and his wife, Nancy, for the arrival of Ian Charles Knoeri, born October 22nd. Dr. John A. Tilley entered the blissful state of matrimony in August, and we offer him, Mrs. Anne Tilley, and their family hearty congratulations.

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ACADEMIC AWARDS

The Department of History annually offers privately funded departmental awards to promote academic excellence in the field of history. These awards are presented to first-year graduate students who show scholastic promise based upon their academic records, writing ability, and a personal interview.

On December 4, 1991, the Department awarded these fellowships at its annual Awards Day Ceremony. In keeping with the program's tradition of achievements, both Lawrence F. Brewster Fellowships were awarded to maritime students: Edward Prado, graduate of The College of William and Mary, and Matthew Russell, graduate of the University of California-Santa Barbara. At the same ceremony, second-year student Raymond Ashley was named recipient of the Mary F. How Scholarship in Marine Studies. And Janis Bowsher and William Thiesse, also second-year students in maritime history, were awarded Richard C. Todd Scholarships by Phi Alpha Theta, the history honors society.

The faculty, staff, and students of the Program in Maritime History and Underwater Research offer their heartfelt congratulations to this year's recipients.

PAPERS

The following papers have been presented by students, staff, and alumni in 1991.

David Beart, "Causeways and Cribbing: Now You Can Get There From Here." Society for Historical Archaeology Conference on Historical and Underwater Archaeology, Richmond, Virginia.

Jonathan Bream, "Sail east northeast to 33° and there Bermuda will be." Escuela de Estudios Hispano-Americanos, Seville, Spain.

John Broadway, "Volunteers in Underwater Archaeology," Conference on Historical and Underwater Archaeology.


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"Stephen Mallory's Occasional Cruises: The Confederate's Blockade Runner/Commerce Raiders," Tenth Naval History Conference, United States Naval Academy, Annapolis, Maryland.


Lynn B. Harris, "A Preliminary Historical and Archaeological Survey of the SS Robert Morris (1853)," Conference on Historical and Underwater Archaeology.


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MARITIME THESSES

The following is a list of theses completed in 1991 by students enrolled in the Maritime Program:

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David R. Baumer, "Fishing Vessels of the Western Gulf Coast Red Snapper Fishery."

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Kevin Foster, "Search for Speed Under Steam: The Design of Blockade Running Steamships, 1861-1865."

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James C. Schmidt, "Naval Operations of the Potomac Flotilla, 1861-1865."

A complete and updated list of all ECU maritime and naval theses is available upon request from Dr. William N. Still, Jr., Director, Program in Maritime History and Underwater Research, Department of History, Admiral Ernest M. Eller House, East Carolina University, Greenville, North Carolina, 27858-4353. Copies of ECU theses may be obtained through Inter-Library Loan at your local university or public library from Juyner Library, East Carolina University, Greenville, North Carolina, 27858.

Briefs (continued)

We also extend a warm welcome to Dr. Michael A. Palmer, a new addition to the Maritime History Staff, coming from the U.S. Navy's Naval Historical Center, Washington, D.C.

Dr. Still has recently joined the Executive Committee of the National Maritime Alliance, a coalition of maritime-related organizations based in Washington, D.C., whose purpose is to broaden the American public's awareness of its maritime heritage. Two alumni have joined the editorial staff of the Southern Historian: Brinjal Agranat, Managing Editor, and Associate Editor, William Stuart Morgan, III. Alumni Lynn B. Harris, is the Editor of The Goody Bag, the newsletter of the Sport Diver Archaeology Management Program, University of South Carolina. And Victoria Schwede is currently working as an intern with the Bermuda Maritime Museum.
PUBLICATIONS

The following is a list of publications completed by faculty, students, and alumni within the last year.


"Our Lady of Cuatroviñas." Bermuda Maritime Museum Quarterly, 4, no. 3 (Fall 1991).


ELLER DEDICATION

In a ceremony held April 17th, 1991, East Carolina University's Maritime History Annex was named for Admiral Ernest McNeill Eller, USN (Retired). The dedication honored Eller's distinguished career as a Navy officer and maritime historian and his generous support of the Program in Maritime History and Underwater Research.

Described as one of the "important occasions in the life of the University" by Chancellor Robert Eakin, eighty guests including faculty, staff, and students of the Department of History attended the ceremony. Chancellor Eakin; Dr. Marlene Springer, Vice Chancellor for Academic Affairs; Dr. Diane Jacoby, Associate Vice Chancellor for Research and Dean of the Graduate school; Dr. Dean Allard, Director of the Naval Historical Center in Washington, D.C.; Rev. Herbert Weber, nephew of Admiral Eller; and Dr. Peter Eller, son of Admiral Eller; all participated in the dedication. "You honor Admiral Eller and yourself by undertaking this program at ECU," said Allard, who went on to describe Ellers as a man filled with "energy, love of the Navy and love of North Carolina." Dr. Eller remarked that he and his father considered the dedication "an overwhelming honor" and that his father was proud to be associated with a program that educated people about the sea.

Admiral Eller, born in Marion, Virginia, grew up in North Wilkesboro, North Carolina. Before entering the Naval Academy in 1921, he attended North Carolina State College. Eller received his Naval Officer's Commission from Annapolis in 1925 and a Master's Degree from George Washington University in 1934. During World War II, he served as Assistant Naval Attaché at the American Embassy in London. Eller then directed training of anti-aircraft gunners and became a staff member of the Commander in Chief of the U.S. Pacific Fleet.

Eller saw combat while commanding the attack transport USS Clay, and served on the USS Utah, USS Texas, and the Submarine S-5. He was also Gunny Officer aboard the USS Saratoga in January 1945 when it was torpedoed, during an assault on the Marshall and Midway Islands. His many decorations include the Legion of Merit with Combat "V" and his service with the Pacific Fleet. In 1954, he was promoted to the rank of Rear Admiral. From 1956 until his retirement in 1970, Admiral Eller served as director of Naval History and Curator for the Department of the Navy at the Naval Historical Center in Washington, D.C. He
also authored and edited numerous works on naval subjects, including: *Memories of the Navy, Naval Weapons of the American Revolution*, and *The Battle of New Orleans*.

In 1990, Admiral Elter donated his personal library of over 2,000 books to ECU. The collection includes many multi-volume publications as well as rare and hard-to-find books. "The library is one of the greatest personal naval libraries in the country" said Dr. William N. Still, Jr., director of the Program in Maritime History and Underwater Research. The addition of the Ernest M. Elter library to the resources already available in Joyner Library at East Carolina has placed the University in the forefront of naval and maritime history collections.

**Patrick J. Cole**

**MARITIME PROGRAM'S NEW NAVAL HISTORIAN INTERVIEWED**

[Photo: Dr. Michael A. Palmer]

The following is a brief excerpt from an interview granted to Lisa Rupp by Michael A. Palmer, naval historian and recent addition to the Maritime Program’s staff.

**How did you become interested in maritime history?**

As a kid I always liked military history. When I was at Temple University I studied with Russell F. Weigley, who is a historian of the Civil War and World War II. Every time I came up with a topic under these subjects, I found he knew too much. I wanted something that might give me an edge over him. So for various reasons I did my dissertation on the U.S. Navy and the Quasi War. When I did research, I came to the U.S. Naval Historical Center in Washington and they kept my name on file. So few people were doing maritime history that they checked up on me, to see if I finished my dissertation. They offered me a job and I started working for them in 1983.

[Photo: Dr. Dean Allard speaks during the dedication ceremony for the Maritime Program's Ernest M. Elter House. (Photo: ECU News Bureau)]

**How do you see the bureaucracy in the Navy changing?**

It is getting to be smaller. We don’t need as much anymore. It is getting to be more efficient. Of all the services, the Navy should do the best because everything still comes into this country by the sea. The Navy is getting involved in a lot of areas that people don’t realize, like space. Because of the nature of modern naval warfare, ships are tied together through electronic communications involving satellites. The Navy was one of the first to do this - through necessity. These aspects favor the Navy.

Something else that favors the Navy is that people don’t like missiles in their backyard. As we reduce ballistic missiles on both sides, everyone wants to see a reduction in the proportion of the missiles. The land-based missiles will become a major role for the Navy and a reduced role for the Air Force. Also, a ground-based missile fixed in a fixed site can be detected, so a missile-armored submarine has a much better chance. Our nuclear forces will be greatly reduced, but those that will survive will be sea-based.

**How would you convince a person about the importance of maritime history?**

I would ask them how their ancestors got here. Unless they were recent immigrants, or Native Americans, the odds are they came by boat. Something more recent I would ask them how many flying tankers they’ve seen lately. Where do they think oil and Japanese cars and electronics come from? Then I would remind them that over seventy percent of the earth is covered with water.

- **What role do you see yourself playing in the Maritime Program?**

Working more and more with the graduate students and expanding their course offerings, especially in diplomatic and naval history. Maybe even to attract a new set of students.

- **What would you like to see happen to ECU’s Maritime Program in the near future?**

Establishing a broad Maritime Program, offering a multi-disciplinary approach, so students can take naval, maritime, and underwater research. We need to get all these students thinking together. East Carolina is unique to its approach.

- **What do you think lies in the future for maritime history and research and do you foresee any changes?**

One could argue that as the cold war winds down, people will be less interested in naval and maritime history. But I think people will become more interested since the immediate threat has disappeared. I think you will see a lot of trade issues and naval arms control issues. I think there will be a surge in academic productivity. Advances in the technology of underwater research will probably lead to a great deal more underwater archaeology, also a lot more jobs in the field.
**SUMMER**

The raising of the IMHA (Institute of Maritime History and Archaeology) 3 shipwreck in Bermuda brought to an end three years of detailed mapping and excavation. From the 10th of July to the 5th of August, an international team recovered the wreck from its four hundred-year-old resting place (depicted on page fifteen). Underwater Research Director Gordon P. Watt Jr., coordinated the group of ECU students and alumni as well as archaeologists from the United Kingdom, Canada, and Spain. The ECU group consisted of adjunct professor John Broadwater, graduate students Martin Peelstead and John Schafer, and alumni James Allan, Jonathan Bream, and John W. Morris.

The composition of the group brought together an array of different perspectives, providing a broader basis of knowledge. Many of the ECU group had previous experience with the wreck from the Fall Research Semester. Manuel Izaguirre of Spain and Estelle Arsenault and Fred Lowen of Canada brought with them a familiarity with similarly constructed vessels at Red Bay, Labrador, wreck sites.
The IMHA 3 site consisted of a large segment of masts that local Bermudan divers had thought to be the seventeenth-century wreck La Viga. About thirty feet away under the shadow of a reef lay ten feet of the ship's stern, exposed by ECU archaeologists in 1989. Arsenault and Izaguirre readily noticed similarities between IMHA 3's mast step and those they had seen on the Labrador wrecks. Izaguirre, expert in Spanish naval architecture, believed the wreck like the Labrador wrecks, to be a product of sixteenth-century Basque shipyards. Former ECU student Jonathan Bream joined the team after sixteen months of research at the Archives of the Indies, in Seville, where he found strong correlations between IMHA 3 and a shipwreck noted in early Spanish documents. The evidence suggests that the two sections may be the remains of the Spanish dispatch vessel San Luisa, which ran aground in Bermuda in the 1580s. Past Field School students have meticulously mapped, photographed, and labeled all pieces so that a careful record is kept of disassembly. As the team removed each section, more structural similarities appeared between IMHA 3 and the Labrador wreck, in the form of dovetail joints, where floor timbers join the futlows. Through it all long rested away, but the timnails often proved in such good condition that hydraulic jacks had gently pry the timbers apart. Next the pieces were strapped into wooden pallets for lifting to the surface and loading into the woteh for their transfer to the Conservation Laboratory at the Bermuda Maritime Museum. Thanks to good weather, the last of the wreck's remains were transferred to storage tanks after only three weeks. The team used the resulting time to begin full-scale drawings of each timber. This provided a visual record of diagnostic features while laying the basis for monitoring conservation efforts. The sketching of other artifacts, such as cannon, continued as well, but the larger part of timber drawing had to be left to the next ECU team, arriving for the Fall Research Semester.

As many years may be necessary for conservation as it took to excavate and map IMHA 3. At the end of this project IMHA could come together again as a display. It so, it will contain the only sixteenth-century vessel on display in the Western Hemisphere at site.

**FALL**

For those second-year students interested in the archaeological aspects of maritime history, the Program in Maritime History and Underwater Archaeology offers a course that teaches techniques in underwater investigation and laboratory analysis. For the past few years, this Fall Research Semester has been conducted in Bermuda in conjunction with the Bermuda Maritime Museum, further research on the history of the island.

Last fall, under the direction of Gordon P. Watt Jr., Bradley A. Rodgers, and John Broadwater, eight students continued work on the wreck designated IMHA 3, believed to be the remains of a late sixteenth-century vessel. This preliminary dating of the site was determined by the exposed structural remains of the wreck, artifacts found, and the recovery of a cannon bearing the date of 1577. Further archaeological investigation and historical research may confirm the identity of the wreck. The students who participated in this project were Jensenus R. Bashams, Patrick J. Cole, Amy Mitchell, Shannon Richardson, John C. Schafer, Vicki Schneider, William H. Thachen, and myself.

Previous field work on the site has consisted of detailed on-site mapping of the wreck and the recovery and storage of the wreck. The work assigned to our group consisted of drawing and cleaning recovery timbers on a one-to-scale to reconstructing the ongoing survey for sites in the waters around Bermuda. Bermuda Maritime Museums staff members John Broadwater and Jonathan Bream instructed the students in detailing the diagnostic features of the timbers and in recording those features.

The students were separated into two-person teams, with each team assigned its own timber. After careful inspection for any evidence of construction features, each timber was drawn. Important features included saw, adze, pressure, and scribe marks. Floristic patterns, such as treenails and nails, were noted as well as wood features that would lead to any insight on how the vessel was constructed. An observation form recording any pertinent information noted during the cleaning,

![Divers working on the IMHA 3 wreck site. (Photo: Bermuda Maritime Museum)](image-url)
drawing, and photographing of the timber was included with each individual drawing. During periods of calm weather, the students sailed out to the reefs around the island to conduct the Program’s ongoing efforts to survey new wreck sites. Steve Sellers, ECU Dive Safety Officer, accompanied the students on these surveys. Accompanied with the aid of two survey vessels, each towing two students at a time on specially designed low boards, the group could inspect large portions of the reef area below.

Snorkeling trips to exposed wrecks in St. George’s Harbour and Little Sound provided first-hand exposure to late nineteenth-century ship construction. The students visited a total of four wrecks: the Nærrøking and Emily Davies in Little Sound and the Tunø and Dorothea in St. George’s Harbour. These wrecks all provided excellent examples of transitional ship construction from the iron to steel era. The Dorothea also illustrated the continued process of experimentation in ship design, having iron frames, wooden planking, and copper sheathing.

By the end of the four-week stay, the students had drawn all of the timbers of MIAH3. Little is known of late nineteenth-century ship construction methods, but researchers hope a comparison between the construction features of this site and the other sites of the same period, such as Red Bay, Labrador, and Padre Island, Texas, will prove enlightening.

Raymond E. Tubby

Plymouth Field School

From 15 July through 3 August 1991, graduate students enrolled in East Carolina University’s Program in Maritime History and Underwater Research annual Summer Field School documented the wreck of the Civil War gunboat USS Southerland, located in the Roanoke River near Plymouth, North Carolina. The team consisted of graduate students Patrick Cole, Stan Duncan of the University of Tennessee, Amy Mitchell, Shannon Richardson, and Raymond Tubby. Graduate assistants Scott Haxton, who helped in the field along with staff archaeologists Tom Adams and Bradley Rodgers, who led the team. Additional support came from ECU Dive Safety Officers Steve Sellers and Jim Sibbord. The graduate students gained hands-on experience in the techniques and methods of underwater archaeology. The site proved a difficult environment in which to master research techniques due to poor visibility and debris over the wreck. With persistence, a light, stake, and tape, team members drew the seventy-foot section of the wreck in zero visibility water. Later at the University, individual on-site drawings were pieced together to reveal the whole vessel. Working in the river placed great demands on the student’s patience and reserve.

The USS Southerland, originally a large Station Island ferryboat built in 1857 in New York City by noted steamship builder John English, measured 200 and one-half feet in length, 54 feet in beam, and 6 and one-half feet in depth, with a draught of 6 and one-half feet. For four years previous to the Civil War, the side wheel ferryboat plied the waters between Station Island and Manhattan. In December 1861, the Southerland was purchased for use in the Burnside expedition to the Sound of North Carolina. The ex-ferryboat served in the North Atlantic Blockading Squadron for over three years as a gunboat off Plymouth and on the James River. The Confederate attempt to wreak the Roanoke River and Ahlemaur Sound from Union control, the CSS Ahlemaur, an ironclad ram, crashed into the forward section of the Southerland. Within minutes the vessel had settled on the bottom of the Roanoke. The boat was rediscovered in 1990, during a remote sensing survey of the area by a private contract firm. Local interest in the wreck generated from the discovery and concurrent research conducted at the Underwater Archaeology Branch of the North Carolina Division of History and Archives. The Underwater Archaeology Branch (UAB) archaeologists had conducted surveys of Civil War wrecks farther upstream from Plymouth to determine the feasibility of nominating the river area around Plymouth to the National Register of Historic Places-Civil War Shipwreck District. Later, the UAB contacted the Maritime Program to undertake a joint effort of documenting the Southerland.

With funding, housing, and support of the local museum, community groups, and the Weyerhaeuser Corporation, our team began documenting the Southerland, while UAB archaeologists documented some Civil War blockships farther upstream from the wreck site. Results of the investigation will be used for my thesis site report. A map of the site and preserved artifacts will become part of a display about the gunboat at the Fort O’ Plymouth Roanoke River Museum in Plymouth.

Program Director William N. Still, Jr., and Staff Archaeologist Bradley A. Rodgers ponder a buoyant recovered from the USS Southerland. (Photo: ECU News Bureau)
The excitement of discovery permeates the beginning of any archaeological excavation. This is particularly true in the case of shipwrecks, where vessels are usually lost, lying with them a small piece of history sealed within. It is the fate of many vessels to be battered to pieces by storms, torn apart by salvage, or irrecoverably lost in deep water. Rare is the discovery of a ship from an earlier time that still carries its cargo and the personal belongings of the crew. Rarer still is the discovery of such a ship on a landlocked site. Nine graduate students from the Program in Maritime History and Professor Gordon P. Watts, Jr., recently had the opportunity to work on such a site in Neshinawbe, Michigan, in early September, 1991.

William Ives, an early government surveyor, reported "the Reec of a small vessel" nearly buried, lying on the shore of northern Lake Michigan. The year was 1849, and the wreck lay on a desolate stretch of coastline in Michigan's Upper Peninsula, far from any settlement. Following Ives' mention, wind and sand quickly finished covering the lonely wreck, preserving it for future rediscovery. This day came in April 1990, when a young boy named David Head was playing near the mouth of the Milwaukee River. He noticed the bow of an old sailing ship protruding from the river bank. The actively eroding bank exposed the vessel for the first time in nearly 150 years. Soon afterwards, the existence of the vessel was brought to the attention of Michigan State Archaeologists Dr. John R. Halsey. Following preliminary research, Dr. Halsey contacted the Maritime History Program to arrange an extensive site investigation and analysis.

The project was made possible by the assistance and support of the Association for Great Lakes Maritime History and a grant from the National Trust for Historic Preservation. The Houghton Sanford's Club, which owns the wreck site, provided lodging for the students and a backhoe and bulldozer to remove several feet of sand covering the wreck.

Field work began by removing five to six feet of sand covering the wreck and exposing the top of the remains. Today, very little of the vessel lies above the river level so further excavation required the use of pumps to keep the silt out. Working in two teams, the students used shovels, trowels, and water to excavate the interior of the vessel. This "land" site provided an unusual type of work experience for students who normally work underwater.

Finding the unexpected has always been the outline of the Milieuxquets wreck looking from stern to bow. (Photo: John R. Halsey) the romance of archaeology. Time, weather, and scavengers should have taken their toll on the small vessel. Quite surprisingly, however, it proved to be nearly intact. The first hint of the amazing state of preservation occurred with the discovery made in the bow. A storage locker still packed with tools and spare parts for rigging and a sleeping berth were found in the forecastle cabin, where the crew lived. Leather boots, smoking pipes, tobacco, and food remains give quiet testimony to the living conditions of the crew.

The team working in the stern soon found a well preserved cabin used by the captain, his mate, and possibly, paying passengers. Ornate wood molding, interior paneling, and fine workmanship in this cabin are stark contrast to the Spartan conditions of the crew's quarters. Again, ideal preservation conditions offered a rare glimpse into the past. The nearly intact accommodations contained plates, eating utensils, wine bottles, condiments, a shaving kit, and other personal items still packed away. The wealth of artifacts helps to illustrate the segregated life-styles on board the ship.

As work progressed in the midships area, the cargo hold was found intact. Wooden barrels lay jumbled in the hold, some containing fish remains. Analysis of this cargo will provide new information on the early fisheries industry of the Great Lakes.

In conjunction with the excavation, detailed drawings and measurements were taken of the hull to study vessel architecture. Early examples of Great Lakes craft are extremely rare. The historical significance of this craft lies not only in its context, but also in the wealth of new information it will provide on early vessel construction, style, and form.

Interest and support from the local community played a large part in the success of this project. In return, the students of East Carolina University provided a learning experience for local school children and residents of the area, who daily turned out in large crowds.

The value and significance of this small vessel lies not in any treasure it carried, but as a representative of a common working boat. Although typical and commonplace during its sailing career, it now represents a unique example of a Great Lakes vessel, from the early nineteenth century. Many questions remain to be answered about this small craft including a firm identification. This past season's field work accomplished a great deal, but much of the site remains undisturbed for future research.

Frank J. Caneelas

SURVEY OF CIVIL WAR SITES IN MOBILE BAY

In the spring of 1991, East Carolina's Program in Maritime History and Underwater Research and the Baldwin County Archaeological Society sponsored a joint project to locate and evaluate several important historical wrecks in and around Mobile Bay, Alabama. Graduate students Frank Caneelas, Scott Moore, Martin Peebles, and James Spirek along with maritime professor Dr. William N. Sull Jr., and Gordon P. Watts, Jr., and ECU Dive Safety Officer Steve Sellers, spent a week in the Mobile Bay area. The team focused on positively identifying four specific wrecks: the CSS Gaines, a Confederate ironclad sunk during the Battle of Mobile Bay on 4 August 1864; the USS Philadelphia, a federal dispatch tug also sunk during the battle; the blockade runner Ixanoke, which grounded on the gulf shore; and the French trading vessel Bellone, which founded in the eighteenth century at its anchorage off Dauphin Island.

Equipped with the department's twenty-four-foot research vessel, a proton precession magnetometer, and a side-scan sonar, the team evaluated potential sites. Land crews with transitals defined the areas that held the most promise for the wrecks based on historical literature. The research vessel made numerous passes over these areas locating the wreck sites with the magnetometer and side-scan sonar, which were then evaluated through diver reconnaissance.

Divers located the remains of a vessel approximately two hundred feet long close to shore in approximately fourteen feet of water. The remains included two-inch thick metal plating in nine-foot long sheets, which matched the dimensions of the plating used...
have been used in the construction of the ship. The wooden planks are from the "Great Lakes" region, which were known for their quality and durability. The ship was constructed using techniques that were common in the 19th century, where shipbuilders relied on hand tools and knowledge passed down through generations. 

The ship was built for trade and transportation purposes, and it is possible that it was used to transport goods between different regions. The ship's design and construction methods reflect the engineering skills of the time, highlighting the ingenuity and craftsmanship of shipbuilders. The "Great Lakes" region was a hub for trade and commerce, and the ship's design was tailored to navigate the waterways of this region, efficiently transporting goods and people. 

In conclusion, the ship recovered off the coast of Wisconsin provides a valuable insight into the maritime history of the region. It offers a glimpse into the economic and cultural exchanges that took place during the 19th century. The ship's construction and design not only reflect the engineering skills of the time but also highlight the importance of the "Great Lakes" region in the global trade networks of the 19th century.
INDIVIDUAL STUDENT PROJECTS

CSS Neuse Project

On 17 October 1862, the Confederate Navy Department and Howard & Bills shipbuilders signed a contract to construct an ironclad gunboat in White Hall, North Carolina, on the banks of the Neuse River. Though construction began shortly after the signing, progress on the Neuse, one of twenty-two ironclads constructed and commissioned by the Confederate, proved slow and sporadic, hampered by periods of shortage of materials. By the time of her completion in 1865, the river's level had dropped, prompting her fromdialoging the federal forces occupying New Bern, North Carolina. As these forces began to advance inland, during the closing days of the war, the Confederacy deliberately ran her aground, burning her to prevent capture. Soon afterward and in heavy rains, salvaging of the ram continued until she became silved over and buried on the banks of the Neuse River.

In 1963, she was rediscovered and an attempt to raise her made through private, underfunded interest, resulted in the loss of much of the vessel's integrity. In 1994, the State of North Carolina took over where private individuals had left off and transported the vessel to her present resting site in Kingston. The ship's remains were then stabilized and covered to prevent further damage from rainwater. The state built a visitors' center on the site, which continues to function in an interpretive role, providing information about the ship and its historic context through exhibits of artifacts, photographs, models, plans, a film, and guided tours. Along with the ship herself, several hundred artifacts were recovered during the course of the excavation, including gun-tackle blocks, tools and personal items, stove parts, fittings and fragments of wooden planks, along with hundreds of spars and nails. Among the most valuable of the artifacts recovered were a number of 6.4-inch Brooke projectiles, including percussion fused shells, solid bolts, stands of grape shot, and rounds of cannonballs. While much of this material was conserved shortly after recovery and subsequently placed on exhibit in the visitor center or loaned to state historic sites elsewhere, most was relegated to the only storage space available - a plywood and tin shed located within the site maintenance area. Approximately 2000 individual artifacts remained in this condition for over twenty-five years. In 1991, state conservators decided to conserve this collection, accession it, and place it in a more appropriate, environmentally controlled storage area. Over the summer, I worked on conserving the collection jointly with the State Gold Rush Project, and the course in museum techniques offered by the ECU Department of History. I carried out the major portion of the work under the supervision of Eugene Brown, Site Manager of the Carroll-Neuse State Historic Site; Leslie Bright, conservator, of the Department of Cultural Resources; and Dr. John Tilley, professor of history at ECU. The work involved sand-blasting and treatment of all iron artifacts, cleaning and applying preservative to the wooden items, making and mounting treated artifacts to a new storage area. Perhaps 95 percent of the collection has been processed and awaits accessioning. Some work was performed at the State Underwater Archaeological Unit in Kure Beach and the remains either on-site or in the Maritime History Conservation Laboratory at ECU. As the work progressed, individual items such as scrapers, caulking irons, marlinespike, grapnels, leg irons, and camphor boxes, that had remained undisturbed and forgotten, came to light, while others such as a trunnion cap square from one of the Brooke riddled guns, could be identified for the first time.

The most exciting points of the project came when I was transporting some of the more than 2000 artifacts, including thirty-two rounds of ammunition and several hundred ship spikes, between Wilmingotn and Kinston. A vehicle suddenly pulled in front of my van, forcing a new catastrophic scare to the project. The several lively seconds that I spent trying to regain control of my vehicle allowed contemplation of my possible dubious status as the only casualty in the incidentally ironclad ram Neuse. But I managed to pull through unscathed.

Monte Cristi "Pipe Wreck"

This summer an underwater field team sponsored by the Pan American Institute for Maritime Archaeology (PIMA) and funded by a grant from Earthwatch, journeyed to the Dominican Republic. Led by archaeologist Jerome Lynn Hall, the purpose of this expedition was to document and excavate a small merchant vessel that sank on the republic's northern coast. Located approximately eighty meters off the tiny island of Cabaret, the wreck lay in fifteen feet of water, undiscovered until the 1960s, when a local fisherman noticed the wreckage. It has been known as the "pipe wreck" because of the hundreds of clay smoking pipes scattered over the site. The pipes bear the hallmark of Edward Bird, an Englishman who lived and worked in Amsterdam between 1630 and 1665. The presence of the pipes establishes the probable date of the vessel's sinking in the mid-seventeenth century. The site has been salvaged by treasure hunters and visited by archaeologists in the past. But this project represents the first organized effort to excavate the site systematically, unlocking the mystery of the wreck's past.

As a second year ECU graduate student, specializing in seventeenth-century Dutch maritime trade, I eagerly joined a four-member advance team that departed June 3rd. First, we met with government officials concerned with the site. Dr. Pedro Borelli Bentz of the Comision de Restauro Arqueologico Submarino in Santo Domingo provided us with much needed logistical support. He assigned a full-time commissioner and military guard to the project and helped locate necessary nautical materials and needed storage space.

After a long overland trip to Monte Cristi, we finally reached the small desert island of Cabaret, our home for the summer. The next two weeks we spent erecting tents, hiring cooks, bringing in provisions, visually assessing the site, and installing a grid system over the wreck. The rest of the excavation team, including a doctor, full-time conservator and visiting Earthwatch
VIDEO-MOSAIC IMAGING OF THE ALMA BRADLEY

This past July, a diverse group of archaeologists, technicians, and volunteers gathered to work on a research and design project that promises to improve the accuracy and efficiency of underwater site documentation. In the quiet, serene surroundings of Lesinau County, Michigan, Harley Seeley of Michigan State University prepared to field test the concept of Video-Mosaic Imaging (VMI) on the wreck of the schooner Alma Bradley. The VMI system is designed to produce a two-dimensional mosaic image of an underwater site using a video camera that travels along a grid system placed over the site. Seeley, and Ken Vanua, Underwater Preserve Specialist for Michigan Sea Grant, along with Jay Martin, developed the ideas for VMI while working on the Reckaway project. Overseeing the project were Canadian archaeologist Phil Wright and Joel Jaworski. Director of the Northwest Michigan Maritime Museum and Field Operations Coordinator for the Manistee Bottomlands Preserve Committee. As an ECU graduate student interning for the museum, I provided logistical support.

Before the three-week endeavor of documenting the Bradley could begin in earnest, a few minor obstacles had to be overcome. Because of the immense size of the drained grid, a barge had to be constructed at the eleventh hour to deploy the behemoth. While Seeley's team of technicians pieced together the "mother grid," as it came to be known, Jaworski and his group of museum employees and local volunteers turned the Maritime Museum's grounds into a shipbuilding yard. Working around the clock, relying on our high school welding skills, we built the forty-foot work barge, Joel & Tom's Excellent Adventure, out of discarded hearing aid tanks, scrap steel, and a donated gas station attendant's booth, complete with bullet-proof glass. Meanwhile, Seeley's crew decided to redesign the cumbersome gate. After attacking the "mother grid" with a Sawall, "son of grid" was born, measuring only twenty feet by five feet. The grid would now be much easier to deploy and move about on the site.

Documentation of the Bradley had been an ongoing project of the Manistee Bottomlands Underwater Preserve Committee since the wreck's discovery in April 1990. Traditional methods of mapping, used at the site have proven slow and tedious because of the size of the wreck and the vast number of artifacts present. It became necessary for the site to be fully recorded as soon as possible because artifacts such as the brass dinner bell had been acquired or moved by sport divers. We discovered many of the more collectable pieces had been taken upon the keel - making the site look like a flea market.

Jaworski invited Seeley and Sonics Corporation to test VMI on the Bradley. Marty Wilcox, Pete Wilcox, and Donald Scard of Applied Sonics Corporation arrived at the site in the middle of the grid deployment. They came to test the feasibility of integrating their SHARPS (Sonics High Accuracy Range & Positioning System) with VMI to test a new digital high definition side-scan sonar system they had developed. With the help of Applied Sonics people present, the successful launching of the barge, and placement of the grid, everything was in place to begin field testing of VMI.

Over a four-day period late in July, the VMI crew placed the grid on site and successfully recorded a twenty by sixty-foot swath of the Bradley. Using bin bags, we moved the grid along the keel, even through keeping the grid level without disturbing the site was difficult. According to Vanua, the system worked better than expected, grid problems aside. Working as part of the four-person underwater camera operating crew, I found the process of gathering the video data progressed quite rapidly. We covered a ten by twenty-foot (continued on page 12)
WHERE ARE THEY NOW?

The following list updates the current location of former program members.

James Allan - Director, Institute for Western Maritime Archaeology, Berkeley, California.
Briana J. Agrawal - Doctoral Candidate, University of Alabama.
David Basmer - Curator of Small Boats, Mariners’ Museum, Newport News, Virginia.
David Beard - Archaeology Head of the Underwater Archaeology Management Program (UAMP), Charleston, South Carolina.
Colin Bentley - Sailing instructor, College of Charleston.
Kathryn Bequette - Private school teacher, Colorado.
Jonathan Bream - Archival Researcher, Bermuda Maritime Museum and Doctoral Candidate, University of Seville, Spain.
Robert Browning - Historian, U.S. Coast Guard, Washington, D.C.

David J. Cooper - Underwater Archaeologist, State of Wisconsin.
Diane Cooper - Exhibit Specialist, Treasure Island Maritime Museum, San Francisco, California.
Lee Cox - Archaeological contracting consultant, Philadelphia.
James P. Delgado - Director, Vancouver Maritime Museum, British Columbia.
Rita Fosler-Elliot - Contract archaeologist.
Robert Feingold - Program Specialist in the Florida Keys for the Sanctuaries and Reserves Division of NOAA.
Kevin Foster - Historian, U.S. Coast Guard, Washington, D.C.
Joe Friday - Police Officer, Greeneville, North Carolina.
Lynn B. Harris - Assistant Head of the Underwater Division, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Charleston.
Rick Heron - Doctoral Candidate, Texas A & M University.
Robert (Bob) Holcombe - Director, Confederate Naval Museum, Columbus, Georgia.
Claude V. (Sandy) Jackson - Contract Archaeologist.
I. Roderick Mather - Doctoral Candidate, Oxford University.
Dave Moore - Contract researcher, Maryland.
R. Scott Moore - Doctoral Candidate, Ohio State University.
Stuart Morgan - Doctoral Candidate, University of South Carolina and Public Information Officer, Editor of County Focus Magazine and Carolina Counties newsletter for the South Carolina Association of Counties in Columbia, South Carolina.
Kasea Morris - Archaeological researcher, Tupo, Arizona.
Sam Newell - Public school teacher, North Carolina.
Robert Reedy - R2 Underwater Consultants, Morehead City, North Carolina.
Bradley A. Rodgers - Archaeologist/Conservationist, Program in Maritime History and Underwater Research, ECU.
James S. (Steve) Schmidt - Senior Archaeologist, GIA Consultants, Pittsburgh, Pennsylvania.
Robert Schellsheier - Naval Historical Center, Washington, D.C.
Bruce G. Terrell - Maritime Historian, NOAA, Washington, D.C.
Heidi Tobias-Smith - Administrative Assistant, PACON International, University of Hawaii.
Lolly Vann - University of Edinburgh, Scotland.
Wilson West - Researcher, House of Commons, Washington, D.C.
David R. Whipple - Conservation Technician, Program in Maritime History and Underwater Research, ECU.

IN PRINT

A limited number of the following publications are now available through the Program in Maritime History and Underwater Research. Requests should be directed to Mary M. Miller, in care of the Department of History, Admiral Ernest M. Eller House, East Carolina University, Greenville, North Carolina 27858-4353. Please make checks payable to East Carolina University.


Cooper, David J. and Bradley A. Rodgers. Report on Phase One Marine Magnetometer Survey in Death’s Door Passage, Door County, Wisconsin, 1989. NOAA 1990. $5.00 plus $2.55 postage, also available from David Cooper.

Cooper, David J. and Bradley A. Rodgers. Survey of Submerged Cultural Resources in Northern Door County: 1998 Field Season Report. $7.00 plus $2.55 postage, also available from David Cooper.
"Examination without conservation is vandalism," writes one archaeology conservator, emphasizing that the conservation of objects recovered from archaeological sites is indeed a necessity. In order to produce students prepared to deal with this expanding dimension of the field, ECU's Program in Maritime History boasts one of the nation's best water-soaked materials conservation laboratories, under the direction of Archaeologist Bradley A. Rodgers. From its beginnings in the basement of Ragsdale Hall, the lab has expanded into a conservation-training facility for students and staging area for the summer field excavations, as well as a center for outside conservation contracts.

Shannon Richardson

LAB UPDATE

Because of its growth and productivity, the lab has won two artifact conservation contracts since becoming operational, while consulting on several more. The contract with the Commonwealth of Virginia to conserve the artifacts recovered by the Yorktown Shipwreck Project brought the Conservation Laboratory's first contract funds, allowing it to become a nationally recognized facility.

In cooperation with the over 700 artifacts involved in the Yorktown Project, Professor Rodgers provided for the construction of a new wet lab, located near the main laboratory office building, which houses a drying and coating room, electrolytic room, wood shop, and a dark room. The new lab contains twelve holding tanks, three treatment tanks, three cleaning tanks, and a silica medium sand blasting. Its design also allows for treating artifacts with either poly ethyl glycol (PEG) or sucrose in insulated, heated tanks.

The contracts with Virginia also initiated the design and construction of several important pieces of equipment. To treat the various pieces of textile and leather artifacts, a textile treatment table was constructed. This table includes an overhead illuminating magnifier, a back-light built into the table surface, a water jet cleaning tool, and a suction device for removing debris. To treat stoneware and ceramics, a Cascade Agitating Tank was built. This unit allows for the continuous flow of water through five treatment boxes, rinsing chlorides and contaminants from artifacts. To bring artifacts subject to humidity after treatment is complete, a humidity control chamber was constructed from an agricultural liquid storage tank. This unit contains three removable shelves to allow for various sized artifacts and also contains a sonic humidifier. Because of the volume of artifacts being treated, Professor Rodgers decided to maximize PEG usage by constructing a recovery system. The boiling agent, recovery tank incorporates a "screwpumped" 1500 gallon agricultural tank and two 300 gallon storage tanks. By pumping used boiling agent into the large tank, the lab can evaporate the liquid to a desired percentage, usually 80 percent, and store it until needed.

So far, all of the PEG remaining after treatment with the artifact tanks, about 160 gallons, has been recovered. Because of the magnitude of the conservation project, I was hired by the Maritime Program as Conservation Technician to provide management continuity.

Consultations with an architecture historian to assess the wet lab have developed plans to house it as 800 cubic foot head, treatment tank in the new addition to our existing lab. The new tank can be used as one large tank, or divided into four separate compartments, each capable of treating a separate artifact. The new building will also hold a cleaning sink and eventually a built-in humidity control room.

As the Maritime History Program has expanded and developed new projects, the Conservation Laboratory, through outside contracts, has enabled itself to handle any conservation project eventually required by the project research. The existing lab, already light years ahead of the 1989 facilities, is poised to make another quantum leap in conservation capacity. Stop by for a tour and prepare to be impressed!

David B. Whipple

OTHER NEWS

The foundation of the Conservation Laboratory's success is the wealth of knowledge accumulated by both faculty and students. A cornerstone of new research, the second edition of Conservation of Water Soaked Materials Bibliography, is now available through the Program. Supported by the Herbert R. Paschal Memorial Fund, this latest edition contains over 700 listings of books and articles relating to the conservation of wood, glass, ceramic, metal, organic, and composite objects that have been recovered from a marine environment. Our library now holds over 350 of these books and articles, providing an important resource. Funding from outside grants promises to provide more additions and updated editions of the bibliography can be expected in the future.

This year's conservation course is conserving artifacts recovered from the program's 1991 field projects in Plymouth, North Carolina, and the Millicolony River, Michigan. Larger Civil War-vintage artifacts undergoing treatment include one of the USS Southfield's blocks and her sister. Several artifacts recovered at the Millicolony's wreck site will enlighten researchers on Great Lakes life during the early nineteenth century. These include cataphy, wine bottles, well-preserved samples of rope and tar, and various metal objects.

In addition to individual projects, the lab is also in the midst of processing (continued on page 14)

Maritime Program research vessels and Summer Field School crew members on site at Plymouth, North Carolina. (Photo: ECU News Bureau)
1992 SUMMER FIELD SCHOOL

During the second summer session in 1992, East Carolina University will sponsor its fourteenth annual Summer Field School in Maritime History and Underwater Research. This unique program has been developed to provide a limited number of qualified students with a basic introduction to American maritime history and the scientific methods and techniques employed in underwater archaeological research. Each student in the program will participate in classroom lectures, workshops, seminars, and will conduct on-site research. Students who plan to participate in the diving aspects of the project must make arrangements with the East Carolina University Diving Safety Officer to insure that all aspects of a 60 foot depth certification have been met prior to the beginning of the field research.

Undergraduate (senior level) and graduate level credit will be offered. A tuition and fees schedule is available upon request. Semi-private residence hall rooms can be reserved for around $30.00 a week on campus. For the time in the field, housing will be provided near the site with the students responsible for their own meals.

This year, the field school will be held in Jacksonville, Florida, working on the Civil War shipwreck Maple Leaf. Skills used will include excavation, site mapping, and other archaeology-related techniques.

Applicants for the program should be enrolled in history, archaeology, geography, or related fields. For additional details, medical forms, application, and tuition and fee schedule, please contact:

Dr. William N. Still, Jr.
Director of Maritime History
Department of History
Admiral Emlen M. Eliot House
East Carolina University
Greenville, North Carolina 27858-4353
Telephone (919) 757-6097

Other News (continued)

Revolutionary War artifacts from the Yorktown Shipwreck Archaeology Project. Of the 763 items submitted to the lab for treatment, some 330 have been completed. Professor Rodgers and Conservation Technician David Whipple note that the contracts are "right on schedule." Lab assistants are also nearing the final stages of conserving a 250-pound wood and metal cannon carriage from Yorktown. This is the largest composite artifact the lab has ever undertaken. The remainder of the Yorktown Shipwreck Archaeology Project's artifacts should be finished by fall of next year.

With a proven record of productivity, resourcefulness, with potential for expansion, the Conservation Laboratory has become one of the foremost facilities of its kind in the nation. As such, the lab is not only an asset to ECU's Maritime History Program, but a significant addition to worldwide underwater archaeology and conservation.

Shannon Richardson
Papers (continued)

"Confederate Naval Technology." T. Harry Williams Symposium in Civil War History at Southeastern University, Hammond, La.


et al. "USS Monitor: Update on Data Analysis from the 1987 Season." Conference on Historical and Underwater Archaeology.

Profiles of the side wheel steam Maple Leaf. (Illustration: B.W. Kevillloff, E. Glavacki, and Bold Craft Engineering Corporation)
The following list reflects research interests of students and alumni of the program:


James Allan: The Maritime History of Fort Ross, California.

Raymond F. Ashley: Scurvy and Longitud: The Integration of Science into Eighteenth-Century Maritime Practice.

Adriane Askins: Eighteenth-Century East India Company Trade with China.

Jenison R. Benhars: Dutch Maritime Trade in the Caribbean and Related Shipwreck Sites.


Diane Cooper: Matthew Turner and the Shipbuilding Industry in the San Francisco Bay Area, 1875-1900.

Cristina Gober: A History of the USS Kearns.


Shawn Holland: A Study of Women in American Seaports during the Nineteenth Century.

Century: John O. Jensen: Cholera and Immigrants: Maritime Quarantine and American Society in 1899.

John W. Kessinger: The Ordinary of the Savannah River Squadron, 1861-1865.

Lillian King: A Study of Swedish Maritime Commerce and the Byzantine Empire.


R. Scott Moore: The Evolution and Design of Greek Naval Forces and Strategies in the Hellenistic Age.

Gene Overton: A Detailed Analysis of the USS Schae.

Martin D. Pehlow: Changes in Trade, Royal Policy, and Naval Architecture in Late Medieval and Early Tudor England.

Edward Pradt: The Ancient and Medieval Maritime Trade of Arabia Felix (Yemen).

Shannon Richardson: The History and Future of Waterlogged Artifact Conservation.


Matthew Russell: The British Logwood Trade in Spanish Central America, 1670-1763.

John G. Schaefer: Nineteenth-Century Shipping on Lake Superior.

Victoria Schneider: Maritime Trade in America’s Revolutionary Era.


Raymond E. Tubby: A Study of the Navy’s Rejection of the USS Wampus.

Lolly Yann: The Star of India: The Impact of Unsanctioned American Trade Activity in the Mexican Territory of California, 1845-1846.


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