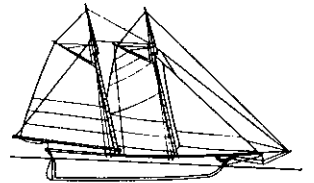
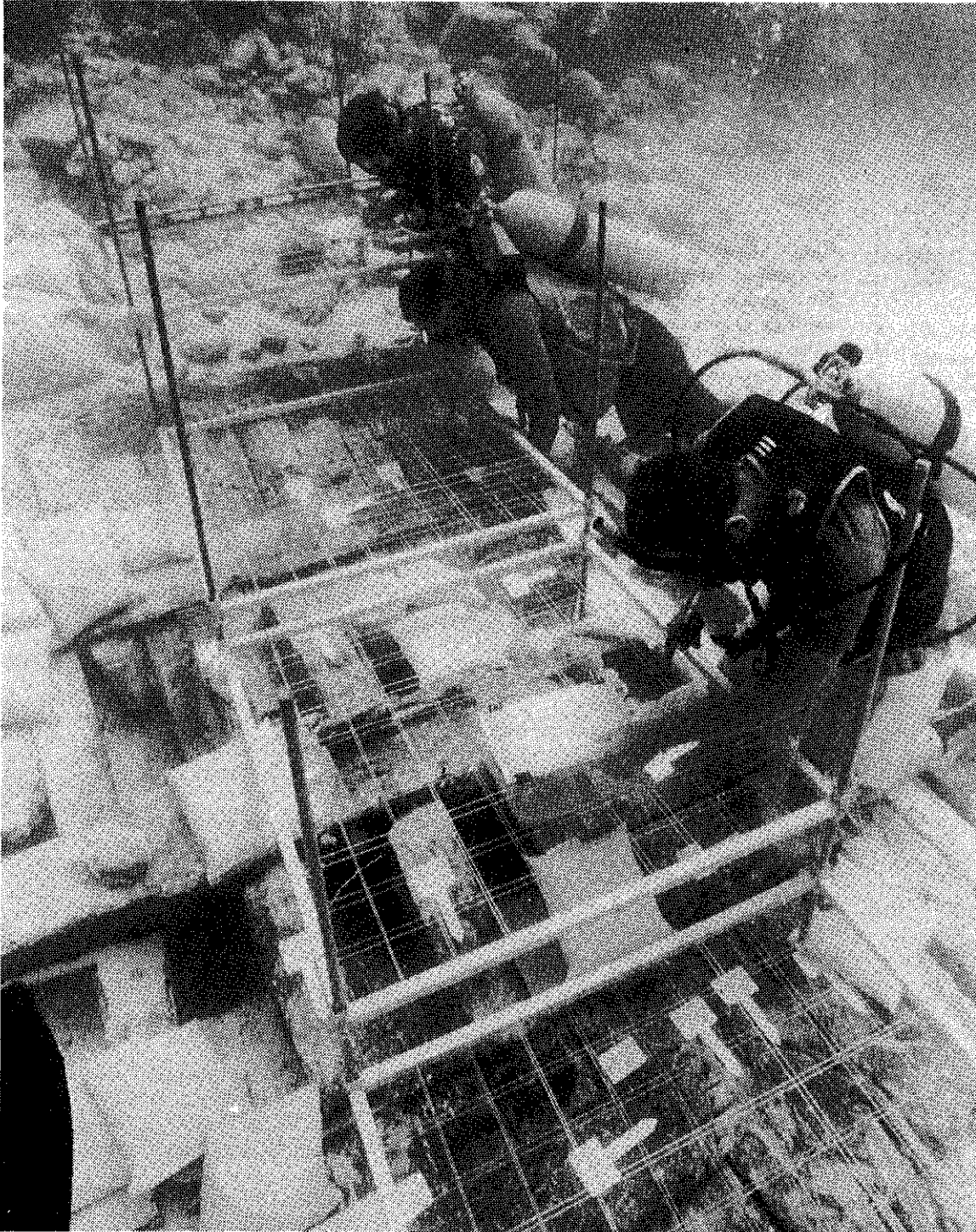




Stem to Stern

Program in Maritime History and Underwater Research Volume 6 1990



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Graduate students mapping site IMHA3 for field semester 1990.

East Carolina University Program in Maritime History and Underwater Research

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Gordon P. Watts, Jr., M.A. (Director of
Underwater Research)
Carl E. Swanson, Ph.D.

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Stem To Stern
Volume 6 1990

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Photo Credits: Jemison Beshears, David Cooper, Gordon Watts.

ACADEMIC AWARDS

The history department annually offers privately funded departmental awards beyond the work fellowships dispersed by the department to promote academic scholarship in the field of history. These awards are presented to first year graduate students who show exceptional promise based upon their academic records, writing ability, and personal interviews.

On November 28, 1990, the department awarded these fellowships at its annual Awards Day Ceremony. In keeping with the program's tradition of excellence, two of the three Lawrence F. Brewster Fellowships were awarded to maritime students: William H. Thiesen, a graduate of Macalester College; and Raymond Ashley, a graduate of the

University of California-San Diego. At the same ceremony, another graduate student in maritime history, Shannon Richardson, a graduate of the State University of New York at Buffalo, was named the recipient of the Paul Murray Fellowship. Betsy Matthews, also a graduate student in maritime history, was awarded the Phi Alpha Theta Scholarship.

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

BRIEFS

The Program would like to welcome back Dr. William N. Still, Jr., who just completed an eleven month fellowship in Washington, D. C. where he served as the Secretary of the Navy's Research Chair in Naval History. He has resumed his duties as Director of Maritime History and looks forward to the coming year as the Program continues to expand each year.

Dr. Carl Swanson, who was named as the editor of the North American Society for Oceanic History *Newsletter* last year has been recently named to the Editorial Board of the *International Journal of Maritime History*. In addition, Swanson was honored at this fall's ECU faculty Convocation by being named a Finalist for the Robert L. Jones Teaching Excellence Award, which is presented annually by the East Carolina University Alumni Association. His book *Predators and Prizes: American Privateering and Imperial Warfare, 1739-1748* is due out shortly after the beginning of the new year.

David Whipple, a former maritime student, has been hired as the new conservation technician. He will be working closely with Bradley Rodgers concerning the conservation of the artifacts from the Yorktown Shipwreck Archaeological Project.

The Program would like to congratulate Mary Miller, office manager, on the birth of her third child. Mark Edward Miller was born on October 4, 1990, to Richard and Mary Miller.

PUBLICATIONS

The following is a list of publications completed by faculty and students in 1990.

Cooper, David and Bradley Rodgers. *Report of the Phase 1 Marine Magnetometer Survey of Death's Door Passage 1989*. NOAA, 1990.

Cooper, David and Bradley Rodgers, "Probing Wisconsin's 'Door of Death': A Preliminary Report on the 1989 Survey in Northern Lake Michigan," *Underwater*

Archaeology Proceedings from the Society for Historical Archaeology Conference (1990).

Delgado, James P., "The Development of the American Lightship," *The Keeper's Log*, Winter 1990.

_____. *National Parks of North America*. New York: Crescent Books, 1990.

_____, "The Development of the American Lightship," *The Keeper's Log*, Winter 1990.

_____. *To California By Sea: A Maritime History of the Gold Rush*.

Columbia: University of South Carolina Press, 1990.

_____, "What's Become of Sara?" *Proceedings*, October 1990.

Delgado, James P., and Kevin J. Foster. *National Register Bulletin #34: Nominating Historic Lighthouses and Aids to Navigation*. Washington: National Parks Service, 1990.

Delgado, James P., Pastron, Hattori, "Ships Were Constantly Arriving: The Hoff Store Site and Business of Maritime Supply and Demand in Gold Rush San Francisco," and "Civilian and Military Armament and Accouterments from the Hoff Store Site," in *The Hoff Store Site and Gold Rush Merchandise from San Francisco, California* (Ann Arbor: Society for Historical Archaeology, 1990).

Delgado, James P., Pastron, Hattori, and Walsh "Conclusions," in *The Hoff Store Site and Gold Rush Merchandise from San Francisco, California* (Ann Arbor: Society for Historical Archaeology, 1990).

Reedy, Robert. Contributor in *The 1989 Annual Report, Archaeological Data Recovery, The Whydah Shipwreck, Site WLF-HA-1, Cape Cod, Ma.*, 1990.

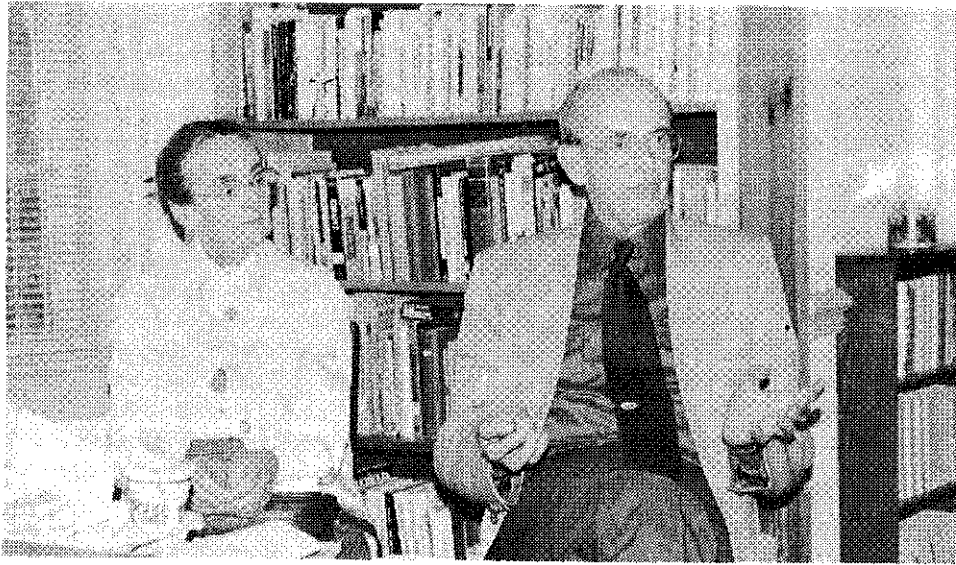
Rodgers, Bradley and John Jensen. *Conservation of Water Soaked Materials Bibliography*. Herbert Pascal Memorial Fund, edition 1 (1990).

Still, William N. Jr., *Savannah Squadron*. Savannah: Coastal Heritage Press, 1989.

_____, "Southern Maritime Heritage," *Encyclopedia of Southern Culture*, 1989.

Swanson, Carl E. *Predators and Prizes: American Privateering and Imperial Warfare, 1739-1748*. Columbia: University of South Carolina Press, 1991.

(Publications Continued on Page 10)



Basil Greenhill and wife Anne Giffard visit with maritime students.

GUEST LECTURER

The first week of November Dr. Basil Jack Greenhill and his wife, fellow historian Anne Giffard, visited the campus of East Carolina University in order to present the ninth annual Lawrence F. Brewster Lecture in History, "The S.S. *Great Britain* and the Coming of Steam Navigation," presented by the Department of History. Dr. Greenhill is recognized as an authority in maritime law and shipping, but his primary interest is the development of sailing and the steamship in the nineteenth century. He received his formal education at Bristol University where he was awarded a Ph. D. Dr. Greenhill has had a distinguished career in the British Diplomatic Service, is the former director of Britain's National Maritime Museum, and is currently a Research Fellow in the Department of History at the University of Exeter. He has also held offices in the International Congress of Maritime Museums, the Board of Trustees of the Royal Armouries, the Royal Naval Museum, the Society for Nautical Research, and the Royal Air Force Museum. Dr. Greenhill's publications include *Travel By Sea in the Nineteenth Century*, *The Merchant Sailing Ship*, *Seafaring Under Sail*, and numerous other books, articles, and reviews on maritime matters. His primary research emphasizes the British maritime experience in the nineteenth century. His most recent work is *Victorian and Edwardian Merchant Steamships*.

The following is a brief excerpt from an interview granted to *Stem to Stern* during Dr. Greenhill's visit to East Carolina University:

• How did you first become interested in

the steamship, particularly the *Great Britain*?

Well, it was really working back from the *Great Britain* and asking questions and then realizing that the study, so much work of the history of the steamship, has tended to be repetition of the same secondary sources. And that when you go behind them to the primary sources something rather different begins to emerge. Something rather different and very exciting is emerging and I found it quite fascinating, and so have a number of other people I would like to say. And I hope that we will be, with the collaboration of this university, which we've been talking about this afternoon; I hope that we're going to produce two volumes in *The History of the Ship*, a twelve volume series, which is beginning to mature now in Britain. Internationally the contributors are coming from a number of countries. I hope that in two volumes we can perhaps produce a better study of the development of the steamship than has ever been published before. Here again, of course, you see we're dealing with something that has been tremendously important in the development of Western Europe and North America and which hasn't really been properly studied in the past.

What are your plans for the future?

"I have just finished a book with a Finnish collaborator, on the *Helsingen Cecilia*, which will be published next February. I've got a number of papers to finish before the end of this year, then my wife and I are going to collaborate again on a theme which is going to

be very difficult to write. My wife's great grandfather was a post captain, Royal Navy, and he was the first officer to be killed in the war with the Russians, in the middle of the nineteenth century. He was the post captain of a paddle frigate called the *Tiger*. There are a great many family papers — and they are really revealing indeed. And what we are hoping to do is to produce a book centered on these family papers which will perhaps present, in very human terms, the conditions under which officers served in the British Navy in the first half of the nineteenth century. But more important still, the way in which the family links, the political interests, played, not only on the development of the Navy itself, but on the development of individual careers of officers. This man had a successful career up until the time he was killed, in fact he was well on his way to being an admiral at the time he was killed.

In tracing the family structure you can see that it was done mostly through what they called interest. His father married the right woman; the wife's family became politically involved in the Reform Act of the 1830s. They became very influential. Naturally, in those days the son was in a very preferred position for accelerated promotion to post captain, which meant that he was automatically on the road to admiral. How did this interplay with the professional structure? Did it mean that very efficient officers were bypassed? How far were they really professional? How far did they know their sailing job? How far were the men of the sailing ship men of the steamship?

He provides a particularly interesting example because he became converted to an interest in steam at quite an early date. He is yet another example of the officer who saw his future professionally in steam terms. Again you see there has been a great deal published which suggests that steam officers were abused and were thought of as "steamboat lieutenants," inferior beings of sorts. It's quite clear that this was not true at all. And the officer in the 1830s who was ambitious identified himself with steam because he knew this was the future and learned a very great deal about steam engines. He learned a great deal about engineering and went to considerable lengths to do so. This man is in this position. So through this theme emerging from the family papers we hope to present this broad political, social, technical picture that is going to be possibly the toughest writing challenge we've yet met because we've got to produce this in a form that is marketable as a book. And this will take some doing, so we shall enjoy it. I hope we're successful.

William Thiesen

FIELD SEMESTER IN BERMUDA

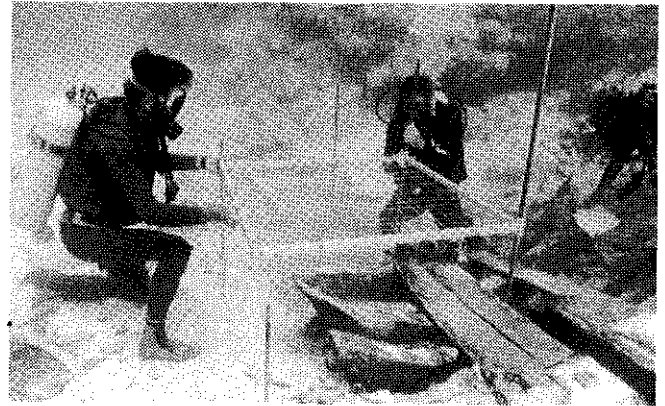
History 6850 is a course offered by the Maritime Program designed to allow graduate students hands on experience in underwater archaeology. For the past several years the field work has taken place in Bermuda. The course is offered annually in the fall and is generally taken by second year graduate students interested in the underwater aspect of the Maritime Program. For students not interested in diving or underwater archaeology, internships with museums offer them the opportunity to also achieve hands on experience while receiving the same credit.

This fall four graduate students, Frank Cantelas, Jay Chapman, Scott Moore, and Jim Spirek enrolled in this class. Under the instruction of Gordon Watts, Director of Underwater Research, and accompanied by ECU Dive Safety Officer, Steve Sellers, they flew to Bermuda for four weeks of field work. The class was sponsored by a joint effort between ECU and the Bermuda Maritime Museum. The museum provided lodging, equipment, and technical support while ECU provided manpower, equipment, and instruction.

The site that was chosen to be studied is designated as Institute of Maritime History and Archaeology-3 (IMHA3). It was first discovered in the 1960's by a local diver who obtained a permit to salvage the wreck. After the diver was finished with the site, it was backfilled with sand. The site lay undisturbed and forgotten until it was rediscovered by ECU students during the fall of 1988. Since then, after a permit for the site was obtained, it has been periodically examined by the museum and ECU.

The wreck is believed to date to the late sixteenth or early seventeenth-century and to be Spanish in origin. This hypothesis is based upon ceramic sherds and a cannon bearing the date 1577 that were recovered from the site. The structural designs of the hull are also indicative of that period and origin. This makes the wreck one of the most significant located near the island.

Upon arrival, the first step was the excavation of the wreck which had been covered with sand for its protection. This was facilitated by several museum volunteers who began uncovering the wreck shortly before our arrival. The site was discovered to consist of two separate sections, the main part of the hull measuring eleven meters by four meters, and a smaller stern section lying separated from the main section by approximately six meters. The area immediately surrounding the two sections was filled with loose timbers and iron concretions. Whether these timbers belong to IMHA3 or another wreck that went down in the same



Grids for mapping being assembled over wreck site.

area is presently unknown.

After the wreck was uncovered, the process of mapping the site began. A network of grids tied into a central baseline was set up over the wreck. The main section of the hull was carefully drawn and measured. Detailed drawings were made of the hull's more significant features. After the mapping was complete a photo tower was constructed over the site. This procedure was complicated by the fact that the wreck lies at the base of a coral reef which causes the port side of the wreck to sit higher in elevation than the starboard side. The photo tower was built on a series of parallel poles that kept the camera at a constant height over the wreck minimizing the distortion so a photo mosaic could be created. The entire site was extensively photographed twice using overlapping shots. The site was also filmed with a video camera to provide additional details.

After the photography was completed, the process of backfilling the site began. This was done to prevent further damage until future plans concerning the wreck can be finalized. There are hopes that a section of the wreck, either part of the main section or the stern section, can be raised for conservation and display at the Bermuda Maritime Museum, but nothing definite has yet been decided.

Scott Moore

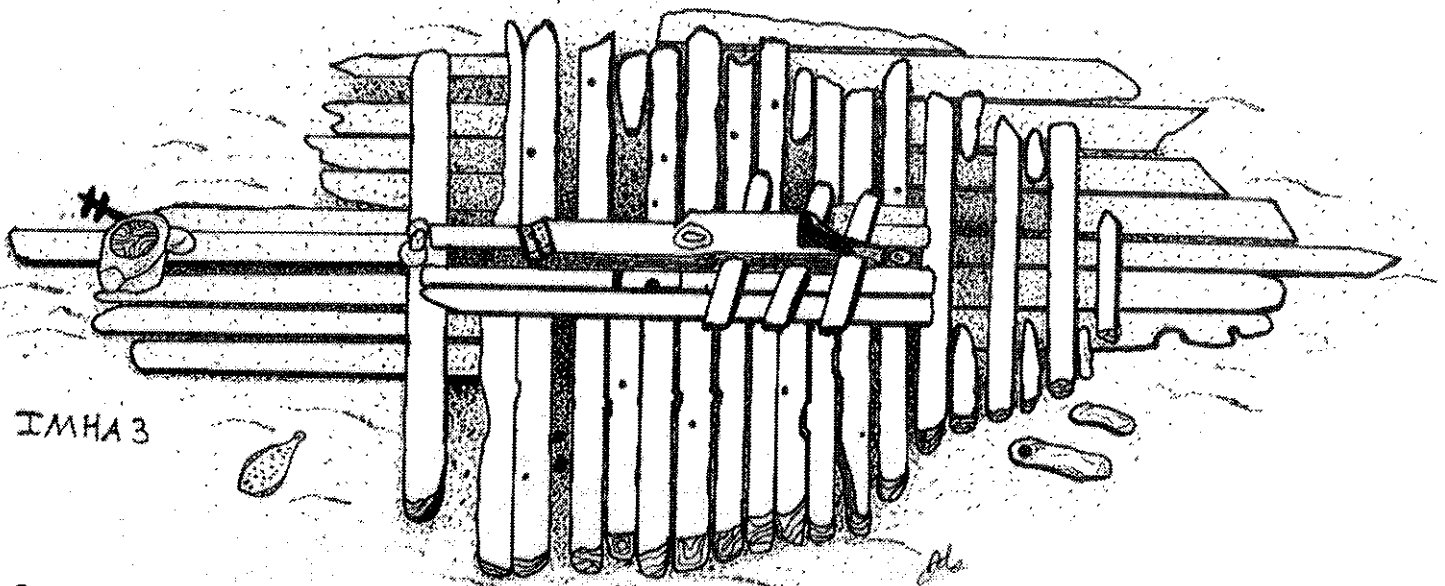


Illustration of wreck site IMHA3 drawn by James D. Spirek.

1990 FIELD SCHOOL - APOSTLE ISLANDS

The 1990 survey of submerged cultural resources in the Apostle Islands was a joint effort between the State Historical Society of Wisconsin, East Carolina University, UW-Sea Grant Institute, UW-Marine Studies Center, and the Apostle Islands National Lakeshore. The survey was conducted under a grant from UW-Sea Grant Institute, with additional funding, equipment, personnel, and logistical support supplied by other institutions. The project was staffed principally by East Carolina University as part of its summer field school in underwater archaeology, and the overall project was directed by the State Historical Society of Wisconsin (SHSW).

The survey had two principal objectives:

(1) conduct surveys of known shipwreck sites (schooner *Lucerne* at Long Island, and steamer *R.G. Stewart* at Michigan Island) within the boundaries of the Apostle Islands National Lakeshore. These sites would be evaluated for management planning and potential listing on the National Register of Historic Places.

(2) inventory and survey other submerged cultural resources in or adjacent to the park, especially those resources frequently utilized by sport divers or those sites which appear to be threatened by human activity such as artifact collecting.

The submerged remains of an eighteenth- and nineteenth-century fur trade settlement at Grant's Point, Madeline Island, were a primary focus for the latter investigations. Other secondary objectives that were investigated included eight shipwreck sites at Red Cliff Bay, Sand Island, Outer Island, Stockton Island, and Pikes Bay.

A major management issue that currently

faces the Apostle Islands is the need to balance visitor access to dive sites with the need to protect fragile underwater archaeological sites and prevent artifact theft. The management of submerged cultural resources in the National Lakeshore is complicated by jurisdiction: shipwrecks are located on state owned bottomlands, but the park controls the surface waters to a distance of one quarter mile offshore of Lakeshore areas, and thus complete access. Issues of visitor access, law enforcement, and site management must therefore be addressed jointly by the state and National Lakeshore, and agreements must be reached to attain cooperative management of the resource.

The purpose of the Apostle Islands submerged cultural resources survey (scheduled to continue into 1992) is to produce the resource data and evaluations needed for management planning. Resource inventories and assessments, including site locations, maps, artifact inventories, site boundaries, archaeological analysis, and site histories will have important applications to site management, interpretation, recreational development, and enforcement of state and federal laws protecting archaeological resources. Intended project results include improved management, access, and interpretation for sites within the park, and potential designation and management of a state preserve or National Marine Sanctuary outside of but complimentary to the Apostle Islands National Lakeshore.

David J. Cooper, Division of Historic Preservation, State Historical Society of Wisconsin, Madison, Wisconsin

1991 SUMMER FIELD SCHOOL

During the second summer session in 1991, East Carolina University will sponsor its thirteenth annual 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.

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
East Carolina University
Greenville, North Carolina 27858-4353
Telephone (919) 757-6097



Graduate students participate in mapping and measuring a Great Lakes vessel.

We are always glad to hear from our subscribers. If you have any suggestions, or comments we would appreciate hearing them. If you would like to receive a copy of the newsletter and are not currently on our mailing list please write to:

Editor of *Stem To Stern*
Maritime History and Underwater Research
Department of History
East Carolina University
Greenville, N.C. 27858-4353

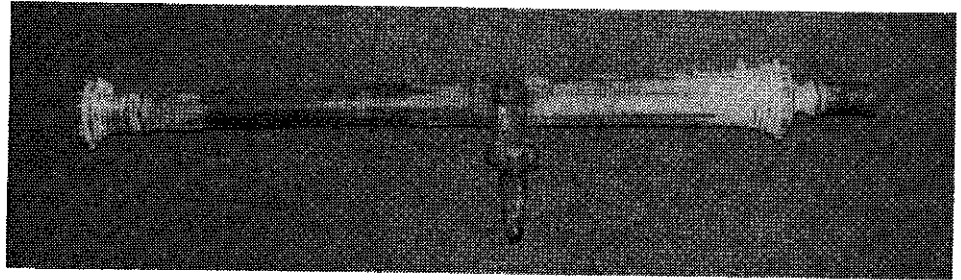
If you are a former graduate student of the program, we would appreciate you taking the time to respond to us concerning your current location and occupation. We are always happy to keep in touch with former students, and look forward to hearing from you.

DOCTORAL PROGRAM

East Carolina University has initiated the process of application for the capability to grant doctoral degrees. In February, 1989, the Program in Maritime History and Underwater Research submitted to the ECU administration a detailed plan to implement a Ph.D. program, augmenting the existing Master's track. This proposal was accepted and incorporated into a long-range planning document approved October 5, 1990, by the University's Board of Trustees, emphasizing the need to address national shortages in particular areas of study such as coastal resources management, rhetoric and composition, biophysics, educational leadership, and maritime history.

At present, ECU is already engaged in offering doctoral level programs through its medical school. Expanding this capability to other departments requires approval by the University of North Carolina Board of Governors and would mean accreditation of East Carolina University as a research level institution. While the ability of the Maritime History and Underwater Research program to accept doctoral candidates is not directly tied to a similar status of other departments, the prerequisite University wide elevation in status required would entail substantial examination as part of the University of North Carolina system administration. At present only three of the sixteen campuses in the University of North Carolina system accept doctoral candidates, and with over 16,000 students, ECU is the third largest campus in the system. There is at present no timetable for implementation of doctoral programs at ECU, although eventual approval seems likely.

Ray Ashley



Bronze Lantaka swivel gun.

PROGRAM DONATIONS

The Program in Maritime History and Underwater Research has received two significant donations this past year. The first of these donations is a bronze swivel gun donated by William G. Ewald. The gun appears to be a rare Lantaka swivel gun, with ornate decorations that suggest Islamic origins. Further research is being conducted to determine the precise origin of the piece. The gun was found in the jungles of Borneo, and was given by the natives of Brunei to Captain Irving Johnston of the brigantine *Yankee*, which visited that part of Southeast Asia in 1949.

Mr. Ewald inherited the gun from his uncle who had received it as a gift from Captain Johnston. Mr. Ewald learned of the Maritime Program and its conservation lab through the publicity generated by the conservation of the late seventeenth or early eighteenth century cannon that was found near the mouth of the Chesapeake Bay and donated to the program in 1980. Mr. Ewald contacted the program in early 1990 about donating and preserving the gun at ECU. The gun is presently in storage at the new conservation lab and will be used in the lab as a demonstration piece in conservation techniques.

The other donation was an eighteen foot 125 horsepower Cobia powerboat. The boat was donated by Gary Wilson, a business graduate of ECU who resides in Washington, N.C. Mr. Wilson, a friend of Gordon Watts, Director of Underwater Research, has followed the program since its inception and has graciously donated the boat to help the program further its research goals. Presently, the boat is in storage awaiting a few minor repairs.

The Maritime Program would like to thank both Gary Wilson and William Ewald for their charitable donations to the program. Some of the equipment used by the program has been obtained through such donations, and we are always glad to hear from others who may have equipment to donate that may benefit the research capabilities of the program. Donations to the program can be made through the East Carolina Foundation and are tax deductible.

Ray Tubby

MANUSCRIPT RESOURCES

Maritime historians will be pleased to find a not-so-hidden treasure behind the doors of East Carolina University's J. Y. Joyner Library. The library is proud to have acquired a generous share of Maritime and Naval history holdings in all mediums, particularly primary source material in its Archives and Manuscripts Department. According to Dr. William N. Still, Jr., Director of ECU's Program in Maritime History and Underwater Research, the East Carolina Manuscript Collection "is one of the largest in the country." Indeed, there are over 150 such collections the department is proud to boast of, with an abundance of space devoted to World War II materials such as the Ira Wyche papers. Mr. Donald Lennon, Director of the East Carolina Manuscript Collection, notes that oral histories are often done to complement such collections, giving researchers broader dimensions to explore. In addition, an impressive amount of space is devoted to a Maritime collection with particular emphasis on North Carolina shipping and merchant records, such as the Samuel Fowle & Son Company papers. Researchers should also note that the

East Carolina Manuscript Collection is the national repository for the United States Coast Guard Auxiliary records, the United States Naval Academy Class of 1941, and the Destroyers Escort Commanding Officers Association. The strength of ECU's collection lies in its East Coast location. Being near to strategic military bases and Washington, D. C. is conducive to acquiring military papers, one of ECU's collecting priorities. Also, the presence of ECU's Maritime History Program can be considered a definite influence and impetus for the Manuscript Department's persistence in acquisition. Some of the most recent and notable acquisitions to the East Carolina Manuscript Collection include the Eugene B. Hinkley papers written from the United States Sloop of War *Costellation*, 1862-63, Commodore George Leland Dyer papers written during the Spanish-American War, and the William Howard Hooker collection which contains the *HMS Desperate* logbook, as well as the logbook of the East Indiaman *Thetis*.

Shannon Richardson

ELLER DONATION

The Joyner Library of East Carolina University was recently the proud recipient of the personal naval library of Rear Admiral Ernest M. Eller, United States Navy, Retired.

The extensive collection includes over 2,000 titles on a wide variety of naval subjects. Among the many areas represented are numerous books on naval ordnance, medicine at sea, navies of the American Revolution and an extensive list of World War II technical titles. There are also several antique volumes of considerable rarity, including an 1821 biography of Oliver Hazard Perry, a rare 1823 edition of *Jane's Naval History*, and an 1842 volume titled, *Book of the Navy*, by John Frost. This generous donation represents the keystone of East Carolina University's maritime collection and will be invaluable to future students and scholars of maritime history. According to Mr. Donald Lennon, Director of the East Carolina Manuscript Collection, these volumes will be in the stacks and available to students as quickly as each book can be processed.

Admiral Eller was born in Marion, Virginia, on January 23, 1903. He was a 1921 graduate of North Carolina College at Raleigh. He received his Naval Officer's Commission from Annapolis in 1925 and the Masters Degree from George Washington University in 1934. He remained in the Navy and was subsequently promoted to the rank of Rear Admiral in 1954. He retired from service in 1970. His forty-three years in the Navy included assignments as Assistant Naval Attache in London in 1940, and Gunnery Officer aboard the *USS Saratoga* when it was torpedoed in the Battle of the Coral Sea in 1942. He also served on the *USS Utah*, *USS Texas* and the Submarine *S-3*. His colorful and distinguished career comprised such important assignments as serving on the staff of the Commander-in-Chief, U.S. Pacific Fleet, and Command of the Attack Transport *USS Clay*. At the conclusion of World War II, Eller attended the National War College and was assigned to the Staff Planning Section of Joint Staff, Joint Chiefs of Staff. For his distinguished service with the Pacific Fleet, he received many decorations including the Legion of Merit with Combat designation. Admiral Eller is also the noted author of some ten books and articles on naval subjects, including *The Battle of New Orleans*, *Monitors of the Navy*, *Naval Weapons of the American Revolution*, and *Salem Star and Dawn*.

Jemison Beshears

CONSERVATION UPDATE

ADDITIONS

1990 proved the most significant year yet for our Program's conservation lab. A brand new two building complex has been completed adding 2500 square feet of laboratory space. Facilities now include a classroom, an environmentally controlled artifact storage room, a larger work shop, as well as a dark room and new chemical treatment and storage rooms. All lab space now has forced air ventilation and humidity control.

Though significant, the new complex was certainly not the only improvement, being more than equally complimented by new equipment. Equipment added this year includes the latest design in large cabinet air abrasion units, seven large capacity treatment and storage tanks (including two which are heated and circulated), a new stereo image microscope, a new refrigerator and hot box, as well as a soon to be completed large humidity control chamber for the slow dehydration of organic material.

More subtle than our hardware changes, but nonetheless just as important, is the continued update of our conservation library which now numbers approximately 350 books, journals, and articles including the latest research. Coupled with our new facility and hardware improvement, the research library adds a third dimension to conservation education, an absolute necessity in this new and ever changing field.

Bradley Rodgers

YORKTOWN

In nautical archaeology, "it ain't over till the conservator sings." Though the Yorktown Shipwreck Archaeological Project is itself a part of history, an agreement between our Program and Virginia's Department of Historic Resources has brought well over 700 artifacts from this site to our new laboratory for conservation. Ranging from ship's furniture, scantlings, tools, buttons, baskets, and gaming pieces, the artifacts will present a number of conservation problems. To help us cope with this influx, Virginia has agreed to donate \$57,300 toward the project. This money will cover supplies, reagents, and a conservation technician. Graduate assistants on fellowship will also be focusing on the effort.

Current research hints that the vessel scuttled at Yorktown may be the brig *Betsy*. The worried British sailor who scuttled this ship during the last great battle of the Revolution probably could not have conceived that we could be so fascinated with his everyday trinkets and refuse. Nevertheless these trinkets and the context in which they were found are a gold mine of information about eighteenth-century life. It is, therefore, a rare privilege for our Program to continue working with the Commonwealth of Virginia on this project. Many artifacts that are now undergoing conservation will be on display at the Yorktown Battlefield Victory Center by June 1992.

Bradley Rodgers



Graduate students John Kennington and Martin Peebles assist in the preparation of the Yorktown artifacts for conservation.

GRADUATE FIELD WORK

Frank Cantelas, a second year maritime graduate student, recently returned to India for the second time as assistant field director of an archaeological research team sponsored by the Smithsonian Institute. The team will be working on a village site located in the southern state of Karnataka. Spanning a range of six thousand years, the site is revealing many new technological and economic aspects of this little known area of India. This year's field work will focus on a large burned and collapsed structure buried under three meters of soil and rock. First discovered in 1988, this building dates to between 2000 and 4000 B.C. and could prove to be the oldest structural remains in southern India. Under the direction of Jim G. Shaffer of Case Western Reserve University, this research project will continue during the summers of 1991 and 1992.

Frank Cantelas

On August 6, 1990, filming began on the made for television movie "Ironclads." John Kennington, a second year maritime graduate student, was hired as a technical co-ordinator/ advisor to train the extras in naval gunnery and to advise on uniforms. He acted in this capacity from August 1 to September 1 during all phases of filming except for those relating to ship models. The film, starring E. G. Marshall and Virginia Madsen is set to premier on Turner Network Television on March 5, 1991.

John Kennington

The close of archaeological work on the site of Yorktown shipwreck site 44Y088 signalled the beginning of backfilling the wreck. The cofferdam that had once protected the wreck and divers from currents and low visibility now assumed the form of a giant mold that allowed mud to encapsulate the hull. The mud and oyster shells that had once painstakingly been removed from the site were returned to their original location. For six weeks the air lifts constantly pumped mud back over the site. Two graduate students from the Program, James D. Spirek and Martin Peebles, participated in this operation under the direction of John Broadwater and John William Morris III of the Virginia Department of Historic Resources. Support was also obtained from members of the Maritime Archaeological and Historic Society and other volunteers. Working in two hour shifts underwater, the workers controlled the intake hoses, which required periodic dismantling to remove oyster shell buildup. An occasional artifact find such as a ceramic pot, pewter plate, or cast iron shot brightened the routine. The dismantling of the cofferdam was performed by two Navy Reserve

Salvage Units. The steel pieces of the cofferdam were cut into smaller sections and placed over the mud covering the hull offering further protection.

James D. Spirek

Last summer Loetta (Lolly) Vann was invited to join the Caesarea Ancient Harbor Excavation Project (CAHEP), an international interdisciplinary team investigating the remains of King Herod's first century B.C. harbor along the Mediterranean coast of Israel. She joined the group of archaeologists, historians, architects, and ethnobotanists researching the ancient city, its harbor complex, and the people who lived and worked there. Vann joined an underwater unit hoping to obtain stratigraphic evidence of the harbor basin deposits.

Although distinct layers of sediment and artifacts were observed in previous excavations, relative dating based upon stratigraphic placement within the site was difficult because these sediments may mix during wave action. Likewise, heavy objects sink deeper into the sea floor and liquified sand often carries objects from higher strata into the trenches. One experiment to determine the effects of wave action and sediment redistribution while reducing the intrusion of sand from nearby areas included the use of caissons and dredges.

Two interlocking cylindrical steel caissons roughly one meter high and one and a half meters in diameter, looking like giant tin cans opened on both ends, were suspended above the sea floor using air bags and towed to their underwater destinations. Once at their approximate site, the air bags were slowly deflated allowing the caissons to sink into the seabed. A permanent measuring device was mounted nearby outside the caisson to facilitate accurate measurements when the sand was removed from within the caisson. Divers worked inside the caissons using dredges to recover artifacts and to observe variations in the sediment matrix. All measurements were recorded in sketches, photographs and notebooks to avoid later confusion. Although the team was hampered by severe storm conditions and technical difficulties, the experiment was relatively successful. Stratigraphic layering was observable and will be subject to future content analysis. The intrusion of liquified sand was greatly reduced and the oldest dateable ceramics retrieved, happily came from the deepest level of the trench. Vann worked under the direction of Dr. Robert Hohlfelder of the University of Colorado, and Dr. Avner Raban of Haifa University.

Although it was her second summer working at the harbor site, the project has been ongoing for more than a decade with additional work planned for the future.

This winter Vann will participate in the archaeological research of the submerged settlement sites located in the lochs of Scotland. She will join the Scottish Trust for Underwater Archaeology at the University of Edinburgh to help compile regional indexes of the remains of artificial islands, crannogs, built in open water as timber platforms with houses constructed on them. The crannogs were built as early as the first millennium B.C. and were inhabited as late as the seventeenth-century A.D. After the passage of time, the settlements' remains lay in an excellent state of preservation on the lake bottom because of the anaerobic environment created by the peaty lake water. Timbers of the platforms, houses, floors, and other structures were uncovered in previous excavations along with the remains of bracken and ferns, laid on the floors to make the houses dry and comfortable. Besides architectural features, domestic artifacts such as cooking and eating implements and tools along with environmental evidences such as coprolites, seeds, and foliage were recovered.

A number of conditions exist to make excavation underwater more effective than if the crannogs were drained to allow for traditional procedures. Divers avoid walking on delicate levels by floating harmlessly over the features while they measure, take pictures, and recover artifacts. Heavy objects such as boulders can be lifted and moved away from the site relatively easily with the use of air bags causing minimal disturbance to the site. Although virtually weightless while submerged, some artifacts would collapse under their own weight if removed from the water prior to conservation treatments. Past excavations produced brightly colored objects that faded to a uniform, dull gray within minutes of exposure to air and light. Underwater exposure provides more time for photographs to be taken of particularly important objects prior to fading. Sometimes finding objects is easier underwater since tiny remains like seeds, nuts, and small artifacts appear larger because the refraction of the water magnifies them by one third. Moreover, the wetting agency of water reduces the camouflaging effect of mud sticking to the artifacts.

In addition to the survey and excavations, Vann hopes to gain experience in the conservation and documentation of the recovered materials. She plans to work in Scotland from March to October 1991 under

FIELD WORK

the direction of Dr. T. N. Dixon, who has investigated the submerged lake dwellings since 1979. They hope that the study of these deposits will reveal previously unknown details of prehistoric climate, environment, and human diet. The St. Andrews Society of North Carolina awarded a grant for the research to Vann.

Lolly Vann

PAPERS

The following papers were presented by staff and students at various conferences in 1990 and early 1991.

David Beard, "Causeways and Cribbing: Now You Can Get There From Here," Conference on Historic and Underwater Archaeology, Richmond, Virginia, January, 1991.

John Broadwater, "Volunteers in Underwater Archaeology," Conference on Historic and Underwater Archaeology, Richmond, Virginia, January, 1991.

James P. Delgado, "The Archaeology of the Atomic Bomb: Assessing the Sunken Ships of Operation Crossroads," Conference on Historic and Underwater Archaeology, Richmond, Virginia, January, 1991.

Kevin Foster, "James River Shipwreck Sites," Conference on Historic and Underwater Archaeology, Richmond, Virginia, January, 1991.

Joe Friday, "USS Huron: The History of a Navy Shipwreck," Conference on Historic and Underwater Archaeology, Richmond, Virginia, January, 1991.

Lynn Harris, "A Preliminary Investigation of the Steamship, Robert Martin (1853)," Conference on Historic and Underwater Archaeology, Richmond, Virginia, January, 1991.

T. Kurt Knoerl, "On the Shores of Fort Niagara: Archaeological Evidence for an Inundated Eighteenth-Century Shoreline," Conference on Historic and Underwater Archaeology, Richmond, Virginia, January, 1991.

John William Morris, "18th Century Naval Architecture," Conference on Historic and Underwater Archaeology, Richmond, Virginia, January, 1991.

John William Morris, "Final Hull Report on the Vessel Remains at Site 44Y088," Conference on Historic and Underwater Archaeology, Richmond, Virginia, January, 1991.

Bruce Terrell, "Louisiana's Submerged Cultural Resource Management Plan," Conference on Historic and Underwater Archaeology, Richmond, Virginia, January, 1991.

Gordon P. Watts, Jr., "Running the Blockade: A More Detailed and Different Perspective," Conference on Historic and Underwater Archaeology, Richmond, Virginia, January, 1991.

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 Miller, in care of the Department of History, East Carolina University, Greenville, North Carolina 27858-4353. Please make checks payable to East Carolina University.

Cooper, David J. and Bradley Rodgers. *Report on Phase One Marine Magnetometer Survey in Death's Door Passage, Door County Wisconsin, 1989*. NOAA 1990. \$5.00 plus \$2.35 postage. Available from David Cooper, State Underwater Archaeologist, The State Historical Society of Wisconsin, 816 State Street, Madison, Wisconsin, 53706.

Cooper, David J. and Bradley Rodgers. *Survey of Submerged Cultural Resources in Northern Door County; 1988 Field Season Report*. \$7.00 plus \$2.35 postage, also available from David Cooper.

Rodgers, Bradley and John Jensen. *Conservation of Water Soaked Materials Bibliography*. Herbert Pascal Memorial Fund, edition 1. Program in Maritime History and Underwater Research, East Carolina University. 1990.....\$5.00

Watts, Gordon P., et. al. *An Investigation of the Remains of the Confederate Gunboat CSS Chattahoochee*. ECU Research Report No.3. Program in Maritime History and Underwater Research, East Carolina University. 1990.....\$10.00

In Search of Our Maritime Past, Proceedings of the Fifteenth Conference on

Underwater Archaeology. Program in Maritime History and Underwater Research, East Carolina University. 1988.....\$10.00

MARITIME THESES

The following is a list of theses completed within the last year by students enrolled in the Maritime Program, or in the Department of History, on maritime and naval topics. 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, East Carolina University, Greenville, North Carolina, 27858-4353. Copies of ECU theses may be ordered through Inter-Library Loan at your local university or public library from Joyner Library, East Carolina University, Greenville, North Carolina, 27858.

—Mather, Ian Roderick. *The Royal Navy Advice Boat Swift and the Potential of Unrated Warships*. (1990)

WHERE ARE THEY NOW?

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

James Allen - Doctoral candidate at the University of California at Berkeley.

David Beard - Archaeological Head of the Underwater Archaeology Management Program (UAMP), Charleston, South Carolina.

David J. Cooper - Underwater archaeologist for the state of Wisconsin.

James P. Delgado - Maritime historian of the National Park Service in Washington, D.C., and Head of National Maritime Initiative.

Lynn Harris - Assistant Head of the Underwater Division, South Carolina Institute of Archaeology and Anthropology at the University of South Carolina in Columbia.

T. Kurt Knoerl - Director of Ships Interpretations at the Buffalo and Erie County Naval and Servicemen's Park.

Stuart Morgan - Doctoral candidate at the University of South Carolina, and Publications Editor/Coordinator for the Mckissick Museum at the University of South Carolina.

Robert Reedy - Working for R2 Underwater Consultants, Morehead City, North Carolina.

Bruce G. Terrell - Underwater archaeologist for the state of Louisiana.

David B. Whipple - Conservation Technician with Maritime Program at ECU.

GRADUATE STUDENT RESEARCH

The following list reflects the research areas of interest for the students enrolled in the program.

Ray Ashley: Eighteenth-century navigation.

David Baumer: The history and workboat design of the North American fisheries.

Jemison Beshears: Dutch maritime trade in the Caribbean and related shipwreck sites.

Frank Cantelas: An archaeological and historical investigation of an early Great Lakes sailing vessel recently discovered in northern Michigan.

Jay Chapman: Post revolutionary American sea power.

Diane Cooper: Matthew Turner and the shipbuilding industry in the San Francisco Bay area, 1875-1900.

Cris Gober: A history of the *USS Kearsarge*.

Bob Holcomb: Evolution of design of Confederate ironclads.

John Jensen: Cholera and immigrants: maritime quarantine and American society in 1892.

John Kennington: The common sailor of the Confederate Naval Squadron at Savannah, Georgia, 1861-1865.

T. Kurt Knoerl: An archaeological investigation of the cove area of Old Fort Niagara.

Betsy Mathews: A study of the construction and design of the six-masted schooner *George W. Wells* and its relationship to bulk shipping.

Amy Mitchell: A macro-botanical analysis of the Civil War era.

Scott Moore: Evolution and design of Greek naval forces and strategies in the Hellenistic Age.

Glenn Overton: A detailed analysis of the *USS Schurz*.

Martin Peebles: Study of the Royal Navy from King Henry V through Henry VII.

Shannon Richardson: Freshwater Conservation of the Great Lakes.

John Schaffer: Steamship trade on the Red River of the North.

Vicki Schnelder: Maritime trade in the Revolutionary era.

Steve Schmidt: An examination of the Potomac Flotilla operations and the loss of the *USS Tulip*.

Heldi Tobias-Smith: Sea Ventures and Dream Traders: Anglo/American Rivalry in the Early China Trade, 1784-1860.

James D. Spirek: *USS Southfield*: A historical and archaeological investigation of a Civil War battle-ferry.

William Thesen: Social history of Anglo-American seamen in the seventeenth and eighteenth-centuries.

Ray Tubby: Privateering along the Jersey Coast during the Revolutionary War.

Lolly Vann: *Star of India*: Impact of unsanctioned American trade activities in the Mexican territory of California, 1845-1846.

Undergraduates in Maritime History:
Shawn Holland

by Amy Mitchell

PUBLICATIONS

(Continued From Page 2)

Terrell, Bruce, "The James River Bateau," *Virginia Cavalcade*, vol.4, 1989.

_____. *Louisiana Submerged Cultural Resource Management Plan*. Louisiana: Division of Archaeology, 1990.

Watts, Gordon P., "The US Navy and Underwater Archaeology," *Underwater Archaeology Proceedings from the Society for Historical Archaeology Conference* (1990).

Watts, Gordon P., Bradley Rodgers, et. al. *An Investigation of the Remains of the CSS Chattahoochee*. ECU Research Report #3, 1990.

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