STUDYING THE PATUXENT ESTUARY:
THE WORK OF TWO LOCAL RESEARCH ORGANIZATIONS

One of the three principal themes of the Calvert Marine Museum is the estuarine biology of the Patuxent River and the Chesapeake Bay. Since the museum is not a research facility as such, its interest is in interpretative exhibits of the plants and animals of the estuary, providing information about estuarine research and providing general educational opportunities for estuarine study through the public school system and museum programs.

The lower Patuxent area is fortunate, however, in having two internationally recognized research facilities that study the condition of the local waters in considerable detail. In 1985, the Solomons Environmental and Archaeological Research Consortium (SEARCH) was formed, made up of the Academy of Natural Sciences Estuarine Research Center (at that time named the Benedict Estuarine Research Laboratory), the Chesapeake Biological Laboratory, Jefferson Patterson Park and Museum, and the Calvert Marine Museum. (Two other organizations later joined SEARCH: St. Mary's College of Maryland and Historic St. Mary's City.)

ACADEMY OF NATURAL SCIENCES ESTUARINE RESEARCH CENTER

The Academy of Natural Sciences Estuarine Research Center (ANSERC) on St. Leonard Creek is increasingly known to the public for its research on the important aspects of the ecology of the Chesapeake Bay and the Patuxent River and for its educational and public programs. A part of the Academy of Natural Sciences of Philadelphia, an international museum of natural history operating since 1812, ANSERC was established in 1967 by Dr. Ruth Patrick as a temporary field laboratory. With a contract from the Potomac Electric Power Company to study the effects of the Chalk Point Power Plant on the environment, Dr. Patrick set up shop in the town of Benedict in Charles County. Occupying rented space, the scientists became the Benedict Estuarine Research Laboratory, undertaking other research contracts. As the center's work increased, the need for a larger, permanent facility became evident.

In 1987 the academy mounted a capital campaign to construct and equip a state-of-the-art research center. In an agreement with the state of Maryland — with help from honorary trustee Mrs. Jefferson Patterson — a long-term lease was obtained for ten acres on the grounds of the Jefferson Patterson Park and Museum in St. Leonard. A 22,500 square-foot center — paid for entirely with private funds — was constructed and was dedicated on October 10, 1994. This center, now under the direction of Dr. James G. Sanders, houses thirty-five scientists and technicians who undertake research on the fundamental ecology of aquatic ecosystems and how such systems are influenced and impacted by the pressures of a growing coastal community. Many organizations — governmental, corporate, regional, and environmental — seek the research data that the center can provide. The center also shares new information about aquatic resources and environmental issues with the scientific community and the general public through demonstrations, presentations, and publications. In addition to its permanent laboratory building, ANSERC has docking facilities and a fleet of research vessels, all of which are an integral part of the research complex.

An excellent semi-annual publication that began in 1996 describes many of the activities and accomplishments of ANSERC, including such areas of current interest as the population dynamics of crabs and oysters, the impact and fate of toxic contaminants, and, more re- (Continued on Page 6)
CMM LOSES VALUABLE SUPPORTERS

The Calvert Marine Museum has lost three important supporters in the past several months. Mrs. Clarissa Dryden and her husband, Dr. Lincoln Dryden (1903-1977), were active in the early days of the museum, with special interest in the geology and paleontology of the region. Mrs. Dryden died May 16 in Pennsylvania. Another supporter and museum volunteer, Mrs. Margaret G. Moran, died in Columbia, Maryland, on July 25. Until 1990, Mrs. Moran lived on the bay just south of the Calvert Cliffs Nuclear Power Plant and was most generous in welcoming members of CMM’s Fossil Club and educational groups to hunt for fossils on her beach. The third supporter, H. Graham Wood, was not directly involved with CMM, but he did donate some of his Chesapeake Bay steamboat art. A banker in Baltimore where he lived and died in mid-May, his maritime contributions included leadership roles in the Steamship Historical Society of America and co-authorship with Robert Burgess of Steamboats Out of Baltimore (1968).

STAFF CHANGES

There have been a number of important changes in staff this past summer. Dr. Stephen J. Godfrey, curator of paleontology, whose appointment was announced earlier, arrived at CMM in July. Dr. Godfrey comes to CMM from the Paleo-Skulpture Studio Inc. of Drumheller, Alberta, Canada. This town is a former coal mining mecca now steeped in dinosaur tradition. His studio was set in the badlands along the Red Deer River where for the past nine years he was active as a research paleontologist, sculptor of extinct organisms, and assembler of dinosaur skeletons for many museums around the world.

Stephen holds degrees from Bishop’s University (B.Sc.) and McGill University (Ph.D., vertebrate paleontology). Following postdoctoral studies at the University of Toronto, he took up contract work in Alberta, Canada. A few of his memorable contracts include assembling dinosaur skeletons for the largest-ever traveling exhibit, sculpting the huge Brachiosaurus dinosaur on exhibit at the Field Museum in Chicago, and painting anatomically inaccurate cement dinosaurs in and around Drumheller. Most of his research publications focus on the anatomy and evolutionary history of ancient amphibians and dinosaurs. Stephen’s CMM responsibilities will include spearheading the finishing touches on the paleontology exhibits, transforming original paleontological research into new permanent and temporary exhibits, and writing educational booklets on some of the extinct Miocene critters from the Calvert Cliffs. He is always happy to identify new finds and welcome donations.

A new arrival is Vanessa Gill, membership and development coordinator, replacing Sybol Cook who left in August to assume the position of acting director of continuing education at St. Mary’s College of Maryland. Vanessa has a degree in journalism, and a background in computers, graphics, journalism, and public relations. Recently moving into the St. Leonard area, she enjoys various outdoor activities. Museum members will get to know her at museum events in the months ahead, especially at the members’ desk during PRAD on October 10 and 11.

A new assistant manager for the museum store has been appointed — Robert Steiner replaces Diane Milgrim who is now a full-time interpreter in the education department. Cindy MacArthur will also serve as an interpreter. Sylvia Bourne has replaced Beuna Weems, who retired in July, as custodian in the Administration Building. Maurice Magruder is the weekend and holiday custodian. Two interpreters have left CMM: Mary St. Hippolyte and Timothy Brown.
HOLIDAYS ARE COMING — BE PREPARED EARLY!

It’s a special time of year — the holiday season. While you have been enjoying the summer we have been busy at the museum planning for the upcoming holidays. We’ve already received our shipments of Christmas cards, ornaments, and other holiday goodies.

Special arrangements have been made to have Santa Claus present during the Solomons Christmas Walk on December 11, 12, and 13. Santa will be taking last-minute requests Friday and Saturday evenings. Of course, he’ll stay in town for the Members’ Yule Party, Sunday, December 13. The Solomons Christmas Walk is a festive weekend, with most of the local businesses staying open late. Performers of all ages and talents will be at the museum and throughout the local area to entertain you and your family. A schedule of events should be available so that you can make plans to see your favorite performer.

Each year museum members come to the Yule Party to visit with friends, drink the Weems Steamboat Line eggnog, and to enjoy a special discount of 20 percent on most items (10 percent on books) in the Museum Store. This extra discount is offered ONLY during the Yule Party. Take advantage of the extra savings on one or our area rugs, lighthouse wall hangings or throws, a special piece of jewelry, or other decorative accessory. We have some beautiful sweatshirts, cardigans, and fleece pullovers. The children’s corner features fossil- and shark-casting kits, puppets, boat models, and a myriad of other treasures.

Books are an important part of the stock of the store, and they are in much demand during the holiday season. Although the subjects are generally limited to the local and maritime history of the area or to natural history or paleontological subjects, there is a range of titles to satisfy many tastes and interests, including a wide selection of books for younger readers. Two of the best sellers in the store — and excellent presents — are Solomons Island and Vicinity: An Illustrated History and Walking Tour, by Richard J. Dodds ($4.95), and Fossils of Calvert Cliffs, by Wallace L. Ashby ($4.75).

Other books published by the museum include Geoffrey Marsh Footner’s The Last Generation: A History of a Chesapeake Shipbuilding Family ($29.95); Merle Cole’s Cradle of Invasion: A History of the U. S. Naval Amphibious Training Base, Solomons, 1942-1945 ($4.95); and the recently reprinted “Solomons Mines”: A History of the U. S. Naval Mine Warfare Test Station, Solomons, 1942-1947 ($6.95). There are plans to reprint by December I Remember: Recollections of “Pepper” Langley — Growing up in Solomons. There are several new books this year on the bay’s maritime history. Paula J. Johnson has written The Workboats of Smith Island ($29.95); Geoffrey Footner has extended his maritime writing in Tidewater Triumph: The Development and Worldwide Success of the Chesapeake Bay Pilot Schooner ($39.95); Brian J. Cudahy’s Twilight on the Bay: The Excursion Boat Empire of B. B. Wills ($29.95); Sherod Cooper’s Liberty Ship: The Voyages of W. Brown, 1942-1946 ($34.95); and W. Jeffrey Bolster’s Black Jacks: African American Seamen in the Age of Sail ($27.00). Among recent books on bay ecology are the second edition of Alice Jane Lippson’s Life on the Chesapeake Bay ($19.95) and the second edition of Chesapeake Waters: Four Centuries of Controversy, Concern, and Legislation ($29.95). A recent addition to cookbooks is John Shields’ Chesapeake Bay Cooking with John Shields ($27.50). Two new books are to be published by December that will have special appeal to the young naturalist. David Owen Bell’s Chesapeake Bay Walk (32 pp., $12.95, illustrated) will lead its readers to explore the local environment in search of plants and animals, while Carolyn Stearns’s Where Did All the Water Go? (32 pp., $12.95, illustrated) emphasizes the constant changes that affect our physical environment. Presents of any of these books will be much appreciated.

It’s a special time of year — we hope you’ll share it with us at the museum.
Captain Paul Roberts (left, at lectern), Commanding Officer at the Naval Air Station, Patuxent River, presents a memorial wreath to a group of WWII veterans who were trained at the Amphibious Training Base. CMM photo by Bob Hall.

Weekend visitors boarded the Liberty Ship John W. Brown at the Solomons Complex pier for the cruise up the Patuxent to view the reenactment of the amphibious landings. CMM photo by Bob Hall.

U.S. Army landing craft moving from the John W. Brown to the Solomons Complex beach north of Point Patience. CMM photo by Bob Hall.

A Reenactment of the Big Event

The BIG event of the summer at CMM was the “C" weekend. The museum grounds, the area across from the river, the area across from the river, and the Solomons Complex (formerly known as Point Patience) were the sites of these activities. Several events during the weekend made it a memorable occasion to honor the history of the Amphibious Training Base at Solomons.
The Southern Maryland Young Marines and the St. Mary's County Young Marine Detachment led the Pledge of Allegiance at the welcoming ceremony.

CMM photo by Bob Hall

Events of 1942-1945

Aldie of Invasion” reenactment on August 7 to 9. Museum all the way to the banks of the Patuxent (own as the Naval Recreation Center) at Point 1 thousand visitors and participants made the many veterans who had trained at the Naval omons during World War II.

Members of the U. S. Marine Corps Historical Company go over the side of the John W. Brown to board army landing craft for the mock amphibious invasion.

CMM photo by Bob Hall

Members of the U. S. Marine Corps Historical Company form up at their encampment near the river across from CMM. World War II-vintage canvas tents, cots, and uniforms were part of the reenactment.

CMM photo by Bob Hall
CENTLY, THE BAY SCOURGE *Pfiesteria piscicida*. While the focus of research at ANSERC is primarily on the Chesapeake Bay and the mid-Atlantic region, its scientists study ecosystems from New England to Florida. There is also a strong emphasis on public programs, particularly its annual “Scientist for a Day” for adults and children, held this year on September 19. ANSERC participation is also chronicled in such local events as Earth Week, Children’s Day on the Farm at Patterson Park, and Patuxent River Appreciation Days at Solomons. The mission of the Academy of Natural Sciences, and of the Estuarine Research Center, is to expand knowledge of nature through discovery and to inspire stewardship of the environment. ANSERC welcomes public support through volunteer opportunities and its Circle of Friends. Further information may be obtained by calling 410-586-9715, by e-mail to hatch@acnatsci.org, or by visiting the web site at http://www.anserc.org.

**CHESAPEAKE BIOLOGICAL LABORATORY**

Older and better known than ANSERC is the Chesapeake Biological Laboratory (CBL) on Solomons Island, now part of the University of Maryland Center for Environmental Science (UMCES). The laboratory grew out of the research begun at Solomons after World War I by a Maryland Agricultural College (now the University of Maryland) zoologist, Dr. Reginald V. Truitt, starting with only a small fishing shanty on the waterfront. By 1929, through Dr. Truitt’s good salesmanship and enthusiasm in arousing the interest of the public, political leaders, and conservation-minded groups, the state of Maryland budgeted $15,000 to establish a coastal marine laboratory. Grateful Solomons residents donated a tract of land on which was built the first laboratory, dedicated in 1932, and now known as Beaven Hall. Initially operating under a consortium of Maryland colleges, CBL was for a time, in the 1930s and 1940s, part of several state agencies, but by the early 1960s had returned to its academic roots as part of the University of Maryland. Growth in area, buildings, and staff has been strong during the past quarter century, and the ten-acre campus now includes fourteen buildings, over 100,000 square feet of laboratory and administrative space, and three research vessels. Under the leadership of Dr. Kenneth R. Tenore, some 160 faculty, students, and staff use these state-of-the-art facilities in a broad array of scientific disciplines to study the ecology of the Chesapeake Bay.

The Chesapeake Biological Laboratory serves both as a teaching and research facility, with its faculty participating in programs that lead to M.S. and Ph.D. degrees. Students in several fields may conduct research at the laboratory. Current research falls under several headings. **Ecosystem studies** include the theory and behavior of marine ecosystems, particularly those concerned with monitoring the “health” of the bay and rivers. **Environmental chemistry, geochemistry, and toxicology** studies the sources, transport, and fate of both naturally occurring and human-introduced chemicals and metals to coastal and marine systems. **Fisheries science** focuses on economically and ecologically important fish and shellfish in estuaries and the coastal ocean, with particular emphasis on the Chesapeake Bay and the continental shelf of the mid-Atlantic region.

Within the last year CBL has developed two programs to bring its work more to the attention of the public. In June it dedicated a Visitor Center in the Saunders House near the end of Solomons Island, open Tuesday through Sunday from 10:00 a.m. until 4:00 p.m. This new center contains a varied and attractive mix of displays designed to impart an understanding of the ecology of the bay and river, and to inform the public about research programs. Volunteers are welcomed to help staff this center. Additionally, a non-profit, tax-exempt organization has been established — known as the Friends of CBL — to promote research and education through support of the laboratory. Further information about CBL, the Friends of CBL, and its various programs can be obtained by writing to P.O. Box 38, Solomons, Maryland 20688; by telephone at 410-326-4281; or by visiting CBL’s web site at http://cbl.umces.edu.

Although CMM does not engage in the type of basic estuarine ecological research carried on by ANSERC and CBL, it is nonetheless concerned with estuarine educational programs. Numerous ecologically related activities for school children are provided through the education department. The estuarine biology department staff also offer programs for the region’s high school students through SEARCH, the University of Maryland, and George Mason University.
Commodore Barney's Barges — Summer of 1998

By Dr. Susan Langley

On June 14 local sailors and yachtsmen were treated to the sight of a War of 1812 gunboat, complete with a cannon at the bow, returning to the waters of St. Leonard Creek. The replica vessel, owned by the Maryland-National Capital Park and Planning Commission, was generously loaned to the Chesapeake Flotilla Project to ferry guests of a one-day media and interpretive partners event to the archaeological site at the head of the creek.

The site, now believed to have the remains of Commodore Joshua Barney's gunboats 137 and 138, was first located at the end of the 1997 field season, as reported in last winter's Bugeye Times. Insufficient time and funding precluded further investigation at that time. Funds received this year through the Department of Defense Legacy Resources Management Program, however, enabled the Maryland Department of Housing and Community Development's Office of Archaeology to renew study of the site. Dr. Lawrence Babits and four graduate students of East Carolina University's Program in Maritime History and Nautical Archaeology were again invited to undertake test excavations in St. Leonard Creek.

The goal of the 1998 field search was to document the remains at the site and to determine whether they could represent the elusive gunboats. The field crew (Jeff Enright, James Embrey, Jenna Watts, Marc Henshaw, and Dr. Babits) identified two vessels, one in a more fragmentary condition than the other, and recorded a variety of wooden boat components apparently unrelated to these vessels but of comparable age. Since the adjacent town of St. Leonard's was heavily damaged during the British predations of 1814, and since it was a port town, structural elements of scrapped vessels from this period and earlier are not unexpected.

Investigations undertaken during the first three weeks of June focused on the more intact of the two boats. As previously, the site was surrounded by a floating boom and silt curtain to contain disturbed sediments. Approximately 35 percent of the hull was exposed and recorded before being backfilled at the end of the field season. The boat was heavily built for its small size (fifty by fourteen feet) and had two mast steps relatively close together.

Few artifacts were recovered, but this fits the scenario of the gunboats being stripped, scuttled, stripped again, and finally burned. In addition to some wooden treenails and highly graphitized iron fasteners, including a fishplate, the investigators located inside the hull some nails for sheathing. Other items included fragments of heavy, sewn leather, a belaying pin handle, a tool handle, and two partial blocks. A possible imprint of a third block appears in a metal concretion. Fragments of lead sheathing and pieces of melted lead were also recovered. Significantly, three .63-inch musket balls were raised with two other lead pieces thought to be impacted musket balls of .69 caliber and .75 caliber. Finally, an undecorated brass cuff button of the type used on vests and jackets from 1790 to 1820 was found. Presently undergoing conservation treatment, more information may be garnered if a manufacturer's marks exist on its back.

How do the archaeological data compare to the historical record? The vessels are smaller than published accounts of the gunboats of the series 135 to 140, being fifty feet long and fourteen feet wide, versus sixty by sixteen feet. Dr. Babits points out, however, that there are no contemporary plans, and the records were published two hundred years later and may be in error. The extremely heavy construction techniques for such a small craft may indicate it was intended to carry armament. The gunboats were notoriously poor sailors, so the second mast step may have been an attempt to improve handling. The boats were hated by their men, who claimed that they could hold men or supplies, but not both, and still keep neither dry. Barney felt the slowness and poor handling made gunboats 137 and 138 liabilities. This was demonstrated when number 137 lagged behind the flotilla at the Battle of Cedar Point on 1 June 1814, forcing Barney to undertake a risky rescue. Why did he bother? Number 137 was carrying the flotilla's foodstuffs, hence the need to retrieve it. Dr. Babits hypothesized that the sheathing nails inside the hull indicates that they were used not for hull sheathing, but for the lining of a breadroom or magazine. The gunboat's involvement in this encounter with the British would explain the presence of impacted musket balls, especially considering the Americans used .69 caliber weapons and the British used .75 caliber.

When Barney determined to break out of St. Leonard Creek, he decided to sink the two slow gunboats and recorded that they were drawn up abreast in the shallows and scuttled. They were subsequently burned. The remains in the creek indicate two vessels of comparable size, side by side, bows toward shore, with at least one showing signs of burning (both wood and the melted lead). The second boat has not yet been studied sufficiently to note evidence for burning.

While none of the evidence demonstrates definitively that the remains are of the gunboats, their disposition and the nature of the associated artifacts provide a strong, if circumstantial, argument in their favor.

Future study of the site is dependent on the completion of analyses of this season's field work, study of the artifacts being conserved at the Maryland Archaeological Conservation Laboratory, and the recommendations of the final reports. These factors will be considered by the U. S. Navy in deciding whether further investigations are necessary, since the navy owns the gunboats. The Chesapeake Flotilla Project is still searching for the bulk of the fleet via remote-sensing techniques on the upper Patuxent.

Editor's Notes: 1. Dr. Susan Langley is Maryland's state underwater archaeologist, located at the Maryland Historical Trust offices in Crownsville. She may be reached for questions on 410-514-7662. 2. Possible further historical evidence appeared in a brief news article in the Calvert Journal of 20 May 1893: "The ruins of an old barge belonging to the fleet are still visible near the old St. Leonard's landing."
Volunteer Spotlight —
CMM Volunteer Council Celebrates Eighth Anniversary at Annual Meeting

By Don Miller

The Volunteer Council has celebrated its eighth anniversary! The council began in 1990 and was formed to assist the volunteer coordinator, who at that time was a part-time employee, and to “self manage” the corps of over one hundred volunteers. Over the succeeding years, the volunteer corps has grown to over two hundred members. The early executive board laid the groundwork for the designation and “badging” of our volunteers. The twenty-four hours of service and the completion of formal training on the museum policies, departments, safety, etc., prevail today as the criteria for earning the volunteer badge. Also reflecting the growth and continued importance of the volunteers, the volunteer coordinator is now a full-time job. After drafting bylaws and forming the executive board, the concept of volunteer liaisons to the museum departments was implemented. These liaisons work directly with the department heads and volunteer coordinator to help coordinate and communicate with the volunteers who serve departments. They also meet monthly at the executive board of the volunteer council and report their activities, coordinate work across departmental lines, and form the body of the board. The president of the council serves as the volunteer liaison to the museum director, attending the monthly department head meetings, and working directly with the volunteer coordinator.

On September 3, the executive board of the Volunteer Council convened the annual meeting of council members, this year held in the museum lounge in the Exhibition Building with some thirty-five volunteers, staff, and guests attending. Following a period of “grazing” at the goodies table, and enjoying adult beverages, the annual meeting was called to order by president Don Miller. This more informal approach to the meeting continued, and after some complimentary remarks by Don Brown, chairman of the museum’s Board of Governors on the board’s appreciation of the volunteer program, the volunteer liaisons gave highlights of their year’s activities. Since a report on each liaison’s activities is included in the September issue of the volunteer newsletter, The Anchor, distributed at the meeting, the members were spared the reading of lengthy reports as at previous meetings. The Anchor also contains the volunteer department’s annual report for fiscal year 1997-98. Outgoing secretaries Shirley Mihursky (recording) and Doris Sweet (corresponding) were thanked for their service to the board. Outgoing estuarine biology liaison, Ginny Thayer, was acknowledged for her work in educating the board on the sex life of the horseshoe crab. The slate of officers for next year’s board was accepted by acclimation: president, Don Miller; vice president, Ned Sprague; treasurer, Jack Schnell; recording secretary, Joan L. Sweeney; and corresponding secretary, Janet Addiss. The meeting concluded as it began, with a return to the refreshments table.

The new executive board convenes next on the first Tuesday in October, with some new volunteer liaisons seated at that meeting. All volunteers, staff, and museum members are invited to these board meetings to see how the volunteer program supports CMM. We know that Volunteers Make Things Happen. Come to the monthly meetings and see how.