

MAHS NEWS



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MAHS Begins the Bodkin Creek Survey

By David Shaw and Dennis Knepper

In August of 2008, MAHS received a non-capital historic preservation grant from the Maryland Historical Trust to conduct the “Bodkin Creek Area Maritime and Terrestrial Survey and Synthesis of Prehistoric and Historic Resources.” Application for the grant was submitted last spring at the suggestion of Dr. Susan Langley, Maryland State Underwater Archaeologist, following discussions about ways to increase the coverage of maritime archaeological surveys in the region.

As stated in the grant application, “the [purpose of] the Bodkin Creek area study is to 1) synthesize existing data in the Maryland State Archives related to settlement in the Bodkin Creek estuary and its tributary streams; 2) perform new survey work in the maritime or underwater portions of the creek; and 3) combine the results into a single synthetic report that updates and re-evaluates the full breadth of

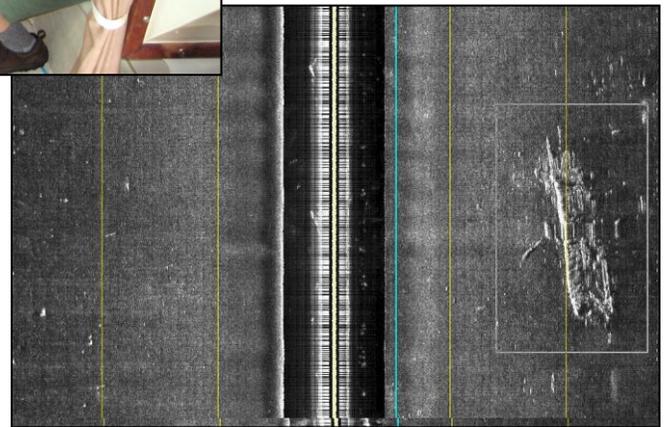
archeology and history of the Bodkin Creek area.”

Maryland has been occupied for several thousand years beginning with its original settlement by Native Americans as early as 5,000 B.C. The area including the Bodkin Creek estuary became an important agricultural region for European colonists by the early 1600s. The waterways were used to transport produce and other foodstuffs to markets in Baltimore and points beyond. Hancock’s Resolution, a rural middle class or middling plantation, was settled in the mid-1600s on the shores of Bodkin Creek. The stone house that still stands at Hancock’s Resolution Historic Park was built in 1785 and



Above: Dave Shaw monitors data gathering in the cabin of the GeoMar workboat, Big Blue.

Right: Side-scan sonar image from remote sensing conducted as part of the Bodkin Creek Survey. Image by GeoMar, LLC.



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Notes from the Prez – Steven Anthony

This has been an exciting summer for MAHS. Our training programs and research projects were in high gear.

In June, Earl Glock offered a Nitrox course to all MAHS members. Nitrox has become increasingly popular among sport divers, and several MAHS members took this opportunity to learn the latest techniques in the safe and effective use of enriched air.

During July, MAHS conducted its 20th Annual Field School in Underwater Archaeology. This two-day event was held on July 18 and 19 on the *Slobodna* shipwreck site off Key Largo, Florida. Tom Berkey, MAHS Education Director, led the field school with assistance from Jim Smailes, Heather Price, and Dennis Knepper. Captain Rob Bleser of Quiescence Dive Shop managed the diving logistics and skippered one of the dive boats. Captain Rob is among the best in the business and worked hard to ensure the success of the field school. The course ran so smoothly and the participants were so enthusiastic about the results that we all agreed MAHS would be working out of Quiescence Dive Shop again next year. *Slobodna* is an exciting wreck and everyone had a great time. See the enclosed article.

In August, the State of Maryland announced the recipients of the 2009 Maryland Historical Trust Non-Capital Grants, and MAHS was honored to be among the grantees. The state agreed to fund the MAHS project entitled “Bodkin Creek Area Maritime and Terrestrial Survey and Synthesis of Prehistoric and Historic Resources”. This project will be managed by Dave Shaw and conducted under the auspices of Dr. Susan B.M. Langley, State Underwater Archaeologist, and Dr. Brian Jordan, Assistant State Underwater Archaeologist. As part of the survey, MAHS will be searching for the American privateer *Lion of Baltimore* that was sunk by a British warship in 1814. The maritime survey portion of the project kicked off in October with a side-scan sonar and magnetometer survey. See enclosed the article.

The MAHS speaker series continued over the summer and included several notable presentations, among which were Rear Admiral Joe Callo’s talk on the storied career of John Paul Jones; Wendy Coble, on the Naval Historical Center’s research identifying the submarine USS *Lagarto*, which was discovered in Thailand; Mel Brisco, on recent civilian diving expeditions on the USS *Monitor*; Eric Nordgren, on conservation, interpretation, and display at the new USS *Monitor* Center at The Mariners’ Museum in Newport News; and Don Shomette, on his most recent book, *Shipwrecks of Delmarva* (see the enclosed review).

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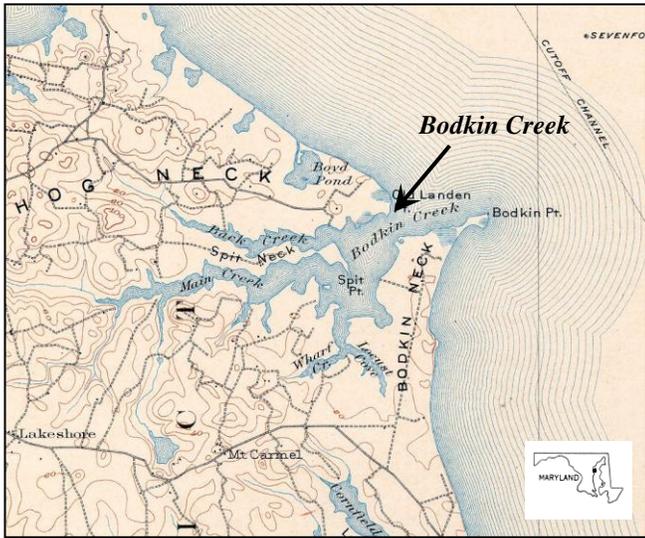
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MAHSNEWS will consider articles and notices for publication which enhance public awareness and appreciation of maritime history, archaeology, and heritage preservation.



The Bodkin Creek Estuary near the turn of the last century. United States Geological Survey 1904.

is the oldest existing structure in Anne Arundel County north of the Severn River. The house remains virtually unchanged from its days as an 18th-century farmstead.

The Bodkin Creek area is also significant for the role it played in the British invasion of fledgling America during the War of 1812. After the burning of Washington, D.C., the British moved north aiming to capture Baltimore, an important port and a major center for privateering operations that were decimating British commercial shipping. One of the privateers known to have been from this area was the *Lion of Baltimore*, a Baltimore clipper. As privateers these clipper schooners wreaked havoc on British shipping. The vessels were also prized by the Royal Navy for their speed and maneuverability – captured clippers made excellent dispatch vessels. Crewmen from the frigate HMS *Menelaus* were sent to take the *Lion of Baltimore* while it lay at anchor in Bodkin Creek. The American crew abandoned the ship and stripped it of its sails. Unable to move the vessel, the British burned her where she lay. If still present in Bodkin Creek, the *Lion's* remains would represent the only surviving remnants of an original Baltimore clipper. The remains could provide valuable information about how these ships were built and how the famous clipper design evolved. Additional maritime finds in are expected in the Bodkin Creek area. This part of the Chesapeake Bay, lying at the mouth of the Patapsco River leading to Baltimore, played a significant role in the development of commercial shipping and has been a busy shipping lane since the 18th century.

A preliminary review of Maryland Historical Trust archaeological site files indicates that as many as 26 archaeological sites, mostly terrestrial, have been recorded along Bodkin Creek. A large regional study of terrestrial sites, conducted in 1977 by Steve Wilke and Gail Thompson, included the shoreline of the creek. In

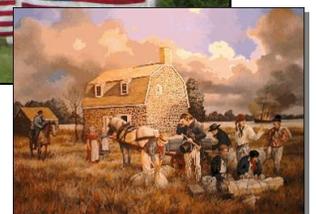
1997, divers from MAHS supported a survey project at Hancock's Resolution as part of the efforts to restore the plantation as a historical center (see the project report at <http://mahsnet.org/papers.php>). The survey included the remains of an old pier and another shoreline site on Back Creek to determine if remnants of the pier or other artifact remains were present. The surveyors identified a 3,000-year old Native American campsite on the property. In 2005 and 2007, Stephen Bilicki, then an underwater archaeologist with the Maryland Maritime Archaeology Program (MMAP), conducted remote sensing surveys in Bodkin Creek. And finally, several shoreline erosion studies have been conducted by the Maryland Geological Survey. Combining the results of these studies with new information gained from the current investigation will advance our understanding of the full scope of history in the Bodkin Creek stream valley.

The Bodkin Creek Survey project will be carried out in several phases, including intensive archival research; a remote sensing survey of underwater portions of the Bodkin Creek estuary and bayside approaches to the creek; and a survey of known terrestrial sites along the shores of the estuary. Ultimately a report will be generated that combines the information into a summary of the archaeology and history of the entire estuary. A final task involves reconditioning a side-scan sonar unit that was donated to the Maryland Historical Trust. MAHS will also write a user manual for the unit which will then be made available to volunteer groups working in State waters.

The first phase of field work was begun over Labor Day weekend. For the remote sensing work we were fortunate to be able to team with GeoMar Research, LLC, a firm that specializes in remote sensing and



The plantation house at Hancock's Resolution. Photo by J. Smiles. Historical view inset. Image courtesy of Pamela White.



oceanographic data collection services. The company is owned and operated by Jeff Morris, a long-time friend of MAHS going back to his days as a graduate student at East Carolina University. At that time, MAHS and Jeff collaborated on field work for the Chickahominy Shipyard project, which recorded the Revolutionary War-era remains of launching ways, wharf, and vessels in the river and was the subject of Jeff's Master's thesis. Jeff offered the use of his survey equipment for the Bodkin Creek survey.



Stephen Bilicki at the helm of GeoMar's research vessel, Big Blue. Photo by D. Knepper.

An initial meeting was held in late August with Brian Jordan, Maryland Assistant State Underwater Archaeologist, who serves as the grant administrator for the project. We made plans to begin the remote sensing survey almost immediately after the meeting to take advantage of the early fall weather and a break in GeoMar's commercial schedule.

The survey was conducted using a Klein 595 Digital side-scan sonar and a Marine Magnetics Explorer magnetometer, both with sensors deployed from GeoMar's 25-foot Parker work boat, *Big Blue*.

Positioning data was collected with a Raymarine C80 GPS system. All of the information was managed using versions of Hy-Pack and Echoson 20-20 software customized by Jeff. The cabin of the work boat contained a computer with dual monitors that provided synchronized real-time displays of acoustic and

magnetic data returns. A second set of monitors located near the helm gave the boat captain access to the same information and was used to help steer the survey vessel.

Staging out of Pleasure Cove Marina, in Pasadena, Maryland, the remote sensing work took place over the course of 12 consecutive days, with 10-hour days spent on the water. GeoMar's Steve Bilicki was at the helm of the survey boat all 12 days. Dave Shaw, MAHS Project Manager for this phase of the project, was on-site most of the days as well. He drew from a cadre of about 10 MAHS volunteers who assisted on various days with tasks that included deploying the sensors, monitoring data returns, and logging data. Jeff was on-hand several times throughout the course of the survey to maintain calibration of the equipment in order to provide the highest quality data returns.

Several of the MAHS volunteers, boat owners themselves, tried their hand at manning the helm, but found that running the vessel in a straight line to the tolerances needed for this type of scientific survey to be a very difficult task. In fact, they found it hard to maintain even a semi-straight line, given the currents, a profusion of crab pots, plenty of boat traffic, and choppy water out in the Bay (the conditions were especially poor early on when the remnants of Hurricane Fay blew through the region).

The remote sensing survey covered approximately 2.5 square nautical miles, including parts of Bodkin Creek and the approaches to the creek out into the Bay. Portions of Bodkin Creek itself had already been subject to side-scan sonar surveys conducted by Bilicki in 2005 and 2007, as noted above. During the current project specific sections inside the creek mouth were surveyed with the magnetometer using a combination of 50-foot and 15-foot lane spacings. A wide swath in the Bay constituting the approaches to Bodkin Creek was surveyed with sonar and magnetometer on a 50-foot interval.

The survey results were promising. Three large

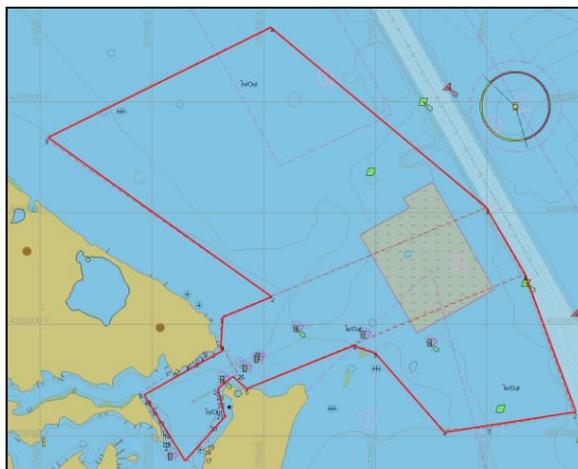
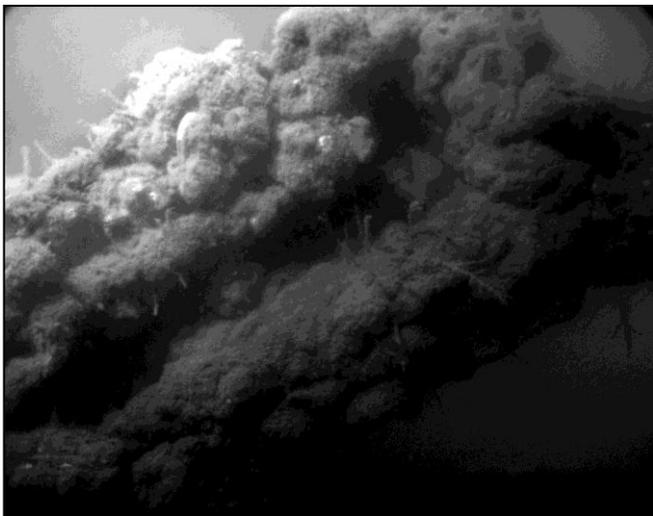


Chart of the survey area at the mouth of Bodkin Creek. The area was surveyed with side-scan sonar and magnetometer synchronized with computer software. Image by Geomar, LLC.

sonar targets identifiable as ship remains were recorded along with at least 12 targets identified in post-processing of the sonar data—half of the latter may also be boat or ship debris. In addition, 30 magnetic anomalies were logged.

Over Columbus Day weekend, the first of a series of ventures to ground truth the targets was conducted. A day was spent re-acquiring targets with significant sonar profiles. Using GeoMar's GPS and side-scan sonar, seven promising targets were relocated and scanned on passes from various angles to provide multiple views. The targets were marked with buoys attached to cinderblock anchors. The sites were identified by the float attached to the buoy line: "Orange Wisk Bottle," "White Tidy Cat," and so on.

MAHS's survey vessel, *Robalo*, then joined GeoMar's workboat, *Big Blue*, for two days of diving and site identification. One of the first sites examined was identified as a wooden shipwreck, with a stem post or frame projecting above the mud bottom by about 2 meters. Frames and planking ran along one side of the hull for a length of about 14 meters before disappearing in the mud. Little was found on the other side of the hull except a large number of mussels. Another of the targets consisted mostly of metal. While the object appeared to be boat-shaped, visibility was very poor and a positive identification could not be made. Still another target exhibited a large stem post accompanied by a substantial



Frames from a wooden wreck investigated during the Bodkin Creek survey. Photo by P. Kalmanson.

amount of framing and planking.

Future activities, additional targets identified in the survey will require identification. Some of the sonar targets may be visible using an ROV that GeoMar hopes to deploy in the future. Other targets will need to be examined by divers. Many of the magnetic anomalies

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logged in the survey appear to be buried, since there are no sonar targets associated with them. Preliminary research by Bilicki suggests that silt build-up in the area could be on the order of 2-3 feet. We will attempt to identify the targets via probing where practical. As many of the targets as possible will be investigated this fall before winter weather sets in.

An important aspect of the Bodkin Creek Survey is



P. Kalmanson and J. Kalmanson returning from a dive on one of the sonar targets in Bodkin Creek.

Photo by J. Smailes.

an attempt to locate the remains of the *Lion of Baltimore*, a 19th-century American privateer burned by the British in the War of 1812. To help with the search, a predictive model of potential wreck locations will be generated using information from historical accounts, historical weather data, as well as data on tides, currents, stream flow rates and other variables in a process similar to that used by the U.S. Navy to locate anchors or other matériel lost at sea. Data generated by this exercise may help in interpreting wrecks identified in the current remote sensing survey.

Another upcoming phase of the survey will involve terrestrial sites. Archival research will be conducted to develop a detailed list of known archaeological and historical sites, including their locations and characteristics. A sample of the sites will then be assessed in the field in order to report their current condition. This activity is expected to take place over the course of several months this fall and winter, giving MAHS members a chance to do some survey work without getting wet. Next spring will also see additional ground truthing of underwater sites that were not investigated in the fall.

Acknowledgements: Special thanks to Jerry Herson and Don Walker of Pleasure Cove Marina; Jim Morrison of Hancock's Resolution Historic Park; and Kim Nielsen of the Navy Museum, and Pamela White (www.ppatrickwhite.com). ⚓

MAHS Field School 2008, *Slobodna* Shipwreck, Molasses Reef, Key Largo

By Heather Price

MAHS held a Field School in Underwater Archaeology at the *Slobodna* wreck site, on Molasses Reef, Key Largo, in early July of 2008. *Slobodna* was an Austrian sailing vessel which ran aground on the reef on March 16th 1887. A ship-rigged, composite hull vessel, *Slobodna* was transporting 4,500 bales of cotton from New Orleans to the textile mills of Europe. While skirting the reefs that edge the Florida Straits the ship was either blown onto the reef or carried there by unpredictable currents. A portion of the cargo was salvaged within days of the wrecking, but the hull was eventually abandoned and may have broken up in a hurricane a year later.

The wreck presently lies in at least two locations in the Key Largo National Marine Sanctuary, as identified by researchers from Indiana University and the PAST Foundation. The two main sites, the Mast Site and the Winch Hole Site, are approximately $\frac{3}{4}$ of a mile apart. Both sites lie in 20-30 feet of water on the reef.

The class was smaller than in previous years, but the students were a highly motivated group and were eager learners. Participants John Harkins, Dave Linebaugh, May Naddaf and Terry Nipp were joined by MAHS Director of Education Tom Berkey, and trainers Jim Smailes, Dennis Knepper, and the author.

Largo Lodge resort at Key Largo was our base for the weekend, and temporary home to our students and staff. Situated right on the water's edge, the lodge provided everything we would need to make our stay comfortable. The group met for dinner on Thursday evening and staff gave a briefing on the schedule for the school.

Friday began with a review of trilateration techniques with a dry land walk through at Largo Lodge. Using makeshift cannon balls (coconuts) and gun carriages (sun chairs) as artifacts, the group, two buddy teams,

practiced their measuring techniques and means of underwater communication. Then it was off to the dive shop – “Quiescence” pronounced ‘qu-EYE-escence’ – to pick up weights and tanks and load our gear onto the boats.

Two boats were used for the 50-minute trip out to the Mast Site, the location planned for the training exercise. Once anchored, Tom and Dennis went down to lay out the base line. Unfortunately, an unusually strong current was running across the reef, and after a brief consultation the site was deemed too active to allow us to carry out satisfactory trilateration training. Rob advised us that at the second site, the Winch Hole, lay in a shallow sand basin surrounded by low coral heads, and thus might provide better shelter from the currents. But before moving there, everyone donned their scuba gear and spent about 20 minutes swimming over and around the Mast Site looking at the huge mast (more than 55 feet long and 3 feet in diameter), the various artifacts that were scattered around, and the coral growth and marine life.

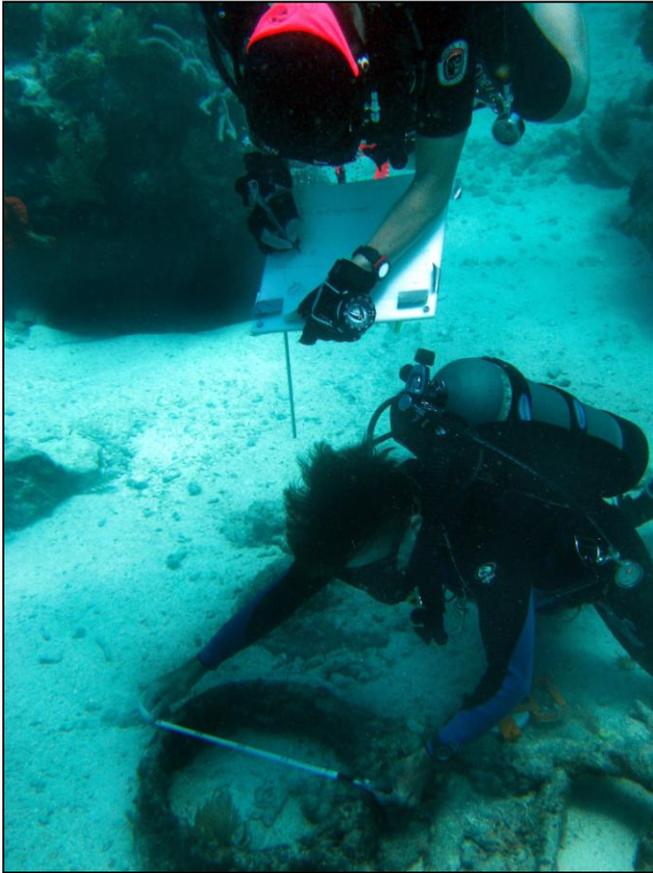


Above: *M.Naddaf and T. Knipp* take measurements of the windlass at the Winch Hole site.
All photos by *D.Knepper*



D.Linebaugh and T.Knipp complete trilateration measurements.

Back to the boat and over to the Winch Hole. The whole group entered the water and found the conditions to be better, just as predicted. Tom and Dennis set the base line while the two buddy groups started their reconnaissance dive and sketch map, selecting and tagging artifacts for trilateration. One buddy team worked the left side of the base line and the other team



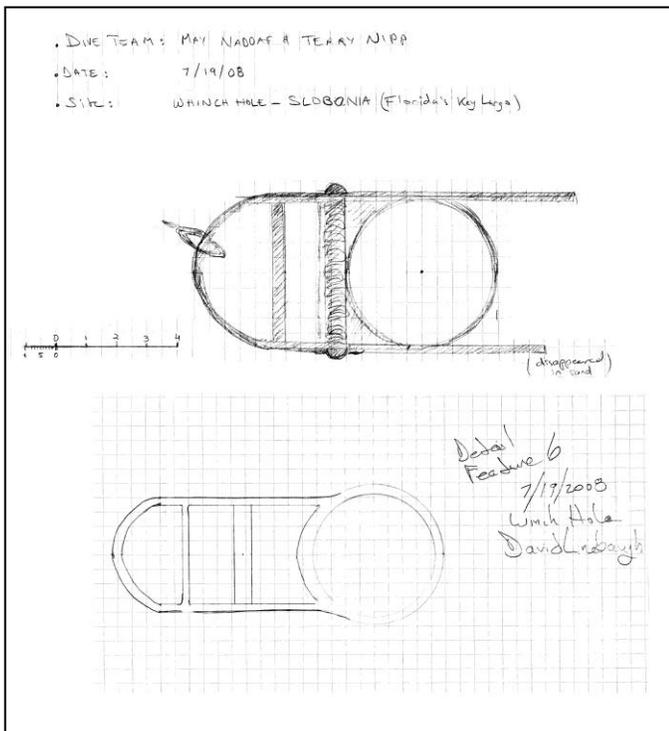
M. Naddaf and T. Knipp make a measured drawing of one of the mast caps at the site.

the right side. Visibility was good at both the Winch Hole and Mast sites, but the reduced current at the Winch Hole allowed easier working conditions. Up, for a surface interval, lunch and discussion on the morning's work.

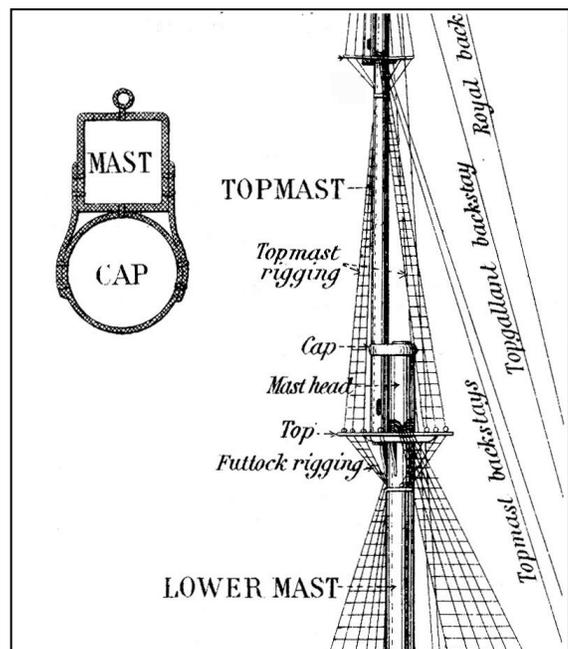
The second dive at the Winch Hole was dedicated to trilateration. The group spent approximately 50-55 minutes on this dive taking further measurements before calling it a day.

Aboard the boat with a lazy ride ahead to the dock, everyone reflected on the day's dives. After rinsing off the gear and hanging things to dry at the dive shop, ready for an early morning dive on Saturday, the group made their way back to the lodge to plot the points from each individual team's collected data, which was no mean feat—it always sounds easier than it is. It turned out that Dave had an inconsistency in his measurements for one of his points. This is the reason for plotting your data right away—you find any errors and can plan the following day's dive to allow you to re-collect the data. Viewing the points on the map and the images held in the mind from the swim through and tagging of artifacts, the maps that the teams produced after the first day appeared to be fairly accurate representations of the site.

Most of the second day was again spent at the Winch Hole site. Due to the size of the group, we took only one boat out this day. Since Quiescence limits the number of divers on their boats to six, Heather and Jim took the opportunity to do some reef dives. The class spent two dives continuing trilateration and doing measured drawings of selected artifacts. None of *Slobodna's* wooden structure remains at the site, only



Two drawings of mast caps from the Winch Hole site. Top: by M. Naddaf and T. Knipp. Bottom: by D. Linebaugh.



Mast cap shown in Paasch's Illustrated Marine Dictionary of 1885 (reprint, Conway Maritime Press, 1997).

scattered metal artifacts such as knees, mast caps, chain, davits and, of course, the large windlass or winch, from which this particular dive site takes its name. Both teams chose to draw the mast caps, distinctive large metal objects that served to connect sections of the mast. Finally, the class tried their hands at photographing features underwater using disposable cameras. While the quality of the images did not match that of the more sophisticated digital cameras that are available these days, the disposables did produce serviceable images and provided some good practice in yet another important facet of archaeological site recording. Tom brought a video camera down to the site as well and added video-documentation to the forms of data we collected at the site.

Near the end of the second dive, which was to be the last at the site, the class spread out across the area removing flagging tape from features and generally policing the site, making sure that we left it as clean and undisturbed as it was when we arrived the day before. The baseline was rolled up, the datum point rebar removed, and everyone headed back to the boat.

As an added treat, we stopped by French Reef on the way back to Key Largo to dive on the wreck known locally as *Excelsior*, which was the site of the MAHS Field School in 2003. At the end of that project MAHS left its datum points in place, planning to return to the



T. Berkey surveys the remains of Excelsior at French Reef.

site in 2004. Funding for the return did not come about, so this was the first chance MAHS had had to revisit the site and remove the sections of rebar that had anchored the baseline. One of the more prominent features at the site is the hub of a large metal capstan. Using the maps drawn in 2003, we measured outward from the capstan and found the two pieces of rebar fairly easily—there’s nothing like a good site map. In the meantime, the class made a leisurely reconnaissance dive around the site. According to Tom, who as Education Director ran the 2003 field school as well as the current one, more of the wooden structure of the wreck was exposed for us to see in 2008. We noted a heavily constructed vessel, with stout framing, long longitudinal timbers, ceilings, hull planking, and even some copper sheathing in place under the hull planking.

Back at Largo Lodge, the teams compiled the data collected that day, revising and finishing their trilateration maps and completing their artifact drawings. The amount and quality of the data gathered by the class in two days was impressive by any measure, and it indicated not only the skills learned in the course but also the dedication and commitment of the participants. The class was now equipped to work as trained volunteers on underwater archaeological projects anywhere in the world.

For more photos see the MAHS website:
www.mahsnet.org. ⚓



The capstan of Excelsior lying on its side, one of the distinctive features of the site.

Wooden Boats in Japanese Woodblock Prints

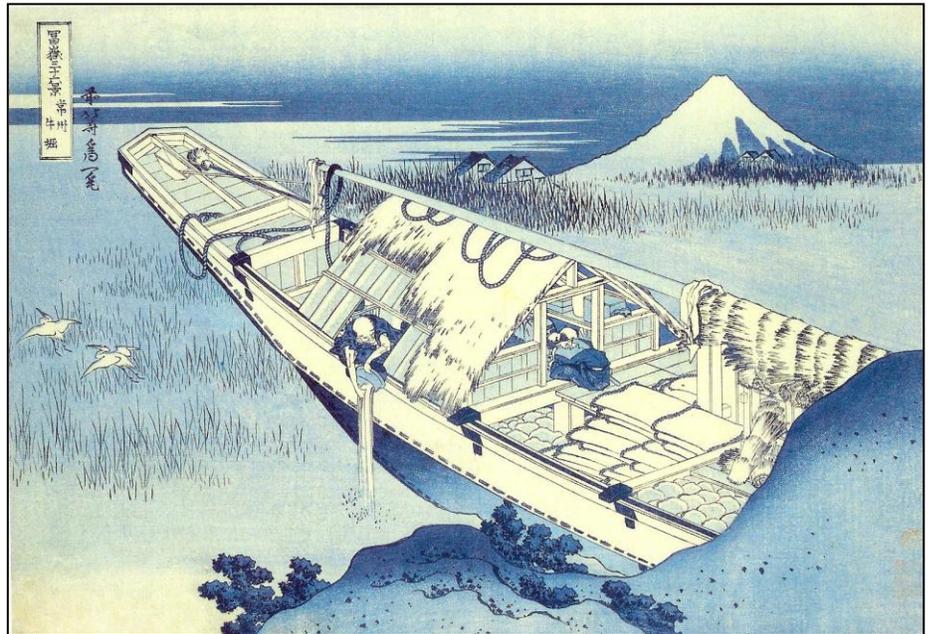
By James Smailes

At the Society for Historical Archaeology conference this past January in Albuquerque, New Mexico, the first-ever symposium in maritime archaeology was held. Although individual papers on Asian ships had been presented previously, there had never been an entire symposium devoted to this topic. The session, entitled *East Asian Ship Building Technology and Seafaring*, included papers that ranged from thirteenth-century Mongolian ships, to fifteenth-century Chinese shipyards, to eighteenth-century Japanese domestic vessels, to nineteenth-century Pacific steamships. The presenters hoped to highlight this understudied geographic area and present current research on Asian maritime topics.

In the previous issue of *MAHSNews* (Vol. 19, No. 1), a synopsis of one of the presentations, *The Origin of the Lost Fleet*, by Randall Sasaki, was published. The article summarized his paper on the Mongol invasion of Japan in 1281 B.C. that was one of the largest maritime disasters in history, in which more than 4,000 ships were lost during a single storm known as the Kamikaze.

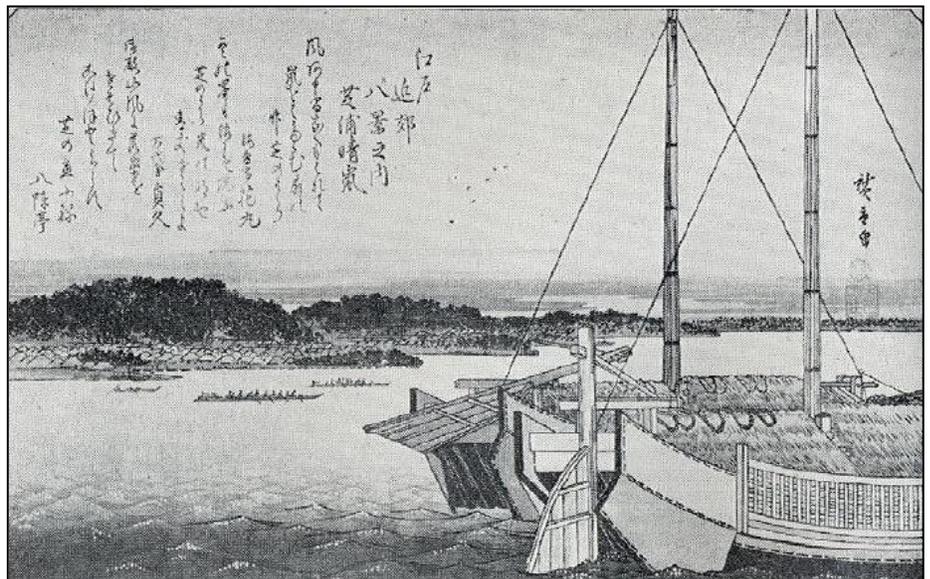
In this issue, we will present a selection of Japanese woodblock prints from the paper by Michelle Damian, who also organized the session. Her presentation, drawn from her Master's thesis work at East Carolina University, examined the technological accuracy in depictions of wooden boats in Japanese woodblock prints of the late Edo period (1603 – 1867), comparing the prints to contemporary models and treatises as well as to modern boats built using traditional construction methods.

Some of the prints are incredibly detailed, with fastener patterns clearly visible, or planking patterns and



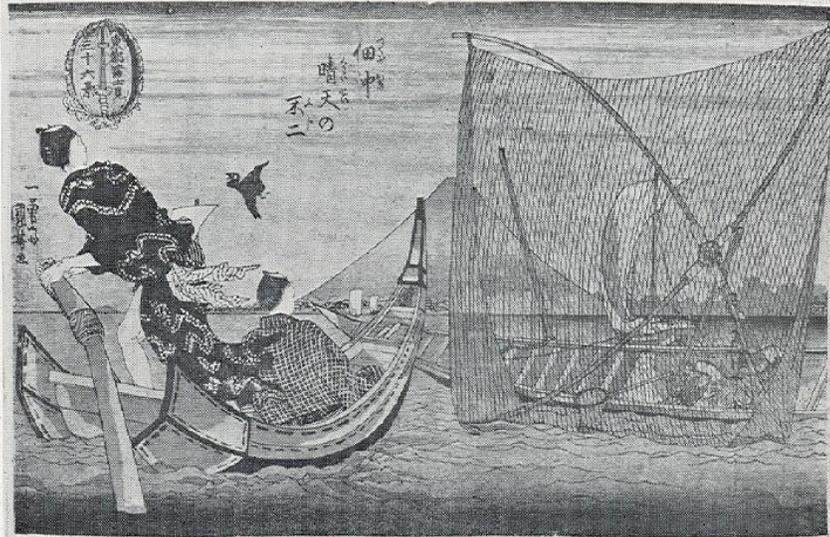
Boat Moored at Ushibori, by Katsushika Hokusai (Forrer, Matthi. Hokusai. Prestel Publishing, 2001. Catalog #19).

Hokusai's careful attention to detail reveals information ranging from planking patterns and fasteners to life aboard the boat.



A Fine Breezy Day at Shibaura, from *Eight Scenes in the Suburbs of Edo*, by Andō Hiroshige (Kikuchi Sadao. A Treasury of Japanese Wood Block Prints. Crown Publishers, 1969. Catalog #1246).

A further example of the detail that may be depicted in wood block images. Here the stern views of the two vessels show the contrast of rudder placement on the moored ships.



Mt. Fuji Viewed from the Coast of Tsukuda, *from 36 Views of Mt. Fuji from the Eastern Capital*, by Kuniyoshi (Kikuchi Sadao. A Treasury of Japanese Wood Block Prints. Crown Publishers, 1969. Catalog #1345). Both fishing and pleasure vessels are shown in this print, with special attention paid to the fine lines of the fishing nets.



Kawado, *from Stages on the Kiso Highway*, by Keisai Eisen (Kikuchi Sadao. A Treasury of Japanese Wood Block Prints. Crown Publishers, 1969. Catalog #1310). Eisen depicts cormorant fishing in the river, a relatively unusual subject of woodblock prints.

rudder construction plainly depicted.

Other images show simply a white square representing a sail on the horizon. Yet all of them illustrate something about how these vessels were made and used. The art is perhaps more revealing in an analysis of maritime culture in general, as the woodblock prints depict a variety of fishing, shipping, pleasure cruising, and even military scenes, hinting at the myriad roles these vessels played.

Michelle's paper will be published in the proceedings of the Advisory Council of Underwater Archaeology. More details about her research can be found in her project journal "Japanese Wooden Boats in Woodblock Prints" part of the on-line Museum of Underwater Archaeology, which follows the progress of her research. See www.uri.edu/mua/. ⚓



Shipwright Matsuda Mataichi explains fishing boat construction through his scale models, now part of the collection at the Fukuoka City Museum. Photo by M. Damian.



The Society for Historical Archaeology 2009 Conference on Historical and Underwater Archaeology will take place January 6-11, 2009 at the Fairmont Royal York Hotel, Toronto, Canada.

For details and registration information, see www.sha.org/about/conferences/2009.htm

That's Not Supposed To Be There: A Maritime Cultural Resources Survey in Northampton County, Virginia

by Stephen R. Bilicki

Last year, 2007, was the 400 hundred-year anniversary of the Anglo settlement of Jamestown in America. After early years of struggling for survival, colonists from this first permanent English settlement moved out along the James River region and across the Chesapeake Bay to the present day Eastern Shore counties of Accomack and Northampton, Virginia. The Eastern Shore was always a provider for the Western Shore. Native American tribes there sent corn in tribute to Powhatan's empire across the Bay. Early colonists would develop salt production to support fish preserving at Jamestown. Never growing on the scale of large communities across the bay, the Eastern Shore counties remained smaller in population but were no less important to the colony (or later to the state).

Original explorations of the shore began with Captain John Smith and his small group of adventurers in 1608. Once across the Chesapeake, Smith encountered two native tribes of friendly locals. Smith's observations of the shore and its people would lead to the selective settlements that would soon come there. Possibly the most important note by Smith was that the waterways on the Eastern Shore were shallow and that lighter craft would be required to enter the creeks. Thus compared to large river systems of the Western Shore, the eastern side of the Bay in Virginia saw more limited use by large sailing vessels of the transatlantic commerce.

Yet Virginia's Eastern Shore holds a trove of historical resources which cannot be rivaled by many other regions in the country. Limited growth in development and populations has meant the early historical sites have the potential to be relatively undisturbed. Shallow creeks present the opportunity for preserved early landings, shipwrecks and industrial sites. And finally, with intact historical records dating back to 1630s, archival researchers have uncovered often unique references to the early colonial frontier and the lives of the earliest European settlers. These records allow us to understand how these early settlers altered the landscape



Ballast stone in the shallows near the headwaters of Kings Creek. All photos by the author.

to improve their lives.

The impetus for surveying in the creeks of Northampton County came from a local informant, who said that there was a ballast pile at the headwaters of Kings Creek. Knowing John Smith's statement that "barges or light vessel" only could proceed up these waterways we went to investigate, although I was in doubt myself. The information turned out to be true-- there was a ballast pile. The discovery led us to submit a grant proposal to Virginia Department of Historical Resources. Our grant was not only to generate new archaeological sites but to afford an educational opportunity for local students and residents. Once the grant was awarded, we went forward with preparations for a survey with students.

The first phase of the project was to perform survey of Kings Creek and the Cherrystone Inlet region of Northampton County. With a crew consisting of sixth-graders from Broadwater Academy in Exmore, Virginia, I was assisted by Bridget McVae of Texas A&M University and. One of our goals was to provide these future scientists with hands-on field experience operating geophysical remote sensing systems. All these young students had a genuine interest the maritime sciences and had attended specialized schools with a focus on science programs.

The challenge of any educational task is to create an engaging experience for younger students without going



Bridget McVae teaching remote sensing survey system and techniques to Broadwater Academy 6th grade student Blake Selph

over their heads. Since many geophysical remote sensing applications are based in the field of physics, we provided the students with some basic instruction in the physics of sound in water and the earth's magnetic field, along with information about environmental resources and system applications. Most of the students were expecting to take science in middle school, so the instruction expanded their knowledge base for advanced level science classes.

We broke the survey area into four boxes. Side scan sonar became our primary tool for these areas, and we utilized positioning software for real-time positioning and data collection information. For the first three days, continuous sonar survey was performed by crew and students. Weather permitted completion of three areas, however results were minimal. A few features were noted but none of these anomalies presented signatures of submerged shipwrecks. At times, semi-submerged features could be observed. Our vessel would pass these features to photograph them and make a determination if additional investigations were necessary.

The low number of submerged acoustical anomalies led to the addition of a fifth area for surveying. Day four saw the crew enter Old Plantation Creek, where the family home of Martha Washington was located. After entering the creek, the sonar sensor was taken aboard due to shallow water conditions. Old Plantation Creek is the location of large scale aquaculture of various shellfish species. Watermen here have placed row after row of shellfish beds, just like corn or tomato fields on the upland landscape. At mid-tide, the tops of these shell beds were observed and only narrow channels were available for small shallow water craft to pass. The side

scan sonar would have only recorded the shallow channels with an average width of twenty feet.

Not deterred by these conditions, the survey crew switched to shoreline survey and continued as far as possible into the creek system. This paid off in the location of two historical sites. The first was a landing or wharf with intact pier structure. It appeared to be early twentieth century in date, with driven pilings, brick fireplace and planking. Off of the wharf end, large debris fields were observed protruding out of the water. To avoid injuries that would require an emergency evacuation the students were kept in the vessel. Final recording of the debris field will occur later with older volunteers.

The second site located in the shoreline survey had architectural features and one glass bottle fragment. With a length of fifty feet, eighty-two small diameter pilings were noted in a straight line from the present day marsh and out into the creek on a west-to-northwest direction. Additionally, two perpendicular timbers extended from the piling line at a ninety degree angle towards the south. Unfortunately, a second line of pilings could not be located in the southerly direction. A broken glass bottle was noted in the marsh grasses and was photographed. Ms. McVae performed an internet search and discovered that the bottle was manufactured only for a very short period in the 1870s. It is possible that this site might be a shipyard.

Before leaving Old Plantation Creek, a shipwreck was located near the mouth. Field examination determined that it was a bay-built vernacular craft – of the type commonly called “skipjack”. The vessel appeared to have been run aground – bow in – and had very badly deteriorating hull features. A centerboard box was mostly covered by marsh clays and overgrown by grasses. Planking ran parallel to the keel and centerboard. This style of shipbuilding is considered the



Broadwater Academy high school students recording a Chesapeake Bay shipwreck in Northampton County.

older bay type construction, but “Smith Island” and “Potomac River” shipwrights continued the style into the twentieth century. This vessel’s stern was entangled in fish nets and could not be fully examined. Very few features were visible except the wooden hull material, and no loose artifacts could be identified near the shipwreck.



Broadwater Academy high school students recording a Chesapeake Bay shipwreck in Northampton County.

The final day was a chance to record two important sites located in King’s Creek. A wharf type structure, the second located during the project, was marked off and measured. Students, assisted by staff, ensured that the entire feature was documented. Rectangular wooden timbers enclosed a large deposit of oyster shell. Parallel to shore, the offshore side had hard debris in front of the timbers. These were first thought to be of a coral matrix but are now believed to be of concrete. An underwater metal detector was used with limited results and no datable artifacts were identified.

This wharf feature seems to be of a more recent vintage and not associated to the construction of the plantation house nearby. No record has been located to indicate what this wharf was used for or who might have operated here.

The ballast pile that had led us to the area in the first place has also not been identified. Historical accounts and statements aside, no additional stone of similar type could be located within the King’s Creek drainage. With an actual shape resembling a large peanut, the pile measured 98feet by 42 feet. Side scan sonar imaged the stone but provided no additional information. Some stones on the pile are larger than the majority and several were square in shape.

When walking on the ballast, one sees brick over most of the stones. At first, it was suspected that brick discards from house construction had been tossed on the

ballast, but the presence of intact bricks brings to mind other questions. We interviewed local builders about whether they had seen brick stains on the ground anywhere in the area, which could have been evidence of an upland brick clamp—a temporary brick kiln. None of the builders had seen anything. A second thought was that brick was part of a ships’ cargo, since the house owner was originally from New England and owned two vessels.

Some artifacts had been recovered prior to the survey and turned over to the Principal Investigator. These artifacts ranged in date from the first half of the 18th century to more recent ceramic types. One of the first artifacts found was a small white solid piece of kaolin clay - it appears to be a wig curler, especially popular in the 18th century. This is the most identifiable artifact received. Ceramics are the most dominant type among the rest of the artifacts. One stand out was a redware body sherd with dark brown lead glaze on the interior surface. Its rim diameter is approximately seven and a half inches. This looks similar to chamber pots of the first half of the 1700s. Also in the collection was a stoneware sherd with a brown paste and gray salt-glazed exterior surface. It is the base of a vessel with rim from base to one-quarter inched above. At this point the body of the vessel begins.



Broadwater Academy high school chemistry students performed artifact conservation of donated artifacts.

The single glass fragment in the collection was the partial lip and most of the shoulder of a dark green bottle. The blown glass had several twisted lines that resulted from the glass being turned during manufacture.

Unsure as to whether any conservation had been provided for the artifacts, a plan was developed to proceed with a treatment process. A Broadwater high school chemistry teacher was approached and presented with the opportunity for her class to process the artifacts. They agreed and the artifacts, test equipment and forms were given to them for desalinating ceramics and glass.

In order to make the exercise more than just a general lab procedure, I talked with area conservators about how to teach the value of what these students would be doing. Howard Wellman, conservation consultant formerly with the Maryland Archaeological Conservation Laboratory at Jefferson Patterson Park and Museum, suggested a demonstration: place a standard flower pot in a 50 percent salt water solution. In four weeks, the pot was covered with salt crystals, showing how salt can invade artifacts and eventually destroy them.

For a whole semester, the students performed various lab tasks including testing the water in which the artifacts were soaking, changing the water, and recording their observations and activities. Various results

occurred depending on the artifact. Additionally, the teacher informed me that these students achieved a real appreciation for lab work and what chemistry can do.

This spring we plan to return to the water and finish testing the water of Cherrystone Inlet. Additional sonar work and magnetometer testing will highlight this work. Again students from Broadwater Academy and volunteers will assist in all aspects of the project.

We would like to thank Bridget McVae, Howard Wellman, the Virginia Department of Historic Resources, the sixth grade and high school classes of the Broadwater Academy, and numerous unnamed volunteers for all their assistance in making this project possible. ⚓

UNESCO Convention in Force January 2009

Twenty nations have now ratified the Convention on the Protection of the Underwater Cultural Heritage of UNESCO, the United Nations Educational, Scientific and Cultural Organization. In accordance with Article 27 of the Convention, the accord enters into force three months after ratification by at least twenty states. The last state to formally accept the convention was the island nation of Barbados, on October 2, 2008, and thus the accord becomes enforced on January 2, 2009.

On the UNESCO web page, Director-General Koïchiro Matsuura, said: "This is a very important step in the history of the safeguarding of cultural heritage. This represents an essential addition to UNESCO's standard-setting apparatus. From now on, it will be possible to offer legal protection to the historical memory that is in underwater cultural heritage, thus curtailing the growing illicit trade by looters."

The Convention, adopted in Paris in 2001, is based on four main principles:

- an obligation to preserve underwater cultural heritage;
- *in situ* preservation of sites and artifacts;
- no commercial exploitation of this heritage; and
- cooperation among States to protect this legacy, to promote training in underwater archaeology, and to raise public awareness of the importance of submerged cultural property.

Among the State Parties that have accepted or ratified the Convention, two are western European nations: Spain and Portugal. Among Caribbean nations are Panama, Mexico, Cuba, Saint Lucia, and most recently, Barbados.

The United States has not ratified the accord reportedly due to political issues of jurisdiction over the Continental Shelf outside the 24 nautical-mile

contiguous zone, and the treatment of foreign sunken warships in the territorial sea and internal waters of coastal nations.

Nevertheless, U.S. State Department, National Oceanic and Atmospheric

Administration, the National Park Service,

and several states, including Maryland, have expressed support for the ICOMOS (International Council on Monuments and Sites) Charter, from which the UNESCO Convention is derived. Unlike certain articles of the Convention, the Charter does not involve political or legal issues, but rather represents a codification of international scientific standards, requirements and principles that professional archaeologists and historians have agreed to follow when conducting research and recovery of underwater cultural heritage.

In February of 2007, the Board of Directors of MAHS voted to formally endorse the ICOMOS Charter and rules annexed to the Convention. In so doing, MAHS expressed support for and adherence to internationally accepted, professional, scientific standards for the investigation and treatment of our global underwater cultural heritage.

The full text of the Convention can be found at www.unesco.org/culture/legalprotection/water/html_eng/convention.shtml

Text of the ICOMOS Charter is available at www.international.icomos.org/charters/underwater_e.htm. ⚓



The Aquarium of the Pacific Celebrates Its Tenth Anniversary

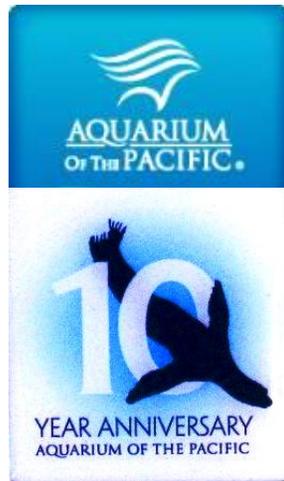
by James Smailes

While on a recent trip to California, I had the opportunity to visit with former MAHS member Michelle Damian, who is now attending the University of Southern California in Los Angeles getting a PhD in History. She volunteers at the Aquarium of the Pacific, feeding fish and cleaning the large tanks. Eventually Michelle will complete her training to become a diver presenter, one who speaks through a full face mask to the public about the exhibits in the tank. She was able to give me a behind the scenes tour before I struck out on my own.

Located in Long Beach, California, across the harbor from the *Queen Mary*, the Aquarium of the Pacific is celebrating its Tenth Anniversary this year. The Aquarium is organized into three main galleries highlighting the major regions of the Pacific Ocean: Southern California and Baja; the North Pacific; and the Tropical Pacific. There is also a Special Exhibits Gallery. Outdoors, the Explorers Cove features a Shark Lagoon, where one can pet small nurse sharks, skates and other creatures, and the Lorikeet Forest, where visitors can hand feed these small, colorful birds from Australia. A larger shark aquarium is nearby where one can view various species of sharks, the kind you definitely don't want to touch.

The Special Exhibits Gallery this fall features the exhibit *Ocean on the Edge*, presenting the top ten threats to the ocean, such as climate change; overfishing and the unintentional catching of unwanted fishes, seabirds and other creatures that often die in the process; biodiversity loss; and the impacts of global trade and coastal development. Two major areas presented are sustainable seafood—environmentally friendly and long-term ways to meet the growing demand for seafood; and watershed management—how rainwater after falling on our streets, farms and yards affects the ocean and other water resources.

Also part of the Aquarium are Discovery Labs for children of all ages, where one can touch marine life and learn interesting facts from the exhibit interpreters. Like most museums today, there are several theaters where films, some in 3D, are presented. The museum takes advantage of its location at the Long Beach/Los Angeles Harbor by offering seasonally narrated tours of the harbor, one of the busiest in the world, as well as tours to



the nearby ocean to see whales, dolphins, sea lions and migratory birds. For the budding marine scientist, there are opportunities to join the crew of a 90-foot ocean research vessel to collect and identify marine life.

Dozens of aquaria of various sizes are found throughout the building, but the Blue Cavern and the Tropical Pacific Gallery are large enough for divers to enter and swim about with the fish, feeding them and cleaning the tank.

The Blue Cavern habitat is modeled after Blue Cavern Point, a kelp forest along the northeastern coast of Santa Catalina Island—the habitat is similar to what one would find along the Los Angeles coast and other local islands.

The Tropical Pacific Gallery represents the archipelago of Palau, the western-most section of the Micronesia Islands. Palau's waters contain an incredible diversity of coral, fish, and other marine animals. The exhibits present soft and hard corals, sea turtles, many



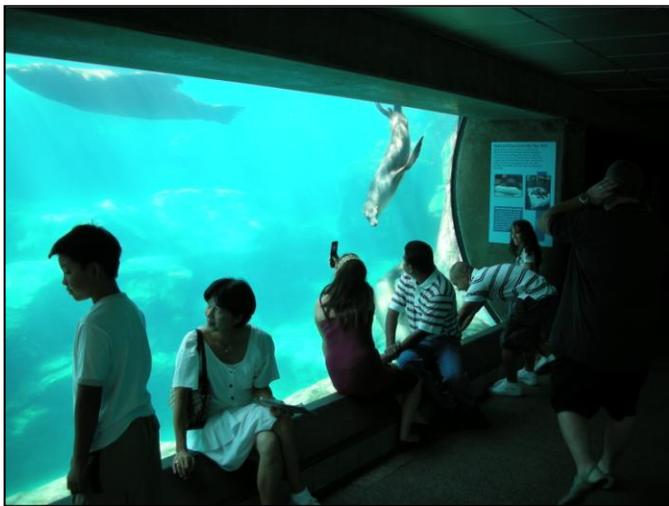
The 3-story high Blue Cavern tank at the Aquarium of the Pacific. The exterior windows of the Aquarium are reflected in the glass of the tank giving the impression that a submerged building is part of the exhibit. All photos by the author.



The Main Gallery of the Aquarium of the Pacific including a life-size blue whale.

kinds of tropical fish including lionfish and stonefish, sharks, sea horses and sea snakes.

Part of the coral exhibit includes an exhibit on coral bleaching. As we know, coral reefs are the most biologically diverse ecosystems on Earth but are threatened by the effects of global warming. I learned that corals are animals that rely on tiny, single-celled plants known as zooxanthellae that give the coral some of its color. Zooxanthellae live within the coral tissue and can provide up to 95 percent of a coral's nutrition. In return, they get nutrition from the coral's waste. These small plants are very sensitive to the surrounding water's temperature and other factors. If conditions become undesirable for the zooxanthellae they will leave. When this happens, the coral becomes bleached. Bleached corals have typically lost 60 to 90 percent of their zooxanthellae residents, putting them at risk of dying.



Seals and sea lions dive and play while viewers watch them from inside. Viewing from the surface is available outside and above on the second floor.

Returning to the Northern Pacific gallery, one finds a number of tanks with various species of jellyfish. Sea jellies are made up of over 90 percent water. They have no brain, no eyes, no heart, and no bones. But as many divers can attest they have long stinging tentacles. Despite how simply sea jellies have evolved, they require special round tanks called kreisels that are designed to keep the water flowing in a circle so that the animals do not become caught on the sides of the exhibit.



Several species of jelly fish are presented in their own round tanks called kreisels.

My private tour of the Aquarium began at the top of the fish tanks after going through a maze of offices to exit outside, climbing several sets of stairs and then re-entering into the dive locker. Divers enter from the top of the tanks and, except for their own mask, fins and snorkel, use equipment exclusively provided by the Aquarium to eliminate the possibility of outside contaminants being brought in. No extraneous sea life is allowed. Before proceeding into the tank area, everyone must walk through a shallow pool of disinfectant to reduce the possibility of bringing in unwanted contaminants on one's shoes.

The top of the tank area is quite large, humid and not air conditioned. The fish are fed with a seaweed "paper" that combines the nutritional benefits of several species of seaweed. It has a seaweed smell that is not overwhelming and comes wrapped in a cellophane package like copy paper. One pulls out a sheet that is about 8-by-10 inches and tears it into strips. These strips are then wadded into balls and pitched into the tank. Balling up the material gives it the ability to sink—flat seaweed pieces will often just float on the surface, and the fish won't see them. As the water is constantly recycled the floating seaweed will clog the intake vents. So wadded up it is. The first wad of seaweed I dropped



The author feeds the fish with a pre-made sea weed paper that is torn into strips, wadded up and then tossed into the tank.

in went unnoticed by the occupants of the tank, but the second one drew the attention of two fish. Their motion attracted other fish and before long there was a small feeding frenzy whenever I would toss in the seaweed.

The Aquarium of the Pacific is located near the downtown area of Long Beach with shops and restaurants nearby. The Art Museum of Long Beach is a short drive away on Ocean Boulevard, and the *Queen Mary* is located across the harbor. So for your next trip to Los Angeles, definitely add the Aquarium of the Pacific to your list of things to do.

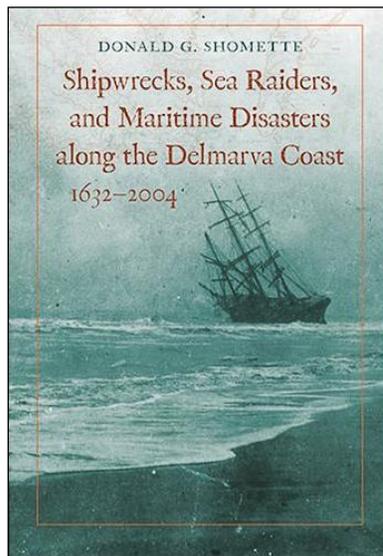
Some details describing the exhibits in this article have been drawn from the Map and Visitor Guide provided by the Aquarium. ⚓

Review of *Shipwrecks, Sea Raiders, and Maritime Disasters along the Delmarva Coast, 1632-2004.* by Donald G. Shomette

Book Review by Susan Langley

The latest volume by popular maritime author Donald Shomette spans the waters of three States and quite a bit of high seas, in 26 chapters which follow a chronological path from first historic settlement to the twenty-first century, off the coasts of Delaware, Maryland and Virginia. Each relatively brief chapter is an intelligent, stand-alone story making it a good traveling companion.

In a tome with regional appeal, there are always more stories to tell than space to tell them and everyone has their favorites. This raises the question of how decisions were made as to what was included and what was omitted. When in doubt, ask the author: Shomette notes that the choices were largely personal. Some stories virtually required re-telling, if only to set the facts straight. Shomette does an admirable job of stripping away layers of myth grown up around some events; those which everyone “knows,” but where in actuality most of what is commonly believed is false. He makes the truth every bit as fascinating. The prose can be a little purple at times, but doubtless he knows his audience.



Another query of the author’s prerogative was why include the two chapters about the scuttling of the captured WWI German vessels since these do not fit the titular theme. Shomette pointed out that this event played a pivotal role in demonstrating the potential value of aerial bombing; a potential realized in the Second World War, and therefore was a story with too much historical significance not to be included. In the final two chapters, which discuss aspects of treasure-hunting and its deleterious effects on maritime heritage resources, Shomette understandably is more than charitable regarding charcters and activities in the recent and more immediate past. However, with the passage of time he can be more candid and if the reader is appalled by the sad tale of the *HMS De Braak* realize that it is, of necessity, an abbreviated version.

For a detailed examination of the entire sorry situation capable of inducing a full flood of moral outrage, seek out Shomette’s, *Hunt for the HMS De Braak*. Now unfortunately out of print, it may be

continued on page 18

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found online and in libraries.

A downside to the book, from an academic's standpoint, is the decision to employ one end note per paragraph. This single note may include numerous references and anyone seeking to find the source of a specific citation has to locate and mine through potentially a half dozen volumes. Moreover, some interesting remarks have no notes or references.

This is a book well suited to being enjoyed holed up by a crackling fire while a winter storm rages outside, however one's living room will suffice in a pinch. It is a pleasurable read in and of itself, but also provides an excellent point from which to embark on further explorations of the maritime Delmarva.

This review was originally published in different form in Nautical Research Journal 23(2) Summer 2008e. ⚓

National Museum of American History Reopens November 2009

The Smithsonian's National Museum of American History opened its doors to the public Friday, November 21, 2009, marking the completion of a two-year, \$85 million renovation of the building's central core.

The renovation focused on three areas: architectural enhancements to the center core, including a grand staircase and a skylight; construction of a new Star-Spangled Banner gallery; and updates to the 44-year-old building's infrastructure. The modern design provides a new look at the almost 200-year-old Star-Spangled Banner and a rare chance to see the White House copy of President Lincoln's Gettysburg Address.

Visitors enter a dramatic five-story, sky-lit atrium, surrounded by displays filled with more than 400 artifacts showcasing the breadth and depth of the museum's three million objects, a collection representing the cultural, social, technological and political history of the United States.

The atrium is dominated by a 40-foot-by-19-foot virtual flag constructed of 960 reflective panels. The panels catch ambient light from different angles as visitors walk by and the shifting colors make the sculpture appear to wave. The New York Times calls it "an abstract American flag that seems to affirm an interest in innovation while declaring the museum's national role."



Reflective panels form an abstract American flag in the atrium of the renovated National Museum of American History. Image from the New York Times.

Throughout its reopening year, the museum will present new exhibits and programs, with one highlight being "On the Water: Stories from Maritime America" which opens in spring 2009. A full list of 2008-2009 exhibitions and programs will be available soon.

Explore virtual exhibitions, collections, and find updates via the museum's Web site: www.americanhistory.si.edu ⚓

continued from page 2

As you receive this newsletter, the MAHS Board of Directors is busy setting up the winter project schedule, and it looks like there will be a lot going on. So, join us at the monthly membership meetings and be sure to get involved.

See you on the water,

Steven Anthony
President

It's time to renew your MAHS Membership. If you aren't a member, become one and join us in supporting maritime historic preservation.



MARITIME ARCHAEOLOGICAL AND HISTORICAL SOCIETY

Statement of Ethics

The Maritime Archaeological and Historical Society is organized for the purpose of enhancing public awareness and appreciation of the significance of submerged cultural resources and the science of maritime archaeology. In pursuit of this mandate, members may come in contact with unique information and cultural material associated with terrestrial and underwater sites containing evidence of the history of humankind. To protect these sites from destruction by commercial salvors and amateur souvenir hunters, the Society seeks to encourage its members to abide by the highest ethical standards. Therefore, as a condition of membership and pursuant to Article 2, Section 1 (A) of the bylaws, the undersigned executes this statement of ethics acknowledging adherence to the standards and policies of the Society, and further agrees as follows:

- 1. To regard all archaeological sites, artifacts and related information as potentially significant cultural resources in accordance with federal, state, and international law and the principles and standards of contemporary archaeological science.
2. To maintain the confidentiality of the location of archaeological sites.
3. To excavate, or otherwise disturb an archaeological site solely for the purpose of scientific research conducted under the supervision of a qualified archaeologist operating in accordance with the rules and regulations of federal, state, or foreign governments. Artifacts shall not be removed until their context and provenience have been recorded, and only when the artifact and related data have been designated for research, public display or otherwise for the common good.
4. To conduct oneself in a manner that protects the ethical integrity of the member, the archaeological site and the Society, and prevent involvement in criminal violations of applicable vandalism statutes.
5. To observe these ethical standards and aid in securing observance of these standards by fellow members and non-members.
6. To recognize that any member who violates the standards and policies of the Society shall be subject to sanctions and possible expulsion in accordance with Article 2, Section 4 of the bylaws.

Signature _____ Date _____

(Revised 1993)

MARITIME ARCHAEOLOGICAL AND HISTORICAL SOCIETY

P O Box 44382, L'Enfant Plaza, Washington, DC 20026

Application for Membership

Membership in the Maritime Archaeological and Historical Society is open to all persons interested in maritime history or archeology whether or not they are divers. Members of MAHS have first preference for enrollment in all courses and other activities and projects of the Society. To join MAHS, please sign the Statement of Ethics above and send it to MAHS along with your check and this application form.

Name (print) _____

Address _____

City _____ State _____ Zip _____

Phone (H) _____ (O) _____ (FAX) _____

Email _____

DUES ENCLOSED
\$30 Individual
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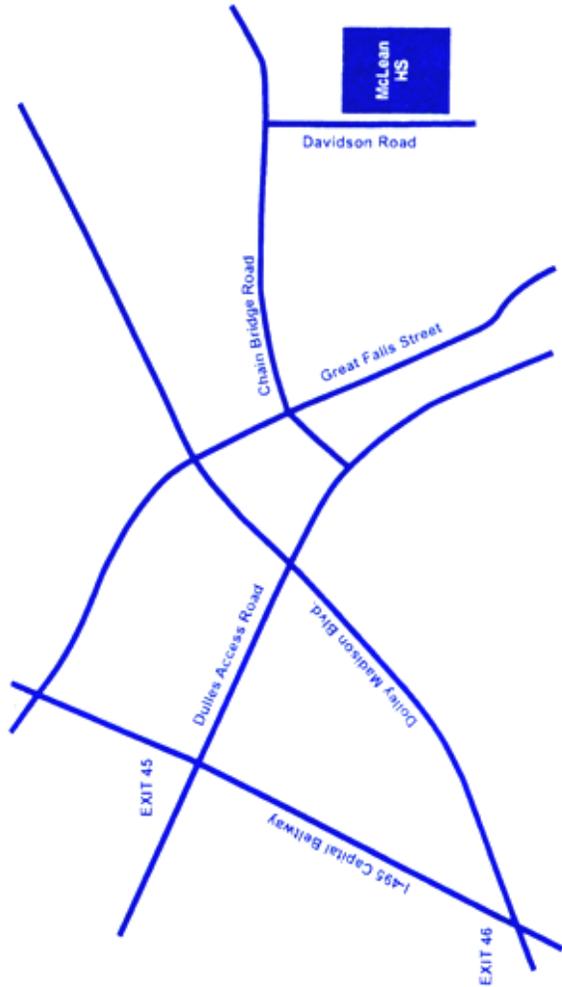
Skills (circle): research/dive/photo/video/communications/drawing/writing/first aid/other:

Please mail this form along with your check to: MAHS at P.O. Box 44382, L'Enfant Plaza, Washington DC 20026.

General membership meetings of the Maritime Archaeological and Historical Society (MAHS) are held at 7:30 p.m. on the second Tuesday of each month. MAHS meets at McLean High School, in McLean, Virginia, except in July, August and December. The school is located on Davidson Road, just inside the Capital Beltway (I-495) - use Exit 45, coming from Maryland, or Exit 46, coming from Virginia. Meetings in July, August and December are held at other locations for special events and holiday parties. Please join us and bring a friend.
{Check the website www.MAHsNet.org for e-mail advisories about any schedule changes.}

Renew Now!

It's time to renew your membership in MAHS. It's easy. Just complete the application form on the inside back cover and sign the Ethics Statement, enclose a check for your dues, and mail! Thank you!



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