

MAHS NEWS



VOLUME 18, NO. 2

FALL 2007

2007 Field School in Bradenton Beach, Florida

By Jennifer and Phillip Kalmanson

At least once a year, MAHS holds a field school in Underwater Archaeology to give participants in the MAHS Basic Course a chance to put some of the skills learned in class to practical use on a historical site in the field. The objective of this year's field school's was to survey and map the wreck of the *Regina*, known locally simply as the "Sugar Barge," just off the shores of Bradenton Beach, Florida.

Because of space limitations and a large participant group, this year's Field School was broken into two separate sessions. The first session consisted of participants in this spring's MAHS lecture series, students who took the class last year as well as a few students who had studied remotely: William Blodgett, April Cantrell, Alejandro Gonzalez, Matthew Hartman, Jennifer Kalmanson, Phillip Kalmanson, Michael Litton, Carson McCoy, William Petrovic, Daniel Pontbriand, Kevin "Kip" Peterson, and Heather Price. The second session consisted of Sea Scouts: Thomas Dunlap, Wayne Gosolov, Zack Gosolov, George Olive, Kevin "Kip" Peterson, & James Wright. Both classes were led by MAHS President Steve Anthony, Tom Berkey, Education Director, and Dennis Knepper and Dave Shaw, Board members, were on hand as instructors. MAHS Dive Safety Officer Earl Glock served as the project's Dive Safety Officer.

The *Regina* was chosen as the field school site for



Regina at sea. From a painting by William Trotter, Florida Office of Cultural, Historical and Information Programs.

several reasons. It is historically significant, and as a part of the Underwater Archaeological Preserve program of Florida has data from previous surveys that can be used to corroborate measurements taken by students. The *Regina* is accessible from shore. Lying in 10 to 15 feet of water, the wreck is deep enough to require SCUBA gear but shallow enough to stay well within safe diving limits. And when conditions are favorable visibility can be very good (20 feet or more) as

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Notes from the Prez – Steven Anthony

This has been a busy summer for MAHS volunteers. Aided by the influx of new students and members our programs and activities have been running in full gear.

Early in June, Earl Glock conducted the MAHS Prepared Diver Training Program which he provides free of charge to all MAHS members annually. The program includes PADI Emergency First Response and AED (Automated External Defibrillator) training and serves as an excellent and cost effective means for MAHS members to obtain and maintain their certifications.

A few weeks later in June, MAHS conducted a Field School in Underwater Archaeology on the *Regina* shipwreck lying off Bradenton Beach, Florida. This was a very popular event and demand was so high that we had to divide the class in two and run the sections back-to-back from June 21 through June 25. The SeaScouts also attended this fieldschool as the first step in what is anticipated to be a long-term relationship with MAHS. From all reports, everyone learned a lot and had a great time. See the full story in the pages of this issue of the newsletter.

The speaker series offered several interesting presentations this summer. In April, James Gibb discussed the history and archaeology of mills, suggesting some signs to look for in discovering tidal mills. In May, Todd Plaia spoke about biologically induced oxidation of iron hulls and the methods he used to measure the effects of iron hull degradation in the Chesapeake Bay. In June, Dwayne Meadows told the story of his accidental discovery of the wrecks of the American whaling vessels *Pearl* and *Hermes* off the coast of Hawaii. And in October, Dr. Robert Neyland, Head of the Navy's Underwater Archaeology Program, spoke to MAHS about his ongoing search for the *Bonhomme Richard*, John Paul Jones' famous flagship lost during its victorious battle with the British ship *Serapis* in 1779.

Fieldwork on various MAHS projects continued over the summer months as well. Dave Shaw conducted several expeditions to Bodkin Point in his ongoing search for the *Lion of Baltimore*. Apparently, both the U.S. Navy and the State of Maryland have a keen interest in finding this wreck, and Dave has been coordinating MAHS efforts with both of these agencies. See the full story in the following pages.

Dennis Knepper completed the drawings and prepared a preliminary report this summer on the Wicomico River project. The report was submitted to the State of Maryland, and now Dennis is planning

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MAHSNews will consider articles and notices for publication which enhance public awareness and appreciation of maritime history and archaeology.

compared to previous field school sites in the Chesapeake Bay area or local rivers. As an added luxury it was also in a warm, sunny, and beautiful beach-side town situated on a narrow barrier island. Lodgings were economical and diver friendly with a variety of restaurants within walking distance.

R*egina* served her days as a specially built molasses transport moving that heavy and viscous commodity between Cuba and the Gulf Coast. Because molasses is heavier than many other liquids viscous transported by sea, and because it becomes thicker and more viscous as it gets cooler, ships like *Regina* were engineered with special tanks, pipes, and pumps.

The Workman, Clark, and Company shipyard of Belfast, Ireland, specially built *Regina* in 1904 to meet the special demands of the molasses shipping industry. With a 36-foot beam, a 247-foot length, a gross tonnage of 1,155 tons, and powered by an 850-horsepower steam engine, she could carry up to 669 tons of molasses on each run. With a 14-foot draft she rode low over the shallow sand bars of the Gulf of Mexico, but she was agile enough to accommodate her ports of origin and delivery.

On March 7, 1940, *Regina* was en route from Havana to New Orleans carrying 300,000 gallons of molasses under tow from the tugboat *Minima* when a cold front brought in a violent storm with 8-12 foot seas and near freezing temperatures. The tugboat tried to bring both vessels to the relative safety of Tampa Bay, but the vessels were separated during the storm. *Regina* drifted south toward Anna Maria Key and finally ran aground on a sandbar a few hundred yards offshore along Bradenton Beach. Despite rescue efforts by the Coast Guard cutter *Nemesis* and a failed airdrop of lifejackets and supplies, *Regina's* crew was stranded aboard throughout the night. Seferino Canneciras, the cook, attempted to swim to shore in the heavy seas, but soon disappeared in the surf about 100 yards from shore. He and his dog were the only casualties. As the storm



The local population in the surf trying to assist in the rescue. Photo from Florida Office of Cultural, Historical and Information Programs

subsided late on the morning of March 9, a Coast Guardsman and two volunteer boatmen were able to reach the *Regina* and rescue the remainder of her crew: Capt. José Urquida, Ernesto Crusostino, José García García, Leonard Perez, and Angel Lopez. At the same time, two other crewmen, Benjamin Alfonso and Juan León, swam on their own safely to shore.

Every shop owner in town seemed to have a story to tell about the wreck of the *Regina*.

Upon our arrival in Bradenton Beach, it seemed every shop owner in town seemed to have a story of their own to tell about the wreck and its impact on the local culture. At SeaTrek Divers, the dive shop that was literally across the street from the site, posters and pamphlet displays provided an indication of how central the *Regina* is to the local dive community. SeaTrek Divers was also instrumental in the efforts at getting the *Regina* site designated as the tenth preserve in the Florida Underwater Archaeological Preserve program. The county, with the help of local activists, placed four buoys intended to mark the bow and stern sections of the wreck. Unfortunately, these buoys were not placed exactly as intended, and they currently mark empty bottom. Next door to the dive shop, at the Greek diner with a view of the buoys, the waitress agreed about their errant placement, but indicated that the *Regina* nevertheless brings in quite a few tourists to her restaurant. Even the captain of a sunset cruise boat we met had information on the wreck: he described a ranging technique known by many local mariners that uses two nearby hotels and a bridge to easily find the wreck.

Given all the anticipatory information, the group was eager to explore and survey the *Regina*. Upon arrival Friday evening, Steve Anthony and Daniel Pontbriand conducted a reconnaissance dive to locate and determine the conditions on the wreck. After struggling against a strong current and poor visibility, they aborted the dive. Unfortunately, the current, surge, and visibility all posed challenges to safe diving. The decision was made to instead hold the first day of the field school at Lake Denton, the back-up site, a sinkhole lake located about 2 hours inland.

Lake Denton proved to be an excellent training site, with adequate underwater features for trilateration exercises. It represented more challenges than the pool session which follows the live Basic Underwater Archaeology class, as visibility was significantly reduced, silt was easily stirred up (requiring maintenance of good buoyancy), and the features to be mapped still needed to be found before they could be surveyed,

requiring us to exercise underwater navigation and search skills. Before attempting to execute survey techniques in the water, a detailed review of trilateration was held on land, allowing students to practice in their buddy teams the measuring and communication techniques they would be using. Then it was time to put the skills into application. A scouting team determined the location of one of several john boats in the lake. In order to give all students the most room to practice their skills, the students were broken into two teams. The first team went directly to the wreck and began to lay a baseline and conduct a trilateration survey. The second team proceeded along a line attached to the john boat to scout for two other boats in the lake. Once the reconnaissance team found the second boat, a temporary line was left in place to aid in finding the boat again for the second dive. For the second dive, the first team continued taking measurements to complete their maps, while the second team placed a baseline on the second boat and conducted their trilateration measurements.



A.Cantrel and M.Hartman mapping one of the boats in Lake Denton. Photo by P. Kalmanson

By Sunday morning conditions at Bradenton Beach had improved and efforts to survey the *Regina* began. Staging an archaeological effort on the *Regina* posed several logistical challenges, not the least of which was limited parking. Moreover, the beach area in front of the *Regina* offered no shade whatsoever—divers without hats, umbrellas, and tent shelters risked sunburn. A beach replenishment project several years ago meant that the beach was spacious, but sand had begun to erode, washing back out into the Gulf and effectively burying most of the wreck in the process. Because the stern section of the wreck had little structure protruding from the sand, the students were split into three groups of two buddy teams to ensure that divers wouldn't crowd each other on the wreck. Even though current was negligible there was still surge at depth caused by waves

which required divers to stay vigilant about their immediate surroundings. For safety, each group's dive was limited to 45 minutes, and only one group of buddy teams would be on the wreck at once.

On the up side conducting the survey from the shore allowed for ample room to spread out. It also negated the difficulties of cost, schedule, and availability associated with getting a large group of divers onto a boat. There was easy access to the dive shop that supported the field school, since it was located across the street – air fills, gear rentals, and repairs were close at hand. If necessary, one could easily walk from the staging area to the motel in about five minutes.

As mentioned above, finding the wreck was no small task since the marker buoys were incorrectly placed. Once the wreck was located, a dive kayak was anchored over the stern section to allow dive teams to assemble and to reliably find the wreck each time a team went out. Current was minimal at the site, but visibility was limited, ranging from 6 feet to 12 feet, which meant that at times buddy team members could not see each other. Well-coordinated tape tug signals were a must for effective communication while taking measurements, since hand signals could not be relied upon as was possible in Lake Denton. Also in contrast to Lake Denton, the low visibility conditions on *Regina* made it impossible to create a reliable plan map of the site by sketching the layout while swimming the baseline.

The dive kayak was provided by Kip Peterson of the Sea Scouts. The kayak proved extremely useful for a shore-based expedition. It served not only as a marker buoy, but provided an in-water staging area and rally point for divers before descending to the wreck or after ascending.

The first group of divers laid the baseline on *Regina* using rebar, a mallet, a reel of nylon line and a long tape measure. The next group swam out, surveyed the



T.Dunlap and Z.Golosov installing the baseline at the Regina site. Photo by D.Knepper.

baseline, and began taking trilateration measurements of wreck features at the sandy bottom with respect to the baseline. Finally, the third group of buddy teams began their survey and mapping of the *Regina* once the second team had exited the water.

A group surface interval before the first team re-entered the water for a second dive allowed time to recap the morning's effort and discuss progress and areas where technique could be improved. The afternoon dives proceeded more smoothly, with more efficient data collection. At 3:45PM, the baseline was taken up and the day's survey exercises completed. After cleaning up the staging area and returning all divers and gear to the hotel, it was time to gather all the collected data and plot the points taken to make a map of the *Regina*.

Sunday evening's plotting session revealed several strengths and weaknesses in the data collection methods demonstrated by the field school students. A composite plot makes it clear that all buddy teams took similar measurements of the wreck's notable features. What seemed missing, however, were details about which particular features were being mapped. While in Lake Denton it was clear which features were being mapped, the poorer visibility on *Regina* meant that buddy teams were less sure about how the feature being mapped fit within the overall site. Many features were worn by sea and sand and covered with marine growth; without visual reference to other nearby features context was difficult to establish. Notes were made about the physical characteristics of an individual feature: "concrete," "round," "wire," "bulkhead," etc.

However, many sketches still contained data points that plotted mystery features whose attributes and context would have to be resurveyed, demonstrating the slow, deliberate process that is underwater archaeology.

As the students of the first class were leaving the students of the second class were arriving. Their mapping exercise was able to proceed in more efficient manner as they were able to take some of the lessons learned and logistical efficiencies worked out by the first session. Furthermore, the smaller class allowed each buddy team more time in the water. Conditions that greeted the second class were also significantly calmer allowing them to dive the *Regina* on both days and obtain more detailed measurements. The second class was also able to conduct a search for other significant features on the wreck site, including the underwater monument which is a part of all sites in the Florida Underwater Preserve program.

All course objectives for the 2007 Field School were met. Given the abbreviated time spent on *Regina*, the composite site map produced from the collective data showed promise in terms of providing updated data on site features and revisions to the currently available site map. Both sessions of the 2007 MAHS Field School proved successful in allowing students to demonstrate

practical survey and measurement skills in open water on a wreck of historical significance. ⚓



left: D.Shaw, D.Pontbriand, and K Petrovic taking shelter from the sun;
top: T.Berkery, J.Kalmanson, and P.Kalmanson heading for the water;
right: G.Olive, K.Peterson, Z.Golosov, and W.Golosov preparing for a dive. Photos by D.Shaw and D.Knepper.

More information about the *Regina* Shipwreck Preserve can be found at <http://www.flheritage.com/archaeology/underwater/preserves/uwregina.cfm>

C&O Canal Boats, Cumberland, Maryland

By Bryan Corle

Between 1998 and 2005 John Milner Associates conducted several archaeological investigations at the terminus of the Cumberland & Ohio (C&O) Canal in Cumberland, Maryland. So far the site has yielded the buried remains of two boatyards and eighteen canal boats. This article will present a brief history of the canal, along with a summary of the results of our investigations of the boatyards and the boats we uncovered.

During the nineteenth-century Cumberland was known as the Queen City of Maryland, rivaling Baltimore in population and industry. Located in the foothills of the Alleghenies, the mountains west of the city contained a rich resource base of coal, iron, and timber. The presence of these materials fueled a drive to export these resources to the markets of Washington, D.C., Baltimore, and beyond.

Cumberland was also gateway to the west: Braddock's Road, the National Road (US Route 40), the Baltimore & Ohio (B&O) Railroad, and finally in the twentieth-century, Interstate 68, have followed the gentle grade through the mountains west of the city.

In the early nineteenth century, during the Era of Great National Projects, the need for a canal stretching from the tidal zone of Georgetown to Pittsburgh was envisioned. The engineering required for this task was immense, however the triumphs demonstrated by the successful completion of the Pennsylvania Canal showed that the mountains could be traversed by using a combination of rails, and inclined planes. The first section of the canal was to follow the Potomac River to its confluence with Wills Creek in Cumberland. Then by means of locks, inclined planes, and rails the canal would cross the Alleghany Front westward into the Monongahela River drainage and eventually end in Pittsburgh.

During the nineteenth-century Cumberland was known as the Queen City of Maryland, rivaling Baltimore in population and industry.

Construction of the canal began in 1828. Coincidentally, the Baltimore and Ohio Railroad was started at about the same time. The railroad, like the canal, would follow the Potomac River and cross the Alleghenies. Construction of the canal was beset by many set-backs: labor problems, engineering difficulties, financing, and floods delayed the canal's arrival in Cumberland. Finally in 1850, after 22 years the

C&O Canal reached Cumberland. By this time the B&O Railroad had reached Cumberland and had already crossed the Alleghenies into Pittsburgh. Plans for continuing the canal across the mountains were scrapped, and the canal terminus was established in Cumberland

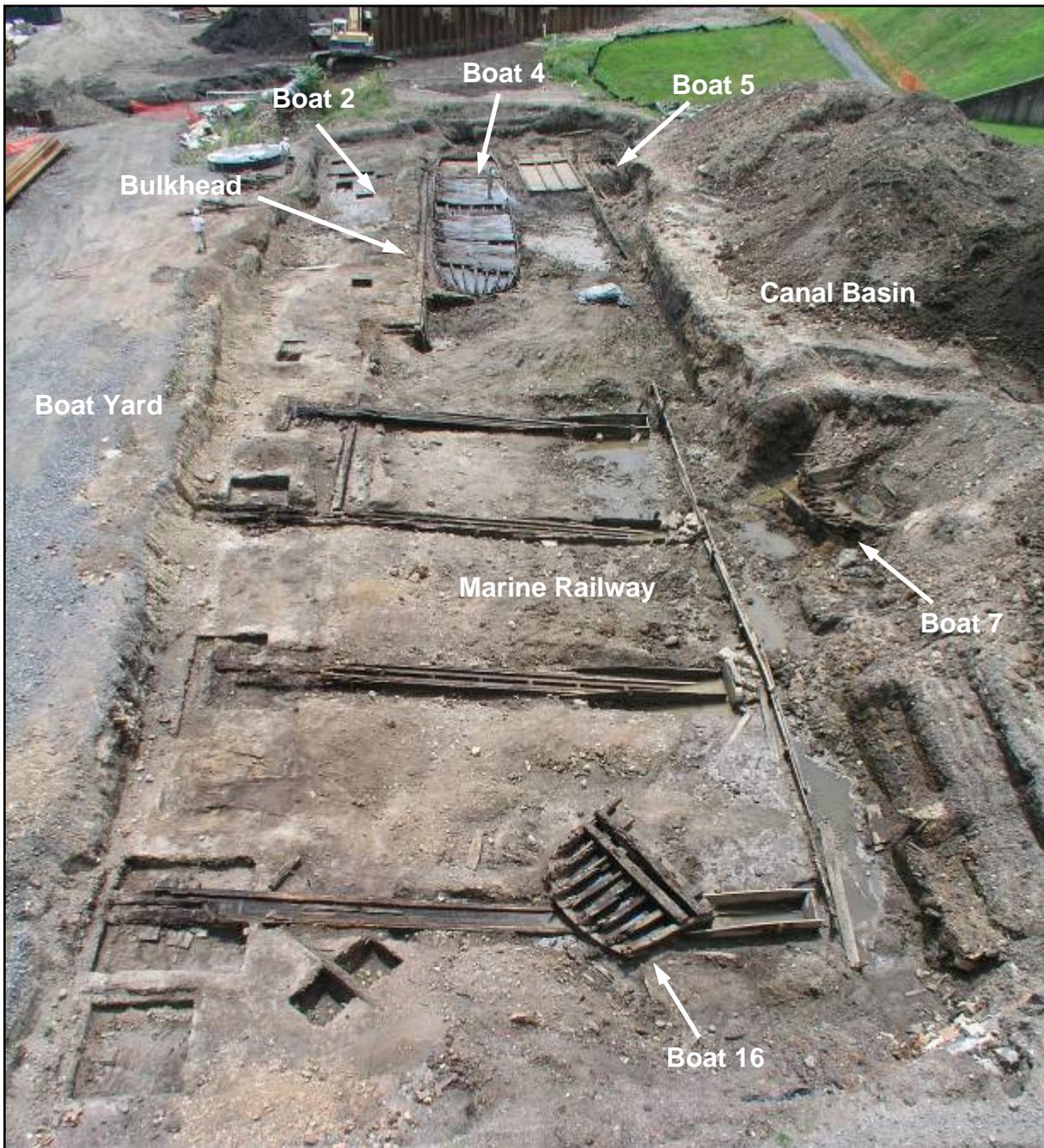
The arrival of the canal was much anticipated by the citizenry of Cumberland. Businesses including boatyards and warehouses sprouted up around the canal terminus. One of the boatyards we investigated operated between 1850 and *circa* 1892. From 1850 to 1853, the boatyard was owned by William Ward. In 1853 Ward sold his interest to Thomas Weld. By 1883 Weld entered into partnership with David Sheridan, and the yard became known as the Weld and Sheridan Boat Building and Repair Yard.



*Canal Towage Company waterfront circa. 1910.
Courtesy of the Herbert and Stacia Miller collection.*

In 1851, the boatyard is estimated to have encompassed an area of approximately 300 by 330 ft., or 90,000 sq. ft. In the beginning, the boatyard consisted of only a few buildings, the majority of the yard being open space that contained stacked materials and activity areas where boats were built and repaired. Our archaeological investigations included recordation and excavations with a specific focus on boatyard layout and waterfront features. The boatyard waterfront contained a bulkhead, marine railway, and boatyard ground surfaces.

A marine railway is a device that provides a means of conveying a vessel to and from the water. It typically consists of tracks or skids and a hauling mechanism. Our archaeological investigations exposed the entire 70-by-45-ft. side-haul railway used at the original Ward/Weld yard. It consisted of four sets of tracks and mounted on each set were iron rails which supported the mechanism (stocks) used to haul and launch the boats. The interior and exterior tracks were constructed differently, while the transition from the canal to the



Overview of the Weld and Sheridan boatyard waterfront, facing south. Photo by J.Balicki.

boatyard was covered with wood planking.

Our excavations exposed approximately 77 ft. of the 113-ft.-long bulkhead. A vessel that we designated Boat 2 was found parallel to the bulkhead extending along much of its length (62.5 ft.). In addition to exposing the canal-ward section of the bulkhead, a 12-ft. section of the buried north end was also exposed.

In 1889, the storm that caused the Great Johnstown Flood resulted \$300,000 in damages to the C&O Canal, heavily damaging the waterway, scattering boats across a wide area, and resulting in the loss of hundreds of jobs. Subsequently, the canal went into receivership.

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The B&O Railroad gained control under the name of the Consolidated Coal Company, which had a stake in the canal's continued operation for coal transportation. In order to keep the canal right-of-way from falling to competitors, the B&O reopened the canal, although for 18 months, no official navigation was conducted. Finally, in 1891 the canal reopened to shipping.

After Consolidated Coal Company took over control of the canal, the Weld and Sheridan Boat Building and Repair Yard went out of business. Consolidated Coal constructed a new boatbuilding facility (the Canal Towing Company) approximately 450 ft. south of the former Weld and Sheridan Boatyard.



Historic photo of the Canal Towage waterfront south of the marine railway. Courtesy of the National Park Service.

The Canal Towage Company built almost all the boats that plied the canal from circa 1912 to 1924. Historic photographs show it as a vibrant workplace, with open space covered in boats being built and repaired.

The ascendancy of the Canal Towage Company ended several traditions that had flourished on the canal. The inability of independent boatmen and associated small businesses to compete with the Canal Towage Company led to standardization of boats, cargo, and the workforce.

The flood of 1924 permanently ended the viability of the canal as a method of transporting goods. The Canal Towage Company was permanently closed in the early 1930s, and a salvor was hired to remove the larger items that could be resold. By the 1940s, the Canal Towage Company boatyard lay in ruins. Flood control projects in the 1950s eventually buried the yard beneath 8-to-17 ft. of fill.

Our excavations at the boatyard exposed several elements of the early-twentieth century waterfront including the later marine railway and bulkhead, three boatyard foundations, and a boatyard ground surface. The marine railway, like the earlier version, was a side-haul, four-track railway but was constructed with poured concrete. A single-hoist engine located in a small structure 20 feet north of the northernmost track powered the railway. Other related features recorded during post-excavation monitoring included a portion of a clay liner within the railway and a fragment of the stock mechanism used to haul boats from the water.

The use of poured concrete allowed for greater consistency, compared to the nineteenth-century wooden marine railway. Furthermore, the concrete construction reduced maintenance requirements, was less likely to shift, and less susceptible to damage during routine dredging.

Investigations of the boats focused on recording the surviving structural remains as a means of documenting construction technology. The majority of the boats were large cargo carriers that showed a degree of uniformity

in overall design, although some structural configurations, principally bow treatments, varied. Most of these cargo carriers were found in deposits dating to the latter period of canal operations. Interestingly, the most variety in hull configurations was seen in early canal deposits. This reflects a time when captains owned their boats and, since hauling coal had not yet become the dominant activity of the boats plying the canal, a wider variety of goods was transported.

Boat salvage was an important activity at Cumberland's boatyards. The adjacent boatyard and the nearby Canal Towage Company boatyard made extensive use of the Main Basin and canal prism between the Canal Towage Company boatyard and the Guard/Inlet locks for boat construction, repair, salvage, and disposal. In the winter, the canal was drained and boats were worked on wherever they lay grounded. If the task was salvage, unwanted parts were often merely weighted and left on the canal bottom to become submerged when the canal refilled in the spring and eventually sink into the canal sediments. All 18 boats documented in our study exhibited some evidence of salvage. With the exception of Boat 6, the boats were generally salvaged down to the framing for the bottom hull. In many cases, the decking on this framing was still present. On all but Boat 6, the composite beams for the bows and sterns were removed down to the first beams that joined to the hull frame timbers.



Overview of the Canal Towage Company Marine Railway, facing north. Photo by J.Balicki

Two types of wood (oak and pine) were used exclusively for the construction of the boats. The woods had different functions. Oak was used for all the framing. Where encountered the bottom hull planks at the boat ends were oak (see Table 1 and 2). The wear strakes encountered on Boats 2, 4, and 6 were also oak. Pine was used for the midships bottom hull planks, the side hull planks, and for the majority of interior decking.

Table 1. Canal Boats Documented During the Excavations.

Boat	Age (estimate)	Class ¹	Hull type	Width	Portion Exposed	Structural Wood
1	(1850-1895)	A-D	Flat bottom with a keelson and transverse framing, similar to Boats 12 and 17	Unknown	Amidships	Pine keelson; oak framing; oak hull planks
2	(Ca. 1895-1910)	A or B	Ca. 84 ft. long, flat bottom with a keelson and four sister-keelsons	14 ft.	Entire boat	Oak framing; pine flooring; pine side planks
3	(Post-1895)	A-D	Flat bottom with a keelson and four sister-keelsons	14 ft.	Bow or stern	Oak framing; pine side planks
4	(Ca. 1897-1910)	F	30-by-11.3-ft. flat bottom with two keelsons, expediently made utilitarian boat	11.3 ft.	Entire boat	Oak framing; pine side planks; oak and pine decking and bottom hull planks
5	(1910-1921)	A-D	Over 80 ft. long flat bottom with a keelson and four sister-keelsons	14.5 ft.	Bow	Oak framing; pine side planks
6	(Post-1912)	A or B	Approximately 86 ft. long, flat bottom with a keelson and four sister-keelsons; rudder assembly intact; hogging truss system present	14.5 ft.	Bow and stern	Oak framing; pine side planks and decking; oak ware strake; oak hogging beams; oak bow and stern hull planks
7	(Ca. 1890s-1920s)	A-D	Flat bottom with a keelson and four sister-keelsons	Unknown	Bow	Oak framing; pine side planks; oak cutwater
8	(Pre-1892)	A-D	Flat bottom with transverse framing and keel	14 ft.	Amidships	Oak framing, oak keel; oak side planks; pine bottom hull planks
9	(Ca. 1890s)	A-D	Flat bottom with a keelson and four sister-keelsons	9-14 ft.	Bow or stern	Oak framing; pine side planks; oak and pine bottom hull planks
10	(1850-1890s)	F	Curved bottom with transverse framing, no keel or keelson	8 ft.	Bow or stern	All oak construction
11	(Pre-1892)	A-D	Flat bottom with a keelson and two sister keelsons	9.5- 13.5 ft.	Bow or stern	Oak framing; pine side planks; oak and pine bottom hull planks
12	(1850-1895)	F or packet	Flat bottom amidships with curved bow, has a keelson, transverse framing, and futtocks, similar to Boats 1 and 17	14 ft.	Bow or stern	Keelson, perpendicular framing, futtocks, and hull planks are oak; pine decking
13	(1900s-1910s)	A-D	Flat bottom with a keelson and perpendicular framing, keelson and sister keelsons joined to a perpendicular support before the end of the boat	14.5 ft.	Bow or stern	Oak framing; pine side planks
14	(1910s-1930s)	B-D	Flat bottom with a keelson and four sister keelsons	13 ft.	Amidships	Oak framing; pine side planks; pine bottom hull planks
15	(1910s-1930s)	B-D	Flat bottom with a keelson and four sister keelsons	13 ft.	Bow or stern	Oak framing; pine side planks; oak bottom hull planks
16	(Ca. 1890s-1920s)	A-D	Flat bottom with a keelson and four sister-keelsons; similar to the bow of Boat 2	Unknown	Bow	All oak construction
17	(1850-1895)	F or packet	Flat bottom with a keelson, transverse framing, futtocks, similar to Boats 1 and 12	14 ft.	Amidships	Keelson, perpendicular framing, futtocks, and hull planks are oak; pine decking
18	(1900-1930s)	A or C	Approx. 86 ft. long, flat bottom with a keelson and four sister-keelsons; rudder assembly intact;	14/14.5 ft.	Bow and stern	Keelson and hull planks at bow and stern oak; decking pine

¹based on 1851 regulations

Table 2. Canal Boats Documented During the Excavations: Hull Configurations.

Boat (s)	Hull Type ¹	Hull Structural Configuration
2, 16	Ia	Flat-bottom with a central keelson with two sister-keelsons on either side; at the bow end of the keelson is feathered to allow for the upward curve of the bow; bow and stern constrict.
5	Ib	Flat-bottom with a central keelson with two sister-keelsons on either side; at the bow end, the keelson is feathered to allow for the curve of the bow; square wood frame on bow may be a crane foundation; bow and stern constrict.
3, 6, 7, 14, 9, 15, 18	Ic	Flat-bottom with a central keelson with two sister-keelsons on either side; bow and stern constrict.
13	Id	Flat-bottom with a central keelson with two sister-keelsons on either side ending at a notched cross-brace.
11	II	Flat-bottom with a central keelson with one sister-keelson on either side; bow and stern constrict.
1, 12, 17	III	Flat bottom with internal keelson over transverse framing ribs set perpendicular to the long axis of the boat. Boat 12 has a curved end (bow or stern). Futtocks are present on the sides of Boats 12 and 17.
4	IV	Flat-bottom with two parallel keelsons.
8	V	Flat-bottom with keel holding transverse framing ribs
10	VI	Narrow curved hull boat with transverse framing ribs; no keelson

¹arbitrary designation

The construction dates for the majority of the boats found at the site appear to pre-date the Canal Towing Company. Based on evidence of standardized design, it is likely that only Boats 6, 7, 18, and, possibly Boat 3 were made at the Canal Towing boatyard. Boats 13, 14, 15, and 16 appear to be older boats that may have been salvaged by the Canal Towing Company, but were built elsewhere. The remaining boats (1, 2, 4, 5, 8, 9, 10, 11, 12, and 17) may have been built at the Weld and Sheridan Boatyard or were at least salvaged there.



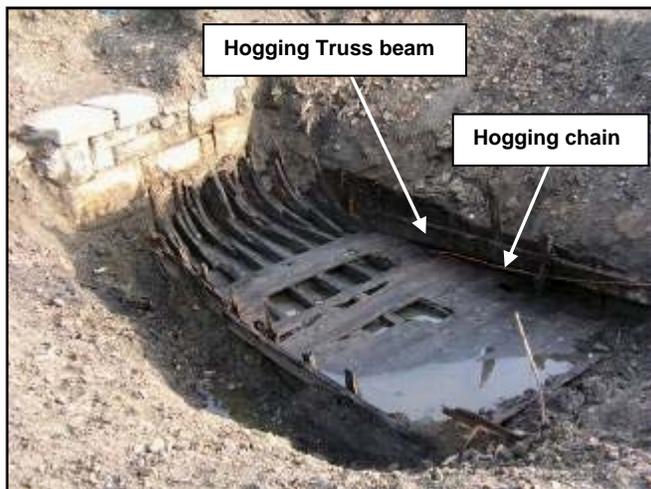
Detail of futtock on the amidships section of Boat 12, facing south – note butt joint. Photo by J. Balicki.

Boats on the canal were divided into several classes, with bulk cargo carriers being the most numerous class of vessel. The form these boats took, their method of construction, and from what boatbuilding traditions they evolved from are not well understood. No records

have been found that detail how boats were built or who comprised the labor force between 1850 and 1889.

Even in the final years of the canal, despite standard designs, no formal plans for vessel construction were used, and boat builders relied on experience. Templates guided the shape of the bow and stern, but the physical construction of the structural members was left to the workers, as the “big uprights” were composite beams and not a single timber. It appears that there was a degree of conservatism in boat design. This may reflect the economic reality that it took very little, in the way of design, carpentry, and experience to construct a utilitarian, flat-bottomed canal boat. The only complex carpentry involved was in the uprights for the bow and stern. The other framing elements were connected by simple butt joints. Furthermore, the apparent retention of a simply designed and built boat may reflect restrictions imposed by knowledge based on the accumulation and passing of experience.

As early as 1831, regulations were adopted for navigation on the canal. These regulations included the division of the boats on the canal into four categories: packet, freight, scows, and gondolas. These classifications were modified in 1851 when the boat classification system was expanded to seven classes. The 1851 classification system appears to have remained in place until the canal went into receivership in 1889. Class A included decked boats of substantial build able to transport 100 or more tons of cargo. The length of these boats varied between 76 ft. 9 inch (in.) to 92 ft. with a width of 14 to 14 ft. 6 in. Class B boats were smaller versions of Class A boats, ranging from 70 to 90 ft. in length, 11 ft. 9 in. to 14 ft. 7 in. wide, but they carried less than 100 tons of cargo. Class C included



*Overview of the bow end of Boat 6, facing northwest.
Photo by J. Balicki*

boats that could carry 100 tons or more of cargo, but were not decked and ranged from 86 to 92 ft. in length and 13 ft. 6 in. to 14 ft. 7 in. wide. Class D boats were un-decked boats ranging between 66 ft. 7 in. to 90 ft. long, 10 ft. 8 in. to 14 ft. 6 in. wide, and carrying less than 100 tons. Class E incorporated long boats and scows that could carry cargo over 100 tons and were between 58 ft. 10 in. and 85 ft. 4 in. long (the width was unrecorded). Class F included gondolas and floats designed for temporary use ranging from 71 ft. 4 in. to

85 ft. in length and 9 ft. 1 in. to 14 ft. 6 in wide. The final category included packets for the transportation of passengers: no dimensions were recorded.

The number of boat classes indicates that boat design was not standardized and that boats on the canal reflect a range of different designs. A breakdown of the 224 boats that were registered in 1850 indicates that almost half were class C scows. The majority of these boats were privately owned in the 1850s, but by the 1870s a quarter of the boats were owned by the coal companies. In 1902, the Canal Towage Company was formed, and this company supplied the boats that were used on the canal; thereafter, boats were numbered and became uniform and utilitarian in construction.

The examination of the canal boats collected significant information on the vessels that plied the C&O Canal over the course of nearly a century. The canal boats at Cumberland are the only definitive examples of C&O boats. It appears that early on there was variety in canal boat design, but as the hauling of coal came to dominate the use of the canal, the trend was toward large, flat-bottomed boats that were constructed using a similar design. †

Bryan Corle is an archaeologist at the Alexandria, Virginia, office of John Milner Associates, a cultural resource management consulting firm based in West Chester, Pennsylvania.

Wicomico River's Graveyard

By Jennifer Gardner

In December 2006, I began a research project under the direction of Steve Bilicki to investigate a number of watercraft found in the Wicomico River, on the Eastern Shore of Maryland. We conducted an archaeological survey that began at the public boat ramp in the City of Salisbury and continued downriver about five miles to Patrick's Landing. In total, nine wrecks were located using a combination of side-scan sonar and visual survey. The winter season was deliberately chosen for the survey because tide conditions are most favorable during the winter months, even though the working conditions are otherwise not necessarily idyllic.

As part of the investigation pictures, measurements, and in some cases drawings were made to record the condition of each wreck. The oldest wreck that we found is thought to date around the late Colonial period. The youngest wreck located is said to be a Higgins craft from World War II. All of the wrecks appear to have been stripped so that all that is left are remnants that only hint at one-time glory. Not all of the vessel remains were completely visible at low tide, and so we used a



Schooner or bugeye at Patrick's Landing. Frames are notched to fit over the keel. Photo by E. Ragan.

Yellowfin side-scan sonar system to image some of the wrecks.

Three of the wrecks are thought to be either schooners or bugeyes, the schooner-rigged vessels



Schooner at Patrick's Landing showing shoreline context. Photo by E.Ragan.

developed in the Chesapeake Bay for oyster harvesting. One is on the shoreline at Patrick's Landing. This wreck is one of the most intact vessels that is visible at low tide. Although no keel could be seen, notches for the keel were present in the frames. In an attempt to get a better view of the wreck and possibly locate the keel, we conducted a side-scan sonar survey at high tide. On the sonar, the wreck measured 11.16 meters long and debris could be seen scattered up and down the riverbank for approximately 50 meters.

Also located near Patrick's Landing was the second wreck, sitting on the edge of the channel in about ten feet of water some 24 meters from the first wreck. This site was found with the Yellowfin – the vessel remains measured 23.47 meters long in the sonar image and a centerboard appeared to be present.



Gumby Landing Wreck #1, a centerboard schooner. Photo by E.Ragan.

About two miles upstream, the third and fourth wrecks were located at Gumby Landing. The silt and sediment in this area made the water too shallow for maneuvering the work boat, so survey was done by

visual inspection. Gumby Landing #1 was a multi-log canoe with a centerboard. The width of the log planks was 2.95 meters. The vessel was barely visible during low tide, with half of it submerged in shore sediments and water. Gumby Landing #2 was approximately 10 meters away and appeared to be a flat-bottomed barge. The wreck was not noticeable from the water and only traces remain. Gumby Landing #2 measured 9.2 meters in length and 3.35 meters in width. Gumby Landing also became a camera graveyard when I dropped my digital camera into the water while getting off the boat to investigate what was along the riverbank. I lost all my pictures up to that point.

The last five wrecks were discovered upstream, in the vicinity of the Salisbury public boat ramp. The first, Salisbury #1, was a flat-bottomed barge lying just below the high tide line. It measured 9.36 meters in length and 5.3 meters in width. The only remnants of the vessel were a rough outline consisting of deteriorated timbers and a line of iron fasteners.

Salisbury #2 was located only a few meters north Salisbury #1. When the vessel became visible at a very low tide, we realized how fortunate we had been that Steve's Carolina Skiff had not been damaged, since the wreck was quite impressive, measuring 20.99 meters in length and 5.21 meters in width. The bottom of this vessel may be intact, although filled with silt and sediment.

The next wreck went unrecognized for much of the survey. We went by it on every pass along this stretch of the river without paying it much attention. It was not until an older gentleman coming in from hunting on the river asked us what we thought about the vessel that was on the bank. He pointed to what we had assumed was just an old dock that had been tossed up on the riverbank to rot. It turned out to be a World War II Higgins landing craft. The Higgins boat, as it is also called, measured 12.05 meters long and 2.61 meters wide.

The next wreck, Salisbury Ramp #1, appears to have been a plank-on-frame vessel measuring 30.10 feet in length and 11.2 feet in width. The wreck was the subject of documentation investigation by MAHS in February of 2007, as reported in the previous issue of *MAHSNEWS* (Vol. 16, No. 1, Spring 2007). This wreck lay below the mean low tide line and thus is not always visible even at low tide. The owner of the adjacent property has been trying to get permits to remove the wreck, not realizing that it actually protects his property from erosion.

On the last day of the survey, a reporter and photographer from the *Salisbury Daily Times* came along with us. The resulting newspaper article created some buzz among the local community and led to my meeting with the Historical Coordinator of the



Higgins Boat or Landing Craft on the bank in Salisbury. Photo by S.Bilicki.

Pemberton Hall Foundation, Inc., Bill Wilson. In addition, a Salisbury resident sent me a picture that he took in 1974 of two abandoned wrecks. Reproduced on the next page (upper left), the large ship on the right is said to be the *Jenny Belle*. The wreckage on the left may be the wreck that we identified as Salisbury #2.

Through study conducted at the Edward Nabb Research Center at Salisbury University, we are beginning to be piece together portions of the maritime



Right, Jenny Belle; left unidentified centerboard schooner. Photo by D. Connell.

history of the Wicomico River. Salisbury residents have been forthcoming with their knowledge, pictures, and artifacts. Pictures received and taken during this project provide an excellent example of why maritime archaeology is important, particularly in an area such as Maryland's Eastern Shore. Data from the Maryland Historical Trust has indicated the large number of maritime sites in the region. A visit to the U.S. Army Corps of Engineers brought to light a report completed in 2000 that noted six wrecks discovered in the Wicomico River, further downriver closer to Whitehaven. This information has led me to the conclusion that like many navigable rivers in the area, the Wicomico River was a dumping ground and graveyard for vessels that were no longer serviceable.

The Delmarva area is rich in maritime resources. But as the pace of development increases, shorelines are altered and associated nautical remains destroyed. Moreover, natural processes promote the rapid deterioration of archaeological sites, particularly in shoreline environments. Information from the current survey including comparisons of historical photographs and current conditions highlights these changes and underscores the importance of documenting riverine sites.

Further investigations are needed to continue the research started here and to fill in our understanding of the history of the Wicomico River and the numerous vessels lining its shores. MAHS has begun plans to return to the Salisbury boat ramp to more fully examine and document the wrecks there. †

Jennifer Gardner is a student of maritime archaeology at Salisbury University, on Maryland's Eastern Shore.

For additional information and photographs of the wrecks near the Salisbury boat ramp, see <http://mahsnet.org/projects.php>



Tom Berkey, Susan Langley, and Jennifer Gardner examine the Salibury #2 wreck. Photo by D.Knepper.

Discovery of the Wrecks of the Whaling Ships *Pearl* and *Hermes* in the Northwestern Hawaiian Islands

By Dwayne Meadows

In 2004 and 2005 I worked in Hawaii at the Pacific Island's Fishery Science Center of the National Marine Fishery Service as a coral reef specialist studying the reefs of the U.S. Pacific and working on a project to remove marine debris, mostly derelict fishing nets, from the reefs of the remote atolls and islands of Northwestern Hawaiian Islands (NWHI). This was a large project (involving 25 divers and a 160 foot contract research vessel) that was a priority in the region because fishing nets were entangling and drowning Hawaiian monk seals (an elongate seal with only about 1200 surviving individuals) and green sea turtles that are both protected under the Endangered Species Act. The nets also smother corals and entangle the numerous nesting seabirds in the area.

In 2004 the Science Center team had scheduled two 2-month long trips to the NWHI. To do this work we use "towboards" that allowed us to be pulled behind small inflatable boats in order to cover lots of ground while searching for nets. In 2004 we focused on Pearl and Hermes Atoll, one of the largest atolls in the system, and the one with more marine debris than any other. In preparation, Hans van Tilburg, the Pacific Underwater Archaeologist for the National Marine Sanctuary Program, briefed the team on protocols for dealing with shipwrecks, of which there were a number suspected to be at Pearl and Hermes Atoll.

Near the end of the first leg of the trip some divers started to find small bits of metal and wood inside the lagoon that were suggestive of an old shipwreck, but no large items were found nearby. Work duties and weather conditions prevented us from exploring the fore-reef and reef crest until the trip's second leg.

One afternoon in September at the end of a long day of hauling nets we got a radio call that another team had found major parts of a shipwreck that appeared to be a whaling shipwreck based on the presence of large steel "trypots" used to render whale flesh into valuable oils.

Quickly thereafter we used our afternoons and off-days to further explore the site.

It was an exhilarating time to be diving in the area and really lifted our spirits after being bored with the three month routine of surveying reefs and hauling marine debris. Many of us explored the wreck area and eagerly crowded around after dives telling the others of our finds in different parts of the shipwreck site. Another diver and I decided to head into the rougher waters near the reef crest where we managed to find another 12-foot-long anchor and some large metal hooks that measured one-to-three feet long. We later learned these were probably blubber hooks used to hoist and handle large, heavy chunks of whale meat for processing.

It quickly became apparent that we were dealing with the wreckage of two 19th-century

whaling ships based on the number of anchors and trypots and other associated gear. We were all excited realizing we had probably found the long-lost wrecks of the *Pearl* and the *Hermes*, after which this atoll system was named. We began to document and map the area based on advice relayed to us by satellite phone from Hans.



Map of the Northwestern Hawaiian Islands showing the location of Pearl and Hermes Atoll over 1,000 miles to the northwest of the main Hawaiian Islands. Map courtesy of NOAA.



One of the large anchors found on the Pearl site. Photo by the author.



*Two cannons found on the Hermes site.
Photo by the author.*

The most surprising and exciting find for many of us was a total of six cannons. These were just over 3 feet in length and were found with a number of cannonballs, showing that the high-dollar-value business of whaling was not without its risks from pirates and thieves and other violence during this time period. Large copper fasteners are scattered about, having been caught in depressions in the reef; while some still emerge vertically from the wooden keel. Distorted copper hull sheathing sections are pressed into the coral substrate and help delineate the resting places of the ships. Many of the iron and copper artifacts are literally embedded in the calcareous algae, fixed firmly in place. Other artifacts found included tools, ship timber, the pintle and gudgeon from the *Pearl*, hardware, five 10-to-12-foot-long anchors, seven trypots, and portions of the tryworks (structures built of brick and metal to house the trypots).

The wreck sites lie within state waters, as well as within the management areas of the Hawaiian Islands National Wildlife Refuge and the Northwestern Hawaiian Islands Marine National Monument, so they enjoy a number of legal protections. However, the site environment is challenging to work in. The *Pearl* lies just seaward of the reef crest in the surf zone. The northern end of the site is only 12 feet deep and wave

action is strong. Just to the east of the site is a high shoal spur area of reef which frequently has breaking waves so dive boats must "live boat," or stay unanchored, in order to avoid danger. Divers on the site can expect 10-15 feet of horizontal surge on the bottom, with breakers rolling over their heads. There is minimal coral cover in this area.

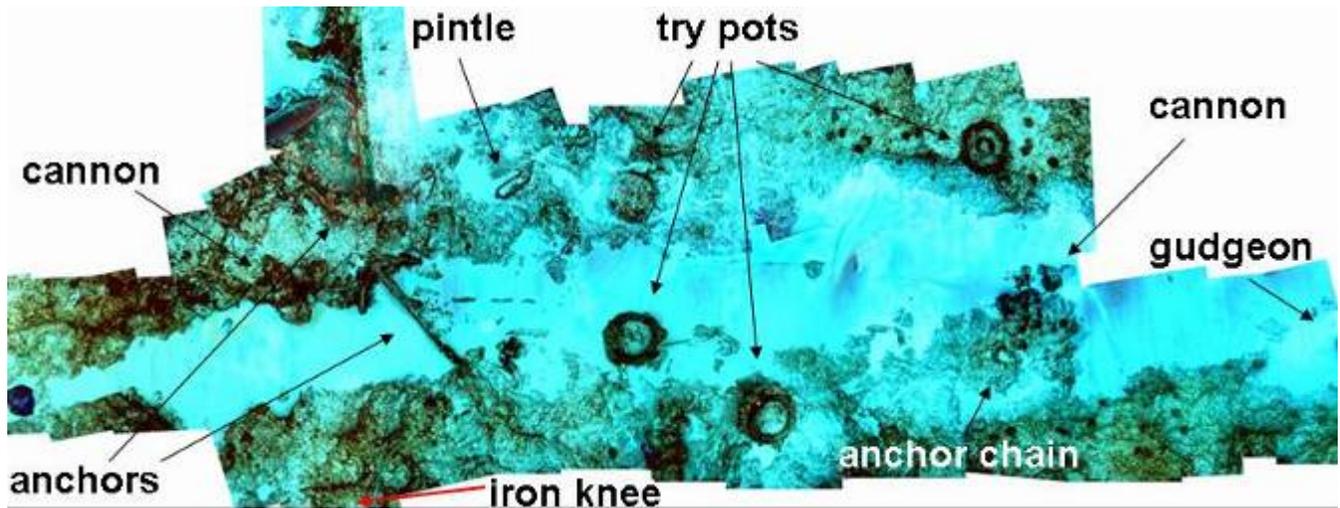
After returning to Honolulu we learned more of the history of these ships and the fate of the crews. At the time of the shipwrecks, both ships were working for the British South Seas (Pacific) whaling industry. The *Pearl* was originally built in Philadelphia as a 320-ton vessel as early as 1805. Some time after that, it may have been captured by the French during the aftermath of the Quasi-war and named *La Perla*. It was later captured by the British privateer *Mayflower* and from there was put into service in the whaling industry out of London. No drawings of either ship have been found and archaeologists have yet to establish the exact size or type of either the *Pearl* or the *Hermes*. Little is known about the *Hermes* history besides the fact that it was smaller at about 262 tons.

In April 1822, the two ships set off from Honolulu to the newly discovered whaling area called the Japan Grounds where sperm whales were targeted. The grounds were first discovered by Captain Allen of the *Maro* in 1820 (who also found in 1820 another atoll in the NWHI that they named after their ship). In 1822, only 20 whaling ships were in the Japan Grounds that in their heyday from 1830-1840 had over 100 ships a year. The *Pearl* and *Hermes* were thus on a track which took them through the uncharted Northwestern Hawaiian Islands.

At about 4 am on the 26th of April 1822, the *Hermes* ran aground on the unseen reef. The *Pearl* tried to come to their aid, but also ran aground a few minutes later, reportedly about a quarter-mile to the east of the *Hermes*. Both ships were stuck fast and eventually



The pintle from the Pearl site. Photo by the author.



Photomosaic of the main part of the Pearl site. Courtesy Hans van Tilburg.

broke apart on the sharp coral. The combined crew of 57 made it to a small sandy islet nearby and became castaways. They survived for months with what meager provisions they could salvage, along with animals they could capture.

A carpenter from the *Hermes*, James Robinson, supervised the building of a small 30-ton schooner, christened *Deliverance*, from the wreckage of the two ships. Before the *Deliverance* was finished, the ship *Earl of Morby* passed nearby and rescued most of the crew. However, Robinson and 11 others were able to recover some of their financial losses from the wreck by staying on the island, finishing *Deliverance*, and sailing her back to Honolulu, where they eventually sold her for \$2,000. James Robinson went on to found the highly successful James Robinson and Company shipyard in Honolulu in 1827 and became an influential member of the community.

Later in 2005 and in 2006, Dr. van Tilburg



An encrusted trypot with copper sheathing stuck underneath and lead ballast to the right from the Pearl site. Photo by the author.

organized expeditions to further study these and other wrecks in the NWHI. The archaeology team used a combination of permanent datums, baseline trilateration, digital photography, and GPS equipment to generate data for site plans and artifact interpretation. High definition video was used to record artifacts and the work process. Permits were obtained to remove some artifacts to help identify the ships and their key features. The artifacts were shipped to a submerged artifact conservation and stabilization facility at California State University at Chico, under Dr. Georgia Fox. Wood from timbers of the shipwrecks was sampled and sent to the PaleoResearch Institute, in Colorado, for species analysis: the wood was determined to be oak and pine.

Archival research, as well as collaborative interpretive work at London's Dockyard Museum, the New Bedford Whaling Museum, and elsewhere is currently underway. The field survey work has concentrated on the *Pearl* site. The archaeologists have determined that the ship ran aground when the oak keel ground into a shallow sand channel, pressing the keel and lower (garboard) strakes deep into the coral reef bordering the channel. Anchors that were not deployed pinpoint the bow of the vessel towards the reef, and the gudgeon and sternpost hardware show the location of the stern to seaward. Inshore, a large anchor appears to have been set, possibly to hold the stricken vessel in place after wrecking. Four large trypots, fallen through the decks, now trap sections of hull sheathing beneath them, indicating that they fell through the ship as it deteriorated where it initially grounded.

According to Dr. van Tilburg, the *Pearl* and the *Hermes* may be the only vessels of the British South Seas whaling industry ever discovered in an archaeological context. Moreover, these are the oldest shipwrecks yet discovered in the Hawaiian Islands. Thus, these wrecks greatly contribute to the story of an

important era in Hawaiian history when the whaling industry expanded American commerce to the far reaches of the globe and led ships through the remote atolls of the Northwestern Hawaiian Islands. As such, they have very high potential for nomination to the National Register of Historic Places. †

Dwayne Meadows is a marine biologist with the National Marine Fishery Service.

For more information see the Northwestern Hawaiian Islands Marine National Monument website:

http://www.hawaiiireef.noaa.gov/maritime/pearl_hermes.html

or for a description of the 2006 Pearl Site Survey

<http://sanctuaries.noaa.gov/maritime/expeditions/pearl.html>

***Herman Melville's Whaling Years*, by Wilson Heflin, edited by Mary K. Bercaw Edwards and Thomas Farel Heffernan, Vanderbilt University Press.**

Independent of Dwayne Meadows' article on the archaeological remains of whaling vessels in the northern Hawaiian Islands, we received a review copy of *Herman Melville's Whaling Years*, by Wilson Heflin. The work is a study of the four years in the 1840s that Melville spent on whaling vessels in the Pacific, years that he used as the basis for most of his novels about the sea.

World-wide demand for whale oil grew rapidly in the mid-18th century, and the American centers of Nantucket and New Bedford prospered greatly. American whaling ships dominated the industry, which reached its peak between the War of 1812 and the Civil War. It was during this period that Melville took to sea.

Herman Melville's Whaling Years is the result of renowned Melville scholar Heflin's dissertation research at Vanderbilt University in the 1940s and 50s. Heflin did not publish the work because he felt it was incomplete: fifty years after he began writing he was still gathering information. Heflin died in 1985, following which two other well-known Melville scholars, Mary K. Bercaw Edwards and Thomas Farel Heffernan, with the consent of Wilson's executors, edited the work and brought it to publication.

Hailed as a "miracle of Melville scholarship," "a work of meticulous and thoroughly documented detail," and "magnificent in scope, dazzling in vastness and variety of sources," Wilson's research examines aspects of whaling from the chase, killing, and rendering of the animals, to the supplying of the whaling vessels, their loading, sailing, etc., facets of the industry that are conducting research in Nantucket in 1947, Heflin discovered an abstract of the log of *Auschnet*, the first of the three whaling ships on which Melville served. seldom examined on this level of scholarship.

Prior to Heflin's research, scholars had relied almost solely on inference from Melville's fictional tales for information about his own life at sea.

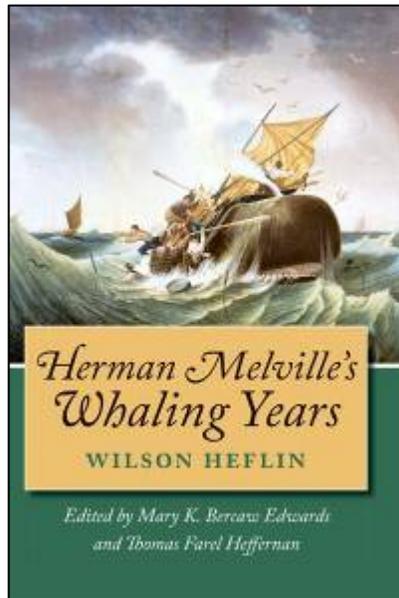
While supplementing this literal treasure trove of data, Heflin read all the logbooks he could locate from ships at sea in the Pacific during Melville's voyages, and he painstakingly searched 19th-century newspapers for mention of the vessels on which Melville served. The result is a work of substance and detail of which the meticulous Melville himself would have been proud.

Heflin consistently refers the events that he chronicles to Melville's fictional works, establishing the context for Melville's extensive literary output, sometimes liberally quoting from the works themselves to demonstrate a point.

It is admittedly difficult to edit the work of another scholar's lifetime. As Edwards and Heffernan themselves note, "the first principle was that it had to be Wilson Heflin's book; it was not the

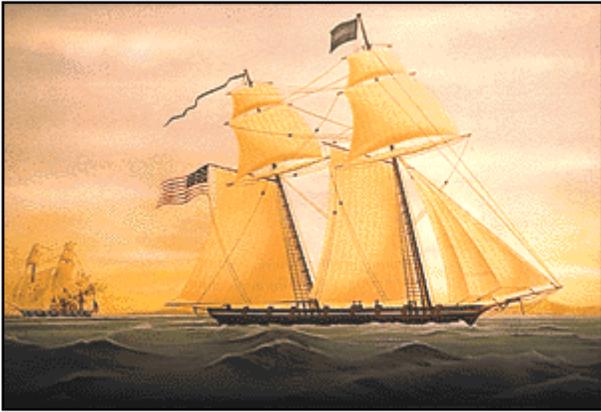
occasion for new ventures into investigation of Melville and whaling..." The volume is closely referenced and is faithful to the original intent of Heflin's scholarship. Appendices containing additional information about Tobias Greene, Melville's shipmate aboard *Auschnet*; the Marquesas islands in Eastern Polynesia, where Melville spent several weeks after deserting the *Auschnet* and which served as the inspiration for *Typee*; and a short treatise on whale oil are followed by in-depth notes from the text. A lengthy bibliography rounds out the volume.

The text is sometimes tough going in the details in places, but flows well in others. In the end, the reward in terms of information and insights into the life and times of a whaler in the heyday of American whaling and how the experience informed a great American literary master is well worth the effort. †



The Search for the *Lion of Baltimore*

By David Shaw



Painting of the Chasseur, the so-called "Pride of Baltimore," a Baltimore Clipper similar to the Lion of Baltimore. Image courtesy of Pride, Inc.

During the War of 1812, the British Royal Navy enforced a blockade of American ports that severely limited the new nation's commercial and naval shipping. In response, the United States government issued letters of marque and reprisal authorizing private vessels, or privateers as they were called, to attack British merchant ships. Free enterprise being what it is, these privateers were very successful in capturing, sinking, and generally wreaking havoc on British commercial shipping. They soon forced the British to implement convoys of merchant ships, tying up naval vessels and rendering the blockade of American ports relatively ineffective.

Among the privateers was a new class of vessel, the fast and sleek Baltimore Clipper, specially built in the Baltimore shipyards at Fells Point. As a counter to the privateers' success, the British launched the Chesapeake

Campaign in 1814 for the purpose of "cleaning out that nest of pirates in Baltimore." The goal was to hit the privateers at the source, shutting down the Fells Point yards and halting the production of the deadly Baltimore Clippers.

One of the most successful of the privateers was the *Lion of Baltimore*. She preyed on British shipping along the coast of French Brittany, raiding as many as 20 ships and capturing \$400,000 in loot. She returned to Baltimore during the start of the British Chesapeake Campaign, but was followed up the Bay by the frigate HMS *Menaleus*. The *Lion* ran for Bodkin Creek below the mouth of the Patapsco River, but was seen and captured. The crew reportedly escaped taking the vessel's sails with them, which effectively prevented her immediate use. The British subsequently burned the *Lion* to the waterline.

MAHS has recently begun a project to search for the remains of the *Lion of Baltimore*. We began by examining one of several wrecks reported in Bodkin Creek. The wreck currently under study is known to landowners and watermen, as it lies in the shallows and is exposed in extreme low tides and blow-out conditions. With the help of Brian Jordan, Assistant State Underwater Archaeologist for the State of Maryland, MAHS volunteers have begun survey and mapping the wreck. Several characteristics lead us to believe that this wreck is not the *Lion*, but rather a cargo vessel grounded during the Hurricane of 1933.

We will be reporting the ongoing results of the survey in upcoming issues of *MAHSNEWS*. Also look for updates on the MAHS website, www.mahsnet.org. ⚓

continued from page 2

fieldwork on additional wrecks located in the same vicinity of the river for later this fall.

The Pamunkey River Project moved forward this summer. For the past several years MAHS has been exploring civil war wrecksites along the Pamunkey River in Virginia. After completing the survey at Whitehouse Landing in 2006, we turned our attention to the archival research phase of the project. Although there have been no fieldwork activities in 2007, Michael Moore and MAHS volunteers have been working in the archives to identify the names and origins of the canal boats deployed by General McClellan at this site during

the Peninsula Campaign and again later in the war by General Grant.

There are plenty of opportunities for members to be involved so be sure to attend the meetings and keep an eye on your e-mail for on-line updates and announcements about upcoming events.

See you on the water,
Steven Anthony
President

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.

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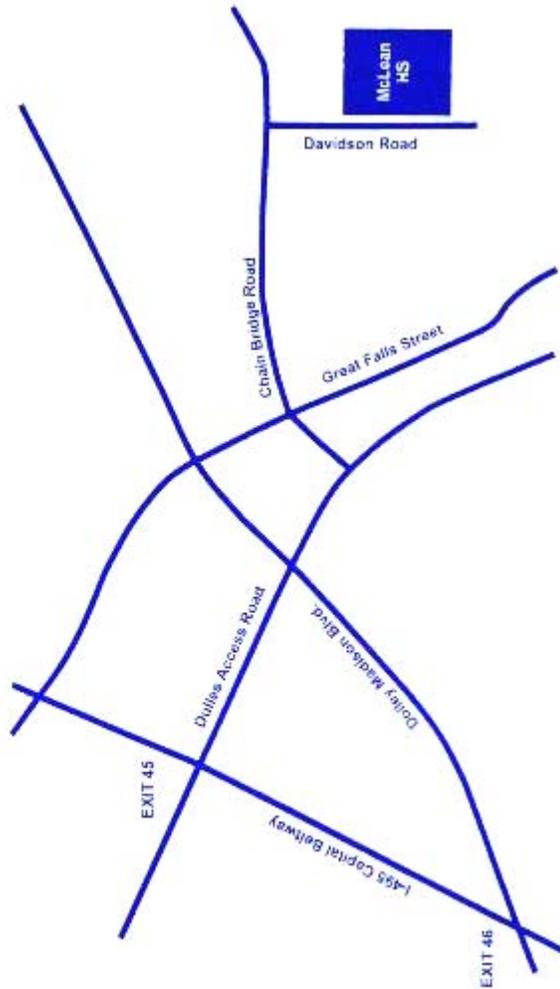
Skills (circle): research/dive/photo/video/communications/drawing/writing/first aid/other:

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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