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Pamunkey River Project: The 2006 Field Season

By Steven Anthony



D. Shaw and S. Anthony document the framing pattern of one of the Pamunkey River vessels, Hull #1.

Virginia's Pamunkey River has witnessed a long span of American history. Deriving its name from the Algonquian tribe that lived along its banks, the Pamunkey was the scene of early colonial exploration, settlement and trade. During the Civil War, the Union supply depot for campaigns on Richmond in 1862 and 1864 was at White House, a property belonging to the Custis family and the site of Martha Dandridge Custis's marriage to George Washington. In the spring of 1862, the Confederates scuttled over 60 schooners and steamers in the river in an attempt to delay the advance of combined U.S. amphibious forces.

Research and surveys conducted by MAHS indicate the presence of numerous historic shipwrecks in the river related to Civil War and possibly other historic events. As part of its ongoing commitment to study and document these shipwrecks, MAHS deployed teams of divers to continue field research throughout 2006. In the spring edition of MAHSNEWS, the article titled "Ongoing Research on the MAHS Pamunkey River Project" described the mapping and recording efforts of MAHS volunteers during February 2006. This work focused on the unidentified hull remains designated as Hull #1. The article also described the March, 2006 expedition in which MAHS volunteers conducted a thermal imaging survey of the grounds surrounding White House. MAHS teams returned to White House in June and September 2006. This article focuses on the

continued on page 3

INSIDE THIS ISSUE:

Pamunkey River Project1	Speaker Series 200615
Roosevelt Inlet Shipwreck Project8	Book Review: X Marks the Spot: The
Search for the USS Dorado11	Archaeology of Piracy16
Beach Plum Island Update13	Book Review: The Confederate
Obituary: David Bright14	Quartermaster in the Trans-Mississippi17

Notes from the Prez – Steven Anthony

The summer diving season really flew by this year, so I was especially grateful for the pleasant weather of an extended Indian summer. MAHS members have been busy with lots of new projects and there are a number of education and training activities in the works.

In Virginia, the Pamunkey River Project was in full swing again this year, and MAHS teams were in the field on four separate occasions. A short survey effort was conducted during February and in March a Thermal Imaging study in search of James Anderson's gravesite was conducted at the former White House plantation. See the Spring 2006 edition of *MAHSNEWS* for more information about these expeditions.

The third trip occurred in June. MAHS conducted its annual Field School at the White House site with a team comprised of both students and experienced MAHS members and trainers. The students gained their first experience in mapping and documenting historic shipwrecks and in some instances their first exposure to the challenges of zero vis diving. Hull #4 was thoroughly documented and sufficient information was obtained to create an overall site map showing the relationship of the various hull structures we have discovered at this site.

During the fourth expedition, in September, the MAHS team set out to find the elusive Hull #3. Despite a diligent search in zero vis conditions, our efforts were to no avail and Hull #3 was not relocated. Although this frustrated the team, they took the opportunity to collect a substantial amount of data on all of the other hull structures. In fact, so much data was collected on this trip that the team believes they are ready to begin preparation of a preliminary report documenting the White House sites. See the related article in this issue for the full story.

In November, Dr. Susan Langley, Underwater Archaeologist for the State of Maryland, called on MAHS to assist with the research and documentation of a wreck observed in the Chesapeake Bay by a waterfront landowner during a record low tide. Photos of the hull remains reveal the structure of a large schooner conjectured to be the remains of the Lion of Baltimore, which was burned by the British during the War of 1812. Dave Shaw and Tom Berkey took a boat ride out to the site to survey the area where the wreck was spotted. They evaluated the diving conditions and reported back to the Board. The Board would like MAHS volunteers to start the work next Spring.

Also, in November, annual elections were held and the members decided to send some new faces to sit on the Board next year. Dennis Knepper was elected to the

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continued from page 1

documentation and assessment of specific shipwrecks during those field operations.

The work MAHS has undertaken at White House is centered on Civil War-era shipwrecks. Early in the War, General George B. McClellan began moving his Union Army of the Potomac up the York River toward Richmond in an offensive known as the Peninsula Campaign. The objective was to take Richmond by attacking the city from the south. McClellan moved his troops up the York River and established a supply depot at White House on the Pamunkey River. At the time this

was the largest combined land and water military force ever assembled on this continent. Nevertheless, the Union campaign stalled in July 1862. McClellan abandoned his depot at White House and subsequently moved operations to the James River. The remains that are the focus of current research that MAHS is conducting on the Pamunkey River are thought to be from this campaign.

B. Terrell (right) briefs the field crew (left to right: J. Edwards, J. Craig, J. Beason, T. Berkey) on the project and research goals.

June Expedition

From June 17 to 18, MAHS conducted fieldwork at White House in conjunction with the annual MAHS Field School in Underwater Archaeology. Students, instructors and MAHS members worked together to complete the mapping and survey work of this phase of the project. The students were very excited to participate in this work and were immensely helpful in collecting the needed data.

On Saturday, June 17, 2006, the first day of the project, MAHS members Steven Anthony, Tom Berkey, Dennis Knepper, Dave Shaw, Bill Utley, and Jim Smailes worked under the direction of Bruce Terrell, Principal Investigator, to assess current river conditions and review the work plan. MAHS students John Craig, Johnny Beason, Jeff Edwards, and Gary Schmidt completed a dry land training exercise in baseline trilateration under the direction of Tom Berkey, and then joined the rest of the MAHS team to assist with the fieldwork.

The first order of business was to document the remains of Hull #4, which had been identified during a shoreline survey conducted in prior years. Students worked under the supervision of Tom Berkey and Jim

Smailes as the tide receded and the timbers became exposed. The ends of the hull were identified, although it was not possible to distinguish the bow from the stern. A baseline was set with the zero-end closest to the shoreline. The orientation along the baseline was recorded at 215 degrees and the length of the hull was determined to be 29.5 meters. The team then proceeded to make detailed drawings of the frames and other visible details of the wreck.

While this work commenced, Dave Shaw paddled his kayak down the river to Hull #1 for a visual inspection. Steve, Bruce, Bill and Dennis joined him and

exposed the area thought to be the stern of the vessel in order to measure and photograph extant timbers that appeared to be the keel and keelson. Dennis worked along the shoreline to create an overall map of the site showing the relationships between each of the hulls structures found. Also included on the map were prominent shoreline features and datum points established during the February expedition. Several artifacts were found during the course of this work including a lump of coal, length of rope, and a heavy piece of metal identified by

Bill Utley as an artillery shell fragment. As the tide continued to recede, Hull #2 became exposed and we laid a baseline along its centerline. The orientation was recorded at 216 degrees and the length was determined to be 28.6 meters. Dave and Jim worked to establish a beam measurement and document the exposed timbers. Hull #5 remained submerged during the day, but despite the returning tide, measurements were obtained as best as possible by feeling along the timbers.

On Sunday, June 18, the team returned to the site at about 8:45 am. The tide was still high and Hull #4 was submerged. So, the team prepared to perform zero-visibility search dives beyond the known hulls to determine if any other wrecks or archaeologically significant material lay in deeper water. Although the dive teams identified a number of fallen trees in the water, no other hull structures were found. After lunch the tide had receded to the point where the team could resume recording measurements and documenting Hull #4. Around 2:00 PM, John Craig announced that he had found an artifact lodged beneath the keelson. On further

examination, Craig removed a live rim fire round that had been lying between some timbers. The round was carefully examined, measured, and photographed and then was reburied in situ. Dave Shaw used the photodocumentation later in the week to identify the artifact as a Spencer 56/56 caliber round. He also found that this type of round did not enter into service until 1864. This created an apparent dilemma since the hulls were initially thought to be part of McClellan's 1862 fleet. The round may in fact be a remnant of Grant's use of the area in support of his 1864 campaign on Cold Harbor. Tom Berkey's research among documents from the Library of Congress has determined that some of the canal boats pictured in historical photographs of the shoreline at White House Landing were not chartered until 1864, further implying that the site may be more complex than our original interpretation suggests.

As the tide receded in the afternoon, timbers from Hull #5 became exposed and better measurements on this structure became possible. The team seized the opportunity to get all the measurements they could before high water returned at 4:45 PM.

A review of the data collected indicated that the two days had been a very successful operation. A new class of students gained hands-on experience in mapping and survey work, and the MAHS team acquired enough information to create an overall site plan and scale drawings of Hull #1, 2, 4 and 5. Hull # 3 remained a mystery however, and could not be relocated.

The overall site map which we completed revealed some important information. Two of the hull structures, Hull #1 and Hull #2, appeared to be aligned side-by-side, extending from the shore out toward the deeper water. Subsequent archival research found period photos depicting barges moored together in parallel to form a makeshift wharf. The alignments revealed by the overall site plan seem consistent with the notion that the hulls that we were working on could be the remains of a Union barge wharf. Additional research will be needed before this can be definitively concluded, while the mystery of the Spencer 56/56 round dating to 1864 remains unresolved.

September Expedition

MAHS returned to White House on September 23 and 24, 2006. The principle objectives this time were to relocate Hull #3, which had tentatively been identified in the October 2004 expedition, and to obtain further data needed to complete the hull drawings and overall site map. The team consisted of Steven Anthony, Tom Berkey, Dave Shaw, and Dennis Knepper. Saturday, September 23 was overcast and breezy. Low tide was scheduled to arrive at 9:00 am, so we needed an early

start in order to stage our gear and gain the advantage of maximum low water.

Several survey sweeps were planned to locate Hull #3. These semi-circular arcs were conducted using datum points associated with Hull #2. The sweeps were carried out by means of a 16-meter line secured to the datum points. Three strategic points were selected to serve as datums, including the terminus of the Hull #2 baseline, the origin of the Hull #2 baseline, and a secondary point northeast of the Hull #2 origin point.

While the survey was not successful in relocating Hull #3, several large tree trunks were encountered and plotted on the existing shoreline map. In addition, the

areas surveyed by the divers that were found to contain no nautical debris were also documented. It was very difficult working in shallow water with a fast current, so the divers had to overweight themselves to stay on the bottom and

The vessel remains that are the focus of current research are thought to be from McClellan's 1862 campaign.

remain on course. After a couple of hours, the tide had turned, and the incoming current backed by surface winds made working conditions so difficult that the team left the water, terminating the underwater survey. The team spent the remainder of the day relaxing and sorting their paperwork. Steve and Dave went on a driving tour of the neighboring Pamunkey Indian Reservation and returned just in time for dinner.

Sunday, September 24 was clear but very windy. Low tide was scheduled to arrive at 10:00 am, but the combined wind and water conditions created a safety concern and diving activities were cancelled for the day. However, in spite of winds blowing upstream, from the south, the tide was particularly low, revealing features of the shoreline wrecks (Hulls #1, 2, 4, and 5) that had not been visible during the expedition in June. The team used the day to obtain additional measurements on the exposed features of these hulls.

The frames of Hull #4, for example, were further documented, including part of the deadwood assembly at the south end of Hull #4 that was drawn and measured. In spite of the low water levels, the north end of Hull #5 was not exposed enough to allow additional data to be collected efficiently. However, the fact that the structure does remain consistently submerged even at lowest tide suggests that it may be better preserved than the portions of other hulls that are regularly exposed to the drying effects of the air. In contrast to the north end of the hull, more of the south end of Hull #5 was revealed than had

been the case in June, and the team took this opportunity to obtain additional drawings and measurements of the structures there.

Examination of both Hull #4 and Hull #5 allowed the team to observe that there was no evidence of a keel at the end of either vessel. Instead, a wide plank was noted on the bottom of each hull below and parallel to the keelson. We have only observed this plank feature at the ends of the hulls, and it is possible that the keel had been tapered to allow the bow or stern to fair upward. Yet, if the plank continues the entire length of the hull in place of a heavy keel, then this feature, along with the flat bottoms of the hulls, would imply that the vessels were designed for river work, where shallow draft would been a premium and leeway would not have been an issue.

dditional data was also collected from Hull #2 and Hull #1. The deadwood assembly at the north end of Hull #2 was drawn and measured. This hull also appeared to have been furnished with a heavy, centerline plank rather than a keel at the north end. The framing patterns of both Hulls #1 and #2 were further documented, including the pattern of fasteners on Hull #1. No keelson was visible on the exposed portion of Hull #1, but the pattern of large iron pins (drifts) on the hull was similar to the pattern observed on other hulls documented in the survey, indicating that a keelson had once been present. The keelson appeared to have completely weathered away on the exposed portions of this vessel. Unlike the other hulls, where every frame was secured to the keelson with a drift pin, only alternate frames on Hull #1 exhibited iron pins along the centerline. Several frames without center pins exhibited the ends of spikes driven from the underside of the hull planks through the frames outboard of the centerline near what would have been the turn of bilge.

As the tide once again rose to cover the hull remains, the team returned to shore to review and organize the data they had collected. Everyone agreed that despite the poor diving conditions, it had been a very productive weekend. In fact, the team concluded that they had obtained enough data to begin work on a full report documenting the site. However, as in any archaeological project, unanswered questions linger. The location and nature of Hull #3 remains a mystery, and the MAHS team plans to return in 2007 for another attempt to locate and document it.

Copies of historical documents and photographs related to research MAHS has conducted for this project, along with photographs from various field expeditions, can be found on the Pamunkey Project blogsite at http://pamunkey.blogspot.com/ t



Top: T. Berkey supervises the underwater search around Hulls #4 and #5; middle: J.Beason, J.Craig, S.Anthony, and D. Shaw discuss the initial findings of the underwater survey; bottom: J.Beason and J.Craig collected detailed measurements on Hull #4.

Photos in this article by B.Utley, J.Smailes, D.Knepper. Additional photos follow on the next two pages.



Clockwise from the upper left: historical photograph of White House Landing dated 1862; B.Terrell and S.Anthony document Hull #1; J.Edwards and G.Schmidt document Hull #4 as the tide rises; J Smailes photographs details of Hull #1; D.Shaw conducts a kayak survey.



Clockwise from the top: field school participants document frames on Hull #4; details of the south end of Hull #1; S.Anthony records measurements on Hull #4; artifacts from Hull #1, including bottle glass, coal, rope, artillery shell fragment, and wood; historical photograph of barges moored parallel to the shoreline at White House to create a temporary wharf; Hull #5 emerging at lowest tide.

Roosevelt Inlet Shipwreck in Delaware Continues to Yield Information

By Michael Krivor

During the fall of 2006 archaeologists from Southeastern Archaeological Research, Inc. (SEARCH), of Jonesville, Florida, under contract with the Delaware Department of State, successfully conducted a phased archaeological investigation of the Roosevelt Inlet Shipwreck (State Site 7S-D-91A), located in the Delaware Bay, north of Roosevelt Inlet, near the town of Lewes, Sussex County, Delaware. The wreck is situated in 15 feet of water, immediately east of the existing Roosevelt Inlet navigation channel.

The site was discovered in the fall of 2004, during

dredging for a beach replenishment project conducted by the U.S. Army Corps of Engineers. Thousands of artifacts were scattered along the Lewes beachfront during the operation. Locals informed archaeologists with the Delaware Division of Historical and Cultural Affairs about the artifacts, and investigations were undertaken to locate the source of the historical material. In consultation with the Army Corps, an underwater archaeological survey and diver investigation of the area confirmed the presence of an 18th-century shipwreck site (ca. 1769-1775). Based on the initial survey, estimates put the amount of the shipwreck that remained undisturbed offshore as high as 80 percent. The wreck site was considered highly significant and it was nominated for listing in the

National Register of Historic Places. The State subsequently contracted SEARCH in September 2006 to conduct additional underwater archaeological investigations at the site. The work that was conducted included remote sensing, a non-intrusive hydro-probe survey, a controlled surface collection of artifacts, controlled excavation of portions of the site, and a post-excavation remote-sensing survey.

A preliminary remote sensing survey of the Roosevelt Inlet Shipwreck Site was conducted utilizing a magnetometer, side-scan sonar, and Differential Global Positioning System (DGPS). The survey succeeded in collecting both magnetic and sonar data from the site. Assessment of the magnetometer data

and contour maps suggested that the wreck site was concentrated in one area and not spread across the bay floor. The results of the side-scan sonar survey clearly showed exposed wreckage. The most prominent features of the site were a number of large concretions at the north end of the site; a longitudinal timber running the length of the site and initially thought to be the keel of the vessel; and an artifact concentration to the south.

Diver investigations began with the establishment of three semi-permanent baselines on the site. Two of the baselines were oriented east/west, while a third was

> oriented north/south along the centerline of the wreck. The baselines were marked with high-visibility, colorcoded tags at 10-foot intervals. The tags assisted divers in orienting themselves to the wreck site in the low-to-zero visibility work environment. The lines were also critical in orienting all subsequent archaeological work.

One of the main objectives of the investigation was to determine the amount of hull remains actually present. A 5-foot hydro-probe was used to sample the entire site area. A hydro-probe consists of a length of ³/₄-inch galvanized pipe through which water is pumped, allowing divers to quickly and non-intrusively probe the bottom sediments in search of obstructions such as buried timbers or planking. The probes were placed at 10-foot intervals along a moveable baseline strung between the two

east/west baselines. If an obstruction was identified at any time, a series of refinement probes on a 1-foot interval was used to determine the extent of the buried object or structure.

The hydro-probe survey allowed archaeologists to delineate the amount and orientation of remaining hull structure. In total, 121 probes, not counting refinement probes, were used in the hydro-probe survey. Perhaps the most interesting result was the apparent lack of substantial sections of hull structure associated with the Roosevelt Inlet Shipwreck. Other than the features seen in the side-scan survey, no additional structure was located. As noted below, the absence of intact hull structure may suggest that the vessel was extensively salvaged after the wreck event.



Side-scan sonar image, Roosevelt Inlet Shipwreck Site – north is to the bottom of the figure. (image by SEARCH, Inc).



SEARCH Diver and Principal Investigator J.Burns preparing to conduct a hydro-probe survey of the Roosevelt Inlet Shipwreck. (photo by M. Krivor)

To gather additional information relative to artifact density across the site, a controlled surface collection of artifacts was also conducted during the hydro-probe survey. A simple hand sweep across the seafloor was conducted at each hydro-probe location, and all artifacts present were bagged and brought to the surface. Analysis of this surface collection is currently being undertaken by the State of Delaware.

The next phase of the investigation consisted of **L** controlled excavation of portions of the site using 10-foot by 10-foot stainless steel grids specifically designed for the project. Each 10-foot grid square was divided into four 5-foot by 5-foot quadrants using stainless-steel cross members that were further marked at 1-foot intervals. These quadrants allowed archaeologists a high degree of context control, enabled accurate recording of all surviving hull architecture and fittings, and assisted in determining the distribution of cargo and shipboard functions. Excavators used a 3-inch venturistyle dredge to remove sediment from each 5-foot quadrant, with the excavation conducted in 12-inch levels to ensure vertical control. Overall, eleven 10-foot by 10-foot grids were excavated. Large artifacts, with the exception of large concretions and large millstones. were recovered in mesh bags, while all dredge spoil was screened at the surface to recover smaller artifacts.

In addition to the excavation of the various grid squares, archaeologists mapped exposed hull remains in an effort to determine the vessel form and type. The mapping effort involved investigating the entire length of the exposed longitudinal timber as well as any timbers uncovered within the excavated grid squares.

The combination of techniques used in the investigation of the Roosevelt Inlet Shipwreck Site

succeeded in defining the nature and elements of the wreck site with a minimum amount of intrusion. Integrating information from remote sensing, hydroprobing, excavation, and mapping, the investigators determined that only a small portion of the ship's hull remained intact on the bay floor. The exposed longitudinal timber previously thought to be a keel or keelson was carefully examined. It was noted that the timber lacked substantial fasteners such as were typically associated with a centerline member of an ocean-going vessel. Furthermore, no floors or frames were found associated with the timber. Current interpretation suggests that the timber actually represents a deck clamp, a longitudinal member that supported the deck beams of the vessel. Additional hull timbers recorded during the investigation included interior planks and some outer-hull planking, but no remaining floors, frames, or futtocks. This finding may indicate that



One of the 10-foot by 10-foot stainless-steel grids used to control the excavations at the wreck site (photo by M. Krivor)



Left to right: D.Griffith, P.Hepler, and B.Morris examine the variety of artifacts in the dredging spoil from the Roosevelt Inlet Shipwreck Site. (photo by J. McNesky)

salvage of the wreck was extensive and included most of the hull of the vessel. One theory suggests that the vessel ran aground and heeled over on its starboard side in shallow water, leaving at least 10 feet of the hull exposed. The wreck would have been easily visible from the shore and thus would have been a target for locals looking for everything from metal fittings and timbers for construction to fire wood.

X Thile a comprehensive analysis of the remaining hull and recovered artifacts is ongoing, the current investigation has already produced a unique look at mid-18th-century commercial life in colonial Delaware. The shipwreck represents part of an active and vital maritime commercial link between Delaware and major centers of commerce in northern Europe. Artifacts recovered indicate that the vessel contained a large shipment of containers including German, and possibly English, stoneware jugs and bottles. In addition to stoneware mineral water bottles, stoneware and earthenware plates were recovered during the investigation, along with millstones, bricks, and window glass, hundreds of brass straight pins and seed beads, more than 1,700 tobacco pipes and stems, and a button dated 1772. In addition to these manufactured goods, raw materials such as antimony ingots were recovered.

Historical research to date indicates the wreck may be the remains of the *Severn*, an 80-foot, three-masted British merchant vessel that was bound for Philadelphia from Bristol, England, and foundered off Lewes in 1774. Daniel R. Griffith, head of the Lewes Maritime Project for the State of Delaware, noted that many ships facing severe storms would hide in the Harbor of Refuge behind Cape Henlopen, which provided a natural barrier at the mouth of the bay. Contemporary accounts

indicate that the captain of the *Severn*, James Hathorn, realizing his ship was foundering ran her aground in order to save the crew. Three other vessels sank in the

area at about the same time, but they have been ruled out as the Roosevelt Inlet Wreck due to their known cargos or news reports at the time of their sinking.

The Roosevelt Inlet remains were those of a ship showing signs of age. Several lead sheathing patches were noted by the The shipwreck represents part of an active and vital maritime commercial link between Delaware and major centers of commerce in northern Europe.

archaeologists, along with what appeared to be a gun port that had been covered over with lead sheathing. The gun port may indicate that the ship was once a naval vessel. A researcher for the State of Delaware has examined British records in England and found that *HMS Severn*, a British naval ship commissioned in 1747, was sold out of service in 1759. Thus, while it is considered likely that the Lewes shipwreck is the mechantman *Severn*, the age of the vessel and its apparent military record suggest that it may originally have been the naval vessel *HMS Severn*.

Michael Krivor is Project Manager and Principal Investigator for SEARCH, Inc., for the Roosevelt Inlet Shipwreck Project. For more information see http://:www.searchinc.com and http://istory.delaware.gov/archaeology/lewesshipwreck.shtml \$\ddots\$

Middle Atlantic Archaeological Conference Annual Meeting



The Middle Atlantic Archaeological Conference (MAAC) will hold its 37th annual meeting at the Cavalier Hotel, on the waterfront in Virginia Beach, Virginia, March 15-17, 2007. One of the top regional conferences in the eastern United States, MAAC

features presentations on a wide range of archaeological topics. The conference has included a session on maritime and underwater themes each year for the past four years. An underwater session is planned for the conference again this year, to be chaired by Steve Bilicki, of Geomar Research, LLC.

Among the scheduled presentations will be Tom Berkey, speaking about the MAHS Pamunkey River Project, and Ray Hayes and Bill Utley teaming with Gordon Watts to discuss their survey of Roanoke Island and the Lost Colony.

Several additional presentations will consider various research associated with the Roosevelt Inlet Shipwreck, as reported in this issue of *MAHSNEWS*. Other papers will present the results of recent work in the Chesapeake Bay, the Wicomico River, the James River near Jamestown, and in the C&O Canal in Cumberland, Maryland.

For more information, see the Middle Atlantic Archaeological Conference web site: http://www.maacmidatlanticarchaeology.org/ \$\dagger\$

Lost in the Caribbean Sea: The Search for USS Dorado

By Doug Campbell

The USS *Dorado* (SS-248) was a diesel-powered Gato-class submarine constructed at the Electric Boat Co., Groton, Connecticut, and launched on May 23rd, 1943. Displacing 1,526 tons surfaced and 2,424 tons submerged, she was 311 feet long, 27 feet 3 inches at the beam, and had a draft of 16 feet 10 inches. She was capable of 20 knots surfaced (under diesel power), 9 knots submerged (under electric power). Her armament included six bow and four stern torpedo tubes, with 24 21-inch torpedoes (loaded tubes plus reloads: 10 forward, 4 aft).

From the start, her crew knew she was a jinxed boat. She was pressed into active duty after a shakedown cruise that included an on-board fire, 11



The Launching of USS Dorado at the Electric Boat Co., Groton, Connecticut, in 1943.



Fitting Out Dorado, August, 1943.

hours stuck underwater in a mudbank, and the general consensus that the vessel was slow and nearly impossible to submerge or keep submerged.

Nevertheless, *Dorado* set sail for Pearl Harbor via the Panama Canal on October 6th, 1943. On October 12th, 1943, just over four months after her launch and sea trials, she was lost in the Caribbean Sea with all hands. The last to see the submarine was the crew of a PBM aircraft attached to Patrol Squadron 210 out of Guantanamo Bay, Cuba, just before they dropped three Mark-47 depth charges and a 100-lb. Mark-4 Mod-4 demolition bomb on her.

At the subsequent Board of Investigation in Guantanamo Bay, Cuba, and the more formal Court of Inquiry at the Navy Yard in Washington, D.C., the aircrew swore they had bombed and were later fired

upon by a German Uboat that was stalking a convoy of merchant vessels. After the War, the confiscated logbook of the

From the start, her crew knew she was a jinxed boat.

German U-boat *U-214*, the vessel the PBM had supposedly bombed, painted an entirely different picture of the events of that night—and it was finally learned that the plane had indeed bombed *Dorado*.

What really happened that fateful night was duly recorded in the U-boat's logbook, in which successive entries note:

"Bright yellow light showed briefly on horizon in direction 50 degrees true" [note: U-boat was witnessing the flare that was dropped out of the PBM after the plane dropped bombs on the sub]

"Machine guns ready. A/C [aircraft] in direction 100 degrees true, altitude 200 meters, course approximately 320 degrees. It flies over boat. Turns and attempts to attack with searchlights. Defense from all guns. A/C turned away immediately. Crash dive." [note: second sighting was indeed the U-boat]

The short history of USS *Dorado* does not end with its apparent sinking. Research has been ongoing in support of a search for the wreckage. Scores of documents, charts, and photographs have been collected and analyzed, including the declassified Transcript of the Board of Investigation held at Guantanamo Bay, Cuba, 15 October 1943; the English translation of U-214's logbook which logged entries on time, position, sky and sea conditions, and sightings; the Air Escort Mission

Sheet for PBM 210-P-9; certified Radio Log Sheets indicating positions and courses of various vessels and aircraft in the region at the time of the incident; extracts from the official log of Navy Radio Guantanamo; the Commander Task Force Operation Order, which was the official order telling *Dorado* to report for duty in



An example of a PBM similar to the one that mistakenly bombed Dorado.

Pearl Harbor and detailing her the route; along with various personal letters and correspondence, and contemporary newspaper articles about the loss of the vessel.

There has always been mystery surrounding the sinking. No debris or oil slick was observed that belonged to *Dorado*, and the transcriptions of the Board of Investigations and Court of Inquiry reflect the words of a Reservist aircrew not wanting to go down in history as having sunk one of their own subs. Detailed investigations over the past 25 years suggest that while *Dorado* was indeed bombed by what would today be termed "friendly fire," she did not sink immediately. There is strong evidence to indicate that the submarine eventually drifted for some 900 miles over a period of two months before running aground off the Caribbean coast of Mexico.

During World War II, that coastline was little more than a mosquito-infested swamp dotted by ancient Mayan ruins. Today it boasts such popular tourist sites as Cancun, Cozumel, and points further south. Somewhere along that coast, covered by white Caribbean sand, lies what is believed to be the remains of the USS *Dorado* and her crew.

Since the early 1970s, eyewitness accounts have been compiled by the author that describe a superstructure, thought to be a conning tower, visible in the shallow waters as seen from the air. Sworn statements from aircraft pilots note the remains of a submarine tower sticking up out of the sandy bottom along the Mexican coastline. The object has been seen repeatedly, mostly with the help of a rising or setting sun that throws a silhouette of the tower across the white sand. Pilots have used the object as a reference point, referring to it the "Grey Ghost" or the "Ghost Ship."

In late Spring of the coming year, an on-site non-

obtrusive remote sensing survey is planned in an attempt to confirm the presence of the object and to possibly identify it as *Dorado*.

The *Dorado* tragedy bears witness to the perils which submariners faced during World War II. Not only were submarines imperiled by

their enemies, they also risked accidental attack by friendly "hunter-killer" ships and aircraft who had failed to "get the word," or who had made some simple navigational errors, or who were otherwise unable to determine the submarine's identity before attacking. Such attacks by friendly forces were remarkably rare on the American side, but the bombing of *Dorado* is such an example.



Memorial to the 88 crewmen lost aboard USS Dorado on October 12, 1943. The monument is located in Wichita, Kansas.

The author is a member of the MAHS Board of Directors and will report back to MAHS on his search. Assisting in the search will be Jeff Morris, Steve Bilicki, Alan Crew and others.

Additional information about the submarine and research into her disappearance can be found at the USS Dorado website at http://www.ussdorado.com/ – all photos in this article are from the web site. ‡



Don't forget to renew your MAHS Membership. If you are not a member, become one and join us in supporting maritime historic preservation.

Beach Plum Island Wreck and Delaware Maritime Preservation

The weathered wreckage sits on the beach as it has for decades. It is a waypoint for shorebirds, shelter for small creatures that inhabit the littoral, and a curiosity for beachcombers. But the wreck is rapidly deteriorating and receding into the sea, taking with it its secrets.



The Beach Plum Island Wreck in October, 2006. (all photographs by W. Taylor, Maritime Chapter, ASD)

But for the efforts of a group of Delaware maritime preservationists, we would have no information about these remains at all. The wreck lies on the shoreline in Beach Plum Island State Park. The park is part of Delaware's Division of Parks and Recreation and lies just north of the town of Lewes at the mouth of the Delaware Bay.

Documentation of the Beach Plum Island Wreck was the first project conducted by the Delaware Maritime Archaeological Society (DMAS) following their training in 1999 and 2000 using the MAHS Video Course, *Diving Into History*. Since that time, DMAS has merged with the Archaeological Society of Delaware (ASD) to become their Maritime Chapter. The ASD is 53 years old, enjoys full and enthusiastic backing from the State, and provides support to the Maritime Chapter for projects they pursue.

While Delaware does not have an underwater archaeologist or a formal underwater program, the State has been active recently in maritime historic preservation efforts such as the ongoing Lewes Maritime Project, involving survey and excavation the wreck of a British merchantman that ran aground and broke up off Roosevelt Inlet in 1774 (see the update in this issue of *MAHSNEWS*). They also supported a recent survey of the historical anchorage of New Castle conducted by the

Institute of Maritime History, in which volunteers from the Maritime Chapter of ASD, MAHS, and the State conducted a remote sensing study of the waterfront.

In 2000, following two successful classes using the MAHS Underwater Archaeology video in which almost 40 students participated, DMAS members approached MAHS for assistance in surveying and documenting the Beach Plum Island Wreck. MAHS helped design a project plan and sent volunteers to assist in documenting the vessel remains on the beach late that year (see *MAHSNEWS* Vol.13 No.1).

At that time the vessel measured 255 feet in length, with a 45-foot beam. The vessel appeared to be massive in structure with a 12-inch square keelson and two sets of sister keelsons, also 12 inches square, on either side. Towards the stern, additional sister keelsons were present. The frames of the hull consisted of 24-inch square members set on 36-inch centers, leaving a space between frames of 12 inches. As many as four mast support structures were noted along the length of the keelson assembly. The fore-and-aft oriented ceilings measured almost 22 inches in width and 10 inches thick. Hull planking of similar dimensions was attached with

wooden trunnels and occasional iron fasteners. Internal iron cross braces were noted supporting the interior of the hull.

The vessel exhibited what appeared to be a double bow. An

MAHS helped design a project plan and sent volunteers to assist in documenting the vessel remains on the beach.

unusual looking feature, the bow implied that the vessel was built for heavy duty. Research suggested that in certain boats constructed for use in harsh conditions, a metal brace would be installed along with a rounded bolt set behind as a stop measure, allowing the bow to act as a spring absorbing shock from large waves or ice. In addition to the bow, remnants of the sternpost of the vessel were also noted, including several U-shaped iron fixtures that were interpreted as rudder braces.

MAS generated a large site map and an extensive descriptive report as a result of the fieldwork, with photographic documentation including various still photo images and several hours of video footage. As part of ASD, the Maritime Chapter has continued to monitor the site producing a "State-of-The-Wreck" report annually. In November of 2001, sections of





These two photos from January 2005 show the recent condition of the wreck at Beach Plum Island State Park. In the photo on the right, white caps show the position of the remains of the vessel's stern.

framing were noted washed ashore along the beach, with one frame discovered a quarter-mile away at the Roosevelt Inlet jetty. The photos above, from January 2004, show the worsening condition of the wreck. It is fortunate that DMAS completed their survey, since it is clear that the wreck has deteriorated seriously and threatens to eventually disappear into the surf. In the picture on the right, whitecaps near the center indicate

the location of the stern. The Maritime Chapter members continue to research the type and name of the ship, although the fieldwork on the site has been completed.

Some of the background information for this article was obtained online at http://www.schoonerman.com/beach_plum_island_shipwreck.htm **‡**

Diver and Explorer Dies on Return to Andrea Doria

Based on a Cyber Diver News Network article by Matthew J. Dowling and Claire Heininger and news reports from the Star Ledger (NJ.com)

David Bright, of Raritan Township, New Jersey, died Saturday, July 8, after suffering a heart attack believed to be caused by decompression sickness when he resurfaced from a dive to the *Andrea Doria*. His dive to the shipwreck, a very strenuous dive that he had not made in 14 years, was in preparation for the July 23rd reunion of the *Andrea Doria* survivors.

Mr. Bright made more than 120 successful dives on the Italian liner during his 30-year fascination with the vessel. The circumstances surrounding the accident remain unclear. At the age of 49, David Bright was a well known salvor and undersea explorer who realized late in his career how destructive souvenir hunting was. He had changed his focus and made a new commitment to conduct future projects in an archaeologically sound manner. He had joined MAHS, signed the Ethics Statement, and made a personal pledge to the MAHS Board of Directors to protect and preserve historic shipwrecks. David Bright leaves behind a wife and three children. **‡**



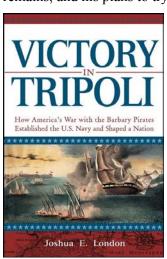
This undated photo provided by Nautical Research Group shows shipwreck historian and diver David Bright, who died Saturday, July 8, 2006, after resurfacing from a dive to the Andrea Doria off the coast of Nantucket, Mass. (photo courtesy of Nautical Research Group)

Speaker Series: 2006

by James Smailes

The Speaker Series at the monthly membership meetings continued with a varied and interesting lineup. In May, Mechelle Kerns-Nocerito, PhD., spoke about Colonial shipbuilding. Maryland and other colonies, with their extensive forests, were prime areas for constructing merchant ships and providing wood and other materials to outfit and maintain the Royal Navy. Annapolis was only one of numerous small communities that prospered by their access to the Maryland and Virginia forests and the Chesapeake Bay. The style of shipbuilding varied by shipwright, and several indigenous vessel types were developed to meet local conditions. Surely these are some of the wrecks waiting to be found by MAHS divers.

In June, Doug Campbell provided an in-depth look at a project he has long been involved with, the search for the submarine USS *Dorado*. As detailed in an article in this issue of *MAHSNEWS*, the *Dorado* was sunk by friendly fire in 1943, but the wreck has never been located. Doug reviewed his research, the evidence he has discovered that suggests the location of the submarine's remains, and his plans to try to find them.



In July, author Joshua London spoke about his book Victory in Tripoli. Subtitled "How America's War with the **Barbary Pirates** Established the U.S. Navy and Shaped a Nation," the book tells of the United States' first excursion into the Barbary States, and highlights similarities between international conditions then and now. Pirate vessels were typically small, fast

galleys propelled by sail and oar that could easily overtake merchant vessels. The Barbarossa brothers of Algiers were particularly notorious among the Barbary corsairs, and helped establish an Ottoman presence in North Africa. Historical details of the Barbary Wars are known to many students of the times, including incidents such as the burning of the frigate *Philadelphia* by Stephen Decatur and a small band of sailors. Other stories are not so well known. For example, a naval expedition was launched from Egypt across the desert to replace the Bey of Algeria with the Bey's brother. As partial reward, the crew of the *Philadelphia*, who were being held hostage, were to be released. The State Department, however, did not inform the Navy of

negotiations it had held with the Bey. The expedition was, consequently, a partial military success, but it did not succeed in replacing the Bey. The sailors were eventually released nonetheless.

In September, Steven Anthony and Dennis Knepper presented the results from the summer's field work at the White House site on the Pamunkey River. The Pamunkey area has been our field school site for the last two years, and the lead article in this issue of *MAHSNEWS* is a more detailed version of the presentation that Steve and Dennis gave.

In October, another MAHS member, Mr. Steve Libert, brought us up to date on his project to confirm the location of the *Griffon*, the 17th-century ship built by the French explorer La Salle. Steve is an underwater explorer and President of Great Lakes Exploration Group, LLC. One of his current projects is to determine whether wreckage that he discovered in Lake Michigan in 2001 is in fact the Griffon. The project has been ensnarled in litigation with archaeologists from the State of Michigan. Steve discussed the research and the historical and archaeological evidence that may confirm that the remains he discovered are those of the *Griffon*, as well as some of the legal issues involved. Steve is a passionate spokesman for his project and his beliefs that the public should be involved in archaeology. More details are provided on his website



LaSalle and his Ship Griffon.

In November, MAHS was fortunate to have Dr. Zaraza Friedman of Israel speak about sea-borne trade as reflected in mosaic art. Her specialization is ship iconography in mosaics from the Roman and late

Byzantine periods. Her experience with the Roman harbor and environs of Caesarea provided a fascinating lecture on what can be learned about ancient ships and cultures from art, and particularly from mosaics, the most durable art form that survives from antiquity. Examples of mosaics showed ships with steering and sailing gear, as well as exotic sea creatures and humans. The first mosaics, from the 3rd century BCE, were made with colored pebbles. Later materials included marble and rarer stones such as lapis lazuli. One example showed the *Talamegos*, a pleasure yacht for the Egyptian Pharaohs.

Other examples showed sophisticated topographical scenes from the 2nd century BCE of the Nile Delta during flood and ceremonies to Isis and Osiris. By comparing archaeological finds with the mosaics, Dr. Friedman and others have been able to gather enough information to work with nautical architects and computer-aided design systems to recreate the designs for ancient ships such as the *Hemiola*, a ship with one and one-half rows of oars. As confirmed by computer analysis, such a design would be functional if longer oars were placed in the stern and shorter oars in the bow, just as is shown in the ancient mosaic. ‡

Review of *X Marks the Spot: The Archaeology of Piracy*, Edited by Russell K. Skowronek and Charles R. Ewen

X MARKS THE SPOT

he Archaeology of Piracy

Book Review by Jennifer Thompson

If the success of the "Pirates of the Caribbean" movie trilogy suggests anything, it's that everyone loves pirates. Russel K. Skowronek and Charles R. Ewen attempt to take advantage of the phenomenon in their compilation *X Marks the Spot: The*

Archaeology of Piracy. While the book's claim to appeal to "the general public" is not entirely true, it should please a more specialized audience interested in how pirates lived their lives, and how those lives can be extrapolated from suspected piratical shipwrecks and sites across the world.

The editors explain early in the book that there is relatively little archaeological scholarship on pirates. This lack may explain why the articles address piracy in very different time periods and environments, shifting focus abruptly from the 17th-century Caribbean to the 18th-century Mississippi to the coast of Madagascar. Readers expecting tales of the discovery of vast piles of pieces of eight will be disappointed. Multiple authors in this compilation point out that pirates would salvage the most valuable cargo first from a slowly-sinking ship, and that most pirates probably spent, rather than saved, their booty. In "X Marks the Spot," Patrick Lizé is not unique in reporting only nineteen gold and silver coins from the wreck of the *Speaker* off the coast of Mauritania.

Lizé, however, was at least able to say with some certainty that he had *found* a pirate wreck. More often than not, the authors included in this compilation are forced to admit that despite their best efforts, they have not found conclusive evidence of piracy in their fieldwork. In their study of the Ohio and Missisippi Rivers, Mark Wagner and Mary McCorvie conclude that the excavated flatboat *America* likely sank in an accident, and they finish weakly with the statement that

while "the remains of pirate-looted boats potentially still could exist as shipwrecks... it may be extremely difficult archaeologically to distinguish the wreck of a flatboat that sank due to pirate attack from one that sank due to

natural causes." Given that the book is subtitled "The Archaeology of Piracy," such equivocation is disappointing.

Readers without a basic background in archaeology are likely to skip the book's denser sections, including eight pages of artifact charts from the wreck of the Whydah. Readers with a stronger archaeological grounding, meanwhile, may chafe at the lengths to which some of the authors go to interpret their findings. Daniel Finamore, for

example, explains earnestly that "group practices of alcohol consumption are often explained by anthropologists and sociologists in terms of the socially integrative functions they perform and the sense of communitas they provide." This seems to be a particularly complex way of saying that groups of people, perhaps including pirates, may bond through drinking together.

Despite its scattershot approach and the widely varied writing styles of its contributors, *X Marks the Spot* is an enjoyable and sometimes fascinating read. Taken as a whole, it paints a more realistic portrait of pirates in any era as violent, lawless men and women, rather than the romanticized anti-heroes of Hollywood. Given the unconventional lives that pirates lead, the researchers included in this book do a laudable job in attempting to reconstruct their lives.

Jennifer Thompson is a graduate student at Georgetown University and an admitted pirate fanatic. \pm

Review of *The Confederate Quartermaster in the Trans-Mississippi*, by James L. Nichols

Book Review by Dennis Knepper

The Confederate steamship *Denbigh* was a low, sleek paddle wheel steamer, considered one of the most successful blockade runners of the Civil War. Built in 1860 in the Birkenhead shipyard of John Laird, Sons & Company, for a Manchester shipper, she was purchased in 1863 by a consortium of merchants from Mobile, Alabama; Manchester, England; and Paris, France—the so-called the European Trading Company—to challenge the Union blockade of Southern ports in the Gulf of Mexico.

Blockade runners brought materiel in the in the form of guns, ammunition, shoes, blankets, and medicines from ports such as Nassau, Bermuda, and Havana to the Southern ports of Wilmington, Charleston, Mobile, and eventually Galveston. Return cargoes consisted mainly of cotton, which represented an important international commodity—at the time, nearly three-quarters of British cotton imports were from the American South.

Denbigh made a series of successful runs from Cuba to Mobile, to the embarrassment of Union Admiral David Farragut who tired in vain to stop her. With her shallow draft, Denbigh took advantage of side or swash channels in approaching Mobile Bay, while her low profile allowed her to remain almost hidden against the shoreline. She completed seven runs before Farragut captured Mobile Bay in July of 1864. Galveston was the only remaining Confederate port in the Gulf, and Denbigh made six successful runs there from Havana.

In late May of 1865, *Denbigh* ran aground at night on a sand bar near Bird Key at the entrance to Galveston Bay. Discovered by Federal ships early the following morning, she was overtaken, seized, and burned. Her destruction has been widely considered the final blow to Confederate blockade running.

The *Denbigh* wreck site was recently located by researchers headed by J. Barto Arnold from the Institute of Nautical Archaeology (Texas A&M University). Position data detailed on a late19th-century U.S. Army Corps of Engineers map was used to identify the location. A side-scan sonar survey of the wreck site was conducted in April, 1998. Lying in as little as six feet of water, portions of the paddle wheels, boiler, and engines were exposed above the silty bottom. Test unit excavations indicated that the engines were intact, an unusual finding since contemporary salvage of the valuable equipment would have been relatively simple matter.



"Two Bells, Nothing in Sight" *The British blockade runner* Denbigh in the Gulf of Mexico, 1864, from the painting by Andrew W. Hall.

Tames L. Nichols' *The Confederate Quartermaster in* **J** the Trans-Mississippi is a look at the logistics behind the blockade running at which *Denbigh* was so successful, examining the commercial and economic context of the practice that attempted to keep the Confederate Army supplied. The book is a reprint of a 1964 work that describes the Confederate supply system in the region referred to as the Trans-Mississippi, which encompassed Louisiana, Arkansas, Oklahoma, Texas, and territories to the west. The publication is the second in a planned series on the history and archaeology of the Denbigh. The first volume in the series, published in 2001, was the memoir of a blockade runner's captain, William Watson (The Adventures of a Blockade Runner, originally published in 1892). Other volumes will include the results of the archaeological project, and works on documentary sources and on engineering and architectural specifications. The Quartermaster volume provides historical and terrestrial perspective on the maritime site, describing what goods were purchased. from whom, how they were acquired, how they were or were not paid for, and how they were brought to ports for shipment.

Chapters in Nichol's work include a discussion of the quartermaster and his duties; a description of the clothing and equipment the Quartermaster attempted to acquire; an explanation of the so-called tax-in-kind system, initiated in 1863, which amounted to a tithe on regional agricultural production; examination of the cotton bureau, also created in 1863, which procured cotton for government consignment; discussion of the problems of transportation, and in particular the poorly developed rail system in the region; and consideration of money woes—the inability of the Confederate Army to pay claims for the supplies they consumed which eventually lead to the collapse of the procurement

system in 1865. A final chapter recapitulates the difficulties of supply in the Tran-Mississippi region.

Initial supply planning by the South was short-sighted, since it was widely assumed that the war would be over quickly. When it became apparent that the war would indeed be long, the Quartermaster Department was re-organized. But planning and execution remained inadequate, too late, and ultimately ineffective. As Nichols notes, "the South was totally unprepared for the task of equipping armies for the field in several theaters." In the western Trans-Mississippi area, there was little central organization from the start. The region keenly felt its isolation from the east and was always dependent on local, popular donation.

Eventually, such supply chains as were developed broke down through demoralization and unpaid claims—the inability of the government to pay for goods purchased. Certified accounts, certificates of indebtedness, and other instruments issued by the government became meaningless. The army

continued from page 2

position of Vice President, Mark Little to the position of Treasurer, and Doug Campbell to Director At Large. Congratulations to all and welcome aboard to the new officers.

The MAHS education programs continued to expand in scope and reach this summer. The Field School in Egypt was moving along very well until the government refused to issue a permit for the site the students were to work on. We are now searching for another site so the Field School can be completed in the spring. In Cyprus, a group of divers demonstrated interest in the Introductory Course in Underwater Archaeology. Despite the language barrier, the first student recently completed the course and submitted his exam to the MAHS Education Committee for grading. The group has also offered to translate the course into Greek which will provide access to many more Cypriot divers.

Another important development on the education front is the web-based training project. MAHS is proceeding with its plan to conduct the Introductory Course on the Internet. Syneca Research Group has graciously offered to finance this effort, which will be spearheaded by Doug Campbell. A web-based course will provide more students with easy access to the course and will help MAHS carry its training and

increasingly lacked supplies and was logistically and strategically cut off from the east.

Nichols' research is painstakingly detailed and he demonstrates a keen understanding of the social and commercial complexities behind the workings of military supply. A professor of history at Stephen F. Austin

University, Nichols' interest in his subject comes in part from "The South was totally unprepared for the task of equipping armies for the field in several theaters."

his own military service in World War II, where he served in the U.S. Quartermaster Corps. He developed an appreciation for the task faced by his counterparts during the earlier war, and presents their story clearly and comprehensively.

An extensive website documenting the history and archaeology of the Denbigh can be found at http://nautarch.tamu.edu/projects/denbigh/ \$\pm\$

stewardship message to a wider audience within the recreational sport diving community.

If you love diving and history, then MAHS training programs and projects can provide you with plenty of opportunities to become involved in the exciting field of underwater archaeology. So, I look forward to seeing you soon and extend my best wishes for a happy and healthy holiday season.

See you on the water, Steven Anthony President



Don't forget to visit the MAHS website periodically for updates on projects and other activities at: http://www.mahsnet.org #

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 contem- 4. To conduct oneself in a manner that protects the porary 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

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only when the artifact and related data have been designated for research, public display or otherwise for the common good.

- 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		
	•		
ised 1993)			

MARITIME ARCHAEOLOGICAL AND HISTORICAL SOCIETY P 0 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)					DUES ENCLOSED
Address					\$30 Individual \$35 Family
City		State		Zip	\$50 Sponsor
Phone (H)	(0)		_ (FAX) _		\$100 Patron
Email					
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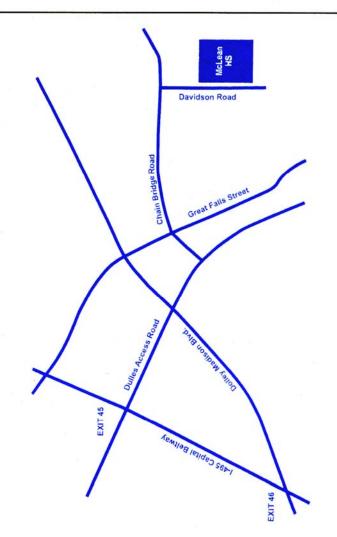
Please mail this form along with your check to: MAHS at P0. Box 44382, L'Enfant Plaza, Washington DC 20026.

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!



MARITIME ARCHAELOGICAL AND HISTORICAL SOCIETY

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