

# MARINE PROTECTED AREAS



## *Marine Cultural and Historic Newsletter*

Monthly compilation of maritime heritage news and information from around the world  
Volume 2.9, 2005 (September)<sup>1</sup>

This newsletter is provided as a service by the National Marine Protected Areas Center to share information about marine cultural heritage and historic resources from around the world. We also hope to promote collaboration among individuals and agencies for the preservation of cultural and historic resources for future generations.

The information included here has been compiled from many different sources, including on-line news sources, federal agency personnel and web sites, and from cultural resource management and education professionals.

We have attempted to verify web addresses, but make no guarantee of accuracy. The links contained in each newsletter have been verified on the date of issue.

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## **Federal Agencies**

*The inclusion of a news item under a particular agency heading is for organizational purposes only and does not necessarily suggest endorsement or support by the agency.*

### **U.S. Department of the Navy**

[see entry under [National Marine Sanctuaries](#)]

#### **Naval Historical Center**

The [Naval Historical Center](#) (NHC), in partnership with the [National Oceanic and Atmospheric Administration](#) (NOAA) and the [National Park Service](#) (NPS), participated in an expedition in August to examine a sunken World War II Japanese midget submarine lying just outside Pearl Harbor, Hawaii. The expedition's main objectives included collecting the necessary baseline data on the wreck's condition, as well as collecting data on the conditions of the surrounding environment to determine the best approach to protect the wreck. The wreck may be that of a Japanese midget submarine believed to have been sunk by the destroyer USS *Ward* (DD 139) a little more than an hour before the air assault on Pearl Harbor began Dec. 7, 1941. Barbara Voulgaris, a representative from the NHC's [Underwater Archaeology Branch](#), visited the wreck site as part of the multi-agency expedition. All work was performed from the [Hawaii Undersea Research Laboratory's](#) (HURL) research vessel R/V *Ka'imikai-o-Kanaloa* and its two mini submarines, *Pisces IV* and *Pisces V*, Aug. 7-8. "It was very hard to grasp that what we were looking at might well be the first casualty of the Pearl Harbor attack so many years ago. Fortunately, the sub sank before reaching its intended target," said Voulgaris. After being submerged for so many years, the sub appeared to be in very good condition with no sign of depth charge damage to the hull, or any damage to the sub's bottom from striking the ocean floor after sinking 1,200 feet. The wreck was sitting upright with its periscope in the up position. "The periscope was fouled with several lines that waved and fluttered in the current's flow," said Voulgaris. *Pisces IV* and *Pisces V* worked simultaneously, setting up environmental monitoring equipment and collecting corrosion rate measurements to assist in determining the submarine's corrosion rate and how the surrounding environment may be affecting the submarine's integrity. Additional objectives included surveying the sub's interior using the least invasive methods to ensure no harm was done to the wreck, and conducting video and photographic surveys of the sub's interior and exterior. "Our research goals - gathering the appropriate data for long term management - are really focused on the preservation of this significant maritime heritage site for the benefit of present and future generations," said Dr. Hans Van Tilburg of NOAA, the midget sub's project director and maritime heritage coordinator. "The fact that this submarine is a war grave, due all the proper honor, dignity, and respect associated with such military vessels, serves as the guiding principle to all that we do in the name of preservation and protection."

U.S. Department of the Navy©

[http://www.news.navy.mil/search/display.asp?story\\_id=20202](http://www.news.navy.mil/search/display.asp?story_id=20202)

Navy NewsStand – USA (09/29/05)

### **National Oceanic and Atmospheric Administration (U.S. Department of Commerce)**

#### **National Marine Sanctuaries (Department of Commerce/NOAA)**

[see entry on Japanese Midget Sub under [Naval Historical Center](#)]

[NOAA](#), with support from the [Office of Naval Research](#) and the [Naval Sea Systems Command](#), surveyed a portion of the Atlantic off the North Carolina coast on September 9, 2005, in an effort to locate the lost Civil War submarine [USS \*Alligator\*](#). The team also provided Philadelphia- and Norfolk-area students and educators an opportunity to learn first-hand about remote sensing tools, including remotely operated vehicles, side scan sonar, and magnetometers. The planned four-day Ocracoke, N.C.-based expedition was terminated when Hyde County, N.C. officials issued a mandatory evacuation order due to the approach of Hurricane Ophelia. Nevertheless, the team collected data that, when analyzed, will provide a new look at undersea resources in the shipwreck-strewn Graveyard of the Atlantic.

For more information, contact [David Hall](#) at: [David.L.Hall@noaa.gov](mailto:David.L.Hall@noaa.gov).

During the Civil War, when soldiers were shooting primitive muskets, the United States Navy was building its very first submarine: The [USS Alligator](#). The 50-foot iron tube looked like something right out of Jules Verne. It was so small that crew members had to crouch inside; the propeller was turned by hand. The *Alligator* was meant to be Abraham Lincoln's secret weapon against the Confederacy's dangerous new ironclads: It would sneak under enemy ships so that a diver could plant explosives. But the *Alligator* never saw combat. She was lost in bad weather in 1863, while being towed south to attack the port at Charleston, S.C. An [Office of Naval Research](#) ship is exploring waters off the coast of Oakracoke, N.C., an area flagged by experts who used historical documents and computer models to recreate the Alligator's path. Michael Overfield of [NOAA](#), who is coordinating the search, is aware of the odds against finding the small sub, particularly with new complications from Tropical Storm Ophelia. But, he says, "I don't give up easy."

By Nell Boyce – National Public Radio©

<http://www.npr.org/templates/story/story.php?storyId=4845742>

NPR's The Morning Edition – NPR, USA (09/21/05)

Listen to the story at: <http://www.npr.org/dmg/dmg.php?prgCode=ME&showDate=21-Sep-2005&segNum=14&NPRMediaPref=WM&getAd=1> (application/windows media player; 4.48 MB)

### **Channel Islands National Marine Sanctuary**

The [Channel Islands National Marine Sanctuary](#) vessel R/V *Xantu* supported Chumash paddlers as they crossed from California's Channel Islands Harbor to Santa Cruz island, their native homeland, on September 10. The paddlers made the crossing in a 20-foot, handmade wooden canoe, called a Tomol that carries four to six at a time. The crossing was completed in approximately 11 hours. When the Tomol reached Santa Cruz Island, it was welcomed by over 100 cheering members of the Chumash community singing native Chumash songs on the beach.

For more information contact [Jacklyn Kelly](#) at: [Jacklyn.Kelly@noaa.gov](mailto:Jacklyn.Kelly@noaa.gov).

### **Florida Keys National Marine Sanctuary**

[see entry under [Florida](#)]

(courtesy of Brenda Altmeier – Florida Keys National Marine Sanctuary)

Pending the (9/30/05) release of Sony Pictures *Into The Blue* MTV's *Your Movie Show* traveled to Key Largo to feature a piece on marine archaeology and how an actual marine archaeologist would record an archaeological site. MTV interviewed and filmed an on-site artifact recording with Marine Archaeologist Corey Malcom in North Key Largo. MTV hired two local charter vessels to take the film crew to a site where a historical anchor was discovered and documented in the [Florida Keys National Marine Sanctuary](#) (FKNMS). FKNMS staff Brenda Altmeier and Maritime Heritage Resource Inventory Team (MHRIT) volunteer Bernie Altmeier assisted by arriving ahead of the crew, locating the site in advance of their arrival and marking the anchor with a float. MTV worked with Upper Keys local theater, Tavernier Town Twin Cinemas and pre premiered the movie about treasure hunting to local audiences on Saturday September 3rd. MTV's *Your Movie Show* goes on location where a film was shot (in this case close to location the film was made in the Bahamas) to show the film to local audiences and record their reactions. The feature from Key Largo can be viewed on the MTV website on September 22nd at:

<http://www.mtv.com/onair/dyn/yourmovieshow/series.jhtml>.

On September 9, 2005, the [National Marine Sanctuary Program](#) hosted staff from the [Center for Marine Biodiversity and Conservation](#) at [Scripps Institution of Oceanography](#), and representatives from the [National Centers for Coastal Ocean Science](#) (NCCOS) and the [Office of Response and Restoration](#) (ORR) [Coral Reef Conservation Program](#) to discuss the possibility of the group undertaking a thorough historical ecology of the [Florida Keys National Marine Sanctuary's](#) (FKNMS) resources. The purpose of the study would be to build a rigorous narrative of the ecological history of the Keys' ecosystem, using a variety of historical documents from Spain, England, U.S. and Cuba. Expected results of the study would include (1) a description of the natural systems, i.e., population change and ecosystem consequences in the Florida Keys, and (2) a description of the human systems, i.e., social, economic, political, and environmental events that affected natural resource and human behavior in the FKNMS. The work would parallel the

[University of New Hampshire's](#) study of the History of Marine Animal Population in [Stellwagen Bank National Marine Sanctuary](#).

For more information, contact [Catherine Marzin](#) at: [Catherine.Marzin@noaa.gov](mailto:Catherine.Marzin@noaa.gov).

### **Pacific Islands Region**

[see entry on Japanese Midget Sub under [Naval Historical Center](#)]

(courtesy of Kelly Gleason – National Marine Sanctuary Pacific Islands Region)

Thanks to the support of an FY 05 [Maritime Heritage Program](#) mini-grant, the [National Marine Sanctuary Program](#) Pacific Islands Region just received printed copies of the first ever "Maritime Heritage in the Pacific Islands Region" brochure and bookmark. You can take a look at the finished product on the Pacific Islands Region website at: <http://heth.nos.noaa.gov/visit/pacific.html>.

### **Thunder Bay National Marine Sanctuary and Underwater Preserve**

[see entry under [Michigan](#)]

(courtesy of [CSO](#) Weekly report – September 23, 2005 / Issue 05.27)

The [National Oceanic and Atmospheric Administration](#) opened its new [Great Lakes Maritime Heritage Center](#) in Alpena, Michigan earlier this week. The 20,000-square-foot facility features exhibits about shipwrecks and the Great Lakes, an auditorium for viewing underwater video of shipwrecks, and an archaeological conservation laboratory. The center is located at the former Fletcher Paper Mill, a historic property that was renovated with an energy-efficient, sustainable building design. Through real-time video, the Center will offer visitors the opportunity to interact with divers exploring the shipwrecks of Thunder Bay and even control remote submersibles. The Center allows the public to experience an estimated 200 shipwrecks in Thunder Bay. The Center will also assist efforts by non-profits and state and federal agencies to preserve shipwrecks throughout the region.

For more information on the Shipwrecks and research happening in Thunder Bay, visit the Thunder Bay National Marine Sanctuary website at <http://thunderbay.noaa.gov/>.

### **National Park Service (U.S. Department of the Interior)**

[see entry on Japanese Midget Sub under [Naval Historical Center](#)]

Since the creation of the [National Park Service](#) (NPS) in 1916, its primary mission has been to ensure that the parks would remain "unimpaired" by human activity for the benefit of "future generations." However, a recent proposal offered by Paul Hoffman, the deputy assistant of the [Department of the Interior](#) and state director (1985-89) for the then U.S. Representative Dick Cheney, looks to completely redefine the meaning of "impairment" as it applies to the NPS's 388 natural and historic sites throughout the country. Hoffman's proposal would change the meaning of "impairment" from "an impact to any park resource or value [that] may constitute an impairment" to one that proves to "permanently and irreversibly adversely [affect] a resource or value." The controversial redefinition of "impairment" is part of a larger 194-page draft "revision" of the NPS guideline, "[Management Policies](#)." The implications of the change on the long-term conservation and preservation practices of the NPS are staggering. Opponents of the change, including the 400 member strong [Coalition of National Park Service Retirees](#), argue that the very face of the national parks could be altered from places of refuge for natural and cultural heritage into sites opened up to developers, mining, logging, and recreational vehicles of every sort imaginable. According to Bill Wade, spokesperson for the coalition, "Regardless of what happens in the redrafting, the Department of the Interior is going to do what it can to get (the Hoffman proposal) in there. It can only be [through a] public outcry and the influence from Congress that can be brought to bear on this" that the proposal can be "turned back."

By Bruce Craig (editor) [rbrcraig@historycoalition.org](mailto:rbrcraig@historycoalition.org) with Nathaniel Kulyk – NCH Washington Update (Vol. 11, #34; 9 September 2005)  
[National Coalition for History \(NCH\)](#)

## **Activities in States and Territories**

*The inclusion of a news item under a particular State heading is for organizational purposes only and is not intended to suggest endorsement or support by the State or any of its agencies.*

### **California**

#### **Other State News**

The remains of a massive Gold Rush-era sailing ship dating to the early 1800s have been discovered at the site of a large construction project in downtown San Francisco, archaeologists at the scene confirmed Tuesday. The ship's decaying bow peeked through mounds of earth as workers under the direction of an archaeologist brushed away generations of dirt from its aging timbers. A dig crew unearthed the first portions of the ship last week as they carved away dirt to lay the foundation for a 650-unit condominium development. "This is awesome. Everybody gets excited about this. It makes digging in all that mud worthwhile," said James Allan, an archaeologist with Williams Self Associates overseeing the removal and cataloging of the ship's remains. Allan said the ship remains do not have anything of value in it, other than history. The ship was likely abandoned as Gold Rush fever overtook the region in the mid-1800s. In the 1850s, as many as 600 ships were abandoned in San Francisco's harbor, burned or simply junked by owners who switched their focus to mining the rich gold veins in the state's interior, according to Wolfgang Schubert, who gives historical walking tours of the San Francisco's waterfront for the Golden Gate National Recreation Area. What's left of the ship would be removed, up to the Folsom Street property line. The rest of the ship, likely most of the stern, would remain buried, Allan said.

By Ron Harris – The Associated Press©

<http://www.thedesertsun.com/apps/pbcs.dll/article?AID=/20050907/NEWS10/509070320/1024>

The Desert Sun – Palm Springs, CA, USA (09/07/05)

### **Delaware**

#### **State Agencies' News**

In February 1762, a cargo ship sailing from Bristol, England, entered Delaware Bay at Lewes, bound for Philadelphia. It never got there because a storm -- possibly a nor'easter -- drove the ship aground on a series of sandbars called "the Sheers." Delaware archaeologists think that ship may be the wreck struck last fall by a [U.S. Army Corps of Engineers](#) dredge scooping up sand for a beach replenishment job at Roosevelt Inlet. That ship is one of five or six that are being studied as the possible source of shipwreck artifacts that landed on Lewes beach last fall. "The date's right," said Daniel R. Griffith, project director of the Lewes Maritime Archaeology Project. Griffith said the Bristol ship has promise because maps of the Delaware Bay prepared in the 18th century identify a series of sandbars just off what is now Roosevelt Inlet as "the Sheers." At the moment, the identity of the ship is just a theory, one of many that state historians are starting to formulate as they sift through thousands of artifacts found on Lewes beach or during dives to the site of the wreckage several hundred yards offshore. Initially, historians thought the relics could have come from a land settlement dating to the earliest colonization of Delaware -- possibly with some link to the state's earliest European settlers, the Dutch. But state archaeologists in recent months have focused on the theory the artifacts came from the wreck of a ship. First they thought the wreck was a coastal boat, perhaps moving on the Delaware River from Lewes to Philadelphia. Further findings suggest the wreck was an oceangoing vessel. Divers found that the wreck's keel was at least 71 feet long, and may have been as long as 80 feet, indicating the vessel was an oceangoing ship. The keel from another famous Delaware wreck -- the late 18th century British brig the DeBraak -- was 72 feet long. "This is trans-Atlantic size," Griffith said. A clearer picture also has emerged from what hasn't been found. There is no anchor, no bell, no rigging, no bits and pieces from a ship (like blocks and shives) that an archaeologist would expect to find, he said. That leads fellow state archaeologist Charles Fithian to believe the wreck was probably salvaged sometime after it foundered. In all, some 11,000 to 12,000 items have been recovered, and each must be marked, sorted and, if possible, fit with other pieces. Much of the investigative work is taking place in an old World War II bunker at [Cape Henlopen State Park](#). Artifacts are soaked in fresh water to help remove more than two centuries of accumulated salt and mineral deposits. Then they are sorted by

style and type. Some of the key findings so far are a collection of millstones and about a dozen softball-size ingots that show the wooden marks from a mold. They are heavy, so heavy that they appear to be lead. "Antimony," Griffith said. Antimony would have been mixed with tin and copper to make pewter. It also was sometimes mixed with lead to make letters used in printing presses.

By Molly Murray – The News Journal©

<http://www.delawareonline.com/apps/pbcs.dll/article?AID=/20050915/NEWS01/509150351/1006>

The News Journal - Wilmington, DE, USA (09/15/05)

## Florida

### State Agencies' News

The [Florida Bureau of Archaeological Research, Underwater Archaeology Program](#) is pleased to present you with our latest website addition, [The 1733 Spanish Galleon Trail](#), which interprets the sites of thirteen 1733 Spanish shipwrecks along the Florida Keys as destinations for heritage, recreational, and ecological tourism. The ships of the 1733 Spanish Plate Fleet wrecked in a variety of environments along 80 miles of the Florida Keys. The larger ships grounded on the outer reef and now rest in clear water surrounded by coral. Smaller merchantmen managed to get inside the reef but, damaged and leaking, sank in the darker water of Hawk Channel where visibility is often limited. A few of the smallest vessels were nearly pulled through the channels between islands and foundered where currents run swift and treacherous. Those of us who explore the sunken graves of the fleet are responsible for protecting the sites so that future generations of divers can have the same experience of discovery. As stewards of the underwater world we must conserve the resources we visit and inevitably impact. Descriptions presented here of each shipwreck include its environment, water depth, and cautions or suggestions for safe diving. Please follow instructions and take into account changing weather and sea conditions and your own level of diving ability and comfort.

You may access the Trail on the Internet at: <http://dhr.dos.state.fl.us/archaeology/underwater/galleontrail/> or write to the Bureau of Archaeological Research, Division of Historical Resources, 500 S. Bronough St., Tallahassee, FL 32399-0250 for a copy of the booklet.

## Georgia

### State Agencies' News

(courtesy of Jason Burns – Georgia Department of Natural Resources)

On Thursday, West Point city officials were presented with three nineteenth century artifacts that will one day be on display in a museum inside the West Point Depot. The items include two green jugs and a ceramic plate. Given that they'd been on a river bottom from more than 100 years, they're in remarkably good condition. The two jugs and plate were retrieved from one of the state of Georgia's premier underwater archaeological sites – a mile-and-a-half section [sic] of the Chattahoochee River that flows through West Point. Dave Crass, state archaeologist with the Georgia Department of Natural Resources, said the river bottom has traces of West Point's history that goes back for thousands of years. It's a fascinating mixture of a lengthy Native American period, the U.S. Civil War and a steamboat era. "West Point is a special place in Georgia," he said. "What's in the river is as close as you can get to a time machine." Crass sees an excellent opportunity to develop Georgia's first underwater archaeology trail in West Point. It could be accessed by a river walk, a feature attraction of which could be the remains of an 1839 covered bridge that was built by Horace King. The rock support structures and some of the huge timbers that supported the bridge are still there on the river bank. The bridge also has a tie-in with the April 16, 1865 Battle of West Point. The bridge was burned by Union troops the day after the battle. "You all have a very special resource in West Point," Crass said of the underwater archaeological site. "I hope you are as proud of it as we are at the [Department of Natural Resources](#)." The three items presented Thursday were brought up by divers in Aug. 2004. They've since undergone some careful restoration to give them their original sheen. The two jugs in particular are impressive items. Crass believes they were made in the late 1800s either in South Carolina or East Alabama. He says their "froggy green" color comes from the way they were made. Alkaline glaze jugs of this type were made from wood ash. He speculates that the jugs and plate may be remnants from a steamboat wreck that took place in the late 1800s (There

were a number of them in West Point). When asked what kind of beverage the jugs contained, he laughs and says, "Probably whiskey." One item that's still in the restorative process is especially exciting. It's a Civil War era sword and scabbard that almost certainly dates to the Battle of West Point. It should be ready for display within the year and could be a feature item in West Point Depot's Fort Tyler section. "These items are well preserved because they've been under water," Crass says. It's possible, he adds, that the sword was thrown into the river by a Union cavalry officer because they often got in the way during a battle. Charles Kelley, president of the [West Georgia Underwater Archaeology Society](#), has seen the river bottom up close and knows what's there. "We've barely scratched the surface," he said. He says the mile-and-a-half of river that flows past city hall is an incredibly rich archaeological site. "And that doesn't include what's downstream, where the mills are," he said. Those locations could be very interesting as well. Delores Wooley, chairman of the Depot Committee, thanked Crass, Kelley and other underwater archaeologists for their interest in West Point. "It's so exciting to hear someone from outside West Point talk about our community with the zeal and vision he does," she said. "It's important to preserve our history and promote our heritage."

By Wayne Clark – The Valley Times-News©

[http://www.valleytimes-news.com/NF/omf/valley\\_times/news\\_story.html?\[rkey=0022667+\[cr=gdn](http://www.valleytimes-news.com/NF/omf/valley_times/news_story.html?[rkey=0022667+[cr=gdn)

The Valley Times-News – Lanett, AL, USA (09/16/05)

## Massachusetts

### State Agencies' News

It seemed, at first, a tantalizing discovery about 4 miles off the coast of Marblehead. Grainy sonar images, captured earlier this year by survey crews scouting a route for a gas pipeline, showed what appeared to be a century-old wooden schooner, lying nearly intact and upright in a watery grave, about 200 feet below the ocean's surface. The state's official shipwreck czar, an archeologist by profession and a scuba diver by passion, was intrigued. "It's getting the beginning of a mystery to solve," said Victor Mastone, director of the state's [Board of Underwater Archaeological Resources](#), the agency that has jurisdiction over shipwrecks and other artifacts uncovered in Massachusetts waters. But Mastone learned last week that his mystery already had been solved. It turns out that a team of local divers who specialize in exploration of shipwrecks, and who run a charter diving service out of Salem, stumbled upon the ship last summer while searching for other wrecks. They scooped up several pieces of china, some brass port holes, and other artifacts from the site to help them research and identify the ship. State law bars divers from taking artifacts from newly discovered shipwrecks without a permit. They determined it was the Brenton Reef Lightship, built in 1875 and used as a floating lighthouse for 60 years, then used as a floating restaurant until it sank in 1975 while being towed to Beverly. The Brenton drama highlights a growing rift between divers and state officials in the race to uncover the ocean's secrets. Armed with increasingly sophisticated sonar, and breathing equipment that makes it possible to explore deeper and stay under longer, divers are increasingly discovering shipwrecks and picking through their remains before state officials even find the sites. That is fueling an already heated debate about whether newly discovered wrecks should be kept secret from the public, until officials can determine if they should be preserved for archeological or historical purposes, or whether their precise locations should be revealed so others can explore them. "It's divers out there doing this work" of finding and identifying the ships, said Heather Knowles, 28, cofounder of [Northern Atlantic Dive Expeditions, Inc.](#), in Salem, whose charter boat team discovered the Brenton Reef Lightship wreck. "But, in general, the archeological community excludes the divers because we don't have academic credentials." An estimated 3,000 shipwrecks are scattered off the state's coastline, and roughly 500 of those vessels are believed to have gone down between Nahant and Magnolia. But only one-tenth of those are likely to be mostly intact and still significant from an archeological standpoint, Mastone said. Even fewer, perhaps 100, have historic value, he added. But painstaking research is needed to verify a ship's identity and determine whether officials should protect its potentially valuable contents. The state has released the exact location of just 40 sites where divers are allowed to explore and to take some souvenirs. Mastone said his agency has done some research on roughly another 100 sites, but needs to study them further before making a decision on whether to reveal their locations. The state's shipwreck czar agrees that great strides could be made in research if archeologists and divers would collaborate more, especially if they shared coveted coordinates that reveal exact locations. Still, Mastone is hesitant. He said

divers who lack archeological training may not realize that experts often glean insights about a culture or time period, simply by the position of artifacts found at a site, including shipwrecks. By disturbing pieces of the wreck, even inadvertently, key clues may be lost forever, he said. "Shipwrecks," Mastone said, "are the only true time capsules."

By Kay Lazar – The Boston Globe©

[http://www.boston.com/news/local/articles/2005/09/15/thats\\_my\\_treasure\\_matey/](http://www.boston.com/news/local/articles/2005/09/15/thats_my_treasure_matey/)

The Boston Globe – MA, USA (09/15/05)

## Michigan

[see entry under [Thunder Bay National Marine Sanctuary and Underwater Preserve](#)]

### State Agencies' News

(courtesy of John Halsey – Michigan Department of History, Arts and Libraries)

Governor Jennifer M. Granholm and [Department of History, Arts and Libraries](#) (HAL) Director Dr. William Anderson today announced the [Thunder Bay National Marine Sanctuary and Underwater Preserve](#) in Alpena will become a permanent establishment. The Thunder Bay sanctuary was provisionally designated in October 2000 under a five-year agreement and has since been co-managed by the state of Michigan and the [National Oceanic and Atmospheric Administration](#) (NOAA). "Thanks to the hard work of the staff and supporters of Thunder Bay and the NOAA, this sanctuary has become an important economic foothold in Alpena and Michigan," Granholm said. "Thunder Bay has thrived in the last five years, and now this partnership can continue to educate and entertain our citizens and visitors for years to come." "I heartily applaud the governor's decision to embrace Thunder Bay as a permanent sanctuary," said HAL's Dr. Anderson. "What started as an effort to protect and preserve a critical chapter in Great Lakes shipping history has turned into a tidal wave of incredible economic, educational and partnership opportunities. The growing support of this region's residents and business leaders demonstrates just how powerfully a cultural institution can impact the community it serves." Governor Granholm's announcement came on the heels of this past weekend's grand opening of the sanctuary's [Great Lakes Maritime Heritage Center](#), the latest step in the sanctuary's plan to maximize service to a variety of audiences. The new visitor and research facility at Thunder Bay is housed in the 20,000-square-foot former Fletcher Paper Company coating plant, part of a \$30 million project to adaptively reuse the Fletcher site and buildings as a hotel, conference center, brewpub and shops.

State of Michigan©

<http://www.michigan.gov/som/0,1607,7-192-29938-126855--,00.html>

Michigan.gov – USA (09/22/05)

### Other State News

[The Great Lakes Shipwreck Museum](#) received a grant from the [Institute of Museum and Library Services](#) (IMLS) to fund the completion of a maritime museum Surfboat House Exhibit describing the story of the [United States Life-Saving Service](#). Congressman Bart Stupak (D-Menominee) announced the \$24,790 grant. "As much as we value our Great Lakes as the nation's greatest natural resource, we also must value and preserve the history," Stupak said. "This new exhibit will show how the Life-Saving boats did so much to protect sailors on the sometimes treacherous Lakes and seaways." The museum opened the new exhibit in the 1923 U.S. Coast Guard Surfboat House on the site. This building is the original structure used by the U.S. Coast Guard Rescue Station at Whitefish Point between 1923 and 1951, to launch hand-pulled surfboats, manned by Coast Guard crews, to come to the aid of vessels in distress on Lake Superior's Shipwreck Coast. The funding will pay for exhibits that tell the dramatic story of the [Coast Guard](#), and of its predecessor U.S. Life-Saving Service on this dangerous shoreline. The men and women of the Life-Saving Service were known as the "Storm Warriors," whose motto was, "You have to go out, but you don't have to come back." This funding is matched by a grant from [Michigan Humanities Council](#) and private donors.

By David Helwig – SooToday.com©

[http://www.sootoday.com/content/news/full\\_story.asp?StoryNumber=13422](http://www.sootoday.com/content/news/full_story.asp?StoryNumber=13422)

SooToday.com – USA (09/20/05)

## North Carolina

### State Agencies' News

(courtesy of Richard Lawrence – North Carolina's Underwater Archaeology Branch)

**Cannon Update: C2 (QAR232.001); C3 (QAR233.001); C4 (366.001)**

Amongst the many challenges in the conservation of cannon two major ones are to ensure that the bore is cleaned free of concretion and that all chlorides have been removed from the metal around the bore. The bore is a narrow, deep space, which makes it difficult to clean, access or even see. If a wooden tampion plugged the mouth of the cannon at the time of sinking, and remained in place through wrecking, burial and recovery, then the bore would remain largely free from concretion formation; the tampion would prevent entry of sand or sea life. Cannon C19 (QAR418.001) and C21 (QAR418.012) were recovered with their tampions in place and had no concretion inside their bores.

### Core sample for analysis

Conservators have been curious, and a bit concerned, about the possibility that the ships timbers and other wooden artifacts recovered from the site may contain significant amounts of sulfur and iron minerals. Wood recovered from some other wrecks, notably the *Wasa* in Stockholm, Sweden, has become very acidic years after treatment. Research is indicating that high sulfur and iron content in the wood, in combination with environmental factors, are contributory factors. Sulfur can enter the wood from its burial environment on the sea bottom, and its presence or absence depends much on local environmental conditions. Aided by advice and equipment from [East Carolina University's Department of Biology](#), QAR conservators recently took three core samples from QAR434.000, one of the White Oak hull planks. Dr. David Knowles visited the lab and instructed the staff on the use of an increment borer to take cylindrical cores from wood. Normally used in forestry to study the health and growth of trees, this device proved equally useful for taking precise samples of our archaeological timbers for chemical analysis.

[For more information about the sulfur analysis of the *Wasa*, see: <http://news-service.stanford.edu/news/2002/february27/vasa-227.html>]

### Media

The filming in [November of 2004](#) produced the film titled "Q.A.R." by East Carolina University. The 30-minute documentary aired in the beginning of July and showed numerous times before the last showing on August 25th. The film will air in the future and you can find out when at [www.ecu.edu/ecutv](http://www.ecu.edu/ecutv). The Conservation Lab would like to thank ECU for the recognition, portrayal of the project and what it is we do at the lab.

[North Carolina Department of Cultural Resources](#)©  
<http://www.qaronline.org/julyAug05.htm>

Queen Anne's Revenge Shipwreck Project – NC, USA (July/August 2005)

### Other State News

[see entry under [Upcoming Events](#)]

## South Carolina

### Other State News

A longtime quest to retrieve a World War II bomber at the bottom of Lake Murray is set to begin today. The delicate task of raising the largely intact B-25C bomber, sitting 150 feet deep in lake bed mud, could take several days, organizers say. The bomber, which crashed 62 years ago about two miles west of the dam, has long fascinated shoreline residents and local historians. It was one of six planes that crashed there during World War II training runs. Its raising is welcome news. "The history of Lake Murray comes alive anew," said Ed Fetner of Chapin, a chronicler of lake lore. The plane, one of the oldest remaining B-25s, will be heading for restoration and display at the [Southern Museum of Flight](#) in Birmingham, Ala., where it will be the centerpiece of a new wing. "In some ways," said Jim Griffin, the museum's incoming director, "it's like the Titanic, lost and rediscovered." Recovering the plane and finding a home for it has been the 16-year quest of Robert Seigler, a Greenville pediatrician and amateur historian. Seigler said he became

intrigued with tales of crashed bombers left in the lake and decided to see whether any could be found. His hunt, relying on records, led to underwater searches by divers. They found the bomber in 1994 intact, except for a missing right engine. If lifted undamaged, it will be the third-oldest of 130 B-25 bombers remaining among the 9,800 produced during the war, Seigler said. "That's why this one is significant." The aircraft sank in the lake after the crew landed it on the water when an engine lost power during training in April 1943. Its crew escaped unharmed. Finding a new home for the bomber delayed its recovery, Seigler said. Efforts to keep it in South Carolina failed because of the estimated \$300,000 restoration price and because Seigler insisted it be displayed indoors and it never flown. It is costing the nonprofit group that Seigler organized, the Lake Murray B-25 Rescue Project, about \$150,000 to recover the bomber. It's an amount he concedes the group doesn't have. But it's vital to get the airplane out of the water, now that the Alabama museum agreed to accept it, he said. The effort is much more than recovering a piece of military artillery to show off, Seigler said. It is a tribute to those who built and flew the bomber, he said: "The aircraft represents that." Once restored, the bomber will be part of a museum display that includes stories of the crew, its recovery and the role B-25 bombers played in World War II.

By Tim Flach – The State©

<http://www.thestate.com/mld/thestate/news/local/12608298.htm>

The State - Columbia, SC, USA (09/10/05)

## Virginia

### Other State News

(courtesy of Jeff Johnston – *Monitor* National Marine Sanctuary)

The federal government couldn't give 'em away, but maybe it can sell 'em: Four lighthouses put up for auction in Virginia have drawn bids. The Middleground lighthouse off Newport News is the most popular, with a high bid of \$6,000 and a total of two bids in the online auction. A single bidder has bid \$5,000 apiece for the Thimble Shoal lighthouse at the entrance to Chesapeake Bay, Smith Point lighthouse at the Potomac River's mouth, and Wolf Trap lighthouse between the Rappahannock and York rivers. The General Services Administration originally said the auctions would be held at a physical location such as a courthouse, but the agency instead opened an online auction at [www.auctionrp.com/auctions2/](http://www.auctionrp.com/auctions2/). The government wants to transfer ownership to avoid maintenance [sic] costs. The lighthouses were first offered for free to agencies or nonprofits that would maintain them for public use, but no applicants were accepted. Buyers will not have to meet the same requirements.

By Diane Tennant – The Virginia-Pilot©

<http://home.hamptonroads.com/stories/story.cfm?story=91871&ran=17003>

PilotOnline.com – Norfolk, VA, USA (09/09/05)

The stubbornly lost Lost Colony has left behind virtually no hints about what happened to it after 1587, but archaeologists are a persistent bunch. A team from the nonprofit First Colony Foundation plans a closer look under water this fall at the north end of Roanoke Island, where the ill-fated colony of 117 men, women and children is believed to have settled when it arrived from England. Led by Gordon Watts, director of the Institute for International Maritime Research in Washington, N.C., scientists will use side-scan sonar and magnetometers to pinpoint anomalies found in a 2002 survey of the sound floor and try to identify them. They will also look in nearby Shallowbag Bay. The 1585-87 Roanoke Voyages from England to Roanoke Island established three colonies, but only the last one was meant to be a permanent settlement. After Gov. John White went back to England in August 1587 for supplies, war and weather prevented his return for three years. When he finally came back to Roanoke Island, the colony had disappeared without a trace. Over the centuries, areas on Roanoke Island where historians theorized the colonists may have had forts or a settlement have given up few clues. Even after more than 33 excavations by archaeologists, most in the 1940s and the 1990s, within the 379-acre Fort Raleigh National Historic Site, nothing is known about the fate of the colony. But in early 2004, veteran archaeologists, many of whom had worked on previous digs at Jamestown and at Roanoke Island, formed the foundation to refocus energy on exploring Roanoke Island for 16th-century artifacts. In an agreement with the National Park Service signed in June, the foundation will conduct field work and share research findings with the agency. Watts' work in Croatan

Sound is not on park land, but park historians will be apprised of the results, he said. The group is optimistic that a more thorough look where land has eroded away since 1587 could prove fruitful.

By Katherine Kozak – The Virginia-Pilot©

<http://home.hamptonroads.com/stories/story.cfm?story=91868&ran=153129>

PilotOnline.com – Norfolk,VA,USA (09/09/05)

## Wisconsin

### Other State News

Until a fuzzy, black blotch showed up on Paul Ehorn's sonar, the 420-foot steamer *Senator* was the largest undiscovered wreck in Lake Michigan. Using research he had put together over several years, Ehorn, 60, of Elgin, Ill., located the *Senator* about 20 miles off Port Washington on June 10. The *Senator*, which went down in 1929 with a hull loaded with about 250 brand new automobiles, sits in nearly 500 feet of water, Ehorn said, rising 40 feet from the lake bottom. "It's hopefully pretty well-preserved," he said, explaining that the decreased oxygen and current at that depth should have kept the ship intact. The low-resolution image from Ehorn's Klein side-scanning sonar shows the stern of the ship has separated, but reveals little else. At that depth, Ehorn said, it is foolish to attempt a dive, but a camera can be lowered to better examine the wreck. "There's a few kooks out there that talk about diving it, but that's like driving a car 500 mph. Could you do it? Well, theoretically, yeah. But what's the chance of killing yourself? Pretty ... great," he said. The *Senator* sunk on Oct. 31, 1929—Halloween evening—after being rammed by another ship in dense fog.

By Eric Litke – The Sheboygan Press©

[http://www.wisinfo.com/sheboyganpress/news/archive/local\\_22535041.shtml](http://www.wisinfo.com/sheboyganpress/news/archive/local_22535041.shtml)

Sheboygan Press - Sheboygan, WI, USA (09/13/05)

## From the Halls of Academia

### East Carolina University

[see entries under [Florida Keys](#) and [Thunder Bay National Marine Sanctuaries](#) and [North Carolina](#)]

### Norwegian University of Science and Technology

[see entry under [Norway](#)]

### Stanford University

[see *Mary Rose* entry under [United Kingdom](#)]

### University of Bologna

[see entry under [Oman](#)]

### University of Pennsylvania

[see entry under [Oman](#)]

## Global Perspectives

*The inclusion of a news item under a particular country heading is for organizational purposes only and is not intended to suggest endorsement or support by the country or any of its agencies.*

## Outer Continental Shelf and International Waters

[Odyssey Marine Exploration](#) said it would continue work on a shipwreck search project as long as the weather remains favorable for operations. The "Atlas" project involves a search for five, high-value shipwrecks in an area encompassing more than 5,000 square miles. Since announcing the start of the project on May 4, Odyssey has searched more than 3,700 square miles and located more than 2,100 anomalies on the sea floor using an advanced high-resolution side-scan sonar system. More than 400 of

1,000 of the anomalies selected for inspection have been visually inspected with ZEUS, its remote-operated vehicle. After the weather window closes for the Odyssey Explorer on the "Atlas" project for 2005, Odyssey plans to relocate the ship to the Western Mediterranean, where work can continue through the winter. Immediately after mobilization of additional equipment and the archaeological team, it plans to begin operations on the shipwreck site believed to be HMS *Sussex*. "We're pleased that by working together with the United Kingdom, Spain and the Junta de Andalucia, we have been able to develop a cooperative relationship that allows us to proceed with the *Sussex* in a collaborative and friendly manner," said John Morris, Odyssey's CEO and co-founder, in a release. HMS *Sussex* was a large 80-gun English warship that sank in 1694 with a reported large cargo of money. The ship remains the exclusive property of the Government of the United Kingdom and Odyssey has an exclusive partnering agreement for the archaeological excavation of the *Sussex*.

Tampa Bay Business Journal©

[http://tampabay.bizjournals.com/tampabay/stories/2005/09/26/daily40.html?jst=b\\_in\\_hl](http://tampabay.bizjournals.com/tampabay/stories/2005/09/26/daily40.html?jst=b_in_hl)

Tampa Bay Business Journal - Tampa,FL,USA (09/26/05)

## France

[see the *Mary Rose* entry under the [United Kingdom](#)]

## Greece

On congested, dusty Alexandras Avenue, the secrets of the sea seem a world away. But in Room 625, on the sixth floor of Greece's gargantuan police headquarters, the watery world of ancient shipwrecks and other archeological riches occupies the attention of Giorgos Gligoris. The veteran officer oversees the Hellenic Police Force's antitrafficking unit, battling smugglers bent on snatching treasures from the seabed. Traffickers have caught on to the fact that there are more than 12,000 shipwrecks in Greek waters. Many of the submerged gems date back to the Golden Age of the fifth century BC. Armed with archeological service maps acquired on the black market, burgeoning numbers of international smugglers have made it their mission to locate the wrecks, authorities say. "In the United States and Europe, ancient Greek artifacts are, sadly, very fashionable," Gligoris said. "Unfortunately, nouveaux riches like them because they're not only pretty and look good in their sitting rooms, but happen also to be a great investment." Gligoris said some looters are coming to Greece and posing as wealthy tourists on yachts. "They arrive, supposedly on a cruise, when their real intention is to locate wrecks and whisk gold and bronze antiquities out of the country," he said. Criminal gangs, emboldened by the explosion of Internet auction houses, have come to see the acquisition of antiquities as a way to launder ill-gotten gains. Faced by rising threat of piracy, Greece's center-right government has made locating and protecting historic wrecks a top priority. In the past five years, state-employed underwater archeologists have discovered 30 ancient wrecks -- compared with five wrecks in the decade before that -- at depths of up to about 1,970 feet, dispatching coast guard officials to protect the finds. With shipwrecks scattered around the Aegean and Mediterranean seas, patrolling them is practically impossible, Gligoris said. Once looters bring the artifacts to the surface, authorities have a difficult time proving that the items have been stolen without previous photographic or archival evidence of their existence, he explained. "Greece has the longest coastline in Europe. The Mediterranean is a very big place," Gligoris said. "We would need millions of archeologists and divers to police these waters, and the fact of the matter is there are only 15 of us who work in the country's antitrafficking department." Thanks to the Romans's penchant for original classical and Hellenistic statues, thousands of sculptures are believed to have been spirited out of Greece by Roman invaders. Specialists also believe the Aegean seabed is littered with masterpieces that went missing in storms. Many of these priceless pieces are thought to have ended up in the hands of antiquities smugglers after fishermen accidentally netted them. Invariably, the works are whisked out of Greece in fruit and vegetable trucks, according to police who have successfully stopped many such vehicles at frontier checkpoints.

By Helena Smith – The Boston Globe©

[http://www.boston.com/news/world/europe/articles/2005/09/11/in\\_greece\\_high\\_tech\\_looters\\_target\\_artifacts\\_buried\\_in\\_the\\_sea/](http://www.boston.com/news/world/europe/articles/2005/09/11/in_greece_high_tech_looters_target_artifacts_buried_in_the_sea/)

Boston Globe - United States (09/11/05)

## Indonesia

Wooden ships laden with ceramic pots, golden necklaces and valuable spices have for centuries navigated Indonesian waters, a key trade route linking Asia with Europe and the Middle East. And for just as many years, they have been sinking. No one knows that better than Adi Agung, who later this month will wrap up salvage operations on a Chinese ship that went down in the crystal blue Java Sea more than 1,000 years ago. So far, 422,000 artefacts have been recovered from the wreckage 54 metres below the surface in what could be the largest cargo of ceramics ever found. Christie's, which is expected to auction the items in 2006 and 2007, says it's worth millions of dollars. Most of the goods are fine white or green wares from northern and southern China dating to the early 10th century. But the vessel also contains Egyptian artefacts and Lebanese glassware, and experts say the rarity and variety of the items could shed new light on inter-Asian trade. Agung, who started the PT Paradigma Putra Sejahtera salvage company four years ago, explored 30 already looted wrecks before receiving word that fisherman had found pieces of ceramics while trawling for snails about 220 km northwest of Jakarta. "It was unbelievable, amazing," said the 37-year-old Agung, among the first divers to take a look at the wreckage in mid-2003. "There was no coral at all, just a mound of ceramics" 100 metres long, 45 metres wide and 30 metres high.

The Associated Press©

<http://www.gulf-news.com/Articles/WorldNF.asp?ArticleID=180663>

GulfNews.Com - UAE (09/08/05)

The story is also available at: <http://www.bakusun.az/cgi-bin/ayten/bakusun/show.cgi?code=8367>

## Italy

A team of Italian divers is preparing to descend into the waters off the island of Elba in search of a massive hoard of gold and silver coins believed to have sunk there in 1841. The coins, along with an unknown quantity of precious jewels, were being carried secretly aboard a Genoese steamship when it was attacked by a Neapolitan vessel for reasons which remain unclear. The steamship, the *Polluce*, sank and all its precious cargo was lost. But its wreck was recently located at a depth of 103 metres, about five miles out from Elba's main port. Weather conditions permitting, a team of divers will begin the treasure hunt at the start of October, descending to the sea floor in a pressurised chamber and then venturing out to explore. They will comb the wreck and sift the surrounding sand with equipment similar to that used to recover the black boxes of crashed airliners. The expedition is being mounted by a private association, the [Historical Diving Society of Italy](#), which has won the sponsorship of regional and national authorities. Whatever is found will remain the property of the Italian state and so cannot be sold. Instead the HDSI, which has stumped up over 500,000 euros for the operation, intends to set up a traveling exhibition and recover its investment from ticket sales. "We're not 100% sure there's anything there. It's something of a gamble," admitted Enrico Cappelletti, a writer and diving enthusiast who spearheaded the initiative after extensive research.

ANSA©

[http://ansa.it/main/notizie/awnplus/english/news/2005-09-27\\_1396061.html](http://ansa.it/main/notizie/awnplus/english/news/2005-09-27_1396061.html)

ANSA - Rome, Italy (09/27/05)

## Malta

Unscrupulous expert divers looting priceless heritage treasures from the deep sea have been arrested by the police in an unprecedented, wide-ranging investigation, MaltaToday can reveal. A criminal practice probably as old as deep water diving, police investigators in the last weeks have clamped down on divers and scuba diving schools who are notorious among diving circles for their unrestrained pillaging of underwater cultural heritage. Among the arrested, the police interrogated Maltese and foreign divers who were found in the possession of artefacts dating back to Roman times. Other artefacts are believed to belong to the period of the Knights of St John. But the bulk of investigations have centred on the pilfering from a particular diving site believed to be "one of the greatest shipwrecks in the world". It is known as "the little Titanic", the magnificent SS *Polynésien*, a 153-metre ship lying some 70 metres buried under the sea off St Thomas Bay since it was torpedoed by a U-boat in 1918, towards the end of World War I. Among diving circles, it is also known as "the plate ship" because of the impressive number of fine porcelain plates, brass lanterns, period decorations and furnishings buried on the wreck, together with, it is believed, priceless sealed champagne bottles dating back to the WWI period. Aided by the Cultural

Heritage Superintendence, investigators are also believed to have established a link with illegal international heritage trafficking rings trading antiques found underwater through the internet. Shipwreck and underwater artefacts are protected by the Cultural Heritage Act but enforcement has been severely lacking for decades, giving a free hand to the unscrupulous segment of the diving community who are feared to have stripped a great part of Malta's seabed from its underwater treasures for ever.

By Karl Schembri – Malta Today©

[http://www.maltatoday.com.mt/2005/09/11/top\\_story.html](http://www.maltatoday.com.mt/2005/09/11/top_story.html)

Malta Today – Malta (09/11/2005)

An amnesty to divers who report their own findings of underwater heritage artefacts would be the next logical step for the government to effectively start preserving national heritage buried under the sea. The call comes from experienced deep water divers and maritime heritage experts, and endorsed by the very same government agency that would be responsible for the upkeep and public exhibition of these artefacts – [Heritage Malta](#). Mario Tabone, the chairman of the entity entrusted with Malta's heritage sites and museums, told MaltaToday that he agreed with a policy of granting a definite period of amnesty for whoever volunteers to present underwater artefacts to the authorities, on a similar model as adopted in the UK a couple of years ago. "It would be a good idea," he said. "It would boost our records of underwater treasures and our exhibits if the conscientious divers were allowed to return their artefacts without fear of being investigated." MaltaToday's revelations last week of police arrests of scuba divers looting underwater artefacts has created a wave of positive reactions from the Maltese diving community, as investigators were questioning more suspects. But divers speaking to this newspaper say the government is not investing enough in recovering, preserving and exhibiting underwater national treasures, giving a freehand to unscrupulous divers to pilfer shipwrecks and most of the seabed of its relics. "One cannot really blame those who think they should keep these artefacts," one shipwreck diver said. "The message they get from the government is that these finds are not that important. They feel they can appreciate them much more than the authorities." An amnesty coupled with a government commitment to exhibit underwater treasures for the public would definitely help boost public awareness. In the UK, a similar amnesty led thousands of divers and owners of underwater heritage artefacts came forward with previously unreported objects of historical and archaeological interest.

By Karl Schembri – Malta Today©

<http://www.maltatoday.com.mt/2005/09/18/t11.html>

Malta Today – Malta (09/18/2005)

## Norway

Oil companies' dash to build pipelines along the ocean floor has opened up one of the last archaeological frontiers — the deep-sea shipwreck. A Norwegian team says it has finished the deepest excavation in marine archaeological history, lifting 500 porcelain plates, wine bottles, coins, chess pieces and navigation equipment from the wreck of a 19th-century merchant ship lying 560 feet (170 meters) below the sea surface. And the \$6.25 million bill was paid for by the oil companies developing the Ormen Lange gas field off Norway's west coast, who found the wreck while mapping the seafloor to lay a pipeline. "We rely on funding from the oil companies," said Fredrik Søreide of the [Norwegian University of Science and Technology](#). "I can think of no others who would pay for it." The oil company consortium hired the archaeologists to investigate the site and to show them where they could build a pipeline without damaging the wreck. Booty hunters driven by profit have dragged up gold and other valuables from shipwrecks in far deeper waters using the remote controlled technology, but archaeologists — more interested in finding artifacts for research and museum shelves — have until now been unable to fund expeditions. Now oil companies building pipelines across ocean floors to connect ever more remote gas and oil fields to markets are stumbling across shipwrecks that need to be surveyed. And they are paying archaeologists to do so. This is the fourth shipwreck discovered by oil firms Søreide has worked with, adding that he has already been approached about a wreck in the Gulf of Mexico next summer. A large steel frame was placed on top of the shipwreck off Norway, allowing the archaeologists to navigate a robot around the wreck without disturbing it, delicately pulling up artifacts as it went along. "Deep water was the last frontier for marine archaeology," project director Marek Jasinski said. "The new technology enables us to investigate and excavate cultural heritage in deep water with the same precision and standards as on land."

Reuters©

<http://msnbc.msn.com/id/9417863/>

MSNBC – USA (09/20/05)

## Oman

International researchers attempting to sail 600 miles in a Bronze Age-style reed boat had to be rescued from the Arabian Sea after the vessel started to capsize, an Indian navy official said Friday. The eight-member crew, including two Americans, left Sur, Oman, on Wednesday aboard the 40-foot boat made from reeds, date-palm fibers and tar, with a wool sail and two teak oars. Their goal: to follow what archaeologists believe was a Bronze Age trade route, ending in the historic Indian port of Mandvi. Shadowing the reed boat for its protection were vessels from the Sultanate of Oman and the Indian navy. About seven miles into the trip, the reed boat met with "an accident" and started to take on water, said Cmdr. B.K. Garg, an Indian navy spokesman. The sultanate's boat rescued the crew and returned them unharmed to Oman, Garg said. He had no further details about what caused the accident or the condition of the vessel. The project was funded by Oman and some private organizations. Participants included archaeologist Gregory L. Possehl, a curator at the [University of Pennsylvania Museum of Archaeology and Anthropology](#) in Philadelphia; Maurizio Tosi of the [University of Bologna](#); and Serge Cleuziou of the [Centre National de la Recherche Scientifique](#) in Paris. Plans for the trip started after excavations in eastern Saudi Arabia turned up fragments of bitumen, or tar, bearing impressions of bound reeds, rope lashings and barnacles. Researchers hailed the find as direct evidence of boat construction in the Arabian Sea during the Bronze Age and built their vessel based on that evidence, along with ancient texts and images. Two days before the sail, Tom Vosmer, the vessel's director of design and construction, acknowledged that the boat — dubbed the Magan after an ancient name for Oman — provided little protection. Vosmer said Monday that although weather forecasts were favorable, there was always the danger of a large wave swamping the vessel. He was also concerned about an early leak that needed re-tarring. "The boat seems good, but it's completely untried," Vosmer said. "We don't know what it's going to do when we get into the big seas in the Indian Ocean." The eight-member crew consisted of Vosmer and the navigator, both Americans; a sailing master from Australia; two Omani seamen; two Italian graduate students; and an Indian archaeologist. Researchers had hoped the voyage would help them learn about Bronze age boat construction techniques, as well as how well such boats worked, how to sail them, and what life aboard such a vessel might have been like.

By Ahok Shama – The Associated press©

[http://news.yahoo.com/s/cpress/20050909/ca\\_pr\\_on\\_sc/bronze\\_age\\_boat](http://news.yahoo.com/s/cpress/20050909/ca_pr_on_sc/bronze_age_boat)

Yahoo News – USA (09/09/05)

## United Kingdom

One of the earliest remains of Scotland's natural native woodland has been found under six feet of water. Archaeologists working in Loch Tay, Perthshire, have discovered the remains of a drowned forest and say it dates from the neolithic period, about 5000 years ago. Preliminary surveys in the loch carried out by the [Scottish Trust for Underwater Archaeology](#) (STUA) have identified up to 40 well-preserved fallen oak and elm trees, as well as a series of upright oak trunks embedded in gravel and silt. Many of the fallen trees have created "an eerie landscape" protruding from the loch bed. Samples taken by the trust's dive team have just produced radiocarbon dates of 3200BC and 2500BC. A spokesman for the trust said: "This is an exciting discovery for scientists of all disciplines as these trees represent possibly the earliest surviving remains of part of Scotland's natural native woodland.

By Martin Williams – The Herald©

<http://www.theherald.co.uk/news/46814.html>

The Herald - Glasgow, Scotland, UK (09/12/05)

(courtesy of Stuart Vine – [Underwater Archaeology Discussion List](#))

[September 25<sup>th</sup>] The dive support vessel *Terschelling* arrived on site bringing brilliant sunshine and fine conditions on Saturday 24th September, ready to begin the 22 day diving programme. The culmination of this will be the raising of the 10m long stem timber of the *Mary Rose*, exposed during two seasons of work

onsite funded by the MoD [Ministry of Defense] in 2003 and 2004. A five metre long wrought iron anchor, associated with the stem timber, will also be raised. Following exploration beneath these features, the area will be covered with a membrane, weighted with sandbags and covered by 100 tons of sand to protect any remains for future generations.

[September 28<sup>th</sup>] On the easterly tides the rest of the anchor has been uncovered by removing the remaining sandbags and membrane material and the entire shank is now exposed over its upper face. We are aiming to excavate a rectangular trench between the anchor and the stem in order to try and understand the orientation of the anchor relative to the stem and the port side frames found in 2004. Two large anchors were recovered from beneath the bow in 1982 on the starboard side, and a third anchor on the starboard side at the bow is not expected. It is therefore possible that this is a port side bow anchor, fallen towards the starboard side. This scenario could account for all the degraded and collapsed structure we found overlying and around the anchor in 2004. Our only chance at understanding where it may have originated is by recording its orientation relative to the exposed structure as much as we can before removing it.

By Alex Hildred – [The Mary Rose Trust](#)©

<http://www.maryrose.org/project/dive05a.htm>

The Mary Rose Trust – UK (05/25/05 and 05/28/05)

An international team of researchers has analysed the sulphur and iron composition in the wooden timbers of the *Mary Rose*, an English warship wrecked in 1545, which was salvaged two decades ago. The team used synchrotron X-rays from the [Stanford Synchrotron Radiation Laboratory](#) (USA) and the [European Synchrotron Radiation Facility](#) (France) in order to determine the chemical state of the surprisingly large quantities of sulphur and iron found in the ship. These new results provide insight to the state of this historic vessel and should aid preservation efforts. They are published this week in the [Proceedings of the National Academy of Sciences Early Edition](#). The *Mary Rose* served as English King Henry VIII's principal warship for 35 years until she went down outside of Portsmouth in 1545. In 1982 the hull was recovered from the sea and is currently undergoing a conservation process. The first author of the publication, Magnus Sandström, and his colleagues showed recently that the accumulation of sulphur within shipwrecks preserved in seawater is common by studying the Swedish warship *Vasa*, which remained on the seabed for 333 years. Their research concluded that sulphur in contact with oxygen could pose conservation problems. Over time, sulphur can convert to sulphuric acid, which slowly degrades the wood until the hull's stability is lost. The authors examined the *Mary Rose* to determine the potential threat and found about 2 tons of sulphur in different compounds rather uniformly distributed within the 280-ton hull. At the [Mary Rose Trust](#) they are already investigating new treatments to prevent new acid formation. For slowing down the organo-sulphur oxidation reaction and prevent new acid formation, wood samples from the *Mary Rose* are being treated with antioxidants in combination with low and high grade polyethylene glycol (PEG). Another approach to slow down acid formation in PEG treated conserved archaeological wood is to maintain it in a stable climate. It is hoped that keeping a constant low humidity of 50-55% without variations of temperature will stop changes in sulphur speciation. To maintain a stable microclimate within the wood structure a surface coating offers a possible solution, although the effectiveness of this approach has yet to be tested. “This ongoing research is considered to be an important step forward in devising improvements to the current *Mary Rose* hull treatment programme”, explains Mark Jones, curator of the *Mary Rose*.

Proceedings of the National Museum of Sciences©

[http://www.eurekalert.org/pub\\_releases/2005-09/esrf-ec092705.php](http://www.eurekalert.org/pub_releases/2005-09/esrf-ec092705.php)

EurekaAlert – NY, USA (09/27/05)

For the actual article, visit: <http://www.pnas.org/cgi/reprint/0504490102v1> (registration may be required).

## The Reference Library

### **Sulphur accumulation in the timbers of King Henry VIII's warship *Mary Rose*: a pathway in the sulphur cycle of conservation concern (2005) by Magnus Sandström<sup>\*</sup>, Farideh Jalilehvand<sup>‡</sup>, Emiliana Damian<sup>\*</sup>, Yvonne Fors<sup>\*</sup>, Ulrik Gelius<sup>§</sup>, Mark Jones<sup>¶</sup>, and Murielle Salomé<sup>||</sup>**

<sup>\*</sup>Department of Structural Chemistry, Stockholm University, SE-106 91 Stockholm, Sweden; <sup>‡</sup>Department of Chemistry, University of Calgary, Calgary, AB, Canada T2N 1N4; <sup>§</sup>Department of Physics, Ångström Laboratory, Uppsala University, P.O. Box 530, SE-751 21 Uppsala, Sweden; <sup>¶</sup>The Mary Rose Trust, College Road, HM Naval Base, Portsmouth, PO1 3LX, United Kingdom; and <sup>||</sup>European Synchrotron Radiation Facility, BP 220, 38043 Grenoble Cedex, France  
PNAS, Proc. Natl. Acad. Sci. USA published 26 September 2005, 10.1073/pnas.0504490102.

In marine-archaeological oak timbers of the *Mary Rose* large amounts of reduced sulfur compounds abound in lignin-rich parts such as the middle lamella between the cell walls, mostly as thiols and disulfides, whereas iron sulfides and elemental sulfur occur in separate particles. Synchrotron-based x-ray microspectroscopy was used to reveal this environmentally significant accumulation of organosulfur compounds in waterlogged wood. The total concentration of sulfur in reduced forms is  $\approx 1$  mass % throughout the timbers, whereas iron fluctuates up to several mass %. Conservation methods are being developed aiming to control acid-forming oxidation processes by removing the reactive iron sulfides and stabilizing the organosulfur compounds.

For the complete article, visit PNAS web site at: <http://www.pnas.org/cgi/reprint/0504490102v1> (registration may be required).

## Upcoming Events

### **The North Carolina Maritime History Council's 15th Annual Conference**

The North Carolina Maritime History Council's 15<sup>th</sup> Annual Conference – *Mariners, Marines, and Merchants: Onslow County's Maritime Heritage* – will be held on October 27-29, 2005 in Jacksonville, North Carolina. Noted North Carolina Historian Dr. David Cecelski will deliver the keynote address, "Men's Souls: The Upheaval of World War II on the North Carolina Coast." Session themes include: Welcome to Onslow County Maritime History; Current Research in North Carolina Maritime History; and Hammocks Beach State Park, Swansboro, N.C. The Maritime History session will feature presentations on: Shipwrecks of the Roanoke; Maritime Commerce on Tar River; and Archaeological and Historical Investigations of the Civil War gunboat USS *Otsego*.

For more information, contact Harry Warren at the North Carolina Museum of Forestry at (910) 914-4185. A copy of the conference brochure can be downloaded at: <http://www.qaronline.org/ncmhc05.pdf>.

### **The Maritime Heritage Education Conference**

This conference will be the first of its kind to bring formal and informal educators together to promote the sharing of maritime heritage related education partnerships, programs and products. The meeting will take place November 18-20, 2005 at [Nauticus](#): the National Maritime Center in Norfolk, Virginia. Come together with participants from all over the country for guest plenary speakers, concurrent sessions, a book room and social gatherings related to the following maritime heritage topics: Lighthouses/lifesaving stations; Whaling and fishing heritage; Native canoe cultures; Shipping and port heritage; Shipboard education programs; and Shipwrecks and other submerged sites. Sponsored by: [National Marine Sanctuary Program](#), [National Park Service](#), Nauticus and the [National Marine Sanctuary Foundation](#). Partners: [National Council for the Social Studies](#), [American Sail Training Association](#), [PAST Foundation](#), [JASON Foundation](#), [Mariners Museum](#)

For full information, visit <http://www.sanctuaries.noaa.gov/education/mhec/welcome.html>.

An information flyer can be downloaded at: <http://www.sanctuaries.noaa.gov/education/mhec/pdf/mhec.pdf> (PDF/612 KB)