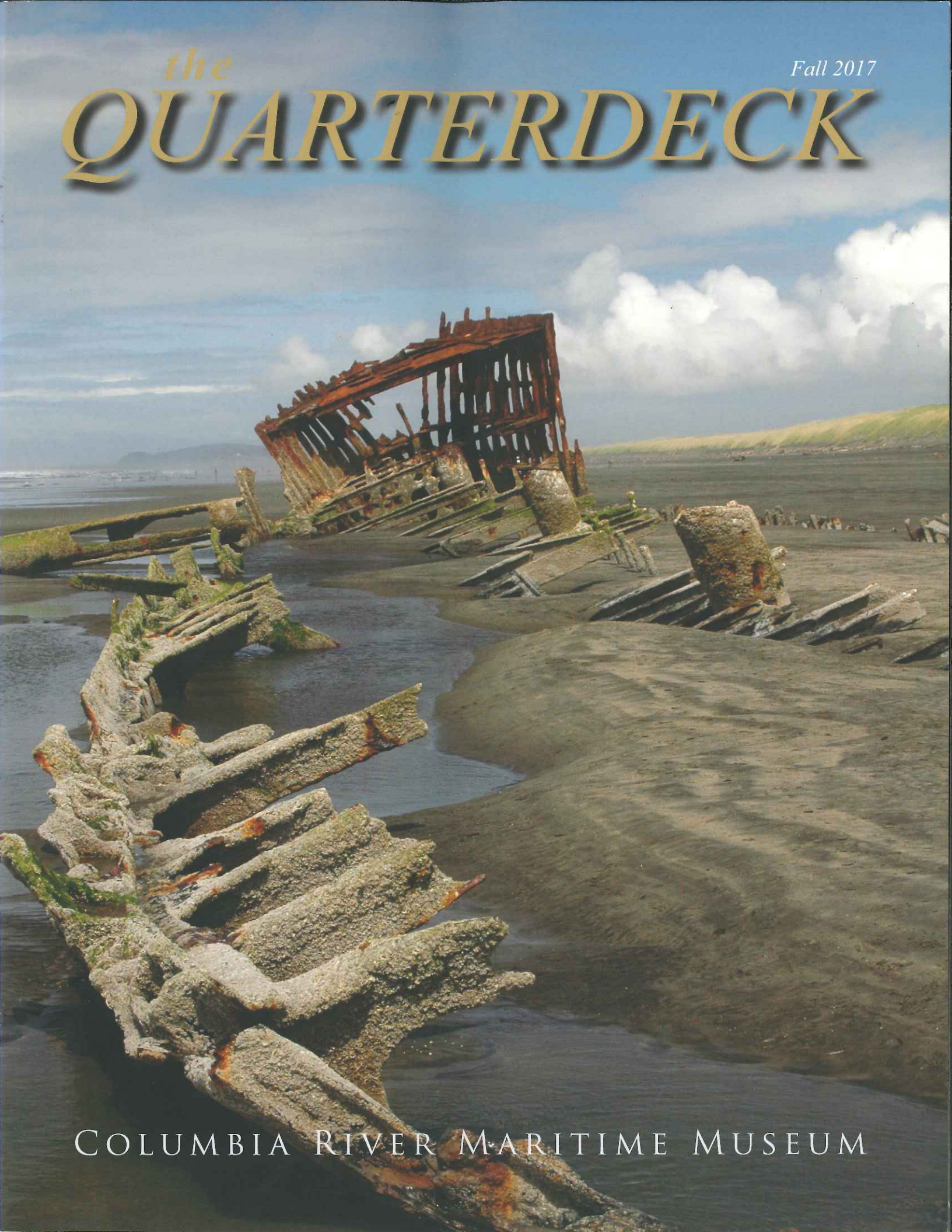
Fall 2017

the QUARTERDECK



COLUMBIA RIVER MARITIME MUSEUM

More of the *Peter Iredale* was revealed in May 2016 than in recent memory, providing an excellent opportunity to take documentary photos of the site.

A few quick measurements of known *Emily Reed* wreckage on Rockaway Beach in February 2017 to be used for comparison with other unknown wreckage nearby under investigation.

Maritime Archaeological Society

The Maritime Archaeological Society, MAS, is a non-profit organization formed in 2015 after seeing a need for a coordinated group of professional archaeologists and volunteers to document shipwrecks and other submerged archaeological sites in the region. According to Oregon State Historic Preservation Office (SHPO) Archaeologist Dr. Dennis Griffin, recorded shipwrecks within the state database number just over 300 while the number of reported shipwrecks off the Oregon Coast alone include over 3,000. The mission of MAS is to seek out, investigate, and document shipwrecks and other maritime archaeological sites; conserve artifacts from those sites, when appropriate; and educate the public in areas of maritime cultural heritage, historic shipwreck preservation, and the science of maritime archaeology. Headquartered in Astoria Oregon, MAS serves the Pacific Northwest and beyond, with a contingent based in Hawaii. MAS is still small, but continues to grow in size and expertise.

The idea for a new organization was started in 2014 by several leaders of a shipwreck project on the North Oregon Coast known as the Beeswax Wreck Project. Recognizing the need to record local maritime archaeology, it was decided that a non-profit 501(c)(3) could be formalized using a model relying on trained archaeology volunteers. Similar organizations around the country and across the globe were looked to for examples of comparable programs and the Columbia River Maritime Museum was consulted. The Nautical Archaeology Society (NAS) in England is the granddaddy of most volunteer underwater archaeology societies. NAS grew out of the excavation and recovery of the *Mary Rose* in the 1970s and 1980s. The Lighthouse Archaeological Maritime Program (LAMP) in Florida is a good example of a volunteer program that works hand in hand with a museum. Another inspiration came from a successful volunteer archaeology program closer to home, the Oregon Archaeological Society (OAS). OAS is an all-volunteer organization with significant participation and mentorship by professional archaeologists. Since forming, MAS has worked to build relationships with all of these organizations.

One MAS directive is to educate the public about our shared maritime cultural heritage with a goal of building pride of ownership and a sense of stewardship for shared public resources. One big target audience is the diving community. Divers, by the very nature of their sport, frequently come in contact with maritime cultural resources in the form of shipwrecks. MAS wants to offer a positive, productive, and fulfilling way for divers to interact with these resources. Each MAS project has a professional archaeologist volunteering as the principle investigator. Volunteers are overseen and mentored by a professional archaeologist. Having the professionals involved helps insure well-meaning volunteers do not inadvertently violate a cultural resource law or professional archaeology ethical standards.

An all-volunteer organization, MAS members go through an internal training program before assisting with surveys and research opportunities. Training includes basic maritime archaeology techniques including archaeological ethics and regulations, courses on field methods, historical research methods, artifact conservation, and remote sensing. A typical survey project includes both high tech and traditional methods from measurements and drawings to detailed photo and video capture. Photographs can be used with photogrammetry tools to create 3D models of shipwrecks. For offshore surveys, MAS utilizes a small remote operated underwater vehicle (ROV), GoPro camera, side scan sonar, and other equipment when available. Specially trained volunteer divers are also available for underwater surveys.

Side-wheel steamboat *T.J. Potter* was pulled from passenger service on the Columbia in 1916. She was hauled onto the beach in Young's Bay and burned for her metal in 1920. A portion of her hull with ribs exposed are all that remain.

The National Park Service requested help in identifying the remains of a gillnet boat within the boundaries of the Lewis and Clark National Historical Park.

MAS volunteers surveyed the site and identified the previous owner through research and oral history investigation. They discovered the boat had been used to haul milk from a dairy in Warrenton to customers in Astoria.

Research

Research is a big component to each project. The Columbia River Maritime Museum and other coastal maritime and history museums have been generous with offering meeting space and research assistance. MAS is proud of its growing relationship with CRMM and a network of local museums and historical societies. CRMM has made a space available in their research library for a collection of books and papers on maritime archaeology contributed by MAS. Before MAS heads to a maritime site, research is conducted.

Every project needs to have a research design as well as research questions to be answered. Sometimes the questions can be simple, such as finding out how much is left of a site. It is more complex to answer how a site was used. One of the most difficult questions can be figuring out the name of a vessel. For example, MAS was called on by the Westport Historical Society to help record a wreck that had washed out of a hillside in Willapa Bay, WA in late 2016. Research had shown the wreckage washing out of the beach could belong to a number of shipwrecks.

After recording as much information as possible about the wreckage: dimensions, fasteners, materials, construction methods, signs of fire, possible tool marks— the team always then heads back to the research library. Researchers look at the vessels known to be lost in the area for the best fit to the evidence collected in the field. Fasteners, construction materials, and sometimes construction methods can all be used as rough time markers. Fasteners and particularly construction materials can inform the researchers of the vessel's region of origin. With the observations from the wreckage, they begin the process of narrowing the list of known wrecks, looking for the definitive diagnostic artifact or group of artifacts that answer the project research questions. Identification of the Willapa Bay wreck is still under investigation.

Sometimes the findings can completely change the theory on a site or the identity of a shipwreck. For example, at the beginning of the Beeswax Wreck project, the team thought the shipwreck was the Spanish galleon *San Francisco Xavier*, lost in 1705. With the accumulation of evidence from the field and archives, the most likely candidate changed to the *Santo Cristo de Burgos* lost in 1693.

Projects and Activities

MAS projects are much more than diving on shipwrecks. Maritime archaeology encompasses all human activity along the transition area, or ecotone, between water and land. Maritime archaeology studies the remains left by human activity to understand the relationship and interaction with the marine environment and how it has changed over time. These activities include water access like docks, piers, and bridges. It can also include resource extraction such as fishing, clamming, processing, and shipping activities as well as water transportation.

Projects range from historical research investigations to complex underwater surveys. Investigations often begin in response to requests for expertise and assistance from individuals, local historical societies, and government organizations. Volunteers recorded the remains of a boat in Lewis and Clark National Historical Park at the request of the National Park Service. Another ongoing MAS activity is adding records to the Big Anchor Project, which is an international effort coordinated by the Nautical Archaeology Society in the UK to create a database of heritage anchors. MAS began participating in the project after being asked to record an admiralty anchor recovered from Baker's Bay, WA by the Coast Guard.

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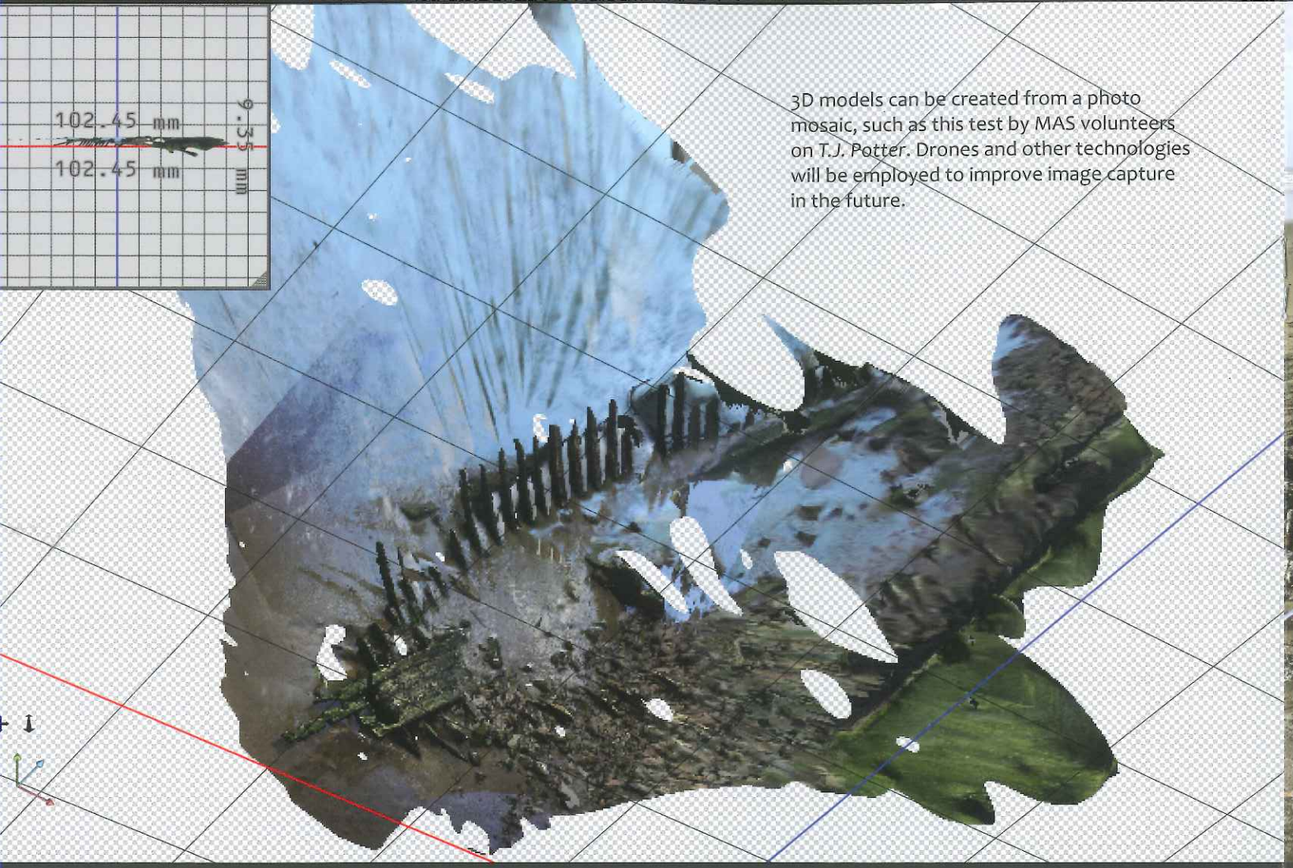

3D models can be created from a photo mosaic, such as this test by MAS volunteers on *T.J. Potter*. Drones and other technologies will be employed to improve image capture in the future.

In partnership with the Westport Historical Society, MAS surveyed a wreck in Willapa Bay North Cove in November 2016. Researchers are still trying to identify the wreck.

Several anchors have been recorded already, with a growing list of anchors to record. Many of these projects can also be used as a way to test methodology and new equipment.

Oregon Coastal Survey Project

A large ongoing MAS project, the Oregon Coastal Survey Project, seeks to provide increased knowledge of shipwrecked and abandoned vessels along the Oregon coast that previously had little or no documentation. This project was created to address concerns and gaps in the Oregon State Historic Preservation Office records. Limited existing records might have a position, vessel name (if known), and estimated year the ship was sunk (if known). Adding details to the site record means a great deal more information is known about the site including measurements, history, and site formation processes which are the events that created the archaeological site. Reports for each site get filed with the SHPO site database. As MAS collects more site data in each coastal community and estuary, a larger picture and narrative of maritime activity can be built up over time.

So far, MAS has five sites under the Coastal Survey Project umbrella and the list keeps growing. Research and site work are in various stages of completion for *T.J. Potter*, *Emily Reed*, *Silvia De Grasse*, *Blanco*, and *Peter Iredale*. These projects can be slow to complete because of the environment, research, and volunteer availability. Many field projects are also dependent on nature's winds, tides, currents and the movement of sand. One portion of *Emily Reed* on Rockaway beach is only visible once every few years. The wreckage of *T.J. Potter* has been surveyed and the report written and submitted to the Oregon SHPO. With *Emily Reed*, MAS is still looking for all of the parts. MAS has found what they believe are two parts of the ship that is said to have broken up into five parts. *Silvia de Grasse* is in the remote sensing phase. Wreckage has been located on sonar. The next step is to document the wreckage with ROVs. The ROVs will take both video and still photos. The photos will be used to build 3D a model of the wreckage. 3D modeling has been practiced on land with *T.J. Potter* and *Peter Iredale*.

Peter Iredale is one of the most iconic and publicly accessible shipwrecks on the Pacific Northwest Coast. In August 2016, more of *Peter Iredale* emerged out of the sand than had been seen in the last 30 years. *Peter Iredale* is on state park lands, so to do research would require a permit. MAS needed to act fast before the wreck was reburied by sand so the time was used as an opportunity to go take over a thousand photos of the shipwreck, knowing the site would eventually be part of the Coastal Survey Project. It was also an opportunity to practice building a 3D photo mosaic. MAS plans to create 3D models of wrecks both onshore and underwater. In the future with a permit, MAS plans to take detailed measurements of *Peter Iredale*, and will use a 3D scanning laser to augment the 3D photogrammetry already completed.

Beeswax Wreck Project

One of the most well-known archaeological mysteries on the Oregon Coast is the identification of the Beeswax Wreck at Nehalem Beach.

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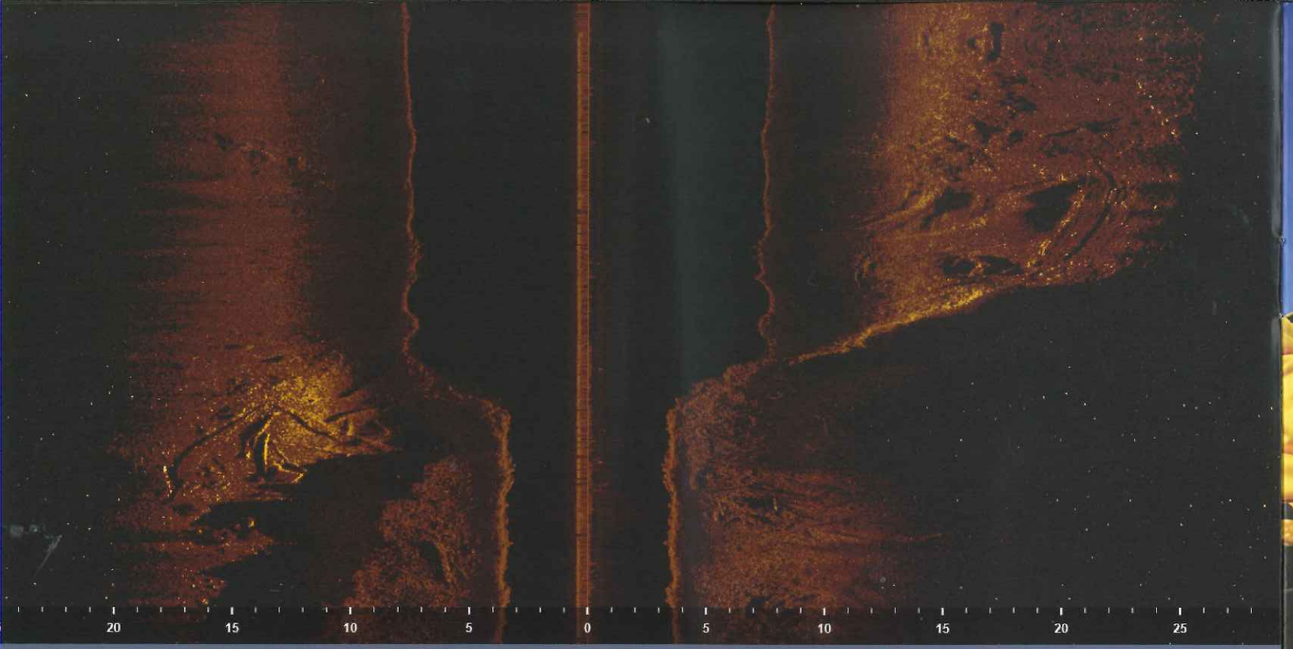
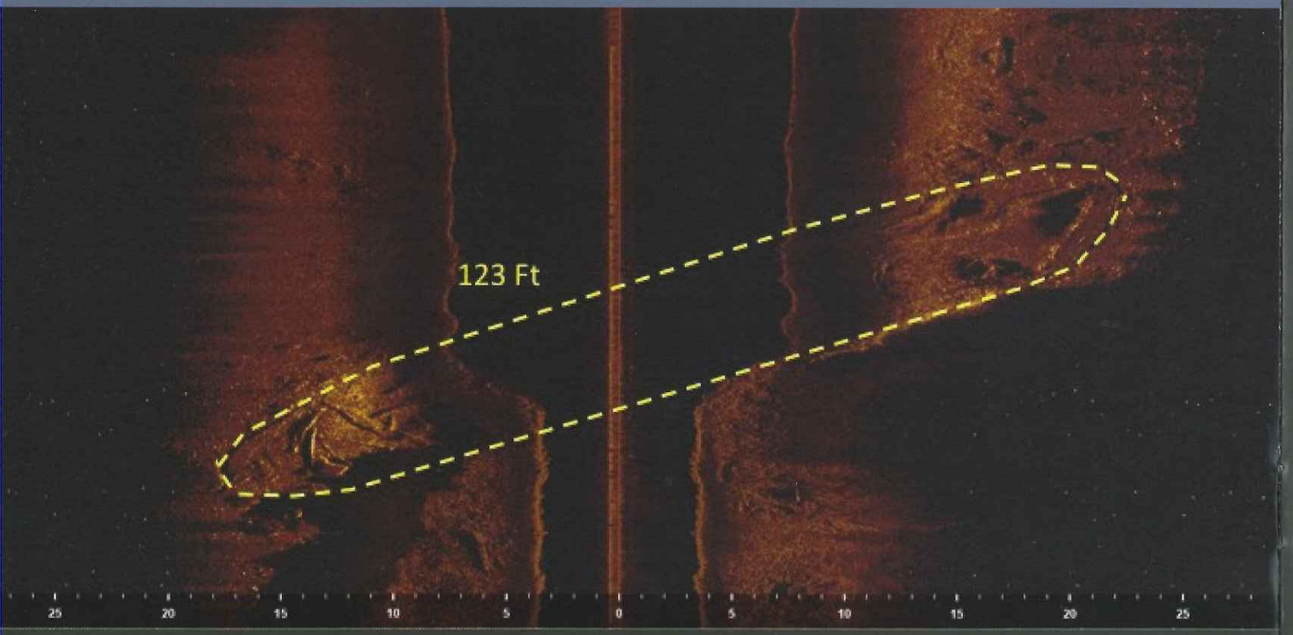


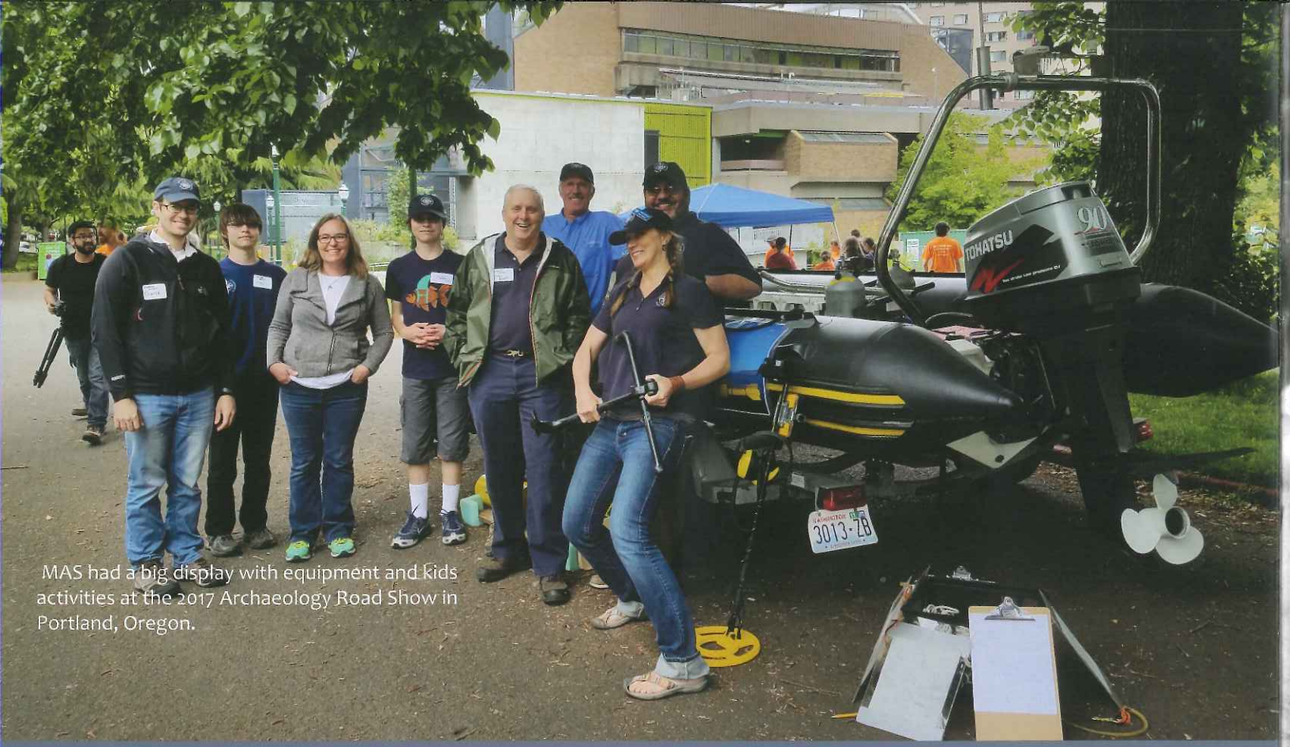
Side-scan sonar images captured of the *Sylvia de Grasse* shipwreck in the Columbia River. MAS will study the wreck and submit a detailed report to the State Archaeologist. Loaded with lumber headed for San Francisco in 1849, the *Sylvia de Grasse* drifted onto a ridge of rock in the river near Upper Astoria and was unable to get free.



A volunteer tests the magnetometer offshore.

Nehalem Indian oral histories as well as the journals of the earliest traders in the area indicate a Spanish galleon wrecked there prior to European settlement. Archaeologist and MAS Board member Scott Williams has been the principal investigator of the Beeswax Wreck Project for 10 years. The Beeswax Wreck Project is now a MAS field project, which has opened up new opportunities to fundraise and seek out grants to support the investigation.

This year MAS was awarded a *Preserving Oregon* matching grant to fund offshore remote sensing research. The plan was to collect both side-scan sonar and magnetometer data in a regular grid pattern across six pre-determined sectors. Each sector could be covered in a tide cycle and the boat would be able cross the Tillamook bar on the flood tide. The team ran into equipment problems early on with both the original planned magnetometer and a second borrowed magnetometer. As good weather windows started passing, MAS initiated its backup plan to proceed with side-scan sonar and return later to check identified targets with ROVs. The magnetometer search is currently on hold until more reliable equipment can be obtained. The side-scan sonar grids were completed in early September. Even without the magnetometer, volunteers were able to collect great side-scan data covering shallow areas not reached in previous side-scan and multi-beam sonar sweeps. The search for the resting place of the Beeswax Wreck continues.



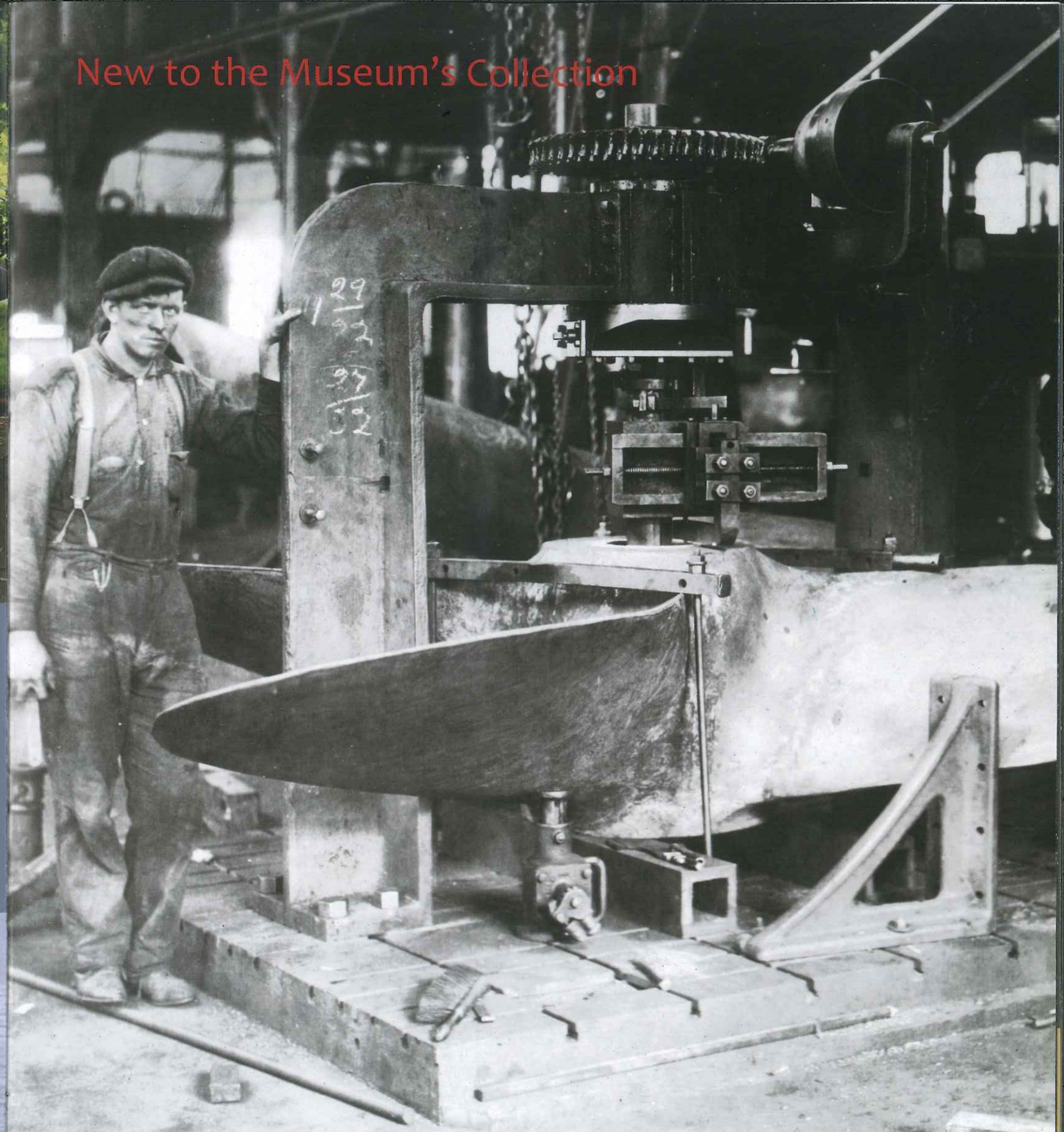
MAS had a big display with equipment and kids activities at the 2017 Archaeology Road Show in Portland, Oregon.

Get Involved

The Maritime Archaeological Society is always looking to expand its base of trained volunteers as well as its partnerships in the community and with museums and historical societies along the Coast. The group looks forward to further developing its relationship with CRMM activities and outreach. If you are interested in getting involved, MAS has opportunities onshore, offshore, and in research archives. Anyone can participate once the basic training program is completed. Learn more about MAS on the web http://maritimearchaeological.org, on Facebook @MaritimeArchaeologicalSociety, and on Instagram @mas_maritime or email info@maritimearchaeological.org.

Prepping the ROV for a survey of *Sylvia de Grasse* along Astoria's waterfront.

New to the Museum's Collection



The image is from an album recently donated by Dawn-Marie Taylor, from the granddaughter of John Ray McKinney, who was treasurer at the Astoria Marine Iron Works c.1918. The album documents the work carried out for the "Bridge of Ships" project, a massive ship building effort to keep the allied supply lines flowing in WWI. The first wooden vessel launched was the *Quoque* out of Astoria. Here workers are preparing a propeller for installation. Astoria Marine Iron Works cast parts and constructed and installed engines and boilers for these and other ships.