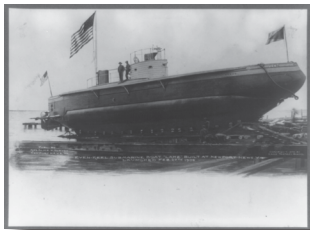
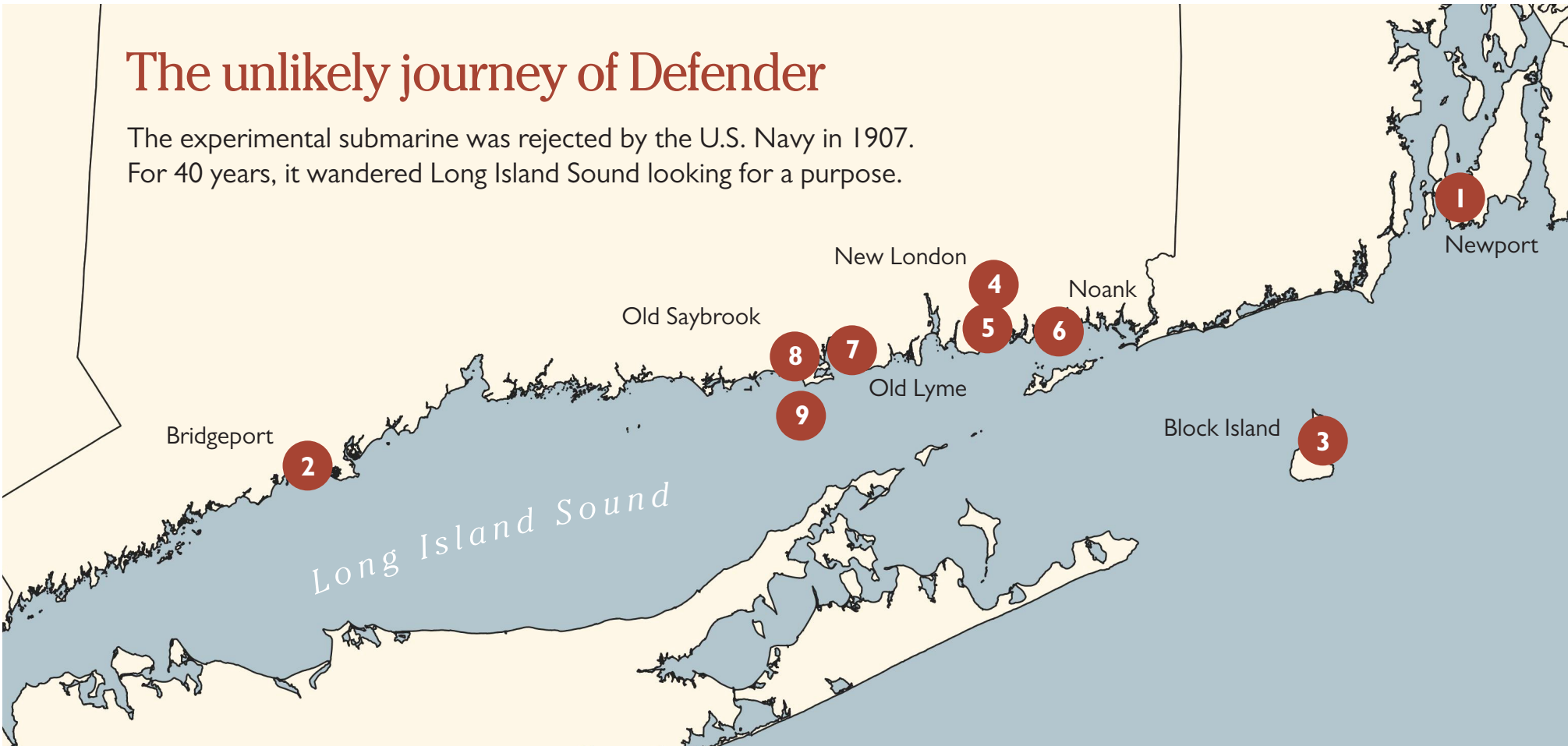


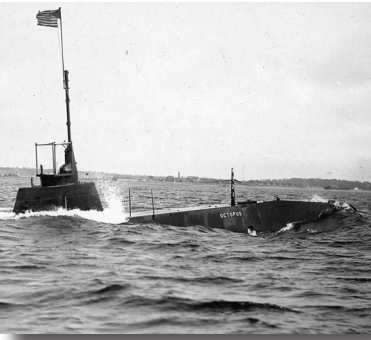
The unlikely journey of Defender

The experimental submarine was rejected by the U.S. Navy in 1907. For 40 years, it wandered Long Island Sound looking for a purpose.



Feb. 27, 1906: Lake is launched at Newport News, Va.

1900



May 1907: Lake loses Navy trials to Electric Boat's **Octopus**, above, Narragansett Bay, R.I.; is renamed **Defender**

2

1928: Defender retrofitted as a salvage boat in Bridgeport after S-4 disaster



4

Late 1929: Defender is laid up at the Thames Shipyard, New London



6

January 1939: Defender is towed to Noank, where it later sinks

9

Gallant Old Submarine Defender Finally Scuttled in L. I. Sound
The submarine Defender, one of America's early undersea boats, has been scuttled in the "hell" of the Long Island Sound. In the fall of 1943, the then 4-year-old Defender, having attained an age equal to that of "80 or more" human years, again made news when she sank in the waters of the Long Island Sound off Noank, N.Y. Defender was not lost. She was scuttled.

February 1946: Defender is scuttled off Old Saybrook

2023

5

December 1937: Defender is moved to Shaw's Cove to be scrapped

7

1944: Defender is towed to Old Lyme, where it sinks in a hurricane

8

1945: Defender raised from Connecticut River, towed to Old Saybrook

MAP AND GRAPHIC:
SCOTT RITTER AND JOHN RUDDY | THE DAY
PHOTOS, CLOCKWISE FROM TOP LEFT:
LIBRARY OF CONGRESS; SUBMARINE FORCE MUSEUM; SUBMARINE FORCE MUSEUM; THE DAY; COURTESY MYSTIC SEAPORT MUSEUM; U.S. NAVAL HISTORICAL CENTER

Submarine Defender kept falling short of the mark

FROM A1

The competition between Lake's self-named submarine and EB's Octopus was hyped by the press, one newspaper calling it an "aquatic battle royal." In May 1907 in Narragansett Bay, a Navy trial board judged each boat on speed, diving and other factors. Things didn't go well for the Lake, which accidentally breached the surface 18 times. "They had a great deal of difficulty in getting it to submerge, and then once it was submerged it tended to want to pop to the surface," said submarine historian David Johnston. In virtually every category, the Lake was outclassed. "It is the unanimous opinion of this board that the Octopus is the superior boat," the Navy's report said. The Lake appeared to be finished, and it mostly disappeared from history for the next two decades. But it would get another shot with the Navy.

■ ■ ■

Six survivors trapped in the sunken submarine S-4 could communicate with the outside by tapping on the hull in Morse code. "Is there any hope?" they asked. But they ran out of oxygen while waiting to be saved. A howling storm had delayed the rescue. The loss of S-4 in December 1927 was the latest in a series of submarine accidents that focused the Navy's attention on rescue and salvage. By then, Lake's career building for the Navy had come and gone. But he saw an opportunity. Just after his boat had lost the 1907 trials, Lake converted it to a salvage vessel with an escape hatch for divers and wheels on the keel. He renamed it Defender and conducted experiments. In one, Defender went to the bottom of Long Island Sound and settled next to a sunken coal barge. Lake exited the hatch and, by telephone, directed the submergence of a cargo sub he had invented, which retrieved 15



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AP PHOTO



JENNIFER SELLITTI

Left, aviator Amelia Earhart suits up for her dive from Defender in July 1929 on Block Island. **Center,** Sloan Danenhower waves from the hatch of Defender in Bridgeport on Jan. 14, 1929. Danenhower, Simon Lake's business partner, was the captain of the submarine during the 1929 trials. **Right,** Steve Abbate, Richard Simon and Joe Mazraani shortly after the dive to Defender on April 16.

tons of coal with a pump. Much later, in 1928, Lake refitted Defender again for rescuing trapped submariners and contracted with the Navy for tests. The idea was to give divers an undersea base so they could work in all weather. As the Navy watched, Defender spent the summer of 1929 at Great Salt Pond on Block Island, where a diver practiced exiting the sub underwater and working to raise a sunken pontoon. Lake and his business partner, a former Navy skipper named Sloan Danenhower, had an associate: a publisher and promoter named George Palmer Putnam, who brought the tests some publicity. In July, Putnam arrived with his future wife, aviator Amelia Earhart, who a year earlier had become the first woman to cross the Atlantic by plane. She dived from Defender's escape hatch, then recounted the adventure in "Cosmopolitan." "When we flew across the Atlantic, much water was beneath us," Earhart wrote. "... But now I have experienced something new. I have been under the water, looking up."

But there was strife behind the headlines. The tests had been delayed by a severed hawser, which caused anger and suspicion. Danenhower and the Navy supervisor fought and had to go to Washington to resolve their differences. Then the Navy ended the tests before Defender could perform in rough weather. Despite Lake and Danenhower's protests, Defender was again judged a failure. ■ ■ ■ If the Navy was through with the vessel, Lake and Danenhower weren't. Even before Block Island, they were talking of using it for a voyage to the North Pole. Defender would travel beneath the polar ice, which had never been done. "A superstructure of steel beams will enable the Defender to crash through the ice to come up for air," enthused "Popular Science Monthly." But by 1930, even its owners had to admit Defender wasn't the sub for the job. Instead they adapted a decommissioned Navy boat, O-12. Renamed Nautilus and captained by

Danenhower, it carried explorer Sir Hubert Wilkins farther north than any vessel had gone but failed to reach the pole. Then Lake decided to use Defender to explore an 18th-century frigate that had sunk in Hell Gate, near New York City. Legend had it there was gold aboard. But the plan fell through. After that, Defender was parked at Thames Shipyard in New London with no real purpose. By 1932 the boat was leaking and had to be hauled out for repairs. The following year it was auctioned, apparently because Lake couldn't pay the storage bill. The shipyard bought it for \$500. If Defender wasn't up to its past challenges, it turned out to be good at surviving. In 1937 Danenhower bought the boat back and moved it from a Thames River mud bank to a shipyard in Shaw's Cove, where it was to be scrapped. For reasons unknown, that didn't happen, and in 1939 Danenhower had the boat towed to still another yard, in Noank. It sat there, partially submerged, until 1944, when it was towed to the Connecticut

River in Old Lyme, where Danenhower lived on a lightship. The sub arrived just in time to sink in the Great Atlantic Hurricane that September. Defender sat on the bottom for a year, outlasting its inventor, who died in 1945. Deemed a hazard to navigation, the boat was raised by the Army Corps of Engineers and towed to Old Saybrook. Even Danenhower was done with it by then, but it attracted curiosity seekers. Finally, on Feb. 12, 1946, engineers took the tired old vessel in tow, brought it into the sound, and watched as it filled with water and disappeared. ■ ■ ■ Seventy-seven years, two months and four days later, the hull was covered with yellow sea flora when it was lit up by recreational diving lights. Steve Abbate and Joe Mazraani had just descended from Simon's vessel, R/V Integrity. "I was surprised how intact the sub actually was," said Abbate, noting the hull was visible 15 feet in either direction from where the lights were shining.

The divers swam the length of the vessel over the starboard side. They saw port holes and the conning tower, and confirmed that the bow shape and other features matched Lake's design. "Finding any shipwreck that no one has been on before, not many people have had that honor," said Abbate, who turned 60 the day after the dive. "It was a heck of a birthday present to find the sub." Simon believes that while raising Defender is technically possible, it would be prohibitively expensive. "I'd love to see it sit at (Mystic) Seaport or at the sub museum, but I don't think that's a reality," he said. Instead he plans to document the vessel before releasing its exact position and is working with the state archaeologist. He's also researching the boat and plans to share all he finds with the public. "It's all of our history," he said. "You think about New London and Groton. In my opinion we're the submarine capital of the world." j.ruddy@theday.com