

Mary Sears

Summary of Solving the Ocean by Catherine Muesebeck from Smithsonian Magazine July-August 2022

In WWII (1943), as a result of 100 boats crashing into a coral reef and U.S. Marines having to swim and wade hundreds of yards to reach Tarawa Atoll (which resulted in 1000 Marines being killed and 2000 being wounded by Japanese gunfire), the U.S. military finally put an emphasis on learning more about the ocean. Part of the failure of this U.S. island hopping mission was attributed to outdated ocean charts and misjudging the tides.

To understand more about this battle in the Pacific, let's look at the Navy's first official oceanographer, Mary Sears. Mary Sears was born in 1905 and studied botany and zoology at Radcliffe College. Mary met Henry Bryant Bigelow, a leading marine biologist, and became his research assistant. Bigelow was instrumental in founding the Woods Hole Oceanographic Institute (WHOI) in 1929, and he and Mary Sears began working together at WHOI.

During WWII, Mary Sears applied for a commission in the Women's Naval Reserve and was accepted because of her work ethic and expertise. She graduated in April 1943 and started working at the Maritime Security Division. As expected, Mary Sears found the information on oceans to be very outdated and gaining new information was difficult. Some of the areas were in combat zones. Some areas were not easily accessible. One of her first projects was to compile information about the drift of objects (such as planes and survivors) in the oceans. Her report laid the foundation for action plans that would result in the rescue of hundreds of pilots and crew members lost at sea during the war. She also assisted in the creation of maps (carried by American military) to help survivors find their way to safe shores.

Later in 1943, Mary Sears would prepare reports on the geographic, physical, demographic, and socioeconomic characteristics of proposed military targets. Mary Sears and her team would need to collect information on 33 oceanographic topics for a single region. The oceanographic intelligence was crucial for amphibious operations. Water landing hazards included hostile fire, reefs, swirling currents, rough surf zones and underwater obstacles. One of the regions assessed was Tarawa. If her team's reports had been considered prior to Tarawa, the resulting American casualties might have been fewer. The report gave clear warnings about potential dangers.

Because of the investigation of what went wrong at Tarawa, more studies like the ones Mary Sears's team were conducting were ordered, and the input saved American lives and loss of equipment. Information gathered was used to find U-boats and to plan the beach assaults at Normandy and Okinawa.

One of the difficulties that Mary Sears encountered throughout her career was the fear/superstition about allowing women on ships. (Women would distract the men and incite the wrath of the sea.) Even with her educational background, she wasn't allowed on American research vessels. How does an oceanographer do her work without being on a ship?

After the war, Mary Sears was the Navy's first officer-in-charge of the Oceanographic Division. She became the founding co-editor of Deep Sea Research which is the premier journal of oceanography. Mary Sears died at the age of 92 in 1997. In 2000, an oceanographic survey ship was christened USNS Mary Sears. By this time, maybe she could have sailed on it to do her own research!

Summarized by Gale Olp Ekiss