

NOAA Ship HENRY B. BIGELOW



The ship is named after Henry Bryant Bigelow (1879-1967), a Harvard-educated zoologist whose work helped lay the scholarly foundation for oceanography as a scientific discipline. He was an internationally known expert on the Gulf of Maine and its sea life, and on the world's jellyfish, corals, and fishes. His expeditions in the Gulf of Maine made this region one of the most thoroughly studied bodies of water, for its size, in the world. Bigelow served on the Harvard faculty for 62 years, published more than 100 scientific papers (many of them seminal works), and was the first director of the Woods Hole Oceanographic Institution. His methods of interdisciplinary study and his goal of understanding the ocean as a whole are still fresh, dynamic, and stimulating our contemporary ecosystems-based approach to marine science.

The National Oceanic and Atmospheric Administration (NOAA) ship *Henry B. Bigelow* is the second of four new fisheries survey ships of the same design to be built for NOAA by VT Halter Marine, Inc., in Moss Point, Mississippi. The ship will support NOAA's mission to protect, restore and manage the use of living marine, coastal and ocean resources through ecosystem-based management. Its primary objective will be to study, monitor and collect data on a wide range of sea life and ocean conditions, primarily in U.S. waters from Maine to North Carolina. The region includes Georges Bank, one of the world's best known and most productive marine areas. The region is also home to the nation's top-valued port, oldest commercial fisheries and rare large whales and sea turtles. Data are used by a range of scientists who study variation in ocean conditions and sea life to better inform the nation's decisions about using and sustaining the ocean's bounty. *Henry B. Bigelow* will also observe weather, sea state and other environmental conditions, conduct habitat assessments and survey marine mammal and marine bird populations.



The propeller is specially designed to reduce noise levels, which will enhance NOAA's ability to assess fish stocks.

Henry B. Bigelow is a state-of-the-art research ship with multiple science mission capabilities. Foremost is the ship's "quiet" hull, a design feature that enables the ship to exceed standards established by the International Council for Exploration of the Seas (ICES) to minimize sound made by the ship underwater. This allows scientists to use hydroacoustic methods for surveying marine life and significantly reduces changes in the natural behavior of animals caused by ship noise. This will improve NOAA's ability to accurately

assess fish stocks and to compare standardized data with the international fisheries scientific community. A centerboard (drop keel) is provided so that critical scientific transducers can be lowered away from the ship out of the region of hull-generated flow noise. In addition, the vessel can collect a variety of oceanographic data while marine life surveys are underway, resulting in both richer and more efficiently collected data.

Modern fisheries management relies heavily on sonar systems. The most critical such system on *Henry B. Bigelow* is the Scientific Sonar System, which can accurately measure the biomass of fish in the survey area. The Scientific Sonar System is the primary survey tool for selected pelagic (off-bottom) fish, with trawling used as a means to verify the species composition of observed fish schools and to obtain biological information.

Henry B. Bigelow is designed for a wide range of fisheries research, with capabilities for midwater and bottom trawling (in water depths up to 1,000 fathoms), hydroacoustic surveys and oceanographic and hydrographic operations. Capabilities are included for handling specialized gear such as MOCNESS frames, floating and moored buoys, towed vehicles, dredges and bottom corers. Marine mammal and bird observation stations are included to track and identify protected species such as North Atlantic right whales, humpback whales and harbor porpoises. As a complete survey platform, *Henry B. Bigelow* carries equipment and systems to conduct fisheries, oceanographic and hydrographic research in most areas of the U.S. Exclusive Economic Zone.



The ship was launched at VT Halter Marine shipyard on July 8, 2005.

Ship Specifications

Length (LOA): 208.6 ft
Breadth: 49.2 ft
Draft:
Centerboard Retracted- 19.4ft
Centerboard Extended- 29.7ft
Full Load Displacement: 2479mt
Lightship Displacement: 1840mt
Speed, Sustained: 14.0 knots
Speed, Hydroacoustic Survey:
0-11 knots
Range: 12,000 nm @ 12knots
Endurance: 40 days
Hull Number: R225
Call Letters: WTDF
Commissioned Officers: 4
Licensed Engineers: 3
Crew: 24
Scientists: 15
Launched: July 8, 2005
Delivered: July 20, 2006
Commissioned: July 16, 2007
Builder: VT Halter Marine, Inc.
Moss Point, Mississippi



The ship transits the Cape Cod Canal en route to its working grounds.

Office of Marine and Aviation Operations

Since NOAA's beginning, NOAA ships and aircraft have played a critical role in the collection of its oceanographic, atmospheric, hydrographic, fisheries and coastal data. This fleet of platforms is managed and operated by NOAA's Office of Marine and Aviation Operations (OMAO), an office made up of civilians and officers of the NOAA Commissioned Officer Corps, one of the Nation's seven uniformed services. In addition to research and monitoring activities critical to NOAA's mission, NOAA ships and aircraft provide immediate response capabilities for unpredictable events. NOAA survey ships found the wreckage of EgyptAir Flight 990, TWA Flight 800 and John F. Kennedy Jr.'s aircraft. Our ships, aircraft and personnel have also conducted damage assessments after major oil spills, such as the Exxon Valdez and Persian Gulf War, and after land-falling hurricanes. Following Hurricanes Katrina and Rita, NOAA ships conducted emergency surveys for navigation hazards that helped Gulf ports reopen quickly, and tested the waters for contamination to ensure seafood safety. Aerial images of disaster-torn areas taken by a NOAA aircraft were posted on the Web with a Google interface, enabling residents and emergency workers to see if houses, bridges and roads were still standing.

NOAA's fleet of research and survey ships is the largest fleet of federal research ships in the Nation. The fleet ranges from large oceanographic research vessels capable of exploring the world's deepest ocean, to smaller ships responsible for charting the shallow bays and inlets of the United States. The fleet supports a wide range of marine activities, including fisheries research, nautical charting and mapping, and ocean and climate studies. Many of NOAA's research vessels are unique in their ability to conduct scientific research.

NOAA's fleet of aircraft operates throughout the world providing a wide range of capabilities including hurricane prediction research, marine mammal and fisheries assessment, and coastal mapping. NOAA aircraft are modified to carry scientists and specialized instrument packages to conduct research for NOAA's missions.

NOAA Commissioned Officer Corps

The NOAA Corps is one of the seven uniformed services of the United States, composed of commissioned officers who provide NOAA with an important blend of operational, management, and technical skills that support the agency's science and surveying programs at sea, in the air, and ashore. NOAA Corps officers, in addition to managing and operating ships and aircraft, are also scientists and engineers. Corps officers serve in NOAA's research laboratories and program offices throughout the Nation and in remote locations around the world; for example, an officer serves as station chief at the South Pole, Antarctica.

About NOAA

NOAA conducts research and gathers data about the global oceans, atmosphere, space, and sun, and applies this knowledge to science and service that touch the lives of all Americans.

NOAA warns of dangerous weather, charts our seas and skies, guides our use and protection of ocean and coastal resources, and conducts research to improve our understanding and stewardship of the environment that sustains us all.

A Commerce Department agency, NOAA provides these services through five major divisions: the National Weather Service, the National Ocean Service, the National Marine Fisheries Service, the National Environmental Satellite, Data and Information Service, and Office of Oceanic and Atmospheric Research; and numerous special program offices. More information about NOAA can be found at <http://www.noaa.gov>.

NOAA is celebrating 200 years of science and service to the nation. From the establishment of the Survey of the Coast in 1807 by Thomas Jefferson to the formation of the Weather Bureau and the Commission of Fish and Fisheries in the 1870s, much of America's scientific heritage is rooted in NOAA.



Visit the ship's Web site at <http://www.moc.noaa.gov/hb/>

For more information about OMAO, contact us at 301-713-1045 or visit our Web site at <http://www.omaο.noaa.gov>

Visit the NOAA 200th Celebration Web site to see how NOAA ships have contributed to this 200-year legacy. <http://celebrating200years.noaa.gov/>