

James J. Howard Marine Sciences Laboratory

The Howard Laboratory began operations in 1961 as the Sandy Hook Marine Laboratory directed by Dr. Lionel A. Walford, and was part of the Department of the Interior's Bureau of Sport Fisheries and Wildlife Service. The laboratory was incorporated into the new National Oceanic and Atmospheric Administration (NOAA) within the U.S. Department of Commerce in 1970. After a devastating fire in 1985, the laboratory was rebuilt at the same site on Sandy Hook and renamed after the late Congressman James J.



Howard who was instrumental in securing funding for the new lab. Today the laboratory supports about 50 staffers of the Northeast Fisheries Science Center's Ecosystems Processes Division and a smaller group of non-NOAA tenants including staff from Rutgers University.

Facilities at the Howard Laboratory include an extensive seawater system, capable of providing up to 350 gallons per minute. The seawater system supports research in 11 seawater labs and a 32,000 gallon aquarium, with a focus on feeding, reproduction, migration and other life habits and behavior of coastal marine species. A control room contains computers for configuring, controlling and monitoring the lighting and seawater systems. Several dedicated laboratory suites are available to support research on analytical chemistry, trace-metal chemistry, organic chemistry and microbiology. Further, the Howard Laboratory houses the



Lionel A. Walford Library, which is noted for its extensive collection of fisheries-related archives and journals.

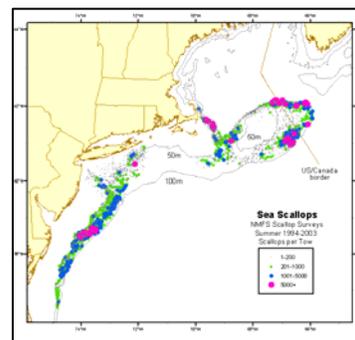


The laboratory has a variety of research vessels, the largest of which is the R/V Nauvoo, a 49' converted Coast Guard Buoy Tender. The Nauvoo is fully-equipped to operate up to 20 nautical miles off-shore and typically carries out fisheries, biological and oceanographic sampling of the water column and sediments.

Ecosystems Processes Division

The mission of the Ecosystems Processes Division is to understand the effects of environmental variability and human disturbances on fish and shellfish productivity relative to habitat

Most of the NOAA staff at Sandy Hook is part of the Northeast Fisheries Science Center's Ecosystems Processes Division. Our job is to conduct ecosystem-based research and assessments of living marine resources, with a focus on the Northeast Shelf, to promote the recovery and long-term sustainability of these resources, and to generate social and economic opportunities and benefits from their use. The Division's primary tasks are to identify and map pelagic and benthic fish habitat, and to identify ecological processes and fish life histories relevant to understanding the importance of habitats for fish recruitment. . Amongst our most important initiatives are understanding the effects of climate change and human activities (such as fishing and renewable energy production) on coastal habitats and fisheries, a coast wide assessment of fish habitat condition, and coastal and marine spatial planning.



The Division provides several services to local, regional, national and also international clients. For example, we work with community groups on shellfish restoration, with the New England and Mid-Atlantic Fishery Management Councils on the designation of Essential Fish Habitat, with other federal agencies on the threats to cold-water coral communities (some of which range as far north as New England) and with North American and European partners on the effects of climate change. Our research is conducted through field monitoring and surveys from the northern tip of Maine to Cape Hatteras, NC, as well as through field and laboratory experiments and analyses of environmental samples.



Most of Ecosystems Processes Division's permanent staff of about 50 researchers, technicians and support personnel are located at Sandy Hook, with other staff located at laboratories in Narragansett, RI and Woods Hole, MA. In addition, every year the Division engages volunteers, academic interns and contract employees to assist us with our research.

The Division operates through four branches. *The Oceanography Branch* conducts studies on the physical environment and plankton populations to understand how these ecosystem components influence the distribution and abundance of fish and shellfish. The *Coastal Ecology Branch* focuses on assessments of the condition of habitats important for these living marine resources. The *Behavioral Ecology Branch* elucidates important ecological processes and habitat requirements of fish in all life history stages. *The Marine Chemistry Branch* focuses on understanding biogeochemical effects of habitats on fish and uses chemical methods for stock identification.

Some key projects include: ocean acidification • habitat-condition indicators of fish productivity • mapping seafloor habitats • habitat dynamics and spatial characteristics of high quality nursery grounds • invasive species • Integrated Ocean Observing Systems (IOOS) • operational oceanography • zooplankton community structure on the NE shelf • fish population dynamics and ecology • biochemical indicators of larval fish condition • effect of contaminants on fish.



Contacts and further information

For more information about the Ecosystems Processes Division and research activities, please contact the Division Chief, Dr. Thomas Noji, **Thomas.Noji@noaa.gov**. Or you can contact one of the Division's research branch chiefs:

- Oceanography Branch, Dr. Jonathan Hare, **Jon.Hare@noaa.gov**;
- Coastal Ecology Branch, Dr. Richard Langton, **Rich.Langton@noaa.gov**;
- Behavioral Ecology Branch, Dr. Beth Phelan, **Beth.Phelan@noaa.gov**;
- Marine Chemistry Branch, Dr. Jennifer Samson, **Jennifer.Samson@noaa.gov**.

For more general information about the James J. Howard Marine Sciences Laboratory and activities at the facility, call our switchboard at (732) 872-3000, and you will be connected to the appropriate office.

Also, please see our public websites:

- <http://sh.nefsc.noaa.gov>** for the James J. Howard Marine Sciences Laboratory;
- <http://www.nefsc.noaa.gov/epd>** or **<http://sh.nefsc.noaa.gov/research.html>** for the EPD;
- <http://www.nefsc.noaa.gov>** for the Northeast Fisheries Science Center;
- <http://www.nmfs.noaa.gov>** for NOAA Fisheries;
- <http://www.noaa.gov>** for the National Oceanic and Atmospheric Administration (NOAA).