Sandy Hook Laboratory

James J. Howard Marine Sciences Lab, 74 Magruder Rd, Sandy Hook Highlands, NJ

The James J. Howard Marine Sciences Laboratory, located on the New Jersey shore at Sandy Hook, is a state-of-the-art marine research facility. The primary mission of the Howard Laboratory is to conduct research in ecology towards a better understanding of coastal and marine organisms and habitats and to study the impacts of natural and human-induced environmental variability in relation to fish and shellfish sustainability.

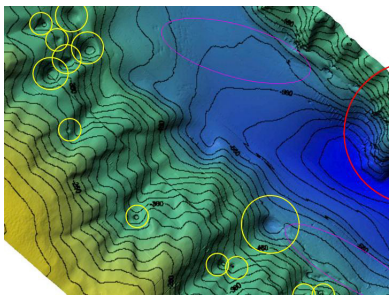
Our Strengths

- Researching the effects of environmental factors on fishery resources
- Examining how contaminants are distributed in nearshore and estuarine systems and transferred through the food web
- Predicting the effects of climate variation on fisheries
- Relating habitat to species growth, distribution and abundance
- Mapping pelagic and benthic habitats, including deep-sea corals
- Modeling ecological processes
- Two-story 32,000 gallon research aquarium and flowing seawater systems
- Conducting field and laboratory studies on economically and ecologically significant marine populations
- Access to the 49-foot research vessel *Nauvoo*

A striped bass tagged for research

Our Place in the Region

History - the lab was established by the US Department of the Interior in 1961 and became a part of NOAA Fisheries in 1971.
Location - The lab is within the National Park Service's Gateway National Recreation Area and occupies both the James J. Howard Laboratory, completed in1993, and a renovated historic 1890s army barracks.
Community - Staff engage volunteers, interns, scientists, and educators in research and education programs and support fishery managers on issues related to habitat, climate, species growth and corals



Bathymetric map of Hudson Canyon. Yellow circles outline large crater-like depressions, thought to be methane gas blowouts.

New Directions

- Investigating impacts of ocean acidification on managed fisheries
- Measuring carbonate chemistry, organic contaminants, and nutrients
- Developing 3-D fish distribution models to enhance stock assessments and reduce bycatch
- Assessing wind energy installations on shelf habitat

The two-story 32,000 gallon research aquarium has a controlled lighting system

NOAA FISHERIES

Key Projects

- Ocean acidification effects on managed species
- Habitat properties to support species sustainability
- Mapping pelagic and benthic species habitats
- Fish population dynamics and ecology
- Effects of contaminants on fish

Key Collaborations

- Rutgers University - Institute of Marine and Coastal Studies
- Monmouth University
- Woods Hole Oceanographic Institution
- University of Massachusetts Dartmouth
- University of Rhode Island
- Bureau of Ocean Energy Management
- American Littoral Society
- US National Park Service

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