

NOAA FISHERIES

Key Species

- American oyster
- Bay scallop
- Surfclam
- Sea scallop
- Black sea bass
- Scup
- Microalgae

Key Collaborations

- University of Connecticut
- U.S. Environmental Protection Agency
- East Coast Shellfish Growers Association
- West Sea Fisheries Research Institute, Incheon South Korea
- Chinese Academy of Sciences
- University of Gothenburg, Sweden
- IFREMER, France

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<http://www.nefsc.noaa.gov/nefsc/Milford/>

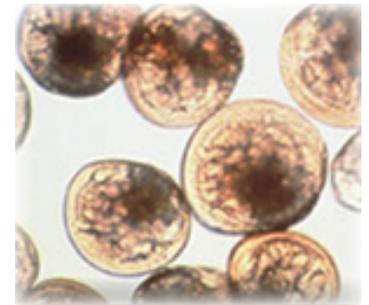
Milford Laboratory

212 Rogers Avenue, Milford, CT

The Milford Laboratory's mission is to understand how humans, ecology, and biology affect development of sustainable marine aquaculture, to develop marine fish and shellfish culture methods, and to better understand the health of these populations and their interactions with the environment through biotechnology and biomedical research.

Our Strengths

- Aquaculture husbandry methods
- Advanced seawater systems for culturing
- Microalgal feeds
- Ocean acidification threats to fish and shellfish
- Fish and shellfish disease research
- Risks to seafood quality posed by pollution, disease, harmful algal blooms, and bacteria
- Mitigating eutrophication using bioextraction
- Interactions among aquaculture, environment and habitat



Larval oysters

Our Place in the Region

- **History** - The lab began in 1919 with one federal researcher and the support of local oyster companies, and during the 20th century produced foundation research on shellfish biology and culture.
- **Location** - Situated amid both pristine and heavily used coastal areas, the laboratory has access to a variety of research sites and conditions, and to commercial fishery and aquaculture professionals
- **Community** - Close research collaborations with regional aquaculturists and academics, vocational/technical education for young people, and international collaborators



Black sea bass reared in recirculating seawater system

New Directions

- Ocean acidification: how does climate change affect plankton and the larval fish and shellfish that feed on them?
- Probiotics: are there naturally occurring microorganisms that can improve immune response in larval shellfish under culture?
- Bioextraction: can filtration by bivalve mollusks effectively remove excess nitrogen and other excess nutrients from coastal waters?
- Biogeography: can we map occurrence of *Vibrio vulnificus*, a dangerous source of shellfish poisoning in humans, in the region?
- Biotoxins: can we predict conditions that lead to algal blooms that can cause amnesiac shellfish poisoning in humans?



Finding probiotics