

Case Study:

First Shellfish Farm in Atlantic Federal Waters Facilitated by the Northeast Ocean Data Portal

Northeast Ocean Data Portal User:

Northeastern Massachusetts Aquaculture Center (NEMAC) at Salem State University

In Consultation with:

- Environmental Protection Agency (EPA)
- Massachusetts Division of Marine Fisheries
- National Oceanic and Atmospheric Administration (NOAA)
- U.S. Army Corps of Engineers
- U.S. Coast Guard (Sector Boston Waterways Management)

Objective:

To create new economic opportunities by establishing the first shellfish aquaculture farm in federal waters off the Atlantic coast.

Related Ocean Uses:



Aquaculture



Commercial Fishing



Marine Transportation



Marine Life

“The Northeast Ocean Data Portal was instrumental in obtaining the necessary information to complete these assessments.”

~ Ted Maney

Northeastern Massachusetts Aquaculture Center



N. Houlihan

Located 14 nautical miles from the fishing port of Gloucester (above), Massachusetts, the offshore aquaculture facility is aimed to develop more economic opportunities for local people.

In 2013, the Northeastern Massachusetts Aquaculture Center (NEMAC) at Salem State University proposed a submerged mussel farm in federal waters off Cape Ann, Massachusetts. NEMAC biologists Ted Maney and Mark Fregeau sought to **develop offshore mussel culture as an alternative industry for economically struggling fishing communities.**

The initial phase of the project called for a single 400-foot longline submerged to a depth of 50 feet and anchored to the bottom; suspended from the longline would be one hundred 25-foot lines on which mussels would grow. In future phases, the fully built-out farm could eventually cover 33 acres with many longlines. Buoys on the surface would mark the location of the underwater farm.

Because of the potential impacts on other ocean uses and marine life, the proposal for the farm was required to undergo review and approval by multiple federal and state agencies. In its application, NEMAC showed that the farm would have little or no negative impact on fishing activity, commercial and recreational vessel traffic, and protected marine resources.

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Rebecca Zeiber/Sea Grant

Blue mussels at the farm grow on submerged lines (above), which are deployed by boat (below).



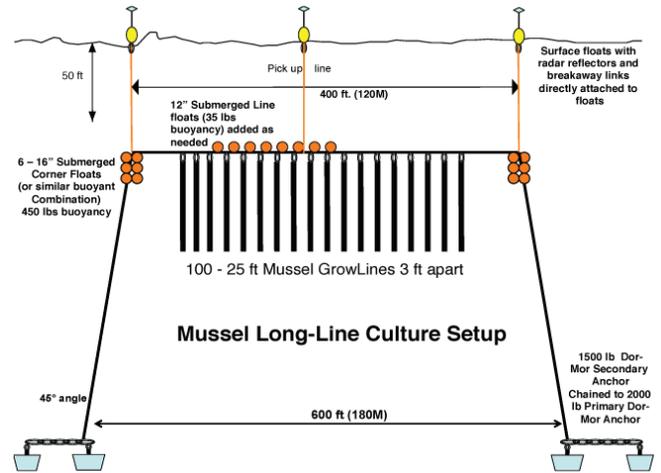
Ted Maney

To do this, NEMAC turned to **data and information from the Northeast Ocean Data Portal**. NEMAC used several maps from NortheastOceanData.org:

- Oceanographic parameters
- Fishing activity in the area
- Vessel traffic
- Fishing closures
- Essential Fish Habitat (EFH)
- Endangered Species Act (ESA) species

For example, plotting the location of the proposed farm on maps of right, humpback, and fin whale abundance helped NEMAC to show that the farm was unlikely to have negative effects on protected whale populations.

Having the data and maps readily accessible through the Northeast Ocean Data Portal made the permitting process and compliance with existing laws easier, and in January 2015 the Army Corps of Engineers issued a permit to NEMAC to establish the mussel farm. In August 2016, Fregeau and Maney began setting up the initial 400-foot mussel longline that was expected to produce a yield of approximately 15,000 pounds. The NEMAC blue mussel farm is the first offshore shellfish farm in federal waters on the Atlantic Coast.



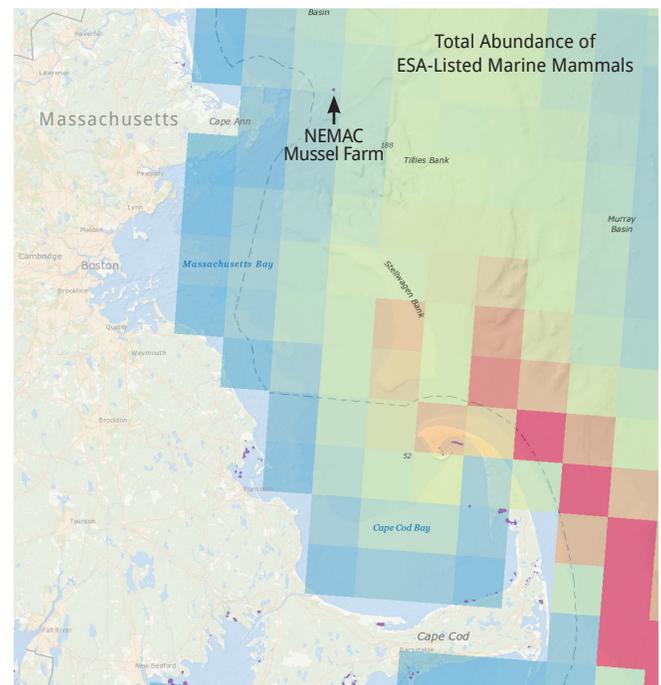
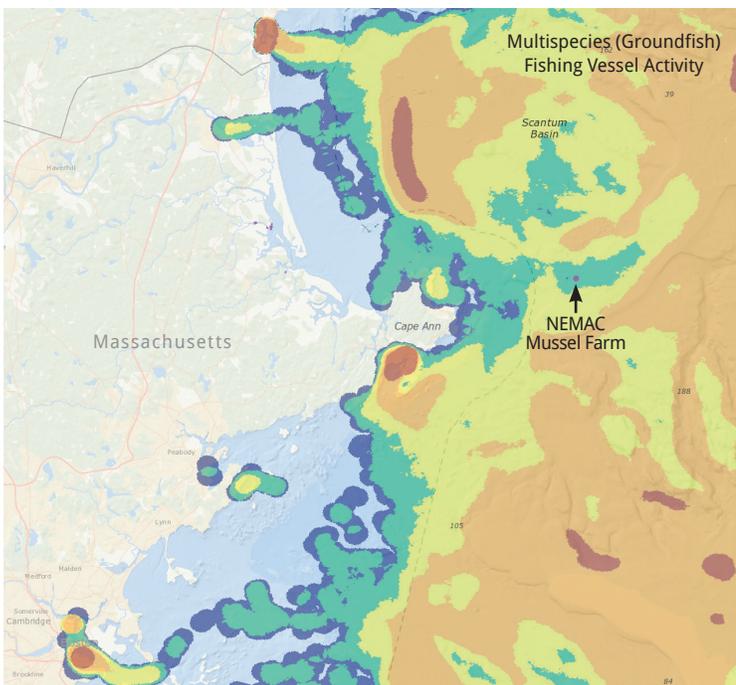
About the Northeast Ocean Data Portal:

The Northeast Ocean Data Portal is an information resource and decision support tool for ocean planning, management, and decision making in the northeastern United States from Long Island Sound to the Gulf of Maine.

Used by a wide range of government agencies, non-government entities, and ocean stakeholders, the Portal offers user-friendly access to maps and data on many types of ocean uses and the ecosystem.

Questions? Email us at contact@northeastoceandata.org.

More case studies of Data Portal uses are available at NortheastOceanData.org/casestudies



Screenshots of interactive maps from NortheastOceanData.org showing that the Northeastern Massachusetts Aquaculture Center (NEMAC) mussel farm (purple dot) is not located in an area of high commercial groundfish fishing vessel activity (red and orange areas on map at left) or abundant ESA-listed whales (red areas on map at right).