

TURNING THE TIDE IN GREAT BAY

Oyster Reef Restoration

Small but mighty, the eastern oyster has historically played a vital role in the ecology of Great Bay Estuary. As many as **1,000 acres of oyster reef** may have covered Great Bay in 1970 and could filter the entire bay in **less than 4 days!** Today, more than 90 percent of these oysters have been lost due to pollution, over-harvesting, and disease. Just as coral reefs are critical to tropical marine habitats, oyster reefs are the ecosystem engineers of bays and estuaries. With their decline we've lost the vital services they provide to people and nature:

- **Cleaning water**—a single oyster can filter as much as 30 gallons per day;
- **Providing food and habitat** for a diversity of plants and animals, including fish, crabs and birds;
- **Serving as natural coastal buffers** from boat wakes, sea-level rise and storms;
- **Removing nitrogen and other nutrients** that threaten the health of the system.

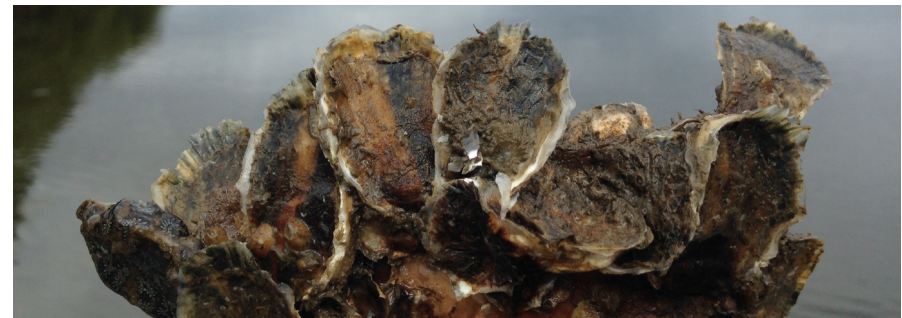
The Nature Conservancy and The University of New Hampshire, together with our partners, are working to restore and rebuild degraded oyster reef habitat. Thanks to the support and help from dedicated members, we've successfully restored nearly 20 acres of oyster reef since 2008 and plan to restore 5 acres in 2018 to bring us closer to **meeting our goal of 25 acres by 2020!** With your help, the help of our oyster conservationist volunteers that grow oyster spat off their docks for restoration, scientists, and our partners we can create self-sustaining oyster reefs that play a vital role in improving the health of Great Bay and positively influence the fish, invertebrates, eelgrass and other species that live in the water, as well as the coastal communities that call this region home.

Learn more at nature.org/NHoysters



The Nature Conservancy 

ABOVE: Conservancy staff inspects a cage of young oysters in the Great Bay estuary. © Joe Klementovich
BELOW: Close-up of oysters ready to be placed on a restored reef. © Kara McKeton



GOALS OF OYSTER REEF RESTORATION

1. **Improve** water quality in Great Bay.
2. **Create** and **enhance** important habitat for fish and invertebrates.
3. **Restore** 25 acres of reef by 2020.

JAN-FEB

Restoration sites selection based on information such as historic and current oyster beds and site conditions.

MAR-MAY

Complete permitting for restoration and pre-site assessments such as video monitoring and bathymetric mapping.

JUNE

Construct reef base with clam shell at restoration sites utilizing barge operations.

JULY

Grow ~12 million oyster larvae on oyster shell in remote setting tanks at UNH Jackson Estuarine Lab. After about 2-3 weeks, move spat on shell out to a raft.

JULY-SEPT

TNC's Oyster Conservationists (80+ sites) and UNH staff (oysters on raft) raise oyster spat to juvenile size. In September, deposit live spat from raft onto the reef base.

OCT




Deposit juvenile oysters from OC volunteers onto the reef via the Gundalow.



NOV-DEC

Conduct post-restoration monitoring and write report.

Legend

Turning the Tide at Great Bay

-  Reef Restoration
-  Water Quality Advocacy
-  Land Management

-  Great Bay Partnership Protected Land
-  Other Conservation and Public Lands

Sustainable Fisheries

-  Permit Acquisition and Collaborative Research
-  Aquatic Connectivity

