

## Wellfleet Bay Natural History Notes

November 01, 2008

### How To Build An Oyster Reef

We discussed the “why” of [restoring an oyster reef](#) previously, but how exactly does one build such a thing? A natural oyster reef develops as new oysters grow on the shells of the older and dead ones beneath, creating a three dimensional structure attractive to fish, crabs, and other creatures. When people removed the shells from historic reefs after harvesting all of the oysters, they removed the oysters’ ability to rebuild the reef – there was nothing left for baby oysters, known as spat, to settle on and grow. When the reef went, so did the all the water-filtering, erosion-preventing, spat-producing, biodiversity-increasing services they provided. For oysters to come back, they need something to settle on, something to get them started so they can rebuild the reef themselves. That’s where we come in.



There are several methods for providing the initial structure for the young oysters to grow on, and in restoring our oyster reef at Wellfleet Bay Wildlife Sanctuary we are taking a scientific approach. Using a randomized block experimental design we will test whether [culch](#) (clam and oyster shells), [reef balls](#), [spat blocks](#), or [shell mats](#) (oyster shell fastened to biodegradable mat) make the best medium for growing wild oysters in Wellfleet Bay. The answer will inform possible future restorations elsewhere in Wellfleet and beyond.



We will deploy the reef structures next June about two weeks before we expect oysters to spawn.

This is to prevent fouling by algae or other organisms that would compete with the larval oysters trying to settle. We will measure the abundance, growth rate, and survival of oysters on the different treatments within the created reef, as well as the abundance of crabs, fish, shrimp, amphipods, and other critters attracted by the food and shelter provided by the new reef. These

reefs have proven so appealing to marine animals that in Chesapeake Bay, the state of Maryland provides maps of restored oyster reefs to fishermen because they have discovered they provide the best fishing in the area.

We’ve worked hard to make sure this project has all the hallmarks of successful ecological restoration, including clear goals, a peer reviewed monitoring plan, measurable objectives for gauging success, community involvement, and a strong coalition of partners experienced in shellfish restoration. Volunteers will be especially critical to our eventual success. This winter we will need people to help make shell mats and other materials, and volunteers will be needed to help deploy the treatments on the site next summer.

To help us build the reef, please contact Cynthia Franklin, Volunteer Coordinator for Wellfleet Bay Wildlife Sanctuary at 508-349-2615. In the meantime, take a look at the process of [building a reef ball](#), posted by URI, and the [sanctuary photos \(click on slideshow\) of the work](#) done to date. There are links to more info on the Oyster Reef Restoration Project sidebar, and we’ll keep adding to those resources as well as posting about our activities.

FAQs about our oyster reef [Download final\\_oyster\\_reef\\_faq.pdf](#)

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