Not All Seeds Are Grown On Land

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Research fishery biologist Sandy Sutherland visited a shellfish farm in New Jersey to learn what they do and how her research can help them.

Imagine you visit a farm, but you can't see what's being grown there—you can only see water. That's what I did.

I went to visit Dale Parsons' shellfish farm in Tuckerton, New Jersey. He raises Northern quahogs and Eastern oysters on 20 leased acres in Barnegat Bay and owns a seafood market on Tuckerton Creek. His family started farming shellfish in 1909, making him the fifth generation in his family to run the business.

Dale thought his clams were growing too slowly, so he reached out to NOAA Fisheries for help. That's why our Milford Lab contacted me. They wanted me to lead the growth part of the larger study to find out if and why his clams might be growing slower than clams at other shellfish farms or in the wild. While researching the growth of his clams, I realized I'd never seen a shellfish farm, so I went to visit Dale.

While I was there, his team brought ashore 50 big orange bushel buckets of oysters, fresh off the farm. Each bushel bucket holds about 8 gallons of oysters. That meant they had just harvested 400 gallons of oysters! I helped cull some of them. Culling means picking out the best ones—the ones that are prettier, have more meat in them, and aren't stuck to another oyster. They also need to be at least 3 inches long. The nice ones will be washed, packed in boxes of 100, and sent to restaurants. The small ones will go back to the farm where they will have another chance to grow.

Zach Bedea of Parsons Seafood teaches Sandy Sutherland how to cull oysters. Credit: NOAA Fisheries/Eric Robillard

Parsons employees load several cages filled with empty shells onto the bed of a tractor-trailer. The shells are part of the farm's oyster restoration efforts. Credit: NOAA Fisheries/Sandy Sutherland

He also grows oysters for restoration efforts through the USDA's Environmental Quality Incentives Program, which pays farmers to grow oyster spat. Behind the market, there was a giant pile of clam and oyster shells, with more shells filling wire cages as long as both my arms. While I was there, the Parsons' team loaded 850 bushels of shells in cages onto a tractor trailer, so that they could be moved to the nursery. There, baby oysters will settle on the shells and grow in the nursery's protected tanks. After a few weeks, others will use the shells and young oysters to ultimately create oyster reefs.

What's the nursery? That's the area where baby clams and oysters called "seed" grow for their first few months. Parsons'

nursery is a 10-minute drive from his market. There are “raceways”—long, shallow, fiberglass tanks—filled with clams smaller than a fingernail. Water from the nearby creek runs from one end to the other. There are also “upwellers” filled with seed oysters—where water goes in the bottom and out the top. The oysters in the upwellers were only half an inch long and very cute! It’s important that lots of water flow past all the seed because shellfish feed on tiny algae in the water.

One of the raceway tanks where seed clams are grown at the Parsons’ shellfish nursery. Credit: NOAA Fisheries/Sandy Sutherland

When the oysters and clams are big enough, they'll be moved to beds on the aquaculture farm in the bay. The clams are tucked under 14-by-20-foot screens, which protects the clam beds from predators such as ducks, crabs, and cow-nosed rays. The oysters are placed on the farm in wire cages, either at the

water’s surface or on the bottom of the bay. In a few years, the clams and oysters should be big enough to harvest.

Dale spoke about his challenges of working in the shellfish farming industry. These include clams that are growing slowly, ducks that ate lots of clams on a very low tide last winter, and changes in the market over the years. In my conversations with Dale, it was clear to me that he's finding ways to adapt to the changing times, including taking on new projects and growing oysters for restoration efforts. I’m glad that I could do my small part to keep him going!

Meet the Blogger

Sandy Sutherland

Sandy is a fishery biologist at the Northeast Fisheries Science Center Age and Growth lab in Woods Hole, MA. She works with haddock, Atlantic

mackerel, and windowpane flounder. Outside of work, Sandy enjoys birdwatching, contradancing, and reading science fiction.

View Contact >

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