

A More Beautiful Future: Construction of a New Oyster Reef in Shimmo Creek
Rebecca Nimerfroh

Just like the famous children's book *Miss Rumphius*, in which the main character scatters seeds of Lupine to leave the world a more beautiful place than she found it, Leah Cabral wanted to leave her mark on this world for the better, too. Having spent childhood summers on the beach in Madaket (always in the water), it would seem only fitting that this Marine Biologist from Mattapoisett would return to the island after college, this time for good, and take on the role of Assistant Biologist for the Natural Resources Department. But, as you read this, Leah is sumitting the biggest challenge of her career thus far, scattering those seeds of beauty much like the fictional *Miss Rumphius* did, although this time, they aren't flowers. They're oysters.

Having begun on Thursday, June 1st, Leah and her team at the Natural Resources Department are beginning construction of an oyster reef in Shimmo Creek, a first-of-its-kind project for the island that is three years in the making, with construction slated to span a minimum of three days. The reef consists of donated shell from over 30 island restaurants and raw bars as well as the every day consumer, collected via the "Shuck It For Nantucket" shell recycling initiative, and will be constructed by Leah, her crew and volunteers, in hopes of providing an ever-expanding habitat not only for oysters but for other marine life as well.

A few days prior, Leah took the time to give me a tour of the newly renovated hatchery located in the old Coast Guard boat building on Brant Point, a facility that will continue to spawn oysters to seed the new reef for years to come. Leah greets me at the door with a soaking wet t-shirt and pants, but a smile from ear to ear, explaining that this job entails a lot of exposure to the water, but she wouldn't have it any other way. "I LOVE it," she says.



New Oyster Reef in Shimmo Creek, Nantucket
Leah Cabral on the first morning of the reef construction.
Photo courtesy of Morgan Raith

Inside the hatchery, Leah leads me among floor to ceiling tubes of bubbling algae (grown to feed the spawning shellfish) and past tanks full of growing crustaceans. Long steel baths provide spawning stations, prompting jokes that "this is where the magic happens," but in reality, what Leah and her team do here is no joke at all. In fact, it could very well be benefiting Nantucket for generations to come.

You see, as irony would have it, the oyster, that delicious thing you slurp for sometimes as much as \$6 a piece is essentially the ocean's garbage can, filtering as much as thirty gallons of water through its body per day. Extreme summer temperatures, and nitrogen in our water from fertilizer run-off and faulty sewer systems has contributed to the rapid decline of eel grass, which not only protects wild oysters, quahogs and other shellfish from predators but also serves to hold these creatures and their fertilized eggs from the ever-flushing tide. Couple that with the fact that

throughout the years, the world's wild oyster population has begun tumbling to dangerously low numbers. Thus we stand, with a symbiotic devastation on our hands; one cannot exist without the other, the eel grass or the oyster. Several initiatives have already come into play, with talk of town sewer expansion (which could possibly correct faulty septic systems) and the requirement of landscapers to be certified to fertilize (and to not do so before heavy rain), but this oyster reef, the first of its kind for the island, is being constructed in hopes to aid in the purification of our water, to encourage eel grass to grow, and to restore a wild habitat for these precious, and impressive, little creatures.

Says Leah of the reef, located between Pimney's and Abram's Point, "this area was chosen because that watershed funnels down to the area where the reef will be, so we're hoping that the oysters will filter that water before it goes into the open harbor." The reef, consisting of 68,000 pounds of recycled shell, will be formed into 10 chambers, with bare bottom space in between each chamber, and will be seeded with the hatchery's spawned oysters for several years to come, to encourage and jumpstart growth. Leah explains that the average oyster grows about an inch a year, give or take, and the more mature an oyster gets, the more water it can filter. "It's not a quick fix for water quality because you would need millions and millions of oysters to be able to fix our harbor -- maybe even billions," Leah says, "but it's definitely a start."

The reef will also form a habitat for hundreds of other species, so fish that recreational fishermen are after, like sea bass can have a place to hide from predators before they are ready to go out into the open ocean.

When I ask Leah if this reef will ever be open to shell fishing she explains, "I've gone to many conferences and heard horror stories of towns spending thousands to millions of dollars for these oyster restoration projects and then, in one afternoon, all of the oysters are eaten. I'm hoping the town will close it to shell fishing, but that is something that the selectmen are going to have to vote on." Leah smiles and continues, saying, "I want the reef to be an educational platform for visiting scientists, or even local scientists, or students to come out and be able to do research on it."

I ask Leah what the average person can do to contribute to the quality of our harbor's water, and she explains that, because of Nantucket's sandy foundation, we all contribute, no matter our geographical location on the island. She explains that any fertilizer or sewer runoff could easily find its way into our drinking water, ponds and harbor, so make sure your septic system is working optimally. And again, if you have a landscaper, be sure that they are using a fertilizer that does not contain phosphate, and do not apply fertilizer before rain. "And keep eating Nantucket oysters," Leah says, something that sounds counterintuitive but is not, because, as she explains, supporting the island's local oyster farms (of which we have an impressive total of 8) will fund and encourage their growth of even more oysters that ultimately will grow and continue to filter our water.

Additionally, those interested can volunteer in the construction of the oyster reef, or simply go to watch it being constructed over the course of the next few days. More information is available on the Nantucket Natural Resources Department FaceBook page and website.

As we complete my tour of the hatchery, Leah scoops up an eye drop's amount of spawned oysters and puts them on a slide for me to see. Her microscope sits in front of a window that looks directly out onto Brant Point Light House, and beyond that, the ferry that makes it's slow and careful crossing into our harbor like a tired, sleepy giant. I look into the optical and suddenly see these little orbs dancing about, with what looks like a multitude of feet, propelling them in fluttering spasms across my view, blissfully unaware of their future in the wild, their role as pioneer in this grand frontier, a project that really is so much bigger than us all.

And it's a pretty awesome view.

Rebecca Nimerfroh is a writer and lives with her husband Jonathan on Nantucket year-round. For more of Rebecca's work visit www.rebeccanimerfroh.com.