

ReClam the Bay

Nurturing the Present to Impact our Future



Bill Walsh, president of ReClam the Bay, with Jack Duggan, certified shellfish gardener and captain of ReClam the Bay's Beach Haven site. Bill is holding one year-old clams, and Jack is holding three month-old oysters.

In the late 1800s, countless baymen made a living by gathering oysters and clams on Barnegat Bay, which was one of the largest providers of shellfish in the United States. Over time, the ecosystem's health severely declined due to a combination of factors, including erosion, over-harvesting, growth and development, and toxic runoff into its waters. The shellfish that used to cover more than 10,000 acres of the bay all but disappeared by the mid-1900s.

Founded in 2005 by Rick Bushnell, an environmental steward of the bay, and Gef Flimlin, an Active Marine Agent with Rutgers New Jersey Agricultural Experiment Station and Cooperative Extension of Ocean County, ReClam the Bay has made it their mission to change that statistic by returning over thirty million oysters and clams to the Barnegat Bay watershed, while educating the public about the importance of shellfish. Flimlin coined the phrase "ReClam the Bay," because if you "reclaim the bay, you reclaim the bay!"

"Baby clams and oysters are raised in our upweller and spat tanks and will eventually protect the bay's shorelines," said Jack Duggan, certified shellfish gardener and captain of ReClam the Bay's Beach Haven site, located on Pelham Avenue at the bay.

All living creatures require food, water, sunlight, oxygen, and protection from predators. The shellfish raised in ReClam's nurseries find all five necessities right in the large tanks, where they are cared for and nurtured by a team of volunteers.

Growing Clams

Baby clams, known as seeds, are introduced to upweller tanks with screen or mesh bottoms. While water from the bay flows into the tanks, the baby clams feed on the phytoplankton and microalgae found in the water by filtering it through their systems, which also cleans the water. The outflow then sends waste out as the water returns to the bay. Unlike oysters, clam seeds do not need to set on a substrate such as a shell.

The baby clams raised in the upwellers begin their journey in late June/early July the size of a plump sesame seed and spend the summer growing to be about the size of an M&M.

Then later in the fall, they are placed in the bay at lease sites under predator screens to protect them from cow-nosed rays, crabs, sea stars, and other predators. The screens are periodically cleaned, and when the



Upweller tanks.



Once the oyster larvae permanently attach to the substrate, they are known as spat, here, on the inside of a clam shell.

clams approach market size, they are raked out and put in approved bay waters, where anyone with a valid shellfish license can harvest them.

Growing Oysters

Oyster larvae are placed in a spat tank. “2.5 million baby oyster larvae can fit in the palm of your hand. They are delicate but quick to adapt to the tank’s temperature and salinity,” Duggan said. They are fed algae, and as they swim in the water column, they develop a shell. About three days after being introduced to the tanks, the larvae will sink and set on a hard substrate where they will live out their lives. In this case, the substrate is whelk, oyster, or clam shells inside net bags called living shoreline bags. Once the larvae permanently attach to the substrate, they undergo metamorphosis, develop a shell, and become “spat” or baby oysters.

Bill Walsh, president of ReClam the Bay, explained the shells in the living shoreline bags are basically calcium carbonate, and spat adhere to them better than to other surfaces found in the bay, such as sticks, rocks, or pilings covered in algae. “Survival is better if they stick to something formed from their kind,” he said. “Out in nature, there’s only a one-to-three percent chance of survivability, but our set rate is better—about twenty-one percent—or 100,000 out of 500,000 of the baby oysters that set on shells from larval state to spat

will survive because there’s no predators in the spat tanks.”

The spat typically spend three weeks or more growing in the tanks after they set on the shells in the bags. The bags are then transferred to Barnegat Bay and incorporated in living shoreline projects, where they help protect shorelines from erosion and provide a new habitat for other marine life. “The bags create nature-based solutions and stabilize the natural shorelines,” Walsh said.

Living Shoreline Projects and Mordecai Island

Weather conditions must be right for ReClam’s two boats to navigate the waters when it is time to place the living shoreline bags of oysters in Barnegat Bay, Manahawkin Bay, and Little Egg Harbor Bay. “We look for days with fair weather conditions, low tides, and minimal winds to more efficiently deploy the spat on shell bags,” Walsh said.

ReClam volunteers deploy the living shoreline bags at locations such as Mordecai Island, which is an uninhabited salt-marsh island running parallel to Beach Haven. “Mordecai Island has been surveyed by the Army Corps of Engineers since 1920, and it is said to have lost almost half of its size,” Duggan explained.

“Eventually, it will be washed over, so we are doing our best to reinforce it.” Duggan added ReClam the Bay has been partnering with the Mordecai Land Trust to restore the Island to its former shoreline since 2015.

The island is a natural sanctuary for turtles and shorebirds, including several threatened and endangered species such as Black Skimmers and American Oystercatchers, and serves as a flyway stop for migrating birds. “Mordecai Island also acts as a buffer by stopping the wind and waves from traveling over the bay,” Duggan said. “Without the island, Beach Haven would absorb the force of the wind and the waves.” In 2010, the island was fitted with a geo-tube, which is a plastic bladder filled with sand, and living shoreline bags have been placed in front of the tube since.

Shellfish are important to both humans and the environment because they play a vital role in keeping waters clean through their natural process of filtration. An adult oyster, under peak conditions, can filter up to fifty gallons of water a day, where an adult clam can filter fifteen to twenty gallons of water a day. “Teaching people about water quality is an important part of what we do,” Duggan said. “When the bay’s water

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Shell bag deployment at Mordecai Island’s living shoreline.

is clean, sunlight reaches the bottom, which generates the regrowth of sea grass. That sea grass produces the dissolved oxygen that all marine life needs to survive. It also creates a habitat for fin fish, shrimp, eels, and other types of sea creatures. If there is no sun, sea grass cannot grow."

Barneget Bay's health has notably improved since the arrival of the 21st century due to awareness and conservation efforts, and ReClam's living shoreline bags have contributed greatly to its cleaner water and better health.

"Those oysters from the bay that were sent all over the world at the turn of the century are returning," Walsh said, "and now about twelve to fifteen shellfish farmers are once again making a living on the bay using the same processes from one hundred years ago. The cleaner the water, the more oysters and clams, and when the farmers do well, the shellfish do well. We love to see that."

In 2023, ReClam the Bay raised and added more than two million oyster spat to Barneget Bay.



Jill Ocone

Oysters growing inside a living shoreline bag—considerably larger since the spat stage.

and water temperatures, and salinity. That data fosters an understanding of the environment at the different locations around the bay.

The "Clam Trail" is a fun scavenger hunt where participants can uncover interesting facts about Barneget Bay and the region, and those who finish the trail can earn a certificate of completion and a ReClam the Bay limited edition pin.

ReClam's "Shellfish in the Classroom" program aligns with STEM curriculums and allows local students to help care for and feed shellfish while watching them grow in their classrooms. "We had over seven hundred children involved last year," Walsh said, "and we hope to expand this program." ReClam also offers an internship program for high school and college students interested in researching topics such as the varying growth rates of shellfish in the bay. He said, "This is a great opportunity for a student interested in marine biology to help our program."

—Jill Ocone



Tom Lynch / AngryFishGallery.com

One of over thirty giant, painted, fiberglass clamshells that are part of the "Clam Trail" scavenger hunt.

ReClam Programs

ReClam welcomes volunteers to help support their initiatives, spread the word about their mission, and lend a hand at projects and fundraisers.

During the summer months, an average of one hundred fifty people per week visit the thirteen upweller sites throughout Ocean County for hands-on learning opportunities and to help care for the baby shellfish inside the nurseries. Volunteers at each site log growth, nutrition, air

Editor's Note: ReClam the Bay's offices are located at 68 Main Street in Waretown. Monetary donations help support and expand their programs and establish more upweller locations, which will yield hundreds-of-thousands more shellfish and even cleaner waters. For those interested in volunteering, donating, or purchasing items from their online store, visit www.reclamthebay.org. For more information, call (732) 325-2663 or email info@reclamthebay.org.

RECLAM THE BAY'S SHELLFISH NURSERIES

— Upweller Locations —

An upweller is a shellfish nursery. The public is invited to visit these locations, talk to ReClam volunteers, and learn how they care for thousands of baby shellfish. Activities provide hands-on, one-to-one learning. Some just observe but others help with cleaning, counting, and measuring the shellfish. The locations are usually open July - September. Check the website for details: www.reclamthebay.org/where-we-work/upweller-locations.

NORTHERN OCEAN COUNTY

Brick Township: Traders Cove Park/ Marina, 40 Mantoloking Road

Mantoloking: Mantoloking Yacht Club, Bay and Downer Avenues

South Seaside Park: Island Beach State Park Marina, 24th and Bayview Avenues

Toms River: Cattus Island County Park (at the Ocean County Parks and Recreation Dock), 1169 Bandon Road

SOUTHERN OCEAN COUNTY

Barneget: Mariner's Marina, 475 East Bay Avenue

Tuckerton: Green Street and the bay

Waretown: Holiday Harbor Marina, 115 Admiral Way

LONG BEACH ISLAND

Barneget Light: Barneget Light Municipal Boat Ramp, 10th Street and Bayview Avenue

Beach Haven: Pelham Avenue and the bay

Brant Beach: Brant Beach Yacht Club, 63rd Street and Bayview Avenue

Long Beach Township: St. Francis Community Center, 4700 Long Beach Boulevard

Surf City: Surf City Yacht Club, 9th Street and the bay (south parking lot)