

Giving Back to Long Island Sound One Oyster Shell at a Time

Fairfield Shellfish Commission's Oyster Shell Recycling Program

By Tim Macklin



Labeled oyster shell collection buckets ready to distribute to local restaurants. Photo: Tim Macklin

Sunday mornings have become somewhat of a ritual for my son, Max, and me. We wake up, eat a hearty breakfast, load up the car with empty buckets and head out to local restaurants to collect discarded oyster shells. Some days it's hot, some days it's rainy, some days it's bitter cold, but it never seems to matter what the weather is. Max is always excited to go collecting, I'm always happy to spend that time with him, and he seems to understand that we're doing something that matters to more than just the two of us.

In 2015, the Fairfield Shellfish Commission started a program to revitalize the recreational oyster bed off Sasco Beach in Fairfield. The primary purpose was to provide more oysters for the public harvest; however, the program was equally important to improving our local marine environment. Oysters filter and purify the waters they inhabit, the beds and reefs oysters form create habitats for other marine life, and provide protective barriers that help stabilize shorelines and protect them from erosion.

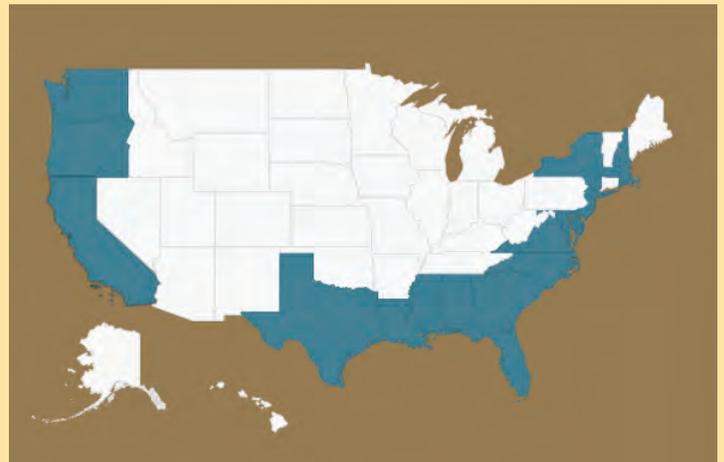
This project would require several things. First, we needed to collect oyster spat. Spat is oyster larvae that have attached to a hard substrate. Oyster shell is the ideal substrate for oyster larvae to attach to. This meant finding a suitable location to suspend bags of oyster shell in the water to collect the spat. We found a spot in Southport Harbor, but needed to draw up plans and acquire permits to hang the bags. Commission member John Short took the lead in planning this endeavor. With the permit process under way, the next phase of the project was collecting lots of oyster shell.

As they are the main building block for the growth of new oysters, we needed to collect several tons of oyster shells. In addition to using the shell to collect spat, we needed to spread shell around the existing recreational oyster bed to promote the growth and development of the new beds.

We first targeted local beaches, but quickly realized there wasn't enough shell available. It was at that point we came

up with an alternate plan. We could utilize the shell being discarded from local restaurants. Not only could we collect the shell needed for the project, but we could also reduce waste that would end up in landfills.

I did some research to find out if there were any existing oyster shell recycling programs in Connecticut, or anywhere else in the U.S. I was surprised to find that Connecticut was one of only four coastal states in the U.S. that does not have



This map shows the states, shaded in blue, that have oyster restoration and shell recycling programs. Graphic courtesy of O.R.P - The Oyster Recovery Partnership.

an organized oyster restoration and shell recycling program. It became evident that if we wanted to collect and recycle oyster shells, we needed to jump right in and get started. I spent some time getting familiar with some of the successful recycling programs: Sink Your Shucks, started by Texas A&M University-Corpus Christi, Texas; S.C.O.R.E, the South Carolina Oyster Restoration and Enhancement; and ORP, the Oyster Recovery Program, a partnership between Maryland, Washington D.C. and Virginia. These well-funded programs are large scale and well supported, even with some full-time staff. While these programs provided us with some

good ideas on how to get started, our limited resources necessitated a creative grassroots operation.

The first item on our oyster shell recycling program “to do list” was to find a suitable storage area away from residents to dry out the shell, since a rather unpleasant aroma can waft from the storage area, especially in the summertime. We were lucky to have been granted access to a location behind the Town Conservation Workshop and worked with the Conservation Department. They partitioned the area with concrete dividers and paved it with asphalt. Storing the shell on a hard paved surface is recommended, but not an absolute necessity. The concrete dividers keep the shell neatly sectioned off and organized.

It’s important to note that most oyster shell recycling programs recommend that the shell “cure,” or dry out, for at least six months before being returned to the water. The curing process kills off any harmful microbes and prevents introducing any potential disease to local waters.

In Fairfield, we have separated our collection area into three bays. This allows us to cure shell and have it ready to go back into the water every three months. The shells we collected from September to December 2015 will be ready to go back in the water in June of 2016. The second collection bay holds shells collected from January to March 2016 and will go back into the water in September. We started storing shell in the third bay in April. Getting the shells back into the water just before or during oyster spawning season (end of July to the beginning on August)

is crucial to ensure the collection of spat and for promoting the growth of new oysters on the deposited shell. The next item on the list was to obtain a substantial amount of collection buckets, which we’d need to leave at restaurants. Fairfield Shellfish Commission President Bob Bilek and member Alison Savona, were able to get the Fairfield Home Depot to donate 50 five-gallon buckets. We created program identification labels for the buckets and were ready to move forward with finding restaurants that would be willing to participate in the project.

I love to eat oysters, so I’m very familiar with all the seafood serving restaurants in Fairfield and neighboring towns. We reached out to four restaurants: Black Rock Oyster Bar and Martel in Fairfield, BRYAC in Bridgeport and The Whelk in Westport. We also recently partnered with Heirloom Restaurant in New Haven.

Recycling oysters requires little effort on the part of the restaurants and reduces their waste removal fees. Almost all restaurants recycle cardboard, glass, plastics, and even cooking oil already, so recycling oyster shell was an easy sell. After explaining how our program worked, every restaurant we approached was excited about the project and more than happy to participate.

The next item up was to coordinate shell pick-ups from the participating restaurants. This does require some time and commitment. Most of the restaurants leave the buckets of shell

at their back door, which allows for after-hours pick-up. Collection needs to be done at least once a week and this can take a couple of hours to transport the shell to the storage area, spread the shell in the storage area, and clean out the buckets.

To keep track of how much shell we have collected, we log into a simple spreadsheet and input totals. Each five-gallon bucket holds about 30 pounds of oyster shell. From September 2015 through February 2016 we have collected over 5500 pounds of shell. This tallying method makes for easier projection and analysis of the program’s success.

While collecting the oyster shell is an important part of recycling process, it’s only half of the recycling circle. Having a plan in place on what’s going to happen with the shell is extremely important. In June of 2016, we plan to fill about 30 mesh bags with shell and hang them from boat docks to collect spat, which we’ll later plant on our recreational shellfishing area. We also plan on spreading the collected shell on the sea floor near our existing recreational oyster bed to create the foundation for new beds and promote growth.

There are many challenges that we need to tackle in the coming months and we are currently working out all the details of our plan. One of our biggest challenges will be getting several tons of oyster shell from our storage area into the water around our recreational oyster bed. It’s going to require a coordinated effort between our Shellfish Commission, Conservation Department



The three bay oyster shell storage area in Fairfield, CT.

Photo: Tim Macklin

and might require partnering with a local commercial shellfishing boat, but we are confident we'll complete the job and continue the program for years to come.

Though it would be ideal for Sea Grant, UConn, and other organizations to get involved in developing a statewide oyster shell recycling program, before that partnership is forged, each coastal town's Shellfish Commission should take the first steps to create their own program. When the benefits become apparent, these results can be used to collectively petition the state and other organizations to contribute to the revitalization effort, which has widespread economic impact on the entire region. It not only helps to conserve the shoreline and promote recreational shellfishing, it also aids the restaurant industry with reducing waste and promotes the sales and consumption of local oysters.

Long Island Sound provides us with millions of beneficial and tasty oysters each year, so it is only fair we engage in responsible conservation efforts. It's time we started giving oysters, or at least their shells, back to the Sound and help complete the full life cycle of the oyster.

There was one other unexpected benefit for me in getting this recycling project going – the Sundays I get to spend with my son Max, picking up all those buckets of shell. I look forward to that voice from the back seat “Dad...these shells are really stinky” but that doesn't bother us too much, we're just happy to be together.

This project is a collaborative effort of the Fairfield Shellfish Commission members: Robert W. Bilek, Deborah Wetmore Detmer, Richard E. Ferrari, Tim Macklin, Alison Savona, John Short, and Sanford Wakeman.

ABOUT THE AUTHOR

Tim Macklin is a member of the Fairfield Shellfish Commission.



Tim's son Max Macklin helps out moving a bucket of oyster shells to the storage area.
Photo: Tim Macklin