

Ash Creek in Fairfield: ‘shellfish paradise’ that can guide future restoration

By Judy Benson

Lifting the heavy mesh bag from the brackish waters of Ash Creek in Fairfield, Tim Macklin laid it on the wooden dock and smiled.

John Short stood nearby, smiling, too, at the bag bulging with 100 or more oysters, which had grown over the last year from dime-sized juveniles into adults that would fill their palms.

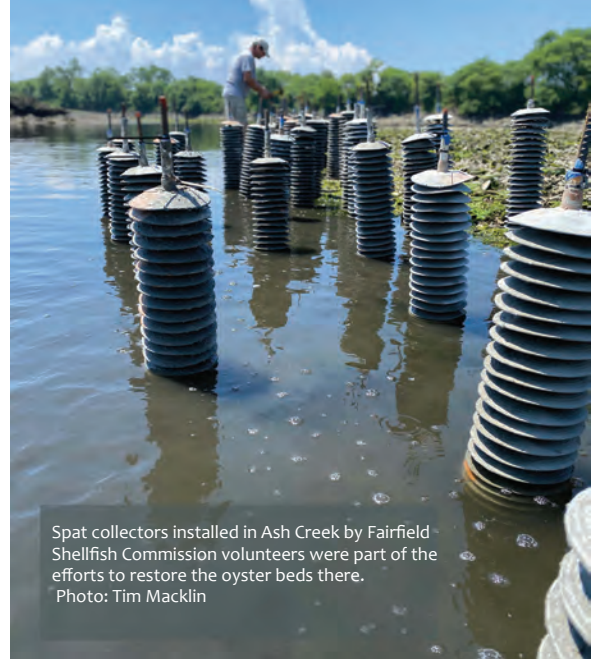
As water dripped off the bag, a dozen or so tiny grass shrimp and miniature crabs fell out onto the dock, evidence of how oyster communities make habitat for other sea creatures.

“It’s still a work in progress, and we’ve been learning as we go,” Short, chairman of the Fairfield Shellfish Commission, said on this mild January morning. Macklin is the vice chairman.

As part of that work, the two grabbed opposite ends of the bag and carried it off the dock to the edge of the creek, both shod in rubber boots to ably navigate across the exposed tidal mud. At a thick cluster of oysters that extended several yards into the creek, they emptied the bag, a musical clinking sound heard as the shells tumbled onto each other and the oysters already in the bed.



This map shows the location of Ash Creek, which forms part of the border between Fairfield and Bridgeport and flows into Long Island Sound. Graphic: Maxine Marcy



Spat collectors installed in Ash Creek by Fairfield Shellfish Commission volunteers were part of the efforts to restore the oyster beds there. Photo: Tim Macklin

“Over the last seven years, the number of oysters in the creek is probably tenfold what it was,” Short said.

The two became friends when their sons played Little League together. Short, owner of a commercial refrigeration and food equipment business, invited Macklin, producer of a culinary TV show, to join the commission in 2015 after learning he had studied marine science in college. Soon they began leading fellow commission members and other volunteers in a multi-pronged long-term effort to rebuild the natural oyster beds in Ash Creek, which forms the town’s southeastern border with Bridgeport as it flows into Long Island Sound. Equipment and supplies have cost the commission about \$5,000 so far, with funds coming from sales of recreational shellfishing permits.

“We’re just volunteers. We’re not scientists,” said Macklin. “But we’ve learned how to attract and grow oysters.”

Now, what’s happening in Fairfield is setting the example for other communities for shellfish restoration projects, with Short, Macklin and their team of volunteers serving as pioneers blazing a trail others can follow.

“They show how this can work on a small scale, and have big impacts,” said Tessa Getchis, aquaculture extension specialist at Connecticut Sea Grant. “They worked with state agriculture and environmental officials early on for regulatory guidance and to gain support for the effort, and then lined up a great group of public and private sector partners to initiate the program. It’s a really nice model other communities can use with volunteers or do on a larger scale.”

Working with colleagues at the state aquaculture bureau and other groups, Getchis is involved in several projects to foster conservation and restoration of the state’s natural shellfish beds. The purpose, ultimately, is to maximize the ecosystem services provided by oysters and other shellfish populations for the

continued on page 20 ►



Left, Fairfield Shellfish Commission Chairman John Short, left, looks on as Vice Chairman Tim Macklin pulls a bag of oysters grown off a dock that will be replanted in Ash Creek. Above, Short and Macklin carry the bag to one of the beds in the creek. Photos: Judy Benson

health of the Sound for both wildlife and humans. That means taking actions that work with nature so that more places come to look like Ash Creek.

“Ash Creek is a shellfish paradise,” said Zofia Baumann, assistant research professor in the UConn Department of Marine Sciences.

She is part of a project using drones to survey oyster populations in the creek and other locations along the state’s shoreline.

“We need to show the potential for other sites in Long Island Sound,” she said.

What’s so special about Ash Creek? You might think of it as something like a trendy little city for shellfish.

There, the nutrient-rich fresh waters of the Rooster River mix with salty tides from the Sound and clams, mussels and oysters are thriving. The most abundant of these are the oysters, packed shell-to-shell in clusters expanding like old neighborhoods being gentrified and spreading into new neighborhoods nearby. The new and established oyster reefs are visible twice a day at low tide by local residents walking through the park along Ash Creek.

Among shellfish native to the Sound, Eastern oysters in particular are prized as a nutritious, commercially valuable food source and as highly effective filter feeders that help improve water clarity and quality by removing excess nutrients. Oyster reefs also serve as habitat for other marine animals and have been shown to have higher fish production rates than non-reef areas. They also act as natural speed bumps to buffer shorelines against wave action that causes erosion and flooding.

Short recalled that in 2015, state Bureau of Aquaculture Director David Carey met with the commission to encourage shellfish restoration projects. Ash Creek immediately came to mind as a place with the foundation already in place—an established population of oysters with potential for growth.

“We knew there were these two big beds already there, and a few other reefs,” Short said.

For starters, they wanted to build off the two big beds by bridging them together with new oyster growth. But to do that, they would need oyster shells to create the surfaces larval oysters need to grow on.

Obtaining that critical ingredient required starting a shell recycling program. Short drew on his many contacts in the restaurant industry to find willing suppliers—five or six local restaurants that serve raw oysters and were willing to collect and donate the used shell.

“We’ve collected 68,000 pounds of shell so far,” Short said.

After collection, the shell is piled at a site next to the town transfer station and sanitized by air drying for six months

before being distributed with the help of the municipal conservation crew in Ash Creek. Having a place to store and dry shell, plus equipment and manpower to move it is a critical piece of the puzzle, Getchis noted. Eventually, she hopes a network of shell recycling programs will be established across the state, so the Fairfield program is in effect serving as a pilot.

“We’re trying to learn from their program to help facilitate other programs,” she said.

In addition to adding shell to Ash Creek, the Fairfield team has also used spat collectors—devices that resemble enlarged versions of the concertina accordions played by sea shanty singers, turned on their sides and planted upright in the creek. Larval shellfish attach to the collectors and start growing, then are scraped off by volunteers and transplanted into cages or directly into shellfish beds in Ash Creek and other town waters to mature. They’ve also tried raising oysters in special devices called downwellers, more often used by commercial shellfish farmers than volunteer shellfish commission members.

“We’ve got a good group of people who want to be involved in this work,” Short said.

Macklin and Short said not every project they’ve tried has worked out, but overall, they’ve been encouraged by their success in Ash Creek. They also see potential for a lot more growth.

“We’ve had some successes and some failures,” Macklin said. “And we see changes from year-to-year in the areas of new growth.”

Added Short: “The amount of area that’s been restored is hard for a volunteer commission to measure, but we suspect it is minimal compared to the entire expanse of the reef.”

Staff from the Bureau of Aquaculture, Connecticut Sea Grant and scientists including Baumann and others are now working to help gather those measurements and make surveying oyster beds easier and more efficient.

Six ecosystem services provided by oysters:

Shellfish production

Habitat provision

Water filtration

Nutrient mitigation

Fisheries production

Shoreline stabilization

Source:
Connecticut Shellfish Restoration Guide