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Raising hope on a half-shell

Oysters come back from the brink

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For more than a century, oysters were so plentiful in the waters off New Jersey they were hawked on street corners the same way pretzels or hot dogs are today.

But the industry fell on hard times when overharvesting and two strains of disease nearly wiped out the population in the 1960s and again in the 1990s. The steep decline took with it whole communities that depended on the oyster for survival.

In recent years, Rutgers University scientists working with disease-resistant oysters and employing new technology have nursed the industry back to health and brought it to the brink of renewed commercial success.

"Every restaurant on the East Coast is after half-shell oysters. With all the problems of native populations and disease and everything else, it becomes a rare commodity," said Greg DeBrosse, manager of Rutgers Cape Shore Laboratory in Cape May County, where the disease-resistant variety were developed. "It's a huge potential for growth."

The lab, first housed in a 76-year-old boathouse on its current site along the shores of the Delaware Bay in Cape May County, was pressed into action first to combat the parasitic disease MSX that struck the Eastern Seaboard in the 1960s and then Dermo, which hit in the 1990s.

After the first disease nearly killed off the oyster population in the Delaware Bay, Hal Haskin, lab director at the time, worked for years to develop an oyster that would not succumb to the parasite. The population was just starting to bounce back when Dermo took its toll, DeBrosse said.

The disease decimated the oyster population, wreaking havoc on the small Delaware Bay towns that made their living off them. Today, communities like Bivalve in Cumberland County are ghost towns, their oyster-shucking plants and boat-building operations shuttered.

"It was a very slow train wreck, but it precipitated over decades. It's just never been able to get back to that critical mass," said Joseph Myers, agriculture development specialist for the state Department of Agriculture. "We're right at that point where things are starting to pick up."

The lab, simulating warm temperatures the oysters need to spawn, produces "seed," tiny oysters grown in bulk from the larval stages. Aquaculture farmers use the seed to grow their own crop of oysters.

As the state's oyster industry started struggling to its feet with the help of the lab, word began to spread. Today, the lab sells seed to fisheries from Maine to North Carolina.

Scientists concede the next threat could always be around the corner -- parasites possibly empowered by warmer ocean temperatures or some yet unforeseen environmental disaster.

Eric Powell, director of the Rutgers lab, also said that while the industry has come a long way, it still faces challenges. He said state and federal regulators need to make the permitting process easier and less expensive for small farmers so that decades of hard scientific work won't be lost.

Still, the lab's product is so coveted by a growing number of oystermen that all 10 million to 15 million seed oysters produced annually are sold. The \$40,000 to \$60,000 the lab makes a year has helped stave off the effects of cuts to its more than \$4 million annual budget, which is supported through other contracts, grants and a state allocation.

Five commercial oyster aquaculture farms have sprung up around the lab's remote operations on the Delaware Bay, but only one, Atlantic Cape Fisheries in Cape May, uses the relatively new rack-and-bag method that is capturing the imagination of potential farmers.

Atlantic Cape set up an oyster farm invisible at high tide. At low tide, the bay reveals its holdings -- 20 long rows of racks stretching out from land and holding nearly 2,500 mesh bags filled with oysters.

The legs of the racks are sunk deep into the sand to keep them from shifting with the tides or floating away, but they also keep the oysters off the bottom where they are more susceptible to predators.

When the seed first enters the bay, it's small enough to fit more than 3,000 in a single bag. The "farmers" -- fisheries employees -- sort through the batches almost daily, checking for problems and transferring oysters into other bags as they grow. By the time they get to market size about 18 months later, there are 250 oysters in one bag.

The seeds sown in the bay last year are just about ready for market. And because the racks system makes for consistently handsome shells, all are destined for the raw bar, not as shucked meat, said James Tweed, aquaculture/husbandry manager for the fishery.

The rack system is a far cry from oystering a century ago, when oystermen moved immature oysters from the fresh water upbay to finish their growing cycle in the saltier water downbay, Myers said. That method, one of the earliest forms of aquaculture in the United States, is still in use by smaller farmers, he said.

"There's such a huge market for them," DeBrosse said of today's product. "Right now, it's an open-ended market. There's a huge potential for growth."

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