

The art of aquaculture; raising shellfish on the flats

By Rich Eldred

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BREWSTER - Tired of the regulatory snarl that commercial fishing has become? One way to skip that snare is to grow your own. No caps on days at sea or poundage that way.

Aquaculture, though full of promise, has its own headaches as a recent forum at Provincetown Center for Coastal Studies made clear. But the glint of plump shellfish, easy harvest, steady prices and clean waters keeps the hopeful hoping.

"I do still enjoy it, and not just on nice days," observed Wellfleet oyster farmer Laura Scheel, who wasn't at the forum. "There's something to be said to have a finished and nice product that people love. When I take people out there, they're always surprised what goes into the beautiful oyster on their plate in a restaurant."

She raises "Out of the Blue" oysters on the flats off Indian Neck.

Alex Brown quit being an employee off Long Island as a bullraker and moved to Provincetown and obtained a shellfish grant in 1990.

"I'm the only one left out of 40 people," he recounted at the forum. "I started here growing hardshell clams. I was doing quite well and then a bad disease came in."

That disease was QPX (Quahog Parasite Unknown) and it ruined many a quahog cultivator, thriving amid the densely packed clams. The mystery parasite is a protozoan encased in mucus. The weakened clams, unable to close their shells, soon die leaving a wasteland of gaping shells.

"I lost tens of thousands of dollars on that grant," Brown remembered. "We started oysters and we're meeting with good success so far."

Oysters top fare

"Oysters seem to be preferred because they are fairly resistant to disease and they get a good market price," Brewster director of natural resources Chris Miller explained. "There are eight to nine private aquaculture grants (in Brewster). They're almost all raising oysters, one is still raising clams."

Fairly resistant isn't totally resistant. When conditions are bad (warm water, high salinity due to drought), they have their own plague.

"The oysters get to just under 3 inches in size, when they're legal, and they die," aquaculturalist and diver John Baldwin noted. "It's juvenile oyster disease or dermo."

Dermo is caused by *Perkinsis marinus*, but the fact that this parasite is identified isn't much help. The disease was first discovered down South in the 1940s. The parasite is transmitted oyster to oyster when the water is above 20 degrees centigrade and extra salty. In the dry summer of 2006, dermo swept through Wellfleet Harbor.

"We lost probably 85 percent of our fall harvest of oysters – when they were just about large enough to harvest," lamented Scheel. "The shells don't seal together properly, it almost looks like the overbite on a person – when the bottom doesn't meet up with the top. That makes them more prone to predators or they just die."

But when it all works, the oysters are fat and happy, at least until they meet the stew pot.

"A lot of people don't do it for the money," reflected Scheel, who also writes and works in a bookstore. "Look at a restaurant where somebody is getting \$2 apiece but the fisherman is probably getting 50 cents. It takes close to two years from the time they're tiny seeds until they reach 3 inches for marketable size. There is a lot of equipment involved. It's a tremendous amount of work."

The time spent expands to fill the time available.

"You could spend 60 to 70 hours a week if you wanted to grow them well and have a nice product," Scheel declared. "You have to separate them and make sure they are not overcrowded in the bags. It's constant maintenance and moving oysters around."

It's like transplanting plants, as long as you keep moving them up a pot size, they'll grow fuller and faster.

Economics

For Brown, who spent decades bullraking clams with a heavy long handled rake, aquaculture looked like a less physically demanding future. He was tired of the regulatory hassle as well.

"We used to be able to go anywhere and take our shellfish. You have started seeing more and more places being closed," Brown noted. "A lot of people, with fishermen, try to put you in a box. You're not in a box if you want to survive. You have to be multifaceted."

Most aquaculture is done above low tide, in front of multi-million dollar mansions, which creates a bit of tension. Not everyone likes gazing at rusty pick-up trucks and oyster racks while they sip mint juleps upon their white-trimmed veranda.

Being a diver, with notable lung capacity, and an inquisitive entrepreneurial sort, Baldwin is toying with deep-water aquaculture. Surf clams are his target crop. He wrote a grant proposal to farm and market 2-inch clams.

"We called them butter clams. We completed the grant by selling them to Napi's restaurant," Baldwin noted.

But further efforts to fund a deep-sea trial have come up short.

“I want to try to make it Provincetown’s own shellfish,” Baldwin explained. “We didn’t have luck with littlenecks because QPX devastated them but if I have anything to say about it, Provincetown will be the butter clam capital of the world!”

Oysters could also be moved offshore, grown on artificial reefs or rafts.

“Oysters in deep water have become important because the inshore areas for aquaculture are all taken up. The U.S. is really lagging behind the rest of the world for open ocean aquaculture,” Baldwin opined. “You’ve got three quarters of the agencies trying to run open ocean aquaculture and people trying to get into it run into all this paperwork.”

Once you go beyond three miles you’re in federal waters.

“There’s a competition between the National Marine Fisheries Service and the U.S. Department of Agriculture over which is going to control aquaculture,” Baldwin noted. “The USDA seems better because they treat you as a farmer.”

One agricultural idea he would like to borrow is community-supported aquaculture, where people buy a share of the farm’s annual crop. Locally, the Barnstable County Cooperative Extension Service works with shellfish farmers.

“It’s huge. Many people depend on this resource,” county marine specialist Dianne Murphy told the forum audience. “In Dennis there are 30 odd grants out there. There are a lot of young people coming into the business and the gear they’re using is different. There is a transition away from quahogs to oyster farming. Oysters enjoy a shorter growing time.”

There are benefits, other than profit, to shellfish farming; filter feeding clams and oysters clean algae blooms out of the water. Murphy helps towns purchase oyster seed to clear out cloudy ponds. It boosts the wild population as well.

“This town (Provincetown) never planted oysters in its life but I believe the oysters we’re seeing now are from my grants,” Brown postulated, “plus the town is getting the benefit of filter feeding with oysters cleaning the water (in the harbor).”

Pioneer spirit

Orleans pioneered municipal aquaculture. Shellfish biologist Sandy Macfarlane raised quahogs from scratch, getting them to spawn in warm water trays, in a small shack alongside Town Cove in the late 1970s and early 1980s.

“They started growing quahogs in Wellfleet and started having super success and this mushroomed and brought forth a whole aquaculture industry,” she said. “I’ve seen this tremendous growth over 30 years.”

It's now a \$5 million a year industry on Cape Cod. Macfarlane retired and wrote two books before signing on as a consultant for East Coast Shellfish Growers Association.

"The final product will be a manual for best management practices for shellfish aquaculture," Macfarlane explained. "Most areas used for private aquaculture are in public territory so the eyes are watching you. A grower has to be way above what any other stakeholder would be." It's public property that's less than prime.

"I have to go into a barren area," Brown explained. "If they find quahogs they won't put a lease there. I do have exclusive use of the property but I find people help themselves and let the dogs loose. I had one incident when there were people with lawn chairs on my grants and cages."

Regardless of those little insults, shellfish will remain a huge part of Cape Cod's culture and economy.

"All three (phases) – commercial, recreational, aquaculture – are important to Cape Cod, not only economically but as a way of life," reflected Macfarlane. "So many towns set aside one or two days a week for shellfishing. It's remarkable. Town Cove in Orleans had a natural set of scallops in 1988, and they haven't had one since. There were hundreds of people, it was a glorious Oct. 12, sunny fall weekend. People had a smile on their face getting scallops. It was just remarkable."

"My boss likes to tell a story that when scallops were plentiful, the town would shut down," Murphy agreed. "You couldn't even get a haircut – Christmas was good that year."

On Cape Cod, it's Santa Clam, not Santa Claus.