

OP-ED CONTRIBUTOR

Restoration on the Half Shell

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Published: April 9, 2007



Calais, Vt.

THIS year marks 400 years since the founding of the Jamestown colony, a span in which everything about the area has changed, not least the water. When John Smith first encountered the Chesapeake, he was struck by its beauty and bounty. “Heaven and earth never agreed better to frame a place for man’s habitation,” he wrote. The water was clear, fish teemed in its depths, and oysters lay “as thick as stones” on the bottom.

Don’t try to look for those oysters today. They aren’t there. Even if they were, you wouldn’t be able to see them through the brown murk. Those oysters were the linchpin of a now-comatose ecosystem. Not only did they pave the bottom, providing footholds for aquatic plants, but they also formed prodigious “oyster reefs” 20 feet high and miles long that sheltered juvenile fish and crustaceans.

And they performed another vital function. Oysters eat algae. A single adult oyster can filter 50 gallons of water a day, and the uncountable billions that once inhabited the Chesapeake filtered the entire bay every few days. This allowed sunlight to penetrate to the bay bottom so eelgrass and other foundations of the

food chain could thrive. By providing these three services — filtration, stabilization and habitation — oysters engineered the ecosystem.

Then they disappeared. Overharvesting was the main culprit, but pollution and disease played roles, too. Annual harvests on the Chesapeake plunged, from over 100 million pounds in 1880 to 20 million in 1960 and less than 250,000 pounds today.

Many East Coasters think that mid-Atlantic waters are supposed to look like brown soup. They're not. Too many nutrients wash downstream from cities and farms, feeding algae blooms, and there aren't enough oysters around to eat the algae. When the algae die and decay, they take the oxygen with them, causing the "dead zones" becoming all too common along America's coasts.

Today, everyone agrees that to restore the estuaries we need to restore the oysters. But how to do it? Government agencies spend about \$300 million a year in oyster-restoration programs, with marginal results. Millions of baby oysters are grown in hatcheries and thrown into the Chesapeake every year, but without the structure provided by oyster reefs, they are crunched up by starfish, stingrays and other predators, buried under sediment, or killed by disease. Fewer wild oysters populate the Chesapeake today than when the restoration programs began in the 1990s.

Meanwhile, there is a movement to introduce a Chinese oyster into the bay that may grow faster and be more disease-resistant and pollution-tolerant. But the folly of introducing an alien species to a struggling ecosystem has been shown again and again. Zebra mussels, anyone?

Meanwhile, a real solution exists. Oyster farms are thriving in Virginia, New York and New England. On these aquaculture operations, billions of oysters spend one to three years in metal cages that function as artificial reefs. They filter water. Their shells provide habitat for numerous species. Sport fishermen have learned that striped bass, shad and other species congregate around them.

Aquaculture has a bad name. We picture fish farms with tons of feed being dumped into the water, creating the same algae-promoting conditions as pollution from cities and terrestrial farms. But the situation is reversed with

oyster farms, because oysters are little filters. The farms provide far more water-cleaning benefits than all the government programs put together, don't cost taxpayers a cent, and support coastal economies. They also make better oysters: a farmed oyster is plumper, sweeter and prettier than its wild cousin.

So, have the Chesapeake watermen, who harvest what remains of the wild oyster fishery, embraced aquaculture? Hardly. They have resisted every attempt to privatize bottomland, even as they go out of business. And Maryland has obliged them with a series of regulations effectively hamstringing aquaculture.

This is wrongheaded. The rest of us should consider it our patriotic duty to eat more cultivated oysters. I know; it's tough. But opting for oysters over wild seafood takes the pressure off marine populations and supports the sustainable production of food along our coasts. It can even help the Chesapeake return to the state of beauty and bounty that stunned John Smith four centuries ago.

Rowan Jacobsen is the author of the forthcoming book "A Geography of Oysters."