Largest oyster restoration in California: Lunny's shells clean S.F. Bay

By Sam Spiewak Point Reyes Light
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On a gray and windy Tuesday evening, Kevin Lunny grilled oysters for a team of six marine biologists at his oyster farm, Drake's Bay Oyster Company, on the Point Reyes National Seashore. The scientists were there to begin work on what the National Oceanic and Atmospheric Administration calls the largest native oyster restoration in California – a project that might not have gone forward without a donation of several dump trucks full of oyster shells from Lunny's farm.

With the help of 20 volunteers from the Marin Conservation Corps, the scientists had spent the day packing Lunny's oyster shells into 2,400 yards of black net bags. By the end of this week, they planned to load the shells – 55 cubic yards in total – for transport to a pier owned by the Marin Rod and Gun Club near the Richmond Bridge. There, they will dump the bags into San Francisco Bay to create a reef. The reef will help restore biodiversity to San Francisco Bay by providing what the scientists call "vertical habitat" on the bay's muddy bottom, explained Bud Abbott, the lead scientist on the project. Abbott hopes that the construction of a reef will ultimately lead to a self-sustaining native oyster population by acting as shelter for the small, slow-growing oysters that are native to the bay. By providing massive quantities of shell, Lunny has been an indispensable partner in the project.

Native Oysters Scientists call oysters "filter feeders." Two or three can clean an aquarium of green water in about an hour. Their hair-like pumps, called cilia, consume algae, microorganisms and sediment, then wrap whatever is indigestible in mucus. Filter feeding helps prevent the formation of large green masses of algae that can block the light that would normally reach the bottom of the bay and allow aquatic vegetation like seaweed and eel grass to grow, said Abbott.

Ostreiculture in San Francisco Bay has a long history. Native Americans cultivated the shellfish for centuries; before the 1849 Gold Rush, entrepreneurs introduced the mid-sized oyster from the Atlantic seaboard, cultivating thousands of acres of oyster beds on the tidal flats of the bay. Human activities contributed to loss of the native oyster in San Francisco Bay: Over-harvesting, industrial pollution, an influx of non-native flora and fauna, along with dredging and filling of the bay bottom by the Army Corps of Engineers led to sedimentation.

By the late 1960s only tiny groups of native oysters could be found. The remarkable shellfish reefs that once graced the warm, protected areas of the bay had been almost entirely wiped out. Starting in the 1960s, federal, state, regional and local governments invested heavily in cleaning up the waters. By the early 1980s, the California Department of Fish and Game proved that larval Eastern and Pacific oysters could be successfully grown to maturity. Scientists theorized

that, given the right condition, oysters could once again spawn and flourish in San Francisco Bay.

Sustainable Oyster Farming

Kevin Lunny, oyster farmer, met Abbott, marine biologist, at a meeting of scientists from the National Atmospheric and Oceanic Administration. “I started going to the meetings because I wanted to learn as much about native oysters as I could,” said Lunny. At one meeting he listened as scientists complained about how difficult it was to find suitable oyster shells to construct their reefs. Unable to find a local supplier, NOAA scientists had imported the shells of non-native oysters from Washington. Because there was a danger that invasive insects or microorganisms might hitchhike from Washington to California on these shells, the biologists spent weeks peering through microscopes, looking for anything that might be alive, and then carefully segregating inspected shells. “I stood up and said ‘I don’t know if this could help, but we have shell,’” said Lunny.

His donation got the project up and running again. Though shell might appear to be simply waste product, it is valuable: Worth about $8 a bag, Lunny’s shells save Abbott over $10,000, or about a fifth of his project budget. The gift is in keeping with Lunny’s passion for sustainable oyster farming. “We produce 10 times the amount of protein per acre in water than we can on land,” Lunny pointed out. “We don’t use fertilizers, we don’t till our land, and we don’t have to feed the animals.”

His oyster company holds more than half of the total area leased out for shellfish farming by the state Department of Fish and Game and accounts for 85 percent of Marin County’s aquaculture. A marine biologist from Fish and Game has said Drake’s Bay has the best water quality of any of the leases in the state, and Lunny’s beef ranch, which is also located on National Seashore land, was the first in the county to have its pastures certified organic.

Though every week thousands of visitors flock to Lunny’s Schooner Bay cannery, he has resisted the idea of turning the farm into a picnic area with loud music and a party feel. He chooses instead to emphasize its identity as a model of sustainable aquaculture. When Prince Charles and the Duchess of Cornwall visited West Marin, Lunny was one of four local farmers chosen for a private lunch. The Prince was served an oyster from Lunny’s Drake’s Bay Oyster Company atop a piece of lettuce and blue cheese, while Lunny talked sustainable oyster farming with his highness. Despite Lunny’s status as a luminary of the Marin ecological agriculture movement, Drake’s Bay Oyster Company will probably be shut down. Park Superintendent Don Neubacher has said that the park plans to end oyster farming in the estuary following congressional legislation that directs the park to remove commercial activities from potential wilderness tracts as soon as possible. Lunny’s farm can’t stay open without continued use of the small plot of shore it leases from the National Park Service.