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# The Opinion Pages

An Oyster in the Storm



Scott Menchin

By PAUL GREENBERG

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DOWN here at the end of Manhattan, on the border between evacuation zones B and C, I'm prepared, mostly. My bathtub is full of water, as is every container I own. My flashlights are battery-ed up, the pantry is crammed with canned goods and I even roasted a pork shoulder that I plan to gnaw on in the darkness if ConEd shuts down the power.



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### Related

I wish I had some oysters.

I'm not talking about oysters to eat — although a dozen would be nice to go with that leftover bottle of Champagne that I really should drink if the fridge goes off. I'm talking about the oysters that once protected New Yorkers from storm surges, a bivalve population that numbered in the trillions and that played a critical role in stabilizing the shoreline from Washington to Boston.

Crassostrea virginica, the American oyster, the same one that we eat on the half shell, is endemic to New York Harbor. Which isn't surprising: the best place for oysters is the margin between saltwater and freshwater, where river meets sea. Our harbor is chock-a-block with such places. Myriad rivers and streams, not just the Hudson and the East, but the Raritan, the Passaic, the Kill Van Kull, the Arthur Kill — the list goes on and on — flow into the upper and lower bay of the harbor, bringing nutrients from deep inland and distributing them throughout the water column.

Until European colonists arrived, oysters took advantage of the spectacular estuarine algae blooms that resulted from all these nutrients and built themselves a kingdom. Generation after generation of oyster larvae rooted themselves on layers of mature oyster shells for more than 7,000 years until enormous underwater reefs were built up around nearly every shore of greater New York.

Just as corals protect tropical islands, these oyster beds created undulation and contour on the harbor bottom that broke up wave action before it could pound the shore with its full force. Beds closer to shore clarified the water through their assiduous filtration (a single oyster can filter as much as 50 gallons of water a day); this allowed marsh grasses to grow, which in turn held the shores together with their extensive root structure.

But 400 years of poor behavior on the part of humans have ruined all that. As Mark Kurlansky details in his fine book "The Big Oyster," during their first 300 years on these shores colonists nearly ate the wild creatures out of existence. We mined the natural beds throughout the waterways of greater New York and burned them down for lime or crushed them up for road beds.

Once we'd hurled all that against the wild New York oyster, baymen switched to farming oysters. But soon New Yorkers ruined that too. Rudimentary sewer systems dumped typhoid- and cholera-carrying bacteria onto the beds of Jamaica Bay. Large industries dumped tons of pollutants like PCBs and heavy metals like chromium into the Hudson and Raritan Rivers, rendering shellfish from those beds inedible. By the late 1930s, oysters in New York and all the benefits they brought were finished.

Fortunately, the New York oyster is making something of a comeback. Ever since the Clean Water Act was passed in the 1970s, the harbor's waters have been getting cleaner, and there is now enough dissolved oxygen in our waterways to support oyster life. In the last 10 years, limited sets of natural oyster larvae occurred in several different waterways that make up the Greater New York Bight.



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Alongside nature's efforts, a consortium of human-run organizations that include the Hudson River Foundation, New York-New Jersey Bay Keeper, the Harbor School and even the Army Corps of Engineers have worked together to put out a handful of test reefs throughout the Bight.

Yes, there have been some setbacks. New Jersey's state Department of Environmental Protection actually demanded that a test reef from the nearby bay at Keyport be removed for fear that people might poach those test oysters and eat them. But the program has persisted, even in New Jersey. In 2011 the Navy offered its pier at Naval Weapons Station Earle, near Sandy Hook, as a new place in New Jersey to get oysters going.

Will all of these attempts to get oysters back in New York City have any effect in defending us against Sandy? Surely not. The oyster kingdom is gone, and what we have now are a few struggling refugees just trying to get a foothold in their old territory.

But what is fairly certain is that storms like Sandy are going to grow stronger and more frequent, and our shorelines will become more vulnerable. For the present storm, all we could do was stock up on canned goods and fill up our bathtubs. But for the storms to come, we'd better start planting a lot more oysters.

Paul Greenberg, the author of "Four Fish," is writing a book about reviving local seafood.

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