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TIME TO BRING BACK NEW YORK'S OYSTERS



Analysis by Kieran Mulvaney
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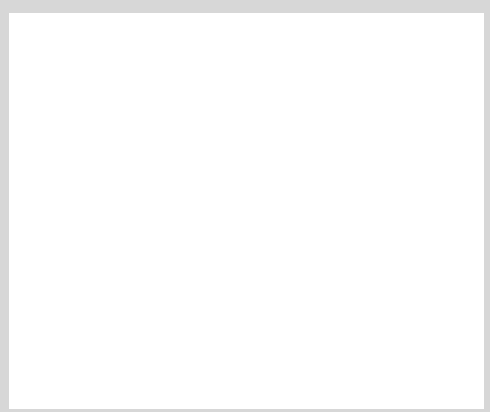
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Hurricane Sandy sent a record 14-foot storm surge into New York Harbor, flooding subway tunnels, shutting down public transportation, stranding millions for days and leaving thousands without power for weeks. Faced with the fact that, as [the Empire State's Governor Andrew Cuomo put it](#), "it seems we have a 100 year flood every two years now," the storm's aftermath has inevitably included discussion on how to mitigate impacts in the event of future tempests.

PHOTOS: [Hurricane Sandy's Path of Destruction](#)

There has been talk of looking for inspiration to Europe - to the Thames Barrier in London, or the Dutch Delta Works system. "If we had such barriers in place during Hurricane Sandy there would have been no damage at all," Malcolm Bowman of the State University of New York [told NBC News](#).



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Others, however, are advocating less capital-intensive projects. As he hunkered down in his apartment awaiting Sandy's landfall, author Paul Greenberg [took to the pages of the New York Times](#) to preemptively pitch one idea in particular: Oysters.

Wrote Greenberg:

Myriad rivers and streams ... 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.

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But then came, as Greenberg put it, "400 years of poor behavior." For 300 years, colonists and their descendants all but ate the wild oyster out of existence; then, beginning around 100 years ago, sewage systems and industrial outflows contaminated New York's waters far beyond the point at which oysters could be expected to gain a toehold. By World War I, [writes Chris Len in a post for Deep Sea News](#), "it's fair to say that the New York Harbor oyster was ecologically extinct."

Len is staff attorney for New York/New Jersey Baykeeper, which has been establishing and nurturing test reefs in the region, part of a grassroots effort to bring oysters back to New York and New Jersey. There are others: [Andy Revkin recently wrote in his DotEarth blog](#) about students from the New York Harbor School who, as he puts it, "grow oysters - lots of oysters - in an effort to restore living reefs that act as pollution filters and storm barriers."



ANALYSIS: Taking Oysters Out to Sea

Another New York Times piece, which consulted experts for ideas on how to protect the city in future,

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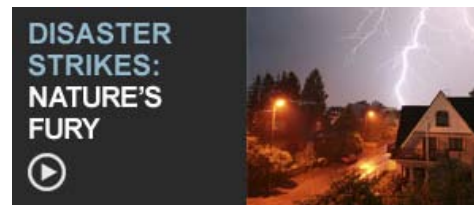
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included a proposal from architect and landscape designer Kate Orff to build oyster reefs in Brooklyn. "This is infrastructure that we can do now," she explained. "It's not something we have to think about and fund with billions of dollars 50 years down the road."



Looking to build the buzz, my friends and colleagues at [Upwell](#), which uses social media to promote ocean issues and awareness, created the destined-to-be-iconic, I "oyster" NY image at left.

Alas, as Chris Len points out, it isn't as simple as dropping some oyster larvae in the sea, and sitting back, waiting for them to grow. For one thing, although much improved following passage of the Clean Water Act, the waters of New York Harbor and environs are sufficiently toxic that what oysters remain "are severely stressed by pollution."

Oyster diseases are rampant, and Hackensack oysters in test cages suffer from shells so thin that in many cases, crabs can claw right through them."

And while oysters are great at filtering water - well, that's great for the water and it's fine for the oysters, but it isn't as good for anyone who wants to eat those oysters. "If you are what you eat," says

Len, "and oysters eat poop, and so oysters are poop, when you eat oysters, you're really just eating a giant [poop] sandwich."

Yes, but we'd be growing oysters for filtering and storm-surge-protecting, not eating, right? Even so, officials in New Jersey [banned research, restoration, and education projects using oysters in "contaminated" waters](#) in 2010, for fear that people would illegally harvest and eat them, causing a human health hazard. Undeterred, NY/NJ Baykeeper worked with the United States Navy to establish some oyster nets at Naval Weapons Station Earle, which is under 24/7 security and immune from poaching.

All of these efforts were insufficient to protect against Sandy, of course; so great is the scale of devastation to oyster habitat in the region that it will be a long time before oyster reefs can come close to what they once more. But, says Greenberg, "for the storms to come, we'd better start planting a lot more oysters."

IMAGES:

A sea of oysters at oyster industry plant at Blue Point, Long Island, New York in 1925. (Corbis)

Students place live oysters onto an experimental oyster reef in the shallow waters off of SoundView Park near the mouth of the Bronx River, Oct. 28, 2010. (Emily Anne Epstein, Corbis)

I "oyster" NY (Upwell)

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