Restoring Oysters in New York Harbor: Proposed installations for the Living **Breakwaters Project**

Jennifer Zhu*, Danielle Bissett, Tatiana Castro Billion Oyster Project, New York, NY, USA

BILLION OYSTER PROJECT

Billion Oyster Project is a nonprofit organization located at Governor's Island, New York. Our mission is to restore oyster reefs to NY Harbor through public education initiatives.

LIVING BREAKWATERS

Selected by the Rebuild by Design competition launched by the U.S. Department of Housing and Urban Development in June 2013, the Staten Island Living Breakwaters Project is an innovative coastal green infrastructure project that aims to increase physical, ecological, and social resilience. The goals of this project are to:

- 1. protect shoreline and reduce erosion
- 2. create and enhance marine habitat
- 3. increase awareness about social resiliency and climate change

METHODS

The project design includes 3,200 linear feet of near-shore "breakwaters," or partially submerged rubble mound structures located between 790 and 1,800 feet from shore. Billion Oyster Projects plans to use the following oyster restoration techniques on the structures:

- Ioose blank shell
- Ioose spat-on-shell
- oyster gabions
- ECOconcrete disks
- files containing oysters
- in-situ setting a relatively new direct setting method that uses a turbidity curtain to contain larvae and maximize setting on preexisting in-water structures



For more information, please scan the QR code or visit the following website: https://stormrecovery.ny.gov/living-brea kwaters-project-background-and-design

Billion Oyster Project will design and install oysters and oyster-filled structures on and adjacent to the Living Breakwaters.

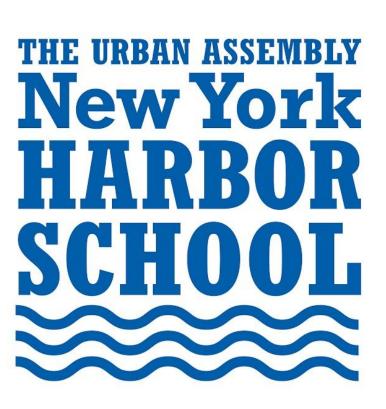
PS 25 South Richmond High School

PS 31

PS 6 CPL. Allan F. Kivlehan School

Shoreline Protection Project





"Breakwaters" are physical structures that are designed to break waves, dissipate wave energy, and slow the movement of water to reduce shoreline erosion and prevet wave damage onshore. Breakwaters in this project are rubble mound structures made largely of stone.



Oyster Nursery Floating Water Hub Living Breakwaters

Shoreline Restoration





INSTALLATION STRUCTURES

• Gabions



• ECOconcrete disks



• Files containing oysters



In-situ setting



Source: TenCate Geosynthetics

Scan to check out **BOP's website!**

