

Jamaica Bay Floating Wetland Wave Attenuator Pilot Project

New York City CSO-PLANYC

New York City, New York



Biohabitats led the implementation of a range of ecosystem restoration pilot projects within the Jamaica Bay watershed in New York City. The pilot projects were first identified in the Jamaica Bay Watershed Protection Plan, which is focused on cleaning the water of the Bay and restoring ecological habitats.

One of the pilot projects implemented by our Joint Venture team, which included partners HDR and Hazen & Sawyer, was a floating wetland wave attenuator. This

Floating wetlands will help to determine the efficacy of deflecting and reducing the energy of waves, and will inform the installation of future offshore breakwater like oyster beds to protect critical shorelines and wetlands.

innovative ecological technology will be tested to study the efficacy of deflecting and reducing the energy of waves in order to better protect critical wetland shorelines and habitat.

Brant Point was chosen as the location for the wave attenuator project, as its shorelines and marshes are actively eroding due to wave energies.

Our team developed a wave attenuator design that uses a series of buoyant mats planted with *Spartina alterniflora*, whose roots are then available to the subaqueous community for habitat purposes. The introduction of an active biological system to the wave attenuator adds many ecological benefits including the ability of the system to assist in the removal of pollutants from Jamaica Bay.

The team is using remote acoustic monitoring devices to measure how the attenuators perform in deflecting and reducing the energy of waves, as well as the anticipated decline in erosion along the wetland edge. If the attenuators succeed in diminishing the strength of the waves and slowing the rate of erosion, that information will be used to determine whether oyster beds and other breakwater offshore structures could be planted in similar areas to protect other critical wetland and shoreline areas.

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