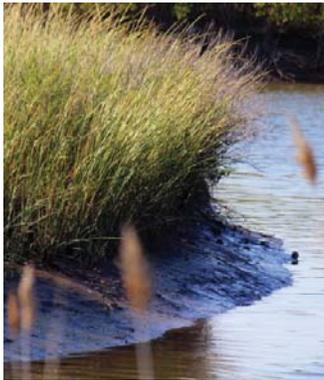


Restoring Marshes Creek through Green Infrastructure

Linden, New Jersey



Wetland restoration and green infrastructure enhance flood protection, water quality, and urban ecology.

Located along the Arthur Kill about 13 miles southwest of Manhattan, the city of Linden, New Jersey suffered from a 15-foot tidal surge during Superstorm Sandy in 2012. Linden's Tremley Point community, a low-lying community of about 275 homes located at the headwaters of Marshes Creek, is regularly

flooded during normal rain events and was particularly hard hit during this storm.

Marshes Creek, a tidal tributary to the Rahway River, is a degraded tidal marsh overrun by invasive plant species primarily due to poor tidal flushing. Tidal inputs to the marsh at the head of the creek

have been partially cut off by a small culvert under a railroad track that runs between the marsh and the river. The restrictive outflow causes stormwater to back up on the landward side of the culvert during periods of heavy rain.

With funding from the National Fish and Wildlife Foundation and the City of Linden, Rutgers University and Biohabitats collaborated on a strategy to mitigate future flooding in Tremley while also restoring tidal hydrology to Marshes Creek. Project goals were to improve tidal flows at Marshes Creek while also reducing stormwater flooding in the area of Tremley Point.

Within Marshes Creek, the culvert is being resized to restore natural tidal flows within the marsh while also allowing for improved outflows of stormwater during rain events.

Upstream from the marsh, Biohabitats developed typical rain garden designs for the Tremley Point homeowners. Guided by a philosophy of "slow it down, spread it out, and soak it in," Biohabitats also helped Rutgers identify and prioritize green infrastructure and stormwater retention opportunities within a 30-acre park in Linden.

One of the sites identified by Biohabitats, a sloped dog park, was chosen by Rutgers for construction in April 2017. The 50 x 40-foot rain garden was constructed to intercept and slow down stormwater from paved and impervious areas while filtering out dog-produced nutrients and pathogens from a nearby dog park.

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