



# Constructed Wetlands

*Reintroducing helpful habitats!*

## PROJECT OVERVIEW

The East Branch of the Croton River, which runs along the Southern end of the town of Brewster, receives a lot of stormwater which runs through the town. Prior to the installation of the pond system, stormwater cascaded across the town of Brewster, collecting sediment, trash and pollutants along the way. This water would flow directly into the East Branch of the Croton River and into the Diverting Reservoir. By redirecting and concentrating this flow onto NYSDEP land, it was possible to develop a massive stormwater pond system which helps remove 67.8 kg of Phosphorus each year, while also establishing new pond and wetland habitat for local wildlife.

DRAINAGE AREA	PHOSPHORUS REDUCTION	ALGAE REMOVAL
8.4 acres	15.9 lbs/year	7,950 lbs/year





## THE PROBLEM

Humans are the biggest threat to natural ecosystems throughout the world. Many urban areas, including our local ones, are constantly expanding. This often leads to the tearing down of forests and wetlands, just to cover them in asphalt to make space for shopping malls, office buildings and mansions. This habitat destruction not only severely impacts wildlife populations, but also our water resources management. As we develop our landscape, it prevents stormwater from naturally reentering the ground and waterways after storm.

This often leads to flooding, extreme flows over the built terrain, and the transport of pollutants. This can further lead to the mass erosion and large harmful algal blooms.

## THE SOLUTION

Mother Nature does it best, making it imperative that we reintroduce the vital wetland ecosystems that we have destroyed. Not only are constructed wetlands great habitats for all sorts of flora and fauna, but they server important ecological roles.

Areas of wetland vegetation work as a big filter, pulling harmful pollutants out of excess stormwater flow. Installation of the wetland system at Edward Ryan Memorial Park provided a substantial water treatment element while also providing an impressive visual element for park users. The specialized plants, called hydrophytes, live in the wet soils and can remove Phosphorus from the soils through natural methods. Whatever is not absorbed, becomes immobilized in the ground below, no longer a threat to nearby waterbodies. These wetlands help reduce flooding by collecting and slowing down the flow of stormwater.

### Constructed Wetland Benefits:

- Creates wetland habitat
- High removal rate of Phosphorus
- Aesthetically pleasing and community enriching!
- Helps reduce amount of flooding
- Capable of removing other pollutants
- Low cost to implement vs. treatment plants

