

# Van Cortlandt Park Restoration and Flood Control

Bronx, New York



from top: Master layout of Elm Pond; Initial conditions within Van Cortlandt Park

New York City treats 1.3 billion gallons of wastewater daily. In many parts of the City, sanitary and industrial wastewater and stormwater runoff are collected in the same sewers and then conveyed together to the City’s treatment plants. Such is the case in the Wards Island Wastewater Treatment Plant (WWTP) in the Bronx. During heavy rains, untreated sewage and stormwater would often overflow directly into the Harlem River.

Biohabitats was retained to assess and design natural strategies that would reduce the volume of combined sewer

*Increasing surface water storage and developing a large wetland complex in Van Cortlandt Park protects water quality in the Harlem River while creating valuable habitat in an ultra-urban setting.*

overflows (CSOs) in the Wards Island WWTP sewershed. The design team evaluated ways to increase the amount of storm flow attenuation within the Van Cortlandt Lake watershed by modifying stage-storage-discharge conditions within the main lake and two smaller upstream lakes—Elm and Birch Ponds. To inform the design, Biohabitats conducted a wetland delineation and a tree valuation survey within the study area.

To provide a baseline of wetlands at the site, Biohabitats identified, delineated, and documented non-tidal wetlands and waters of the U.S. in accordance with New York State Department of Environmental Conservation and U.S. Army Corps of Engineers guidelines. Using New York City’s

Tree Valuation Protocol, Biohabitats surveyed over 700 trees, recording species, invasive/native status, size, and condition. These data were entered into the City’s Tree Valuation Calculator, which evaluates the replacement cost of each individual tree. Biohabitats used the data to inform design that would yield greater water retention in Van Cortlandt Lake and enhanced wetland communities within Elm and Birch Ponds. Together, these strategies will increase stormwater storage within Van Cortlandt Park, thus decreasing the volume of CSOs to the Harlem River.

### SERVICES

- Inventory & Assessment
- Parks
- Design
- Green Infrastructure

conservation planning  
ecological restoration  
regenerative design



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