

# Crestwood Lake Flood Mitigation Study

*Westchester County, New York*



*top: Initial conditions, above: Conceptual rendering*



Crestwood Lake is one of three significant lakes on the Bronx River. It spans approximately 10 acres and receives water from a 33-square-mile watershed. Located within the New York City Metropolitan Area, the lake had experienced excessive sedimentation and episodic flooding over the years caused by development in the Bronx River watershed. The dredging of Crestwood Lake had become a regular maintenance

*A low impact alternative to dredging Crestwood Lake will enhance the lake's aesthetic, recreational and ecological values while also creating additional flood storage.*

item for Westchester County over the last 40 to 50 years. In an effort to lessen the impacts of excessive sedimentation in Crestwood Lake and potentially improve flood storage capacity within the lake, Westchester County turned to the team of Biohabitats and HyrdoQual. After reviewing literature, performing a vegetative and shoreline assessment and studying the physical properties and chemistry of the sediment, the team developed a restoration report and three alternative strategies for restoring the lake.

The County chose to move forward with a “minimum action” concept, which involved the planting of sediment bars and islands with native vegetation to further encourage the accumulation of sediment. The restoration concept will

result in the development of a slow, shallow stream channel that lazily meanders through vegetated islands. The re-established riverine system provides habitat for water birds and a fish. The vegetation captures organic material, stabilizes the islands, and sequesters nutrients. The concept also involves the installation of a new path and viewing platforms modification of the lake outlet to allow for more flood capacity during storms.

These improvements, along with other watershed initiatives may help reduce flooding along the Bronx River corridor and improve the ecological value of the watershed.

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