

## Great Sodus Embayment Preservation and Watershed Enhancement Plan

Wayne County Soil & Water Conservation District  
(WCSWCD)

Lyons, Wayne County, NY

Sodus Bay, a 3,150-acre embayment of Lake Ontario, is located in Wayne County, NY. Sodus Bay is listed by the NY Department of Environmental Conservation (NYSDEC) as a Class B, stressed, priority waterbody. Numerous studies had documented the bay's water quality to be impacted by excessive nutrient and sediment loading, which accelerated the bay's rate of eutrophication, leading to algal blooms, dense stands of nuisance aquatic macrophyte and sedimentation.

With funding obtained through the USEPA, Princeton Hydro prepared the *Great Sodus Embayment Coastal Resource Preservation and Watershed Enhancement Plan* which detailed the measures needed for Sodus Bay's proper long-term management. Part of the data collection used to assess the viability of alum or alum surrogates entailed the logistical support and coordination by Princeton Hydro of sampling activities conducted by SUNY Brockport.

The plan consolidated and contemporized the Bay's water quality and watershed database and generated a much needed decision making tool for local, County, and State stakeholders to prioritize and implement watershed and in-bay management options. The Feasibility Component of the Plan included a proposed demonstration project involving the injection of alum and lime into the bay's sediments for the purpose of chemically binding the phosphorus in the sediment's interstitial pore water, thus making this phosphorus unavailable for macrophyte, benthic algae, and planktonic algae assimilation.

Princeton Hydro worked closely with the WCSWCD and NYSDEC to develop the data needed to support a State Pollutant Discharge Elimination System (SPDES) permit for the implementation of the alum injection effort. This included the collection and analysis of the sediment's physical and chemical properties, assessment of potential alum related impacts, development of projected alum dose rates, and analysis of benthic infauna composition. Although the actual treatment of the Bay's sediments has yet to be conducted, the analysis demonstrated the viability of the technique and its promise to control the proliferation of difficult to control invasive, non-native aquatic macrophytes, especially in areas too shallow to harvest and located too close to wetland resources which could be impacted by commonly used aquatic herbicides.

