



An Electronic Newsletter
of EEA's Environmental
Consulting Activities
Summer 2003

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EEA services include
Phase I ESAs, Haz-Mat
Testing and Remediation,
Wetlands Delineation
and Creation, Natural
Resources Inventories,
Marine Ecology Studies,
Air Quality and Noise
studies, and Environmental
Management System (ISO

Environmental Consulting

INSIGHTS

***BAR BEACH SEES A BRIGHTER FUTURE
Hempstead Harbor Tidal Wetlands Restoration***



EEA, Inc. has been successfully restoring both freshwater and tidal wetland systems for over two decades. Once again, EEA's experienced wetland scientists crafted a tidal wetland restoration plan for a 5-acre tidal cove in Hempstead Harbor, bordering the south side of the Town of North Hempstead Bar Beach Park.

The restoration plan was multi-phased and involved various tasks for EEA, including 1) pre-construction planning & monitoring; 2) extensive debris & invasive species removal; 3) shoreline grading/stabilization; 4) planting design/implementation and 5) regulatory permitting. This project represents a major component encompassing habitat and recreational system improvements associated with a Town of North Hempstead Shoreline Nature Trail.

Hempstead Harbor is characterized by a tidal range of approximately 7 – 8 feet and is designated by NYS Department of State as a Significant Coastal Fish & Wildlife Habitat. This designation is due to its abundant waterfowl population and productivity as a marine finfish nursery and feeding habitat. Various shorebirds also utilize the site during migratory periods and wading birds during the summer months. Consequently, the design incorporated flexibility and environmental benchmarks to ensure that the restoration would be successful and the area would not be adversely impacted.

14000) implementation.

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Intertidal Marsh Zone Before Restoration

In addition to the environmental and hydrologic challenges of the site, regulatory permitting and agency coordination proved to be significant challenges. These challenges were spurred by the need for off-site wetland mitigation, namely the cleanup of a State Superfund site located on the east side of the Harbor. Throughout the design, implementation and monitoring phases of this project, EEA streamlined communication among the many regulatory agencies, beyond the normal suite of agencies involved in NYS tidal wetlands restorations. Consequently, to ensure success, this wetland restoration not only involved wetland science, with its focus on hydrologic and environmental parameters, but also drew upon the protocols and experience of many regulators.

Historically, the restoration site supported a thriving salt marsh. Due to several factors (i.e., erosion, sea level rise, etc) this marsh had deteriorated over the past several decades. The project involved removal of approximately 3,150 cu. yards of mixed debris containing primarily asphalt and concrete rubble along the shoreline and a gravel bar peninsula that was covered



**Black-crowned
Night Heron**

by common reed (*Phragmites australis*). The plan included the re-establishment of smooth cordgrass (*Spartina alterniflora*) in the intertidal zone and high marsh plantings containing salt marsh cordgrass (*S. patens*), spikegrass (*Distichlis spicata*) and black grass (*Juncus gerardi*). The upland adjacent areas where the *Phragmites* had been removed were seeded to a native warm season grass mixture. In an effort to re-create a true maritime community, a salt shrub zone consisting of marsh elder (*Iva frutescens*) and groundsel-bush (*Baccharis halimifolia*) was incorporated into the high

marsh and various native shrubs were planted in the upland periphery. A pair of black-crowned night herons has been utilizing the adjacent upland areas, and it is hoped that these wading birds will become successful breeders within the restoration area. Evergreens were also planted within the upland areas to encourage the establishment of a heron rookery.



Volunteers Planting in the Intertidal Zone

All excavation and grading was conducted by a General Contractor, while enthusiastic volunteers were involved in establishing over 75 percent of the plantings. This hardy group of volunteers donned hip and chest waders and planted the majority of the *Spartina* grasses in the intertidal and high marsh zones during the spring. They also helped to secure the marsh planting zones at the close of each day, by erecting goose exclusion fence along the periphery and tying a web of overhead string lines to discourage uninvited fly-ins, a common problem on restoration sites in the northeast. To date, these new marsh plantings are being monitored to ensure their long-term success and are thriving well in their new habitat.

Project implementation required the development of close partnerships between EEA, the Performing Parties Group (PPG), a private entity, and various regulatory agency trustees including NOAA/NMFS, NYSDEC, USDO/USF&WS and the Town of North Hempstead.



**Intertidal Marsh After Planting.
Goose Exclusion Fence In Place**

The project was partially funded by the PPG, with matching funds provided by a NOAA Fisheries Community-Based Restoration Grant and in-kind services and support from the Town of North Hempstead .

Whether you are boating, birdwatching or simply enjoying the Town Beaches, stop by Bar Beach and enjoy the new view of Hempstead Harbor 's shoreline, supporting native wetlands and wildlife and envision the future possibilities for the Harbor.

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