



10-ACRE WETLAND RESTORATION

Sullivan's Ledge Superfund Site New Bedford, MA

New England Environmental, Inc. (NEE) acted as the wetland consultant designing and constructing over 10 acres of wetland associated with the Sullivan's Ledge Superfund site in New Bedford, Massachusetts. After NEE's design phase, NEE implemented the plan, restoring this complex wetland site. This included constructing 1,600 linear feet of stream channel using bioengineering techniques to provide initial stabilization to the stream banks and slopes. NEE also completed the restoration of a pond, planted over 21,000 wetland plants and initiated the five year monitoring program and plan to control invasive species at the site.

Key project goals were to re-establish the original biodiversity found at the site, restore the wetland system, monitor for the Mystic Valley amphipod (a Massachusetts species of special concern located at the site) and coordinate the planting of native plants with the construction schedule to minimize the influx of invasive plant species to the site.



The original wetland system had been impacted by PCBs. All vegetation and impacted soils were removed. NEE redesigned the wetland, stream and pond areas and restored these locations within the five year monitoring period established for this site.

The restoration consisted of seven different mitigation areas ranging from open meadow, forested wetland, open water and stream channels and extensive hummocks throughout the wetlands. The largest constructed wetland on the site (6.7 acres), incorporated two major stream channels, man-made hummocks, and a layered planting scheme of native wetland plants to recreate previous wetland conditions.

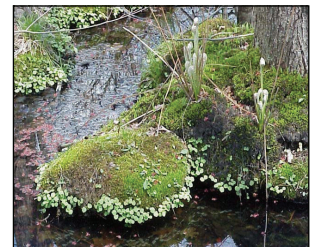
All of the stream channels on-site were protected with bioengineering techniques that included coir fascines, heavy erosion control blankets native seed mixes and native plant material.

The aquatic planting design for the pond was based on the varied hydrological conditions noted in the field. NEE divided the pond edge into three horizontal zones based on the varying water levels. Plants were installed by NEE staff scientists at a water level suitable for the variety of native plants selected for the project.

The restoration goals were successfully met by NEE within the five year plan established by the clients consultant overseeing the remediation of PCBs at this site. Use of the site by wildlife (Red Fox, Great Blue Heron, Great Egret and Red-tail Hawk) were observed within two years of restoring site habitat. NEE also confirmed the return of the Mystic Valley amphipod within two years of the restoration process. Spotted turtle and rare plants have also become established in this wetland.



View of the stream channel, through "Middle Marsh," designed and constructed by NEE.



Typical wetland hummock.

