

SPRAGUES COVE NONPOINT SOURCE POLLUTION REMEDIATION PROJECT

The Buzzards Bay Project is assisting the Town of Marion in reducing the impacts of stormwater associated pollutants discharging to Spragues Cove. Stormwater runoff has been a factor contributing to the closure of shellfish beds in the Cove. Stormwater from impervious surfaces (roads, driveways) within a 64 acre watershed flows into a stormdrain systems which discharges into Spragues Cove.

The initial runoff or "first flush" generated from a storm event contains the majority of pollutants associated with residential watersheds. The artificial wetland will treat the first flush of stormwater prior to its discharge to the Cove. The artificial wetland will be constructed on a previously filled salt marsh.

The constructed wetland system will consist of a settling basin (1), shallow marsh (2), deep pool (3), and a stone-lined outlet (4). (See schematics on following page.) The first half inch of road surface runoff plus dry and wet weather pipe flow will be directed into the settling basin. This basin allows coarse sediments and other particulates to settle out. From the settling basin, stormwater flows into the marsh vegetation. The physical and biological processes that normally occur in a wetland will treat and remove the pollutants from the stormwater water. The deep pool in the center of the system provides a mechanism to reduce potential mosquito problems by providing habitat for fish. The pollution removal efficiency is related to the time stormwater is held within the system and the total flow length of the system. In order to increase the flow length and prevent the formation of dead storage areas, low flow dikes are constructed in the shallow marsh.

Along with water quality benefits, the restored wetland system will enhance the wildlife habitat in the area. The site was formerly a salt marsh that was filled with dredge spoil from Sippican Harbor during the 1950s. This area had very little wildlife habitat value and was vegetated with low growing shrubs and grasses. After remediation the area will provide a diverse habitat with a combination of open water, marshland grasses, and upland shrubs.

The total project budget is approximately \$65,000. Below is a summary of the various funding sources and amounts.

EPA/MA DEP 319	\$25,000
US Fish and Wildlife	\$10,000
Cove Charitable Trust	\$10,000
Town of Marion	\$19,500
Private Donations	\$ 500