



# NOAA Community-based Restoration Program



## Seaview Street Salt Marsh Restoration Rockport, Massachusetts

The Saratoga Creek estuary lies along the coast of Rockport, Massachusetts on Cape Ann and is bounded by two barrier beaches, Cape Hedge Beach and Long Beach. Salt marsh covers a large portion of the area and the dominant vegetation consists of high marsh saltmeadow (*Spartina patens*) and low marsh cordgrass (*Spartina alterniflora*). Seaview Street, a small causeway providing access to the barrier beaches from the mainland, separates a small portion of the salt marsh from the main marsh.

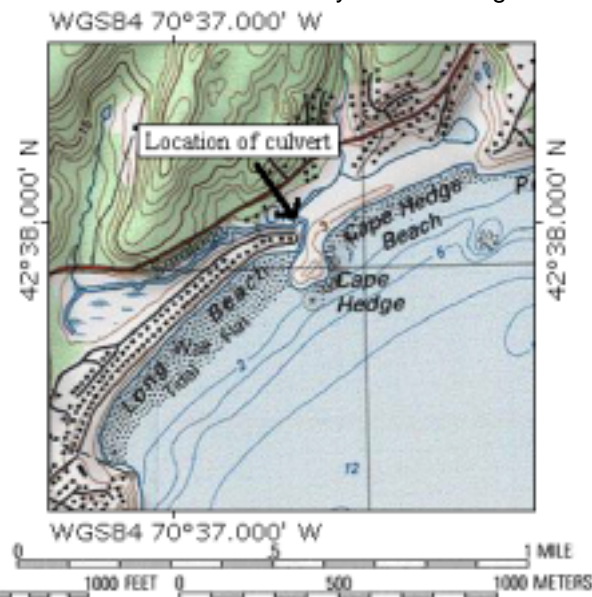


**Seaview Street Marsh**

An undersized culvert connects the two marshes together, but is insufficient in allowing the full tidal regime to enter into the Seaview Street portion of salt marsh. As a result, tidal flow is restricted and the influence of saltwater has been lessened. Lower salinity levels in the Seaview street

marsh have favored the expansion of invasive species such as the common reed (*Phragmites australis*) and purple loosestrife (*Lythrum salicaria*), which are outcompeting the native *Spartina* species. Shifts to *Phragmites* dominated stands are indicators of a degraded habitat. Without adequate tidal flow, the marsh is not inundated regularly and this lack of water results in poor fish habitat. Fish sampling, conducted by students from Rockport Middle School's Science Club, found that the unrestricted marsh teemed with a variety of fish including mummichogs (*Fundulus heteroclitus*), rainbow smelt (*Osmerus mordax*), silversides and sticklebacks while only mummichogs were found in the restricted Seaview marsh. As well as not

allowing adequate tidal flow into the salt marsh, the undersized culvert limits drainage out of the marsh. During storm events, storm waters often break over the barrier beach events flooding the salt marsh with seawater. Likewise, the salt marsh is often inundated with freshwater after heavy rain events. The small culvert pipe, inadequate to sufficiently drain the excess water, results in inordinately long periods of flooding.



With assistance from the NOAA Community-Based Restoration Program, the Town of Rockport has taken the lead along with support from other project partners to restore the natural tidal exchange to the Seaview street salt marsh by replacing the small pipe culvert with a larger box culvert. Total costs are estimated to be \$25,000 with project completion targeted for Fall 2003

Approximately 3 acres of salt marsh are estimated to benefit from increased tidal flow. Greater tidal



**Existing culvert under Seaview Street**



**A surveyor records the marsh elevation**



**Invasive *Phragmites* dominates the upstream reaches of the marsh**

circulation should raise salinity levels combating the spread of invasive vegetation as well as increasing the value of habitat for wildlife. Commercial and recreational fishing is an important component to the town of Rockport and restoring this small area of salt marsh will support these activities by providing nursery habitat and forage for marine fish. In addition, the Saratoga Creek is an important migratory route for the catadromous American eel (*Anguilla rostrata*). Enhancing habitat for fish and eels will directly benefit birds by increasing their foraging area. Enlarging the culvert will also help decrease the flooding potential after major storm events by allowing for more water to be discharged from the marsh. Furthermore, pre and post monitoring of this site present educational as well as public outreach opportunities for local students and residents.

This project is part of a larger effort by the Town of Rockport to improve the health of the Saratoga Creek estuary. Other recent projects have included the installation of stormwater treatment units in 1999 as well as the removal of stormwater sediments that had accreted in the marsh in 2000.

In addition to the NOAA Community-based Restoration Program and the Town of Rockport, many other organizations and agencies have been involved in restoring the tidal regime to the Seaview Street salt marsh including the Rockport Conservation Commission, the Rockport Department of Public Works, Rockport Middle School, Natural Resource Conservation Service, Massachusetts Coastal Zone Management, Massachusetts Wetlands Restoration Program, Massachusetts Audubon Society, Eight Towns and the Bay and the Toad Hall Bookstore.

The NOAA Community-based Restoration Program seeks to involve communities in the restoration of marine and estuarine habitat. Partnerships with Federal agencies, states and local governments, non-governmental and non-profit organizations, businesses, industry and schools have assisted over 179 projects nationally including 49 within the Gulf of Maine to restore coastal habitat. The NOAA Community-based Restoration Program and its partners provide funding and expertise to projects that promote coastal stewardship and a conservation ethic. Through partnerships, the Community-based Restoration Program has been able to leverage \$3-\$5 on average for every NOAA dollar invested.

**For additional information, contact:**

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<http://www.nmfs.noaa.gov/habitat/restoration/>