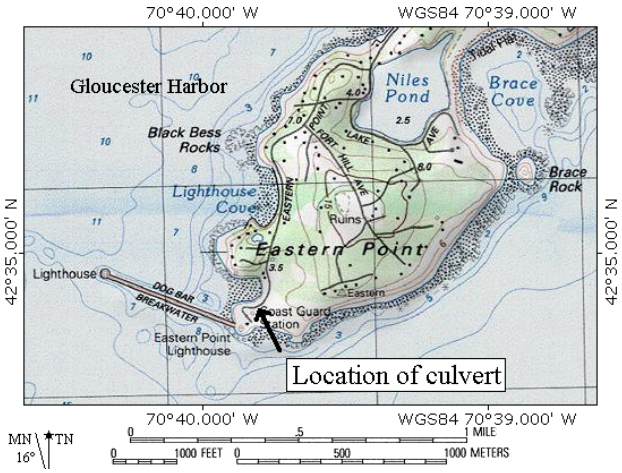
NOAA Community-based Restoration Program

Eastern Point Wildlife Sanctuary Salt Marsh Restoration Gloucester, Massachusetts

The Eastern Point Wildlife Sanctuary, located in northeastern Massachusetts, covers approximately 53 acres including forest, meadow, freshwater marsh and salt marsh within the City of Gloucester. Owned and managed by the Massachusetts Audubon Society, the Sanctuary provides critical habitat for many birds including warblers and shorebirds as well as a important migratory stopover point for monarch butterflies and is a locally popular wildlife viewing area. Dog Bar Breakwater, immediately adjacent to the sanctuary, is also a popular recreationally fishing area for striped bass (*Morone saxatilis*), bluefish (*Pomatomus saltatrix*), winter flounder (*Pseudopleuronectes americanus*) and mackerel (*Scomber scombrus*).

The Eastern Point lighthouse

Unfortunately, the Sanctuary's salt marsh habitat is deteriorating as a result of severely restricted tidal flow. At one time a culvert near the lighthouse and Dog Bar Breakwater connected the harbor and salt marsh together. However, this culvert was entirely blocked with sediment and debris after a storm event in the 1990's. Tidal flow between the harbor and the salt marsh has been very limited resulting in a dramatic decrease in the salinity of the upstream salt marsh. Under existing conditions salt water only enters the marsh by overtopping storm waves or seeping through the coastal bank during storm events. Moreover, the limited flow affects drainage out of the salt marsh so that the marsh is often flooded for extended periods of time by freshwater from rain events or alternately by seawater from high waves and tidal surge. Invasive vegetation such as the common reed (*Phragmites australis*), purple loosestrife (*Lythrum salicaria*) and poison ivy (*Toxicodendron radicans*) is rapidly spreading through the area displacing typical salt marsh vegetation. Changes in vegetation have detrimentally altered the ecosystem degrading the habitat for local and migratory birds. The reduction of tidal flow and subsequent salinity changes have also eliminated breeding and nursery areas for small fish such as killfish, silversides and stickleback, which are important prey for striped bass and blue fish.



With assistance from the NOAA Community-based Restoration program, the Massachusetts Audubon Society along with support from other project partners is taking the lead in efforts to restore tidal flow to this three-acre salt marsh by reconnecting the salt marsh to the harbor via the installation of a new concrete culvert. In addition, a former tidal creek, identified on historic maps, will be recreated throughout the marsh. Furthermore, the culvert and outlets will be maintained by Massachusetts Audubon Society regularly in order to preserve their integrity. The total project cost is estimated to be $89,000 with project completion expected in Fall 2003.

(continued on reverse)

Upstream salt marsh at Eastern Point

Seawater breaches the barrier beach flooding into the marsh during a winter storm

Restoring tidal flow and salinity is believed to be crucial in curbing the spread of invasive plants such as *Phragmites* as well as encouraging the regrowth of salt marsh vegetation such as salt marsh hay (*Spartina patens*), spike grass (*Distichlis spicata*) and black grass (*Juncus gerardii*). Furthermore, restoring the tidal flow will restore important fish breeding habitat as well as enhance habitat for migratory birds.

This project represents one of the first projects associated with a citywide effort by the town of Gloucester to restore local wetlands and waterways. One of the first towns in Massachusetts to undertake a citywide aquatic restoration plan, Gloucester has been very proactive in promoting the protection of their aquatic resources through restoration, stewardship and education. Numerous offices and departments are actively engaged in the restoration process including the Gloucester Department of Public Works, Department of Community Development, Department of Shellfish, the Board of Health, St. Mel's Day School, the office of the Mayor and the Conservation Commission.

In addition to the NOAA Community-based Restoration Program and the Massachusetts Audubon Society, many other organizations have supported efforts to restore tidal flow at Eastern Point including the Massachusetts Wetland Restoration Program, FishAmerica Foundation, National Resource Conservation Service, Massachusetts Corporate Wetlands Partnership (Judith Nitsch Engineering Inc.), Ocean Trust and the Salem Sound Coastwatch/Massachusetts Bays Program.

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 700 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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Existing culvert

2003