



United States
Department of
Agriculture

Natural Resources
Conservation Service

Massachusetts

CONSERVATION *Showcase*

A Culvert Operation

NRCS and Mass Audubon partner to restore salt marsh at Allens Pond Wildlife Sanctuary, South Dartmouth

Normal tidal flow to a seven acre South Dartmouth salt marsh has been restored thanks to a partnership between the USDA Natural Resources Conservation Service (NRCS) and the Massachusetts Audubon Society. Through the federal Wildlife Habitat Incentives Program (WHIP), NRCS provided \$13,128 in cost-share assistance, as well as technical assistance, to replace a culvert in the Allens Pond Wildlife Sanctuary that was too small.



The salt marsh at Allens Pond Wildlife Sanctuary

of Tidally Restricted Salt Marshes in the Buzzards Bay Watershed, published by the Buzzards Bay Project National Estuary Program.

The new culvert, designed by NRCS engineer Dan Barnett, is comprised of four 24-inch polyethylene pipes, which allows for more normal tidal exchange. NRCS soil conservationist Bernie Taber served as project manager for the culvert replacement, working closely with Allens Pond Wildlife Sanctuary Director Gina Purtell.

Additional planning, technical assistance, and construction support was provided by the Buzzards Bay National Estuaries Program, the Dartmouth Conservation Commission and the Bristol County Mosquito Board.



The new culvert under construction

The original 12-inch concrete culvert under a road, the only connection between Allens Pond and the salt marsh, provided inadequate tidal exchange. The result was a change in water salinity that allowed *Phragmites*

sp., a tall invasive grass, to replace shorter native salt-tolerant grass species.

The Allens Pond Wildlife Sanctuary land sits on a pristine salt pond—one of the few remaining in the Northeast—along with several types of habitat that support rare wildlife. The salt marsh was identified as a priority tidal restriction site in the *Atlas*

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The completed culvert

Completed in January 2005, the culvert replacement was one component of a larger \$2.3 million restoration project to protect approximately 156 acres along Buzzards Bay, part of a contiguous block of 1,000 acres of protected habitats, including salt marsh, coastal oak woodlands, and grasslands.

Other partners that have played a role in the overall protection of the area include a private landowner, the Massachusetts Department of Conservation and Recreation, Buzzards Bay Project, and the Dartmouth Natural Resources Trust.

“We’re pleased to have had this opportunity to join with Mass Audubon to restore this important salt marsh in the Allens Pond Wildlife Sanctuary,” said Cecil B. Currin, NRCS State Conservationist for Massachusetts. “Without the commitment of Mass Audubon and the generous support of all the partners, this project could not have happened.”

Salt marshes are transitional areas between land and water along the shore of estuaries. Subjected to the daily rise and fall of the sea, the salt marsh environment is constantly moving and changing. In salt

marshes, incoming fresh-water from rivers, streams, and wetlands mix with the tidal saltwater resulting in frequent and rapid changes in salinity, temperature, and water depth within the marsh system.

Many salt marshes have been impacted by human activities. Bridges and culverts installed to allow movement of tidal waters are often too small to allow full tidal flows necessary to maintain natural salt marsh vegetation.

Salt marshes provide habitat and protected nursery areas for juvenile fish, shellfish, crustaceans, and small mammals. Salt marshes also act as filters for pollutants and provide a buffer for coastal storms, reducing the impacts of flooding and erosion to the coastline.

WHIP is a voluntary conservation program of the U.S. Department of Agriculture that provides technical and financial assistance to landowners for developing, improving or managing wildlife habitat or for restoring natural ecosystems on eligible land. ☞



Egrets at the Allens Pond salt marsh

Photographs courtesy of the Massachusetts Audubon Society.