US Army Corps of Engineers
New England District

Project Information Sheet

Bird Island
Aquatic Habitat Restoration Project
Marion, Massachusetts

November 2013 696 Virginia Road, Concord Massachusetts, 01742-2751

1. Project: Bird Island, Aquatic Ecosystem Restoration, Section 206 Water Resources Development Act of 1996 (PL 104-303).

2. Location of Project: Bird Island is a three-acre island located in Buzzards Bay in Marion, Massachusetts, southwest of Butler's Point at the entrance of Outer Sippican Harbor. The project also involves marsh restoration proposed in Apponagansett Bay, Dartmouth, MA.

3. Project Description: The goal of this project is to restore Bird Island to a habitat favorable for nesting roseate terns and common terns. The roseate tern is a migratory seabird with a range restricted to the immediate coast. The northeastern population of the roseate tern is listed as endangered at both the Federal and State levels of jurisdiction. In Massachusetts, the roseate tern generally nests on sandy, gravelly, or rocky islands.

   The roseate tern habitat on Bird Island is deteriorating due to wave action and submergence during storm events. Storm damage has eroded the shoreline and over one-half acre of the island, lowering the ground elevation and changing the ground surface from gravel and sand to salt marsh and salt pannes. Since sand and gravel materials on dry ground provide favorable tern habitat, this erosion has reduced the area suitable for tern nesting.

   The island has approximately 1,250 feet of shoreline, with 1,100 feet of intertidal shoreline lined by rock revetment. The revetment, constructed in the mid-1800's, has deteriorated from storm damage along the southern and eastern sides. The northern shore of the island is minimally armored and consists of a gravelly/sandy beach and intertidal spit.

   The project includes replacement of the eastern and southern portion of the revetment in approximately the same location as the existing damaged revetment, and enhancement of the western and northwestern portions to provide better wave protection. The top of the revetment will be increased by several feet to approximately 9.5 feet above MLLW. Sand and gravel will be transported to the island and placed as fill on low areas to up to 10 feet above MLLW. The top elevation of the island is 10 feet above MLLW, in the center of the island, which is the location of a functioning historic lighthouse.

   The project also includes restoration of one or more tidal marsh sites in Massachusetts to offset loss of approximately 0.6 acre of tidal marsh to be filled on the island and converted to nesting ground. A proposed restoration site is located in Apponagansett Bay in Dartmouth, MA. This proposal involves removal of a portion

of the fill from an abandoned cart path across a portion of the marsh and tidal channel. The fill material covers approximately 0.3 acres of marsh and restricts tidal flow in the upper portions of the bay. The upper fringes of the bay have been invaded by Phragmites, possibly due to the tidal restriction reducing tidal exchange and salinity. The fill removal would restore the tidal range in portions of the marsh, inhibit phragmites encroachment, and restore intertidal channel habitat.

4. Sponsor: The Massachusetts Executive Office of Environmental Affairs is the project sponsor.

5. Important Effects: Bird Island provides critical nesting habitat for roseate terns (*Sterna dougallii*) and common terns (*Sterna hirundo*). Bird Island supports 22% of the Northeast population of roseate terns. Historically, islands in Buzzards Bay and Nantucket Sound have been among the most important nesting sites of common terns and roseate terns in the United States. Between 1920 and 1972 other islands within Buzzards Bay were invaded by gulls, forcing the majority of the terns to Bird Island resulting in overcrowding conditions and subjecting the terns to potential catastrophic events, such as predation or disease. Additionally, coastal development has encroached on most breeding areas in southern New England. Bird Island is regarded as the most important of the Buzzard Bay islands because terns of both species have displayed a strong tendency to remain despite deteriorating conditions. If no action were taken to restore the island, the roseate tern population would be at risk and subject to catastrophic events, such as washover during the nesting season, predation or disease. Over time, continued exposure to erosive forces would reduce the size and quality of the habitat, reducing and eventually eliminating its capacity to support colony-nesting waterbirds.

6. Other: The project would stabilize the island and protect a historic stone and masonry lighthouse that is listed on the National Register of Historic Places and is maintained by the Bird Island Preservation Society.

7. Schedule: The project currently is in the design phase, with plans and specifications scheduled for completion in 2010. The Corps of Engineers completed a Feasibility Study in 2006.

8. Costs: The project is cost-shared between the U.S. Army Corps of Engineers and the Massachusetts Executive Office of Environmental Affairs. Project costs including the feasibility report, plans and specifications and construction are estimated at $4,300,000. This sum is cost-shared on a 65% (Federal), 35% (non-Federal) basis. The sponsor's share is about $1,500,000 (including lands, easements, and rights of way).

9. Other agencies that provided funding and other support to this project include: State and federal agencies, including the US Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife, and the Massachusetts Audubon Society strongly support restoration of tern nesting habitat on Bird Island.

Bird Island Lighthouse, with rock revetment along shoreline
Marion, Massachusetts

Sand Spit on northern end of Bird Island
Marion, Massachusetts

Abandoned cart path fill across upper Apponagansett Bay
Dartmouth, Massachusetts

Abandoned cart path fill across upper Apponagansett Bay
blocks intertidal channel and restricts tidal flow.
Dartmouth, Massachusetts