

District completes Bird Island Restoration project

By Ann Marie R. Harvie, USACE New England District

The New England District team recently completed a restoration project on an island in Buzzards Bay, Massachusetts that not only saved a valuable habitat for an endangered bird, but also restored a tidal marsh and reopened a tidal creek at a nearby location.

The Bird Island Restoration Project completion ceremony took place at the Marion Natural History Museum in Marion, Massachusetts, June 21. Larry Oliver, Chief, Evaluation Branch, Adam Burnett, Project Manager, and team member Judi Johnson represented the District. They joined the town of Marion, the Massachusetts Executive Office of Environmental Affairs, and the Massachusetts Department of Fish and Game at the event. Oliver praised the partnership between the agencies in getting the project done. "This is truly a collaborative effort and this vital restoration project would not be possible without the talents and dedication of all the individuals, agencies, and groups who supported this effort, especially the local sponsor, the Massachusetts Department of Fish and Game, Division of Fisheries and Wildlife," he said.

Bird Island is a small island, owned by the town of Marion, in Buzzard's Bay at the mouth of Sippican Harbor. It is less than a mile off the coast of Marion and is one of three significant breeding sites that support a majority of the population of federally protected and endangered roseate tern. "Bird Island alone supports 30-percent of the endangered northeastern population of roseate terns breeding and nesting each year," said Johnson.

According to Burnett, the roseate tern habitat on Bird Island has been deteriorating significantly due to wave action and submergence during storm events. Also in danger is a still-operating historic lighthouse. A 1,100-foot revetment construction in the mid-1800's has deteriorated from storm damage over the years with a 625-foot-long section reduced to piles of rubble.

"The centuries-old rock wall built to help protect the island and lighthouse was in poor condition, and coastal storms had been eroding away the vegetation and sand that roseate terns need for nesting," said Burnett.

Work to restore Bird Island consisted of constructing a new 1,100-foot boulder revetment extending 9.5 feet above mean lower low water using approximately 14,000 tons of armor stone. Work also included using 9,000 tons of specially formulated bird habitat fill, composed of sand, gravel, and cobbles, and revegetating the island with over 12,000 native plants to restore nesting grounds. Restoration of the island will also protect the historic lighthouse.

Because wetlands were filled on Bird Island as part of the restoration process, the project required mitigation work. There was not sufficient space to replace the salt marsh on the island, so the project team selected a nearby alternative location. The project at the Apponagansett Bay in Dartmouth, Massachusetts, involved restoring a tidal marsh and reopening a tidal channel. "This restoration work was completed in 2016 by the Corps, involving the excavation and removal of old roadbed fill across tidal marsh and planting of native marsh grass," said Burnett.

"The project involved reopening the historic tidal channel, returning tidal flushing to the marsh, and then restoring the salt marsh resource area," said Johnson.

According to Burnett, the tidal channel opening will restore both the intertidal and sub-tidal channel habitats in the upper portion of the basin.

The Bird Island Restoration Project took about a decade to complete. According to Oliver, the Corps joined in the study in 2002 at the request of the Massachusetts Executive Office of Environmental Affairs. In 2006, the District completed a feasibility study under the Corps Section 206 Aquatic Ecosystem Restoration Program that recommended a plan to restore and protect roseate tern nesting habitat. Through a detailed project report and environmental assessment, the agency recommended reconstructing the revetment around the island and restoring substrates over the island surface for tern nesting. "The Corps

and the Massachusetts Department of Fish and Game executed a project partnership agreement on June 30, 2011 to complete the design and construction,” he said.

In 2015 the District completed the project designs and then awarded a construction contract in September 2015. Construction on the island started in December 2015. Cashman Dredging and Marine Contracting Co., LLC of Quincy, Massachusetts received the award for the \$3.6 million construction contract.

The entire project cost is \$5.1 million, which was cost-shared between the District and the sponsor. The federal government contributed 65-percent of the project costs and oversaw the contract. The Commonwealth of Massachusetts contributed 35-percent of total project costs.

The work on Bird Island is already seeing results. “Now in June of 2017, after two construction seasons, we accomplished the goal of a restored and protected island habitat for both roseate terns and common terns,” said Burnett. “As of this spring, we are seeing thousands of terns re-establishing the breeding and nesting habitat on Bird Island, with chicks already emerging,” he said.

“It’s not often that we are able to see the benefits of a project so quickly after completing construction,” said Burnett. “The habitat restoration should continue to benefit this endangered species long into the future.”