



An integrated living shoreline and stormwater retrofit project was constructed in Dewey Beach to improve water quality and mitigate flooding.

Project Summary

Background

The Town of Dewey Beach's low elevation and high percentage of land covered by pavement, buildings, and other impervious surfaces make it particularly vulnerable to impacts from coastal storms and sea level rise. With a large, 30-acre drainage area, combined with undersized and aging stormwater infrastructure, Read Avenue experiences some of the worst flooding in the town. Polluted runoff flows largely untreated into Rehoboth Bay, and much of the tidal wetlands on the bayside shoreline have disappeared.

Project Description

The living shoreline design includes a 3.5-foot dune to control flooding, a nature-based retrofit of an existing rip-rap revetment, restored salt marsh, and an offshore oyster shell reef. Also included are three new stormwater outfall pipes fitted with "tide gates," which are one-way valves that prevent bay water from flowing up into the drainage system during high tides. A new stabilized kayak launch allows park visitors to access Rehoboth Bay without disturbing the dune and restored wetlands.

Objective

The project reduced chronic flooding, created natural shoreline habitat for fish and wildlife, restored 1,750 square feet of tidal wetlands, and reduced nutrient pollution to the Inland Bays by 15 pounds of nitrogen and 9 pounds of phosphorus each year. It also serves as a living shoreline demonstration project for the Inland Bays.

Integrated Living Shoreline and Stormwater Retrofit at Read Avenue, Dewey Beach

Project Status:
Completed in April 2020

Project Contact:

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Coordinator
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Project Partner(s):

- Town of Dewey Beach
- Delaware Department of Transportation (DelDOT)

Funding Partners:

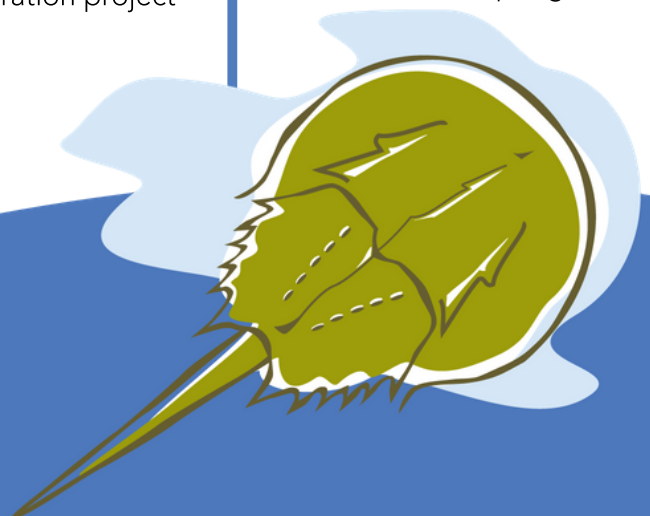
- DNREC Community Water Quality Improvement Grant
- Town of Dewey Beach
- DelDOT
- DNREC Nonpoint Source Program
- U.S. Environmental Protection Agency

Contractor(s):

- RK&K; Sovereign Consulting Inc. – Design
- Brightfields, Inc. – Construction

Project Timeline:

Design and permitting began in 2017, with construction completed in late 2019; plants were installed in spring 2020.





Staff and volunteers helped plant marsh and dune grasses at the Read Avenue living shoreline site.

“This living shoreline really has made a major difference for the town as a whole, and particularly for the people who live on Read Avenue. We couldn’t have done this without the Center for the Inland Bays.”

-Dale Cooke, Mayor, Dewey Beach

CCMP Focus Area

This project fulfills objectives outlined in the Comprehensive Conservation Management Plan (CCMP) for the Delaware Inland Bays.

- Focus Area: Managing Living Resources and Their Habitat
- Objective: Halt the continued loss of wetlands and reverse loss trends by promoting projects to mitigate for previously lost wetlands.

Project Highlights

- This is the first project to be implemented from the Town of Dewey Beach’s stormwater master plan.
- An innovative aspect of this living shoreline is the use of HESCO flood barrier boxes to serve as a stable spine for the low dune. These are collapsible, wire mesh containers lined with heavy duty fabric, filled with sand, and planted with beach grasses.



An aerial view of the completed project shows the living shoreline, offshore oyster shell reef, kayak launch, and stormwater retrofits at the end of Read Avenue at Rehoboth Bay.



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The Delaware Center for the Inland Bays is a nonprofit organization established in 1994 to promote the wise use and enhancement of the Inland Bays and its watershed. With its many partners, the Center conducts public outreach and education, develops and implements restoration projects, encourages scientific inquiry and sponsors research. To learn how you can get on board with the bays, please visit www.inlandbays.org and follow us on Facebook @deinlandbays!