

# Stormwater Management to Improve Water Quality in the Three Bays

*A project funded by the Massachusetts Office of Coastal Zone Management (CZM) and the Environmental Protection Agency's Southeast New England Program (SNEP) through a collaboration with Restore America's Estuaries*

## **The Problem:**

The Three Bays watershed in Barnstable, MA is severely degraded by nitrogen and bacteria resulting in poor water quality, degraded habitat, and closures of beaches and shellfish areas.

*Stormwater runoff and fertilizer use contribute 23.4% of controllable nitrogen entering the bays!*

Excess nitrogen leads to algal blooms that deplete oxygen and can cause fish kills and harm to other animals, not to mention impacting the aesthetics of this beautiful coastal area. Bacterial contamination regularly causes shellfishing closures and presents hazards to swimmers and beachgoers. Eelgrass, an important aquatic plant, has been lost throughout the bays and benthic communities (the group of organisms living at the bottom) are being negatively impacted.



The Three Bays system has been identified as a high threat level embayment in the Section 208 Area-wide Water Quality Wastewater Management Plan Update and it is a top priority for the town. This network of enclosed bays lies in a densely populated area popular for boating, recreation, and shellfishing.

*Improving water quality will provide a net benefit to the ecosystem and the community!*



## **The Solution:**

Throughout the Three Bays area, there will be careful assessment of numerous locations where stormwater directly empties into the bays. The sites will be prioritized based on design options, permitting and construction considerations, and the ability to remove the greatest amount of pollution. As a result, six or more stormwater treatment systems will be installed to capture and treat stormwater. These systems will emphasize use of innovative “green” technology to maximize removal of target pollutants like nitrogen and bacteria and improve the water quality in the bays.

*We need your help to make this project a success!*

Take a tour of existing stormwater systems to learn more about stormwater management, join us for a demonstration rain garden workshop, or volunteer to assist with maintenance and monitoring to improve the functioning of these systems. Join us at public meetings to learn more about what you can do to reduce your contribution to the pollution and help provide input and support for this project.

**Schedule:** This project will run from October 2016 through January 2021.

October 2016 – June 2018	Planning, design and permitting for Phase 1 sites
October 2018 – January 2019	Construction of Phase 1 stormwater treatment systems
Sept 2018 – January 2020	Planning, design and permitting for Phase 2 sites
March – May 2020	Construction of Phase 2 stormwater treatment systems
Ongoing	Community outreach and water quality monitoring

**Getting Involved:** Join us for the following meetings and events.

April, August 2017 and February, June, July 2018	Phase 1 Public Meetings: Input on Project Sites and Design
June 2017	Rain Garden Workshop and Installation
February, August 2019	Phase 2 Public Meetings: Input on Project Sites and Design
Fall 2017, Spring 2019/2020	Maintenance training workshops
2019-2020	Eco-Landscape Lecture Series and Green your Yard Program
Ongoing	Self-Guided Walking Tour - Cotuit Village Stormwater

**Benefits:**

The goal of this project is to improve water quality in the Three Bays by reducing pollution from stormwater runoff and fertilizer use. This will improve water quality, improve habitat for shellfish, fish and wildlife, and restore the area for human uses including shellfishing, fishing, and swimming.

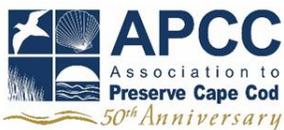
This project will also enhance the capacity of the Town to manage stormwater runoff in the Three Bays and establish a sustainable approach for maintenance and monitoring of these new stormwater treatment systems. Through your contribution this project will build regional capacity and support for ongoing action to reduce nutrient inputs into our water and the impacts of development upon our coastal watersheds.



**Cost:** Total project cost is \$1,790,874. The SNEP and CZM have awarded the project \$1,490,874 in grant funds and the project team is providing an estimated \$300,000 in match.

**Project Team:**

The Association to Preserve Cape Cod’s Restoration Coordination Center, Town of Barnstable Department of Public Works, Barnstable Clean Water Coalition, Horsley Witten Group and Barnstable Land Trust. For more information email [awobst@apcc.org](mailto:awobst@apcc.org) or go to [www.apcc.org/threebays](http://www.apcc.org/threebays).



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