

# Watershed Planning Across Boundaries in New Hampshire

## Project Location

Great Bay National Estuarine Research Reserve, New Hampshire

## Project Lead

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## Targeted End Users and Products

- *Project final report*
- *Draft Nitrogen Control Plan, Schedule and Financing Estimate for Exeter, Stratham, and Newfields*
- *Map of sampling sites*

## Project Partners

- *Great Bay Reserve*
- *Consensus Building Institute*
- *Geosyntec Consultants*
- *New Hampshire Department of Environmental Services*
- *Rockingham Planning Commission*
- *Southeast Watershed Alliance*
- *Town of Exeter*
- *Town of Stratham*
- *U.S. Environmental Protection Agency*
- *University of New Hampshire*

### About the Science Collaborative

The National Estuarine Research Reserve System's Science Collaborative supports collaborative research that addresses coastal management problems important to the reserves. Learn more at [www.nerrs.noaa.gov](http://www.nerrs.noaa.gov).

## Overview

Population growth in New Hampshire's coastal communities is straining municipal stormwater and wastewater infrastructure and placing water quality and public health at risk. At the same time, communities are being called on to respond to new, more stringent permit requirements for discharging stormwater and wastewater from treatment plants. The Great Bay reserve worked with an interdisciplinary team of scientists, coastal managers, and environmental consultants and three communities to create an innovative watershed-wide plan for stormwater and wastewater management to improve water quality and support the area's economic viability.

## Project Benefits

- The communities quantified the economic and performance advantages of inter-municipal collaboration and the integration of water resource planning. As a result, they will be able to target scarce financial resources where they will have the greatest social and environmental benefits.
- Municipal officials are using the project's integrated planning approach to coordinate stormwater and wastewater management and comply with Clean Water Act requirements. This project laid the groundwork for a regional water quality monitoring effort, co-funded by municipal, state, and federal agencies.
- Developed a regional monitoring plan that allows communities to demonstrate sewage and storm water regulatory compliance and track the effectiveness of these water management actions over time.

## Project Approach

An interdisciplinary team from the Great Bay reserve, Geosyntec Consultants, and the University of New Hampshire partnered with three coastal communities to develop an integrated plan for stormwater and wastewater management.

## Project Approach (continued)

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- Stakeholder Engagement: The project engaged local stakeholders to identify and prioritize the best approaches for managing water quality and climate impacts within and across municipal boundaries.
- Model Development: The project team used the U.S. Environmental Protection Agency's Storm Water Management Model to develop a model to predict annual stormwater runoff pollutant loads and estimate the benefits of developing green infrastructure practices to improve water quality.
- Agency collaboration: The project team worked with state and federal environmental regulatory agencies to develop a monitoring plan that communities can use to demonstrate compliance with stormwater and wastewater management requirements, determine the effectiveness of management actions, and support and guide management decisions in an adaptive manner.

