



EarthWatch Rhode Island



Topic: Improving Rhode Island's Water Quality

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Rhode Island enjoys an abundance of water resources that support vital uses such as drinking water, recreation, habitat and commerce, among others. The state has approximately 1,498 miles of rivers, 20,917 acres of lakes and ponds, and approximately 15,500 acres of freshwater swamps, marshes, bogs and fens as well as close to 72,000 acres of forested wetlands. Estuaries, including Narragansett Bay and the coastal ponds, cover 156 square miles. Underlying the state are 22 major aquifers as well as usable quantities of groundwater in almost all other locations from the bedrock aquifers.

Protecting our water resources is crucial to the viability of drinking water supplies, the state's multi-million dollar shellfish industry and recreational uses that are a magnet for residents and the tourism industry. While the state has made significant progress to improve water quality in the last decade, there are still 161 bodies of water that fail to meet one or more water quality standards for fishing, swimming and human consumption..

To address these polluted waters, the Department of Environmental Management develops water quality restoration plans, officially known as Total Maximum Daily Loads or TMDL's, for all water bodies that do not meet water quality standards. A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards. Through the TMDL development process, water quality conditions are more thoroughly characterized and pollution sources identified providing the technical basis for the pollution abatement actions specified in the water quality restoration plans.

So far, the Department has completed water quality restoration plans for 42 waterbodies and is in the process of completing plans for another 25 waterbodies – including the Blackstone River, Woonasquatucket River, Mt. Hope Bay, Pt. Judith Pond and many of the state's freshwater ponds . Each plan takes approximately two years of fieldwork and analysis, during which DEM works with local communities and



Heidi Travers, a Senior Sanitary Engineer at the RIDEM collects a water sample near one of the pipes that empties in Pawcatuck River.

partners to find the pollution sources and determine how to fix them.

As an example, DEM is currently participating in a multi-agency study to characterize bacteria problems in the Pawcatuck River between Westerly, Rhode Island and Stonington, Connecticut. The River drains into what is known as Little Narragansett Bay near Watch Hill. Both Rhode Island and Connecticut have placed these water bodies on their state's list of impaired waters. Elevated bacteria levels prevent or restrict shellfish harvesting in most areas and may, at times, prevent safe swimming under certain conditions.

During the week-long study, staff from RIDEM, Connecticut Environmental Protection, the US Food and Drug Administration (FDA), and the US Environmental Protection Agency (EPA) identified all potential bacteria sources along a 5-mile stretch of the River



DEM engineers, Skip Viator (left) and Heidi Travers (right) travel along the Pawcatuck River in Westerly to find areas to test water samples.

to Napatree Point in Little Narragansett Bay. Staff will collect water samples from each source as well as along the shoreline and at other points in the River. The samples will be analyzed for fecal coliform bacteria. Sources with elevated levels of bacteria are re-sampled to ensure accuracy.

The pollution problems and the solutions differ from location to location. The main pollutants impairing waters of the

state are nutrients, (nitrogen and phosphorus), pathogens (bacteria) and toxics. The pollution comes from a

variety of sources, including sewer and septic systems and stormwater runoff, especially where construction is underway, fertilizers are being used, or animal, including pet waste accumulates.

DEM works with partners to develop the water quality restoration plans and identify necessary pollution abatement actions, however much of the responsibility of implementing the TMDLs falls upon municipalities – with the most costly pollution control actions being upgrades to municipal wastewater treatment facilities and stormwater treatment systems. Private property owners also have a role to play in restoring the state's waters -. In addition, watershed councils and other non-profit organizations play a vital role in gaining popular support by educating the public as to the need for the various corrective actions and in implementing these water quality initiatives.

Many of the problems come from our daily activities at home, work and school. The solutions will come from many of us making small changes in our daily routines. DEM offers a brochure, *10 Simple Things You Can Do To Help Clean Rhode Island Waters*, which encourages Rhode Islanders to:

- Learn about their local waters and water quality
- Refrain from feeding ducks and other waterfowl
- Pick up pet waste
- Inspect septic systems to ensure that they are working properly and connect to sewer lines if they are available
- Avoid over-fertilizing
- Minimize the use of hazardous products

The brochure is available on the DEM website at www.dem.ri.gov or by calling the DEM Office of Water Resources at 222-6800.

Interviews:

Elizabeth Scott, DEM, Deputy Chief of Water Quality and Standards provided background on the state of the state's waters and detailed information on the Pawcatuck River study and WQRP.

Heidi Travers, DEM, Senior Sanitary Engineer demonstrated evaluation and testing procedures



Channel 10's Lisa Purcell interviews DEM's Elizabeth Scott.