

Narragansett Bay Commission Water Quality Monitoring Initiatives

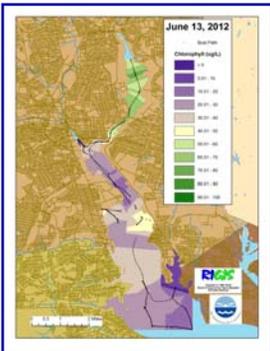
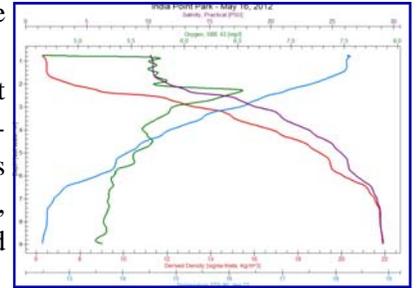
The Narragansett Bay Commission's (NBC) water quality program includes the monitoring initiatives listed below.



The information and data for each of these programs is available at: <http://snapshot.narrabay.com>.

Fixed Site Water Quality Monitoring: The NBC maintains two of the ten water quality stations in Narragansett Bay. Sensors at Phillipsdale Landing and Bullocks Reach record temperature, salinity, dissolved oxygen, pH, chlorophyll a, and water clarity. Data from the stations are updated on the website every hour, providing near real-time conditions of water quality in the Providence and Seekonk Rivers.

Water Column Profiles: The NBC collects water quality profiles at six locations throughout the upper Bay. These profiles provide a cross-sectional view of the structure of the water column and aid in assessing when the water is stratified and/or at risk for hypoxic conditions. The parameters collected include depth, density, temperature, salinity, dissolved oxygen, and photosynthetically active radiation (PAR).



Surface Mapping: The NBC employs state-of-the-art equipment to automatically map surface water quality while their vessel, R/V *Monitor*, is underway. The benefit of this monitoring is the ability to document surface water quality over a large area while traveling between the NBC monitoring stations. Parameters measured include temperature, salinity, dissolved oxygen, pH, and chlorophyll a.

Water Clarity: The NBC collects water clarity samples at six locations throughout the upper Bay, utilizing both the Secchi disk as well as a PAR meter. Clear water is important so that ample sunlight is available for the aquatic plants, algae, and phytoplankton living in Narragansett Bay.

Pathogen Monitoring: The NBC collects bi-weekly bacteria samples at twenty stations throughout the upper Bay, and weekly samples at 23 stations in the urban rivers. This sampling determines if the water quality is suitable for swimming and shellfishing. All samples are analyzed for fecal coliform and 25% are selected to be analyzed for enterococcus.



Nutrient Monitoring: The NBC samples for various nutrient parameters twice a month at six upper Bay stations and 15 river stations. Several stations are located at the state border to determine what is coming in from outside the state. Nutrients are essential for all plant life, but water quality can be negatively impacted when nutrient concentrations become too high. Parameters monitored include nitrite, nitrate, ammonia, total dissolved nitrogen, total nitrogen, total organic carbon, orthophosphate, and silicate.



Plankton Monitoring: The NBC collects phytoplankton samples on a bi-weekly basis at the Bullock's Reach station. Samples are analyzed to document the presence and number of various groups of phytoplankton present in the sample. Since phytoplankton are the base of the food chain, they are very important to the health of the Bay.

Benthic Video Monitoring: Over the summer months, the NBC collects video footage of the bottom waters of the upper Bay to track potential changes in the benthic habitat as nitrogen loading to the Bay is reduced by WWTFs. An underwater camera is attached to a specialized sled, which collects video as the NBC's boat transects areas of the Bay. The NBC targets the Edgewood Shoals area, as well as the Bullock's Reach and Shawomet areas of the upper Bay for these surveys.



For further information, please contact the NBC at:
(401) 461-8848 ext. 261 or emda@narrabay.com

Visit the NBC's websites – www.narrabay.com & <http://snapshot.narrabay.com/app/>

for information on all Narragansett Bay Commission news, as well as to download NBC water quality data