

WATER QUALITY

Addressed by 11 management objectives, 37 action plans

A core function of PREP and each National Estuary Program (NEP) is the improvement and protection of water quality in estuaries of national significance. The NEP relies on a watershed-based approach to address water quality issues and protect estuarine ecosystems, upstream freshwater systems, and uplands within estuarine watersheds. Therefore, efforts to maintain or restore water quality are prominent throughout the Piscataqua Region CCMP.

Like many coastal watersheds along the Eastern Seaboard, Piscataqua Region watersheds are significantly impacted by land use. Primary water quality issues affecting the watershed are:

- Nutrients (nitrogen and others)
- Sedimentation and Water Clarity
- Bacteria
- Salt from road de-icing
- Low levels of dissolved oxygen
- Toxic contaminants, especially mercury and polycyclic aromatic hydrocarbons (PAHs)
- Hazardous constituents in groundwater

Contaminants enter streams, rivers and estuaries via a number of pathways originating from both point and nonpoint sources. Wastewater treatment plant effluent, other National Pollutant Discharge Elimination System (NPDES) discharges, septic systems, and illicit discharges introduce



The quality of water in an estuary depends greatly on the environmental health of its headwaters.

nutrients, bacteria, pathogens, and household chemicals to surface and groundwater. Stormwater runoff from developed areas carries nutrients, sediment, bacteria, road salt, rubbish, petroleum compounds, fertilizers, and pesticides. Agricultural runoff can carry bacteria, nutrients, agricultural chemicals, and sediment. Groundwater contaminated by septic system discharges, petroleum spills, and hazardous materials may also enter streams and rivers.

Low-impact land development approaches, stormwater treatment and management, and improved wastewater treatment can all benefit water quality. Hard to manage but important to improving water quality are the practices of individual homeowners and businesses, especially those located near or adjacent to streams, rivers, and shoreland.

Improving water quality in the Region requires a broad range of activities such as,

- Establishing Region-wide cooperation to improve nutrient management
- Expanding stormwater management and treatment
- Enhancing nutrient removal at wastewater treatment plant and nonpoint sources
- Researching sediment sources and erosion control methods
- Restoring and protecting shoreland and riparian buffers to sequester nutrients, mitigate thermal range, and minimize erosion and sedimentation
- Adopting improved septic system design and maintenance standards
- Detecting and eliminating illicit discharges to surface waters
- Improving identification and elimination of bacterial sources to shellfish areas and beaches
- Improving household hazardous waste disposal practices
- Training and licensing de-icing chemical applicators and landscape contractors
- Improving landscape scale water supply protection

“WATER QUALITY, AN IMPORTANT INDICATOR OF ENVIRONMENTAL HEALTH, HAS A PROFOUND INFLUENCE ON THE CONDITION OF NEARLY ALL ESTUARINE HABITATS, PLANTS AND ANIMALS.”

- NEW HAMPSHIRE ESTUARIES PROJECT MANAGEMENT PLAN, 2000