Water Quality

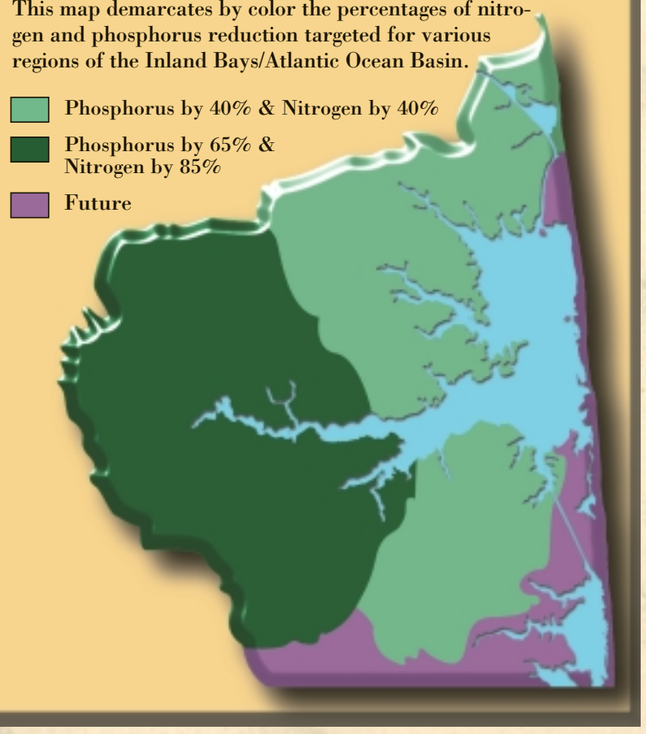
The Inland Bays/Atlantic Ocean Basin's many streams, wetlands, and tidal rivers and bays support a diversity of fish and wildlife and provide abundant recreational opportunities. Delaware's Inland Bays are the crown jewel of an exceptional beach recreational industry that draws thousands of visitors to enjoy the sun, sand, water, and natural resources of Rehoboth, Indian River, and Little Assawoman bays.

As recently as 1975, Delaware routinely experienced serious water pollution and public health problems as a result of the discharge of untreated sewage. Since then, localized improvements in water quality have been achieved through voluntary efforts, regulatory actions, and significant private and public investments in wastewater treatment facilities. However, the need for additional cleanup and pollution prevention continues.

The focus of water-quality management has expanded from point source discharges to decreased stream flows and *nonpoint source* problems such as urban and agricultural runoff, erosion, and sedimentation. Unaddressed, these problems lead to poor habitat conditions for fish and other aquatic life, diminished enjoyment of bay waters for recreation, and unhealthy conditions.

Inland Bays/Atlantic Ocean Basin Waters Targeted for Nutrient Reduction

This map demarcates by color the percentages of nitrogen and phosphorus reduction targeted for various regions of the Inland Bays/Atlantic Ocean Basin.



Water Resources Issues

A number of water resource issues have arisen in the Inland Bays/Atlantic Ocean Basin over the past several years, from how to address habitat loss, to concerns about toxic outbreaks of *Pfiesteria*.

The Inland Bays are suffering from excessive nutrients (eutrophication) that cause unwanted algal blooms, including *Pfiesteria* and red and brown tides. The algal blooms block sunlight from reaching the bottom of the bays and cause the level of dissolved oxygen to decrease.

Excess nutrients in some estuaries are believed to help trigger the toxic form of Pfiesteria, which attacks bait fish.

These changes in environmental quality have led to fish kills, loss of desirable submerged aquatic vegetation (SAV) or sea grasses, and declines in desirable finfish and shellfish habitat.

In the past two decades, a marked resurgence of sea grass has occurred in Delmarva's coastal bays with the exception of Delaware's Inland Bays. Recent attempts to reestablish eelgrass in the Inland Bays have been plagued by excessive algal growth, hurricanes, and human impacts. However, one recent success in the reproduction and establishment of viable eelgrass beds has occurred in Indian River Inlet, where ocean-influenced water quality is sufficient to support growth.

Excess nutrients in the Inland Bays have helped fuel the overgrowth of certain kinds of aquatic vegetation such as sea lettuce.

A preliminary assessment of water-quality data, completed in 1999 for the Inland Bays Basin, confirmed a decline in water quality. The study characterized the existing water quality conditions of the basin and identified potential problems. These problems include excessive nutrient levels, declining trends of some key water-quality indicators such as dissolved oxygen, and frequent violations of water-quality standards.

Delaware will continue to focus on point source and nonpoint source pollution problems such as urban and agricultural runoff, erosion and sedimentation, and ground-water contamination. The Department has adopted *Total Maximum Daily Load* (TMDL) regulations for nitrogen and phosphorus for Indian River, Indian River Bay, and Rehoboth Bay, which set watershed-wide pollution reduction targets. Pollution control strategies are being developed to help reach these targets. Additional research and assessment efforts will be necessary to better understand how this complex aquatic system responds to certain pollutants.

Recreational Shellfish Waters

Location	Prohibited	Total
Rehoboth Bay	2,470.1 acres	9,994.7 acres
Indian River Bay	4,145.0 acres	9,957.2 acres
Little Assawoman Bay	933.7 acres	2,277.2 acres

"When is a waterway really 'wild'? When it runs clear and pure and is filled with life, or when life itself runs away from its embrace? Mother Earth and her two-leggeds are three-quarters water; even our salt content is the same. We are like her because we come from her. What we do to her, we do to ourselves. We two-leggeds must control our appetites and actions before all of Mother's waters are rendered wild."

— Charles Clark IV
Assistant Chief, Nanticoke Indian Tribe