NITROGEN MANAGEMENT CONSORTIUM

Recovery of seagrasses in Tampa Bay to levels observed in 1950 is a long-term goal adopted by the Tampa Bay Estuary Program partners. Nitrogen controls from wastewater treatment plants, stormwater treatment, fertilizer manufacturers, and power plants participating in the Tampa Bay Nitrogen Management Consortium resulted in a 60 percent TN load reduction compared to the mid-1970s. As a result, water quality targets are being met and bay-wide seagrass coverage in 2006 was the highest recorded since 1950.

THE NATIONAL ESTUARY PROGRAM IN ACTION

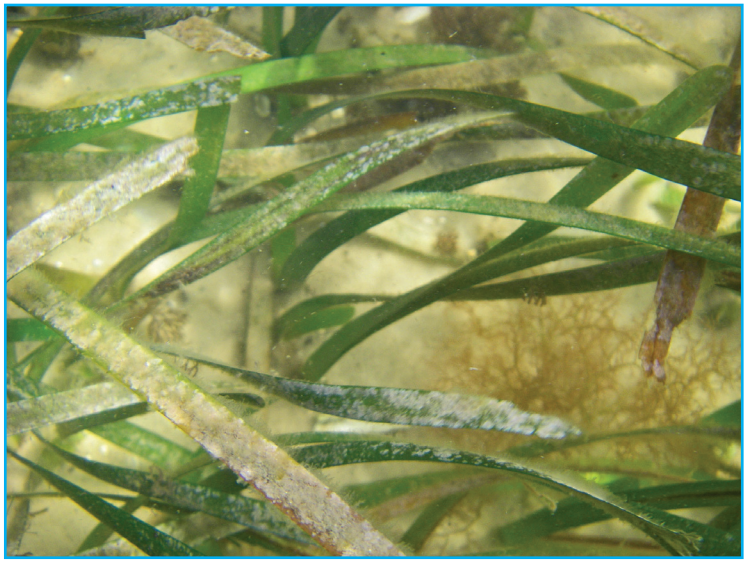
Tampa Bay Estuary Program

TBEP is working with local governments and industries to reduce nitrogen loadings via a Clean Water Act regulatory requirement called a Total Maximum Daily Load (TMDL). This complex process is being coordinated by the TBEP through its Nitrogen Management Consortium, an innovative public-private partnership whose members include Tampa, St. Petersburg, and other local governments, along with key industries bordering the bay, such as electric utilities, fertilizer manufacturers, and agricultural operations.

Over the past decade, the landmark efforts of the Nitrogen Management Consortium have reduced nitrogen flowing into the bay by more than 400 tons even as the region's population grew by nearly a million people. This management success was accomplished through the completion of more than 250 projects to reduce nitrogen discharges to the bay, from sweeping streets to constructing regional stormwater treatment facilities to restoring wetlands that filter pollutants naturally.

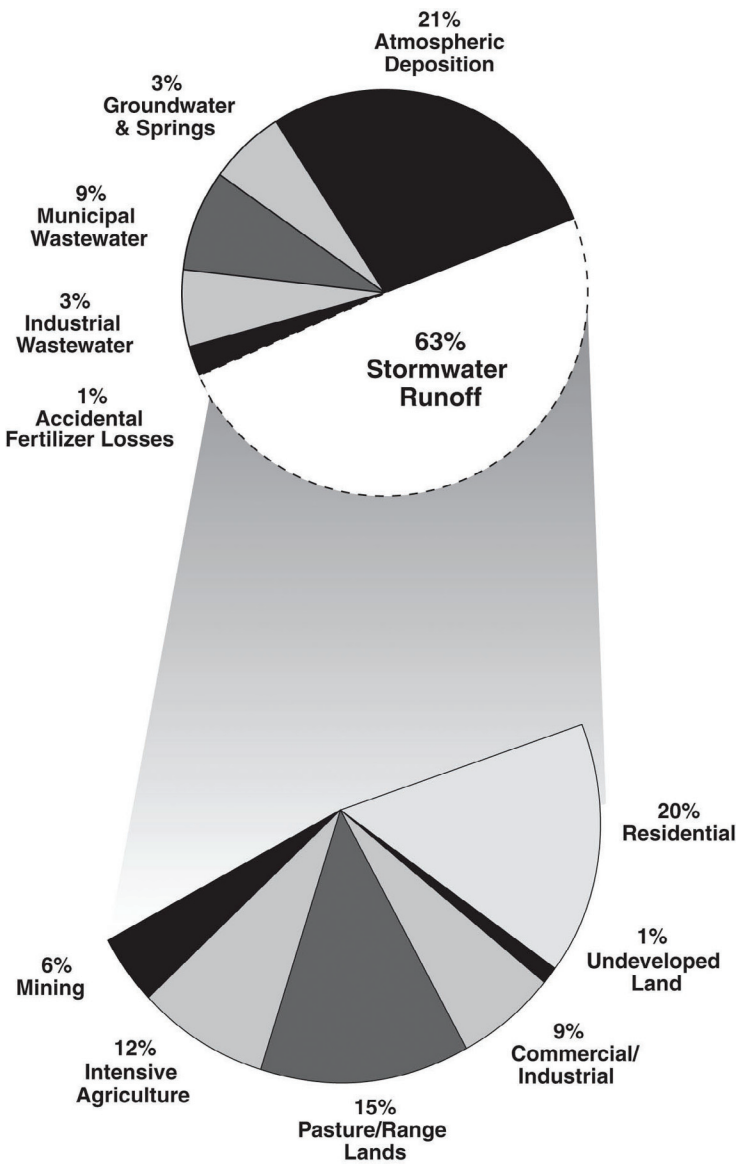
As a result, water quality in Tampa Bay has steadily improved. For the past three years, water clarity goals were met in all major bay segments for the first time since record-keeping began in 1974. Life-sustaining seagrasses, a key barometer of the bay's health, continue to recover at an average rate of 400 acres a year. In fact, these are the highest observed seagrass acreage estimates since 1950 – and a 6,000-acre increase since the 1980s.

Previously, the Consortium's initiatives have been voluntary, but meeting the new state and Federal nitrogen limits will require firm commitments from the Consortium partners. A major focus of the new nitrogen management strategy will be allocating nitrogen loads for major point and non-point sources. TBEP and the Consortium have traditionally focused on overall loadings and worked as a partnership to ensure that nitrogen loadings in each bay segment do not exceed average levels measured in 1992-1994. Under Federal regulations, however, cumulative permitted point source loads cannot exceed maximum allowed levels. The Consortium's strategy will determine what share of the nitrogen



Turtle Grass – one of three types of seagrasses found in Tampa Bay. Photo Credit: Lindsay Cross

Sources of Nitrogen in Tampa Bay



NITROGEN REDUCTION PROJECT:

Tampa Electric Company's TECO Big Bend facility on the southeastern shore of Tampa Bay is one of the largest coal-burning power plants in Florida. Through agreements with the EPA and the Florida Department of Environmental Protection, TECO is installing air pollution control systems ("scrubbers") at four generating units at Big Bend to reduce nitrogen oxide emissions. The first of these scrubbers was installed in 2007, with an annual estimated NOx reduction of 3,142 tons per year, or 79.8 percent of the existing emissions. That translates into a projected 13.5% decrease in nitrogen deposition to Tampa Bay from just this unit in three years.

loads needed to meet the TMDL limits will be assumed by each local government as well as key industries such as fertilizer manufacturers and electric utilities.

The Consortium is working now to reallocate those permitted loads in a fair and equitable manner so that they meet the state and Federal standards. Basin-wide allocations were completed in 2008. The final allocation, including new permitted levels for individual sources that comply with EPA limits, must be completed by July 2009. The Consortium is a true example of adaptive management through a watershed approach to meet water quality goals. Further nitrogen reduction associated with seagrass recovery will remain challenging as population and development pressures increase in the region.

Visit **www.tbep.org** to learn more about this and other TBEP efforts.

EPA's National Estuary Program (NEP) is a unique and successful coastal watershed-based program established in 1987 under the Clean Water Act Amendments. The NEP involves the public and collaborates with partners to protect, restore, and maintain the water quality and ecological integrity of 28 estuaries of national significance located in 18 coastal states and Puerto Rico.

For more information about the NEP go to www.epa.gov/owow/estuaries.