



REDUCING NUTRIENT ENRICHMENT



Sarasota Bay spans two counties (Sarasota and Manatee) and is located on the southwest coast of Florida. The area—geologically formed by a chain of barrier islands separating the Bay from the Gulf of Mexico—includes nine municipalities and townships. At less than 150 square miles, the urbanized watersheds are considered relatively small.

Formerly dominated by sawgrass, marsh, and ponds, the watersheds were drained from 1920 through the 1940s for agricultural purposes and the drainage systems were later expanded for stormwater conveyance and waste disposal. By 1990, nitrogen pollution was estimated at 480 percent above pristine and seagrass had declined by 39 percent. By 1998, as macro and blue-green algal blooms persisted, particularly during the summer months, the Bay was listed as impaired for elevated nutrients caused primarily by ineffective wastewater treatment plants, septic tanks, and stormwater from the drainage network. It was discovered that wastewater treatment plants were operating at secondary levels or below (with limited nitrogen removal) and septic tanks were located in inappropriate areas, leading into adjacent waterways.

THE NATIONAL ESTUARY PROGRAM IN ACTION

Sarasota Bay Estuary Program

When developing its Comprehensive Conservation and Management Plan (CCMP), the Sarasota Bay Estuary Program (SBEP) called for the consolidation of small wastewater treatment plants, removal of septic tanks, upgrades of regional treatment plants to Advanced Wastewater Treatment (AWT) standards, and/or the removal of effluent discharge for alternative use. Although stormwater pollution is being addressed, a concentrated effort was made to reduce wastewater pollution, mainly by

proposing that all wastewater discharged to the Bay meet AWT standards of 3mg/l for TN and that all wastewater be reclaimed for alternative supply to reduce aquifer deterioration in southwest Florida. Specific actions SBEP partners took to implement the plan's policies to reduce excessive nutrient levels in the Sarasota Bay watersheds include:

- Manatee County spent \$40 million to establish and implement a no-discharge policy for

wastewater and to construct a reclaimed wastewater system for use in citrus and vegetable operations in eastern Manatee County.

- The City of Sarasota spent \$77 million to upgrade their wastewater treatment plant to AWT technology, provide sewer service to remaining septic areas in the city, and provide reused water to urban and agricultural operations.



EFFECTIVE



EFFICIENT



ADAPTIVE



COLLABORATIVE

- Sarasota County spent an estimated \$50 million to date to build a new regional wastewater treatment facility, provide sewer service to priority areas in the watershed, and consolidate remaining small package treatment plants to the regional facility.

The remaining municipalities were serviced by the larger operations that have resulted in major improvements in water quality. Wastewater loading to Sarasota Bay has been reduced by more than 85 percent as a result of the CCMP policy, and corresponding reductions in chlorophyll and total nitrogen concentrations in the Bay have occurred.

The Florida Department of Environmental Protection (FDEP) has established protective standards as an anti-degradation policy

under the Florida Impaired Waters Rule. SBEP and its partners continue to see improving trends in water quality. Water clarity has increased by .5 meters, with seagrass now growing to depths of 10 feet as total nitrogen concentrations continue to decline and seagrass coverage expands.

In fact, the increase in total seagrass acreage is at 96 percent of what it was in 1950—a total increase of 1,253 acres, and a conversion of patchy to 4,482 acres of continuous seagrass beds.

Equally impressive, in 2008, scallops have returned to portions of the Bay in significant numbers—the highest counts in the State of Florida. Implementation of the “Wastewater Treatment and Reclamation” Action Plan in the CCMP will be

successfully completed in 2015 with removal of the remaining small wastewater treatment plants and the hook-up of the remaining areas on septic systems in priority areas of Sarasota County.

As a result, Sarasota Bay proper has been proposed by FDEP for delisting as impaired for nutrients based on an extensive analysis of chlorophyll levels and sea-grass recovery.

Visit **www.sarasotabay.org** to learn more about this and other SBEP 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 wa-

ter 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.