

Sarasota County recognizes how important clean water resources, healthy streams, and safety from flooding are for residents, businesses, community leaders, and the local economy. As such, Sarasota County has embarked on a proactive approach to develop the proper science and community-based vision for formulating, evaluating, prioritizing, and implementing watershed management actions by implementing the Comprehensive Watershed Management Program. The goal of the program is to address water quality, water quantity, flooding, and natural resources in a holistic manner that is consistent with the Southwest Florida Water Management District's (SWFWMD) areas of responsibilities related to water resource management. Sarasota County has partnered with SWFWMD and tasked the team of Jones Edmunds and Janicki Environmental with developing Comprehensive Water Quality Management Plans for the Sarasota Bay, Roberts Bay North, Little Sarasota Bay, and Lemon Bay watersheds.

These Watershed Management Plans balance the goals of restoring natural systems, enhancing water quality, ensuring the sustainability of the water supply, and protecting against floods while expanding recreational and educational opportunities

What's the GOAL?

Water Quality
To protect and improve water quality from threats of erosion and freshwater diversions

Water Supply
To provide reliable and safe water to meet existing and future demands

Natural Systems
To protect wetlands and other natural communities and habitats

Flood Protection
To minimize flood damage to the population and property in developed areas while protecting the natural and beneficial functions of the surrounding landscape

Why Characterize the Watersheds?

Distinguishing the physical, biological, and chemical condition of a watershed serves to identify its problems and pollutant sources. This in turn provides a sound basis for developing effective management strategies to meet watershed goals.

The project team started each watershed characterization by obtaining existing information and data through a thorough literature search. The information and data compiled included:

- o Physical and natural features (e.g., Watershed boundaries, Hydrology, Topography, Soils, Climate, Habitat, Wildlife)
- o Land use and population characteristics (e.g., Land use and land cover, Existing management practices, Demographics)
- o Waterbody conditions (e.g., Water quality standards, TMDL reports, Source water assessments)

- o Pollutant sources (e.g., Point sources, Nonpoint sources)
- o Waterbody monitoring data (e.g., Water quality and flow, Biology, Geomorphology)

The Project team also visited sites throughout each watershed to do visual watershed assessments. Analyses of the information obtained from the literature search and watershed field trips enabled the project team to identify specific problems in each watershed, which is essential for determining watershed management needs.

Our economy depends on clean water. Closed beaches and contaminated creeks mean lost revenue for local businesses that serve tourists, fishermen, and recreationists.

Sarasota County's watersheds contain valuable upland and wetland areas that provide critical habitats for numerous species. The natural systems within these watersheds also provide flood control and water quality improvement benefits. The effects of urbanization have diminished the beneficial functions provided by the watershed's natural systems. Principal among these natural functions is controlling the timing and volume of freshwater flows to the estuary necessary to maintain proper salinities. Increased flows into the estuary have also resulted in increased pollution, including nutrient and sediment loads.

The main challenge to protecting water quality in the bays is to decrease the amount of stormwater runoff in order to limit the amount of freshwater, sediments, and nutrients entering the bay.

Freshwater flow patterns control physical, chemical, and biological conditions in the estuary. Freshwater flow patterns control physical, chemical, and biological conditions in the estuary. The productivity of the estuarine system is influenced by these changes. Inflow provides nutrients and sediments that are important for the overall productivity of the estuary. Nonetheless, too many sediments and nutrients and too much freshwater can cause algal blooms, anoxic (decreased oxygen in the water) conditions, and changes in the natural salinity of the estuary. These changes can overwhelm the system and can result in the loss of seagrasses and reduction in live oysters and fish.

Is there a PROBLEM?

One of the main challenges to protecting the water quality in the bays is to decrease the amount of stormwater runoff to limit the amount of freshwater, sediments, and nutrients entering the tributaries and bays.



How do we get targets?

The watershed team used watershed health indicators, such as chlorophyll, dissolved oxygen, seagrass, and oysters and worked with local, state, and federal agencies to establish appropriate water quality and habitat targets for each watershed.

- o Water Quality indicators are used to describe the condition of a waterbody. They can be physical, chemical, or biological measurements.
- o Nitrogen Loading—an estimate of the amount of nitrogen flowing off the watershed to the bay, depends on rainfall, runoff from fertilizer, pet waste, and other sources; affects water quality, especially chlorophyll.
- o Water Clarity—a measure of the amount of light that reaches the bottom; depends on chlorophyll, turbidity, water color, and suspended sediments; affects seagrass growth and reproduction.
- o Dissolved Oxygen—a measure of the amount of oxygen in the water; depends on the amount of algae and decomposing organic matter; affects habitats for fish and bottom-dwelling organisms.



Targets have been established for the indicators to the left and they are scored each year in an annual Watershed Report Card

What are the Recommendations?

The team identified potential projects and programmatic recommendations that address pollutant loading, flood risk, natural systems enhancement, and water supply opportunities within each watershed. Each recommendation is consistent with and supports the County's established levels of service.

Recommendations were prioritized based on:

- o Flood Protection benefits based on existing County methodology.
- o Pounds per year of total nitrogen reduction provided by project.
- o Functional gain using Uniform Mitigation Assessment Methodology.
- o Total acre-feet per year of alternative water supply beneficially used/supplied by a project.



Capturing rainfall onsite reduces the amount of freshwater and pollutants flowing into our creeks and bay. A rain barrel collects and stores rainwater from rooftops to be used later for lawn and garden watering. This reduces runoff, increases infiltration, and saves our water resources, which saves you money.

After a thorough review by Sarasota County and SWFWMD staff, each plan is presented to the Sarasota County Board of Commissioners. The board then examines the plans and gives final approval for plan implementation.

Who approves the plans?

How are the plans Implemented?

Sarasota County is building capital improvement projects throughout the watersheds, but they need your help to move forward with the program recommendations.



What can YOU do to Become a Watershed Champion?

- Be Proactive**
 - o Start a Neighborhood Environmental Stewardship Team today
 - o Organize a cleanup in your area with Keep Sarasota County Beautiful
 - o Create a sustainable home at the Florida House
 - o Help map seagrass in the bay with the Sarasota Environmental Aquatics Team
 - o Be a Responsible Citizen
- Have a Watershed-Friendly Yard**
 - o Build a rain garden in your yard
 - o Plant Florida-Friendly Landscaping
 - o Save money by using less fertilizer if you engage with water-wise water while a business/business
 - o Remove trash, debris, and grass clippings from the gutter in front of your house
- Be a Responsible Boater**
 - o Observe your boat's maximum capacity to prevent hulling and damaging your boat and seagrass beds
 - o Safety, observe all boating rules on land
 - o Do not discharge boat sewage into the water
 - o Use gas and oil with caution in boat bilge
 - o Warn the public: Make it easy for visitors to clean out fueling tanks and bilge before leaving your boat

The targets in these plans are specific to the conditions in each of the watersheds and will be used to measure the progress toward our goals. The environmental conditions in the watersheds will be continuously monitored to track changes in many aspects of ecosystem health over time. Information on water quality conditions in the bay and resources in the watershed will be reported in an annual report card for the community.

What's Next?

