



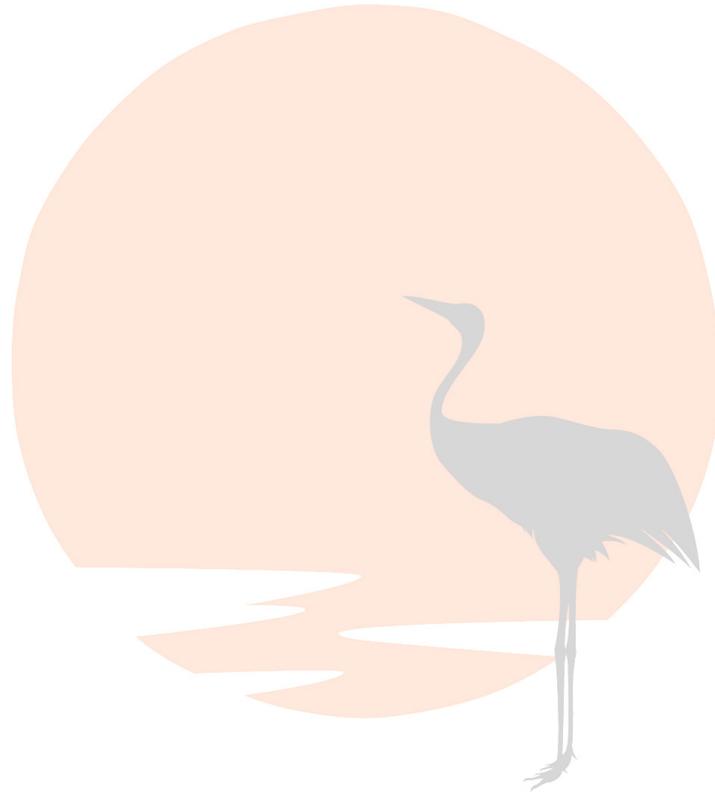
Roberts Bay North

WATERSHED MANAGEMENT PLAN



Chapter 2

Goals and Objectives



August 2010



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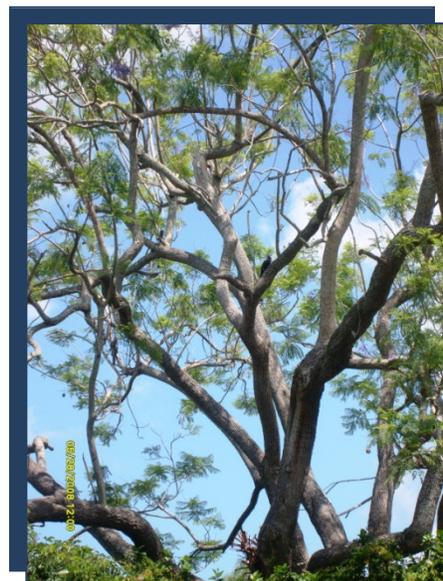
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2.0 GOALS AND OBJECTIVES

Each of the objectives established in Chapter 1 is designed to achieve preservation, protection, and/or enhancement of natural systems and water quality in Roberts Bay North ecosystems; support a sustainable water supply; and provide flood protection for the citizens of Sarasota County in conjunction with maintaining aquatic recreational uses and offering public education opportunities in a comprehensive Watershed Management Plan. In summary, these goals and objectives include:

1. Improving and protecting water quality.
2. Providing information to help the Florida Department of Environmental Protection (FDEP) develop Basin Management Action Plans (BMAPs) to address adopted Total Maximum Daily Load (TMDL) issues within the Roberts Bay North watershed.
3. Providing a more natural hydrologic regime for Roberts Bay North and the watershed.
4. Protecting existing and future property owners from flood damage.
5. Developing ecosystem goals and targets based on the needs of environmental and biological indicators.
6. Investigating potential sustainable surface water supply options that are consistent with and support the Sarasota County Comprehensive Plan, the Southwest Florida Water Management District's Regional Water Supply Plan, and the Southern Water Use Caution Area Regional Strategy.



Sarasota County, the Southwest Florida Water Management District, the Sarasota Bay Estuary Program, Mote Marine Laboratory, and the South West Florida Regional Planning Council have developed management plans and technical reports through studies, workshops, and other efforts. The previous plans are summarized in this section based on the four watershed areas of responsibility: natural systems, water quality, water supply, and flood protection.

Watershed areas of responsibility: natural systems, water quality, water supply, and flood protection.

A summary spreadsheet of previous goals, objectives/strategies, and recommendations is provided in Appendix A.



Previous plans and studies were reviewed within the Roberts Bay North WMP framework. The project team consisting of Jones Edmunds, Janicki Environmental, and County staff evaluated goals, objectives, and recommendations for each area of responsibility. Using previous recommendations, current ecological conditions, and future planning information, the project team developed goals, objectives, and approaches to implement a work flow for Roberts Bay North early in the WMP process to provide a scientific and engineering basis for the final recommendations. The proposed approaches to gather and evaluate data for each area of responsibility are summarized in the following sections. The evaluation of the data is presented in subsequent chapters and is the basis for proposed conceptual projects and program recommendations found in Chapter 8.

2.1 NATURAL SYSTEMS

2.1.1 Proposed Goals, Objectives, and Approaches

The primary natural systems goal is to protect, enhance, and restore natural communities and habitats. The objective is to establish critical natural habitat criteria that will be used to determine the overall ecological health of Roberts Bay North. Five habitat types have been defined for this purpose and the evaluation approach based on anthropogenic impacts is summarized in Table 2-1. More detail is presented in the Natural Systems section in Chapter 3.

Natural habitat is indicative of the overall ecological health of Roberts Bay North.

Habitat	Description	Anthropogenic Impacts	Approach
Shorelines	Shorelines provide critical transition zones between terrestrial and marine habitats.	Alterations have resulted in a degraded littoral zone and 'hardening' of the shoreline from structures such as concrete seawalls or riprap bulkheads.	Estimate the extent of hardened and of natural shorelines and identify potential shoreline restoration areas.
Seagrass	Seagrasses provide critical habitat for juvenile fishes and invertebrates, stabilize sediments, and a food source for manatees and sea turtles.	Changes in light penetration, salinity, and nutrients can potentially have a detrimental impact on seagrasses.	Evaluate seagrasses by comparing current and historic aerial surveys for extent of coverage and persistence and establish restoration and protection targets.



Table 2-1 Roberts Bay North Watershed Habitat Summary

Habitat	Description	Anthropogenic Impacts	Approach
Benthos	Benthos support bottom-dwelling organisms such as worms, snails, clams, small crustaceans, and other invertebrates. They are an essential component of the diet of many fishes and wading birds.	Changes in salinity and dissolved oxygen can potentially have a detrimental impact on the benthos.	Examine salinity and DO distributions in Roberts Bay North using existing information and relate distribution to areas of concern. Any data gaps should be identified. ¹
Oysters	Oyster reefs serve a number of valuable ecological functions and are an important indicator of estuarine health.	Changes in salinity, nitrogen nutrients (over-nitrification depletes dissolved oxygen), toxic chemicals and metal contaminants, and siltation can potentially have a detrimental impact on the oysters.	Examine historic oyster distribution and establish target restoration sites.
Wetlands	Wetlands are a vital component of any watershed with significant ecological and hydrological benefits.	There has been a significant decline in wetlands from activities such as drainage and clearing for agriculture and urbanization, channeling of streams, and water obstruction and impoundment.	Estimate current and historic extents of freshwater and estuarine wetlands for the watershed and then develop wetland protection and balanced restoration targets.

1) The approach to address DO and salinity is provided in the related Water Quality section (Table 2-2)

2.1.2 Previous Goals, Objectives, and Recommendations

Sarasota County, Southwest Florida Water Management District, and Sarasota Bay Estuary Program produced documents outlining natural systems goals and objectives. A summary of pertinent information is provided.

2.1.2.1 Sarasota County Planning Department

The Environmental Plan (Chapter 2) of the Sarasota County Comprehensive Plan focuses on conserving, maintaining, and restoring of natural systems and on the need to coordinate between the Environmental Plan and the other chapters (i.e., roads, sewers, housing). Four primary goals of the Environmental Plan are:

1. Protect, maintain, and, where deemed necessary in the public interest, restore or enhance the natural resources of Sarasota County (including the barrier islands,



- beach, and estuarine system) to ensure their continued high quality and their critical value to the quality of life in the County and conserve their hydrologic and ecological functions.
2. Support the implementation of the regional Comprehensive Conservation and Management Plans (CCMP) to restore and improve the natural estuarine systems and related coastal components as a member of the Sarasota Bay and Charlotte Harbor National Estuary Programs.
 3. Lessen the impact of a destructive storm on human life, public facilities, private structures, infrastructure, and coastal natural resources in Sarasota County.
 4. Preserve, protect, and restore the integrity of the natural environment, historic and archeological resources, and neighborhoods and preserve agricultural uses consistent with resource protection.

Specific recommendations are found in the Comprehensive Plan.

2.1.2.2 Southwest Florida Water Management District (SWFWMD)

Two documents from SWFWMD are important to natural systems strategies in Roberts Bay North: *Sarasota Bay Surface Water Improvement Plan (SWIM)* and *Southern Coastal Comprehensive Watershed Management Plan (SCC-WMP)*.

The goals for the 2002 updated SWIM Plan include 1, 2, 3, and 7 from the 1995 SBEP CCMP and have added the goal of continuing monitoring programs and applied research projects in Sarasota Bay.

The primary natural system goal for the District is to protect, preserve, and restore important upland and wetland systems and to establish minimum water levels and flows necessary to maintain these natural systems; specific objectives/strategies for the SCC-WMP are to continue ongoing efforts focused on protecting and restoring wetlands and protect natural systems through land-acquisition and land-conservation methods.

2.1.2.3 Sarasota Bay Estuary Program (SBEP)

The predecessor to the SBEP, the Sarasota Bay National Estuary Program, produced *Sarasota Bay: The Voyage to Paradise Reclaimed, The Comprehensive Conservation and Management Plan (CCMP) for Sarasota Bay* (1995). The Program's seven goals are:

1. Improve water transparency
2. Reduce the quantity and improve the quality of stormwater runoff to the Bay
3. Restore lost seagrasses and shoreline habitats and eliminate further losses
4. Improve beach, inlet, and channel management
5. Provide increased levels of managed access to Sarasota Bay and its resources



6. Establish a management system for Sarasota Bay
7. Restore and sustain fish and other living resources in Sarasota Bay

Action plans for wastewater treatment and reclamation, stormwater treatment, wetland protection and restoration, and habitat protection impacting natural systems are outlined in the plan.

2.2 WATER QUALITY

2.2.1 Proposed Goals, Objectives, and Approaches

*Primary water quality parameters are:
Chlorophyll a, Water clarity, Dissolved oxygen, Salinity*

The primary water quality goal is to protect, maintain, and improve water quality conditions in estuarine and freshwater environments. To evaluate the current health of the bay and estuaries and provide a framework for future evaluation, four primary parameters are proposed as water quality indicators for this WMP: chlorophyll *a*, water clarity, dissolved oxygen, and salinity. A detailed discussion of each indicator as well as the interaction and relationships between the indicators is provided in Chapter 4 Water Quality. Identifying critical water quality indicators and establishing living-resource-based targets for each indicator as it relates to the health and vitality of the Roberts Bay North system is a primary objective in the plan.

Following is a brief discussion of each indicator and Table 2-2 lists the approach to develop scientifically sound resource protection targets for each indicator.

Table 2-2 Roberts Bay North Critical Water Quality Indicators	
Indicator	Approach
Chlorophyll <i>a</i>	<ul style="list-style-type: none"> • Examine relationship between nutrient loads and chlorophyll <i>a</i> levels taking into account circulation and residence time.
	<ul style="list-style-type: none"> • Examine the relationship between current and historic conditions and Impaired Waters Rule thresholds.
	<ul style="list-style-type: none"> • Estimate critical nutrient loads to meet living resource based target levels for chlorophyll.
Water Clarity	<ul style="list-style-type: none"> • Use existing information on water clarity requirements for seagrasses to set targets for water clarity.
	<ul style="list-style-type: none"> • Examine relationship between nutrient loads, color, turbidity and chlorophyll.
	<ul style="list-style-type: none"> • Estimate current nutrient load to meet living resource-based water clarity targets.
Dissolved Oxygen	<ul style="list-style-type: none"> • Examine relationships between freshwater input, nutrient load, and biochemical oxygen demand load on bottom dissolved oxygen.
	<ul style="list-style-type: none"> • Estimate critical freshwater inputs and nutrient loads to meet bottom dissolved oxygen targets.



Table 2-2 Roberts Bay North Critical Water Quality Indicators

Indicator	Approach
Salinity	• Examine relationship between freshwater inflows and salinity regimes.
	• Identify appropriate salinity regimes for key priority natural resources (e.g., oysters).
	• Maintain critical freshwater inflows to support successful recruitment and growth of oysters and other shellfish and for fishes that utilize the waterbody as an estuarine-dependent resource.

2.2.1.1 Chlorophyll *a*

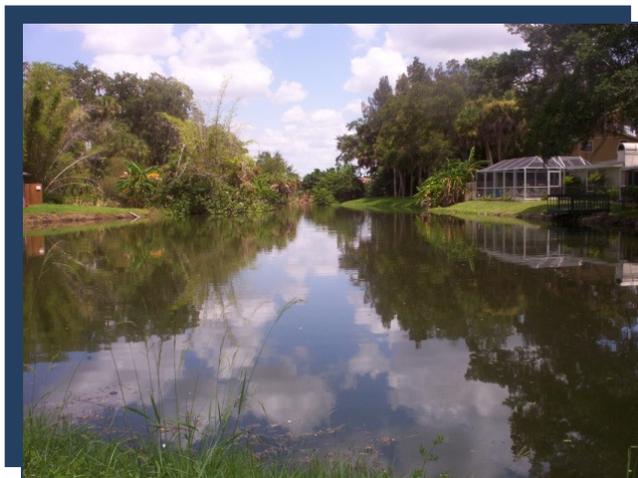
Algae levels are commonly quantified by measuring the chlorophyll *a* (the predominant chlorophyll type found in algae) concentrations in water samples. Excess algae can deplete oxygen levels in the bay waters, cause large-scale algae blooms, and reduce sunlight necessary to maintain the benthic habitat. Higher nutrient loads (nitrogen and phosphorus) from anthropogenic sources impact aquatic and marine systems and can often lead to higher algae levels which may have undesirable effects on the ecology of the system.

2.2.1.2 Water Clarity

Water clarity is a measure of the amount of sunlight that can penetrate the water and is related to turbidity and color. Turbidity is affected by suspended sediments, algae cells, and other minute particles. Color is generally affected by dissolved constituents in the water column (e.g., dissolved tannins lead to ‘tea-colored’ water). Water clarity affects light penetration. Aquatic vegetation depends on sunlight and is traditionally used as a measure of the overall condition and health of the bay. Reduced light penetration can reduce the quantity and adversely impact the health of seagrasses as well as the benthic habitat the vegetation provides for marine life.

2.2.1.3 Dissolved Oxygen

Appropriate dissolved oxygen (DO) concentrations are critical to fauna in marine and aquatic systems. Levels of DO are impacted by temperature, nutrient load, freshwater inflows, and circulation. Any alterations to these conditions can reduce the amount of oxygen available for marine creatures; a population may be easily eradicated if oxygen deficit is prolonged. Maintaining minimum levels of DO is a direct indicator of the bay health.





The State of Florida has established the same minimum DO requirement for Marine Class II (Shellfish Propagation or Harvesting) and Class III (Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife) Waters. Roberts Bay North is part of the Sarasota Bay system, Sarasota Bay is classified by 62-302.400 FAC as a Class II waterbody west of the Intracoastal Waterway Channel centerline, leaving the bay segment east of the centerline as a Class III waterbody.

FAC 62-302.530 (30) states that DO: “Shall not average **less than** 5.0 (*mg/L*) in a 24-hour period and shall never be less than 4.0 (*mg/L*). Normal daily and seasonal fluctuations **above** these levels shall be maintained.”

A large number of DO impairments (levels less than this standard) have been identified and concerns have been raised as to the appropriateness of the existing DO standards in fresh and marine waters; a complete discussion is provided in Chapter 4 Section 4.2.1. Ongoing research to address these concerns will hopefully result in a more meaningful suite of DO criteria for Florida waters.

2.2.1.4 Salinity

Salinity is a measure of the dissolved salt concentration in a marine system and is a balance of freshwater inflows from streams and groundwater seepage and the oceanic saltwater. Freshwater inflow may be affected by natural causes such as large storms (causing decreased salinity) and drought (causing increased salinity) or by anthropogenic activities such as surface or groundwater withdrawals (causing increased salinity) or freshwater discharges (causing decreased salinity—usually in the vicinity of the discharge), or hydrologic alterations of flow patterns.

Salinity levels outside the normal regime for the system, whether high or low, may have a detrimental effect on the marine flora and fauna.

Table 2-2 summarizes the actionable recommendations for water quality indicators developed to define the current health of Roberts Bay North and its estuaries and provide a framework for future evaluation of the watershed.

2.2.2 Previous Goals, Objectives, and Recommendations

Sarasota County, Southwest Florida Water Management District, Sarasota Bay Estuary Program, Mote Marine Laboratory, and the SW Florida Regional Planning Council produced documents outlining water quality goals and objectives. A summary of pertinent information is provided.



2.2.2.1 Sarasota County Planning Department

The Environmental Plan (Chapter 2) of the Comprehensive Plan provides the basis to maintain and improve environmental quality, including water quality in Sarasota County, as the County seeks a sustainable balance between manmade and natural systems. The plan notes that Phillippi Creek within the Roberts Bay North watershed is listed as an impaired waterway due to bacteria and dissolved oxygen concentrations. The following water quality goals and objectives are outlined in the Environmental Plan:

1. Goal: Protect and enhance wherever possible the quality of the estuarine environment throughout Sarasota County
 - a. Objective: Improve surface water quality, including estuarine, freshwater, coastal streams, rivers, and bays.
2. Goal: Support the Sarasota Bay Estuary Program to implement its Comprehensive Conservation Management Plan
3. Goal: Protect, maintain, and, where necessary, restore the natural resources of Sarasota County to ensure their high quality and critical value to the quality of life in the County
 - a. Objective: Protect the quality and quantity of all jurisdictional waters, recognize the ongoing study efforts, and ensure that the current water quality in the County be improved through 2010.

The Watershed Management Plan (Chapter 4) of the Sarasota County Comprehensive Plan focuses on land use and management of water resources. Two primary water quality goals of the Watershed Management Plan are:

1. Continue to improve and centralize regional wastewater collection and treatment in a safe, clean, efficient, economical, and environmentally sound manner concurrent with urban development.
2. Provide programs that enhance water quality.

The following requirements are specified to meet a water quality level of service criteria in the Plan:

1. The County shall implement a stormwater quality management plan consistent with the National Pollutant Discharge Elimination System requirements.
2. New and existing industrial activities require the development and implementation of a Stormwater Pollution Prevention Plan.
3. No discharge from any stormwater facility should cause or contribute to a violation of water quality standards in Waters of the State.
4. The County's Basin Master Plans should include evaluation of pollutant loading.



2.2.2.2 Sarasota County Stormwater Environmental Utility (SEU)

Using the services of contracted consultants SEU produced Comprehensive Basin Master Plans for Matheny Creek and Phillippi Creek in 1994. The Plans were flood control and protection driven but did contain water quality components.

The water quality level-of-service objective from the Matheny Creek Basin Plan was to establish specific pollutant-load-reduction goals based on work performed by others and then implement Water Quality Capital Improvement Plan.

The water quality objective for the Phillippi Creek Basin Plan was to recommend water quality improvement projects, including channel improvements and construction of additional stormwater treatment facilities to reduce nutrient and heavy metal pollutant loadings to Phillippi Creek and Sarasota Bay.

2.2.2.3 Southwest Florida Water Management District

The same SWFWMD plans shown under the Natural Systems section are applicable to the Water Quality section. The primary water quality goal of the *Southern Coastal Comprehensive Watershed Management Plan* (2000) was to protect water quality by preventing further degradation of the water resource and enhancing water quality where appropriate. Recommended strategies include:

1. Continue and expand ongoing water quality monitoring and data management.
2. Determine the County-wide potential for using high flows as a supplemental potable or non-potable water source through understanding the ecological impacts of flood-control practices elsewhere in the County.
3. Reduce point-source and non-point-source pollutant loads to fresh and estuarine waters, including stormwater and wastewater.

The primary water quality goals of the *Sarasota Bay Surface Water Improvement and Management (SWIM) Plan* (2002) were to improve water transparency in Sarasota Bay and decrease the quantity and increase the quality of stormwater runoff to Sarasota Bay.

2.2.2.4 Sarasota Bay Estuary Program

The 1995 Sarasota Bay CCMP has the primary water quality goals of improving water transparency and reducing the quantity and improving the quality of stormwater runoff to Sarasota Bay. Recommended strategies include:

1. Where it is feasible, expand centralized wastewater collection and treatment to areas with inefficient package treatment plants and chronic septic-system failures.



2. In other areas, investigate replacing standard septic systems with ones that remove nitrogen—particularly within 900 feet of Sarasota Bay or its tributaries.
3. Develop a multi-county wastewater reclamation program to minimize discharge of treated wastewater.

2.2.2.5 Mote Marine Laboratory

Mote Marine Laboratory produced *Tidal Creek Condition Index for Coastal Streams in Sarasota County, Florida* (2006). This plan recommends developing a Tidal Creek Condition Index for tracking the biological health of the County’s tidal creeks. Through the joint cooperation of Sarasota County, SWFWMD, FDEP, SBEP, and Mote Marine Laboratory metrics were developed, baseline data collection efforts initiated, and preliminary data assessment commenced in a parallel timeline with this watershed management plan.

The Laboratory produced an earlier plan, *Characterization of Ecological Conditions and Impacts of Stormwater Runoff on Hudson Bayou and Phillippi Creek, with Recommendations from Analytical Methods and Management Objectives* (1992). Its primary goal is to mitigate non-point-source pollution in the Hudson Bayou and Phillippi Creek.

2.2.2.6 Southwest Florida Regional Planning Council - Water Quality Program

The planning council produced a plan in 1977 that considerably predates the other plans. The summary of the *Final Water Quality Report for the Phillippi Creek Study Area* presents the goal of improving knowledge of flushing and mixing patterns in the estuaries as well as gaining more knowledge of the dynamics of estuarine ecology.

2.3 WATER SUPPLY

2.3.1 Proposed Goals, Objectives, and Approaches

The primary water supply goal is to support the previous plans strategies to provide reliable and safe water to meet existing and future demands. The proposed objective is to identify water that may be available for beneficial uses while maintaining appropriate water budgets to not cause quantity or quality changes that adversely impact the water resources, including surface and ground waters, for Roberts Bay North and its watershed. Five approaches to meet the primary goal are:

The primary water supply goal is to provide reliable and safe water to meet existing and future demands.

1. Develop historical, existing, and target water budgets.
2. Identify future demands for potable and non-potable public supply.
3. Determine potential availability of water from alternative sources.



4. Identify potential users, delivery systems, and schedules for water from alternative sources.
5. Identify the lowest water quality suitable for specific uses, provided that its use does not interfere with recovery of a waterbody to its established minimum flow or level and it is not a source that is either currently or projected to be adversely impacted.



2.3.2 Previous Goals, Objectives, and Recommendations

Sarasota County and the Southwest Florida Water Management District produced documents outlining water supply goals and objectives. A summary of pertinent information is provided.

2.3.2.1 Sarasota County Planning Department

The Watershed Management Plan (Chapter 4) of the Sarasota County Comprehensive Plan focuses on land use and management of water resources. Two primary water supply goals of the Watershed Management Plan are:

1. Provide potable water service to Sarasota County residents through the continual evolution of a centralized regional supply, treatment, and distribution system in a safe, efficient, economical, sustainable, and environmentally sound manner concurrent with urban development.
2. Provide programs to ensure safe, efficient, economical, and sustainable water supplies that provide customers with the appropriate water quality for the intended use.



The Plan outlines non-potable water strategies, irrigation strategies, reclaimed water utilization, and demand management as recommendations to ensure the adequacy of potable water supplies to serve existing and future development.



2.3.2.2 Sarasota County Stormwater Environmental Utility

The Phillippi Creek Basin Master Plan (1994) stated a goal of investigating the potential use of stormwater as a non-potable water supply. Celery Field Stormwater Facility was cited as a potential source for future water supply.

2.3.2.3 Southwest Florida Water Management District

SWFWMD developed the *Southern Water Use Caution Area (SWUCA) Recovery Strategy* in 2006 in response to growing demands for groundwater withdrawals. Depressed aquifer levels cause saltwater intrusion leading to the potential degradation of a potable water source. Two primary goals of the Recovery Strategy specific to Sarasota County are:

1. Reduce the rate of saltwater intrusion in Hillsborough, Manatee, and Sarasota Counties by achieving minimum aquifer levels for saltwater intrusion by 2025; future efforts should seek further reductions to achieve the ultimate stabilization of the saltwater-freshwater interface.
2. Ensure sufficient water supplies for all existing and projected reasonable-beneficial uses.

The six objectives of the Recovery Strategy are:

1. Develop a regional water supply plan to achieve effective water management.
2. Use existing rules to effectively contribute to the Recovery Strategy.
3. Enhance existing rules.
4. Provide financial incentives to encourage conservation and development of alternative supplies to ensure consistency with the Recovery Strategy.
5. Develop and implement water resource development projects that will restore historically lost lakes and floodplain storage.
6. Monitor, report on, and analyze cumulative impact on resources.

Conservation efforts include plugging wells, artificially recharging the aquifer, and retiring water use permits associated with acquired preservation lands. Water reuse initiatives include expanding the use of reclaimed water to reduce the use of groundwater and surface water for non-potable purposes such as irrigation and industrial cooling.

The SWFWMD *Southern Coastal Comprehensive Watershed Management Plan* (2000) has the broad goal of ensuring an adequate supply of the water resource for all reasonable and beneficial uses now and in the future while protecting and maintaining the water and related resources of the District. The plan includes a number of strategies, some of which are requiring consistent water resource/land use planning by local governments, improving coordination between



planners, improving compliance with water use restrictions, and adopting intermediate aquifer level protection. These are accompanied by numerous recommendations.

2.4 FLOOD PROTECTION

2.4.1 Proposed Goals, Objectives, and Approaches

The primary flood protection goal is to minimize flood risk to human safety and property in developed areas while protecting natural and beneficial functions of the remaining floodplain. Meeting the County flooding level of service (LOS) criteria and revising land development regulations are two proposed objectives of the WMP. Six approaches to meet the flood protection goal are:

The goal of flood protection is to minimize the risk to human safety and property while protecting the natural floodplain.

1. Document and update the status of stormwater management and conveyance facilities with respect to their permitted or design criteria.
2. Document and update the status of Capital Improvement Plan projects intended to alleviate existing flooding problems.
3. Refine maintenance practices as appropriate to ensure that floodwater conveyance is adequate while minimizing ecological impacts in a cost-effective manner.
4. Identify implications of new state-wide stormwater rules with regard to protecting natural water storage and conveyance areas that currently provide flood protection.
5. Identify and engage major stakeholders (Department of Transportation, U.S. Army Corps of Engineers, other jurisdictions, etc.) with respect to operating and maintaining surface water drainage systems.
6. Identify and protect natural surface water storage areas that currently provide flood protection or may provide flood protection to future development.

2.4.2 Previous Goals, Objectives, and Recommendations

Sarasota County, Southwest Florida Water Management District, and Sarasota Bay Estuary Program produced documents outlining flood protection goals and objectives. A summary of pertinent information is provided.

2.4.2.1 Sarasota County Planning Department

The Watershed Management Plan (Chapter 4) of the Sarasota County Comprehensive Plan focuses on land use and management with the management of water resources. Its primary flood control goal is that the County shall provide programs that prevent and mitigate the losses, cost,



and human suffering caused by flooding and protect the natural and beneficial functions of the floodplain.

Specific objectives outlined in the Plan are:

1. Address the maintenance of facility capacity and ensure the adequacy of facilities to meet future needs.
2. Maintain water quantity level-of-service and design criteria.

2.4.2.2 Sarasota County Stormwater Environmental Utility

As stated under the Water Quality section, SEU produced Comprehensive Basin Master Plans for Matheny and Phillippi Creeks in 1994. The goal for the Matheny Creek Basin is to implement a Flood Protection Capital Improvement Program to resolve Flood Protection LOS deficiencies.

The goals for the Phillippi Creek Basin are to develop and implement a Flood Damage Abatement Program and bring the basin into compliance with the Comprehensive Plan Level of Service criteria.

2.4.2.3 Southwest Florida Water Management District

The SWFWMD *Southern Coastal Comprehensive Watershed Management Plan* (2000) is regional in scale, encompassing portions of Sarasota, Manatee, and Charlotte Counties, and details the four primary areas of responsibility for the District: water supply, flood protection, water quality, and natural systems. The flood protection chapter details a number of strategies and actions to address flooding issues:

1. Enhancing data and information collection
2. Linking water resource and land use planning
3. Effectively managing floodplain functions
4. Establishing responsible ownership for flood management systems
5. Facilitating public education and understanding of flood protection

The plan's primary goal is minimizing potential for damage from floods by protecting and restoring the natural water storage and conveyance functions of flood-prone areas and states that SWFWMD shall give preference wherever possible to nonstructural surface water management methods. The plan includes numerous recommendations.

2.4.2.4 Sarasota Bay National Estuary Program

The Sarasota Bay CCMP has goals more focused on water quality and natural systems, but it also has secondary flood control implications in the goals addressing maintaining and ensuring



the integrity of stormwater management and treatment systems, reducing stormwater runoff and impervious areas within the watershed, and restoring wetlands.

The Roberts Bay North watershed has many stakeholders vested in the conservation, protection, and restoration of its many natural resources. Previous plans included a multitude of recommendations. To bring into focus current conditions, Chapter 8 of the plan provides revised, updated, and new recommendations to preserve, protect, and/or enhance natural systems and water quality in Roberts Bay North ecosystems; support a sustainable water supply; and provide flood protection for the citizens of Sarasota County.