



2022–2026 Strategic Plan

Board Approved
02-22-2022

Southwest Florida
Water Management District



Message from the Chair

Central Florida has always been my home. My wife and I are truly blessed to have the opportunity to live on our ranch in Sumter County where we raised our children and primarily engage in the production of cattle and hay. Working the land has instilled in me an unwavering belief and commitment to stewardship and a strong desire to do everything I can to ensure the Florida I have loved and cherished will be there for my children, grandchildren, and future generations.

When you think of Florida, you cannot help but focus on its water resources. Whether it is our fine sand beaches, prodigious lakes, meandering rivers, or productive wetlands, water defines our quality of life. The water resources give us life, provide us food and sustenance, bestow upon us natural wonders like our first-magnitude springs, and offer a bounty of recreational activities. Florida is water.

Given my background and interests, it is not surprising I gravitated toward service on the Southwest Florida Water Management District Governing Board. The District manages water resources across 16 counties with a population of more than 5 million people. The District's mission is to protect the water resources, ensure water supply needs are met, and reduce the risks of flooding. My late father strongly believed in the District's mission. He also served as Governing Board Chair to ensure strong stewardship of our resources and I am proud to follow in his footsteps.

One thing all Governing Board members and staff learn quickly, there is nothing simple when it comes to water. We may be surrounded by water resources, but there are limits to how much we can take from these resources before we damage them. Florida's water supply needs are growing. Florida is one of the fastest growing states in the country. Growth provides opportunities and economic prosperity, but it also comes with challenges. How can we continue to quench the thirst of our expanding population while also protecting our precious water resources?



Kelly S. Rice
Chair

We can do both. We can have both economic prosperity and simultaneously protect the environment. However, success requires we deploy our resources to do the greatest good. We must wisely use our time, our taxpayer dollars, and our people. To do that, we need a plan, a Strategic Plan.

The District's Strategic Plan provides clarity and direction regarding our mission and our priorities. The Plan identifies who we are, what we do, and how we do it. It also highlights a five-year plan of action to focus our resources and maximize benefits for both the public and environment.

The Plan also prioritizes water resource issues in each of our four planning regions. For example, in our Northern Planning Region the objective is to enhance our five first-magnitude springs, implementing projects to improve water quality and natural systems. One of the critical initiatives helps fund projects that move residents off traditional septic tanks and onto sewer systems, thereby reducing nutrient pollution into the springs. In another example, in the Tampa Bay region, we have identified a series of flood protection projects in various watersheds to provide residents with flooding relief.

Sometimes, when developing a path forward, it's helpful to take a moment to look back and reflect upon the challenges we have faced, what worked and what didn't, and what was the foundation of our successes. During the past 60 years the District has seen some tremendous successes. When over-reliance on groundwater began affecting the environment, we shifted gears, focusing more on conservation and the development of alternative water resources. We have been able to significantly reduce groundwater withdrawals, promote environmental recovery and still meet the demands of growth.

A critical component of alternative water resources is reclaimed water – wastewater that has been treated and reused beneficially. The District is a national leader in the use of reclaimed water. We beneficially reuse 55 percent of our wastewater, compared to only seven percent nationally. Our goal is to reach 75 percent beneficial reuse. Through our conservation, reuse efforts and the development of alternative water sources, we have been able to reduce not only groundwater pumping but also overall water use, even with our ever-growing population.

Nowhere is this more evident than in the Tampa Bay Region which suffered through decades of water wars resulting in an overreliance of groundwater and negative environmental impacts, such as dried-up lakes and wetlands. Now, through partnerships among the District, Tampa Bay Water, and its member governments, the Tampa Bay region has one of the most diverse, drought-resistant water supplies in the country. The reductions in groundwater pumping have led to environmental recovery for thousands of acres of lakes and wetlands.

Another success is Tampa Bay, one of the few national estuaries in the country that has improved, with seagrasses at levels last seen in the 1950s. While this success results from the diligent efforts of many parties, the District played a critical role through research, stormwater treatment, regulation, and environmental restoration projects.

Message from the Chair

The District has built these successes on the pillars of sound science, adaptive management, and inclusion. Science guides our decision-making processes. We always use the best available information when making decisions, but we also recognize we know more today than we knew five years ago. And we will know more in five years than we know today. We must remain open to new information, to new ideas, to new approaches, and adapt as necessary to achieve the best outcomes. Finally, success comes down to people, including the incredibly talented staff I have had the pleasure to work with at the District, and how well our staff and the Governing Board collaborate with our stakeholders. The greatest successes are those partnerships where we work together toward shared interests while respecting different perspectives.

Developing alternative water sources, restoring the environment, and building flood protection infrastructure does not come cheaply. The District’s ability to fund these projects and many others is due to our fiscal stewardship of taxpayer dollars. The District continually looks for means of reducing costs, improving effectiveness, and maximizing taxpayer investment in our mission. We continue to utilize developing technology to obtain and deliver better value to our residents by increasing efficiencies in all areas. Our ultimate stakeholders are the taxpayers. They deserve to know their taxes are used wisely to maximize the public benefit.

Being selected by the Governor to serve on the District Governing Board was an honor, and I am humbled to be chosen by my peers as Chair. I am confident that working together – Board, staff, stakeholders – we can meet any challenges life throws our way. This Strategic Plan helps point the way.



Kelly S. Rice
Governing Board Chair

Governing Board

The Governing Board establishes policies for the District. Board members are unpaid citizen volunteers appointed by the Governor and confirmed by the Florida Senate.



Kelly S. Rice
Chair
Citrus, Lake, Levy,
Sumter



Joel Schleicher
Vice Chair
Charlotte, Sarasota



Michelle Williamson
Secretary
Hillsborough



Ed Armstrong
Treasurer
Pinellas



Ashley Bell Barnett
Polk



Jack Bispham
Manatee



John Hall
Polk



William Hogarth
Pinellas



John Mitten
Hernando, Marion



Seth Weightman
Pasco

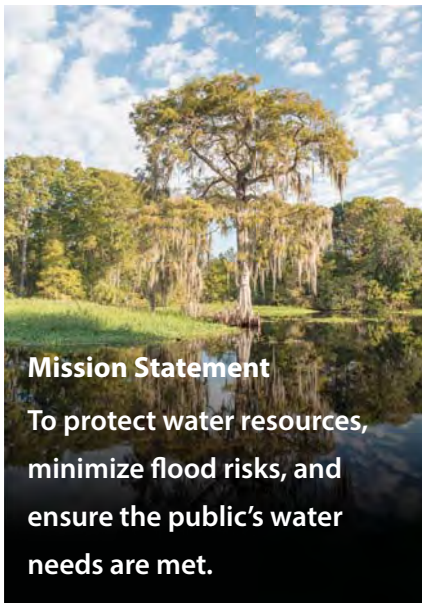
Table of Contents

Overview	4
Strategic Initiatives	5–8
Regional Priorities and Objectives	9–21
Core Business Processes	22–23

Overview

The Southwest Florida Water Management District (District) is a science-based organization responsible for managing and protecting water resources in west-central Florida. The District's job is to ensure there are adequate water supplies to meet the needs of current and future users while protecting and restoring water and related natural resources. (See Mission Statement.)

The District encompasses all or part of 16 counties, from Levy County in the north to Charlotte County in the south. It extends from the Gulf of Mexico east to the highlands of central Florida. The District contains 97 local governments spread over approximately 10,000 square miles, with a total population estimated to be 5.4 million in 2020. For planning purposes, the District is divided into four regions: Northern, Tampa Bay, Heartland and Southern. (See District Planning Regions map.)



Mission Statement

To protect water resources, minimize flood risks, and ensure the public's water needs are met.

GOVERNING BOARD

A 13-member Governing Board establishes policies and sets the budget for the District. Appointed by the Governor and confirmed by the Senate, Governing Board members are unpaid volunteers representing varied backgrounds and interests. Board members, who must live in the District, serve four-year terms.

BUDGET

The District's primary funding source is ad valorem taxes, although revenues are also derived from state and federal appropriations, permit fees, interest earnings and other sources. The taxing capabilities of the District are established by the Legislature within the limits set by the Florida Constitution. The limit for the District is one mill, or one dollar per thousand dollars of assessed value. The Governing Board millage rate for fiscal year 2021-2022 is 0.2535 mill. More information about budgeting is included in this document's Core Business Processes section.

CORE MISSION

Florida Statutes, primarily Chapter 373, authorize the District to direct a range of initiatives, programs and actions. These responsibilities can be grouped under four general areas, which form the District's core mission: water supply, water quality, natural systems and flood protection. The District has established a goal for each of these areas of responsibility:

Water Supply Goal: Ensure an adequate supply of water to provide for all existing and future reasonable and beneficial uses while protecting and maintaining water resources and related natural systems.

Water Quality Goal: Protect and improve water quality to sustain the water resources, environment, economy and quality of life.

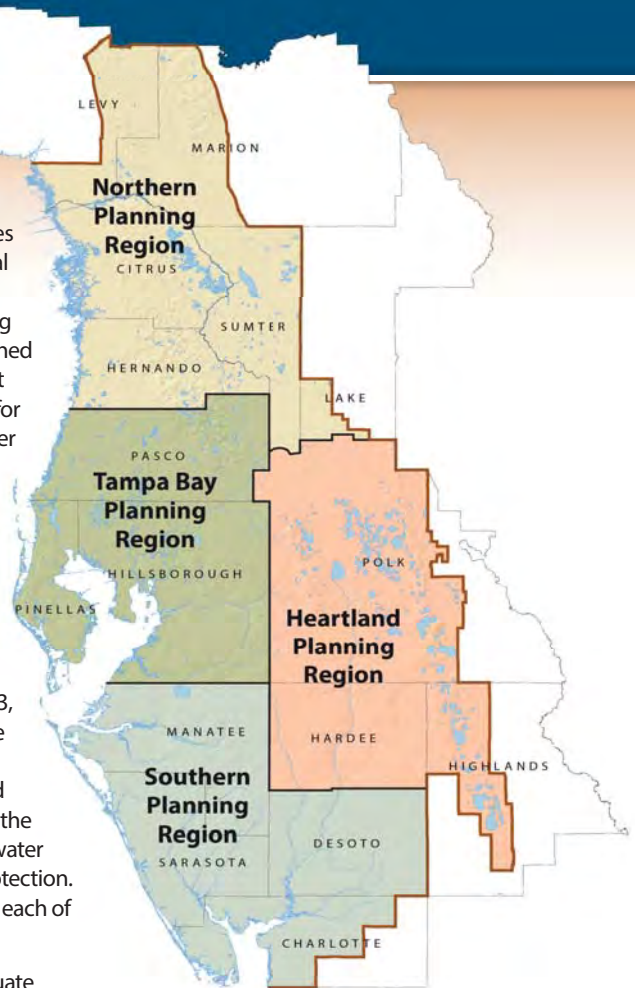
Natural Systems Goal: Preserve, protect and restore natural systems to support their natural hydrologic and ecologic functions.

Flood Protection Goal: Minimize flood damage to protect people, property, infrastructure and investment.

STRATEGIC INITIATIVES

The District is implementing a wide array of programs and projects to meet these four goals. These activities are grouped under 11 Strategic Initiatives:

- Regional Water Supply Planning
- Alternative Water Supplies
- Reclaimed Water
- Conservation
- Water Quality Assessment and Planning
- Water Quality Maintenance and Improvement
- Minimum Flows and Levels (MFLs) Establishment and Monitoring



- Conservation and Restoration
- Floodplain Management
- Flood Protection Maintenance and Improvement
- Emergency Flood Response

REGIONAL PRIORITIES

While the Strategic Initiatives identify activities implemented throughout the District, the water resource needs vary from one planning region to another. The top water resource priorities for each region, along with measurable objectives, are identified in the Regional Priorities section of this document.

CORE BUSINESS PROCESSES

In addition to adhering to its adopted values, the District must excel in seven core business processes to successfully achieve its Strategic Initiatives:

- Water Resources Planning
- Innovative Projects
- Financial Sustainability
- Regulation
- Land Management and Structure Operations
- Knowledge Management
- Engagement

Strategic Initiatives

Water Supply

1. Regional Water Supply Planning

Goal Statement: Identify, communicate and promote consensus on the strategies and resources necessary to meet future reasonable and beneficial water supply needs.

The District's regional water supply planning effort provides the framework for future water supply management decisions and is a statutory requirement where current water sources are not adequate to supply existing and future uses while sustaining natural resources (F.S., 373.709(1)). This is a collaborative, transparent effort involving local governments, utilities, the agricultural community, business representatives, environmental organizations and other stakeholders.

STRATEGIES

- Develop accurate and reliable demand projections
- Identify sufficient regional water supply sources to meet projected demands
- Encourage the development and use of regional water supply authorities to plan and coordinate water supply solutions
- Incorporate adaptive management processes in water supply planning
- Coordinate with other water management districts on water supply and regulation approaches
- Proactively coordinate with water supply utilities
- Demonstrate the District's financial commitment to assist in the development of regional water supply needs

2. Alternative Water Supplies

Goal Statement: Increase development of alternative sources of water to ensure groundwater and surface water sustainability.

Alternative water supply (AWS) refers to any nontraditional source of water that reduces the region's dependency on fresh groundwater. From 1990 through September 2019, the District has helped to develop approximately 371 million gallons daily (mgd) of alternative water supplies, including reuse and conservation benefits and new potable water sources.

STRATEGIES

- Develop alternative water supply sources that include surface water capture, desalination and brackish groundwater systems
- Continue to promote partnerships with agriculture through District programs such as the Facilitating Agricultural Resource Management Systems (FARMS) Program
- Partner with regional entities to provide alternative water supplies
- Continue to leverage District funds to facilitate the development of alternative water supplies
- Continue to support research and development of aquifer storage and recovery technology
- Promote conjunctive use of surface and groundwater resources through regulation and funding incentives

3. Reclaimed Water

Goal Statement: Maximize beneficial use of reclaimed water to offset potable water supplies and restore water levels and natural systems.

Reclaimed water is wastewater that has received at least secondary treatment and disinfection and is used for a beneficial purpose, such as irrigation, manufacturing processes or power generation. By offsetting demand for groundwater and surface water, this alternative water supply reduces stress on environmental systems, provides economic benefits by delaying costly water system expansions and reduces the need to discharge wastewater effluent to surface waters. More than 197 mgd of reclaimed water is being beneficially reused in the District, accounting for more than 16 percent of overall water use. In addition, the District's Governing Board recently identified potable reuse as a priority for the District to achieve its goal of 75 percent reuse of available wastewater by 2040.

STRATEGIES

- Increase availability by increasing storage capacity
- Increase availability by promoting interconnects between reclaimed water utilities
- Leverage District funds to maximize efficient and beneficial use of reclaimed water
- Improve efficiency through measures such as metering and volume-based pricing
- Continue to support reclaimed water research, monitoring and public education



Punta Gorda Reverse Osmosis Water Treatment Facility.

- Partner with cooperators for the development of potable reuse projects, with priority for regional entities
- Promote the beneficial use of reclaimed water and the offset of traditional water supplies through the existing regulatory framework
- Promote the use of reclaimed water for potable recharge and environmental enhancement projects

4. Conservation

Goal Statement: Enhance efficiencies in all water-use sectors to ensure beneficial use.

Conservation is achieved through education, financial incentives and various regulatory and non-regulatory programs. Per capita water usage in the District has regularly ranked as the lowest in the state.

STRATEGIES

- Promote water conservation through public engagement programs
- Support research and implementation of conservation techniques and practices
- Promote water-conserving rate structures
- Utilize financial incentives to further encourage effective conservation practices through District programs such as the WISE program
- Utilize regulatory programs to establish effective conservation practices
- Continue to promote partnerships with agriculture through District programs such as the FARMS Program

Strategic Initiatives

Water Quality

1. Assessment and Planning

Goal Statement: Collect and analyze data to determine local and regional water quality status and trends to support resource management decisions and restoration initiatives.

Those who manage Florida's water resources must have access to accurate and timely information to support good management decisions. The District's water quality monitoring programs and networks help provide these data.

STRATEGIES

- Continue to develop and maintain long-term water quality monitoring networks to collect, analyze and distribute accurate water quality information
 - Coastal Groundwater Quality, Inland Water Quality and Water Use Permit Monitoring Networks
 - Springs and Aquifer Nutrient Monitoring Networks
 - Surface Water Quality Monitoring Networks
- Continue to support the District's internal data governance process
- Continue to promote partnerships through District water quality programs
- Assess the utilization of new technologies to improve accuracy and availability of water quality data

2. Maintenance and Improvement

Goal Statement: Develop and implement programs, projects and regulations to maintain and improve water quality.

The District develops and implements projects, programs and regulations to maintain and improve water quality consistent with the Governor's Executive Order 19-12, which instructs the water management districts to review budgets and prioritize available funding to focus on projects that will help address harmful algal blooms and maximize nutrient reductions. Examples of these efforts include partnerships for best management practices (BMPs) implementation such as the FARMS Program, focused on the agriculture community, and the Watershed Management Program (WMP), addressing watershed improvements; and the Surface Water Improvement and Management (SWIM) and Springs initiatives programs that implement nutrient removal and other water quality improvement projects.

The District also acquires and manages land for water resources conservation/protection purposes through its land resources program and regulates stormwater management through the environmental resource permitting (ERP) process. Additionally, data and information are shared with counties, cities and the state for projects to improve water quality.



Collecting water testing samples on the Weeki Wachee River.

STRATEGIES

- Use cooperative funding to support local government efforts to improve District priority water bodies
- Continue to support, review and track Florida Department of Environmental Protection (DEP) Total Maximum Daily Load (TMDL) and Basin Management Action Plans (BMAP) processes for District priority water bodies
- Promote Florida-Friendly Landscaping™ principles and other behaviors that protect water quality
- Participate in the development and implementation of the statewide stormwater management criteria to enhance the District's ERP program
- Use regulatory programs to promote water quality protection and improvement
- Continue to promote partnerships through District water quality programs such as the SWIM and FARMS programs
- Support cooperative funding and implementation of prioritized septic and package plant retrofit projects within the Northern region to reduce nutrient concentrations in springs priority focus areas



Three Sisters Springs Wetland Treatment Project in Crystal River.

Strategic Initiatives

Natural Systems

1. Minimum Flows and Levels Establishment and Monitoring

Goal Statement: Establish and monitor MFLs, and where necessary, develop and implement recovery/prevention strategies to recover water bodies and prevent significant harm.

Minimum flows and levels for aquifers, surface watercourses, and other surface water bodies identify the limit at which further withdrawals would be significantly harmful to the water resources or ecology of the area. Rivers, streams and springs require minimum flows, while minimum levels are set for lakes, wetlands and aquifers. Minimum flows and levels are used for permitting or planning decisions concerning how much water may be safely withdrawn from or near a water body.

Through fiscal year 2021, the District has set 202 MFLs on rivers, lakes, wetlands, springs and aquifers. The District's process for establishing MFLs includes an annual update of water bodies prioritized for MFLs development, extensive data collection, analysis and reporting, public review, independent scientific peer review and rule adoption. The District routinely assesses potential water supply/resource concerns and evaluates water use permit applications to ensure violations of established MFLs do not occur. In addition, water bodies with established MFLs are monitored and assessed annually to determine the need for recovery or implementation of strategies to prevent flows or levels from falling below established MFLs.

As of 2021, nearly 93 percent of the established MFLs were being met. Recent hydrologic data and assessments determined the recovery strategies for the Northern Tampa Bay Water Use Caution Area (NTBWUCA) and Dover/Plant City Water Use Caution Area (DPCWUCA) were not necessary. Established MFLs, however, will remain intact. To address water bodies where MFLs have not been met, the District is implementing recovery strategies for the Southern Water Use Caution Area (SWUCA) and two water bodies (for the lower Hillsborough and lower Alafia rivers), and included these strategies in its regional water supply planning process.

STRATEGIES

- Update the MFLs priority list and schedule annually
- Establish MFLs through:
 - Data collection
 - Data analysis and reporting
 - Independent scientific peer review and public review
 - Board approval and rule adoption
- Continue to incorporate MFLs in District water use permit application review processes and compliance monitoring
- Monitor and report hydrologic conditions to support status assessments for water bodies with established MFLs
- Continue to review and refine scientific methods used for establishing MFLs
- Develop, adopt and implement MFLs recovery and prevention strategies
- Incorporate MFLs recovery and prevention strategies into the Regional Water Supply Plan (RWSP) development process

2. Conservation and Restoration

Goal Statement: Restoration and management of natural ecosystems for the benefit of water and water-related resources.

The Conservation and Restoration Strategic Initiative preserves, protects and restores natural systems to support natural hydrologic and ecologic functions. The major components of this initiative include land acquisition and management, ecosystem monitoring and restoration, education and regulation. To date, 43,026 acres of habitat have been restored through District programs and partnerships with state and local governments.

Acquisition and management of land are critical to the District's conservation and restoration objectives. Once acquired, altered land is restored, if necessary, and managed to maintain ecological and hydrological functions. The District monitors its lands to ensure continued compliance with its mission and initiatives.

Restoration initiatives, such as the SWIM Program, are overseen by the District to restore natural systems associated with priority water bodies.

The District also regularly tracks land and water resource alterations through its aerial land use/land cover, wetland and seagrass



The District's P-11 Water Conservation Structure on Lake Hancock in Polk County.

mapping efforts. Through reviews such as local government plan amendments and large-scale development proposals, Florida Coastal Management applications and related activities, staff can offer feedback to better link land and water resources. In addition, the District's ERP program helps protect water resources.

STRATEGIES

- Evaluate acquisition opportunities, placing priority on water resource benefits by contributing to water resource projects, additions linking conservation areas, management efficiencies such as inholdings and leveraging partnership dollars
- Promote innovative restoration projects and partnerships
- Regulate to avoid impacts or minimize and mitigate unavoidable impacts
- Partner to continue wetland, lake and river monitoring and analysis
- Provide technical assistance to state, regional and local governments for linking land and water issues and concerns
- Use management tools to enhance maintenance of conservation lands

Strategic Initiatives

Flood Protection

1. Floodplain Management

Goal Statement: Collect and analyze data to determine local and regional floodplain information, flood protection status and trends to support floodplain management decisions and initiatives.

The WMP identifies, prioritizes and addresses flood-related water resource issues within a watershed. Information developed through the WMP is used by local governments, the District and state and federal governments in regulatory and advisory floodplain management programs.

STRATEGIES

- Implement the WMP, collect and analyze data and develop and distribute accurate floodplain information
- Continue to promote partnerships at the local, state and federal level
- Increase public awareness of floodplains and flood risk
- Provide system-based data to support the operation of District flood control and water conservation structures
- Document levels after flood events to ensure up-to-date modeling and historic records

2. Maintenance and Improvement

Goal Statement: Develop and implement programs, projects and regulations to maintain and improve flood protection, and operate District flood control and conservation structures to minimize flood damage while preserving the water resource.

The District's ERP program uses WMP information and regulations to protect floodplain and historic basin storage and ensure that new development does not increase flood levels or the rate of stormwater runoff onto neighboring properties.

Strategic property acquisition allows land to fulfill natural functions of storing and accommodating excess water and reduces the risk of flood damage by preserving floodplains. The District also maintains and operates four major canal and conveyance systems and 86 flood control and water conservation structures as an important flood protection strategy. Extensive areas of the District depend upon the maintenance and operation of these facilities.

The District's WMP identifies flood risk and efficient alternatives to reduce the risk of flood damages. The District's Cooperative Funding Initiative (CFI) encourages implementation of selected intermediate and regional system improvement projects to reduce flood risk and to maximize opportunities to provide water quality improvements. Implementation of local system improvements is primarily the responsibility of the local government.

STRATEGIES

- Implement the ERP program using WMP floodplain information to maintain current levels of flood protection
- Identify floodplain management and flood protection value associated with land acquisition opportunities
- Use cooperative funding to support local government efforts to reduce the risk of flood damages by improving intermediate and regional flood protection systems
- Operate and maintain District flood control and water conservation structures and associated facilities
- Develop and implement a capital improvement plan for District flood control and water conservation structures and associated facilities

3. Emergency Flood Response

Goal Statement: Provide effective and efficient assistance to state and local governments and the public to minimize flood damage during and after major storm events, including operation of District flood control and water conservation structures.

Through its emergency flood response initiative, the District prepares for, responds to, recovers from and mitigates the impacts of critical flooding incidents. To ensure adequate preparation, the District has developed an emergency operations program and maintains a Comprehensive Emergency Management Plan (CEMP), which provides guidelines for pre-incident preparation, post-incident response and recovery, deployment and annual exercises. The District's Emergency Operations Center and Emergency Operations Organization are critical to incident response.

All water management districts are members of the State Emergency Response Team and serve as support agencies to the state. The



The District's S-160 Structure on the Tampa Bypass Canal in Hillsborough County.

District provides emergency assistance to local governments and the public. District regulatory flood investigation teams assist local governments with emergency construction authorizations and help to determine and implement solutions to flooding problems for major conveyance systems.

The enhancement and modernization of District water management facilities includes the automation and upgrading of mission-critical water conservation and flood control structures with remote operation and equipping structures with digital video monitoring.

STRATEGIES

- Continue to promote an effective and efficient incident management system
- Establish redundant control systems for all mission-critical infrastructure
- Use technology to the fullest extent to ensure optimal response capabilities
- Train staff in National Incident Management System / Incident Command System structure
- Exercise the District's CEMP, high hazard structure Emergency Action Plans and Flood Event Guidelines
- Provide emergency assistance to local governments and agencies

Regional Priorities and Objectives

Northern Region – Springs

PRIORITY:

Improve Chassahowitzka River, Crystal River/ Kings Bay, Homosassa River, Rainbow River and Weeki Wachee River and associated springs

OBJECTIVES:

- Implement water quality and natural systems projects identified in the SWIM plans for the five first-magnitude spring systems
- Assist with septic to sewer conversions and package plant retrofits within the five first-magnitude spring priority focus areas
- Monitor status and trends associated with targets in each SWIM plan to assess the ecological condition of the spring systems
- Continue support of the Springs Coast Steering Committee (SCSC)
- Implement MFLs to protect spring flow through monitoring and reporting hydrologic conditions and consideration in water use permit review and water supply planning

HIGHLIGHT:

The water resources in the District include more than 150 documented springs, and the rivers, bays, and estuaries that are fed by them. The five largest spring groups within the District are concentrated in the Northern region along the Springs Coast. These five first-magnitude (flow rates of 100 cubic feet per second or greater) spring groups form the headwaters of the Chassahowitzka River, Crystal River/Kings Bay, Homosassa River, Rainbow River and Weeki Wachee River. All five systems are listed as a District SWIM priority water body, and by the state as Outstanding Florida Waterways and Outstanding Florida Springs. In addition, the District has established MFLs to help protect each of these systems.

The Crystal River/Kings Bay, Homosassa, Chassahowitzka and Weeki Wachee rivers flow into a region of the Gulf of Mexico known as the Springs Coast. The estuaries and nearshore coastal waters of the Springs Coast contain over 500,000 mapped acres of seagrass habitats making it one of the largest seagrass habitats in the world. Along with seagrass, the nearshore coastal waters of the Springs Coast include many species of attached algae, sponges, corals and hard bottom habitat supporting numerous ecologically and economically important species such as bay scallop, grouper, tarpon and manatee. The District's seagrass mapping program has been the single most relied upon metric for tracking the overall health of our Springs Coast

estuaries. Springs Coast seagrass mapping occurs every four years using a combination of aerial imagery and intensive field surveys.

The rivers, bays and springs of this region have experienced ecological changes caused by both natural and human impacts. Issues facing these coastal resources include sea-level rise, reduced water clarity and changes in the aquatic vegetation and nutrient enrichment. In addition, spring flow is highly dependent upon seasonal rainfall patterns. The District has established, and continues to evaluate, minimum flows on first-magnitude springs to prevent significant harm due to flow reductions associated with groundwater withdrawals.

In 2014, the District together with local, regional and state partners formed the SCSC. The committee's mission is to build consensus and partnerships to improve and manage each of the five first-magnitude spring systems through effective development and implementation of SWIM plans. All first-magnitude spring groups now have approved SWIM plans.

Each SWIM plan is a living document with adaptive management at its core. These plans identify management actions, projects that address the issues facing each system and specific quantifiable objectives and indicators to assess overall progress and help guide the SCSC. In the August 2017 workshop, the District's Governing Board prioritized combining District funds with state and local funds for projects that would convert septic systems to central sewer to benefit springs. The Board also identified the need to protect the District's investment by ensuring controls are in place to prevent additional pollution from new septic systems.

In addition to the management plan development and implementation, the FARMS Program continues to work with agricultural producers to implement BMPs to reduce groundwater use and nutrient loading in springsheds.

Quantifiable objectives and indicators are established for each first-magnitude spring system for the following surface water quality and biological indicators.

Chassahowitzka River Spring Group

- Water clarity
- Nitrate concentration
- Minimum flows
- Coverage of desirable submerged aquatic vegetation
- Coverage of invasive aquatic vegetation



Homosassa Springs in Citrus County.

Crystal River/Kings Bay Spring Group

- Water clarity
- Nitrate concentration
- Phosphorus concentration
- Chlorophyll concentration
- Minimum flows
- Coverage of desirable submerged aquatic vegetation
- Coverage of invasive aquatic vegetation
- No net loss of shoreline in natural condition
- Enhancement of disturbed shoreline

Homosassa River Spring Group

- Water clarity
- Nitrate concentration
- Minimum flows
- Coverage of desirable benthic habitat
- Coverage of invasive aquatic vegetation
- No net loss of shoreline in natural condition

Rainbow River Spring Group

- Water clarity
- Nitrate concentration
- Minimum flows
- Coverage of desirable submerged aquatic vegetation
- Coverage of invasive aquatic vegetation

Weeki Wachee River Spring Group

- Water clarity
- Nitrate concentration
- Minimum flows
- Coverage of desirable submerged aquatic vegetation
- Coverage of invasive aquatic vegetation

Regional Priorities and Objectives

Northern Region – Water Supply

PRIORITY:

Ensure long-term sustainable water supply

OBJECTIVES:

- Increase conservation
 - Achieve and maintain 150-gallon daily compliance per capita with all public supply utilities
 - Achieve and maintain a reduction in 2011-2015 regional average unadjusted gross per capita (156 gpcd) water use by 5.4 percent to 148 gpcd by 2025. This represents a savings of 4.35 mgd.
 - Achieve 75 percent utilization of all wastewater flows and a 75 percent resource benefit by 2040. As part of this effort, assist in the implementation of potable reuse (As of 2020, the Northern region had 20.7 mgd of wastewater flow and 15 mgd of reuse for a utilization rate of 75 percent.)
 - Improve the quality of water delivered to rapid infiltration basins (RIBs) in springsheds
- Increase the use of reclaimed water for potable, recharge and environmental enhancement projects.
- Continue to partner with the Withlacoochee Regional Water Supply Authority to promote regional water supply planning and development

HIGHLIGHT:

The District's 2020 RWSP shows that demand for water in the Northern region through 2040 and beyond could be met with fresh groundwater if the region's considerable potential for reuse and conservation is realized.

Public supply use, which accounts for about 50 percent of the water use in the Northern region, has significant potential for water savings. In 2019, there were four utilities in the Northern region with compliance per capita figures higher than 150 gpcd. The District's goals are to ensure that all utilities fall below the maximum compliance per capita usage and to further reduce the regional average per capita in accordance with the RWSP. The District's plan to assist public supply utilities is to minimize the need for additional groundwater supplies by maximizing the use of available reclaimed water and implementing comprehensive water conservation measures and best management practices.



The District promotes regional approaches to water supply planning and development. The benefits of regional systems include economies of scale, better ability to manage environmental impacts, improved system reliability, operational flexibility and emergency backup capability. Larger regional systems are also able to take advantage of conjunctive use, wherein both groundwater and alternative sources are available and can be managed to mimic natural hydrologic cycles.

In the Northern region, the District is partnering with the Withlacoochee Regional Water Supply Authority to promote regional water supply planning and development. This most recently includes cooperatively funding regional water conservation efforts and an update to the Authority's Master Water Supply Plan.



Reuse pipeline construction site.

Regional Priorities and Objectives

Tampa Bay Region – Lower Hillsborough River MFLs Recovery and MFL Monitoring

PRIORITY:

Implement the Lower Hillsborough River MFLs Recovery Strategy and Monitor Other MFLs

OBJECTIVES:

■ Northern Tampa Bay Water Use Caution Area

- Complete the third required five-year evaluation of results achieved from implementation of the MFLs recovery strategy adopted for the lower Hillsborough River
- Achieve 75 percent utilization of all wastewater flows and a 75 percent resource benefit by 2040. As part of this effort, assist in the implementation of potable reuse (As of 2020, the Tampa Bay Region had 229 mgd of wastewater flow and 115 mgd of reuse for a utilization rate of 50 percent)
- Increase the use of reclaimed water for potable, recharge and environmental enhancement
- Achieve and maintain a reduction in 2011-2015 regional average unadjusted gross per capita (94 gpcd) water use by 5.3 percent to 89 gpcd by 2025. This represents savings of 16.25 mgd
- Assist Tampa Bay Water in the development of 20 mgd of alternative supply sources, and 11 mgd of water conservation savings
- Maintain regulatory programs associated with the NTBWUCA
- Continue to monitor the environmental conditions through annual assessments of established MFLs

■ Dover/Plant City Water Use Caution Area

- Maintain achievement of the DPCWUCA area minimum aquifer level for the Upper Floridan aquifer by continuing to implement cold protection permitting procedures, assess status annually and promote FARMS projects that reduce cold protection groundwater uses
- Continue to monitor the aquifer system through annual assessment of the established DPCWUCA minimum aquifer level

■ Southern Water Use Caution Area

- Achieve 40 mgd offset in groundwater withdrawals in the SWUCA by 2025
- Achieve the SWUCA saltwater intrusion minimum aquifer level for the Upper Floridan aquifer to slow the rate of saltwater intrusion in the Most Impacted Area (MIA)

- Ensure that there are sufficient water supplies for all existing and projected reasonable-beneficial uses
- Continue to monitor recovery of the environmental conditions in the SWUCA through annual assessments of environmental MFLs and five-year recovery status reviews

HIGHLIGHT:

The District sets MFLs on priority water bodies. An MFL is the limit at which further withdrawals would be significantly harmful to the water resources or ecology of the area. If the existing flow or level of a water body is below, or is projected to fall below, the applicable minimum flow or level within 20 years, a recovery or prevention strategy must be implemented.

Additionally, the District can designate a water use caution area (WUCA) when the Governing Board determines that regional action is necessary to address cumulative water withdrawals which are causing or may cause adverse impacts to the water and related natural resources or the public interest. WUCA rules enhance the protection and recovery of the water resources.

Through fiscal year 2021, the District has adopted MFLs for 121 priority water bodies in the NTBWUCA and, as of 2020, all but one of these MFLs is not being met. In the Tampa Bay region, the District will continue implementing MFL recovery strategies for the lower Hillsborough River within the NTBWUCA. In addition, it will continue implementing strategies for water bodies in the SWUCA. Results from recent recovery assessments have eliminated the need for the recovery strategy associated with numerous lakes and wetlands in the NTBWUCA and another strategy for a minimum aquifer level established in the DPCWUCA.

The **NTBWUCA** which encompasses all of Pinellas and Pasco counties, and those portions of Hillsborough County north of Highway 60, was established to address adverse impacts caused by ground and surface water withdrawals. The first phase of the District's recovery

strategy for restoring water resources within the NTBWUCA called for reduced pumping from Tampa Bay Water's regional wellfields and providing financial incentives for construction of alternative water supply projects. To date, these efforts have produced more than 140 mgd of new alternative water sources and allowed for groundwater withdrawals to be reduced by more than 60 mgd.

In 2010, the District determined that more information was needed to fully evaluate the effects of the reductions on MFLs recovery. Since this time, the District implemented a second phase of the NTBWUCA recovery strategy through adoption of a comprehensive plan that would sunset in 2020. The plan included continued monitoring and evaluation of environmental mitigation for withdrawal impacts and continued water conservation activities by Tampa Bay Water's member governments. Draft results of the recovery assessment were submitted to the District in 2018, and the final assessment was completed in 2020. The District also evaluated hydrologic and ecological recovery in the regional wellfield in 2020 and completed a status assessment of all established MFLs in 2021. Collectively these assessments indicated the established MFLs



Regional Priorities and Objectives

Tampa Bay Region – Lower Hillsborough River MFLs Recovery and MFL Monitoring

were meeting ecological conditions and aquifer water levels were near the highest elevations in 40 to 60 years. In 2021, the District's Governing Board reviewed the documented recovery in the NTBWUCA and authorized the repeal of the comprehensive recovery plan. Renewal of Tampa Bay Water's Consolidated Permit at the mandated recovery quantity of 90 mgd from the regional wellfields will be based on these results in 2021.

The recovery strategy for the lower Hillsborough River addresses the augmentation of the river with water from a variety of sources, including Sulphur Springs, Blue Sink, Morris Bridge Sink and the Tampa Bypass Canal. Since 2007, according to the second of three required five-year assessments of the recovery for the lower Hillsborough River, up to 11 cubic feet per second (cfs) of water has been diverted from the Tampa Bypass Canal to the Hillsborough River Reservoir and 75 percent of this volume subsequently delivered to the lower river, below the City of Tampa dam, when necessary. To further support recovery of the lower river, the City of Tampa has been supplying up to 18 cfs of flow from Sulphur Springs and up to 3 cfs from Blue Sink to the base of the dam through implementation of projects cooperatively completed with the District. An update on the status of the Hillsborough River Recovery Strategy is provided to the Governing Board annually, and the third and final five-year assessment will be completed in 2023.

The District has adopted one MFL in the **DPCWUCA**. As of 2020, the DPCWUCA area minimum aquifer level for the Upper Floridan aquifer at the District's DV-1 Suwannee monitor well is being met. The DPCWUCA was established in 2011 to address impacts from groundwater pumping for cold protection. To protect crops from freeze events, common management practice for many farmers with agricultural commodities, including strawberries, blueberries, citrus and nurseries, involves pumping groundwater for cold protection when air temperatures drop to near freezing. Substantial groundwater use during these times lowers groundwater levels and can impact residential wells and contribute to sinkhole development. During a historic 11-day freeze event in January 2010, numerous residential wells in the Dover/Plant City area were impacted, and subsequently sinkholes were reported. As a result, the District developed and adopted a recovery strategy for

the DPCWUCA in 2011 to significantly reduce and monitor groundwater pumping during future freeze events that may cause impacts to existing legal users.

Non-regulatory mechanisms associated with the strategy include cost-share assistance through the FARMS Program to incentivise the implementation of BMPs to offset groundwater withdrawals for cold protection. The strategy's regulatory measures addressed groundwater withdrawal impacts, alternative water supplies, frost/freeze protection methods and resource recovery. These rules along with the non-regulatory mechanisms are intended to promote the continued maintenance minimum aquifer level recovery.

An assessment completed in 2020 indicated the 2010 weather event that precipitated adoption of the DPCWUCA minimum aquifer level and recovery strategy may be expected about once every 570 years. In addition, use of updated modeling and evaluation of declining historic and projected agricultural land use and water use supported ending the recovery strategy. Based on these findings, the District repealed the DPCWUCA recovery strategy in 2021 but will continue to implement rules and associated projects, and annually assess the status of the minimum aquifer level.

The **SWUCA** extends over 5100 miles in eight District counties and includes the southern portion of Hillsborough County. Within the SWUCA, depressed aquifer levels have caused saltwater intrusion along the coast, contributed to reduced flows in the upper Peace River and lowered lake levels in areas of Polk and Highlands counties. Groundwater withdrawals have been identified as the primary cause of the depressed aquifer levels throughout the groundwater basin, with drawdowns in some areas exceeding 50 feet.

Through fiscal year 2021, the District has adopted MFLs for 45 priority water bodies in the SWUCA and, as of 2020, approximately 70 percent of these MFLs are being met. The District adopted the SWUCA Recovery Strategy to recover flows and levels to established MFLs. The major goals for the recovery strategy are reducing the rate of saltwater intrusion in the MIA, restoring minimum flows in the upper Peace River and restoring minimum levels to the lakes in the Ridge area, which extends roughly 90 miles along the center of the state in Polk and Highlands counties.



Weather station in Hillsborough County.

The District is helping to fund the Hillsborough County South Hillsborough Aquifer Recharge Project (SHARP). This project is to expand the use of reclaimed water to recharge nonpotable portions of the Upper Floridan aquifer to improve aquifer water levels in the MIA of the SWUCA and to slow the rate of saltwater intrusion.

Primary elements of the SWUCA Recovery Strategy for this region include:

- Updating the RWSP to identify how to address increasing water needs while minimizing impacts to the water resources and related natural systems. The District approved a plan update in 2020 and will update it again in 2025.
 - Providing financial incentives for conservation, creation of alternative supplies and regional interconnections.
 - Monitoring and reporting.
-

Regional Priorities and Objectives

Tampa Bay Region – Improve Water Bodies

PRIORITY:

Improve Tampa Bay and lakes Seminole, Tarpon and Thonotosassa

OBJECTIVES:

- Develop and implement natural system projects that restore critical shoreline, coastal uplands and intertidal systems and freshwater wetlands
- Develop and implement water quality projects to reduce nutrient loading
- Update the Tampa Bay, Lake Tarpon and Lake Thonotosassa SWIM plans

HIGHLIGHT:

Tampa Bay is designated as an “Estuary of National Significance” and a District SWIM priority water body. The 373-square-mile bay is Florida’s largest open-water estuary. Its 2,200-square-mile watershed contains more than two million residents.

Three main challenges exist in the Tampa Bay watershed. Coastal uplands and wetlands have been altered and lost. Nonnative animal and plant species have spread, and water quality has been degraded from pollutants and nutrient loading.

The District is working with the Tampa Bay Estuary Program and local governments to update the comprehensive conservation and management plan and the Tampa Bay SWIM Plan. These plans will be used to identify water quality and natural systems improvement projects to protect and restore Tampa Bay.

A success indicator is the baywide seagrass acreage target of 40,000 acres set by the Tampa Bay Estuary Program. This target is based on seagrass acreage estimates from 1950s aerial photography. From 2014 to 2018, this target had been met. However, in 2020, the baywide seagrass acreage decreased below the target to 34,298 acres, levels not seen since 2012. The District’s seagrass mapping program has been the most relied upon metric for tracking the overall health of our estuaries, including Tampa Bay. Seagrass habitat is mapped every two years using a combination of aerial imagery and intensive field surveys. In addition, the bay’s nitrogen loading is on the decline, and the District SWIM Program and local cooperators have restored 7,300 acres of coastal habitats as of December 2020. The District and its partners have provided water quality projects treating more than 132 square miles of contributing area to Tampa Bay.

Lake Seminole is a 684-acre freshwater lake in west-central Pinellas County that was created in the 1940s by the impoundment of an arm of Long Bayou, a brackish water segment of Boca Ciega Bay. The lake’s watershed encompasses approximately 3,500 acres, of which almost 90 percent is developed. Water quality concerns in Lake Seminole began in the 1960s, as urbanization of the watershed increased and worsened in the 1980s and 90s.

Lake Seminole was included in the DEP’s draft verified list of impaired waters in 2006 for nutrients and trophic state index (i.e., for nutrients). Due to its impaired status, Pinellas County developed a Reasonable Assurance (RA) Plan in 2007 which was submitted to DEP. This RA Plan established the trophic state index and chlorophyll-a as the success indicators for Lake Seminole. Control of excessive nutrients entering the lake and the fate of the nutrients that do reach the lake (e.g., internal nutrient recycling) was expected to help achieve the targets. In 2004, Pinellas County adopted the Lake Seminole Watershed Management Plan to identify and implement projects to reduce nutrient concentrations in the lake and to meet targeted water quality goals.

These projects included retrofitting stormwater outflows from five of the highest nutrient loading sub-basins, which were completed, and removing nutrient rich sediments from the lake. In 2017, the Pinellas County Board of County Commissioners approved funding,



Dredging on Lake Seminole in Pinellas County.

matched with District funding, to dredge nutrient-rich sediment from the lake. Dredging of this sediment is completed and the project is currently in the close-out phase.



Lake Seminole dredge material management area.

Regional Priorities and Objectives

Tampa Bay Region – Improve Water Bodies

Lake Tarpon extends over 2,532 acres, making it the largest freshwater lake in the Tampa Bay area. The lake is designated as an Outstanding Florida Water, a fish management area and a District SWIM priority water body. Overall, Lake Tarpon can be described as a water body with excellent sport fishing and healthy submerged aquatic vegetation (SAV) habitat.

Despite its healthy status, the lake is currently listed by DEP as being impaired for chlorophyll-a (a measure of phytoplankton abundance) based on exceedance of the state's Numeric Nutrient Criteria (NNC). However, the lake is in compliance with water quality standards for both total nitrogen (TN) and total phosphorus (TP), creating a disconnect between chlorophyll-a and nutrient concentrations. In recent years, Pinellas County and District have co-funded technical projects to examine this disconnect.

The Lake Tarpon Water Quality Management Plan was completed in 2017. One of the many findings of this report was that chlorophyll-a concentrations were a function of residence time and lake levels and not nutrient loading. In 2018, Pinellas County completed a Lake Tarpon Paleolimnological Study to provide historical context for the lake's status. That study concluded that relatively high concentrations of

chlorophyll-a existed in the lake prior to human impacts and are a result of natural phenomena, not increased nutrient pollution. In May 2019, based on these studies, Pinellas County submitted a petition to DEP to consider Site Specific Alternative Criteria (SSAC) for nutrients and chlorophyll-a.

The findings of these studies will be incorporated into the next SWIM Plan update, which began in 2020. Two technical stakeholders' workshops were held in June and October 2020 to coordinate the District's update to the SWIM plan with the activities of agencies and local governments that manage water resources in the Lake Tarpon watershed. Revisions to success indicators identified for Lake Tarpon are being considered based on the outcome of the County's SSAC petition as part of the SWIM Plan update.

Lake Thonotosassa, the largest natural lake in Hillsborough County with a surface area of greater than 800 acres, is popular for recreational use as it is one of the few natural lakes in the area with public access. The lake discharges into the Hillsborough River, which is used for the City of Tampa's municipal water supply and the lake is designated as a District SWIM priority water body.



Lake Tarpon in Pinellas County.

Four main challenges exist in the Lake Thonotosassa watershed. Nutrient loadings from the watershed have caused extreme nutrient enrichment resulting in algal blooms within the lake. Habitat quality and species diversity have declined. Nonnative plant species are more abundant, while availability of desirable sport fish has decreased.

The District completed a nutrient source tracking project with Hillsborough County to identify nutrient sources in the watershed. Areas with high nutrient loadings were prioritized for projects, such as stormwater improvement projects, maintenance/control of exotic plants, enhancement of wetland and aquatic habitats and public education and awareness of stormwater pollution prevention. As part of this implementation, the District's FARMS and SWIM programs are coordinating with the Florida Department of Agriculture and Consumer Services to work with agriculture operations in the watershed to implement BMPs. During 2018 and 2019, the District participated in DEP's development of a nutrient TMDL for Lake Thonotosassa, which was adopted by DEP in July 2019.



The Rock Ponds project involves the restoration of approximately 1,043 acres of various coastal habitats. This project, which is the largest habitat restoration effort for Tampa Bay to date, was completed in cooperation with Hillsborough County.

Regional Priorities and Objectives

Tampa Bay Region – Flood Protection

PRIORITY:

Improve flood protection in Anclote, Hillsborough and Pithlachascotee rivers, Lake Tarpon, and Pinellas County coastal watersheds

OBJECTIVES:

- Implement BMPs to reduce the impact of existing intermediate and regional system flooding while maximizing opportunities for improving water quality in priority areas
 - Pithlachascotee River (Pasco County)
 - Anclote River (Pinellas/Pasco counties)
 - Curlew Creek and Smith Bayou (Pinellas County)
 - City of St. Petersburg (Pinellas County)
 - City of Tampa watersheds (Hillsborough County)
- Develop watershed management plans for priority areas to better support floodplain management decisions and initiatives
 - Lake Tarpon (Pinellas County)
 - Anclote River (Pinellas/Pasco counties)
 - Hammock Creek (Pasco County)
 - City of St. Petersburg (Pinellas County)
 - City of Tarpon Springs (Pinellas County)
 - Itchepackesassa Creek (Hillsborough County)
 - South Creek (Pinellas County)
 - City of Plant City (Hillsborough County)
- Update watershed management plans and develop alternative analyses to improve flood protection
 - Stevenson Creek (Pinellas County)
 - City of Seminole (Pinellas County)
 - City of Safety Harbor (Pinellas County)
 - City of Dunedin (Pinellas County)
 - East Pasco (Pasco County)
 - Cypress Creek (Pasco County)
 - Duck Pond (Hillsborough County)

HIGHLIGHT:

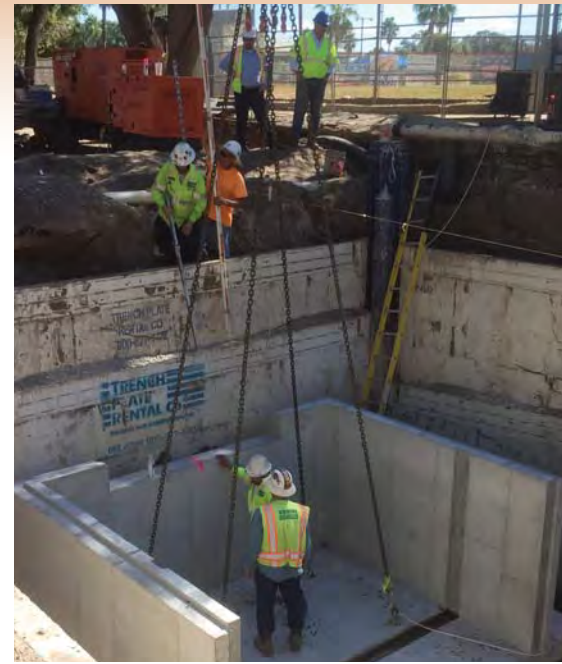
In recent years, the Tampa Bay region has experienced significant rainfall events resulting in local, intermediate and regional drainage system flooding. In late July and early August of 2015, western portions of Pasco County experienced a 500-year storm event, receiving 12 to 30 inches of rain in a 20-day period. During this same period, northwest Hillsborough County experienced similar rainfall totals and flooding. In 2016, Hurricane Hermine released 15 inches of rain in Pinellas County and the coastal portions of Pasco

County over a four-day period. In September 2017, Hurricane Irma released 8-12 inches of rainfall overnight into the headwaters of the District's river systems. As a result, major rivers reached flood stage, including several in the Tampa Bay region (e.g., Hillsborough River, Anclote River, Cypress Creek). This caused widespread flooding, as some rivers recorded peak levels not surpassed since 1960. Overall, 2018 was a very wet year, with the District averaging more than 60 inches of rain, 7 inches above average. This was the highest annual rainfall received since 2004. These events highlight the importance of watershed management.

The District's WMP identifies, prioritizes and addresses flood-related water resource issues within a watershed. Information developed through the WMP is used by local governments, the District, and state and federal governments in regulatory and advisory floodplain management programs. The District takes a watershed approach to managing water and water-related resources within its boundaries. By doing so, the characteristics of each watershed can be evaluated to reflect the interconnected nature of Florida's water resources. The WMP provides a method to evaluate the capacity of a watershed to protect, enhance and restore water quality and natural systems while achieving flood protection.

The District has been working with cities and counties to develop a list of projects and a plan to implement projects over both the short and long-term. These projects are listed, updated and maintained in the District's WMP Five-Year Plan. District assistance can include co-funding the construction of flood protection projects through the CFI program. Currently, the District is helping the City of Tampa to fund two large flood protection projects, the Cypress Street Outfall and Southeast Seminole Heights stormwater projects. The City has recently completed the Dale Mabry Henderson Trunk Line project with the assistance of cooperative funding from the District. Additionally, there are several cooperatively-funded projects under construction in Pinellas, Pasco and Hillsborough counties that will reduce flooding in intermediate and regional stormwater systems.

The District's ERP program protects floodplain and historic basin storage and helps to ensure that new development does not adversely impact neighboring properties. Information



City of Tampa Dale Mabry Henderson Trunkline project's high capacity box culvert installation addresses chronic flooding along Dale Mabry Highway.

developed from the WMP is used by regulatory staff and industry consultants to identify flood-prone areas and to ensure that a proposed project design provides the required level of protection. Coordination among these groups begins during the pre-application process to identify minimum flood protection requirements and continues as needed through the permit application review process. During flood events, District staff coordinate internally with regulatory and operations staff and externally with local governments to investigate flooding complaints and facilitate emergency measures needed to alleviate flood risks that pose an immediate threat to public health and safety.

In the Tampa Bay region, chronic flooding occurs primarily in areas that were developed prior to 1984, when the District's stormwater permitting rules went into effect. District regulatory staff coordinate with the residents and local governments to provide guidance on permitting options for temporary and permanent flood relief measures. Some of these relief options can be co-funded through the District's CFI program.

Regional Priorities and Objectives

Heartland Region – SWUCA Recovery

PRIORITY:

Implement SWUCA Recovery Strategy

OBJECTIVES:

- Achieve 40 mgd of offsets in groundwater withdrawals in the SWUCA by 2025
- Achieve the SWUCA saltwater intrusion minimum aquifer level (SWIMAL) for the Upper Floridan aquifer to slow the rate of saltwater intrusion in the MIA
- Assist in recovering the minimum flows for the upper Peace River through implementation of the Lake Hancock Lake Level Modification project
- Recover minimum levels at seven Polk County lakes and five Highlands County lakes by 2025
- Ensure a sustainable water supply
 - Achieve and maintain daily 150-gallon compliance per capita with all public supply utilities
 - Achieve and maintain a reduction in 2011-2015 regional average unadjusted gross per capita (111 gpcd) water use by 4.3 percent to 106 gpcd by 2025. This represents a water savings of 3.8 mgd.
 - Assist Polk Regional Water Cooperative (PRWC) in the development of 30 mgd of alternative water supply sources and implementation of conservation programs including a demand management plan
 - Increase percentage of total water use supplied by alternative sources
 - Maximize the water conservation potential for the region

- Maximize regional interconnects among public supply utilities
- Complete the Lower Floridan aquifer study in Polk County to assess its viability as an alternative water supply source and to gain a better understanding of the Lower Floridan aquifer characteristics and groundwater quality
- Complete the next updates for the District and Central Florida Water Initiative RWSP by 2025
- Achieve 75 percent utilization of all wastewater flows and a 75 percent resource benefit by 2040. As part of this effort, assist in the implementation of potable reuse (As of 2020, the Heartland region had 38 mgd of wastewater flow and 22 mgd of reuse for a utilization rate of 58 percent)

HIGHLIGHT:

Most of the District's Heartland region falls within the eight-county SWUCA, which encompasses approximately 5,100 square miles. In the SWUCA, depressed aquifer levels have caused saltwater intrusion along the coast, contributed to reduced flows in the upper Peace River and lowered lake levels in areas of Polk and Highlands counties.

Groundwater withdrawals were identified as the primary cause of the depressed aquifer levels throughout the groundwater basin, with drawdowns in some areas exceeding 50 feet.

Through fiscal year 2021, the District has adopted MFLs for 45 priority water bodies in the SWUCA and approximately 70 percent of these MFLs are being met. An MFL is the limit at which withdrawals would be significantly harmful to the water resources or ecology of the area. The District adopted the SWUCA Recovery Strategy to address those MFLs that are not being met by reducing the rate of saltwater intrusion in the MIA, restoring minimum flows to the upper Peace River and restoring minimum levels to lakes in the Ridge area, which extends roughly 90 miles along the center of the state in Polk and Highlands counties.

Primary SWUCA Recovery Strategy elements for this region include:

- Updating the RWSP to identify how to address growing regional water needs while minimizing impacts to water resources and related natural systems. The District approved a plan update in 2020 and will update it again in 2025.
- Providing financial and regulatory incentives for conservation, construction of alternative supplies and regional interconnections.
- Monitoring and reporting.
- Developing and implementing water resource projects to aid in reestablishing minimum flows to rivers, recover levels in Ridge Lakes and enhance recharge.



Peace River in Hardee County.

Regional Priorities and Objectives

The District has been successful in multiple efforts associated with its SWUCA goals. Partnering with the Peace River Manasota Regional Water Supply Authority, the District has assisted in developing a sustainable water supply to meet the needs of a four-county region within the SWUCA. The District has also assisted with the creation of the PRWC and is helping to fund its evaluation and development of AWS projects, including conservation. The FARMS Program and other conservation efforts have reduced Upper Floridan groundwater withdrawals in the SWUCA, which has helped to increase groundwater levels in the MIA.

The SWIMAL elevation established for the Upper Floridan aquifer in the MIA must be met or exceeded for five consecutive years for recovery. In 2018, 2019 and 2020, this elevation was met or exceeded. Achieving the SWIMAL is the first step in meeting the recovery strategy's goal to slow saltwater intrusion.

The District's Lake Hancock Lake Level Modification Project became fully operational in 2014 and a reservation was established in 2020 for water stored in Lake Hancock and released to lower Saddle Creek to help recover the minimum flows for the upper Peace River. Recovery in the upper Peace River has led to improvements in low-flow conditions in the lower portion of the river.

Significant challenges remain in meeting minimum levels for Ridge lakes in Highlands and Polk counties, but progress is being made. Ridge lake water levels have increased several feet since the 1990s.

While the southern two-thirds of Polk County is included in the SWUCA, all of Polk County is part of a designated Central Florida Water Initiative (CFWI) planning region. The CFWI planning area covers five counties, including Polk, Orange, Osceola, Seminole and the southern portion of Lake. The boundaries of the St. Johns River, South Florida and Southwest Florida water management districts meet in the planning area.

The District is collaborating with the other water management districts, the state and local governments and utilities to identify a sustainable water supply for the CFWI planning region. Key successes in meeting the water resource challenges of the area have included refinement of a shared groundwater model to determine regional resource availability and

the publication of the second CFWI RWSP in 2020. Ongoing efforts include coordination and planning for water resource data collection needs and establishment of consistent rules among the three water management districts with jurisdiction in the CFWI planning area.

As part of the CFWI planning area, the need for development of 30 mgd of AWS sources by 2040 in the Polk County area has been identified. The District assisted in the establishment of the PRWC in 2016 as a collaborative entity to address water supply needs among its member governments and is currently coordinating with the PRWC on maximizing water conservation efforts and the development of AWS projects to meet the projected 2040 water supply demands. Such efforts include, but are not limited to, a long-term demand management plan, ongoing District investigation of the Lower Floridan aquifer as a potential alternative water supply source and provision of \$40 million in initial funding to the PRWC to assist in implementation of identified projects. In 2017, co-funding agreements were executed that assigned \$11.5 million of the initial funding for Phase I of three projects. At its April 2018 meeting, the Governing Board approved an additional \$5 million per year (fiscal years 2019–23) for Phase II implementation of the selected projects. The PRWC is currently evaluating four AWS projects and has completed preliminary design for both the Southeast and West Polk Lower Floridan Aquifer Wellfield projects. Water conservation efforts and demand management plans will help reduce and delay the need for these expensive AWS projects.



Surface water pump station at Windmill Farms, Hardee County.

Regional Priorities and Objectives

Heartland Region – Improve Water Bodies

PRIORITY:

Improve Winter Haven Chain of Lakes and Ridge Lakes

OBJECTIVE:

- Implement plans and projects for water quality and natural systems improvement

HIGHLIGHT:

The **Winter Haven Chain of Lakes** is a system of 19 interconnected lakes in Polk County. Designated as a District SWIM priority water body, the chain encompasses a 32-square-mile watershed and is made up of two major groups with five lakes in the northern chain and 14 in the southern chain. The lakes are interconnected through the construction of canals to promote recreational access.

Two main challenges exist in the Winter Haven Chain of Lakes watershed: nutrient loading from urban runoff and the loss of natural systems. The District is working with local governments through the cooperative funding program to reduce nutrient loadings by improving stormwater management and to restore natural systems.

Success will be measured by water quality improvements, including reductions in non-point source loading of nutrients and increases in restored natural systems. Additionally, it is envisioned that lakes with sufficient water quality data will be evaluated against the DEP's numeric nutrient criteria.

As of 2020, water quality improvement projects have been implemented for eight lakes (Conine, Howard, May, Lulu, Hartridge, Jessie, Cannon, and Mariana). In addition, more than 30 low impact development (LID) best management projects have been installed within the downtown area of the City of Winter Haven.

Approximately 130 lakes lie within the Ridge Lakes area, which extends roughly 90 miles along the center of the state in Polk and Highlands counties. The high number of deep sinkhole basin lakes makes this region uniquely different from the other lake regions in the District and throughout the state.

Declining water quality, due to nutrient loading from the watershed, remains a challenge for lakes in the **Ridge Lakes** area. Common water quality impacts include stormwater runoff, wastewater effluent, residential fertilizer applications, agricultural runoff, shoreline habitat degradation and hydrologic alterations.

Through the District's Ridge Lakes Restoration Initiative, emphasis has been placed on protective lake management strategies. Stormwater treatment has been a high priority, as well as enhancement and restoration of natural systems and additional flood protection.

The District-led Ridge Lakes Plan update was completed in 2019. The project's purpose was to propose lake-specific action plans and conceptual designs for prioritized lakes. In addition, a general action plan was also developed for the non-prioritized lakes to provide a path forward to further efforts in all



Lake Eloise in Polk County.

of the Ridge Lakes. Data needs are identified for lakes without sufficient water quality information. Of the 136 lakes studied, 21 are impaired or potentially impaired for one or more nutrients, 23 are not impaired and more than 94 lakes do not have enough water quality data to determine impairments. Improved monitoring plans were recommended for the 94 lakes with insufficient data. Conceptual designs for water quality improvement projects were prepared for 12 prioritized lakes. The plan will be used to work with local governments to develop projects and programs aimed at water quality improvements.



Lake Gwyn in Polk County.

Regional Priorities and Objectives

Southern Region – SWUCA Recovery

PRIORITY:

Implement SWUCA Recovery Strategy

OBJECTIVES:

- Achieve 40 mgd of offset in groundwater withdrawals in the SWUCA by 2025
- Achieve the SWUCA saltwater intrusion minimum aquifer level for the Upper Floridan aquifer to slow the rate of saltwater intrusion in the MIA
- Ensure a sustainable water supply
 - Achieve and maintain 150-gallon daily compliance per capita with all public supply utilities
 - Assist the Peace River Manasota Regional Water Supply Authority in the development of 21 mgd of alternative supply sources
- Achieve and maintain a reduction in 2011-2015 regional average unadjusted gross per capita (84 gpcd) water use by 5.2 percent to 79.7 gpcd by 2025. This represents a water savings of 4.7 mgd
 - Maximize water conservation
 - Maximize public supply interconnects
 - Achieve 75 percent utilization of all wastewater flows and a 75 percent resource benefit by 2040. As part of this effort, assist in the implementation of potable reuse (As of 2020, the Southern region had 72 mgd of wastewater flow and 45 mgd of reuse for a utilization rate of 62 percent)
 - Develop ASR options for potable and reclaimed water supply
 - Increase the percentage of total water use supplied by alternative sources
 - Continue assessing the viability of using excess runoff in Flatford Swamp for improving groundwater levels in the MIA

HIGHLIGHT:

The entire Southern region of the District falls within the eight-county SWUCA. In the SWUCA, which encompasses approximately 5,100 square miles, depressed aquifer levels have caused saltwater intrusion along the coast, contributed to reduced flows in the upper Peace River and lowered lake levels in areas of Polk and Highlands counties.

Groundwater withdrawals have been identified as the primary cause of the depressed aquifer levels throughout the groundwater basin, with drawdowns in some areas exceeding 50 feet.

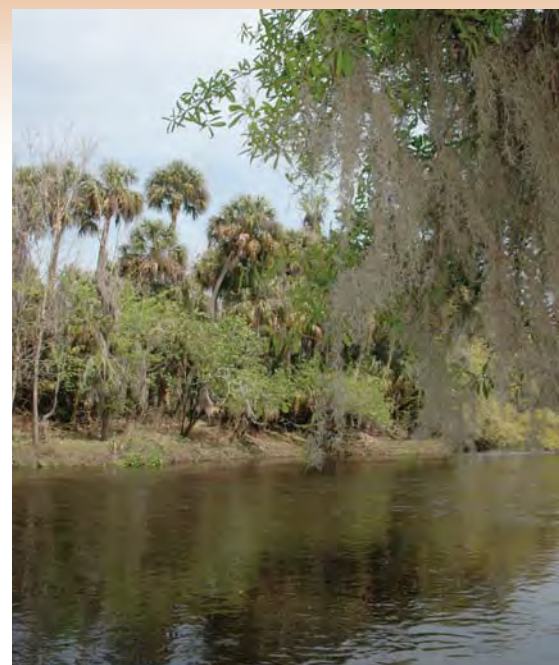
Through fiscal year 2021, the District has adopted MFLs for 45 water bodies in the SWUCA and approximately 70 percent of these MFLs are being met. An MFL is the limit at which withdrawals would be significantly harmful to the water resources or ecology of the area. The District adopted the SWUCA Recovery Strategy to address MFLs not being met by reducing the rate of saltwater intrusion in the MIA, restoring minimum flows to the upper Peace River and restoring minimum levels to the lakes in the Ridge area, which extends roughly 90 miles along the center of the state in Polk and Highlands counties.

Primary SWUCA Recovery Strategy elements for this region include:

- Updating the RWSP to identify how to address growing regional water needs while minimizing impacts to the water resources and related natural systems. The District approved a plan update in 2020 and will update it again in 2025.
- Providing financial incentives for conservation, development of alternative supplies and regional interconnections.
- Monitoring and reporting.

The District has been successful in multiple efforts associated with its SWUCA goals. Partnering with the Peace River Manasota Regional Water Supply Authority, the District has assisted in developing a sustainable water supply to meet the needs of a four-county region within the SWUCA. The District has also assisted with the creation of the PRWC and is helping to fund its evaluation and development of AWS, including conservation. The FARMS Program and other conservation efforts have reduced Upper Floridan groundwater withdrawals in the SWUCA, which in turn has helped to increase groundwater levels in the MIA.

The SWIMAL established for the Upper Floridan aquifer in the MIA must be achieved for five consecutive years. In 2018, 2019 and 2021, this elevation was met or exceeded. Achieving compliance with the SWIMAL is the first step in meeting the recovery strategy's goal to slow saltwater intrusion. To further this effort, the District will reevaluate the SWIMAL in 2023 to incorporate updated data and model information.



Peace River in Arcadia (DeSoto County)

The District's Lake Hancock Lake Level Modification project became fully operational in 2014 and a reservation was established in 2020 for water stored in Lake Hancock and released to lower Saddle Creek to help meet the minimum flows in the upper Peace River. Recovery in the upper Peace River has led to improvements in low-flow conditions in the lower portion of the river within the Southern region. In addition, significant challenges remain in meeting minimum levels for Ridge lakes in Highlands and Polk counties, but progress is being made. Ridge lake water levels have increased several feet since the 1990s.

Based on groundwater modeling, the District's Flatford Swamp MIA Recharge/SWIMAL Recovery project continues to show promise in helping to slow saltwater intrusion by recharging the Floridan aquifer system near the MIA. As of August 2020, test recharge and monitoring wells are completed and construction of surface facilities is under way.

Much progress has been made in the region, but challenges remain to reduce the rate of saltwater intrusion along the coast and move toward meeting minimum levels.

Regional Priorities and Objectives

Southern Region – Improve Water Bodies

PRIORITY:

Improve Charlotte Harbor, Sarasota Bay, Shell/Prairie/Joshua Creeks

OBJECTIVES:

- Develop plans and implement projects for water quality improvement
- Develop plans and implement projects to restore natural systems

HIGHLIGHT:

Charlotte Harbor is Florida's second largest open water estuary at 270 square miles. Generally considered one of the most productive estuarine ecosystems in southwest Florida, the harbor is designated an "Estuary of National Significance" and a SWIM priority water body.

Challenges for the 4,400 square-mile Charlotte Harbor watershed include alteration and loss of wetlands, an increase in nonnative plant species, water quality degradation from point and non-point source pollutants and seagrass loss.

The success indicator for this system (as reported in the November 2020 update to the Charlotte Harbor SWIM Plan) is to maintain seagrass cover for Charlotte Harbor proper and Lemon Bay, including Dona and Roberts Bay, at 2016 levels (23,503 acres). As of 2020, total mapped seagrass acreage was 17,811 acres. This represents a sharp decline since 2018 and the lowest acreage reported since the District began mapping seagrass habitat in 1988. The District's seagrass mapping program has been the most relied upon metric for tracking the overall health of our estuaries, including Charlotte Harbor and Lemon Bay. Seagrass habitat is mapped every two years using a combination of aerial imagery and intensive field surveys.

The District participates with other government agencies through the Coastal and Heartland National Estuary Partnership to update and implement the comprehensive conservation and management plan, and implement water quality and hydrologic alteration improvement projects to restore coastal upland, wetland and intertidal habitats.

As of 2020, the District and its cooperators have completed 26 natural systems projects, which have restored approximately 4,907 acres of coastal habitats for Charlotte Harbor. The

District and its partners have provided water quality projects treating more than 150 square miles of contributing area for the watershed. Construction of the District's Lake Hancock Outfall Treatment System has been completed. This initial phase of operation was focused on vegetation establishment and monitoring. Water quality and operational data are being collected to optimize system operation.

Sarasota Bay is designated as an "Estuary of National Significance" and a SWIM priority water body. Like Charlotte Harbor, challenges to this 150 square-mile watershed include changes to coastal uplands, loss of wetlands, increases in nonnative plant species and water quality degradation from point and non-point source pollutants and more recently significant losses in seagrass habitat.

From 2008 to 2018, seagrass acreage for Sarasota Bay remained relatively consistent. However, in 2020, Sarasota Bay like its neighbors to the north and south, experienced significant declines, reducing seagrass acreage to levels not seen since 2006.



Shell Creek in Charlotte County.

Regional Priorities and Objectives

As is the case for Charlotte Harbor, the District is working with other government agencies on initiatives for Sarasota Bay. These include updating the comprehensive conservation and management plan, implementation of water quality improvement projects and restoration of coastal upland, wetland and intertidal habitats. As of December 2020, the District and its partners have completed projects to provide water quality treatment for 133 square miles of watershed contributing to Sarasota Bay, including the Dona Bay project. Additionally, more than 925 acres of coastal habitats have been restored in Sarasota Bay.

Shell, Prairie and Joshua Creek (SPJC)

watersheds are in the southern region of the Peace River Basin. Combined, the SPJC watersheds comprise a surface area of 487 square miles, or approximately 20 percent of the Peace River Basin.

The City of Punta Gorda obtains its potable water supply from the Shell Creek in-stream reservoir. Prairie and Shell creeks (and associated tributaries) are designated as Class I waters, which means they are designated for use as potable water supplies.

Groundwater withdrawals for agricultural irrigation created mineralized water quality issues in the SPJC watersheds. The FARMS Program was created in 2003 with the goal of improving the watersheds' water quality. Through BMP implementation, the FARMS Program has partnered with producers to reduce groundwater use and capture runoff in tailwater recovery ponds and reuse the water for irrigation. This reduces the amount of mineralized groundwater used within the watershed and results in downstream water quality benefits.

A key success indicator is the reduction of total dissolved solids (TDS) in these surface waters. Through the implementation of FARMS Program projects and other initiatives, water quality concentrations for chloride, specific conductance and TDS measured at key surface water reference sites in the SPJC watersheds have significantly improved. Additionally, these FARMS Program projects have reduced approximately 11.6 mgd of groundwater use, which contributes to SWUCA recovery.



Newly created freshwater wetlands at Coral Creek, Phase 2 in Charlotte County.



District staff educating environmental students on the importance of water quality monitoring.



Prairie Creek in Charlotte County.

Core Business Processes

Managing and protecting the water resources of a 16-county area requires a highly skilled, motivated work force with the right tools, support and good information to make informed decisions and provide high-quality service to the residents of the District. All the various functions of this workforce have been evaluated and categorized into seven core business processes. To successfully achieve our Strategic Initiatives and Regional Priorities, the District must excel in each of these.

WATER RESOURCES PLANNING

Water Resources Planning encompasses surface water and groundwater resource evaluations and other comprehensive planning efforts in partnership with local, state, regional, federal and other stakeholders. These responsibilities include identifying, collecting, analyzing and disseminating relevant and accurate data and providing technical assistance.

Examples include the SWUCA Recovery Strategy Five-Year Assessment, MFLs studies, Regional Water Supply Planning, Strategic Plan update, Consolidated Annual Report and reviews of proposed comprehensive plan amendments and large-scale development, including developments of regional impact.

INNOVATIVE PROJECTS

The District initiates and supports creative, collaborative projects to produce measurable benefits to the environment, water resources and the regional community. The projects address the core mission goals for water supply, flood protection, water quality and natural systems.

To ensure tax dollars are used as efficiently and effectively as possible, the District created a Project Management Office. Comprising a team of project managers, this Office oversees District project processes to increase efficiency and maximize benefits.

FINANCIAL SUSTAINABILITY

The District's primary funding source is ad valorem taxes, which vary from year to year. In addition to paying for its operating costs, the District provides financial incentives through partnerships with public and private entities on projects that protect and restore the water resources of the region, such as promoting water conservation, developing alternative water supplies, enhancing natural systems and water quality, and promoting flood management activities.

The District operates on a pay-as-you-go basis that allows it to make more funding available for projects. The District targets at least 50 percent of its budget each year for water resources projects.

REGULATION

Regulation involves multiple permit activities that promote a fair allocation of the water resources, protect wetlands, enforce well construction standards and ensure that new activities do not increase the risk of flooding or degrade water quality. The permitting process also ensures operational performance monitoring of permitted systems to protect the region's citizens and water resources.

The District is committed to protecting its water resources and related natural systems while also providing quality service to the regulated community. The District's Regulation Division is structured to eliminate duplication, increase efficiency and consistency and reduce costs. Centralizing the permitting review process in the District's Tampa office ensures that permit applicants throughout the District are treated consistently. Improved online permitting services make it easier and more convenient to submit a permit application and access permit data.

The District also continues to work with the other water management districts and the DEP to achieve statewide permitting consistency wherever possible while allowing for regional water resource differences.

LAND MANAGEMENT AND STRUCTURE OPERATIONS

Land Management and Structure Operations operate and maintain District lands and water control structures to restore and sustain natural systems and minimize flood damage.

In its 10,000-square-mile region, the District owns 450,000 acres of land that provide various water resource benefits. These lands are managed to restore and sustain ecosystems, store flood waters, recharge the aquifer and improve water quality.



Prescribed burn conducted on District land.

Core Business Processes

District lands are evaluated periodically to ensure that benefits are being achieved. Surplus is considered when lands are not necessary for statutory requirements, benefit only one of the District's areas of responsibilities or present a management inefficiency for the District.

The District also operates 84 water control structures. Most of these structures are conservation structures that are operated to maintain water levels and provide limited flood relief. The larger flood control structures, like those associated with the Tampa Bypass Canal, are capable of quickly moving large quantities of water and are operated to maximize flood protection. Structure S-160 on the Tampa Bypass Canal is the largest flood control structure in the state.

KNOWLEDGE MANAGEMENT

As an information-based organization, high-quality data are critical to making informed decisions that protect and enhance the water resources. Knowledge Management is the practice of systematically and actively collecting, managing, sharing and leveraging an organization's data, information and processes.

As the region's knowledge leader for water resources information, the District collects a variety of regulatory, scientific and socio-economic and business data to support its Strategic Initiatives. While the focus of Knowledge Management activities is on meeting and supporting these initiatives, it is recognized that many public and private stakeholders also rely on this information to meet their business needs. Since FY2016, an emphasis has been placed on building awareness and expanding a culture of Knowledge Management throughout all business units within the agency, as well as improving the documentation, organization, review and storage of key business practices and related supporting documentation (governing documents). During FY2022, the District will continue efforts to organize governing documents to facilitate knowledge sharing, ensure the alignment of division/bureau practices with the Governing Board's policies and executive director procedures and allow for timely retrieval and review of existing governing documents. The focus also will cover streamlined processes for maintenance of updated documents.



Regulatory staff explaining stormwater management.

Information technology and water resource data collection activities at the District are managed by a governance procedure, with oversight by a governance committee that includes members of the District's Executive Team. The information technology and data governance process monitors, informs, and controls the efficient and effective use of information technology and data collection to ensure these initiatives and associated resource expenditures are in alignment with the strategic direction and priorities of the District. The focus for the future will be on expanding governance processes across all business practices at the District to further supplement the District's Knowledge Management initiatives.

The District promotes consistency of data collection activities by coordinating with local, regional and state entities through participation on statewide, regional councils and interagency workgroups. The District is also working with the other water management districts and state agencies to implement common replacement standards for equipment; to develop common standards for sharing financial, geospatial, scientific and permit information; and to establish frameworks for joint development of software applications.

ENGAGEMENT

Engagement is a key to retaining a highly skilled and motivated work force, the cornerstone of any successful organization. Keeping staff informed and involved promotes good morale and increases productivity. Additionally, engagement extends beyond internal staff.

To manage water resources effectively over a large region, engaging external publics, including citizens, media, elected officials, advisory committees and other stakeholders is also critical. Outreach and education engage these various groups to foster behaviors, secure funding and assist in developing laws that conserve, protect and sustain Florida's water and related natural resources. Also, through its planning and outreach processes the District collaborates with stakeholders and advisory committees to help meet those goals. Input from stakeholders and advisory committees is used by the Governing Board to make water resource decisions.

Engagement helps to communicate those shared interests, forging relationships that support collaboration to benefit the region's water and related resources, economic stability and quality of life.



Southwest Florida *Water Management District*

Photo Credits
Julie Branaman and SWFWMD staff.

VISAY 02-15-2022

The Southwest Florida Water Management District (District) does not discriminate on the basis of disability. This nondiscrimination policy involves every aspect of the District's functions, including access to and participation in the District's programs, services and activities. Anyone requiring reasonable accommodation, or who would like information as to the existence and location of accessible services, activities, and facilities, as provided for in the Americans with Disabilities Act, should contact the Human Resources Office Chief, at 2379 Broad St., Brooksville, FL 34604-6899; telephone (352) 796-7211 or 1-800-423-1476 (FL only), ext. 4747; or email ADACoordinator@WaterMatters.org. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1-800-955-8771 (TDD) or 1-800-955-8770 (Voice). If requested, appropriate auxiliary aids and services will be provided at any public meeting, forum, or event of the District. In the event of a complaint, please follow the grievance procedure located at WaterMatters.org/ADA.