Message from the Governing Board Chairman

Serving more than 5 million Floridians, the St. Johns River Water Management District is responsible for managing groundwater and surface water resources in all or part of 18 counties in northeast and east-central Florida. The mission of the District is “to protect our natural resources and support Florida’s growth by ensuring the sustainable use of Florida’s water for the benefit of the people of the District and the state.”

This year, the District continued the important work of protecting and restoring our natural resources. In coordination with the Florida Department of Environmental Protection, the District has committed more than $16.7 million to benefit multiple springs protection projects, including several affecting Outstanding Florida Springs. New state funds championed and secured by State Senator Rob Bradley and approved by Governor Rick Scott provide additional resources for important projects in the region. A major highlight includes $8.1 million of these funds for the Black Creek Water Resource Development Project, which will provide vital aquifer recharge in the northern portion of the District and assist our water supply for years to come. Additionally, the District remains committed to supporting our local communities through cost-share partnerships with local governments. This year alone, our effort has funded more than 59 cost-share projects. We have also been able to invest more than $33.5 million in water quality and water supply projects throughout the District.

The District remains committed to finding efficiencies and directing all additional available funds to projects that can best support water resources throughout our 18-county region.
EXECUTIVE SUMMARY

In April 2013 the Governing Board of the St. Johns River Water Management District (District) adopted a strategic plan to replace the District Water Management Plan consistent with Section 373.036(2)(e), Florida Statutes (F.S.). The strategic plan, which is updated annually, addresses a minimum five-year planning horizon and identifies goals, strategic priorities, strategies, success indicators, milestones/deliverables and funding sources. This document is the annual update and establishes a new planning period of fiscal year (FY) 2018–2019 through FY 2022–2023.

District Priorities
The District will focus on four core missions to complete the functions set out by the Legislature. The priorities are:

- Water Supply
- Water Quality
- Natural Systems
- Flood Protection

Missions and Goals
The District will execute goals that stay true to original requirements set forth by the Legislature in 1972. Moving forward, the District will focus its efforts on the four core mission areas. These goals and their implementation will facilitate the success of this plan and future decision making.

Water Supply
- Plan and implement regional water supply plans
- Develop minimum flows and levels and implement prevention and recovery strategies as necessary
- Implement water conservation strategies

Water Quality
- Provide restoration efforts to springs/aquifer
- Provide restoration efforts to coastal water bodies
- Provide restoration efforts to the St. Johns River

Natural Systems
- Implement activities that conserve or restore native communities

Flood Protection
- Maintain federal flood management systems
- Maintain non-federal flood management systems

Supporting Activities
- Develop supporting activities that efficiently assist District goals
CONTENTS

EXECUTIVE SUMMARY ............................................................................................................ V
ABOUT THE DISTRICT ................................................................................................................1
WATER SUPPLY ...........................................................................................................................2
WATER QUALITY ........................................................................................................................8
NATURAL SYSTEMS .................................................................................................................16
FLOOD PROTECTION ................................................................................................................20
SUPPORTING ACTIVITIES ......................................................................................................244

A cypress dome at the Blue Cypress Conservation Area, Indian River County.
ABOUT THE DISTRICT

In 1972, the Florida Legislature established five water management districts. Each district has responsibilities in four broad categories: water supply, water quality, natural systems management and flood protection.

Florida’s water management districts are primarily funded with ad valorem taxes. Each district is governed by a Governing Board, whose members are appointed by Florida’s Governor and confirmed by the Florida Senate. Board members serve for four years as regional or at-large representatives. The Governor and Legislature have approval authority over the districts’ budgets and there is general oversight at the state level by the Florida Department of Environmental Protection (DEP).

The St. Johns River Water Management District (District) encompasses all or part of 18 counties in northeast and east-central Florida that includes 118 local governments and a total population of 5.06 million (as of 2017). The District operates from its headquarters in Palatka, and service centers in Palm Bay, Maitland and Jacksonville.

Our Mission:
To protect our natural resources and support Florida’s growth by ensuring the sustainable use of Florida’s water for the benefit of the people of the District and the state.
WATER SUPPLY

In accordance with Chapters 163 and 373 of the Florida Statutes, the District must conduct water supply planning for at least a 20-year planning horizon for those regions where it determines that existing sources of water are not adequate to meet all existing and future reasonable beneficial uses and to sustain the water resources and related natural systems through the planning period. To address local resource concerns, the district is divided into three planning regions and is working with other water management districts on water supply planning in most regions. The three planning regions are Central Florida, Central Springs and East Coast [CSEC], and North Florida.

In the Central Florida planning region, the District has been working in partnership with the South Florida Water Management District (SFWMD), Southwest Florida Water Management District (SWFWMD), Department of Environmental Protection (DEP) and other stakeholders through the Central Florida Water Initiative (CFWI). A joint, regional water supply plan (RWSP) was adopted in 2015 by the three water management districts for the CFWI planning area. The districts are now finalizing the development of the 2040 water supply projections for the 2020 CFWI RWSP.

In the CSEC planning region, District staff are continuing stakeholder outreach in advance of development of the CSEC RWSP. A resource assessment was completed in FY 2017–2018 to determine those geographic areas within the CSEC planning area that may have water supply challenges due to environmental constraints or water quality issues.
In the North Florida planning region, the District has been working in partnership with the Suwannee River Water Management District (SRWMD), DEP, and other stakeholders through the North Florida Regional Water Supply Partnership (NFRWSP). A joint, RWSP was adopted in January 2017 by the District and SRWMD for the NFRWSP planning area.

An integral element of the water supply planning effort is the development of annual population projections, estimated actual water use estimates and projected water demand for all water use classes through the planning horizon. These efforts are part and parcel to the water supply planning efforts and are developed annually to support the District’s water supply planning efforts. The District produces the Survey of Annual Water Use, which includes a breakdown of estimated water use, population, reclaimed water use and estimated per-capita use. This information is utilized in the five-year regional water supply plan updates.

Finally, water supply planning is responsible for development of prevention and recovery strategies when a water body does not currently meet or is projected not to meet the adopted minimum flows and levels (MFLs) for that water body. The District must develop a prevention and recovery strategy that identifies technically sound, science-based solutions to ensure availability of sufficient water for future uses and achieve the MFLs for those impacted water bodies.
Goal: Plan and implement regional water supply plans

The District’s water supply planning approach is comprised of three regional water supply plans (RWSPs) that will be updated at a minimum of once every five years, or as needed. RWSPs identify future water supply needs for at least a 20-year planning horizon and list projects and programs to ensure sustainable water supplies for all reasonable beneficial uses. Each plan must be approved by the Governing Board, or Governing Boards as appropriate, and is subject to multiple public hearings. The District is currently assisting local stakeholders in each water supply planning region with the districtwide cost-share program as a way to financially support these plans. The cost-share program for FY 2018–2019 provides funding for construction of projects within each of the three water supply planning regions. One project of note within the NFRWSP planning region is the Black Creek Water Resource Development project. This project is currently in the design phase and will eventually provide up to 10 mgd of additional recharge to the Keystone Heights region.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Write and implement regional water supply plans (RWSPs)</td>
<td>Write, publish and implement NFRWSP RWSP</td>
<td>5-year update for NFRWSP RWSP initiated</td>
<td>Development of 2020 NFRWSP RWSP underway</td>
<td>Approval of 2020 NFRWSP RWSP by SJRWMD and SRWMD</td>
<td>Development of 2025 NFRWSP RWSP underway</td>
<td></td>
</tr>
<tr>
<td>Write, publish and implement CSEC RWSP</td>
<td>Approval of CSEC RWSP</td>
<td>5-year update for CSEC RWSP initiated</td>
<td>Development of 2025 CSEC RWSP underway</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Write, publish and implement CFWI RWSP</td>
<td>Continued development of 2020 CFWI RWSP</td>
<td>Continued development of 2020 CFWI RWSP</td>
<td>Approval of 2020 CFWI RWSP by SJRWMD, SWFWMD and SFWMD</td>
<td>5-year update for CFWI RWSP initiated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design and construction of Black Creek Water Resource Development Project (NFRWSP)</td>
<td>Complete permitting; complete design; phase 1 construction</td>
<td>Intake and discharge construction; phase 2 construction</td>
<td>Completion of construction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taylor Creek Reservoir Improvement Project</td>
<td>Complete permitting</td>
<td>Finalize design and easement documents</td>
<td>Secure funding for construction</td>
<td>Construction</td>
<td>Construction</td>
<td></td>
</tr>
</tbody>
</table>
Success Indicator:

1. Progress toward meeting future water supply demands in each of the three water supply planning regions
   
   **Target:** Implementation of RWSPs and MFL prevention and recovery strategies
   **Measure:** Draft RWSPs and MFL prevention and recovery strategies completed and approved

   **Target:** Continued development and implementation of projects in partnership with water users
   **Measure:** Number of projects and water made available

Goal: Develop minimum flows and levels and implement prevention and recovery strategies as necessary

As a part of fulfilling its mission and statutory responsibilities, the District establishes minimum flows and levels (MFLs) for priority water bodies within its boundaries. MFLs define the limits at which further water withdrawals would be significantly harmful to the water resources or ecology of an area. The District updates the MFL Priority List and Schedule annually. In accordance with Section 373.042(2), *Florida Statutes* (F.S.), the District drafted the 2018 MFLs Priority List and Schedule for establishing MFLs during the planning period 2019–2021. The draft 2018 MFLs Priority List and Schedule will be presented to the Governing Board on November 13, 2018 for adoption, and then submitted to the Florida Department of Environmental Protection for review and approval. Updates to the list from the previous year include the addition, removal and rescheduling of select water bodies to reflect current priorities and to align more closely with scheduled model improvements and water supply planning efforts. The priority list is based on the importance of the waters to the state or region or which identify regional constraints and the existence of potential for significant harm to the water resources or ecology of the state or region.

|----------|-------------------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------|
| Set MFLs for lakes, rivers and springs within the District | Conduct evaluations or re-evaluations on springs and water bodies to set MFLs | • Lake Butler  
• Lake Brooklyn  
• Lake Geneva  
• Wekiva River at State Road 46 Bridge  
• Wekiwa Springs  
• Rock Springs  
• Little Wekiva River and associated springs | • Johns Lake or Lake Avalon  
• East Crystal Lake  
• Lake Hodge  
• Lake Apshawa South  
• Lake Prevatt  
• Lake Sylvan  
• Lake Weir | • Lake Apopka  
• Lake Griffin  
• Ocklawaha Chain of Lakes (Apopka, Beauclair, Dora, Eustis or Harris)  
• Ocklawaha River at State Road 40 | *Milestones are from Draft 2018 MFLs Priority List and Schedule |
Success Indicator (MFLs):

1. MFLs setting and re-evaluation
   **Target:** Protect water resources from significant harm due to water withdrawals by establishing necessary and sufficient MFLs and re-evaluating existing MFLs as needed
   **Measure:** Percentage of draft and final annual MFLs Priority List and Schedule milestones met on schedule

Goal: Implement water conservation strategies

Water conservation is the cornerstone of Florida’s water sustainability, whether it be below ground in the Floridan aquifer system or above ground in our rivers, lakes and streams. Water conservation continues to be a priority to meet the District’s future water needs. While significant conservation efforts have been implemented in the District, additional conservation is critical. The District currently has many active and ongoing water conservation programs, including outreach efforts, cost-share projects, the Blue School Grant Program and the Florida Water StarSM (FWS) program.

The District is also using reservoirs as another water conservation tool to store water on the landscape as integral parts of the Upper St. Johns River Basin. These projects are intended to protect the coastal estuaries which are affected by changing salinity and increased nutrients and sediments from runoff. Several District projects have been built with a partnership between the U.S. Army Corps of Engineers (USACE) and the District, which has allowed the District to move forward on several additional reservoirs. The concept of dispersed water storage on private property is an innovative approach to assist in achieving both water supply and water quality goals. These programs provide storage for flood management, as an alternative source of irrigation and reduce nutrient loads to downstream water bodies. Dispersed water management incentivizes private property owners to retain water on their land for beneficial purposes.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce per capita water use throughout the District</td>
<td>Outreach and education efforts</td>
<td>Presentations to audiences throughout the year</td>
<td>Presentations to audiences throughout the year</td>
<td>Presentations to audiences throughout the year</td>
<td>Presentations to audiences throughout the year</td>
<td>Presentations to audiences throughout the year</td>
</tr>
<tr>
<td>Cost-share projects</td>
<td>Find local partners or utilities that are interested</td>
<td>Find local partners or utilities that are interested</td>
<td>Find local partners or utilities that are interested</td>
<td>Find local partners or utilities that are interested</td>
<td>Find local partners or utilities that are interested</td>
<td>Find local partners or utilities that are interested</td>
</tr>
</tbody>
</table>
Review and implement a strategy to support dispersed storage programs

Success Indicator (water conservation strategies):

1. Implement water conservation strategies to improve water use efficiencies
   - **Target:** Public water supply: Decrease in residential per capita water usage
   - **Measure:** Annual residential water usage per capita

   - **Target:** Agricultural water supply: Increase in percentage of agricultural acres utilizing efficient irrigation methods
   - **Measure:** Percent of agricultural areas utilizing efficient irrigation methods

*District staff attend events throughout the year to spread the message of the importance of water conservation and speak to individual stakeholders about the District's work.*
**WATER QUALITY**

Assessing and managing programs to protect and restore water quality is a critical component of water resource governance and a primary mission of the District. Water quality is essential to maintaining a high standard of living for our residents and for the health of natural systems. Strategies to achieve these water quality goals include a commitment to comprehensive monitoring of the condition of water resources and, where water quality is impaired, working with our partners to design and implement projects to improve water quality and beneficial ecosystem functions. The District’s Bureau of Water Resource Information operates the districtwide water quantity and quality monitoring network. Monitoring provides a wealth of information that enables the District to make resource decisions based on accurate and timely information. In addition, the public can use the data to acquire a basic knowledge of groundwater, springs and water bodies in which they have an interest. To coordinate water quality efforts, the District established boundaries for three areas in the District, which are:

1. Springs/aquifer: Includes springs systems dependent upon the Floridan aquifer
2. Coastal waters: Includes two major systems, the Indian River Lagoon and the Northern Coastal Basins
3. The St. Johns River: Includes the Upper, Middle and Lower St. Johns River basins and tributaries

*District staff routinely collect and process water samples from water bodies throughout the region.*

Goal: Provide restoration efforts to springs/aquifer

Springs provide natural, recreational and economic benefits for Florida’s residents and visitors and ultimately reflect the health of the Floridan aquifer, the source of drinking water for a majority of the District’s population. To ensure the aquifer is protected, the District is focused on generating scientifically sound approaches and projects to reduce or eliminate pollution-related problems. Applied scientific research improves the tools needed to evaluate potential projects for the most effective nutrient reductions. The District’s collaborative effort with the University of Florida, entitled “Collaborative Research Initiative on Sustainability and Protection of Springs,” or CRISPS, concluded in 2018, has provided an enhanced scientific foundation to accomplish this mission. In 2016, the Florida Legislature committed to invest a minimum of $50 million per year for springs protection for 20 years through District and DEP cost-share programs.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Continue springs protection efforts</td>
<td>Restoration project identification, prioritization and implementation</td>
<td>Fund additional springs specific cost-share projects</td>
<td>Fund additional springs specific cost-share projects</td>
<td>Fund additional springs specific cost-share projects</td>
<td>Fund additional springs specific cost-share projects</td>
<td>Fund additional springs specific cost-share projects</td>
</tr>
<tr>
<td>Springshed enhancement/management</td>
<td>Preservation and land acquisition</td>
<td>Evaluate easements and potential acquisitions</td>
<td>Evaluate easements and potential acquisitions</td>
<td>Evaluate easements and potential acquisitions</td>
<td>Evaluate easements and potential acquisitions</td>
<td>Evaluate easements and potential acquisitions</td>
</tr>
<tr>
<td>Develop aquifer recharge projects on public lands</td>
<td>Increased aquifer recharge</td>
<td>Provide cost-share funding to projects</td>
<td>Provide cost-share funding to projects</td>
<td>Provide cost-share funding to projects</td>
<td>Provide cost-share funding to projects</td>
<td>Provide cost-share funding to projects</td>
</tr>
<tr>
<td>Provide springs and aquifer monitoring</td>
<td>Hydrologic and water quality data of Floridan aquifer and springs</td>
<td>Monitor Floridan aquifer and Outstanding Florida Springs</td>
<td>Monitor Floridan aquifer and Outstanding Florida Springs</td>
<td>Monitor Floridan aquifer and Outstanding Florida Springs</td>
<td>Monitor Floridan aquifer and Outstanding Florida Springs</td>
<td>Monitor Floridan aquifer and Outstanding Florida Springs</td>
</tr>
</tbody>
</table>

Success Indicator (springs/aquifer):

1. Restoration project identification and prioritization
   - **Target:** Inform/support project prioritization
   - **Measure:** Number of strategically valuable projects implemented

2. Actively improve water quality and quantity in major springs via leveraging of District and other financial resources
   - **Target:** Continued, aggressive cost-share project improvements in partnership with local governments and utilities
   - **Measure:** Number of projects
Money invested (District and collectively)
Nitrogen load reduction achieved
Groundwater offset/increased reuse achieved
MFLs met
Enhanced aquifer recharge achieved

3. Preservation/conservation, land acquisition and management
   Target: Acquire full- or partial-fee interest in parcels strategic to springs restoration
   Implement aquifer recharge projects on public lands
   Measure: Acres of land preserved or restored
             Recharge achieved
             Nitrogen load reduction achieved

4. Monitor aquifer and springs
   Target: Monitor status and trends, projects effectiveness and integrate data into management decision making
   Measure: Fulfill network and project objectives, complete reports of status, trends and projects

Goal: Provide restoration efforts to coastal water bodies

The District collaborates in the management and restoration of two major coastal systems, the Indian River Lagoon (IRL) and the Northern Coastal Basins (NCB). These coastal waters yield substantial social, economic and ecological benefits, and their health reveals the efficacy of collective management throughout their watersheds because they integrate the influences of stressors delivered by their tributaries. Management focuses on reducing undesirable loads of freshwater, sediments, nutrients and toxicants, revitalizing altered habitats, tracking key indicators of ecosystem health, and expanding our understanding of existing and future threats to these valued systems. The District’s commitment to these basins is exemplified by its support for the IRL National Estuary Program (NEP) and a multi-year applied research effort into the IRL’s recent algal blooms and losses of seagrass. Through this applied research, District staff intend to identify more effective management actions, and by updating the NCB Surface Water Improvement and Management (SWIM) Plan to include a list of projects to enhance the basin’s water bodies.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Restore the Indian River Lagoon (IRL)</td>
<td>Reduce freshwater discharges into IRL</td>
<td>Complete design of C-10 Water Management Area (WMA)</td>
<td>Secure permits and funding for construction</td>
<td>Construction of C-10 WMA project</td>
<td>Construction of C-10 WMA project</td>
<td>Complete C-10 WMA project</td>
</tr>
<tr>
<td>----------</td>
<td>--------------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td></td>
<td>Complete design of Crane Creek flow restoration project</td>
<td>Construction</td>
<td>Construction</td>
<td>Complete project</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Complete dispersed water storage infrastructure</td>
<td>Evaluate dispersed water storage</td>
<td>Assess long-term viability of dispersed water storage</td>
<td>Assess long-term viability of dispersed water storage</td>
<td>Assess long-term viability of dispersed water storage</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Treat urban stormwater before it is released into IRL and its tributaries</td>
<td>Fund identified projects via cost-share and other means</td>
<td>Fund identified projects via cost-share and other means</td>
<td>Fund identified projects via cost-share and other means</td>
<td>Fund identified projects via cost-share and other means</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reduce nutrient loads from treatment plants and onsite sewage disposal</td>
<td>Identify and fund projects through cost-share and other means</td>
<td>Identify and fund projects through cost-share and other means</td>
<td>Identify and fund projects through cost-share and other means</td>
<td>Identify and fund projects through cost-share and other means</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reduce nutrient loads via environmental dredging</td>
<td>Continue Eau Gallie River dredging project</td>
<td>Complete Eau Gallie dredging project; assist IRL NEP and Brevard County in identifying other projects</td>
<td>Develop and implement additional muck removal projects</td>
<td>Develop and implement additional muck removal projects</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Restore and enhance natural habitats within the IRL</td>
<td>Continue reconnecting mosquito impoundments and conduct other restoration of coastal wetlands</td>
<td>Continue reconnecting mosquito impoundments and conduct other restoration of coastal wetlands</td>
<td>Continue reconnecting mosquito impoundments and conduct other restoration of coastal wetlands</td>
<td>Continue reconnecting mosquito impoundments and conduct other restoration of coastal wetlands</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Enhance the Northern Coastal Basins (NCB)</td>
<td>Update NCB SWIM Plan</td>
<td>Complete and adopt SWIM plan</td>
<td>Execute projects listed in SWIM plan</td>
<td>Execute projects listed in SWIM plan</td>
<td>Execute projects listed in SWIM plan</td>
</tr>
<tr>
<td></td>
<td>Restore and enhance natural habitats within NCB</td>
<td>Initiate rehabilitation of dragline ditched wetlands</td>
<td>Continue rehabilitation of dragline ditched wetlands</td>
<td>Continue rehabilitation of dragline ditched wetlands</td>
<td>Continue rehabilitation of dragline ditched wetlands</td>
<td>Continue rehabilitation of dragline ditched wetlands</td>
</tr>
</tbody>
</table>
Success Indicator (Coastal water bodies):

1. Reduce loads of freshwater, sediments and nutrients from watersheds
   **Target:** Initiate dispersed water projects
   **Measure:** Reductions in loads of freshwater, sediments, nitrogen and phosphorus

2. Enhance coastal wetland function
   **Target:** Coastal wetlands restored and providing ecological goods to coastal waters
   **Measure:** Number of projects and acres of restored wetlands

3. Cope with uncertainty and demonstrate accountability
   **Target:** Valued contribution to annual updates on progress to implement Basin Management Action Plans
   **Measure:** Complete agreed sampling and submit update on schedule, support adaptation of projects in the plans, and demonstrate the value of completed projects

Goal: Provide restoration efforts to the St Johns River

The St. Johns River and its tributaries is comprised of the Lower, Middle and Upper St. Johns River basins, Lake Apopka and the Ocklawaha River Basin. There are ongoing efforts to improve water quality throughout these basins, primarily to address nutrient pollution. The District is also dedicated to continuing to fund major water quality projects, such as the Fellsmere Water Management Area (FWMA), which is expected to be completed in 2020. These efforts support DEP-approved Basin Management Action Plans to address water quality impairments. Nutrient (phosphorus and nitrogen) load reductions are the focus of many efforts due to their role in stimulating excessive algal growth and bloom frequency and intensity which harm both native communities and human water uses.

Water quality of the river is protected and managed through science-based planning and by prioritized implementation of nutrient and other pollution reduction projects by leveraging District, local, state and federal resources. In the upper basin, integrated strategies and protocols are implemented that optimize flood management, protect and enhance natural ecosystems, improve water quality, and provide for water supply. In Lake Apopka and the Ocklawaha River Basin, the ecological, recreational and economic value of these water bodies is improved by reducing nutrient concentrations and refining lake level management consistent with flood protection priorities.

*Signs of water quality improvements in Lake Apopka include ongoing recovery of submersed aquatic vegetation (left) and an increase in anglers’ catch of bass, such as the one at right in photo provided by the Florida Fish and Wildlife Conservation Commission.*
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rehabilitate St. Johns River</td>
<td>Enhance water availability</td>
<td>Complete design of C-10 WMA</td>
<td>Secure funding for construction</td>
<td>Construction of C-10 WMA</td>
<td>Construction of C-10 WMA project</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Complete design of Crane Creek/M-1</td>
<td>Construction of Crane Creek/M-1</td>
<td>Construction of Crane Creek/M-1</td>
<td>Complete Crane Creek/M-1 Canal Flow Restoration project</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Construction of Fellsmere WMA</td>
<td>Construction of Fellsmere WMA</td>
<td>Complete Fellsmere WMA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide load reduction projects to vital tributaries</td>
<td>Operate Tri-County Agriculture Area’s (TCAA) stormwater</td>
<td>Siting/design and construction for</td>
<td>Implement and operate projects</td>
<td>Implement and operate projects</td>
<td>Implement and operate projects</td>
<td>Implement and operate projects</td>
</tr>
<tr>
<td></td>
<td>treatment area</td>
<td>projects at Crescent Lake, Lake</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jesup or Doctors Lake</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remove nutrients in lakes</td>
<td>Conduct rough fish harvest</td>
<td>Conduct rough fish harvest</td>
<td>Conduct rough fish harvest</td>
<td>Conduct rough fish harvest</td>
<td>Conduct rough fish harvest</td>
<td></td>
</tr>
<tr>
<td>Provide structural modifications for hydrologic enhancement in</td>
<td>Investigate regulation schedule revisions for water supply</td>
<td>Investigate regulation schedule</td>
<td>Initiate and evaluate regulation</td>
<td>Initiate and evaluate regulation</td>
<td>Initiate and evaluate regulation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and environmental benefits</td>
<td>revisions for water supply and</td>
<td>schedule revisions for water supply</td>
<td>schedule revisions for water supply</td>
<td>schedule revisions for water supply</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>and environmental benefits</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>St. Johns Marsh Conservation Area (SJMCA) restoration</td>
<td>Construction of structural modifications to restore SJMCA</td>
<td>Construction of structural</td>
<td>Evaluate restoration effects on</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>hydrology</td>
<td>modifications to restore SJMCA</td>
<td>SJMCA hydrology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determine cause(s) of increased phosphorus concentrations in some</td>
<td>Investigate causes of increasing phosphorus trends in upper</td>
<td>Implement projects to reverse</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>basin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>increasing phosphorus loading</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>---------------------------------------------------</td>
<td>--------------------------</td>
<td>--------------------------</td>
<td>--------------------------</td>
<td>--------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Restore Lake Apopka</td>
<td>Remove existing nutrient from lake</td>
<td>Conduct rough fish harvest</td>
<td>Conduct rough fish harvest</td>
<td>Conduct rough fish harvest</td>
<td>Conduct rough fish harvest</td>
<td>Conduct rough fish harvest</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Complete sump dredging</td>
<td>Monitor and operate</td>
<td>Monitor and operate</td>
<td>Monitor and operate</td>
<td>Monitor and operate</td>
</tr>
<tr>
<td>Reduce external nutrient loading</td>
<td>Implement North Shore improvements</td>
<td>Implement North Shore improvements</td>
<td>Implement North Shore improvements</td>
<td>Implement North Shore improvements</td>
<td>Implement North Shore improvements</td>
<td>Implement North Shore improvements</td>
</tr>
<tr>
<td></td>
<td>Evaluate other nutrient sources (i.e., septic tanks)</td>
<td>Support and fund load reduction projects</td>
<td>Support and fund load reduction projects</td>
<td>Support and fund load reduction projects</td>
<td>Support and fund load reduction projects</td>
<td>Support and fund load reduction projects</td>
</tr>
<tr>
<td>Rehabilitate Ocklawaha River Basin</td>
<td>Increased water storage and nutrient removal</td>
<td>Sunnyhill wetland expansion analysis</td>
<td>Sunnyhill final design; Ocklawaha Prairie evaluation</td>
<td>Sunnyhill construction; Ocklawaha Prairie planning</td>
<td>Complete Ocklawaha Prairie construction</td>
<td>Complete Ocklawaha Prairie construction</td>
</tr>
<tr>
<td>Provide monitoring and diagnostic assessments</td>
<td>Submit status and trend assessment and progress to TMDL/PLRG targets</td>
<td>Continuous support</td>
<td>Identify and implement projects</td>
<td>Identify and implement projects</td>
<td>Identify and implement projects</td>
<td>Identify and implement projects</td>
</tr>
<tr>
<td></td>
<td>Continuous support</td>
<td>Continuous support</td>
<td>Continuous support</td>
<td>Continuous support</td>
<td>Continuous support</td>
<td>Continuous support</td>
</tr>
<tr>
<td></td>
<td>Report assessment of wastewater nutrient management</td>
<td>Continuous support</td>
<td>Continuous support</td>
<td>Continuous support</td>
<td>Continuous support</td>
<td>Continuous support</td>
</tr>
<tr>
<td></td>
<td>Continuous support</td>
<td>Continuous support</td>
<td>Continuous support</td>
<td>Continuous support</td>
<td>Continuous support</td>
<td>Continuous support</td>
</tr>
</tbody>
</table>

**Success Indicator (St. Johns River):**

1. Watershed nutrient load reduction

   **Target:** Progress toward Total Maximum Daily Load (TMDL)/Pollutant Load Reduction Goal (PLRG) targets

   **Measure:** Reduced nutrient loading to nutrient-impaired water bodies
2. In-Water body restoration  
**Target:** Improved water quality and restore critical habitats  
**Measure:** Improved nutrient concentration and water transparency, fewer algal blooms, increased submerged aquatic vegetation (SAV)

3. Floodplain enhancement  
**Target:** Improve floodplain functions related to water quality, flood storage and habitat condition  
**Measure:** Number of acres of functional floodplain preserved or restored

4. Monitoring  
**Target:** Monitor status and trends, projects effectiveness, and integrate data into management decision making  
**Measure:** Fulfill network and project objectives, complete reports of status, trends and projects

5. Diagnostic assessments  
**Target:** Identify projects for cost-effective water quality improvement projects  
**Measure:** Number of projects developed and implemented

_A farmer installs a sub-irrigation system (left), connecting a main to a feeder line, as part of the cost-share program to increase irrigation efficiency. At right, farming in the Tri-County Agricultural Area (Putnam, Flagler and St. Johns counties)._
NATURAL SYSTEMS

The District’s stewardship duties toward natural systems are split between lands in which the District has acquired a legal interest (fee or less-than-fee acquisitions) and the general natural lands and waters within the District. Aquatic natural systems are enhanced through efforts to improve water quality, restored hydrology, planting native species and management of invasive exotic species. Most of the natural systems benefits to the lands not owned by the District are derived through effective permitting, water quality improvement projects, MFL adoption, water supply planning and cost-share projects. While these efforts all protect and conserve natural systems, they are tracked in other areas within this plan.

Of the 611,000 acres of land the District has acquired in fee, District staff is responsible for managing 427,000 acres. The remaining 185,000 acres are managed by partner agencies, including the Florida Fish and Wildlife Conservation Commission, Florida Forest Service, and a number of local counties. The District has purchased conservation or flowage easements over 147,000 acres of land. These lands are inspected to ensure the private landowner is complying with the requirements of the easements. While performing the inspections, District staff also assist landowners with land management issues they may encounter such as how to manage the newest exotic invasive species.

Providing the right balance between public access, outdoor recreation and restoration activities can prove challenging at times, but currently more than 98 percent of District land is open for recreation. Ongoing management activities, such as prescribed burning and invasive plant management, are key to the protection of the natural system’s condition. Restoration activities focus on encouraging natural vegetation through planting and by managing or removing competitive invasive species. Because conditions change over time, a system of adaptive management is used. Sound adaptive management requires an effective monitoring system to evaluate how past treatments have worked, if new treatments are needed and when actions should be taken. Managing the lands and restoring them can also include leases for a variety of resource-backed activities through “special use agreements” (SUA). These SUAs partner the public and private sectors to use public lands for a public good; uses include 32 grazing leases on 53,000 acres and eight apiary agreements on 33 different sites.

Approximately two-thirds of District land is open for hunting in designated areas and at specified times of the year. This includes the Buck Lake Conservation Area.
Goal: Implement activities that conserve or restore native communities

Ongoing management activities such as prescribed burning and invasive plant management are key to the protection of the land’s natural state and condition. Restoration activities focus on encouraging natural vegetation through planting and by managing or removing competitive invasive species. To expand access to District lands, the following improvement have been or are being made:

- Restoring trails at the Lake Apopka North Shore to pre-Hurricane Irma conditions
- Connecting area three at Emeralda Marsh Conservation Area to allow increased access for hunters and fishers directly to and from Lake Griffin
- Constructing multiple picnic pavilions and replacing storm-damaged inclement weather shelters
- Installing boat ramps at Emeralda Marsh and Fellsmere Water Management Area

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop Geographic Information System (GIS) technology and spatially linked abilities for invasive plant management</td>
<td>Enhance technology to manage restoration and invasive plant management; especially on Carolina willow and old world climbing fern</td>
<td>1. Develop planning tools and protocol from study</td>
<td>Implement all phases</td>
<td>Implement all phases</td>
<td>Implement all phases</td>
<td>Implement all phases</td>
</tr>
<tr>
<td>Develop GIS database structure to facilitate the development of baseline assessments of invasive plant infestations</td>
<td>Complete annual survey using new database with spatial layer and Collector software</td>
<td>Prescribe and triage treatments based on database</td>
<td>Prescribe and triage treatments based on database</td>
<td>Prescribe and triage treatments based on database</td>
<td>Prescribe and triage treatments based on database</td>
<td></td>
</tr>
<tr>
<td>Lake Apopka habitat and access improvements</td>
<td>Facility improvements to provide improved water and phosphorus management, flood storage capacity and wetland condition</td>
<td>Develop and implement infrastructure plans</td>
<td>Implement infrastructure plans</td>
<td>Implement infrastructure plans</td>
<td>Implement infrastructure plans</td>
<td>Implement infrastructure plans</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>Conduct wetland community mapping</td>
<td>Map wetland systems within Upper St. Johns River and Ocklawaha River basins</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduct land management activities</td>
<td>Implement invasive species management</td>
<td>Continuous activity</td>
<td>Continuous activity</td>
<td>Continuous activity</td>
<td>Continuous activity</td>
<td>Continuous activity</td>
</tr>
<tr>
<td></td>
<td>Implement prescribed burns</td>
<td>Continuous activity</td>
<td>Continuous activity</td>
<td>Continuous activity</td>
<td>Continuous activity</td>
<td>Continuous activity</td>
</tr>
<tr>
<td>Provide additional access to District lands</td>
<td>Install additional access points</td>
<td>Install boat ramps at Emeralda Marsh and Fellsmere</td>
<td>Install picnic pavilions and shelters as needed</td>
<td>Construct picnic pavilions and shelters as needed</td>
<td>Construct picnic pavilions and shelters as needed</td>
<td>Construct picnic pavilions and shelters as needed</td>
</tr>
</tbody>
</table>

**Success Indicator (Natural Systems):**

1. Improve GIS-based technology capabilities for identifying, managing and planning restoration on District lands  
   **Target:** Identify, develop and implement use of spatially linked techniques for condition assessments, survey and monitoring efforts, data storage, evaluation and planning of restoration and invasive plant management projects  
   **Measure:** Percent complete of identified tasks

2. Restoration and invasive plant management survey and treatment  
   **Target:** Survey Upper St. Johns River Basin and Ocklawaha River Basin for presence and coverage of Carolina willow and old world climbing fern  
   **Measure:** Percent of annual survey and treatment acres complete

3. Management plans  
   **Target:** Develop plans that detail strategies for Carolina willow management and invasive plant management activities to improve ecologic and hydrologic conditions  
   **Measure:** Annual completion of identified documents and plans

4. Wetland plant community mapping  
   **Target:** Maintain healthy and diverse wetland plant composition  
   **Measure:** Reduction in percent cover of invasive species

5. Adaptive management of wetland restoration areas  
   **Target:** Improved or restored wetland habitat  
   **Measure:** Acres of wetlands restored
6. Land management

**Target:** Healthy managed ecosystems on District lands

**Measure:** Percent of District property rated level 1 or level 2 on scale of Ecological Condition Class

- Acres treated with prescribe burns
- Acres of invasive species treated

*District biologists, land managers and other scientists inventory plants and animals at Silver Springs Forest Conservation Area as part of the process to develop a land management plan.*
Flood Protection

Florida has long been susceptible to flooding from natural disasters. Since the 1920s, state lawmakers have funded enormous projects to protect homes and families from the dangers of flooding. When the decision was made to form the District in 1972, the Legislature decided one of the four core missions must be flood protection. As of 2018, the District maintains 65 miles of canals in addition to the 105 miles of federal flood protection levees. Working with state, federal and regional partners, the District has constructed structures that not only provide flood protection that will support local communities, but also support the core missions of water supply, water quality and natural systems.

Repairs and maintenance are conducted at the Moss Bluff flood control structure.
Goal: Maintain federal flood management systems

The District is the local sponsor of two U.S. Army Corps of Engineers (USACE) federal flood management projects: The Upper St. Johns River Basin Project and the Ocklawaha River Basin portion of the Four River Basins, Florida Project. These projects include approximately 105 miles of levees, 11 major water control structures and approximately 50 minor water control structures. The District is responsible for operation and maintenance of these facilities. As the local sponsor, the District is responsible for acquisition of lands required for operation and maintenance of the federal project. In addition to the federal works, the District has projects that provide additional flood protection benefits, such as the Fellsmere Water Management Area and the Harris Bayou water control structure.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Operate and maintain the federal flood management project in compliance with USACE guidelines</td>
<td>Perform semi-annual inspections in the first and third quarters</td>
<td>Continuous Support</td>
<td>Continuous support</td>
<td>Continuous support</td>
<td>Continuous support</td>
<td>Continuous support</td>
</tr>
<tr>
<td></td>
<td>Operate water control structures and maintain water levels according to water control manuals as approved by USACE</td>
<td>Continuous Support</td>
<td>Continuous Support</td>
<td>Continuous Support</td>
<td>Continuous Support</td>
<td>Continuous Support</td>
</tr>
<tr>
<td></td>
<td>Deliver system-wide improvement framework (SWIF) to USACE for approval</td>
<td>Complete emergency action plans</td>
<td>Final approval from USACE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Complete rehabilitation of major water control structures and levees on schedule</td>
<td>S-96B concrete and gates</td>
<td>S-96C concrete and gates and gate hoist, and S-96 gate hoist</td>
<td>S-96D concrete, S-161A gate hoist, and S-157 gate hoist</td>
<td>S-96 concrete, S-161 gate hoist, Harris Bayou gates, Moss Bluff gate hoist</td>
<td>Apopka concrete and gates</td>
</tr>
<tr>
<td>Maintain and support flood management water level data</td>
<td>Inspection and calibration of flood management water level data sites to ensure compliance</td>
<td>Continuous support</td>
<td>Continuous support</td>
<td>Continuous support</td>
<td>Continuous support</td>
<td>Continuous support</td>
</tr>
</tbody>
</table>
Goal: Maintain non-federal flood management systems

The District is responsible for maintaining nearly 15 miles of non-federal levees, several major and minor water control structures, weirs, navigational locks and pump stations. In addition to the federal works, the District has projects that provide additional flood protection benefits, such as the Fellsmere Water Management Area and the Harris Bayou water control structure. The District maintains more than 65 miles of canals and 1,600 miles of roadways and trails. The District has also purchased full fee or flowage easements of river floodplain that provide non-structural water storage and flood protection. The District, in coordination and cooperation with the U.S. Geological Survey, operates a hydrological monitoring network that provides critical data to other agencies and governmental entities and the public for flood management activities throughout the District.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Deliverables</th>
<th>Milestones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operate and maintain non-federal flood protection projects in compliance with internal operation and maintenance guidance</td>
<td>Develop, document and implement inspection, and operation and maintenance procedures to include slope stability, erosion, depressions/rutting, encroachments, vegetation and animal management</td>
<td>Continuous support</td>
</tr>
<tr>
<td>Maintain and support flood management water level data</td>
<td>Inspection and calibration of flood management water level data sites in compliance</td>
<td>Continuous support</td>
</tr>
</tbody>
</table>

Success Indicator (flood protection):

1. Operate and maintain the federal flood management project in compliance with USACE guidelines

   **Target:** Resolve deficiencies identified by USACE or District staff within approved time frame
   **Measure:** Budget, schedule and resolve deficiencies

   **Target:** Perform semi-annual inspections in the first and third quarters
   **Measure:** Inspections complete on time, with reports finalized and submitted to USACE by
the following quarter

**Measure:** Deficiencies resolved prior to next inspection or programmed into work plan past the following quarter as approved by the operation and maintenance bureau chief

**Target:** Complete rehabilitation of major water control structures on schedule

**Measure:** Budget, schedule and complete water control structure rehabilitation according to work plan

2. Operate and maintain non-federal flood protection projects in compliance with internal operation and maintenance guidance

**Target:** Resolve deficiencies identified by District staff within approved time frame

**Measure:** Budget, schedule and resolve deficiencies

**Measure:** Inspections completed semi-annually (first and third quarter) with reports finalized by the following quarter

3. Maintain and support flood management water level data sites

**Target:** Inspect, calibrate and maintain flood management water level data sites, and disseminate data in near real-time

**Measure:** Priority sites are maintained and repaired within the agreed upon time frames

**Measure:** Complete year three of three calibration study (survey and calibrate staff gauges)

*The Apopka-Beauclair Lock and Dam.*
SUPPORTING ACTIVITIES

The District is dedicated to providing excellent service in support of our core missions. However, the District recognizes that it cannot support each mission without reaching out to local stakeholders and businesses within the District. In accordance with Chapter 373, Florida Statutes, the Governing Board may participate and cooperate with county governments, municipalities, water supply authorities, and other interested public and private entities in water management programs and projects of mutual benefit. These programs and projects must be consistent with the District’s statutory authority and will ensure proper development, utilization and conservation of water resources and ecology within the jurisdictional boundaries of the District. The District currently funds three cost-share programs on an annual basis to support the core mission areas:

1. The Districtwide program
2. Rural Economic Development Initiative (REDI) Communities / Innovative Projects program
3. The Districtwide Agricultural program

In 2018, the District’s Governing Board approved a list of 27 projects to receive cost-share funding beginning in FY 19. Final Governing Board approval of the FY 19 budget is required. This funding went to 24 projects, estimated to conserve 0.6 mgd, develop more than 4 mgd of water through alternative water supplies, and reduce nitrogen and phosphorus loadings to our waterways by 27,690 and 58,050 pounds a year, respectively. Below is a graph that displays the District’s FY 2018–19 Tentative Budget and proposed expense and revenue growth through FY 2022–23.
Goal: Develop and implement supporting activities that efficiently assist District goals

The tentative budget for FY 2018–2019 anticipates that up to $20 million may be expended (reimbursed) on cost-share projects that benefit one or more of the District’s four core missions, which include alternative water supply and water conservation projects, nutrient-load reduction in support of water quality, natural systems restoration and flood protection.

The districtwide Agricultural Cost-Share program was developed in 2015 as a method to assist farmers in implementing best management practices on their operations that may otherwise be cost prohibitive. As a result, 78 projects were funded resulting in water conservation and nutrient loading reductions (since 2015). This program is expected to continue funding projects to help meet TMDLs and water conservation goals. This upcoming fiscal year, the Governing Board has authorized committing $1.5 million for the districtwide program and $1.5 million for the Tri-County Agricultural Area cooperative, which consists of Flagler, Putnam and St. Johns counties. The goal is to implement projects that contribute to improving the health of the St. Johns River while assisting the agricultural community to use water and nutrients more efficiently.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Deliverables</th>
<th>Milestones</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Implement Districtwide Cost-Share Program</strong></td>
<td>Final construction documents and project completion reports</td>
<td>Complete funding of projects from FY 16</td>
</tr>
<tr>
<td></td>
<td>Implement cost-share spending plan in accordance with Governing Board approval</td>
<td>Complete funding of projects from FY 17</td>
</tr>
<tr>
<td></td>
<td>Solicit applications, rank submittals, award projects and manage to completion</td>
<td>Complete funding of projects from FY 18</td>
</tr>
<tr>
<td><strong>Implement Districtwide Agricultural Cost-Share Program</strong></td>
<td>Implement agricultural spending plan in accordance with Governing Board approval</td>
<td>Solicit applications, rank submittals, award projects and manage to completion</td>
</tr>
<tr>
<td></td>
<td>Solicit applications, rank submittals, award projects and manage to completion</td>
<td>Solicit applications, rank submittals, award projects and manage to completion</td>
</tr>
<tr>
<td><strong>Implement REDI Cost-Share Program</strong></td>
<td>Implement cost-share spending plan in accordance with Governing Board approval</td>
<td>Solicit applications, rank submittals, award projects and manage to completion</td>
</tr>
</tbody>
</table>
Success Indicator (supporting activities):

1. Projects that benefit the District’s core missions are awarded cost-share funding and successfully implemented
   - **Target:** Quarterly reports to the Board
   - **Measure:** Projects are completed in a timely manner and the deliverables document the projects’ success

2. Districtwide agricultural cost-share
   - **Target:** Award funding to projects resulting in water conservation and nutrient loading reduction
   - **Measure:** Percent allocated funds expended annually

3. Outreach to agricultural community
   - **Target:** Presentations to commodity groups as requested
   - **Measure:** Number of presentations completed

Strategic Plan Annual Work Plan Report FY 2017–2018


*Visitors to the District’s Lake Apopka North Shore enjoy bird-watching (left); a District scientist monitors conditions of submerged aquatic vegetation in the lower basin of the St. Johns River near Jacksonville (right).*