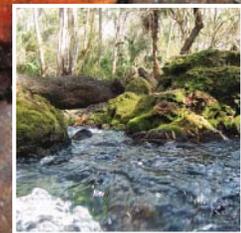


# Consolidated Annual Report

March 1, 2016

Southwest Florida  
*Water Management District*

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# Consolidated Annual Report

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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 and activities. Anyone requiring reasonable accommodation as provided for in the Americans with Disabilities Act should contact the District's Human Resources Bureau, 2379 Broad Street, Brooksville, Florida 34604-6899; telephone (352) 796-7211, ext. 4706 or 1-800-423-1476 (FL only), ext. 4706; TDD (FL only) 1-800-231-6103; or email to [ADACoordinator@swfwmd.state.fl.us](mailto:ADACoordinator@swfwmd.state.fl.us).

# Table of Contents

<b>Executive Summary</b> .....	i-iii
<b>Chapter 1. Water Management District Performance Measures Annual Report</b>	
Water Management Performance Measures .....	1-1
Water Supply Measures .....	1-3
Water Quality Measures .....	1-9
Natural Systems Measures .....	1-13
Flood Protection Measures .....	1-17
<b>Chapter 2. Minimum Flows and Levels Priority List and Schedule</b> .....	2-1
<b>Chapter 3. Five-Year Capital Improvements Plan</b>	
Introduction .....	3-1
Five-Year Capital Improvements Plan Schedule .....	3-3
Project Descriptions .....	3-4
<b>Chapter 4. Alternative Water Supplies Annual Report</b>	
Introduction .....	4-1
Background .....	4-1
Cooperative Funding Initiative.....	4-3
New Water Sources Initiative.....	4-4
Water Supply and Resource Development Projects.....	4-4
Water Protection and Sustainability Trust Fund .....	4-6
The Partnership Agreements .....	4-10
2016 Annual Report Information.....	4-11
Conclusion .....	4-17
Appendix .....	4-18
<b>Chapter 5. Five-Year Water Resource Development Work Program</b>	
Introduction/Purpose .....	5-1
Water Resource Development .....	5-1
Water Supply Development Assistance .....	5-17
Funding Sources.....	5-29
Summary/Conclusions .....	5-32
<b>Chapter 6. Florida Forever Work Plan</b>	
Introduction .....	6-1
Project Modifications and Additions to the SWFWMD Florida Forever Work Plan.....	6-4
Restoration Projects .....	6-4
Fiscal Year 2015 Land Acquisition .....	6-7
SWFWMD Land Acquisition Status.....	6-8
Surplus Lands.....	6-10
Land Management Activities .....	6-11
Progress of Funding, Staffing and Resource Management.....	6-18
Florida Forever Land Acquisition Projects .....	6-19
<b>Chapter 7. Mitigation Donation Annual Report</b>	
<b>Chapter 8. 2014-2018 Strategic Plan (updated 2016) and 2015 the Annual Work Plan</b>	
Northern Region Priorities and Objectives.....	8-1
Tampa Bay Region Priorities and Objectives.....	8-3
Hearth Land Region Priorities and Objectives .....	8-9
Southern Region Priorities and Objectives .....	8-11

# Executive Summary

Section 373.036, F.S., requires the water management districts to prepare a "Consolidated Water Management District Annual Report" consisting of several reporting documents that had historically been submitted separately. The legislation requires the consolidated report to be submitted by March 1 of each year to the Governor, DEP, the President of the Senate and the Speaker of the House of Representatives. In addition, copies must be provided, ". . . to the chairs of all legislative committees having substantive or fiscal jurisdiction over the districts and the governing body of each county in the district having jurisdiction or deriving any funds for operations of the district. Copies of the consolidated report must be made available to the public, either in printed or electronic format."

This consolidated report is a significant communication tool for the District and allows greater efficiency in comparing differing reporting mechanisms. The District formerly produced these components individually and distributed them at various times of the year. The consolidation results in streamlining these required reporting documents so that they now come forward in one package. Descriptions and highlights from the chapters that make up the 2016 Consolidated Annual Report follow.

***The Water Management District Performance Measures Annual Report*** consists of 14 performance measures that measure the District's progress in implementing activities related to its core areas of responsibility: Water Supply, Flood Protection, Water Quality and Natural Systems. Noteworthy highlights in this report include a continuing decline in uniform gross per capita water use - from 113 gallons per capita per day (gpcd), when measured in 2008, to 100 gpcd in 2014. The percentage of domestic wastewater reused continues to grow, reaching 56% in 2014. To address the increasing nitrate contamination and other threats for the springs, the District is continuing the development of management plans for all five of its first-magnitude spring systems. The management plan for the Rainbow River was recently approved. Management plans for the other four systems are scheduled for completion in 2016-17. In FY2015, MFLs were adopted for six lakes. Five were reevaluations of previously adopted MFLs. In FY2014, a total of 847 acres of invasive aquatic plant species were detected on the 22,502 acres of District-managed lakes, rivers and canals. The small increase from last year (196 acres) represents effective maintenance control. Finally, the District's new business plan calls for the development of a long-term repair and replacement plan for the 18 flood control structures.

***The Minimum Flows and Levels Annual Priority List and Schedule (DEP approval pending)***  
The District's expenditures for MFL adoption have changed from approximately \$1 million in 1998 to \$1.7 million in FY2015. As of FY2015, 204 MFLs, including eight that have been reevaluated and revised and one water reservation, have been adopted by the District. By the end of 2024, 46 new MFLs and one new reservation are scheduled for adoption, and 28 existing MFLs are scheduled for reevaluation. MFLs for all publicly-owned first- and second- magnitude springs are proposed for adoption by the end of 2017.

***The Annual Five-Year Capital Improvements Plan*** includes projected revenues and expenditures for planned improvements for FY2015-16 through FY2019-20. For FY2015-16, \$10,530,000 is budgeted for the continuation of the Florida Forever Program land acquisition. These funds represent prior year funds available for land acquisition through the Florida Forever Program. Some of the Facilities Construction and Major Renovation highlights for FY2015-16 include: 1) \$100,000 budgeted for the District Site Survey. The Tampa Service Office is centrally located within the District. The site consists of approximately 21 acres and has 70.4 thousand square feet of buildings under roof, including 46 thousand square feet of office and meeting space. Due to staff relocations to the office, there is limited office and public meeting space and insufficient parking areas. 2) \$400,000 budgeted for the annual Districtwide roof, heating, ventilation and air conditioning repair and remodeling projects. 3) And, \$108,350 budgeted for the Districtwide Carpet Replacement for the Sarasota Service Office, Building #1 (2,061 square yards).

***The Alternative Water Supplies Annual Report*** describes alternative water supply projects funded, as well as the quantity of new water to be created as a result of these projects. The report also separately accounts for other funding sources, such as grants or the use of District lands or facilities to implement regional water supply plans. FY2016 marks the 30th year of District alternative water supply funding, which to date has resulted in the funding of 364 reclaimed water projects that are anticipated to make available more than 248 mgd. In FY2016 alone, the District has budgeted more than \$38 million for alternative water supply projects that, upon completion, are projected to provide more than 55 mgd of water supply. In addition to funding alternative source infrastructure, the District continues to participate in studies and research with utilities and entities such as the WaterReuse Research Foundation. The scientific substantiation of alternative water sources increases the District's confidence in meeting its mission to find and maintain adequate and ecologically sustainable resources.

***The Five-Year Water Resource Development Work Program*** describes the District's implementation strategy for the Water Resource Development (WRD) component of the 2010 Regional Water Supply Plan. This 15th edition of the Work Program covers the period from FY2016 through FY2020. The Work Program is a comprehensive discussion of WRD data collection and analyses activities and more narrowly defined "projects" that the District is financially and technically undertaking to enhance the water available to meet projected demands. The Work Program also includes a list of Water Supply Development (WSD) projects funded in the FY2016 budget to demonstrate the magnitude of funding provided for these efforts. The WSD projects are developed primarily by water providers, but qualify for District financial assistance under the District's policies and Section 373.705, F.S. The FY2016 allocations are approximately \$33 million for WRD activities and projects and \$45 million for WSD projects. The District anticipates that future WRD project funding levels will be maintained with a strong emphasis on agricultural irrigation efficiency projects to reduce groundwater withdrawals and improve aquifer levels, and watershed management activities that will be critical for flood protection, water quality, and springshed health. Funding for reclaimed water projects account for 56 percent of the WSD project budget in FY2016. Regional interconnects account for 34 percent of the WSD project budget, which includes \$10 million for the Polk County cooperative entity to help ensure the availability of potable water supply in the Polk County portion of the Central Florida Water Initiative planning region.

***The Florida Forever Work Plan.*** In 2008, the Florida Legislature reauthorized the Florida Forever program. The reauthorized Florida Forever Act continues Florida's successful land acquisition initiative that has included the Save Our Rivers and Preservation 2000 programs, providing funding to state agencies, water management districts and local governments. Florida Forever funds allocated to the water management districts are used for land acquisition (including acquisition of less-than-fee interests), water resource development and water body restoration. Over the life of the program, at least 50 percent of the funds allocated to each water management district must be used for land acquisition.

As required by Section 373.199(7), F.S., the District is required to file an annual update of its Florida Forever Work Plan. The Work Plan identifies conservation lands, lands necessary for water resource development projects and waterbody restoration projects that meet acquisition criteria outlined in the Florida Forever Act (259.105, F.S.). Modifications to the 2016 Work Plan consist of adding approximately 246 acres that have been identified for proposed acquisition within the Rainbow Springs springshed and are important for water quality, recharge, flood protection, and wetland habitat preservation/restoration.

***The Mitigation Donation Annual Report*** identifies all cash donations accepted during the preceding fiscal year for wetland mitigation purposes. Similar to last year, there were no donations received.

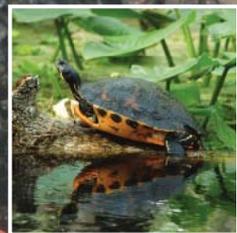
***The 2014-2018 Strategic Plan, and the 2015 Strategic Plan Annual Work Plan.*** The Strategic Plan is the guiding document for the District, identifying targets and how success will be achieved and measured. The Plan identifies 10 Districtwide strategic initiatives, including regional water supply planning, alternative water supplies, reclaimed water, water conservation, water quality assessment and planning, water quality maintenance and improvement, minimum flows and levels establishment and recovery, natural systems conservation and restoration, floodplain management and emergency flood response, and 32 regional priorities and objectives. The Plan has a five-year time horizon, and is updated on an annual basis.

The Strategic Plan Annual Work Plan details progress on efforts implementing priorities and objectives of the Strategic Plan. Notable accomplishments for 2015 include the Springs Coast Steering Committee's approval of the updated Rainbow River SWIM Plan. The Northern region experienced a reduction in the number of utilities not meeting the regulatory compliance per capita of 150 gallons per capita per day, from five to four. The recent (2014) MFL status assessment documented the hydrologic recovery of two lakes and seven wetlands in the Tampa Bay region. For the Dover/Plant City Water Use Caution Area, the District has completed the installation of 399 of the 960 automatic meter devices targeted for agricultural withdrawal points. The goal is to complete the installations by 2018. In addition, the District completed the Jan Phyl Village stormwater treatment project for the Lake Howard watershed in the Heartland region. This project is designed to reduce the lake's annual pollutant loadings by 163 lbs of nitrogen, 58 lbs of phosphorus and 7,107 lbs of suspended solids. The District also restored 8.97 acres of habitat for Sarasota Bay in FY2015.

Consolidated **Annual Report**

March 1, 2016

2015 *Water Management District*  
**Performance Measures** *Annual Report*



Southwest Florida  
*Water Management District*

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# Table of Contents

Water Management Performance Measures.....	1-1
Water Supply Measures.....	1-3
Water Quality Measures.....	1-9
Natural Systems Measures.....	1-13
Flood Protection Measures.....	1-17

# Water Management Performance Measures

Government, like any meaningful enterprise, needs to measure the results of its actions to ensure that services provided are effective and efficient. The purpose of any measurement process must be aimed at accomplishing sound resource management while improving accountability. If measures are successfully developed and communicated they can be expected to:

- Provide better information for decision-making;
- Document to taxpayers their dollars are being spent wisely;
- Spot potential problems before they become crises; and
- Coordinate effective resource management among agencies.

The water management districts and the DEP jointly developed these performance measures. They are organized around the four primary AORs of the districts: Water Supply, Water Quality, Natural Systems and Flood Protection. Base years, assumptions and data sources for each measure were mutually agreed upon as one means of achieving consistency among districts. The time frames associated with each measure may vary, based upon the availability of data. A number of measures are provided for the areas of responsibility. The concept is that a few key measures for each of the District's responsibilities will be tracked over time to identify trends as they are reported annually. These measures will continue to be refined and coordinated with other agencies and the public, and periodic assessments will be necessary to ensure a measuring system that provides true accountability.

## Summary of Water Management Performance Measures

### *Water Supply Measures*

**Objective 1: Increase available water supplies and maximize overall water use efficiency to meet identified existing and future needs.**

- a. Percentage of domestic wastewater reused
- b. Uniform gross per capita water use (Public Supply) by District and water supply planning regions
- c. Uniform residential per capita water use (Public Supply) by District and water supply planning regions
- d. Within each water supply planning region: 1) the estimated amount of water supply to be made available through the water resource development component of the Regional Water Supply Plan; 2) percent of estimated amount under development; and 3) percent of estimated amount of water actually made available
- e. Within each water supply planning region, the estimated additional quantities of water supply made available through District water supply development assistance

**Objective 2: Prevent contamination of water supplies.**

- a. Percentage of surface water supply sources for which water quality fully attains the designated use

### *Water Quality Measures*

**Objective 1: Protect and improve surface water quality.**

- a. Percentage of surface waters with healthy nutrient levels
- b. Percentage of surface waters with healthy biological conditions

**Objective 2: Protect and improve groundwater quality.**

- a. Improving, degrading and stable trends in nitrate concentrations in springs

## ***Natural Systems Measures***

### **Objective 1: Maintain the integrity and functions of water resources and related natural systems.**

- a. Number of MFLs, by water body type, established annually and cumulatively
- b. Percentage of MFLs established in accordance with previous year's schedule
- c. For the previous fiscal year, the total acres of wetlands or other surface waters authorized by Environmental Resource Permit (ERP) to be impacted and the number of acres required to be created, enhanced, restored and preserved

### **Objective 2: Restore degraded water resources and related natural systems to a naturally functioning condition.**

- a. Acres of invasive nonnative aquatic plants in inventoried public waters

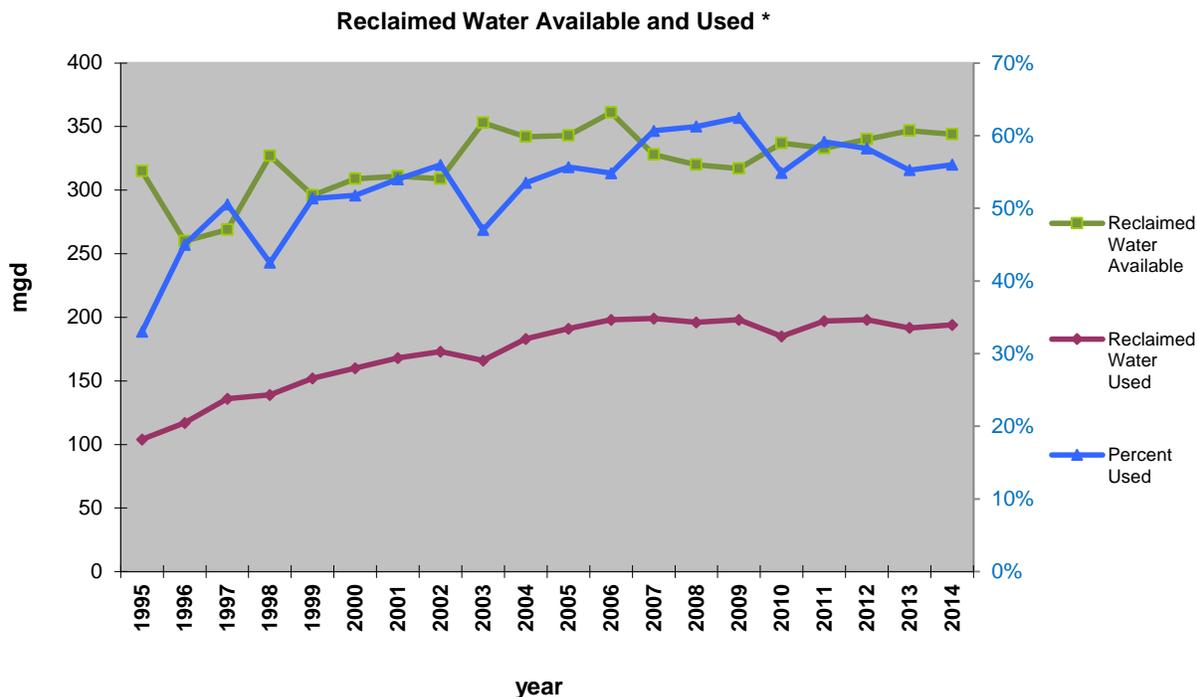
## ***Flood Protection Measures***

### **Objective 1: Minimize damage from flooding.**

- a. Percentage of District works maintained on schedule

### Water Supply Measure 1a: Percentage of domestic wastewater reused

The State and the District emphasize the beneficial use of reclaimed water as part of water supply planning strategies. This water resource has become an important alternative for potable quality supplies for such beneficial uses as irrigation, industrial processing, power generation and environmental enhancement. This measure is intended to reflect the quantity of reclaimed water available and reused.



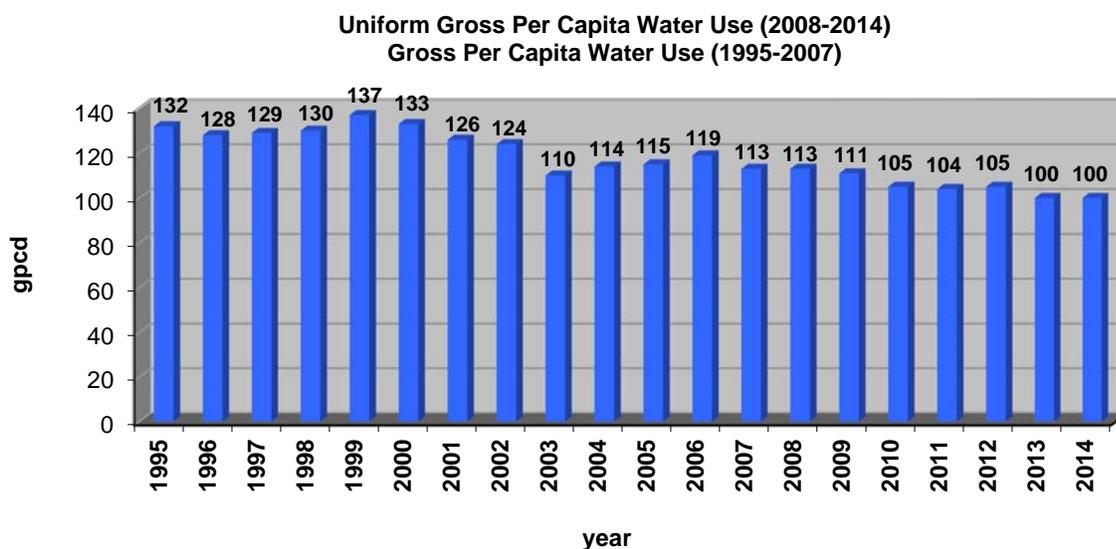
Source: 2014 Reuse Inventory, Florida Department of Environmental Protection 2015.

The amount of domestic wastewater reused in the District has increased, from 104 million gallons per day (mgd) in 1995 to 194 mgd in 2014, based on available data. The percentage of wastewater reused has also grown, reaching 56 percent in 2014, reflecting the increased utilization of reclaimed water. The 2014 figures show wastewater plant flows (i.e., reclaimed water available) and the amount of reclaimed water used has remained relatively stable over the past few years. The long-term increase in reclaimed water flows are associated with the increased number of online reuse projects. Newly completed reuse projects resulted in more than 1,000 additional customers connected in 2014, and districtwide customer numbers exceed 115,000, an increase of more than 335 percent since 2000.

*\* Data reflects the DEP’s definition of reclaimed water, which includes RIBs and sprayfields. Reduced reuse percentages utilized in 1995, 1998 and 2003 reflect elevated wastewater treatment plant flows associated with increased infiltration and inflow of stormwater into sanitary sewer systems. The slightly reduced amount and percentage reused in 2010 is primarily due to a decrease in residential utilization, and is likely associated with the economic downturn and foreclosure crisis.*

### **Water Supply Measure 1b: Uniform gross per capita water use (Public Supply) by District and water supply planning regions**

Public supply represents one of the largest water use sectors, and is experiencing sustained year over year growth. Public supply water use includes the water distributed by most public and private water utilities. This measure is intended to show the trend of such use, recognizing that water conservation can serve as a significant source of “new water” to meet public needs. In 2008, the DEP and the water management districts established uniform statewide methods of measuring per capita for public water supply for the purposes of consistent statewide assessment of water conservation performance, reporting, program evaluation and for public communication. The Uniform Gross Per Capita is defined as utility service area finished water use divided by utility service area residential population and is reported for 2008-2014. Other years (1995-2007) were generated using an earlier methodology for gross per capita public supply use, calculated by dividing the total publicly supplied water used (in gallons per day) by the functional population (includes seasonal and tourist) served.

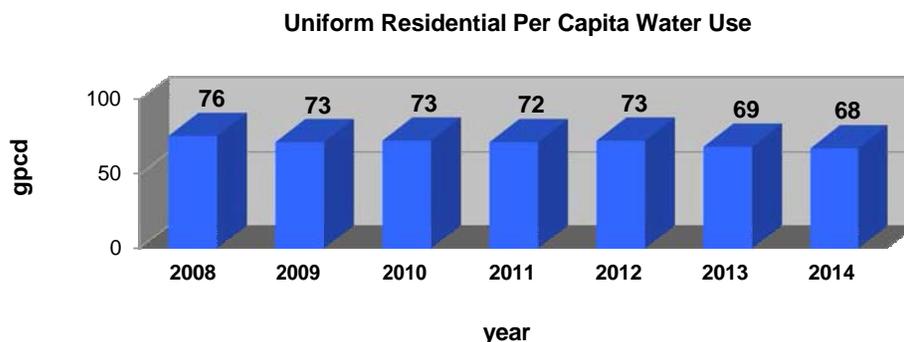


*Source: SWFWMD Estimated Water Use Reports, 1995-2013, draft 2014.*

The graphic reports gross per capita water use for the last 20 years. While it is recognized that many factors influence water use (e.g., rainfall), there has been a clear trend toward reduced per capita rates. This trend can be attributed in part to the increasing availability of reuse systems, water conservation programs, enhanced public awareness and related efforts. The per capita figures for 1999 and 2000 are reflective of the severe drought experienced Districtwide and resulting higher demand levels, in contrast to the per capita reduction in 2001 and 2002 “wet years.” Years 2003 to 2007 reflect a general trend toward lower per capita use rates. Years 2008 to 2014, which are based on uniform per capita water use, continue to show a general downward trend. This is credited to the continued increase in non-residential reclaimed water use and the implementation of conservation practices.

### **Water Supply Measure 1c: Uniform residential per capita water use (Public Supply) by District and water supply planning regions**

This measure accounts for the portion of publicly supplied water that is used for residential purposes only. The uniform residential per capita is defined as the utility service area finished water used by dwelling units (not connections) divided by the utility service area residential population. The DEP and the five water management districts agreed on this per capita definition in 2008, and to include the data in the annual progress report. This is the seventh reporting year for the residential uniform per capita measure.



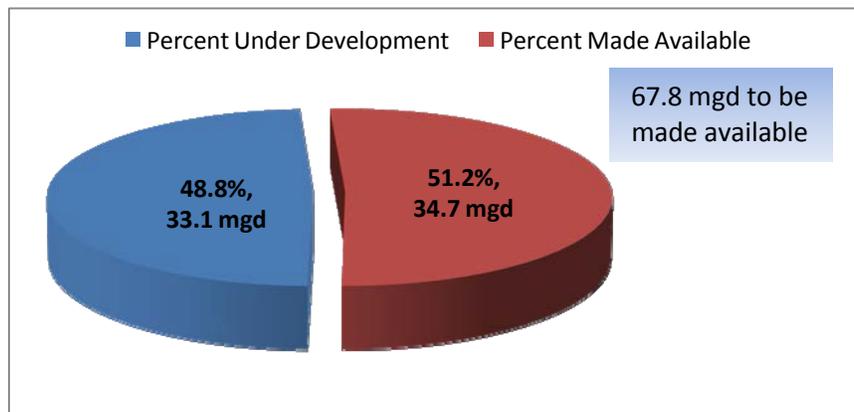
*Source: SWFWMD Estimated Water Use Reports 2008-2013, draft 2014.*

To ensure a sustainable water supply, utilities are tapping alternative sources and emphasizing conservation. Opportunities exist for all public supply users to conserve, including residential users, which makeup a significant portion of the public supply customers. The District has devoted considerable resources to encourage the implementation of water-conserving rate structures and indoor/outdoor practices for residential water users. As a result of these efforts, uniform residential per capita water use has declined 8 gallons per day (10.5%) since the methodology was implemented in 2008. The District has also implemented improvements to the reporting process to further ensure the accuracy of reported data.

**Water Supply Measure 1d: Within each water supply planning region: 1) the estimated amount of water supply to be made available through the water resource development component of the Regional Water Supply Plan (RWSP); 2) percent of estimated amount under development; and 3) percent of estimated amount of water actually made available**

The District is charged with expanding the "water pie" to assure future water supply availability. This can be done, in part, through water resource development. Projects receiving District funding assistance are categorized as either Water Resource Development (WRD) or Water Supply Development assistance. This measure is intended to document progress toward WRD. The District typically has the lead role in identifying and implementing WRD efforts.

**Water Resource Development**

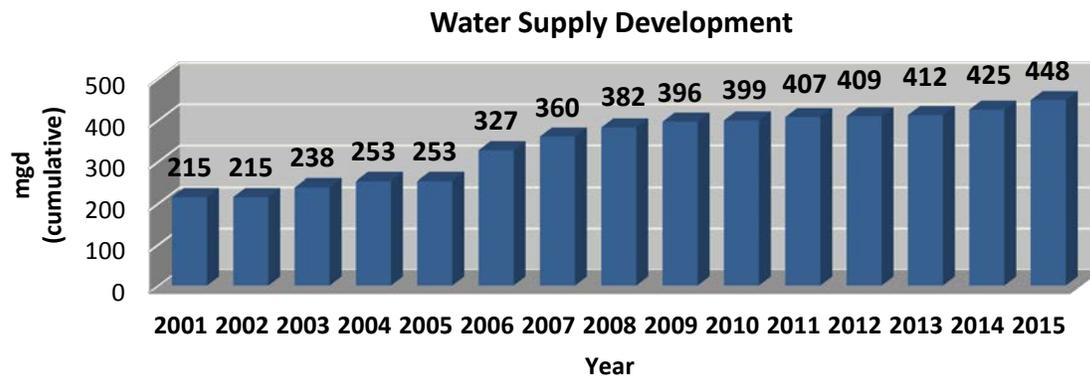


*Source: SWFWMD 2016 Five-Year Water Resource Development Work Program, District Water Resources Staff, 2015*

The District’s WRD component takes two forms: activities and projects. WRD “activities” include hydrologic data collection and investigations, the Minimum Flows and Levels (MFLs) Program to define limits of significant harm to water resources and ecology, the Quality of Water Improvement Program (QWIP) that plugs abandoned wells to protect water quality, a network of geohydrologic monitoring wells, and flood control projects. The District has budgeted 15 more narrowly defined WRD “projects” in FY2016. These are regional projects designed to create an identifiable, quantifiable supply of water from either traditional or alternative sources. The WRD projects include research and pilot projects for alternative water supplies, agricultural water conservation projects, and hydrologic/environmental restoration projects that will enhance the amount of water available for both natural systems and supply development. The water quantities produced or conserved by many WRD projects are difficult to measure until the projects are complete and the benefits are realized. Based on the WRD projects undertaken and quantified since 2003, a total of 34.7 mgd has already been made available, including 6.5 mgd by the lower Hillsborough River recovery strategy and 26.6 mgd by agricultural conservation projects.

**Water Supply Measure 1e: Within each water supply planning region, the estimated additional quantities of water supply made available through District water supply development assistance**

The Water Supply Development (WSD) component of the District's RWSP identifies water supply options from which regional authorities, local governments, private utilities, and other water users can choose to meet their individual needs. The options are provided as reasonable concepts that water users may pursue for their water supply planning efforts. Water users are primarily responsible for developing these options and are encouraged to apply for funding assistance from the District. Some options are large scale alternative water supply projects that would likely be implemented by a regional water supply authority or a group of users. Other options, such as reclaimed water infrastructure and conservation programs, could be implemented by individual utilities and other users.

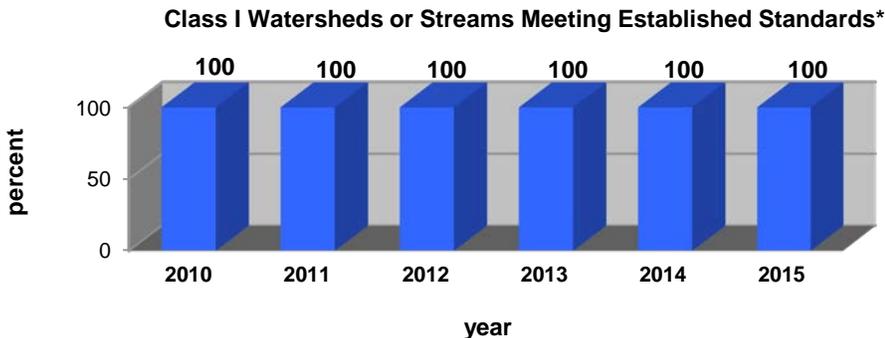


*Source: District Water Resources Staff, 2015.*

This graphic shows water supply made available or developed on a cumulative basis through WSD funding assistance. From 1994 through 2015, the District provided \$913 million in project funding to develop and conserve water supplies. An estimated 448 mgd has been made available by completed or ongoing projects. District funds are typically matched on a 50/50 cost-share basis with the partnering entity. Major accomplishments of the District's WSD component in FY2015 include the completion of two reverse osmosis water treatment facilities in Pinellas County, creating approximately 10 mgd of new water supply capacity from brackish groundwater.

**Water Supply Measure 2a: Percentage of surface water supply sources for which water quality fully attains the designated use**

Protecting and maintaining high quality water for human use is a critical component of water management. It is essential these sources be monitored and maintained in a high quality state for future water supply use. Under Florida’s water quality monitoring programs, surface water bodies are regularly assessed to determine whether designated uses are being attained.



*Source: Florida Department of Environmental Protection, 2009-2015.*

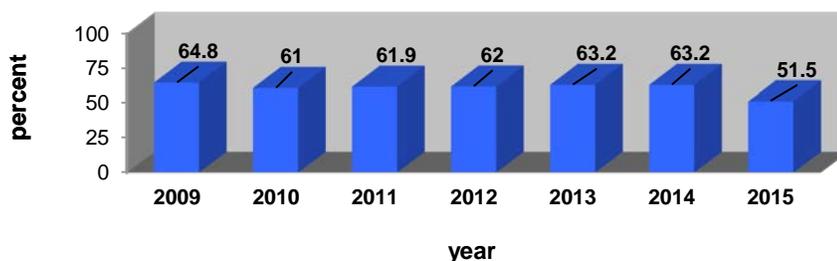
Of the 62 Class I water body identification units (WBIDs) in the District, 25 water bodies were assessed in 2015. Data indicate these surface waters are currently meeting their designated use. Since the 2010 reporting period, the methodologies utilized for determining whether a Class I Water is meeting its designated use have been based on assessment of toxic parameters (metals, pesticides, chemicals and un-ionized ammonia).

*\*The data provided by DEP in 2014 is the same as that provided in 2013, as DEP was involved in an effort to develop new reporting criteria. The new reporting criteria was implemented in 2015.*

### **Water Quality Measure 1a: Percent of surface waters with healthy nutrient levels**

The District has an abundance of surface waters used for a variety of purposes by the people who live and work here, by those who are visiting, and by the fish and wildlife that depend on these waters. Excessive nutrient loading remains the largest single threat to these resources. While nutrients are essential to life and ecosystem functions, excessive nutrients can cause nuisance algal and plant growth, oxygen depletion, loss of water clarity, loss of desirable species, loss of biodiversity, flavor effects on drinking water, increased probability of human and animal pathogens and other water quality impairments. This measure documents the percentage of surface waters with healthy nutrient levels.

**Watersheds or Streams with Healthy Nutrient Levels\***



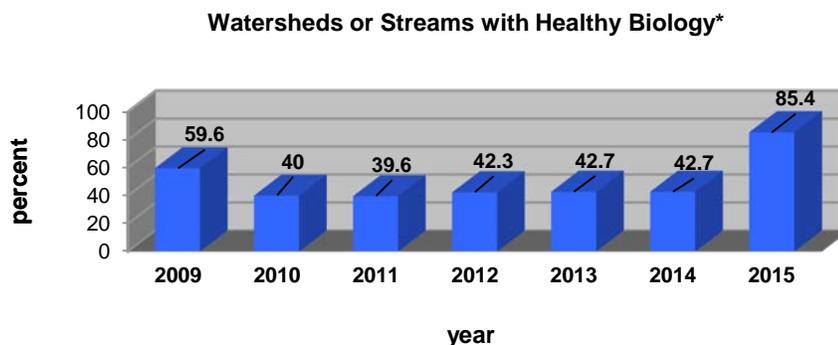
*Source: Florida Department of Environmental Protection, 2009-2015.*

Of the total water bodies with sufficient data to satisfy assessment criteria (501 WBIDS out of 1,390 WBIDS Districtwide), 51.5 percent were determined to be healthy for nutrients in 2015. Although this is a significant reduction compared to previous years, the reporting criteria used by DEP to calculate this metric was substantially modified in 2015. Consequently, comparisons to earlier years can no longer be made. Under the new reporting criteria, all assessments for nutrients (includes 9 nutrient-related parameters) are utilized to determine waters with healthy levels of nutrients. For prior year assessments, only two nutrient-related parameters (elevated Chlorophyll concentrations or trophic State Indices) were used. The recent expansion in the number of parameters evaluated has resulted in an increase in the number of water bodies determined to have unhealthy nutrient levels.

*\*The data provided by DEP in 2014 is the same as that provided in 2013, as DEP was involved in an effort to develop new reporting criteria. The new reporting criteria was implemented in 2015.*

## **Water Quality Measure 1b: Percentage of surface waters with healthy biological conditions**

Biological conditions are included in the broader definition of water quality. These conditions are indicators of water body health, and include investigations of dissolved oxygen, habitat conditions and the health of aquatic insect communities. Most importantly, the conditions provide cumulative information on all activities occurring within the watershed and can be used to establish baseline characteristics, characterize the overall condition of a watershed, identify potential problem pollutants, target more intensive diagnostic sampling and to support land use planning and management. This measure addresses the percentage of assessed watersheds or stream reaches with healthy biological conditions.



*Source: Florida Department of Environmental Protection, 2009-2015.*

The measures DEP uses to evaluate the biological conditions in flowing surface waters are primarily the Stream Condition Index (SCI) and Biological Reconnaissance (BioRecon). Of the 48 watersheds or stream reaches assessed in 2015 within the District, 7 watersheds or stream reaches were determined to be impaired based on biological assessments. The numbers for the previous five years are as follows: 2014 (157 assessed/90 impaired), 2013 (157 assessed/90 impaired), 2012 (163 assessed/94 impaired), 2011 (164 assessed/99 impaired), 2010 (191 assessed/116 impaired). The difference in the percentage of healthy water bodies during years 2009-2014 is believed to be largely due to the number and frequency of the water bodies assessed, as well as the basin (s) targeted for the assessment. In 2015, the reporting criteria used by DEP to calculate this metric was substantially modified. Consequently, comparisons to earlier years can no longer be made. The main differences under the new reporting criteria include the number and frequency of the water bodies assessed, the basin(s) targeted for the assessment, and the quality of the data being used in the assessment. These recent changes have resulted in a decrease in the number of waterbodies determined to have unhealthy biological conditions.

*\*The data provided by DEP in 2014 is the same as that provided in 2013, as DEP was involved in an effort to develop new reporting criteria. The new reporting criteria was implemented in 2015.*

## **Water Quality Measure 2a: Improving, degrading and stable trends for nitrate concentrations in springs**

Increasing levels of nitrate in Upper Floridan aquifer groundwater discharging from springs continues to be of concern in the District and statewide. While not yet posing significant human health impacts to our water supply, increasing nitrate concentrations stimulate the growth of aquatic vegetation which can alter the ecological function of springs and receiving water bodies. This measure is intended to identify springs in the District where nitrate concentrations are increasing (degrading), decreasing (improving), or remaining stable.

The following table depicts nitrate trend analyses for 34 selected springs within the District. The 2015 trends are derived by utilizing the Wilcoxon Rank-Sum test to compare data from the temporal groups of January 2008–December 2011 (Group 1) against January 2012–September 2015 (Group 2).

**Trends in Nitrate\* Concentrations in Selected Springs** (Source: District Data Collection Bureau, 2015)

<b>Spring</b>	<b>Wilcoxon P-Statistic</b>	<b>No. of Samples Group 1</b>	<b>Median Nitrate (mg/l) Group 1</b>	<b>No. of Samples Group 2</b>	<b>Median Nitrate (mg/L) Group 2</b>	<b>Wilcoxon Trend</b>
ALLIGATOR SPRING (GUM SPRING 01A)	0.028597	15	1.38	13	1.57	Degrading
BELTONS MILLPOND MAINTENANCE SPRING	0.527006	16	0.15	15	0.19	Stable
BETEE JAY SPRING	0.251613	16	0.42	15	0.44	Stable
BOBHILL SPRING	1.000000	12	0.70	15	0.69	Stable
BUCKHORN MAIN SPRING	0.000050	16	1.80	15	2.01	Degrading
CANAL 485A SPRING 1B	0.313222	16	1.24	15	1.30	Stable
CATFISH SPRING	0.000004	16	0.31	15	0.37	Degrading
CHASSAHOWITZKA 1 SPRING	0.242912	16	0.61	15	0.63	Stable
CHASSAHOWITZKA MAIN SPRING	0.085368	16	0.55	15	0.59	Stable
CITRUS-BLUE SPRING	0.000298	16	0.64	15	0.78	Degrading
FENNEY SPRING	0.692902	16	0.29	14	0.33	Stable
GUM SPRINGS 1	0.380065	14	1.31	11	1.41	Stable
GUM SPRINGS 2	0.028136	16	1.29	15	1.40	Degrading
GUM SPRINGS MAIN	0.053978	16	1.34	10	1.44	Stable
HEALTH SPRING	0.113810	16	4.42	15	3.97	Stable
HIDDEN RIVER 2 SPRING	0.000036	16	0.81	15	0.92	Degrading
HIDDEN RIVER HEAD SPRING	0.000018	16	0.86	15	0.95	Degrading
HOMOSASSA 3 SPRING	0.000006	17	0.61	15	0.67	Degrading
HUNTER SPRING	0.008299	16	0.55	16	0.61	Degrading
JENKINS CREEK SPRING	0.011404	16	0.73	15	0.81	Degrading
LITHIA MAIN SPRING	0.053702	16	2.61	12	2.53	Stable
LITTLE WEEKI WACHEE SPRING	0.072849	7	0.72	8	0.80	Stable
MAGNOLIA CIRCLE SPRING	0.007614	16	0.51	15	0.56	Degrading
MAGNOLIA SPRING	0.268092	16	0.59	15	0.60	Stable
PARKER ISLAND SPRING	0.029372	16	0.18	15	0.19	Degrading
RAINBOW 1 SPRING	0.003215	16	2.08	15	2.34	Degrading
RAINBOW 4 SPRING	0.000007	16	1.91	15	2.13	Degrading
RAINBOW 6 SPRING	0.000243	16	1.30	15	1.39	Degrading
RAINBOW BUBBLING SPRING	0.000270	16	1.54	15	1.74	Degrading
RAINBOW SWAMP 3 SPRING	0.043571	16	1.78	15	1.70	Improving
TARPON HOLE SPRING	0.249391	17	0.24	14	0.23	Stable
TROTTER MAIN	0.000009	16	0.66	15	0.72	Degrading
WEEKI WACHEE SPRING	0.057628	16	0.86	15	0.89	Stable
WILSON HEAD SPRING	0.000003	16	0.60	15	0.49	Improving

\* The sum of nitrite and nitrate is used to represent nitrate.

The Wilcoxon Rank-Sum test was used to determine whether there is a significant difference between spring water quality data populations grouped by time periods. It is a non-parametric statistical test that is used to determine whether one independent group of observations tends to contain larger values than another independent group. The Wilcoxon Rank-Sum test calculates a p-value, a significance level obtained by the data. If the calculated p-value is less than 0.05, the 95 percent confidence level, the groups are considered to be significantly different.

The overall water quality trend for these 34 selected springs in the District shows continued degradation, with an increase in nitrate contamination for half of the selected springs. However, nine springs show an improvement in nitrate trends when compared to last year's evaluation. Nitrate concentrations in springs may fluctuate based on a variety of factors including land use change, climate, irrigation practices, etc.

Various DEP initiatives support funding for investigations and implementation of strategies to improve water quality in Florida's springs, including recognition of the significance of public education. Under the direction of the Springs Coast Steering Committee, the District is continuing its development of management plans for its five first-magnitude spring systems. The management plan for Rainbow River was approved in late 2015. The management plans for Crystal River/Kings Bay, Chassahowitzka, Homosassa and Weeki Wachee are scheduled for completion in 2016-17.

### **Natural Systems Measure 1a: Number of MFLs, by water body type, established annually and cumulatively**

The District maintains and annually updates a “Minimum Flows and Levels Priority List and Schedule” that identifies water bodies for which the District plans to establish minimum flows and levels (MFLs). The List is based on the importance of the waters to the State or region, and includes those waters which are experiencing or may reasonably be expected to experience adverse impacts. The District continues to make progress in the establishment of MFLs.

By the end of FY2015, the District had established (i.e., adopted by rule) MFLs for 120 lakes, 41 wetlands, 19 river segments, 15 springs or spring complexes, 7 aquifer sites north of Tampa Bay, a single aquifer site in the Dover/Plant City area, and the Floridan aquifer system in the most impacted area of the Southern Water Use Caution Area (SWUCA), for a total of 204 established MFLs. The District had also adopted revised minimum flows for 1 river segment and 5 lakes, completed reevaluations indicating that adopted MFLs for 2 lakes did not require revision, and determined that development of minimum flows for the intermediate aquifer system in the SWUCA was not technically feasible. The following graphic shows the number of MFLs that have been developed annually and cumulatively by the District during the past 15 years.

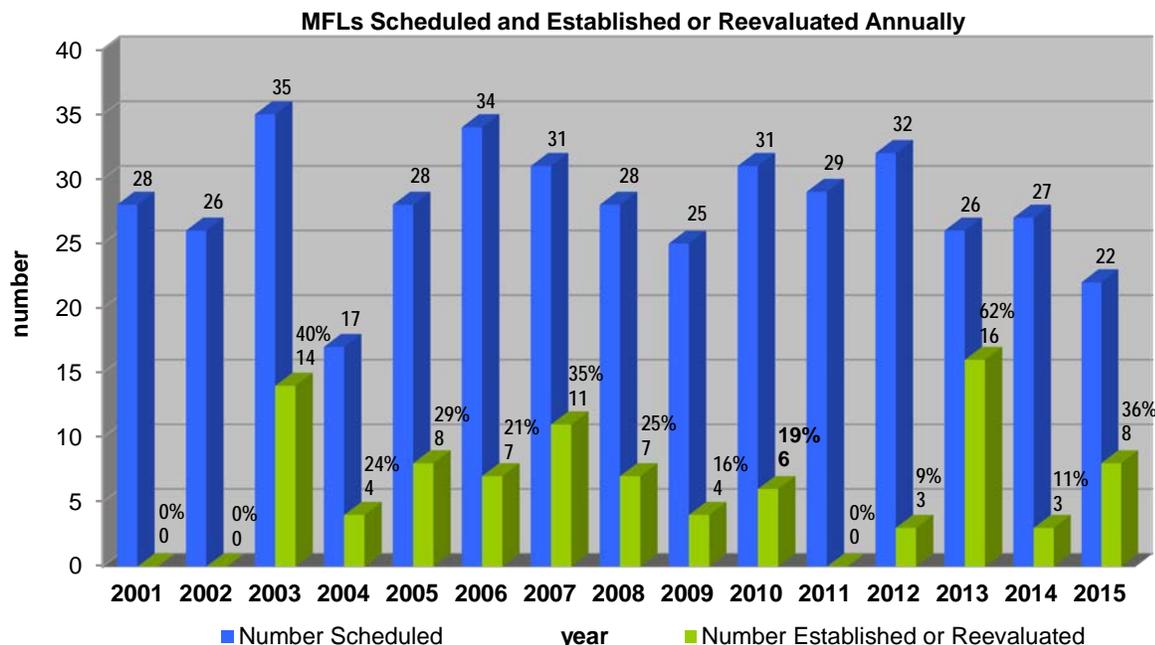
#### **Lakes/Wetlands, Rivers/Streams, Springs and Aquifers with MFLs**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Lakes and Wetlands</b>															
Cumulatively	56	56	70	99	104	128	144	145	145	147	147	149	157	160	161
Annually	0	0	14	29	5	24	16	1	0	2	0	2	8	3	1
<b>River/Stream Segments</b>															
Cumulatively	1	1	1	1	4	7	10	11	13	16	16	17	19	19	19
Annually	0	0	0	0	3	3	3	1	2	3	0	1	2	0	0
<b>Springs</b>															
Cumulatively	0	0	0	0	0	0	2	7	9	9	9	9	15	15	15
Annually	0	0	0	0	0	0	2	5	2	0	0	0	6	0	0
<b>Aquifers (Wells or Systems)</b>															
Cumulatively	7	7	7	7	7	8	8	8	8	9	9	9	9	9	9
Annually	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0

*Source: SWFWMD Natural Systems & Restoration Staff, 2015.*

### **Natural Systems Measure 1b: Percentage of MFLs established or reevaluated in accordance with previous year's schedule**

The District's Minimum Flows and Levels Priority List and Schedule identifies the lakes, wetlands, river/streams, springs and aquifers for which minimum flows and levels (MFLs) are to be established and reevaluated. The Schedule is updated annually and submitted to the DEP for approval. The following graphic shows the number of water bodies scheduled for MFLs establishment and/or reevaluation on an annual basis along with the number actually adopted and/or reevaluated for the past 15 years to provide a means for tracking progress in MFLs establishment.



Source: SWFWMD Springs & Environmental Flows Staff, 2015.

The 2015 MFLs Priority List identified a total of 22 MFLs scheduled for establishment or reevaluation during the calendar year, including 18 lakes and 4 river segments. MFLs were adopted for 6 of the 22 priority water bodies in FY2015 and included those established for Starvation Lake and revised MFLs based on reevaluation of previously adopted MFLs for lakes Bird, Crystal, Hobbs, Moon and Padgett. Reevaluations completed for 2 additional priority water bodies during FY2015 indicated that MFLs established for lakes Camp and Stemper did not require revision. MFLs adoption for 9 additional priority water bodies scheduled for adoption in 2015, including lakes Buddy, Clinch, Crews, Eagle, Hancock, McLeod, Pasadena, Starr and Wales, is anticipated during the first quarter of FY2016.

MFLs adoption was delayed for 5 of the 22 priority water bodies scheduled for establishment or reevaluation in 2015, including Crooked Lake and the Braden (lower segment), Manatee (lower segment), and Pithlachascotee (upper and lower segments) rivers. Factors causing the delays included staffing priorities, discussions with water-supply stakeholders, and the need for additional data collection and analysis. Despite these delays, the progress of this program is considered good.

***Natural Systems Measure 1c: For the previous fiscal year, the total acres of wetlands or other surface waters authorized by Environmental Resource Permit (ERP) to be impacted and the number of acres required to be created, enhanced, restored and preserved***

The ERP Program evaluates surface water management systems for impacts to natural systems (surface water and wetlands), water quality, and water quantity (flood protection) from various development projects. Impacts to surface waters and wetlands, unless specifically exempted, must be eliminated or reduced and, if unavoidable, mitigated. The intent of mitigation is to replace the functions of the impacted natural systems, whether involving water quality treatment, flood protection, wildlife habitat or other factors. This measure addresses the extent to which natural systems are impacted, and the extent to which impacted systems are replaced.

Environmental Resource Permit Results (Acres)*															
Wetlands	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Impacted (temporary & permanent)	190	368	333	399	475	571	851	743	840	492	535	492	478	594	856
Created/ Restored	337	271	246	749	415	670	334	656	923	1016	1088	285	127	175	439
Enhanced	228	571	402	1172	759	581	653	823	380	1995	1743	269	293	170	93
Preserved	3238	5329	4175	4129	6274	7612	7206	4418	3811	3641	3948	24	1809	5404	7130

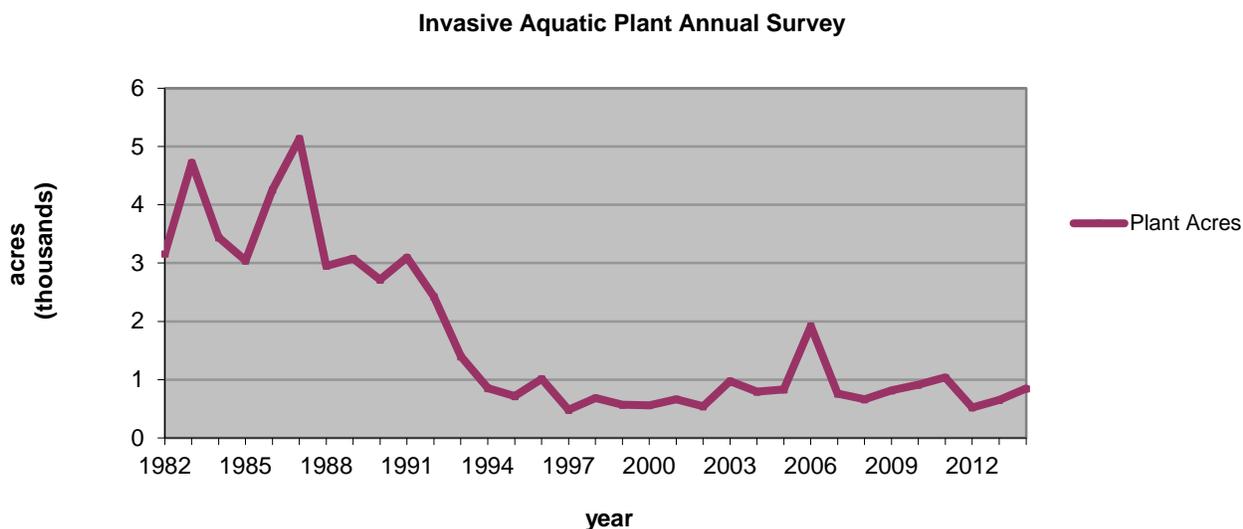
*Source: SWFWMD Environmental Resource Permitting Database, October 2015.*

The District's ERP Program shows a strong preference for avoiding wetland impacts as the best means to retain the functions of these important systems. Where wetland impacts were unavoidable, the combination of creating, restoring and enhancing wetlands more than offset acres impacted in most years.

*\* Acreages are rounded to whole numbers. In FY2012, the methodology for calculating the ERP wetland acres was adjusted to only reflect UMAM acres of creation, preservation and restoration during application review. Prior to FY2012, the data included acres not impacted in the "Preserved" total. The "Preserved" total now only includes acres actually preserved by a conservation easement. Short form modifications to Mitigation Banks, which are reported in earlier years, are also now excluded.*

### ***Natural Systems Measure 2a: Acres of invasive nonnative aquatic plants in inventoried public waters***

The protection and management of natural surface waters cannot be accomplished without effectively managing troublesome exotic aquatic plant species that can reduce the abundance and diversity of beneficial native plant populations, negatively impact fish and wildlife habitat, hinder navigation and recreational use, degrade water quality, impede water flow and increase sedimentation rates. Aquatic plant management operations conducted by the District on publicly accessible natural waters are funded by and coordinated with the Florida Fish and Wildlife Conservation Commission (FWC) under the Cooperative Aquatic Plant Control Program. This measure is intended to monitor how well the District is managing invasive plant populations on the public waterways it is responsible for managing.



*Source: Florida Fish and Wildlife Conservation Commission Invasive Plant Management Section's Annual Survey Database, 2014.*

There has been significant progress made managing populations of invasive aquatic plant species- hydrilla, water hyacinth and water lettuce- on the public waters managed by the District during the period depicted (1982-2014). These species are the primary invasive species managed on an annual basis on these waters. In 2014, a total of 847 acres of these invasive aquatic plant species were detected on the 22,502 acres of District managed lakes, rivers and canals. This represents less than a 4% coverage of the aforementioned invasive species and reflects a continuation of effective maintenance control. Some variation in plant acreages is expected on a year-to-year basis since ecological conditions, such as water levels, may result in increased or decreased growth potential or affect planned control operations. It is not realistic to expect complete eradication. The goal is "maintenance control" where targeted plants are regularly monitored and maintained at the lowest feasible level. Additionally, the management philosophy for hydrilla has been evolving since control of the aquatic plant management program was transferred to the FWC. On some waters, the FWC supports allowing increased coverage of hydrilla if it will benefit the primary use of a water body such as waterfowl hunting.

### ***Flood Protection Measure 1a: Percentage of District works maintained on schedule***

The District maintains a total of 81 structures, including water conservation structures, salinity barriers, canals and flood control structures. It is essential these facilities be maintained to optimally perform their respective functions. Information contained in the Structure Operations Five-Year Maintenance Plan serves as the guideline for scheduling maintenance on District works.

<b>Year</b>	<b>Number of Structures</b>	<b>Percent of Structures Maintained on Schedule</b>
1999	75	100
2000	75	100
2001	75	100
2002	75	100
2003	84	100
2004	84	100
2005	84	100
2006	84	100
2007	84	100
2008	84	100
2009	84	100
2010	84	100
2011	84	100
2012	81	100
2013	81	100
2014	81	100
2015	81	76

*Source: SWFWMD Operations Staff, 2015.*

In FY2015, District structures were maintained on schedule, with the exception of some water conservation structures. The delay was due to staff work associated with a major flooding event that impacted central portions of the District in July and August, and new inspection and maintenance requirements recently implemented to address the age of these structures.

There are currently 40 structures with remote operational capability. An additional structure was scheduled for conversion to remote capability in FY2015. Work on this project has been delayed due to other priorities.

Refurbishment projects continued on major flood control gates, including two gates at structure S-551 on Lake Tarpon in Pinellas County and the single gate at structure S-163 on the Tampa Bypass Canal in Hillsborough County. Planned activities for FY2016 include refurbishment of two gates at Structure S-551 and replacement of the Thirteen Mile System water conservation structures in Hillsborough County. The latter includes replacing three stop-log structures with remote-operable gated structures. The District uses a five-year plan to address all needed routine and preventive maintenance on District structures, including the necessary budgets to accomplish the work. In addition, under the District's new Business Plan, a long-term repair and replacement plan will be developed for the District's 18 flood control structures.

Consolidated **Annual**  
**Report**  
*March 1, 2016*

2016 **Minimum**  
**Flows and Levels**  
*and*  
*Priority List and Schedule*



Southwest Florida  
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# **SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT GOVERNING BOARD APPROVED 2016 MINIMUM FLOWS AND LEVELS PRIORITY LIST AND SCHEDULE AND RESERVATIONS LIST AND SCHEDULE**

## **Priority Water Bodies with Adopted and Effective Minimum Flows and Levels Rules, Including Those That Have Been Reevaluated**

- Alafia River (upper segment)
- Alafia River (lower segment)
- Anclote River (lower segment)
- Anclote River (upper segment)
- Braden River (upper segment)
- Buckhorn Springs
- Chassahowitzka River System and Springs (includes Chassahowitzka Main, Chassahowitzka #1, Crab Creek, Potter, Ruth and Blind Springs)
- Citrus County Lakes – Ft. Cooper, Tsala Apopka – Floral City, Inverness and Hernando Pools
- Crystal Springs
- Dona Bay/Shakett Creek System
- Dover/Plant City Water Use Caution Area Minimum Aquifer Level
- Hernando County Lakes – Hunters, Lindsey, Mountain, Neff, Spring, Tooke, Weekiwachee Prairie, Whitehurst
- Highland County Lakes – Angelo\*, Anoka\*, Denton\*, Jackson\*, Little Lake Jackson\*, June-in-Winter\*, Letta\*, Lotela\*, Placid\*, Tulane\*, Verona\*
- Hillsborough County Lakes – Alice, Allen, Barbara, Bird (reevaluated), Brant, Calm, Carroll, Charles, Church, Crenshaw, Crescent, Crystal (reevaluated), Cypress, Dan, Deer, Dosson, Echo, Ellen, Fairy [Maurine], Garden, Halfmoon, Hanna, Harvey, Helen, Hobbs (reevaluated), Hooker, Horse, Jackson, Juanita, Keene, Kell, Little Moon, Merrywater, Mound, Platt, Pretty, Rainbow, Raleigh, Reinheimer, Rogers, Round, Saddleback, Sapphire, Stemper (reevaluated), Strawberry, Sunset, Sunshine, Taylor, Virginia, Wimauma
- Hillsborough River (lower segment) (reevaluated)
- Hillsborough River (upper segment)
- Homosassa River System and Springs (includes Halls River Springs, Southeast Fork Homosassa River Springs, Homosassa Main Springs, Hidden River Springs)
- Levy County Lake – Marion
- Lithia Springs
- Marion County Lakes – Bonable, Little Bonable, Tiger
- Myakka River (lower segment)
- Myakka River (upper segment)
- Northern Tampa Bay – 41 Wetland sites
- Northern Tampa Bay – 7 Wells – Upper Floridan aquifer/Saltwater Intrusion
- Pasco County Lakes – Bell, Big Fish, Bird, Buddy, Camp (reevaluated), Clear, Green, Hancock, Iola, Jessamine, King, King [East], Linda, Middle, Moon (reevaluated), Padgett (reevaluated), Parker aka Ann, Pasadena, Pasco, Pierce, Unnamed #22 aka Loyce
- Peace River (lower segment)
- Peace River (middle segment)

- Peace River (three upper segments – "low" minimum flows)
- Polk County Lakes – Annie\*, Bonnie\*, Clinch\*, Crooked\*, Crystal\*, Dinner\*, Eagle\*, Lee\*, Mabel\*, McLeod\*, North Lake Wales\*, Parker, Starr\*, Venus\*, Wales\*
- Sulphur Springs
- Sumter County Lakes – Big Gant\*\*, Black\*\*, Deaton\*\*, Miona\*\*, Okahumpka\*\*, Panasoffkee\*\*
- Southern Water Use Caution Area – Upper Floridan aquifer
- Tampa Bypass Canal
- Weekiwachee River System and Springs (includes Weeki Wachee, Jenkins Creek, Salt, Little Weeki Wachee and Mud River Springs)

### **Priority Water Bodies in Rule Development with Adopted but Not Yet Effective Minimum Flows and Levels Rules (with Anticipated Effective Dates)**

- Hillsborough County Lake – Starvation (S21-T27S-R18E) (rules anticipated to become effective in December 2015)
- Northern Tampa Bay Reevaluation Water Bodies
  - Pasco County Lakes – Moon (S28-T25S-R17E), Padgett (S24-T26S-R18E) (rules anticipated to become effective in December 2015)

### **Priority Water Bodies Scheduled for Minimum Flows and Levels Adoption in 2015**

- Central Florida Water Initiative Area and Southern Water Use Caution Area Reevaluation Water Bodies
  - Polk County Lakes – Clinch\* (S31-T31S-R28E), Eagle\* (S01-T29S-R25E), McLeod\* (S07-T29S-R26E), Starr\* (S14-T29S-R27E), Wales\* (S01-T30S-R27E)
- Northern Tampa Bay Reevaluation Water Bodies
  - Pasco County Lakes – Buddy (S17-T25S-R21E), Pasadena (S16-T25S-R21E)
- Pasco County Lake – Crews (S20-T24S-R18E)
- Polk County Lake – Hancock (S08-T29S-R25E)

### **Priority Water Bodies Scheduled for Minimum Flows and Levels Adoption in 2016**

- Braden River (lower segment)
- Central Florida Water Initiative Area and Southern Water Use Caution Area Reevaluation Water Body
  - Polk County Lake – Crooked\* (S01-T31S-R27E)
- Gum Springs Group\*\*
- Manatee River (lower segment)
- Northern Tampa Bay Reevaluation Water Bodies
  - Hillsborough County Lakes – Dan (S06-27S-R17E), Horse (S26-T27S-R17E), Juanita (S22-T27S-R17E), Merrywater (S22-T27S-R18E), Rainbow (S22-T27S-R17E), Sunset (S17-T27S-R17E)
  - Pasco County Lake – Big Fish (S21-T24S-R19E)
- Pithlachascotee River (lower segment)
- Pithlachascotee River (upper segment)
- Polk County Lakes – Eva\* (S32-T27-R27), Lowery (S14-T27S-R26E)
- Southern Water Use Caution Area Reevaluation Water Bodies
  - Highlands County Lakes – Jackson\* (S30-T34S-R29E), Letta\* (S31-T33S-R29E), Little Jackson\* (S06-T35S-R29E), Lotela\* (S26-T33S-R28E)

## **Priority Water Bodies Scheduled for Minimum Flows and Levels Adoption in 2017**

- Crystal River System and Kings Bay Springs
- Highland County Lakes – Damon\* (S03-T33-R28), Pioneer\* (S11-T33-R28), Pythias\* (S02-T33-R28), Viola\* (S14-T33-R38)
- Polk County Lakes – Amoret\* (S24-T30S-R27E), Aurora\* (S13-T30S-R28E), Bonnet (S14-T28S-R23E), Easy\* (S19-T30S-R28E\*), Effie\* (S03-T30S-R27E), Josephine\* (S13-T30S-R27E), Little Aurora\* (S13-T30-R28E), Trout\* (S34-T32-R28)
- Rainbow River and Springs\*\* (Bubbling and Waterfall Springs and springs in the main spring bowl)

## **Priority Water Bodies Scheduled for Minimum Flows and Levels Adoption in 2018**

- Brooker Creek
- Cypress Creek
- Peace River (lower segment) (reevaluation)
- Shell Creek (lower segment)

## **Priority Water Bodies Scheduled for Minimum Flows and Levels Adoption in 2019**

- Chassahowitzka River System and Springs (includes Chassahowitzka Main, Chassahowitzka #1, Crab Creek, Potter, Ruth and Blind Springs) (reevaluation)
- Homosassa River System and Springs (includes Halls River Springs, Southeast Fork Homosassa River Springs, Homosassa Main Springs, Hidden River Springs) (reevaluation)

## **Priority Water Bodies Scheduled for Minimum Flows and Levels Adoption in 2020**

- Little Manatee River (lower segment)
- Little Manatee River (upper segment)
- Withlacoochee River System (lower segment)
- Withlacoochee River System (three middle/upper segments)\*\*

## **Priority Water Bodies Scheduled for Minimum Flows and Levels Adoption in 2021**

- Bullfrog Creek
- North Prong Alafia River
- South Prong Alafia River

## **Priority Water Bodies Scheduled for Minimum Flows and Levels Adoption in 2022**

- Peace River (three upper segments – "intermediate" and "high" minimum flows)

## **Priority Water Bodies Scheduled for Minimum Flows and Levels Adoption in 2023**

- Charlie Creek
- Horse Creek

## **Priority Water Bodies Scheduled for Minimum Flows and Levels Adoption in 2024**

- Prairie Creek
- Shell Creek (upper segment)

## **Adopted Reservations**

- Morris Bridge Sink (water reserved to contribute to achieving or maintaining minimum flows adopted for the lower Hillsborough River for the protection of fish and wildlife)

## **Water Bodies Scheduled for Reservations Adoption in 2015**

- Polk County Lake – Hancock (S08-T29S-R25E) (reservation proposed to contribute to achieving or maintaining minimum flows adopted for the upper Peace River and for the protection of fish and wildlife).

## ***Notes for Listed Water Bodies***

Section-Township-Range (S-T-R) information is listed for lakes scheduled for minimum flows and levels and reservations development to assist in identification of priority water bodies. Similar information is provided for lakes with adopted minimum levels in Table 8-2, Rule 40D-8.624(12), Florida Administrative Code.

All proposed spring and river segment minimum flows and levels will be subjected to voluntary scientific peer review based on the expected level of complexity of the minimum flows and levels and the anticipated degree of public concern regarding the minimum flows and levels.

No proposed lake minimum flows and levels are expected to be subjected to voluntary scientific peer review based on anticipated use of previously peer-reviewed methodologies for development of the minimum flows and levels.

Listed water bodies that may be affected by withdrawals occurring in other water management districts are identified with asterisks. These listings are not intended to identify a request for the adoption of a minimum flow or level by the Florida Department of Environmental Protection (DEP) pursuant to Section 373.0421(1), Florida Statutes.

\* Water bodies potentially affected by groundwater withdrawals in the St. Johns River Water Management District (SJRWMD) and South Florida Water Management District (SFWMD). Identified water bodies in Polk County are within the Central Florida Water Initiative Planning Area which is a coordinated effort among the Southwest Florida Water Management District (SWFWMD), SJRWMD, SFWMD, DEP, Florida Department of Agriculture and Consumer Services (FDACS), local governments, and agricultural and commercial interests to effectively manage water resources in the area. For identified water bodies in Highlands County, the SWFWMD has coordinated with the SFWMD on their preparation of the 2014 Lower Kissimmee Basin Regional Water Supply Plan, development the 2015 SWFWMD Regional Water Supply Plan and is collaborating with the SFWMD

and SJRWMD on the planned 2018 expansion of the East Central Florida Transient groundwater flow model domain to incorporate Highlands County and other areas of South Florida.

\*\* Water bodies potentially affected by groundwater withdrawals in the SJRWMD. The SWFWMD and SJRWMD are coordinating minimum flows and levels analyses through cooperatively funded projects concerning expansion of the Northern District groundwater flow model that was completed in December 2013. Springs coordination meetings also occur on a quarterly basis with water management district, DEP and FDACS participation to improve inter-district communication. SWFWMD has also coordinated with the SJRWMD on a recent update to the water supply plan for the Withlacoochee River Water Supply Authority and development of the 2015 SWFWMD Regional Water Supply Plan.

Consolidated **Annual Report**

March 1, 2016

*Five-Year* **Capital Improvements Plan** *2015-16 through 2019-20*



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# Table of Contents

Introduction .....	3-1
Five-Year Capital Improvements Plan Schedule .....	3-3
Project Descriptions .....	3-4

# Introduction

The Five-Year Capital Improvements Plan (CIP) includes projected revenues and expenditures for capital improvements for FY2015-16 through FY2019-20. As directed by Section 373.536(6)(a)3, Florida Statutes, the CIP is presented in a manner comparable to the fixed capital outlay format set forth in Section 216.043, Florida Statutes. The format for this report was jointly developed by the Executive Office of the Governor, the Department of Environmental Protection, and the water management districts. Capital improvement projects may be budgeted in either of two standard program categories. Those programs and their activities and sub-activities are represented below:

## **2.0 Acquisition, Restoration and Public Works**

- 2.1 Land Acquisition
- 2.2 Water Source Development
  - 2.2.1 Water Resource Development Projects
  - 2.2.2 Water Supply Development Assistance
  - 2.2.3 Other Water Source Development Activities
- 2.3 Surface Water Projects
  - 2.3.1 Surface Water Management
- 2.5 Facilities Construction and Major Renovations

## **3.0 Operation and Maintenance of Lands and Works**

- 3.1 Land Management
- 3.2 Works
- 3.3 Facilities
- 3.4 Invasive Plant Control
- 3.5 Other Operation and Maintenance Activities

The activities and sub-activities under program 2.0 Acquisition, Restoration and Public Works that may include capital improvement projects are 2.1 Land Acquisition, 2.2.1 Water Resource Development Projects, 2.2.3 Other Water Source Development Activities, 2.3.1 Surface Water Management, and 2.5 Facilities Construction and Major Renovations. The activities under program 3.0 Operation and Maintenance of Lands and Works that may include capital improvement projects are 3.1 Land Management and 3.2 Works.

The purpose of the CIP is to project future needs and anticipated future funding requirements to meet those needs. *(The District uses a pay-as-you-go approach and does not incur bonded debt.)* The CIP contains only those projects that will be owned and capitalized as fixed assets by the District.

The CIP includes expenditures for basic construction costs (permits, inspections, communications requirements, utilities, outside building, site development, etc.) and other related capital project costs (land, survey, existing facility acquisition, professional services, etc.).

The District's current capital improvement projects are budgeted under the following program activities: 2.1 Land Acquisition and 2.5 Facilities Construction and Major Renovations.

Standard definitions for these programs and activities used by all five water management districts for CIP preparation follow:

### ***2.0 Acquisition, Restoration and Public Works***

This program includes the development and construction of all capital projects (except for those contained in Program 3.0), including land acquisition (i.e., Florida Forever Program), water resource

development projects, water control projects, support and administrative facilities construction, and the restoration of lands and water bodies.

**2.1 Land Acquisition** – The acquisition of land and facilities for the protection and management of water resources. This activity category does not include land acquisition components of "water resource development projects" or "surface water projects."

**2.5 Facilities Construction and Major Renovations** – Design, construction, and significant renovation of all District support and administrative facilities. The proposed work for the facilities improvement program includes project management, permitting, and conceptual, preliminary, and detailed engineering for the development and preparation of contract plans and specifications, and the construction of planned replacement, improvement, or repair to the District's administrative and field facilities.

**Southwest Florida Water Management District**  
**Five-Year Capital Improvements Plan**  
**Fiscal Year 2015-16 through Fiscal Year 2019-20**

**2.0 ACQUISITION, RESTORATION AND PUBLIC WORKS**

**2.1 LAND ACQUISITION**

	<b>REVENUES</b>	<b>FY2015-16</b>	<b>FY2016-17</b>	<b>FY2017-18</b>	<b>FY2018-19</b>	<b>FY2019-20</b>
(1) Balance from Prior Years Florida Forever/District Investment Account		\$10,530,000	\$4,700,000	\$0	\$0	\$0
<b>TOTAL</b>		<b>\$10,530,000</b>	<b>\$4,700,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

	<b>EXPENDITURES</b>	<b>FY2015-16</b>	<b>FY2016-17</b>	<b>FY2017-18</b>	<b>FY2018-19</b>	<b>FY2019-20</b>
(1) Florida Forever Land Purchases		\$10,530,000	\$4,700,000	\$0	\$0	\$0
<b>TOTAL</b>		<b>\$10,530,000</b>	<b>\$4,700,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

**2.5 FACILITIES CONSTRUCTION AND MAJOR RENOVATIONS**

	<b>REVENUES</b>	<b>FY2015-16</b>	<b>FY2016-17</b>	<b>FY2017-18</b>	<b>FY2018-19</b>	<b>FY2019-20</b>
(2) Ad Valorem Revenue		\$608,350	\$1,346,103	\$841,425	\$400,000	\$400,000
<b>TOTAL</b>		<b>\$608,350</b>	<b>\$1,346,103</b>	<b>\$841,425</b>	<b>\$400,000</b>	<b>\$400,000</b>

	<b>EXPENDITURES</b>	<b>FY2015-16</b>	<b>FY2016-17</b>	<b>FY2017-18</b>	<b>FY2018-19</b>	<b>FY2019-20</b>
<b>DISTRICTWIDE:</b>						
Districtwide Parking Lot Repair and Resurfacing		\$0	\$93,100	\$401,000	\$0	\$0
Districtwide Carpet Replacement		108,350	236,000	40,425	-	-
Districtwide Planned Roof, HVAC, Repair, and Remodeling Projects		400,000	400,000	400,000	400,000	400,000
<b>BROOKSVILLE:</b>						
Data Center Telecommunications Reconfiguration		-	210,000	-	-	-
<b>TAMPA:</b>						
District Site Survey		100,000	407,003	-	-	-
<b>TOTAL</b>		<b>\$608,350</b>	<b>\$1,346,103</b>	<b>\$841,425</b>	<b>\$400,000</b>	<b>\$400,000</b>

<b>TOTAL CAPITAL EXPENDITURES</b>	<b>\$11,138,350</b>	<b>\$6,046,103</b>	<b>\$841,425</b>	<b>\$400,000</b>	<b>\$400,000</b>
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**Notes:**

- (1) At the end of FY2014-15, the District had over \$15.2 million in prior year funds available for land acquisitions through the Florida Forever program. The funds consisted of \$5.2 million being held in a District investment account with its use restricted to land purchases that would be eligible for Florida Forever funding. The \$5.2 million was generated from the sale of land or real estate interests to the Natural Resources Conservation Service (NRCS), the Florida Department of Transportation (FDOT) or local governments for right of way or mitigation purposes. The District also has \$10 million of prior year allocations of Florida Forever funding available and its release is subject to approval by the Department of Environmental Protection. For FY2015-16, \$10.53 million has been allocated for planning purposes, with the remaining \$4.7 million allocated for FY2016-17. Funding for FY2017-18 and beyond is subject to future state appropriations from the Florida Forever program.
- (2) The FY2015-16 budget reflects the ongoing five-year investment plan for the Facilities Fund. The plan is updated and revised annually to forecast the dollars necessary to invest in major construction needs. Projects in the FY2015-16 budget are funded with ad valorem revenue. Future projects from FY2016-17 through FY2019-20 are anticipated to be fully funded by ad valorem revenue unless there are remaining balances from prior years.

# Project Descriptions

**Program:** Acquisition, Restoration and Public Works

**Activity:** Land Acquisition

**Project Title:** Florida Forever Land Purchases

**Type:** Lands Acquired through the Florida Forever Program

**Physical Location:** District's 16-county Region

**Square Footage/Physical Description:** To Be Determined

**Expected Completion Date:** Ongoing

**Historical Background/Need for Project:** The District has recognized land acquisition as one of its primary tools for achieving its statutory responsibilities. Section 373.139, Florida Statutes, authorizes the District to acquire fee simple or less-than-fee interests to the lands necessary for flood control, water storage, water management, conservation and protection of water resources, aquifer recharge, water resource and water supply development, and preservation of wetlands, streams and lakes.

The District purchases land and interests in land through fee simple land acquisition and acquisition of less-than-fee simple interests (e.g., conservation easements) under the State's Florida Forever program. The Florida Forever program provides funding for land acquisition and capital improvements to state agencies, the water management districts (WMDs) and local governments. The authorized uses for the Florida Forever Trust Fund for the WMDs include land acquisition, the Surface Water Improvement and Management (SWIM) program, water resource development, and regional water supply development and restoration. An important aspect to the WMDs expenditures of Florida Forever funds is that at least 50 percent of the allocation from the Florida Forever Trust Fund must be spent on land acquisition. As of September 30, 2015, the District has approximately \$15.2 million available in prior year funds for land acquisitions (fee or less-than-fee) under the Florida Forever program. This includes approximately \$10 million of prior year allocations held by the State of Florida in the Florida Forever Trust Fund. The remaining \$5.2 million is held in the District's investment accounts. These funds were generated from the sale of land or less-than-fee interests to the Natural Resources Conservation Service Wetland Reserve program, the Florida Department of Transportation or local governments for right of way or mitigation purposes, or to private individuals through the District's surplus lands program. The release of funds from prior year allocations, held by the State of Florida, is subject to approval by the Department of Environmental Protection.

**Plan Linkages:** Strategic Plan; Florida Forever Work Plan; Watershed Management Plans; SWIM Plans

**Area(s) of Responsibility:** Water Supply; Water Quality; Natural Systems; Flood Protection

**Alternative(s):** An alternative would be to place additional regulations and restrictions on lands requiring protection rather than purchasing the necessary land or less-than-fee interests. Many of these alternatives are not within the District's authority.

**Basic Construction Costs (include permits, inspections, communications requirements, utilities, outside building, site development, other):** Budgeted at \$10 million in FY2015-16 and \$4.45 million in FY2016-17 for anticipated land acquisitions. Currently, there are no land acquisitions projected for FY2017-18 through FY2019-20. Funds are not budgeted to individual projects because of potential impacts on successful negotiations with property owners, and instead are budgeted in a lump sum for all land acquisitions.

**Other Project Costs (include land, survey, existing facility acquisition, professional services, other):** Budgeted at the estimated costs of \$530,000 in FY2015-16 and \$250,000 in FY2016-17 for ancillary costs such as appraisals, title insurance, environmental site assessments, and documentary fees. There are no ancillary costs budgeted for FY2017-18 through FY2019-20. Ancillary costs are reimbursable by the Florida Forever Trust Fund.

**Anticipated Additional Operating Costs/Initial (include salaries, benefits, equipment, furniture, expenses):** District staff time and travel costs associated with land acquisition are not reimbursable by the Florida Forever Trust Fund and are excluded from the amounts referenced below. These costs will be funded from District ad valorem revenue sources.

**Anticipated Additional Operating Costs/Continuing:** The District acquires real estate interests for projects that would enhance its existing ownership or provide management benefits. Depending on the property size, location and interest acquired, the operating costs will vary and are evaluated at the time of acquisition. These costs are not reimbursable by the Florida Forever Trust Fund and are excluded from the amounts referenced below. These costs will be funded from District ad valorem revenue sources.

<b>FY2015-16</b>	<b>FY2016-17</b>	<b>FY2017-18</b>	<b>FY2018-19</b>	<b>FY2019-20</b>
\$10,530,000	\$4,700,000	\$0	\$0	\$0

**Program:** Acquisition, Restoration and Public Works

**Activity:** Facilities Construction and Major Renovations

**Project Title:** Districtwide Parking Lot Repair and Resurfacing

**Type:** Resurface and Paving of Parking Lot

**Physical Location:** Service Offices: Sarasota and Tampa, Florida

**Square Footage/Physical Description:** As Required

**Expected Completion Date:** Ongoing

**Historical Background/Need for Project:** The District currently owns and maintains over 754,450 square feet of parking lot and driveway pavement at its three office locations. This pavement and the associated stormwater management systems represent a significant capital investment. The District hired an engineering firm (Kisinger Campo & Associates Corp.) to conduct an inventory and inspection of these areas. The inspection found that preventative maintenance treatment would need to be performed to extend the life of the paved surfaces by approximately seven to ten years. This work will include repairs of depressions and potholes, double micro surfacing, crack sealing, and applied, cold in-depth recycling of existing pavement and new hot mix pavement depending on the condition of the existing asphalt. The parking lot projects for the Sarasota and Tampa Service Offices are planned to be funded and completed in future years as scheduled below, pending Governing Board approval through the annual budget process. There are no planned projects for FY2015-16, FY2018-19 and FY2019-20.

FY2016-17  
Sarasota repair/resurface 38,000 sq. ft. \$93,100

FY2017-18  
Tampa repair/resurface 236,000 sq. ft. \$401,000

**Plan Linkages:** Strategic Plan

**Area(s) of Responsibility:** Water Supply, Flood Protection, Water Quality, and Natural Systems

**Alternative(s):** If the Service Office projects are not funded, the paved surfaces will degrade. Eventually, the pavements will need restorative treatments rather than maintenance treatments, at a significantly higher cost. In addition, the District will continue to have water flow problems and safety issues.

**Basic Construction Costs (include permits, inspections, communications requirements, utilities, outside building, site development, other):** Budgeted at the estimated costs of \$93,100 for Sarasota repair/resurfacing in FY2016-17; and \$401,000 for Tampa repair/resurfacing in FY2017-18.

**Other Project Costs (include land, survey, existing facility acquisition, professional services, other):** None

**Anticipated Additional Operating Costs/Initial (include salaries, benefits, equipment, furniture, expenses):** None

**Anticipated Additional Operating Costs/Continuing:** Covered under normal operating procedures.

FY2015-16	FY2016-17	FY2017-18	FY2018-19	FY2019-20
\$0	\$93,100	\$401,000	\$0	\$0

**Program:** Acquisition, Restoration and Public Works

**Activity:** Facilities Construction and Major Renovations

**Project Title:** Districtwide Carpet Replacement

**Type:** Carpet Replacement

**Physical Location:** District Headquarters: Brooksville; and Service Offices: Sarasota and Tampa, Florida

**Square Footage/Physical Description:** As Required

**Expected Completion Date:** Ongoing

**Historical Background/Need for Project:** As a result of the "facilities condition assessment" by the Wolf Group in FY2003-04, it was determined that due to the various ages of buildings throughout the District, carpet replacement would be an ongoing task beginning in FY2004-05.

Carpet is currently purchased through a state contract for InterfaceFLOR Cubic carpet tiles. The carpet products used are sustainable, pass the Carpet and Rug Institute (CRI) Green Label plus certification for Volatile Organic Compounds (VOC) emissions, and meet the standard for U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) certification. Carpet replacement includes the cost of moving and reconfiguring all existing furniture, removal of the existing carpet and installation of the new carpet. Future carpet replacement will be funded and completed as scheduled below, pending Governing Board approval through the annual budget process. There are no planned projects for FY2018-19 and FY2019-20.

FY2015-16		
Sarasota, Building 1	2,061 sq. yd.	\$108,350

FY2016-17		
Brooksville, Building 4, 1st floor	1,000 sq. yd.	\$52,500
Brooksville, Building 4, 3rd floor	1,822 sq. yd.	95,750
Brooksville, Building 6	667 sq. yd.	35,000
Tampa, Building 2	1,003 sq. yd.	52,750
Total FY2016-17 Carpet Replacement		\$236,000

FY2017-18		
Brooksville, Building 7	656 sq. yd.	\$34,440
Brooksville, Building 25	100 sq. yd.	5,250
Brooksville, Building 34	14 sq. yd.	735
Total FY2017-18 Carpet Replacement		\$40,425

**Plan Linkages:** Strategic Plan

**Area(s) of Responsibility:** Water Supply, Flood Protection, Water Quality, and Natural Systems

**Alternative(s):** If the scheduled carpet replacements are not funded, the existing carpet in its deteriorating condition would detract from the District's public image.

**Basic Construction Costs (include permits, inspections, communications requirements, utilities, outside building, site development, other):** Budgeted at the estimated costs of \$108,350 for Sarasota, Building 1 in FY2015-16; \$236,000 for Brooksville, Building 4, 1st and 3rd floors; Brooksville, Building 6; and Tampa, Building 2 in FY2016-17; and \$40,425 for Brooksville, Buildings 7, 25, and 34 in FY2017-18. Individual projects will be competitively negotiated.

**Other Project Costs (include land, survey, existing facility acquisition, professional services, other):** None

**Anticipated Additional Operating Costs/Initial (include salaries, benefits, equipment, furniture, expenses):** None

**Anticipated Additional Operating Costs/Continuing:** None

FY2015-16	FY2016-17	FY2017-18	FY2018-19	FY2019-20
\$108,350	\$236,000	\$40,425	\$0	\$0

**Program:** Acquisition, Restoration and Public Works

**Activity:** Facilities Construction and Major Renovation

**Project Title:** District Site Survey

**Type:** Site Survey

**Physical Location:** Service Office: Tampa, Florida

**Square Footage/Physical Description:** N/A

**Expected Completion Date:** 09/2018

**Historical Background/Need for Project:** The Tampa Service Office is centrally located within the District. The site consists of approximately 21 acres and has 70,745 square feet of buildings under roof, including 46,000 square feet of office and meeting space. As a result of District staff being relocated to the Tampa Service Office, there is limited office and public meeting space, and insufficient parking areas.

In FY2014-15, a Business Plan was developed to assess future staffing requirements and additional office space, and to recommend possible courses of action. A consultant was hired to prepare the long-term Business Plan portion of this project. The site survey will recommend possible site locations. A site master survey would include a drainage study, geotechnical study, site circulation study, traffic and parking study, utility study, site conditions study, site build out plan, and site plan approval by the Hillsborough County and the Department of Environmental Protection.

Prior Funding	\$142,997
FY2015-16	100,000
FY2016-17	407,003
Total Funding	\$650,000

**Plan Linkages:** Strategic Plan

**Area(s) of Responsibility:** Water Supply, Flood Protection, Water Quality, and Natural Systems

**Alternative(s):** If the District Site Survey is not funded, the District will continue operating with the existing office space and parking areas at the Tampa Service Office.

**Basic Construction Costs (include permits, inspections, communications requirements, utilities, outside building, site development, other):** None

**Other Project Costs (include land, survey, existing facility acquisition, professional services, other):** Budgeted at the estimated cost of \$650,000 for a site survey and design.

**Anticipated Additional Operating Costs/Initial (include salaries, benefits, equipment, furniture, expenses):** None

**Anticipated Additional Operating Costs/Continuing:** Covered under normal operating procedures.

FY2015-16	FY2016-17	FY2017-18	FY2018-19	FY2019-20
\$100,000	\$407,003	\$0	\$0	\$0

**Program:** Acquisition, Restoration and Public Works

**Activity:** Facilities Construction and Major Renovations

**Project Title:** Data Center Telecommunications Reconfiguration

**Type:** Telecommunications Reconfiguration

**Physical Location:** District Headquarters: Brooksville, Florida

**Square Footage/Physical Description:** As Required

**Expected Completion Date:** 09/2016

**Historical Background/Need for Project:** Building 1 on the Brooksville Campus was originally constructed in 1964, does not meet current code in multiple disciplines and is susceptible to water infiltration in several areas. The building contains the Brooksville Data Center that houses the majority of the District's production computer servers and core network infrastructure. This part of the building was originally designed to serve as the Governing Board meeting room. In the 1980s it was modified to serve as a computer room and has been upgraded over time to continue to serve in this capacity. An alternative to Building 1 is critical because the building is not hardened, and consequently poses a significant information technology business continuity risk. A cooperative effort with South Florida Water Management District (SFWMD) is proposed to address the data center need. The proposed project will 1) Move computer equipment from the Tampa Data Center to South Florida's West Palm Data Center, 2) Move equipment from the Brooksville Data Center to the Tampa Data Center, 3) Upgrade telecommunications facilities on the Brooksville campus to support the data center relocation and 4) Move SFWMD's computer equipment into the District's Tampa Data Center. This project has the following benefits: 1) Significantly enhances the District's and SFWMD's information technology business continuity efforts and 2) Allows the District to decommission Brooksville Building 1. The funds will be used for procuring consultant services and hardware required to move Tampa Data Center equipment to the SFWMD's data center and to move Brooksville equipment to the Tampa Data Center.

Funding in FY2016-17 will be used to procure services and hardware to reconfigure the Brooksville campus telecommunications infrastructure that will allow for the decommissioning of Building 1.

**Plan Linkages:** Strategic Plan

**Area(s) of Responsibility:** Water Supply, Flood Protection, Water Quality, and Natural Systems

**Alternative(s):** If the Data Center Telecommunications Reconfiguration is not funded, the District 1) would continue to maintain mission critical information technology systems in Brooksville Building 1 in its deteriorating condition; 2) could lease data center space at an estimated annual cost of \$150,000 to \$200,000; or 3) could construct a new data center at an estimated cost of \$1,000,000 to \$3,000,000.

**Basic Construction Costs (include permits, inspections, communications requirements, utilities, outside building, site development, other):** Budgeted at the estimated cost of \$210,000 for service and hardware reconfiguration.

**Other Project Costs (include land, survey, existing facility acquisition, professional services, other):** None

**Anticipated Additional Operating Costs/Initial (include salaries, benefits, equipment, furniture, expenses):** None

**Anticipated Additional Operating Costs/Continuing:** Covered under normal operating procedures.

FY2015-16	FY2016-17	FY2017-18	FY2018-19	FY2019-20
\$0	\$210,000	\$0	\$0	\$0

**Program:** Acquisition, Restoration and Public Works

**Activity:** Facilities Construction and Major Renovations

**Project Title:** Districtwide Planned Roof, HVAC, Repair, and Remodeling Projects

**Type:** Repairs and Remodeling as Required

**Physical Location:** District Headquarters: Brooksville; and Service Offices: Sarasota and Tampa, Florida

**Square Footage/Physical Description:** As Required

**Expected Completion Date:** Ongoing

**Historical Background/Need for Project:** Starting in FY2001-02, the Governing Board created an ongoing program to invest in the replacement and repair of the District facility roofs, heating, ventilation, and air conditioning (HVAC) systems to be capitalized. The Wolf Group, in FY2003-04, completed a multi-year "facilities condition assessment" of all District facilities. Based upon the recommendations in the facilities condition assessment, staff has developed a multi-year schedule for roof improvements, HVAC system replacements, and remodeling projects, which allows planning for building improvements and minimizes the opportunity for building damage. The HVAC system will meet U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) initiatives for reducing energy consumption which will reduce the carbon footprint. Estimated pricing as of August 2015 is used for budget planning purposes. Roof and HVAC projects are planned to be funded and completed as scheduled below, pending Governing Board approval through the annual budget process.

FY2015-16

Brooksville - Building 3 Vault. Replacement of HVAC units for \$15,000.

Brooksville - Building 5 Communications Room. Replacement of HVAC units for \$15,000.

Brooksville - Building 5 Vault. Replacement of HVAC units for \$15,000.

Unallocated

\$355,000 - Represents the remaining balance of the \$400,000 to be allocated to unforeseen projects.

FY2016-17

Brooksville - Building 6 Rooftop. Replacement of HVAC units for \$75,000.

Brooksville - Building 8 Mail Room. Replacement of HVAC units for \$15,000.

Brooksville - Building 8 Hydro Shop. Replacement of HVAC units for \$15,000.

Brooksville - Building 8 Print Shop. Replacement of HVAC units for \$30,000.

Brooksville - Building 34 Office Area. Replacement of HVAC units for \$30,000.

Unallocated

\$235,000 - Represents the remaining balance of the \$400,000 to be allocated to unforeseen projects.

FY2017-18, FY2018-19 and FY2019-20

No specific roof, HVAC, repair and remodeling projects have been scheduled for FY2017-18 through FY2018-19.

The \$400,000 will be allocated to projects as identified.

**Plan Linkages:** Strategic Plan

**Area(s) of Responsibility:** Water Supply, Flood Protection, Water Quality, and Natural Systems

**Alternative(s):** If the roof and HVAC projects are not funded, the facilities maintenance costs are expected to increase significantly as additional maintenance activities are required to keep the roofs from leaking and the HVAC units operating properly. Further, roof leaks increase the risk of moisture damage to buildings.

**Basic Construction Costs (include permits, inspections, communications requirements, utilities, outside building, site development, other):** Roof, HVAC, repair, and remodeling projects budgeted at \$400,000 each year from FY2015-16 through FY2019-20.

**Other Project Costs (include land, survey, existing facility acquisition, professional services, other):** To be determined.

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**Anticipated Additional Operating Costs/Initial (include salaries, benefits, equipment, furniture, expenses):** To be determined.

**Anticipated Additional Operating Costs/Continuing:** To be determined.

<b>FY2015-16</b>	<b>FY2016-17</b>	<b>FY2017-18</b>	<b>FY2018-19</b>	<b>FY2019-20</b>
\$400,000	\$400,000	\$400,000	\$400,000	\$400,000

Consolidated **Annual**  
**Report**  
*March 1, 2016*

# Alternative Water Supplies

2016 Annual Report

Southwest Florida  
*Water Management District*

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# Table of Contents

Introduction .....	4-1
Background .....	4-1
Cooperative Funding Initiative .....	4-3
Summary of Reuse Projects .....	4-3
New Water Sources Initiative.....	4-4
Water Supply and Resources Development Projects .....	4-4
District Initiatives .....	4-4
Springs Restoration .....	4-5
FARMS Programs .....	4-6
Water Protection and Sustainability Trust Fund .....	4-6
Water Protection and Sustainability Fund Projects .....	4-7
The Partnership Agreements .....	4-10
NTB Background .....	4-10
Objectives of the NTB Partnership Agreement .....	4-10
Elements of the NTB Partnership Agreement.....	4-10
Additional Tampa Bay Water Project Agreements.....	4-10
A Partnership Agreement in Polk County.....	4-11
2016 Annual Report Information .....	4-11
SWFWMD Budgeted Amounts.....	4-11
Funding Classification .....	4-11
Alternative Source Type: Wastewater Reuse.....	4-13
Alternative Source Type: Reclaimed Stormwater .....	4-15
Alternative Source Type: Desalination of Brackish Water .....	4-16
Alternative Source Type: Indirect Potable Reuse .....	4-17
Conclusion.....	4-18
Appendix .....	4-19

## Introduction

Where Water Resource Caution Areas have been designated, Section 373.707(2), Florida Statutes (F.S.), requires the governing boards of the water management districts to include in their annual budgets an amount for the development of alternative water supply systems, including reclaimed water systems. The section, as well as 2005 legislation related to the Water Protection and Sustainability Trust Fund (Subsection 373.707(8)(n), F.S.), further requires that each district submit an annual alternative water supply report to the Governor, the President of the Senate, and the Speaker of the House of Representatives by March 1 of each year. This report describes all funded projects and accounts for funds provided through grants, matching grants, revolving loans, and the use of Southwest Florida Water Management District (District) lands or facilities. The District has designated Water Resource Caution Areas and has implemented alternate water supply funding pursuant to the Florida Statutes. This report is submitted pursuant to the related statutes (Sections 373.707, 373.036, and 403.890, F.S.). Because of the unique organization of the District and its past accomplishments in the areas of water conservation and alternative water source development, the following is provided as background information.

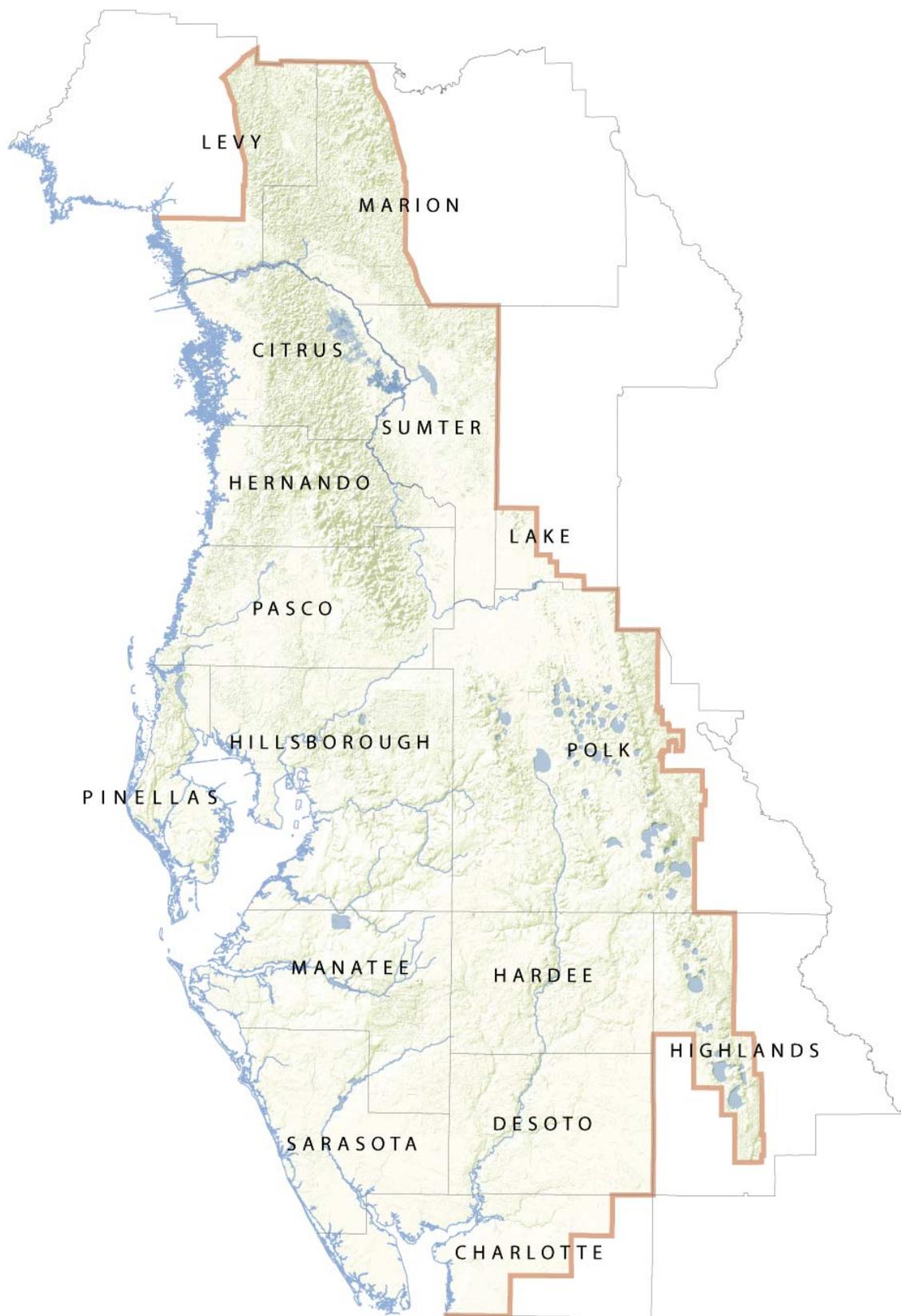
## Background

Prior to mid-2011, the District was unique among Florida's water management districts in that, beyond the similar structure of the governing boards, it had eight basins with jurisdictional boundaries encompassing the major watersheds making up the District (Figure 1). In 2011, the structure of the District was changed to be consistent with the other water management districts, with the Governing Board taking over the responsibilities of the Basin Boards. Funds remaining in the former Basin Board budgets continue to be allocated to projects within the Basin boundaries. The Governing Board has the authority to levy ad valorem taxes up to 1.0 mill within its boundary. Budget development and approval follow the public hearing and adoption process as required by state law.

The District has been providing local funds for regional water resource-related projects since the District's creation in 1961. Originally, the focus of the District had been on funding flood control projects. In the late 1980s, the priorities began to shift to the identification and funding of projects that focus on water conservation and the development of alternative water sources. Currently, staff and financial resources are focused on issues of water quality, natural systems improvement, flood protection, and water supply including water conservation and alternative water source development.

Before the late 1980s, participation in local water resource projects, both financial and staff support, was primarily driven by requests from local governments. Recognizing the ability to support local governments by providing solutions to the growing issues surrounding water supply, the District adopted a more pro-active role in addressing local non-regulatory water issues. In response to the need for a set system for receiving project assistance requests and criteria regarding timing, project eligibility, funding, and other conditions for participation, the *Cooperative Funding Initiative* was established in recognition of the growing need for a structured approach in order to maximize the District's effectiveness in choosing and funding water resource projects and budgeting for their completion.

Figure 1. District Map



## Cooperative Funding Initiative

A structured program for solicitation of requests for local water resource projects was established in the District in 1987. Since then, the District has continued to refine its policies in response to changing goals and priorities. As a result, the District has made noteworthy strides in the areas of water conservation and alternative water sources development.

Although the aforementioned statutes do not require the water management districts to provide information on funding of those projects initiated or completed prior to 1996, a summary of the accomplishments in a few areas of water conservation will provide the recipients of this report with an understanding of the effectiveness of the District's programs. It should be noted that the District also funds water conservation and alternative water source development projects in addition to those covered by the statutory definitions. Examples of major water conservation efforts are summarized in the District's *Reuse and Conservation Projects Summary Report* (SWFWMD, 2011).

### Summary of Reuse Projects

Table 1 shows the significant historical financial contributions and alternative water quantities made available as a result of District participation in more than 364 reuse projects since fiscal year (FY) 1987.

The District is involved in many other programs besides those specifically defined in the statute, which are also saving significant amounts of water. Some program examples are leak detection, drought tolerant landscaping, ultra low-flow toilet rebates, water saving ordinance development, industrial and residential water audits, landscape irrigation system efficiency, the Facilitating Agricultural Resource Management Systems (FARMS) Program, and many others, including major public education efforts.

**Table 1. Summary of Reuse Projects**

(Including Reuse Projects Funded Through the NWSI Program and WSRD Projects)

District Funded Reclaimed Water Projects	Available Reclaimed Water (mgd)	Water Resource Benefit (mgd)	Million Gallons of Storage (mg)	Miles of Pipe	Amount (\$) Budgeted by District*	Total Project Cost
364 Projects	248	112 – 134	1,275	970	\$435,760,000	\$1,001,800,000

Sources: *Reuse and Conservation Projects Summary Report FY2012* (SWFWMD, 2011), FY2013, FY2014, FY2015 and FY2016 District budgets.

Notes:

Amounts do not include water supply projects funded as a result of the Tampa Bay Water Partnership Agreements.

Totals are per Board approved budgets and do not include District project management expenses.

\*FY1987-FY2016 total of 364 budgeted projects funded through Basin Boards and Governing Board (all projects funded in FY2012 and beyond are funded through the Governing Board approval).

## New Water Sources Initiative

In 1993, the District Governing Board recognized the need to accelerate the development of alternative water sources to address the water resource impacts identified in the Southern Water Use Caution Area (SWUCA) and the Northern Tampa Bay Water Use Caution Area. The program solicited requests for large, regionally significant projects that would develop non-traditional (other than groundwater) sources to replace existing use or provide for future growth. The Governing Board initiated the New Water Sources Initiative (NWSI) program with a \$10 million commitment beginning in FY1994. This program was in addition to the Cooperative Funding Initiative, and continued through FY2007 following the completion of the Tampa Bay Water Partnership Agreement funding obligations.

Eligible NWSI projects generally received 25 percent of their funding from the District's Governing Board, 25 percent from appropriate Basin(s), and the remaining 50 percent from the local cooperator(s). The 22 completed projects funded through the NWSI program were administered pursuant to legislative directives to promote and fund alternative source development. The NWSI projects received more than \$60 million in District funding to provide as much as 206 million gallons per day (mgd) of water resource benefits, reduce groundwater withdrawals, rehydrate stressed lakes and wetlands, increase groundwater recharge, enhance wildlife habitat, and improve flood control.

## Water Supply and Resource Development Projects

As a means to facilitate the implementation options identified in the *District Regional Water Supply Plan* (SWFWMD, 2001) or similar projects, the Governing Board and the previous Basin Boards initiated another funding opportunity in FY2001 to address large-scale water supply and resource development projects with multiple cooperators and regional benefits. The Water Supply and Resource Development (WSRD) projects received funding from the Governing Board, multiple Basins, and local cooperators. Depending upon the size and scope of the project, some WSRD projects also involved additional state and federal funding. The funding shares were reflective of the proportional benefits anticipated to be realized by each of the basins, and the collective Basin Board funding was then matched by the Governing Board. As such, eligible WSRD projects generally received 25 percent of their funding from the District's Governing Board, 25 percent from the collective Basin Boards, and the remaining 50 percent from local cooperators. The WSRD funding mechanism was replaced by District Initiatives after the dissolution of the Basin Boards in 2011.

Table 2 identifies the list of ongoing active WSRD projects, the total project costs, District funding contribution commitment, and water provided. As with the Cooperative Funding Initiative and the NWSI, some projects identified in the table may fall outside the requirements of Florida Statutes as to what is considered an alternative source, yet the information is important in understanding the District's role in the area of funding water resource protection and development projects.

## District Initiatives

District Initiatives are funded in cases where a project is of great importance or a regional priority. Funding may be provided as 50 percent cooperative shares for regional water supply development projects similarly to the NWSI and WSRD programs. The District can also increase its percentage match and, in some cases, provide total funding for the project. Examples of these initiatives include Water Resource Development projects such as: (1) the Quality of Water Improvement Program (QWIP) to plug deteriorated, free-flowing wells that waste water and cause inter-aquifer contamination, (2) the Water Loss Reduction Program to conserve water by having District staff inspect meters and detect leaks in public water system pipelines, (3) data collection and analysis to support major District initiatives such as the MFL program, (4) the FARMS program and other various agricultural research projects designed to increase the water-use efficiency of agricultural operations, and (5) WRD investigations and MFL Recovery projects which may not have local cooperators.

**Table 2. Active Water Supply and Resource Development Projects**

Project (project number)	Local Cooperator	Total Cost (\$)	SWFWMD Contribution* (\$)	Water Provided** (mgd)
Lake Hancock Lake Level Modification (H008)	District	\$11,170,944	\$11,170,944	2.70
Lake Hancock Outfall Wetland Treatment System (H014)	District, USEPA	\$24,465,800	\$23,692,100	Treatment
Facilitating Agricultural Resource Management Systems "FARMS," includes 163 different projects (H017)	State of Florida, FDACS, Variety of Ag. Operations, District	\$61,749,789	\$33,751,976	26.38
Pasco Co Boyette Reclaimed Reservoir (H056)	Pasco County	\$39,200,000	\$12,915,980	Storage
Withlacoochee Watershed Initiative (H066)	District	\$3,350,000	\$3,350,000	TBD
TECO's Polk Power Station Reclaimed Water Interconnects to Lakeland/Polk County/Mulberry (H076)	Tampa Electric Co.	\$96,960,725	\$49,203,020	10.00
Flatford Swamp Hydrologic Restoration/Implementation (H089)	TBD	\$39,000,000	\$39,000,000	6.00
Pasco County Reclaimed Water Natural Systems Restoration and Aquifer Recharge (H092)	Pasco County	\$16,443,782	\$8,221,891	5.00
Manatee County 10 mg RW Storage (H093)	Manatee County	\$7,179,284	\$3,908,554	Storage
Lower Hillsborough River Recovery Strategy Implementation (H400)	City of Tampa	\$16,397,260	\$8,259,730	TBD
Lower Hillsborough River Recovery Strategy-TBC Pump Stations (H402)	City of Tampa	\$2,794,078	\$2,794,078	0.64
Polk County Partnership (H094)	District	\$320,000,000	\$160,000,000	30.00
<b>Totals</b>		<b>\$638,711,662</b>	<b>\$356,268,273</b>	<b>&gt;80.72</b>

\*Totals may represent multiyear funding, and may include contributions from multiple Boards and Funds (WPSTF, WRAP and others).

\*\*In order to be consistent with other water management districts and DEP, the water provided equals water supplied by projects and does not represent replaced water quantities.

Table includes only "Active" projects as of October 1, 2015 (does not include completed projects).

Does not include Tampa Bay Water Partnership Agreement projects. (See page 10)

Totals are per Board approved budgets and do not include District project management expenses.

Total project cost estimates are as of October 1, 2015 and may be different than prior cost estimates.

## Springs Restoration

The DEP Springs Restoration is a special legislative appropriation that has provided revenue for protection and restoration of major springs systems. The District has allocated Springs Restoration funding to implement projects to restore aquatic habitats, to reduce groundwater withdrawals and nutrient loading within first-magnitude springsheds, and to improve the water quality and quantity of spring discharges. Projects include the reestablishment of aquatic and shoreline vegetation near spring vents, installation of wastewater force mains to allow for the removal of septic tanks and increase reclaimed water production, and implementation of other BMPs within springshed basins. The first year of the appropriation was FY2013, and \$1.1 million was allocated by the District to an industrial reuse project to transfer reclaimed water from the City of Crystal River to the Duke Energy power generation complex. In FY2014, the District allocated \$1.35 million of Springs Restoration appropriations to two stormwater improvement projects and one wastewater/reclaimed water project. In FY2015, \$6.46 million of Springs Restoration funding was budgeted for four wastewater/reclaimed water projects. In FY2016, \$13.4 million of Springs Restoration funding is allocated to one water supply development project (Hernando County US-19 Reclaimed Water Transmission, \$6.0 million-N696, in Table 6) and four surface water management projects that will reduce nutrients from septic infiltration in priority springsheds.

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## FARMS Program

The **Facilitating Agricultural Resource Management Systems (FARMS)** Program is an agricultural best management practice (BMP) cost-share reimbursement program that involves both water quantity and water quality aspects. This public/private partnership program was developed by the District and the Florida Department of Agriculture and Consumer Services. The purpose of the FARMS Program is to implement production-scale agricultural BMP projects that will provide resource benefits that include water quality improvement, reduction of Upper Floridan aquifer withdrawals and/or conservation, restoration or augmentation of the area's water resources and ecology.

## Water Protection and Sustainability Trust Fund

Large areas of Florida do not have sufficient traditional water resources to meet the future needs of the state's growing population and the needs of the environment, agriculture, and industry. In 2005, the Florida Legislature recognized the need to accelerate the development of alternative water sources, and consequently passed legislation creating the Water Protection and Sustainability Trust Fund (WPSTF). The legislation focused on encouraging cooperation in the development of alternative water supplies and improving the linkage between local governments' land use plans and water management districts' regional water supply plans.

The state of Florida allocated \$100 million in FY2005-2006, with \$25 million allocated to the District. In FY2007 the state funding was \$60 million, with \$15 million allocated to the District. In FY2008 the state funding was \$51.4 million, with \$13 million allocated to the District. In FY2009 the state funding was reduced due to economic conditions, with \$750 thousand allocated to the District. In FY2010-through FY2016 there were no state funds allocated for WPSTF. Annual WPSTF funding may potentially resume pending availability in future state budgets. Funding will be expended on a reimbursement basis for construction costs of alternative water supply development projects as defined in the legislation. The legislation also requires that a minimum of 80 percent of the WPSTF funding must be related to projects identified in a district water supply plan. The District's Regional Water Supply Plan (RWSP) is utilized in the identification of the majority of WPSTF-eligible projects. Identified projects are further evaluated as to their suitability for this funding program. The identification of alternative water supply development projects in the RWSP does not guarantee funding assistance through this funding program.

Projects were evaluated for funding based on consideration of the 12 factors described in Subsections 373.707(8)(f) and (g), F.S., and additional District evaluation factors as appropriate. Funding for each project is equivalent to up to 40 percent of construction costs. Projects funded through this program may also receive funding from other sources such as the Governing Board, multiple Basin Boards, federal agencies and local cooperators.

The state did not allocate any WPSTF-related funds in FY2016. The District anticipates that, should the state resume funding, projects will be identified through the District's ongoing cooperative funding programs, which have been funding alternative water supply development for two decades. Additional projects, developed in cooperation with regional water supply authorities and their member governments, are also anticipated to be identified in the future to be eligible to receive funds. Table 3 identifies the list of all FY2006-FY2009 WPSTF projects, including District funding, cooperator funding, funding from other sources as well as the amount of water provided. The scope and breadth of the WPSTF projects is immense, as evident by the more than 60 mgd of water provided of which more than 40 mgd in potable water supplies, and the more than 20 mgd in reclaimed water supply that will be realized upon their completion. Some projects identified in the table are also listed in other tables, depending upon the source of District funding. The Appendix of this report contains a brief description of the projects identified in Table 3.

**Table 3. Water Protection and Sustainability Trust Fund Projects**

Project (project number)	Local Cooperator	State WPSTF Contribution & Fiscal Year (\$ & FY)	Total* SWFWMD Contribution (\$)	Total* Local Cooperator Contribution (\$)	Total Project Cost (\$)	Water Provided** (mgd)
Peace River Regional Reservoir Expansion (F032)	PRMRWSA	\$7,095,976 FY2006 \$2,480,945 FY2008	\$29,053,918	\$38,418,817	\$77,049,655	14.70
Peace River Regional Facility Expansion (F033)	PRMRWSA	\$12,161,596 FY2006 \$3,756,693 FY2008	\$28,109,508	\$46,115,403	\$90,143,200	included in F032 amounts above
Lake Hancock Outfall Structure P-11 (H009)	SWFWMD	\$1,000,000 FY2006	\$4,500,000	\$0	\$5,500,000	TBD
Charlotte County Regional Reclaimed Water (H027)	Charlotte County	\$400,000 FY2006 \$680,010 FY2008	\$3,084,995	\$3,084,995	\$7,250,000	1.27
Pasco County SE Regional Reclaimed Water (H041)	Pasco County	\$239,405 FY2006	\$1,268,391	\$1,629,512	\$3,137,308	TBD
PRMRWSA Reg Integ Loop Ph2 (H051)	PRMRWSA	166,031 FY2008	\$7,616,984	\$7,616,985	\$15,400,000	TBD
PRMRWSA Reg Integ Loop Ph3a (H052)	PRMRWSA	\$166,031 FY2008	\$13,659,104	\$13,659,105	\$27,484,240	TBD
Pasco Co. SR52 E/W Reclaimed Interconnect (H055)	Pasco County	\$1,240,000 FY2008	\$8,680,000	\$8,680,000	\$18,600,000	6.00
Pasco Co. Boyette Reuse Reservoir (H056)	Pasco County	\$284,450 FY2008	\$12,631,530	\$26,284,020	\$39,200,000	TBD
Tampa Bay Water System Configuration II (H065)	Tampa Bay Water	\$506,854 FY2006 \$15,000,000 FY2007	\$111,371,573	\$120,815,912	\$247,694,339	25.00
Pasco Co. Shady Hills Reclaimed Interconnect (H067)	Pasco County	\$592,000 FY2008	\$6,263,246	\$6,263,247	\$13,118,493	TBD
Peace River Regional Loop Charlotte to Punta Gorda (H069)	PRMRWSA	\$43,541 FY2006	\$11,627,789	\$10,124,926	\$21,796,256	TBD
Charlotte Co. East/West Connection (H085)	Charlotte County	\$90,900 FY2006 \$80,000 FY2008	\$1,314,550	\$1,314,550	\$2,800,000	TBD
Manatee Co. SW 10 mg Reclaimed Water Tank (H093)	Manatee County	\$635,752 FY2006 \$2,072 FY2008	\$3,270,730	\$3,270,730	\$7,179,284	TBD

Project (project number)	Local Cooperator	State WPSTF Contribution & Fiscal Year (\$ & FY)	Total* SWFWMD Contribution (\$)	Total* Local Cooperator Contribution (\$)	Total Project Cost (\$)	Water Provided** (mgd)
Bradenton Potable ASR (K114)	City of Bradenton	\$56,400 FY2006	\$1,199,121	\$1,199,122	\$2,454,643	0.41
North Sarasota County Reclaimed ASR's (K269)	Sarasota County	\$164,864 FY2006	\$1,521,518	\$1,521,518	\$3,207,900	Storage
Lake Tarpon ASR (K422)	Pinellas County	\$105,166 FY2006	\$1,535,417	\$1,535,417	\$3,176,000	TBD
St. Pete NW&SW Reuse Tanks, Pumps, Telemetry (K847)	City of St. Petersburg	\$779,000 FY2008	\$4,110,500	\$4,110,500	\$9,000,000	Storage
Lake Placid Reuse (L153)	City of Lake Placid (REDI)	\$117,420 FY2006	\$845,154	\$281,718	\$1,244,292	0.09
Brooksville US 41 Service Area Reuse System (L169)	City of Brooksville	\$371,311 FY2006	\$2,358,914	\$2,358,915	\$5,089,140	1.68
Clearwater Morningside Area Reclaimed Water Trans& Dist. (L254)	City of Clearwater	\$380,380 FY2006	\$1,059,491	\$1,059,491	\$2,499,362	0.45
Connerton Reclaimed Water Transmission Storage (L270)	Pasco County	\$216,632 FY2006	\$1,322,931	\$1,322,931	\$2,862,494	2.00
Hillsborough County Lithia-Pinecrest Reuse Water Transmission (L294)	Hillsborough County	\$362,520 FY2006	\$933,480	\$2,304,000	\$3,600,000	2.66
Inverness Reclaimed Water Transmission Main (L468)	Citrus County	\$267,300 FY2006	\$871,350	\$871,350	\$2,010,000	1.41
Polk County North East Regional Reclaimed Water Storage (L475)	Polk County	\$134,704 FY2006	\$782,648	\$1,877,560	\$2,794,912	Storage
City of Sarasota Reuse/Payne Park (L500)	City of Sarasota	\$85,211 FY2006	\$170,422	\$170,422	\$426,055	0.10
Aqua Utilities Lakewood Ranch Reuse (L522)	Aqua Utilities	\$54,644 FY2006	\$154,828	\$154,828	\$364,300	0.57
Palmetto Reclaimed ASR (L608)	City of Palmetto	\$72,000 FY2006 \$136,000 FY2008	\$1,066,000	\$1,066,000	\$2,340,000	Storage
Englewood WD Stillwater Reuse Trans. (L652)	Englewood Water District	\$40,244 FY2006	\$115,669	\$115,669	\$271,582	0.10
City of Clearwater Skycrest Reclaimed Trans., Distr., Pumping & Storage (L695)	City of Clearwater	\$1,599,000 FY2008	\$4,618,224	\$4,618,224	\$10,835,448	0.52
City of Dunedin Reuse Trans. & Dist. (L697)	City of Dunedin	\$203,000 FY2006 \$203,770 FY2008	\$861,636	\$861,636	\$2,130,042	0.21

Project (project number)	Local Cooperator	State WPSTF Contribution & Fiscal Year (\$ & FY)	Total* SWFWMD Contribution (\$)	Total* Local Cooperator Contribution (\$)	Total Project Cost (\$)	Water Provided** (mgd)
Pasco Overpass Rd. Reuse Trans. (L729)	Pasco County	\$8,160 FY2006	\$700,920	\$700,920	\$1,410,000	TBD
South Brooksville Reuse Phase II (L781)	Levitt and Sons	\$75,740 FY2006	\$222,130	\$222,130	\$520,000	TBD
On Top of the World Marion Reclaimed Water (L786)	Sidney Colen Ltd	\$155,800 FY2008	\$1,021,100	\$1,021,100	\$2,198,000	0.79
Plant City Sydney Road Reuse (L816)	City of Plant City	\$353,630 FY2008 \$250,000 FY2009	\$2,589,100	\$2,933,270	\$6,126,000	0.55
City of Oldsmar Reclaimed Distr. & Telemetry (L821)	City of Oldsmar	\$76,000 FY2008	\$295,500	\$295,500	\$667,000	0.07
City of Dade City Reclaimed (L823)	City of Dade City	\$59,621 FY2008	\$1,892,409	\$1,892,410	\$3,844,440	0.50
City of Zephyrhills Reclaimed Extension (L824)	City of Zephyrhills	\$16,547 FY2008	\$42,045	\$42,045	\$100,637	0.01
Englewood Park Forest Reuse (L869)	Englewood Water District	\$5,000 FY2008	\$117,500	\$117,500	\$240,000	0.04
Aqua Utilities Lakewood East Reuse (L874)	Aqua Utilities	\$167,400 FY2008	\$1,050,587	\$1,050,587	\$2,268,574	1.15
Haines City Southern Reuse (N065)	Haines City	\$246,328 FY2006 \$2,072 FY2007 \$361,880 FY2009	\$1,468,971	\$1,468,972	\$3,548,223	0.60
<b>Totals</b>		<b>\$53,750,000</b>	<b>\$275,379,833</b>	<b>\$322,451,937</b>	<b>\$651,581,819</b>	<b>&gt;60.88</b>

\*Totals may represent multiyear funding, and may include past, current and future contributions from multiple Boards and sources (does not include WPSTF funding).

\*\*In order to be consistent with other water management districts and DEP, the water provided equals water supplied by projects and does not represent replaced water quantities.

Totals are per Board approved budgets and do not include District project management expenses.

Total project cost estimates are as of October 1, 2015 and may be different than prior cost estimates.

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# The Partnership Agreements

The Northern Tampa Bay New Water Supply and Groundwater Withdrawal Reduction Agreement (NTB Partnership Agreement) provided for the development of new and alternative water supply and reduction of pumpage from Tampa Bay Water's Northern Tampa Bay wellfields.

## **NTB Background**

Floridians rely on groundwater, pumped from underground aquifers, as their principal water supply source. In the Tampa Bay region, an over-reliance on groundwater resulted in adverse environmental impacts to lakes, wetlands, and the ecology. This led to years of conflict between water regulators, water suppliers, and property owners. Many of these conflicts were aired in administrative hearings and the court systems for years without resolution.

Seeking a cooperative solution to the region's water problems, the District proposed a collaboration of the District, Tampa Bay Water (formerly known as the West Coast Regional Water Supply Authority), and its six member governments (Hillsborough County, Pinellas County, Pasco County, and the cities of Tampa, St. Petersburg, and New Port Richey) for the development of new water supply and phased reduction of pumping from the 11 central system wellfields. Discussions of the plan began in 1997. After many months of negotiations, the "Partnership Agreement" was executed by all parties on May 27, 1998.

## **Objectives of the NTB Partnership Agreement**

The Partnership Agreement had four objectives: (1) Develop at least 85 mgd of new water supply by December 31, 2007, of which 38 mgd must be produced by December 31, 2002; (2) Reduce groundwater pumpage at 11 wellfields from 158 mgd to 121 mgd by 2002 and to 90 mgd by 2008; (3) End existing and minimize future litigation; and (4) Provide funding to assist in the development of the new alternative supply.

## **Elements of the NTB Partnership Agreement**

To assist Tampa Bay Water to meet the goal of developing at least 85 mgd of new water supply, the District committed \$183 million in funding assistance to develop new alternative water supply sources. Projects eligible for District funding included seawater desalination, surface water supply facilities, indirect potable reuse, and inter-connecting pipelines.

In addition, the District committed to provide approximately \$90 million over ten years toward conservation projects within the Tampa Bay area. The District's funding goal was matched by Tampa Bay Water and local governments. The Partnership Agreement also included conservation goals to reduce regional water use by 10 mgd by 2000, and by an additional 7 mgd by 2005.

The Partnership Agreement required Tampa Bay Water to develop a "New Water Plan." The New Water Plan described projects which, upon construction, met the objective of developing at least 38 mgd of new supply by 2003 (December 31, 2002), and at least 85 mgd of new water per day by 2008. The New Water Plan was approved by the District and a list of 9 projects that were "eligible" for District funding was provided to Tampa Bay Water. A key element of the Partnership Agreement was the implementation of a recovery strategy for the Northern Tampa Bay area. Under the Partnership Agreement, groundwater pumpage at the 11 wellfields was reduced from permitted quantities of 158 mgd to 90 mgd by 2008. Water use permits for the 11 wellfields have been consolidated into a single permit. As part of the recovery strategy, Tampa Bay Water also optimizes water production from the wellfields to minimize environmental impacts.

## **Additional Tampa Bay Water Project Agreements**

In FY2006-FY2011 the District provided an additional \$126 million in grant funding for the \$247 million Tampa Bay Water System Configuration II Project, which developed 25 mgd of new surface water supplies.

## A Partnership Agreement In Polk County

In 2012 the District began coordinating with Polk County on a Partnership Agreement (H094) that is modeled after the NTB Partnership Agreement. The Polk partnership agreement will provide financial assistance, permit coordination, development of new and alternative water supplies, and the regionalization of water supplies in Polk County. The goal is to provide an annual average of at least 30 mgd in new alternative water supplies from eligible projects to be used by Polk and its municipalities by December 31, 2041.

## 2016 Annual Report Information

As defined in the Florida Statutes, alternative water supplies are “salt water; brackish surface and groundwater; surface water captured predominately during wet-weather flows; sources made available through the addition of new storage capacity for surface or groundwater; water that has been reclaimed after one or more public supply, municipal, industrial, commercial, or agricultural uses; the downstream augmentation of water bodies with reclaimed water; stormwater; and any other water supply source that is designated as nontraditional for a water supply planning region in the applicable regional water supply plan.” The statutory definition has changed in recent years. As a result traditional surface water projects are not included in this section of the report. They are included in Tables 2 and 3. Pursuant to the requirements of the statutes, the following tables and associated narrative identify the other projects, associated funding, and provide a short description of their benefits.

## District Budgeted Amounts

Table 4 summarizes the total annual budgeted amounts for the past ten fiscal years (FY2007-2016) by the District for alternative water supply category projects. The funding of projects requiring large capital investments with construction spanning several years is usually spread out over multiple fiscal years due to the need to have funds available when costs are expected to occur, and to the annual funding amounts available in the budgets of each basin or the Governing Board.

*Note: The funding amounts shown, as in subsequent tables, represent only District contributions; equal or exceeding matching funds are provided by the cooperator.*

## Funding Classification

Table 5 classifies the FY2007-2016 budgeted amounts into funding types. As indicated, the District’s funding focus has been on matching programs.

**Table 4. District Budgeted Amounts**

Alternative Water Source	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016
Reclaimed Wastewater	\$19,862,511	\$18,110,037	\$25,751,413	\$19,672,706	\$17,088,388	\$15,380,739	\$19,294,703	\$21,691,124	\$21,824,760	\$19,118,417
Reclaimed Stormwater	\$75,000	\$513,828	\$621,675	\$1,310,000	\$115,000	\$210,000	\$250,000	\$1,809,909	\$2,100,000	\$1,305,000
Desalination of Brackish Water	\$410,000	\$4,150,000	\$12,570,948	\$14,674,875	\$5,674,256	\$300,000	\$5,417,120	\$8,100,000	\$16,005,355	\$10,060,000
NTB Partnership Agreement Projects	\$15,140,534	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Indirect Potable Reuse	\$0	\$0	\$0	\$0	\$1,056,999	\$486,374	\$893,125	\$1,475,000	\$1,554,000	\$8,306,000
Desalination of Seawater	**	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>District Totals</b>	<b>\$35,488,045</b>	<b>\$22,773,865</b>	<b>\$38,944,036</b>	<b>\$35,657,581</b>	<b>\$23,934,643</b>	<b>\$16,377,113</b>	<b>\$25,854,948</b>	<b>\$33,076,033</b>	<b>\$41,484,115</b>	<b>\$38,789,417</b>
<b>Allocated WPSTF</b>	<b>\$15,000,000</b>	<b>\$13,000,000</b>	<b>\$750,000</b>	<b>\$0</b>						
<b>Grand Totals</b>	<b>\$50,488,045</b>	<b>\$35,773,865</b>	<b>\$39,694,036</b>	<b>\$35,657,581</b>	<b>\$23,934,643</b>	<b>\$16,377,113</b>	<b>\$25,854,948</b>	<b>\$33,076,033</b>	<b>\$41,484,115</b>	<b>\$38,789,417</b>

\*\*All FY2007 Indirect Potable Reuse and Desalination of Seawater funding was reallocated to the NTB Partnership Agreement Projects.

Totals are per Board approved budgets and do not include District project management expenses.

**Table 5. Funding Classification**

Funding Type	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016
Direct Grants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Matching Grants	\$50,488,045	\$35,773,865	\$39,694,036	\$35,657,581	\$23,934,643	\$16,377,113	\$25,854,948	\$33,076,033	\$41,484,115	\$38,789,417
Revolving Loans	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Use of District Land/Facilities	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>District TOTALS</b>	<b>\$50,488,045</b>	<b>\$35,773,865</b>	<b>\$39,694,036</b>	<b>\$35,657,581</b>	<b>\$23,934,643</b>	<b>\$16,377,113</b>	<b>\$25,854,948</b>	<b>\$33,076,033</b>	<b>\$41,484,115</b>	<b>\$38,789,417</b>

## **Alternative Source Type: Wastewater Reuse**

In funding reclaimed water projects, the District requires that at least 50 percent of the reclaimed water supplied must replace existing or planned ground or surface water withdrawals in order to qualify for funding consideration (projects funded after FY2009 are required to achieve a system-wide minimum of 60 percent efficiency). These requirements are intended to increase the efficiency of reclaimed water projects to reduce the use of potable quality water for outdoor landscape irrigation and, where allowed by state regulations, to provide an alternative source for agricultural irrigation.

Table 6 lists Cooperative Funding Initiative, NWSI, WSRD and WPSTF reuse projects that will receive funding in FY2016. The table also identifies funds allocated in FY2016 by the Basin(s) and the Governing Board, and includes the total funding commitment of the District. The total funding commitment represents previous and projected year funding by the District. Funding of projects requiring large capital investments with construction spanning several years is usually spread out over multiple fiscal years as addressed earlier. Table 6 also includes the projected alternative supply amount (gallons) provided by the project. The Appendix of this report contains a brief description of the projects identified in Table 6.

**Table 6. Alternative Source Type: Wastewater Reuse**

Project Name (project number)	Budgeted Amounts						Gallons Provided* (gpd)
	FY2016 Basin(s)	FY2016 Governing Board	FY2016 WPSTF	FY2016 Total Amount***	Total District Amount**	Total Project Cost	
TECO's Polk Power Station Reclaimed Water Lakeland/Polk County/Mulberry Project (H076)	\$0	\$2,975,000	\$0	\$2,975,000	\$49,203,020	\$96,960,725	10,000,000
Oldsmar Reclaimed Water ASR (N398)	\$359,690	\$0	\$0	\$359,690	\$870,862	\$1,741,724	Storage
Auburndale Polytechnic Reclaimed Water Storage and Transmission Project (N536)	\$0	\$150,000	\$0	\$150,000	\$1,350,000	\$2,700,000	650,000
Dunedin Reclaimed Water Tanks (N555)	\$202,910	\$0	\$0	\$202,910	\$1,082,910	\$2,165,820	Storage
Charlotte County Reclaimed Water Phase 3 (N556)	\$0	\$2,102,000	\$0	\$2,102,000	\$4,715,000	\$9,430,000	1,720,000
Pasco Crews Lake Restoration (N635)	\$0	\$161,500	\$0	\$161,500	\$4,103,159	\$8,206,318	TBD
Pasco Shady Hills Reclaimed Water Storage Tank (N649)	\$119,731	\$630,269	\$0	\$750,000	\$1,000,000	\$2,000,000	Storage
North Port Phase 3 Reclaimed Water (N667)	\$0	\$358,430	\$0	\$358,430	\$660,000	\$1,320,000	360,000
Bradenton Reclaimed Water Pumping (N692)	\$0	\$332,000	\$0	\$332,000	\$332,000	\$664,000	Pumping
Port Richey Reclaimed Water Transmission (N694)	\$0	\$229,687	\$0	\$229,687	\$229,687	\$459,374	340,000
Hernando US19 Reuse Project (N696)	\$0	\$9,000,000	\$0	\$9,000,000	\$9,000,000	\$12,000,000	1,700,000
Pasco Tampa Bay GC Reuse (N697)	\$150,000	\$0	\$0	\$150,000	\$150,000	\$300,000	100,000
Lakewood Ranch North/East Expansion (N711)	\$0	\$1,075,000	\$0	\$1,075,000	\$2,150,000	\$4,300,000	1,000,000
Pasco Starkey Ranch Reclaimed Water B (N743)	\$0	\$175,200	\$0	\$175,200	\$955,000	\$1,910,000	410,000
Citrus Sugarmill Woods Advanced Reclaimed Water (N749)	\$0	\$700,000	\$0	\$700,000	\$1,000,000	\$2,000,000	260,000
IFAS Eval of Nutrient Leaching Reclaimed Water (B403)	\$0	\$97,000	\$0	\$97,000	\$294,000	\$294,000	Study
Reclaimed Water Wetland Study (P301)	\$0	\$300,000	\$0	\$300,000	\$700,000	\$700,000	Study
<b>Totals</b>	<b>\$832,331</b>	<b>\$18,286,086</b>	<b>\$0</b>	<b>\$19,118,417</b>	<b>\$77,795,638</b>	<b>\$147,151,961</b>	<b>&gt;16,540,000</b>

\*\*\*Total represents FY2016 District budgeted amounts.

\*\*Total District commitment represents projects that have been or will be funded over multiple years and may include prior WPSTF, WRAP, SPRINGS or other funding.

\*Represents total project gallon amounts (gpd). Table includes only "Active" projects as of October 1, 2015.

Note: Table 6 does not include Indirect Potable Reuse projects which are included in Table 9.

Totals are per Board approved budgets and do not include District project management expenses.

Total project cost estimates are as of October 1, 2015 and may be different than prior cost estimates.

## Alternative Source Type: Reclaimed Stormwater

In funding reclaimed stormwater projects, the District requires that at least 50 percent of the reclaimed water must replace existing or planned ground or surface water withdrawals in order to qualify for funding consideration. This requirement is intended to increase the efficiency of reclaimed water projects to reduce the use of potable quality water for outdoor landscape irrigation and, where allowed by state regulations, to provide an alternative source for agricultural irrigation.

Table 7 identifies the reclaimed stormwater projects that will receive funding in FY2016. The table also identifies funds allocated in FY2016 by Basin(s) and the Governing Board, and includes the total funding commitment of the District. The total funding commitment represents previous and projected year funding by the District. As previously stated, funding of projects requiring large capital investments with construction spanning several years is spread out over multiple years. Table 7 also includes the projected alternative supply amount (gallons) provided by the projects. The Appendix of this report contains a brief description of the projects identified in Table 7.

**Table 7. Alternative Source Type: Reclaimed Stormwater**

Project Name (project number)	Budgeted Amounts						Gallons Provided* (gpd)
	FY2016 Basin(s)	FY2016 Governing Board	FY2016 WPSTF	FY2016 Total Amount***	Total District Amount**	Total Project Cost	
Bradenton Surface Water ASR (N435)	\$708,607	\$596,393	\$0	\$1,305,000	\$2,350,000	\$4,700,000	Storage
<b>Totals</b>	<b>\$708,607</b>	<b>\$596,393</b>	<b>\$0</b>	<b>\$1,305,000</b>	<b>\$2,350,000</b>	<b>\$4,700,000</b>	<b>&gt;TBD</b>

\*\*\*Total represents District FY2016 budgeted amounts.

\*\*Total District commitment represents projects that have been or will be funded over multiple years, may include prior WPSTF, WRAP, SPRINGS or other funding.

\*Represents total project gallon amounts (gpd). Table includes only "Active" projects as of October 1, 2015.

Totals are per Board approved budgets and do not include District project management expenses.

Total project cost estimates are as of October 1, 2015 and may be different than prior cost estimates.

## Alternative Source Type: Desalination of Brackish Water

Table 8 identifies the desalination of brackish water projects that will receive funding in FY2016. The table also identifies funds allocated in FY2016 by the Basin(s) and the Governing Board, and includes the total funding commitment of the District. The total funding commitment represents previous and projected year funding by the District. The funding of most projects requiring large capital investments with construction spanning several years is spread out over multiple fiscal years. Table 8 also includes the projected alternative supply amount (gallons) provided by the projects. The Appendix of this report contains a brief description of the projects identified in Table 8.

**Table 8. Alternative Source Type: Desalination of Brackish Water**

Project Name (project number)	Budgeted Amounts						Gallons Provided* (gpd)
	FY2016 Basin(s)	FY2016 Governing Board	FY2016 WPSTF	FY2016 Total Amount***	Total District Amount**	Total Project Cost	
Charlotte Burnt Store Wellfield Study (N605)	\$0	\$60,000	\$0	\$60,000	\$172,500	\$400,000	TBD
Polk County Partnership (H094)	\$0	\$10,000,000	\$0	\$10,000,000	\$160,000,000	\$320,000,000	30,000,000
<b>Totals</b>	<b>\$0</b>	<b>\$10,060,000</b>	<b>\$0</b>	<b>\$10,060,000</b>	<b>\$160,172,500</b>	<b>\$320,400,000</b>	<b>&gt;30,000,000</b>

\*\*\*Total represents District FY2016 budgeted amounts.

\*\*Total District commitment represents projects that have been or will be funded over multiple years, may include prior WPSTF, WRAP, SPRINGS or other funding.

\*Represents total project gallon amounts (gpd). Table includes only "Active" projects as of October 1, 2015.

Totals are per Board approved budgets and do not include District project management expenses.

Total project cost estimates are as of October 1, 2015 and may be different than prior cost estimates.

## Alternative Source Type: Indirect Potable Reuse

Table 9 identifies the indirect potable reuse projects that will receive funding in FY2016. The table also identifies funds allocated in FY2016 by Basin(s) and the Governing Board, and includes the total funding commitment of the District. The total funding commitment represents previous and projected year funding by the District. Similar to the funding of other alternative water projects, the funding of projects requiring large capital investments with construction spanning several years is usually spread out over multiple fiscal years. Table 9 also includes the projected alternative supply amount (gallons) provided by the projects. The Appendix of this report contains a brief description of the projects identified in Table 9.

**Table 9. Alternative Source Type: Indirect Potable Reuse**

Project Name (project number)	Budgeted Amounts						Gallons Provided* (gpd)
	FY2016 Basin(s)	FY2016 Governing Board	FY2016 WPSTF	FY2016 Total Amount***	Total District Amount**	Total Project Cost	
Clearwater Groundwater Replenishment (N665)	\$2,131,000	\$0	\$0	\$2,131,000	\$14,290,000	\$28,580,000	2,400,000
Pasco Wetland/Recharge (N666)	\$5,000,000	\$0	\$0	\$5,000,000	\$16,800,000	\$33,600,000	5,000,000
Winter Haven Reclaimed Water Aquifer Recharge (N739)	\$0	\$175,000	\$0	\$175,000	\$1,559,500	\$3,119,000	1,700,000
Tampa Augmentation Project- Study (N751)	\$1,000,000	\$0	\$0	\$1,000,000	\$1,500,000	\$3,000,000	Study
<b>Totals</b>	<b>\$8,131,000</b>	<b>\$175,000</b>	<b>\$0</b>	<b>\$8,306,000</b>	<b>\$34,149,500</b>	<b>\$68,299,000</b>	<b>&gt;9,100,000</b>

\*\*\*Total represents District FY2016 budgeted amounts. \*\*Total District commitment represents projects that have been or will be funded over multiple years, may include prior WPSTF, WRAP, SPRINGS or other funding. \*Represents total project gallon amounts (gpd). Table includes only "Active" projects as of October 1, 2015. Totals are per Board approved budgets and do not include District project management expenses. Total project cost estimates are as of October 1, 2015 and may be different than prior cost estimates.

## Conclusion

The District has developed an aggressive alternative water supply development program through the efficient utilization of the resources available to its Governing Board and the Florida Legislature. The District is committed to identifying and assisting with appropriate solutions to the water resource problems within its area by providing technical and financial support in developing alternative water supplies. The District has a long history of commitment to cooperative efforts with state and local governments, private industry, and the public at large through the sponsoring of research, flood studies, conservation, natural system and water quality improvements, and a special emphasis on the development of alternative water supplies. The District is confident in its mission to find and maintain adequate and ecologically sustainable resources within its boundaries.

## Appendix (Projects with FY2016 Funding, as well as WPSTF\* Projects)

**Project Name:** IFAS Reclaimed Water Nutrients from Lawns/Sprayfields/RIBs Study Project (B403)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** IFAS

**District:** Governing Board;

**Locale:** Multiple Counties

**Project Description:** Assessment of nitrogen leaching from reclaimed water application to lawns, spray fields, and rapid infiltration basins (RIBs). Several different types of soil amendments such as sawdust, tire crumbs, and limestone will also be evaluated to determine their ability to reduce nitrogen leaching from reclaimed water applied to RIBs

**Project Name:** Peace River Regional Reservoir Expansion\* (F032)

**Type of Alternative Supply:** Surface Water

**Cooperator:** Peace River Manasota Regional Water Supply Authority

**District:** Governing Board; Manasota, Peace River Basins

**Locale:** DeSoto County

**Project Description:** An alternative water supply project to expand the surface water storage capacity of the Peace River Manasota Regional Water Supply Authority's water supply facilities by constructing a 6-billion gallon reservoir.

**Project Name:** Peace River Facility Expansion\* (F033)

**Type of Alternative Supply:** Surface Water

**Cooperator:** Peace River Manasota Regional Water Supply Authority

**District:** Governing Board; Manasota, Peace River Basins

**Locale:** DeSoto County

**Project Description:** This is an alternative water supply project that involves expansion of the Peace River Manasota Regional Water Supply Authority's water treatment facilities. Whereas, F032 is for the design and construction of a 6-billion gallon reservoir, this project is for the design and construction associated with expanding the water treatment plant capacity from 24 to 48 mgd. Additionally, this project will construct five miles of a 20-inch pipeline from the Authority's facilities to extended areas of DeSoto County to supply up to 5.5 mgd to the county.

**Project Name:** Lake Hancock Design, Permit & Mitigation to Raise Lake Nearly 1.5 Feet (H008)

**Type of Alternative Supply:** Surface Water

**Cooperator:** District

**District:** Governing Board; Alafia River, Peace River, Manasota Basins

**Locale:** Polk County

**Project Description:** The goal of the Lake Level Modification Project is to store water by raising the control elevation of the existing outflow structure on Lake Hancock and to slowly release the water during the dry season to help meet the minimum flow requirements in the upper Peace River between Bartow and Zolfo Springs

**Project Name:** Lake Hancock Outfall Structure P-11\* (H009)

**Type of Alternative Supply:** Surface Water

**Cooperator:** District

**District:** Governing Board; Peace River Basin

**Locale:** Polk County

**Project Description:** Design, permitting and construction of the replacement of the Lake Hancock P-11 Water Control Structure. Raising the normal operating water level of Lake Hancock to 100.0 feet will provide the storage to increase the number of days the upper Peace River will meet the minimum flows from 70 percent to 87 percent and provide up to 25 cfs (16.2 mgd) of recharge to the Upper Floridan aquifer through sinks.

**Project Name:** Lake Hancock Outfall Treatment System\* (H014)

**Type of Alternative Supply:** Surface Water

**Cooperator:** District

**District:** Governing Board; Peace River Basin

**Locale:** Polk County

**Project Description:** The goal of the Lake Hancock Outfall Treatment Project is to improve water quality discharging from Lake Hancock through Saddle Creek to the Peace River.

**Project Name:** FARMS - Facilitating Agricultural Resource Management Systems (H017)

**Type of Alternative Supply:** Variety of Types

**Cooperator:** Variety of Cooperators

**District:** Governing Board; Alafia River, Coastal Rivers, Hillsborough River, Manasota, Peace River, Pinellas-Anclote River, and Withlacoochee River Basins

**Locale:** District-wide

**Project Description:** The Facilitating Agricultural Resource Management Systems (FARMS) Program is an agricultural Best Management Practice (BMP) cost-share reimbursement program. The program is a public/private partnership developed by the District and the Florida Department of Agriculture and Consumer Services (FDACS). The purpose of the FARMS initiative is to provide an incentive to the agricultural community, within the District, to implement agricultural BMPs that will provide resource benefits that include water quality improvement; reduced Upper Floridan aquifer withdrawals; and/or conserve, restore, or augment the area's water resources and ecology.

**Project Name:** Charlotte County Reclaimed Water Expansion\* (H027)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Charlotte County

**District:** Governing Board; Peace River Basin

**Locale:** Charlotte County

**Project Description:** Design, permitting and construction of reclaimed water transmission mains from the Charlotte County East Port Wastewater Treatment Facility (WWTF), west through Port Charlotte. The project will also include the design and construction of two 500,000-gallon storage tanks and associated pumping systems.

**Project Name:** Pasco County Southeast Regional Reclaimed Water Loop\* (H041)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Pasco County

**District:** Governing Board; Alafia River, Hillsborough River, NW Hillsborough, Coastal Rivers, Pinellas-Anclote River, Withlacoochee River Basins

**Locale:** Pasco County

**Project Description:** Design, permitting and construction of approximately 18,500 linear feet of 24-inch reclaimed water transmission main with associated fittings and valves to complete the transmission system looped interconnection between Pasco County's Southeast Pasco and Wesley Center WWTF.

**Project Name:** PRMRWSA Regional Integrated Loop System Phase 2 Interconnect\* (H051)

**Type of Alternative Supply:** Surface Water

**Cooperator:** PRMRWSA

**District:** Governing Board; Peace River, Manasota Basins

**Locale:** Sarasota County, Desoto County

**Project Description:** Design, permitting and construction of an interconnect project to provide needed regional transmission capacity between the Peace River Facility and the City of North Port. The transmission line is a 36- to 42-inch diameter pipeline extending approximately seven miles from the Peace River Facility. In addition to serving the City of North Port, Phase II provides back-up capacity to the existing 36-inch main; and comprises a critical segment for the extension of future regional transmission capacity to the City of North Port's Myakkahatchee Creek Water Treatment Facility, the Englewood Water District treatment facilities, and the Carlton Water Treatment Facility.

**Project Name:** PRMRWSA Regional Integrated Loop System Phase 3A Interconnect\* (H052)

**Type of Alternative Supply:** Surface Water

**Cooperator:** Pasco County

**District:** Governing Board; Peace River, Manasota Basins

**Locale:** Sarasota County

**Project Description:** Design, permitting and construction of the Phase 3A pipeline from Sarasota County's Carlton Water Treatment Facility north across the Myakka River to an existing County utility line (critical to future transmission to Manatee County). Project components include 9 miles of 48-inch transmission lines, a 10 mgd pump station, two 5- mg tanks, metering and telemetry systems.

**Project Name:** Pasco County SR 52 East/West Reclaimed Water Interconnect\* (H055)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Pasco County

**District:** Governing Board; Hillsborough River, Coastal Rivers, Pinellas-Anclote River, Withlacoochee River Basins

**Locale:** Pasco County

**Project Description:** Design, permitting and construction of 24-inch diameter reclaimed water transmission mains east along SR 52, and south along McKendree Road to the Wesley Center WWTF.

**Project Name:** Pasco County Boyette Reclaimed Water Wet-Weather Storage\* (H056)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Pasco County

**District:** Governing Board; Hillsborough River, Coastal Rivers, Pinellas-Anclote River, Withlacoochee River Basins

**Locale:** Pasco County

**Project Description:** Design, permitting and construction of a 15 mgd pump station and lined wet-weather reclaimed water reservoir with a storage capacity of approximately 500 mg on the old Boyette Mine property.

**Project Name:** Tampa Bay Water System Configuration II\* (H065)

**Type of Alternative Supply:** Surface Water Supply

**Cooperator:** Tampa Bay Water

**District:** Governing Board; Alafia River, Coastal Rivers, Hillsborough River, NW Hillsborough, Pinellas-Anclote River, Withlacoochee River Basins

**Locale:** Hillsborough County

**Project Description:** This project will build on Tampa Bay Water's existing Enhanced Surface Water System to provide an additional 25 mgd of alternative water supply. This is achieved by drawing more water from the Hillsborough River during high flows, via the Tampa Bypass Canal (TBC), in combination with increasing the allowable percentage of withdrawals from the TBC. The ten project components are primarily associated with the construction of improvements to the regional system's treatment, transmission, and storage infrastructure.

**Project Name:** Withlacoochee River Watershed Initiative (H066)

**Type of Alternative Supply:**

**Cooperator:** District

**District:** Governing Board; Withlacoochee River Basin

**Locale:** Marion, Levy, Citrus, Hernando, Pasco, Lake, Polk and Sumter County

**Project Description:** The intent of this project is to understand the dynamics of the Withlacoochee River watershed and associated natural systems, assess the water resource related changes that have occurred due to the land use changes and alterations, and evaluate water supply sources in the northern District. The project involves assembling the information and watershed model for the Green Swamp, Withlacoochee River, Little Withlacoochee River, the Tsala Apopka Chain of Lakes, Lake Rousseau, and the Western Terminus of the Cross Florida Greenway.

**Project Name:** Pasco County Shady Hills/SR 52 Regional Reclaimed Water Interconnect\* (H067)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Pasco County

**District:** Governing Board; Hillsborough River, Coastal Rivers, Pinellas-Anclote River, Withlacoochee River Basins

**Locale:** Pasco County

**Project Description:** Design, permitting and construction of a 5-mg reclaimed water storage tank, reclaimed water pump station and a 24-inch reclaimed water transmission main to interconnect the Shady Hills WWTF with the SR 52 East/West Reclaimed Water Interconnect Project (H055).

**Project Name:** PRMRWSA Regional Integrated Loop System Phase 1A Interconnect\* (H069)

**Type of Alternative Supply:** Surface Water

**Cooperator:** PRMRWSA

**District:** Governing Board; Peace River, Manasota Basins

**Locale:** Desoto and Charlotte County

**Project Description:** The project consists of approximately 12 miles of a 24-inch diameter line interconnecting Punta Gorda's Shell Creek facility with the Authority's Peace River facility. Components include a 1.3 mile sub-aqueous crossing of the lower Peace River, a pumping station with chemical feeds and 0.5 mg storage, and multiple tie-ins to Charlotte County's distribution system. The project has a bilateral transmission capacity of 6 mgd.

**Project Name:** TECO's Polk Power Station Reclaimed Water Interconnects to Lakeland/Polk County/Mulberry (H076)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Tampa Electric Company and potentially others

**District:** Governing Board; Alafia River, Peace River Basins

**Locale:** Polk County

**Project Description:** Design, permitting and construction of approximately 15 miles of reclaimed water transmission main from City of Lakeland's, Polk County's SWWWTF and Mulberry's wastewater effluent to the Tampa Electric Company's (TECO) Polk Power Station (WUP# 11747) for power generation expansion (Unit 6). The project also includes the additional treatment necessary, including one deep disposal well, for TECO to treat the water to an acceptable level for cooling and other potential uses.

**Project Name:** Charlotte County Regional Reclaimed Water Expansion Phase 2\* (H085)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Charlotte County

**District:** Governing Board; Peace River Basin

**Locale:** Charlotte County

**Project Description:** Design, permitting and construction of a reclaimed water pipeline, and also using existing and abandoned pipeline, to interconnect the east and west service areas of Charlotte County's reclaimed water system.

**Project Name:** Upper Myakka Flatford Swamp Restoration via Water Removal (H089)

**Type of Alternative Supply:** Surface Water

**Cooperator:** Mosaic Fertilizer, L.L.C

**District:** Governing Board; Manasota Basin

**Locale:** Manatee and Sarasota County

**Project Description:** Hydrologic alterations and excess runoff has adversely impacted Flatford Swamp in the upper Myakka watershed. This project will remove excess flows from Flatford Swamp and some portions of the surrounding area to improve the natural systems.

**Project Name:** Pasco County Reclaimed Water Natural Systems Restoration and Aquifer Recharge (H092)

**Type of Alternative Supply:** Indirect Potable Reuse

**Cooperator:** Pasco County

**District:** Governing Board; Alafia River, Coastal Rivers, Hillsborough River, Pinellas–Anclote River, Withlacoochee River Basins

**Locale:** Pasco County

**Project Description:** Investigation of using excess reclaimed water to improve the water resources in central Pasco County. This is the second year of a multiyear project and includes initial feasibility, advanced feasibility, design and permitting for the required infrastructure improvements to recharge 5 mgd in central Pasco.

**Project Name:** Manatee County Regional 10 MG RW Storage SW-2\* (H093)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Manatee County

**District:** Governing Board; Manasota Basin

**Locale:** Manatee County

**Project Description:** Design and construct the second of four 10 mg reclaimed water storage tanks in support of the Manatee County Agricultural Reuse System (MARS).

**Project Name:** Polk County Partnership (H094)

**Type of Alternative Supply:** Water supply LFA/Brackish

**Cooperator:** Utilities within Polk County

**District:** Governing Board

**Locale:** Polk County

**Project Description:** This project includes umbrella agreements designed to achieve two primary objectives: 1) The development of at least 20 mgd and up to 30 mgd alternative water supply as follows:  
a. The construction of a Southeast Wellfield and transmission system that will produce a minimum 20 mgd annual average of new product water by December 31, 2042 to meet the potable water supply demands of Polk County and the municipalities within Polk County and used as a base supply for 30 years  
b. The provision of additional quantities of at least 10 mgd annual average of product water from either the Southeast Wellfield or other eligible projects (as approved by the Governing Board) by December 31, 2049 and used as a base supply for 30 years.  
2) The creation of a Regional Water Supply Entity that will construct and operate the Southeast Wellfield and any other eligible projects and will promote regional cooperation among Polk County and the municipalities within Polk County.

**Project Name:** Lower Hillsborough River Recovery Strategy Implementation Projects (H400)

**Type of Alternative Supply:** Surface Water

**Cooperator:** City of Tampa

**District:** Governing Board; Hillsborough River Basin

**Locale:** Hillsborough County

**Project Description:** A recovery strategy for the Hillsborough River including; 1) Sulphur Springs weir modifications (lower weir); and upper weir and pump station modifications; 2) Blue Sink Project, 3) Transmission Pipeline Project, 4) Investigation of Storage Options, 5) Tampa Bypass Canal Diversions, January 1, 2008; and 6) Morris Bridge Sink Project.

**Project Name:** Lower Hillsborough River Recovery Strategy Projects-TBC Pump Stations (H402)

**Type of Alternative Supply:** Surface Water

**Cooperator:** Tampa Bay Water

**District:** Governing Board; Hillsborough River Basin

**Locale:** Hillsborough County

**Project Description:** Design, permitting and construction of pump stations on the Tampa Bypass Canal.

**Project Name:** Bradenton - ASR Program\* (K114)

**Type of Alternative Supply:** Surface Water

**Cooperator:** City of Bradenton

**District:** Manasota Basin

**Locale:** Manatee County

**Project Description:** Design, permitting and construction of up to three additional monitoring wells, and perform two additional cycle tests at the City of Bradenton's Downtown ASR site. The project is a continuation of the City's Downtown ASR project that will provide 1.5 mgd of potable water during the 100-day dry season.

**Project Name:** N. Sarasota Co. Reclaimed Water ASRs\* (K269)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Sarasota County

**District:** Governing Board; Manasota Basin

**Locale:** Sarasota County

**Project Description:** Design, permitting and construction of three 1.2 mgd reclaimed water ASR wells with ultraviolet (UV) disinfection. These ASRs will be constructed at the County's Central County WWTF. The ASRs will provide wet weather storage for the County's Northern Regional Reuse System.

**Project Name:** Lake Tarpon ASR Test Well Program - Phase IV\* (K422)

**Type of Alternative Supply:** Stormwater/Surface Water/Wastewater Reuse

**Cooperator:** Pinellas County

**District:** Governing Board; Pinellas-Anclote River Basin

**Locale:** Pinellas County

**Project Description:** Design, permitting, construction and testing of an ASR well near the south end of Lake Tarpon. The well is expected to supply up to 1 mgd during the dry season (~273,000 gpd annually) using excess surface water collected from Lake Tarpon. The recovered water will be used to supplement the Pinellas County Utilities reclaimed water system and support lake management and watershed restoration activities.

**Project Name:** St. Petersburg Northwest/Southwest Reclaimed Storage Tanks, Pumps, Telemetry\* (K847)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** City of St. Petersburg

**District:** Governing Board; Pinellas-Anclote River Basin

**Locale:** Pinellas County

**Project Description:** Design, permitting and construction of one 10-mg storage tank, two pump station expansions at the Southwest Water Reclamation Facilities and Northwest Water Reclamation Facilities, and supervisory control and data acquisition (SCADA) telemetry improvements to reclaimed water systems at all four City Reclamation Facilities.

**Project Name:** Lake Placid Reuse\* (L153)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Lake Placid

**District:** Governing Board; Peace River Basin

**Locale:** Highlands County

**Project Description:** Design, permitting and construction of a reclaimed water pump station and a 500,000-gallon reclaimed water ground storage tank located at the Town's wastewater treatment facility site, and approximately 6,446 linear feet of 10-inch, 8-inch, and 6-inch diameter reclaimed water transmission main.

**Project Name:** City of Brooksville US 41 South Service Area Reuse System\* (L169)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** City of Brooksville

**District:** Governing Board and Coastal Rivers Basin

**Locale:** Hernando County

**Project Description:** Design, permitting and construction of 37,670 linear feet of transmission main from the City of Brooksville's Cobb Road WWTP to the Southern Hills Plantation Development on US 41, two 1.0 mgd pump stations, two .75 mg reclaimed water storage tanks at the WWTP and three 3.0 mg lined storage ponds. The three storage ponds will be located at Southern Hills Plantation. Reclaimed water will be used to irrigate the golf course, common areas, and individual residences.

**Project Name:** Clearwater Morningside Area Reclaimed Water Transmission and Distribution\* (L254)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** City of Clearwater

**District:** Governing Board; Pinellas-Anclote River Basin

**Locale:** Pinellas County

**Project Description:** Design, permitting and construction of reclaimed water transmission mains and distribution piping in the Morningside area as well as other large customers located throughout the City which include irrigation at schools, parks, condos, and the west Bellaire golf course.

**Project Name:** Pasco County Connerton Reclaimed Transmission & Storage\* (L270)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Pasco County

**District:** Governing Board; Coastal Rivers, Pinellas-Anclote River Basins

**Locale:** Pasco County

**Project Description:** Design, permitting and construction of 23,780 linear feet of 16-inch and 24-inch reclaimed water transmission main and a lined 15-acre reclaimed water storage pond to serve the landscape irrigation needs of an estimated 6,800 residential units and 4.5 million square feet of non-residential development planned for the Connerton Development in central Pasco County.

**Project Name:** Hillsborough County Lithia-Pinecrest Reclaimed Transmission\* (L294)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Hillsborough County

**District:** Governing Board; Alafia River Basin

**Locale:** Hillsborough County

**Project Description:** Design, permitting and construction of 12,200 feet of 24-inch reclaimed water transmission main, controls, telemetry and associated appurtenances to be located along Lithia Pinecrest Road from Bloomingdale Avenue south to the entrance road to the Riverhills Golf Course.

**Project Name:** City of Inverness Reclaimed Water Transmission\* (L468)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** City of Inverness

**District:** Governing Board; Withlacoochee River Basin

**Locale:** Citrus County

**Project Description:** Design, permitting and construction of approximately 17,000 linear feet of reclaimed water transmission main to the Inverness Golf and Country Club, and the expansion of a pump station located at the WWTP.

**Project Name:** Polk County Utilities NE Regional Reclaimed Storage Expansion\* (L475)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Polk County

**District:** Governing Board; Peace River Basin

**Locale:** Polk County

**Project Description:** Design, permitting and construction of two 5-mg ground storage reservoirs and one 15-mgd high service pumping facility.

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**Project Name:** City of Sarasota Payne Park Reuse\* (L500)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** City of Sarasota

**District:** Governing Board; Manasota Basin

**Locale:** Sarasota County

**Project Description:** Design, permitting and construction of 4,280 linear feet of 8- to 14-inch diameter reuse transmission line between the City's Downtown Loop reclaimed transmission line and Payne Park.

**Project Name:** Aqua Utilities Reuse Transmission to Lakewood Ranch\* (L522)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Aqua Utilities

**District:** Governing Board; Manasota Basin

**Locale:** Sarasota and Manatee Counties

**Project Description:** Design, permitting and construction of 3,900 feet of 12-inch reclaimed water transmission line and upgrading an existing pump station to provide reclaimed water to the Corporate Park area of Lakewood Ranch from the Aqua Utilities Florida, Inc. WWTF.

**Project Name:** Palmetto Reclaimed Water ASR\* (L608)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** City of Palmetto

**District:** Governing Board; Manasota Basin

**Locale:** Manatee County

**Project Description:** Design, permitting and construction of ultraviolet (UV) disinfection, cycle testing, and operational permitting for a 1.2-mgd reclaimed water ASR well for the City of Palmetto.

**Project Name:** Englewood Reuse Transmission – Stillwater\* (L652)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Englewood Water District

**District:** Governing Board; Manasota Basin

**Locale:** Sarasota County

**Project Description:** Design, permitting and construction of approximately 4,379 feet of 6-inch reuse transmission line to connect the Stillwater Subdivision to the Englewood Reuse System.

**Project Name:** Clearwater Skycrest Reclaimed Water\* (L695)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** City of Clearwater

**District:** Governing Board; Pinellas-Anclote River Basin

**Locale:** Pinellas County

**Project Description:** Design, permitting and construction of reclaimed water transmission mains, distribution piping, a 5-mg storage tank and high service pump station in the Skycrest area of Clearwater. The project will connect the City's east and west reclaimed water service areas and also provide service to nearly 500 residential and commercial reclaimed water customers in central Clearwater.

**Project Name:** City of Dunedin Reclaimed Transmission & Distribution\* (L697)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** City of Dunedin

**District:** Pinellas-Anclote River Basin

**Locale:** Pinellas County

**Project Description:** Construction of seven combined reclaimed water transmission main and distribution systems. A total of approximately 3,579 linear feet of reclaimed water transmission main and approximately 27,146 linear feet of distribution mains will provide service to 500 residences (377 active) in the seven project areas.

**Project Name:** Pasco County Overpass Road Reclaimed Water Transmission\* (L729)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Pasco County

**District:** Governing Board; Hillsborough River Basin

**Locale:** Pasco County

**Project Description:** Design, permitting and construction of approximately 16,700 linear feet of 16-inch and 4,100 linear feet of 12-inch reclaimed water transmission mains near Overpass Road to supply 1,749 residential reclaimed water customers in the Watergrass/DePue Ranch Development.

**Project Name:** Levitt and Sons South Brooksville Reuse System - Phase II\* (L781)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Levitt and Sons

**District:** Governing Board; Coastal Rivers Basin

**Locale:** Hernando County

**Project Description:** Design, permitting and construction of a reclaimed water transmission main, a 2.3-mg lined storage pond and a 1-mgd pump station in the Phase II (Cascades) area of Southern Hills Plantation to provide service to 925 residential customers as well as common area landscape irrigation.

**Project Name:** On Top of the World Marion County Reclaimed Water\* (L786)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Bay Laurel Center Community Development District

**District:** Withlacoochee River Basin

**Locale:** Marion County

**Project Description:** Design, permitting and construction of a 2.5-mg reclaimed water storage tank, pump station and transmission mains to serve the On Top of the World Golf Course, the Candler Hills Golf Course and the common areas of the On Top of the World development.

**Project Name:** Plant City Sydney & Park Road Reclaimed Water\* (L816)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** City of Plant City

**District:** Alafia River Basin

**Locale:** Hillsborough County

**Project Description:** Design, permitting and construction of reclaimed water transmission mains to serve Walden Lake Golf Course, South Florida Baptist Hospital, Plant City Stadium, Martin Luther King Jr. ball fields, Marshall Middle School, Tomlin Middle School and Bryan Elementary School.

**Project Name:** Oldsmar Reclaimed Water Distribution System and Telemetry\* (L821)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** City of Oldsmar

**District:** Pinellas-Anclote River Basin

**Locale:** Pinellas County

**Project Description:** Design and construction of reclaimed water distribution lines within the downtown area of Oldsmar to provide service to 174 residences. The project also includes the design and installation of an eleven valve automated telemetry control system.

**Project Name:** Dade City Reclaimed Water\* (L823)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** City of Dade City

**District:** Withlacoochee River Basin

**Locale:** Pasco County

**Project Description:** Design, permitting and construction of transmission mains and 1-mg storage tank, conversion of a rapid infiltration basin to a lined storage pond, and pump station to supply the Little Everglades Ranch for the race track and sod farm operations.

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**Project Name:** Zephyrhills Reclaimed Water Extension\* (L824)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** City of Zephyrhills

**District:** Governing Board; Hillsborough River Basin

**Locale:** Pasco County

**Project Description:** Design, permitting and construction of 4,000 linear feet of 6-inch diameter reclaimed water transmission lines and 2,000 linear feet of 2-inch diameter distribution lines for landscape irrigation.

**Project Name:** Englewood Park Forest Reuse Transmission\* (L869)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Englewood Water District

**District:** Governing Board; Manasota Basin

**Locale:** Sarasota County

**Project Description:** Design, permitting and construction of approximately 3,800 feet of 6-inch and 4-inch reuse transmission line to connect the Park Forest Subdivision to the Englewood Reuse System.

**Project Name:** Aqua Utilities Reuse Transmission - Eastern Lakewood Ranch\* (L874)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Aqua Utilities Florida, Inc.

**District:** Manasota Basin

**Locale:** Manatee County

**Project Description:** Design and construction of 7,500 feet of 14-inch reclaimed water transmission line; 16,500 feet of 20-inch reclaimed water line; and a pump station to provide reclaimed water to the residential and agricultural areas in the eastern part of Lakewood Ranch.

**Project Name:** Haines City Southern Reuse\* (N065)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** City of Haines City

**District:** Peace River Basin

**Locale:** Polk County

**Project Description:** Expand the City's Reclaimed Water System to the eastern and southern portion of the City's potable water service area. The project consists of design and construction of approximately 17,430 linear feet reclaimed water transmission main ranging in diameter from 24 to 30 inches, an interim reclaimed water booster pumping station, and necessary appurtenances.

**Project Name:** Oldsmar Reclaimed Water ASR Project (N398)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** City of Oldsmar

**District:** Governing Board;

**Locale:** Pinellas County

**Project Description:** Design, bidding, permitting, construction, and cycle testing of a reclaimed water ASR facility. FY16 funds are to design, bid, construct, and complete cycle testing and final permitting of the permanent ASR facility. Bidding, construction, construction supervision, and cycle testing for the initial ASR system were funded under prior years. A feasibility study, design and permitting, and exploratory well construction were completed cooperatively in prior years.

**Project Name:** Bradenton Surface Water ASR Feasibility Study - Phase 1 (N435)

**Type of Alternative Supply:** Surface Water

**Cooperator:** City of Bradenton

**District:** Governing Board; Manasota Basin

**Locale:** Manatee County

**Project Description:** A feasibility assessment of a surface water ASR program located at the Bill Evers Reservoir site. The goal for the project is to store approximately 300 mg/year (2 to 3 mgd for 100 days a year). The objectives are to augment the existing surface water supply as an alternative to an upland storage reservoir and may serve as a recovery strategy option to meet the requirements of the Minimum Flow and Level (MFL) program that impacts the lower Manatee River basin when the levels are established.

**Project Name:** Auburndale Polytechnic Reclaimed Water Storage and Transmission Project (N536)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Auburndale

**District:** Governing Board; Peace River Basin

**Locale:** Polk County

**Project Description:** Design and construction of a 2 MG storage tank and approximately 10,500 feet of 16-inch diameter reclaimed water line from the City's Allred WWTP to the Florida Polytechnic University (FPU).

**Project Name:** Dunedin Reclaimed Water Storage Tanks Project (N555)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** City of Dunedin

**District:** Governing Board;

**Locale:** Pinellas County

**Project Description:** Design, permitting and construction of a 2.0 mgd pump station, telemetry and 2.0 mg storage tank. The project also includes additional piping and appurtenances to receive 0.10 mgd of effluent from the adjacent Coca-Cola plant that is currently discharging to St. Joseph sound. The original FY14 project was to be located at the San Christopher Drive site and included two 1.0 mg storage tanks and increased pumping capacity. The San Christopher Drive site was determined to be unusable due to unstable ground. An alternate location was selected adjacent to the Dunedin wastewater treatment plant that also provided an opportunity for additional resource benefits. Additional funding is being requested in FY16 for additional piping and appurtenances to receive 0.10 mgd of effluent from the Coca-Cola plant. Ground stabilization for the storage tank is being funded by the City.

**Project Name:** Charlotte County Reclaimed Water Expansion Phase 3 Project (N556)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Charlotte County

**District:** Governing Board;

**Locale:** Charlotte County

**Project Description:** Design, permitting and construction of approximately 43,000 feet of 16-inch, and 8000 feet of 4 to 6 inch diameter reclaimed transmission mains, retrofit of a 95 MG storage pond along with aeration, filtration, flow meter, telemetry, post chlorination system, transfer stations and approximately a 3.0-5.0 mgd pump station. The main transmission portions are located along County Road 775 (Placida Road), major north/south corridor in western Charlotte County and along Cape Haze Drive.

**Project Name:** Charlotte County Utilities Burnt Store Brackish Groundwater Well Field Study (N605)

**Type of Alternative Supply:** Brackish

**Cooperator:** Charlotte County

**District:** Governing Board

**Locale:** Charlotte County

**Project Description:** This evaluation of the Burnt Store brackish water wellfield located in Charlotte County will investigate the hydraulic properties and hydrogeologic characteristics of the aquifers currently supplying the existing facilities. The study will better define the dynamics and water quality within the wellfield and determine appropriate actions to resolve issues. Burnt Store is a reverse osmosis WTP located outside the PRMRWSA service area.

**Project Name:** Pasco Co. Crews Lake Reuse Restoration (N635)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Pasco County

**District:** Governing Board

**Locale:** Pasco County

**Project Description:** Design, permitting, and construction of a reclaimed water wetland/recharge facility at Crews Lake in central Pasco County.

**Project Name:** Pasco Co. Shady Hills Reclaimed Water Storage Tank (N649)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Pasco County

**District:** Governing Board

**Locale:** Pasco County

**Project Description:** Design, permitting and construction of a 5.0 million gallon (mg) reclaimed water storage tank at the County's regional Shady Hills WWTF. Will provide 5.0 mg of diurnal storage to assist the County in providing reclaimed water for irrigation purposes to existing and future customers.

**Project Name:** Clearwater Groundwater Replenishment Project - Phase 3 (N665)

**Type of Alternative Supply:** Indirect Potable

**Cooperator:** City of Clearwater

**District:** Pinellas Anclote Basin

**Locale:** Pinellas County

**Project Description:** Design, permitting and construction for the full-scale water purification plant, the injection water treatment system, and the injection and monitoring well systems to recharge 2.4 mgd annual average of purified reclaimed water. Additionally, the project includes continued public outreach activities. A feasibility study and site/pilot testing have been cooperatively funded in prior years.

**Project Name:** Pasco Co. Recl. Water Treatment Wetland and Aquifer Recharge-Site 1 (N666)

**Type of Alternative Supply:** Indirect Potable

**Cooperator:** Pasco County

**District:** Governing Board

**Locale:** Pasco County

**Project Description:** Design, permitting, and construction of a reclaimed water recharge facility in central Pasco County.

**Project Name:** City of North Port's Reclaimed Water Transmission Main Phase 3 (N667)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** City of North Port

**District:** Governing Board

**Locale:** Sarasota County

**Project Description:** Design, permitting and construction of reclaimed water transmission infrastructure that includes approximately 3,000 feet of 18-inch and 6,000 feet of 12-inch diameter reclaimed water lines and necessary appurtenances to supply reclaimed water to residential and commercial customers, a golf course and a recreational park all within the SWUCA. Provide 0.36 mgd of reclaimed water for residential and commercial customers, a golf course and a recreational park.

**Project Name:** Bradenton Reclaimed Water Pumping Expansion Project (N692)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** City of Bradenton

**District:** Governing Board;

**Locale:** Manatee County

**Project Description:** Construction of 2.0 mgd in pumping and appurtenances to increase reclaimed water supplies to Lakewood Ranch. The City will fund 100% of the design, permitting and bidding services.

**Project Name:** Port Richey Transmission Main Project (N694)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** City of Port Richey

**District:** Governing Board;

**Locale:** Pasco County

**Project Description:** Permitting and construction of 4,500 linear feet of 10-inch and 7,000 linear feet of 8-inch diameter reclaimed water transmission mains to supply public access reclaimed water to 119 residential irrigation customers and 12 commercial parcels within the City of Port Richey.

**Project Name:** Hernando County US 19 Reclaimed Water Project (N696)

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**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Hernando County

**District:** Governing Board;

**Locale:** Hernando County

**Project Description:** Construction of approximately 52,000 feet of 16 inch reclaimed water main from the Glen WRF to the Timber Pines Subdivision and Golf Course. The County is funding design. The first phase of design is complete, and the County began design for the second phase in August of 2014. The District requires a completed 30% design and third party review to support funding for construction projects that have conceptual construction estimates greater than \$5 million dollars. The District will be the lead on the third party review.

**Project Name:** Pasco County Tampa Bay Golf Reuse Project (N697)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Pasco County

**District:** Governing Board;

**Locale:** Pasco County

**Project Description:** Design, permitting and construction of approximately 1,200 linear feet of eight-inch reclaimed water distribution piping and associated appurtenances from the County's existing reclaimed transmission main along Old Pasco Road to the existing storage pond and irrigation pump station at the Tampa Bay Golf and Country Club.

**Project Name:** Lakewood Ranch Northern/Eastern Reclaimed Water Project (N711)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Lakewood Ranch Stewardship District

**District:** Governing Board;

**Locale:** Manatee County

**Project Description:** Construction of a reclaimed water transmission main extension to serve Lakewood Ranch. This transmission main will move additional reclaimed water flows sourced from the City of Sarasota further east and north to meet residential and recreational irrigation demands. The project will also allow for the routing and distribution of reclaimed water from the City of Bradenton. The easterly transmission main will consist of approximately 17,000 linear feet of 16 to 20-inch pipeline. The northern transmission main will consist of approximately 13,200 linear feet of 12 to 20-inch pipeline. The project also includes a 12 MG storage reservoir at the northern terminus and a passive denitrification pilot system.

**Project Name:** Winter Haven Reclaimed Water Aquifer Recharge Project (N739)

**Type of Alternative Supply:** Indirect Potable

**Cooperator:** City of Winter Haven

**District:** Governing Board;

**Locale:** Polk County

**Project Description:** Design, site testing, permitting, and construction of reclaimed water rapid infiltration basins (RIBs) at two sites (Tilden Groves and Central Winter Haven Park). The combined capacity is anticipated to be 1.7 mgd of reclaimed water. A desktop feasibility study was funded in prior years.

**Project Name:** Pasco Starkey B Reuse Project (N743)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Pasco County

**District:** Governing Board;

**Locale:** Pasco County

**Project Description:** Design, permitting and construction of approximately 17,500 feet of reclaimed water transmission mains to provide up to 0.41 million gallons per day (mgd) of reclaimed water to mixed-use irrigation customers (residential, commercial and civic) in the Starkey Ranch development. The initial benefits are anticipated to be achieved within three years of construction completion (2021).

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**Project Name:** Citrus Co. Sugarmill Woods Advanced Wastewater and Reuse Project (N749/WCo2)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** Citrus County

**District:** Governing Board; Withlacoochee Basin, Springs Initiative

**Locale:** Citrus County

**Project Description:** Design, permitting and construction of approximately 6,600 feet of 12-inch diameter reclaimed lines, and a 1.5 mgd pump station, to serve the Southern Woods Golf Course and potentially two additional golf courses in the future (Sugarmill Woods and The Dunes Golf Course). This project is dependent upon the completion of the ongoing Sugarmill Woods Wastewater Treatment Project (WCo2), which includes designing, permitting and construction of advanced treatment facilities at the Sugarmill Woods WWTF to provide 2.0 mgd of additional nutrient removal using conventional and denitrification filters. Provides 0.47 mgd of reclaimed water to two existing golf courses and will reduce nutrient loading within the Chassahowitzka Springs springshed

**Project Name:** Tampa Augmentation Project Reuse Study (N751)

**Type of Alternative Supply:** Indirect potable

**Cooperator:** City of Tampa

**District:** Governing Board;

**Locale:** Hillsborough County

**Project Description:** Feasibility study of the Tampa Augmentation Project which could reuse highly treated reclaimed water from the City's Advanced Wastewater Treatment Plant (AWTP) to recharge the aquifer adjacent to the Tampa Bypass Canal, using Rapid Infiltration Basins and wetlands. The City will implement a program to address regulatory requirements to evaluate the feasibility of RIBs and wetlands to determine the surface water yield.

**Project Name:** Reclaimed Water Wetland Treatment Study Project (P301)

**Type of Alternative Supply:** Wastewater Reuse

**Cooperator:** District

**District:** Governing Board;

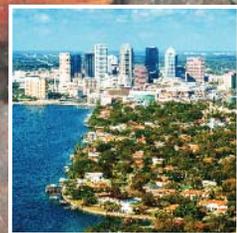
**Locale:** Northern Counties

**Project Description:** A study to assess areas within springsheds to determine sites appropriate for construction of wastewater treatment wetlands and implement the project in the selected area(s). The goal of this project is to identify the best locations for diverting wastewater treatment facility effluent prior to land application (i.e. rapid infiltration basins, sprayfield irrigation, etc.) to treatment wetlands designed for water quality improvements in the Springs Coast region.

Consolidated **Annual**  
**Report**

March 1, 2016

2016 **Five-Year**  
**Water Resource**  
**Development**  
Work Program



Southwest Florida  
*Water Management District*

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# Table of Contents

Introduction/Purpose.....	5-1
Water Resources Development .....	5-1
Data Collection and Analysis Activities .....	5-1
Water Resource Development Projects.....	5-6
Water Supply Development Assistance.....	5-17
Funding Sources .....	5-29
Summary/Conclusions .....	5-32

## Introduction/Purpose

The District is required to prepare a Five-Year Water Resource Development Work Program (Work Program) as a part of its annual budget reporting process, pursuant to Subsection 373.536(6), Florida Statutes (F.S.): *“The program must describe the district’s implementation strategy and funding plan for the water resource, water supply, and alternative water supply development components of each approved regional water supply plan developed or revised under s. 373.709. The work program must address all the elements of the water resource development component in the district’s approved regional water supply plans and must identify projects in the work program which will provide water; explain how each water resource, water supply, and alternative water supply development project will produce additional water available for consumptive uses; estimate the quantity of water to be produced by each project; and provide an assessment of the contribution of the district’s regional water supply plans in providing sufficient water needed to timely meet the water supply needs of existing and future reasonable-beneficial uses for a 1-in-10-year drought event.”* This report represents the District’s 15th Five-Year Water Resource Development Work Program and covers the period from fiscal year (FY) 2016 through FY2020. This Work Program is consistent with the planning strategies of the District’s 2010 Regional Water Supply Plan (RWSP) and the Central Florida Water Initiative 2014 Regional Water Supply Plan (CFWI Plan). The District anticipates that consistency will be maintained with the forthcoming 2015 RWSP.

## Water Resource Development

Section 373.019(24), F.S., defines **Water Resource Development** as *“the formulation and implementation of regional water resource management strategies, including the collection and evaluation of surface water and groundwater data; structural and nonstructural programs to protect and manage water resources; the development of regional water resource implementation programs; the construction, operation, and maintenance of major public works facilities to provide for flood control, surface and underground water storage, and groundwater recharge augmentation; and related technical assistance to local governments and to government-owned and privately owned water utilities.”* The intent of Water Resource Development (WRD) activities and projects is to enhance the amount of water available for reasonable-beneficial uses and for natural systems. The District is primarily responsible for implementing WRD activities and projects; however, additional funding and technical support may come from state, federal, and local entities. The WRD component of the District’s RWSP identifies a series of data collection and analysis activities the District is undertaking which meet this statutory definition. The implementation strategy for this category is contained in the **WRD Data Collection and Analysis Activities** section of this report. In addition, the District undertakes a variety of more narrowly defined WRD “Projects.” For purposes of annual budget reporting, these projects are categorized as regional projects designed to create an identifiable supply of water for existing and/or future reasonable-beneficial uses. The implementation strategy for this category is contained in the **WRD Projects** section of this report.

### Data Collection and Analysis Activities

The District has budgeted significant funds in FY2016 to implement and continue the WRD component of the RWSP. The activities summarized in Table 1 are mainly data collection and analysis activities that support the health of natural systems and the development of water supplies by local governments, utilities, regional water supply authorities, and others. The table indicates that approximately \$23.1 million will be allocated toward these activities in FY2016 and a total of approximately \$116 million will be allocated between FY2016 and FY2020. Because budgets for the years beyond FY2016 have not yet been developed, future funding estimates for activities continuing through FY2020 are set equal to FY2016 funding. Funding for these activities is primarily from the District’s Governing Board; and in some cases additional funding is provided by water supply authorities, local governments, the Florida Fish and Wildlife Conservation Commission (FWC), and the United States Geological Survey (USGS). Many of the activities were highlighted as major budget items in the District’s Tentative Budget Submission, and references to the sub-activity code and the printed page number are provided. Each of the activities in Table 1 is further described below.

**Table 1. FY2016 - FY2020 Water Resource Development Data Collection and Analysis Activities**

WRD Data Collection and Analysis Activities	Budget Reference <sup>1</sup>	FY2016 Costs (\$)	FY2017 Costs (\$)	FY2018 Costs (\$)	FY2019 Costs (\$)	FY2020 Costs (\$)	Total Costs (\$)	Funding Source <sup>2</sup>
1) Hydrologic Data Collection								District, other WMDs, USGS, DEP, FFWC
a) Surface Water Flows & Levels	1.2.1, p.67	\$2,100,140	\$2,100,140	\$2,100,140	\$2,100,140	\$2,100,140	\$10,500,700	
b) Geologic (includes ROMP)	1.2.1, p.67	\$2,438,615	\$2,438,615	\$2,438,615	\$2,438,615	\$2,438,615	\$12,193,075	
c) Meteorologic Data	1.2.1, p.67	\$255,715	\$255,715	\$255,715	\$255,715	\$255,715	\$1,278,575	
d) Water Quality	1.2.1, p.67	\$678,199	\$678,199	\$678,199	\$678,199	\$678,199	\$3,390,995	
e) Groundwater Levels	1.2.1, p.67	\$577,045	\$577,045	\$577,045	\$577,045	\$577,045	\$2,885,225	
f) Biologic Data	1.2.1, p.67	\$772,179	\$772,179	\$772,179	\$772,179	\$772,179	\$3,860,895	
g) Data Support	1.2.1, p.67	\$2,107,580	\$2,107,580	\$2,107,580	\$2,107,580	\$2,107,580	\$10,537,900	
2) Minimum Flows and Levels Program								District, other WMDs, USGS, DEP, FFWC
a) Technical Support	1.1.2, p.63	\$1,490,571	\$1,490,571	\$1,490,571	\$1,490,571	\$1,490,571	\$7,452,855	
b) Establishment Projects	1.1.2, p.63	\$464,289	\$464,289	\$464,289	\$464,289	\$464,289	\$2,321,445	
c) Re-evaluation Projects	1.1.2, p.63	\$245,671	\$245,671	\$245,671	\$245,671	\$245,671	\$1,228,355	
3) Watershed Management Planning	1.1.3, p.65	\$4,460,910	\$4,460,910	\$4,460,910	\$4,460,910	\$4,460,910	\$22,304,550	District, Local Cooperators
4) Quality of Water Improvement Program	2.2.3, p.86	\$744,115	\$744,115	\$744,115	\$744,115	\$744,115	\$3,720,575	District
5) Stormwater Improvement- Implementation of Storage and Conveyance BMPs	2.3.1, p.88	\$6,808,131	\$6,808,131	\$6,808,131	\$6,808,131	\$6,808,131	\$34,040,655	District, USGS, DEP
<b>Totals</b>		<b>\$23,143,160</b>	<b>\$23,143,160</b>	<b>\$23,143,160</b>	<b>\$23,143,160</b>	<b>\$23,143,160</b>	<b>\$115,715,080</b>	

Source for FY2016: SWFWMD FY2016 Summarized Programmatic Activities Report.

<sup>1</sup> Budget Reference contains the Budget Sub-Activity Code and the printed page number in the Tentative Budget Submission where project is referenced as a major budget item.

<sup>2</sup> Acronyms: WMDs Water Management Districts, USGS – United States Geological Survey, DEP – Florida Department of Environmental Protection, FWC – Florida Fish and Wildlife Conservation Commission, ROMP – District Regional Observation and Monitor-well Program, BMPs – Best Management Practices.

## ***Hydrologic Data Collection Activities***

The District has a comprehensive hydrologic conditions monitoring program that includes the assembly of information on key indicators as rainfall, surface and groundwater levels and water quality, and stream flows. The program includes data collected by District staff and permittees as well as data collected as part of the District's cooperative funding program with the USGS. Data collected allows the District to gage changes in the health of water resources, monitor trends in conditions, identify and analyze existing or potential resource problems, and develop programs to correct existing problems and prevent future problems from occurring. The data collection activities support District flood control structure operations, water use and environmental resource permitting and compliance, Minimum Flows and Levels (MFLs) evaluation and compliance, the Surface Water Improvement and Management (SWIM) program, the Southern Water Use Caution Area (SWUCA) recovery strategy, the CFWI, modeling of surface water and groundwater systems, and many resource evaluations and reports.

The categories of hydrologic data that are collected and monitored by District staff are discussed below. The District also evaluates the hydrologic data submitted by Water Use Permit (WUP) holders to ensure compliance with permit conditions and to assist with monitoring and documenting hydrologic conditions.

- a) Surface Water Flows and Levels. Funding supports data collection at the District's 786 surface water level gauging sites, and cooperative funding with the United States Geological Survey (USGS) for discharge and water-level data collection at 163 river, stream and canal sites. The USGS data are available to District staff through the Water Management Information System (WMIS), and to the public through the USGS Florida Water Science Center Web Portal.
- b) Geohydrologic Data Well Network. The Geohydrologic Data Well Network is a monitor well network that supports various projects throughout the District including the Central Florida Water Initiative, Water Resource Assessment Projects (WRAPs), Water Use Caution Areas, the Northern Tampa Bay Phase III program, the Springs Team, sea level rise and other salt-water intrusion assessments, and development of alternative water supplies. The network includes the Regional Observation and Monitor-well Program (ROMP) which has been the District's primary means for hydrogeologic data collection since 1974. Data from monitor well sites are used to evaluate seasonal and long-term changes in groundwater levels and quality, as well as the interaction and connectivity between groundwater and surface water bodies. During construction of new monitor well sites, valuable hydrogeologic information is collected including the lithology, aquifer hydraulic characteristics, water quality, and water levels.
- c) Meteorologic Data. The meteorologic data monitoring program consists of measuring rainfall totals every 15 minutes at 134 near real-time rain gauges and 41 recording rain gauges. The funding is for costs associated with measurement of rainfall including sensors, maintenance, repair and replacement of equipment. Funding allows for the operation of a mixed-forest wetland ET station by the USGS that directly measures actual ET, and one District ET site for reference ET. Funding provides for District participation in a cooperative effort between the USGS and all five Florida water management districts to map state-wide potential and reference ET using data measured from the Geostationary Operational Environmental Satellites (GOES). Funding also includes a collaborative effort between the five districts to provide high-resolution radar rainfall data for modeling purposes.
- d) Water Quality Data. The District's Water Quality Monitoring Program (WQMP) collects data from water quality monitoring networks for springs, streams, lakes, and coastal and inland rivers. Many monitoring sites are sampled on a routine basis, with data analysis and reporting are conducted on an annual basis. The Coastal Groundwater Quality Monitoring network, which involves sample collection and analysis from approximately 365 wells across the District to monitor the saltwater intrusion and/or the upwelling of mineralized waters into potable aquifers.
- e) Biologic Data. The District monitors ecological conditions as they relate to both potential water use impacts and changes in hydrologic conditions. Funding for biologic data collection includes support for routine monitoring of approximately 190 wetlands to document changes in wetland health and assess level of recovery in impacted wetlands. Funding also supports SWIM Program efforts for

mapping and monitoring of seagrasses in priority water bodies including Tampa Bay, Sarasota Bay, Charlotte Harbor, and the Springs Coast area. Funding also supports an effort to map the estuarine hard bottom of Tampa Bay.

- f) Groundwater Levels. The funding provides for the maintenance and support of 1,561 monitor wells in the data collection network, including 805 wells that are instrumented with data loggers that record water levels once per hour, and 756 that are measured manually by field technicians once or twice per month.
- g) Data Support. This item provides administrative and management support for the WQMP, hydrologic and geohydrologic staff support, chemistry laboratory, and support for the District's Supervisory Control and Data Acquisition (SCADA) system.

### ***Minimum Flows and Levels Program (MFLs)***

MFLs are hydrologic and ecological standards that can be used for permitting and planning decisions concerning how much water may be withdrawn from or near a water body without causing significant harm to water resources or ecology of the area. Florida law (Chapter 373.042, F.S.) requires the state water management districts or the Department of Environmental Protection (DEP) to establish MFLs for aquifers, surface watercourses, and other surface water bodies to identify the limit at which further withdrawals would be significantly harmful. Rivers, streams, estuaries and springs require minimum flows, while minimum levels are developed for lakes, wetlands and aquifers. MFLs are adopted into District rules, Chapter 40D-8, Florida Administrative Code (F.A.C.), and are used in the District's Water Use and Environmental Resource permitting programs.

The District's process for establishing MFLs includes an opportunity for interested stakeholders to review and comment on the proposed MFLs and to participate in public meetings. The process for establishing MFLs for flowing water bodies also includes an independent scientific peer review. The stakeholder input and peer review, when conducted, are considered by the Governing Board when deciding whether to adopt a proposed MFL. District monitoring programs also provide data for evaluating compliance with the adopted MFLs, determining the need for recovery strategies and analyzing the recovery of water bodies where significant harm has been established.

### ***Watershed Management Planning***

The District addresses flooding problems in existing areas by preparing and implementing Watershed Management Plans (WMPs) in cooperation with local governments. The WMPs define flood conditions, identify flood level of service deficiencies, and evaluate best management practices (BMPs) to address those deficiencies. The WMPs include consideration of the capacity of a watershed to protect, enhance, and restore water quality and natural systems while achieving flood protection. The plans identify effective watershed management strategies and culminate in defining floodplain delineations and constructing selected BMPs.

Local governments and the District combine their resources and exchange watershed data to implement the WMPs. Funding for local elements of the WMPs is provided through local governments' capital improvement plans and the District's Cooperative Funding Initiative. Additionally, flood hazard information generated by the WMPs is used by the Federal Emergency Management Agency (FEMA) to revise the Flood Insurance Rate Maps (FIRMs). This helps to better define flood risk and is used extensively for land use planning by local governments and property owners. Since the WMPs may change based on growth and shifting priorities, the District also cooperates with local governments to update the WMPs when necessary, giving decision-makers opportunities throughout the program to determine when and where funds are needed.

### ***Quality of Water Improvement Program (QWIP)***

The QWIP was established in 1974 through Chapter 373, F.S., to restore groundwater conditions altered by well drilling activities for domestic supply, agriculture, and other uses. The program's primary goal is to preserve groundwater and surface water resources through proper well abandonment. Plugging abandoned artesian wells eliminates the waste of water at the surface and prevents mineralized groundwater from contaminating surface water bodies. Thousands of wells constructed prior to current well construction standards were often deficient in casing, which interconnected aquifer zones and enabled poor-quality mineralized water to migrate into zones containing potable-quality water.

Plugging wells involves filling the abandoned well with cement or bentonite. Isolation of the aquifers is reestablished and the mixing of varying water qualities and free flow is stopped. Prior to plugging an abandoned well, geophysical logging is performed to determine the reimbursement amount, the proper plugging method and to collect groundwater quality and geologic data for inclusion in the District's database. The emphasis of the QWIP is primarily in the Southern Water Use Caution Area (SWUCA) where the Upper Floridan aquifer is confined. Historically, the QWIP has proven to be a cost-effective method to prevent waste and contamination of potable ground and surface waters.

### ***Stormwater Improvements- Implementation of Storage and Conveyance BMPs***

The District's WMPs and SWIM programs implement stormwater and conveyance best management practices (BMPs) for preventative flood protection to improve surface water quality, particularly in urban areas, and enhance surface and groundwater resources. The BMPs involve construction of improvements identified and prioritized in the development of watershed management plans. Most of the activities are developed through cooperative funding with a local government entity, Florida Department of Transportation, or state funding. Spring Initiative funding provided by the DEP and budgeted by the District in FY2016 is applied to four Storage and Conveyance BMPs: the Rainbow Springs Infrastructure Development, Garcia Point Septic Connection, Fort Island Trail Septic Connection, and the Citrus County Private Package Plant Connection.

Examples of the over 20 ongoing BMPs include the Timber Oaks Retention Facility to reduce flooding in northwest Pasco County through the excavation of new flood retention areas, and the Downtown Dade City Stormwater Capital Improvement Project to improve water quality in the Duke Lake watershed and alleviate downtown stormwater flooding.

## Water Resource Development Projects

The District has budgeted for 15 projects that meet the definition of WRD “Projects.” As shown in Table 2, the total cost of these projects is approximately \$164 million and a minimum of 56 million gallons per day (mgd) of additional water supply will be produced or conserved. At the start of FY2016 (October 1, 2015), the District has allocated approximately \$9.4 million in the budget for these projects. This funding is consistent with the Programmatic Budget activity code 2.2.1. One additional project that is related to water resource development and may require WRD Project funding within five years is itemized at the bottom of Table 2; the ongoing Upper Myakka/Flatford Swamp Hydrologic Restoration and Implementation Project is budgeted as a surface water management project (activity code 2.3.1).

District funding for a number of these projects is matched to varying degrees by local cooperators, including local governments, other water management districts and state agencies, and others. District funds for these projects are being generated through a number of different mechanisms described in the **Funding Sources** section of this report. Each of the projects in Table 2 is described in detail below.

### ***Alternative Water Supply Feasibility Research and Pilot Projects***

The following projects are research and/or pilot projects designed to further the development of the innovative alternative water sources described in the RWSP. Included in these projects are feasibility projects for recharging the Upper Floridan aquifer with excess reclaimed water and the exploration of Lower Floridan aquifer zones as a viable water source for inland utilities. These projects may lead to the development and protection of major sources of water supply in the future.

#### **a. Clearwater Groundwater Replenishment Project (N179)**

**Background** – This was a successful multiyear indirect potable reuse study and pilot project to determine if purified water can be utilized to directly recharge the Upper Floridan aquifer at the City of Clearwater’s Northeast Water Reclamation Facility to potentially supplement potable water withdrawals. The project may enable the City to utilize 100 percent of its reclaimed water, enhance water supplies within the aquifer, and possibly provide a seawater barrier to help prevent saltwater intrusion along the coast and Tampa Bay in the project area. Phase 1 was a one-year desktop feasibility study to assess water level improvements, regulatory requirements and water treatment, estimate construction costs and conduct preliminary public outreach activities. Phase 2 included permitting and installing recharge and monitor wells, collecting lithologic cores, performing aquifer testing and groundwater modeling, constructing and testing a pilot water purification treatment system, and additional public outreach.

**Linkage to the Regional Water Supply Plan** – This project is listed as a WRD Project in the Tampa Bay regional volume of the 2010 RWSP, Chapter 7, Section 2.1, pages 140-141.

**Status** – The Phase 1 project component was completed in 2011. Phase 2 of the project was completed in the final quarter of 2014. Findings from the pilot study were positive, and the City and District are now in the final phase of the project (Phase 3), including full-scale design, permitting and construction of the water purification plant, the injection water treatment system and the injection and monitor well systems to recharge 2.4 mgd annual average of purified reclaimed water into the Upper Floridan aquifer

Table 2. FY2016 - FY2020 District Funding and Total Project Cost for Water Resource Development Projects

WRD Projects (Budget Code, Project Number)	Total Prior District Funding	FY2016 District Cost	FY2017 District Cost	FY2018 District Cost	FY2019 District Cost	FY2020 District Cost	Total Cost District + Cooperator	Funding Source <sup>1 2</sup>	Quantity developed or conserved <sup>1</sup>
<b>1) Alternative Water Supply Feasibility Research and Pilot Projects (Programmatic Code 2.2.1.1)</b>									
a) Clearwater Groundwater Replenishment Project (N179)	\$1,612,980	\$3,600					\$3,152,830	District, City of Clearwater	3 mgd
b) Hydrogeologic Investigation of Lower Floridan Aquifer in Polk County (P280)	\$6,228,949	\$2,085,965	\$2,000,000	\$2,000,000			\$12,314,914	District, City of Clearwater	TBD
c) South Hillsborough Aquifer Recharge Program (SHARP) (N287)	\$1,245,466	\$7,365	\$50,000	\$151,927			\$2,837,258	District, Hillsborough County	2 mgd
<b>2) Facilitating Agricultural Resource Management Systems (FARMS) (Programmatic Code 2.2.1.2)</b>									
a) FARMS Projects (H017) <sup>3</sup>	\$44,679,967	\$6,452,271	\$6,000,000	\$6,000,000	\$6,000,000	\$6,000,000	\$103,300,000	District, FDACS, State of FL, private farms	40 mgd
b) Mini-FARMS Program (H529) <sup>3</sup>	\$536,782	\$114,240	\$114,240	\$114,240	\$114,240	\$114,240	\$1,051,022	District, FDACS	2 mgd
c) FARMS Irrigation Well Back-Plugging Program (H015) <sup>3</sup>	\$1,622,480	\$58,612	\$58,612	\$58,612	\$58,612	\$58,612	\$1,915,540	District	NA
d) IFAS BMP Implementation Team (H579) <sup>3</sup>	\$245,336	\$6,890	\$50,000	\$50,000	\$50,000	\$50,000	\$452,226	District, IFAS	TBD
FARMS Program Support (PMO5, Z370) <sup>3</sup>	\$1,092,863	\$139,979	\$139,979	\$139,979	\$139,979	\$139,979	\$1,792,758	District	NA

**Table 2 (Continued) FY2016 - FY2020 District Funding and Total Project Cost for Water Resource Development Projects**

	Total Prior District Funding	FY2016 District Cost	FY2017 District Cost	FY2018 District Cost	FY2019 District Cost	FY2020 District Cost	Total Cost District + Cooperator	Funding Source <sup>1,2</sup>	Quantity developed or conserved <sup>1</sup>
<b>3) Environmental Restoration/Minimum Flows and Levels Recovery (Programmatic Code 2.2.1.3)</b>									
a) Lake Jackson Watershed Hydrology Investigation (N554)	\$144,255	\$4,104	\$85,586	\$73,915	\$35,013		\$447,873	District, Highlands County, City of Sebring	NA
b) Lower Hillsborough River Recovery Strategy (H400)	\$8,254,142	\$59,629	\$100,000	\$100,000	\$100,000	\$100,000	\$16,951,301	District, City of Tampa	TBD
c) Lower Hillsborough River Pumping Facilities (N492)	\$394,512	\$14,936	\$1,800,236	\$100,000			\$4,950,044	District, City of Tampa	TBD
d) Pump Stations on Tampa Bypass Canal (H402)	\$1,199,854	\$62,183	\$200,000				\$1,462,037	District, City of Tampa	7.1 mgd
e) Lake Hancock Lake Level Modification (H008) <sup>3</sup>	\$9,015,911	\$37,553	\$37,553	\$37,553	\$37,553	\$37,553	\$9,203,676	District, State of FL, Federal	TBD
f) Lake Hancock Outfall Wetland Treatment Pump Station (H406)	\$0	\$189,780	\$189,780	\$189,780	\$189,780	\$189,780	\$948,900	District	TBD
g) Winter Haven Reuse - Aquifer Recharge (N739)	\$0	\$180,963	\$2,944,501				\$3,125,464	District, City of Winter Haven	1.7 mgd
<b>Water Resource Development Project Total (2.2.1)</b>	<b>\$76,273,497</b>	<b>\$9,418,070</b>	<b>\$13,770,487</b>	<b>\$9,016,006</b>	<b>\$6,725,177</b>	<b>\$6,690,164</b>	<b>\$163,905,843</b>		<b>55.8 mgd</b>
<b>Other Projects Related to Water Resource Development</b>									
Upper Myakka /Flatford Swamp Hydrologic Restoration (2.3.1, H089) <sup>3</sup>	\$3,978,613	\$38,902	\$8,000,000	\$8,000,000	\$8,000,000	\$8,000,000	\$36,242,515	District	TBD

1. Acronyms: TBD - to be determined; NA - not applicable; mgd - million gallons per day; FDACS - Florida Department of Agriculture and Consumer Services; IFAS - University of Florida Institute of Agricultural Sciences.

2. Funding identified as the State of Florida is described in the *Funding Sources* section of this report.

3. Future funding budget estimates for which specific time frames are not yet determined are distributed evenly over four years.

**Changes from the prior year (FY2015) Work Program Table 2.**

a) Two new projects are included this year: The Lake Hancock OWT Pump Stations and the Winter Haven Reuse – Aquifer Recharge Project.

b) The Hillsborough River Groundwater Basin Evaluation was removed due to completion.

## **b. Hydrogeologic Investigation of the Lower Floridan Aquifer in Polk County (P280)**

**Background** – This project explores the Lower Floridan aquifer in Polk County to assess its viability as an alternative water supply source and to gain a better understanding of the Lower Floridan characteristics and groundwater quality. These data will enhance groundwater modeling of the Lower Floridan aquifer, and determine the practicality of developing the aquifer as an alternative supply in areas of Polk County facing future water supply deficits. The overall scope of the investigation is to drill exploratory wells at up to three key locations chosen for their proximity to water demand centers and to improve data coverage for groundwater resource monitoring and the Districtwide Regulation Model. If the tests prove that the water quality and productivity are suitable, the water and facilities could be made available to utilities in Polk County. Regardless of the suitability of the Lower Floridan aquifer for water supply at each site, the exploration wells will be significant additions to the District’s well monitoring network.

**Linkage to the Regional Water Supply Plan** – The completion of a 2006 Lower Floridan aquifer investigation in Polk County is discussed in the Chapter 1, Part B, Section 1 in the Heartland regional volume of the 2010 RWSP. A description of the Districtwide Regulation Model is provided in Section 5.4, page 18. The potential use of the Lower Floridan aquifer as new supply for Polk County is discussed in Chapter 4, pages 57-62. Brackish groundwater desalination of water pumped from the Lower Floridan is discussed in Chapter 5, pages 89-92.

**Status** – The District has selected three consultants to develop exploration drilling plans. The District has acquired easements and agreements for two sites in Polk County. A third site is currently being evaluated for eligibility. An initial exploration monitor well will be drilled on each site. If exploration phase shows positive results for treatable water quality and secure confinement from the Upper Floridan, a test/production well will be constructed to perform one or more aquifer performance tests to obtain productive capability and additional confinement information. The project is expected to run for approximately three to five years.

## **c. South Hillsborough Aquifer Recharge Program (SHARP) (N287)**

**Background** – This is an aquifer recharge pilot testing project that will assess the effects of using up to 2 mgd of treated excess reclaimed water from the South-Central Hillsborough County reclaimed water system to directly recharge a non-potable zone of the Upper Floridan aquifer at the County's Big Bend ASR test well site. The project consists of the design, permitting, and construction of a reclaimed water recharge well system with associated wellhead and appurtenances, interconnects, and monitor wells. Project tasks include a multiyear aquifer recharge pilot study and groundwater modeling to evaluate water level improvements and water quality, including metals mobilization. The project may allow Hillsborough County to utilize excess reclaimed water flows, improve water levels within the Most Impacted Area of the SWUCA, and potentially provide a salinity barrier against saltwater intrusion; as well as additional mitigation offsets for future groundwater supplies.

**Linkage to the Regional Water Supply Plan** – This project is not specifically covered in the 2010 RWSP, but is consistent with the other WRD recharge projects in Pinellas and Polk counties. Aquifer recharge is discussed in Chapter 4 of the 2010 RWSP, pages 73-74 in the Tampa Bay regional volume.

**Status** – The injection and monitoring well construction was completed in 2015. In July 2015 the DEP approved recharge operations to commence. The injection analysis is expected to run through 2016, and with positive results an operational permit may be obtained by 2017.

## ***Facilitating Agricultural Resource Management Systems (FARMS)***

The FARMS Program is an agricultural BMP cost-share reimbursement program consisting of many site-specific projects. The Program is a public/private partnership developed by the District and the Florida Department of Agriculture and Consumer Services (FDACS). The purpose of the FARMS initiative is to provide an incentive to the District's agricultural community to implement agricultural BMPs that will provide resource benefits including water quality improvement, reduced Upper Floridan aquifer withdrawals, and enhancements to the water resources and ecology.

The FARMS Program has five specific goals:

- (1) Offset 40 mgd of groundwater within the SWUCA by 2025;
- (2) Improve surface water quality impacted by mineralized groundwater within the Shell, Prairie, and Joshua Creek watersheds;
- (3) Improve natural systems impacted by excess irrigation and surface water runoff within the Flatford Swamp region of the upper Myakka River watershed;
- (4) Prevent groundwater impacts within the northern areas of the District; and
- (5) Reduce frost-freeze pumpage by 20 percent within the Dover/Plant City WUCA.

These goals are critical in the District's overall strategy to manage water resources.

### **a. FARMS Projects (H017)**

***Background*** – FARMS projects employ many of the agricultural water conservation strategies described in the RWSP to reduce groundwater withdrawals by increasing the water use efficiency of agricultural operations. The projects have the added benefit of reducing agricultural impacts to surface water features. The projects are public/private partnerships where the District provides financial incentives to farmers to increase the water use efficiency of their operations. Each project's performance is tracked to determine its effectiveness toward program goals. Since actual use of permitted quantities is dependent on hydrologic conditions, one of the objectives of FARMS projects is to reduce groundwater use regardless of hydrologic conditions. FARMS projects not only offset groundwater use with surface water, but increase the overall efficiency of irrigation water use.

***Linkage to the Regional Water Supply Plan*** – The FARMS Program is discussed in Chapter 7, Section 2.2 of each regional volume of the 2010 RWSP, and includes a list of active FARMS projects within the respective region.

***Status*** – As of July 28, 2015, there are 173 approved FARMS projects including 129 in the SWUCA and 22 frost-freeze protection projects in the Dover/Plant City WUCA. The projects are projected to have a cumulative groundwater offset of 26.4 mgd Districtwide. The projected offset for the frost-freeze protection projects within the Dover/Plant City WUCA is 43.8 mgd per freeze event. District staff continue to work with growers during the operational phase of projects to document the net improvement of water resources and develop continued and new partnerships to implement additional projects.

### **b. Mini-FARMS Program (H529)**

***Background*** – Mini-FARMS (Mini-Facilitating Agricultural Resource Management Systems) is a scaled down version of the District's FARMS cost-share reimbursement program to implement agricultural BMPs on agricultural operations of 100 irrigated acres or less to conserve water and protect water quality within the District. Mini-FARMS is intended to assist in the implementation of the District's Regional Water Supply Plan, SWUCA Recovery Strategy, Dover Plant City Water Use Caution Area Recovery Strategy, the Shell and Prairie Creek Watershed Management Plan, and the District's Strategic Plan. Much like the FARMS projects, the Mini-FARMS Program implements BMPs on agricultural operations to reduce Upper Floridan aquifer groundwater use and/or improve water quality conditions throughout the District. The maximum cost-share amount available from

Mini-FARMS projects is \$5,000 per agricultural operation per year, and maximum cost-share rate is 75 percent of project costs.

***Linkage to the Regional Water Supply Plan*** – The Mini-FARMS Program is discussed as WRD in Chapter 7, Section 2.2 of each regional volume of the 2010 RWSP.

***Status*** – As of August 2015, the District’s portion of the Mini-FARMS Program has reimbursed 77 water conservation BMP projects since FY2006. The total cost of the Mini-FARMS projects was \$497,597 and the District’s reimbursement was \$301,630. In FY2015, a total of 17 projects were approved. The estimated total project cost is \$98,919 with a District reimbursement estimated at \$54,770. The Mini-FARMS Program continues to receive a strong demand from growers within the District.

### **c. FARMS Irrigation Well Back-Plugging Program (H015)**

***Background*** – This is an ongoing program for financial and technical assistance to well owners within the SWUCA to back-plug irrigation wells that produce highly mineralized groundwater. Back-plugging is a recommended practice to rehabilitate irrigation wells by identifying and restricting the intrusion of highly mineralized groundwater that often occurs from deeper aquifer zones in certain areas of the District. This program is separate from the QWIP, which focuses on proper well abandonment. The Well Back-Plugging Program was initiated in 2002 to improve water quality in watershed systems of the SWUCA, and later became an addition to the FARMS Program in 2005. Field investigations indicated that highly mineralized groundwater produced from older or deeper irrigation wells was the most likely source adversely impacting water quality downstream in Punta Gorda’s public supply reservoir. Growers also experience several advantages from well back-plugging including elevated crop yields from reduced salts in irrigation groundwater, decreases in soil-water requirements and pumping costs, and reduced corrosion and fouling of irrigation equipment.

***Linkage to the Regional Water Supply Plan*** – The FARMS Irrigation Well Back-Plugging Program is discussed in Chapter 5, Section 6, Subsection 2.5 of the Heartland regional volume of the RWSP, and in Subsection 2.2 of the Northern, Tampa Bay, and Southern volumes. WRD funding for the program is identified in Chapter 7, Table 7-2 of the Southern, Tampa Bay, and Heartland volumes.

***Status*** – A total of 75 wells have been back-plugged in the SWUCA overall to date, with 55 of these wells located in the Shell, Prairie and Joshua Creek (SPJC) priority watersheds. Analytical results for samples collected from the 55 back-plugged wells in the SPJC area indicated averages of conductivity, total dissolved solids (TDS), and chloride were decreased by 41 percent, 43 percent, and 59 percent, respectively, with well yields retained at an average of 78 percent. For the 19 wells in the SWUCA (outside of the SPJC area), eight wells were back-plugged in the Peace River watershed, six in the Alafia River watershed, five in the Manatee River watershed, and one in the Myakka River watershed. Analytical results for all back-plugged wells combined in the SWUCA indicated conductivity, TDS, and chloride were decreased by 42 percent, 42 percent, and 58 percent, respectively, with well volume yields retained at an average of 77 percent. Routine water quality monitoring of select back-plugged wells assures that these improvements are sustained long-term.

### **d. University of Florida’s Institute of Food and Agricultural Services (IFAS) BMP Implementation Project (H579)**

***Background*** – The primary goal of this project is to assist the IFAS in promoting statewide FDACS adopted agricultural BMPs, typical FARMS projects, and other practices. District participation in this project promotes the establishment of additional FARMS projects, which provides water resource benefits throughout the District. Assistance is provided to growers by conducting site assessments, selecting applicable FDACS BMPs, and filing notices of intent (NOIs) to implement the practices. Staff will follow up with growers to provide help understanding or implementing the BMPs if needed. Technical assistance may be provided directly or by coordinating

with the appropriate FDACS staff or IFAS extension agents. Growers are informed of available BMP-related programs offered by FDACS, the water management districts, and other entities. Field demonstrations, workshops, and other educational opportunities are provided to growers and their employees. Technical assistance will also identify areas of future educational needs.

**Linkage to the Regional Water Supply Plan** – This project assists the FARMS Program in reaching its agricultural water conservation goals, which are critical to the District's strategy to manage water resources. The FARMS Program is discussed in Chapter 7, Section 2.2 of each regional volume of the 2010 RWSP.

**Status** – FDACS has developed and adopted eight BMP manuals covering cow/calf operations, citrus, vegetable and agronomic crops, nurseries, equine operations, specialty fruit and nut crops, and sod operations, and agriculture wildlife for State imperiled species. Other rules and documents related to IFAS BMPs include: Best Management Practices for Agriculture in the Lake Okeechobee Watershed, Tri-County Agricultural Area Potato Farms, Conservation Plans for Specific Agricultural Operations, Florida Forest Service Silviculture Best Management Practices, and Aquaculture Best Management Practices. Below is a list of the statewide and districtwide BMP enrollment as of June 2015, which includes the number of NOIs submitted and the associated acres enrolled in programs.

Summary of groves, farms and nurseries enrolled statewide as of June 30, 2015 in Ag BMP Programs by the BMP Implementation Teams.				
Usage	Statewide		Districtwide	
	Acres	# of NOIs	Acres	# of NOIs
Citrus	593,487	3,815	266,814	2,906
Cow/Calf	2,538,606	1,450	814,390	437
Dairies	40,752	25	1,003	4
Equine	3,493	74	1,610	36
Fruit/Nuts	10,026	292	6,197	132
Mixed use	101,075	3	1,413	1
Nursery	33,903	1,274	6,367	166
Row Crops	1,289,503	1,568	122,321	332
Sod Farms	63,224	63	9,319	21
Forestry	4,878,169	448		
Wildlife	1,540,123	27		
<b>Total</b>	<b>11,092,361</b>	<b>9,039</b>	<b>1,229,434</b>	<b>4,035</b>

Source: Office of Agricultural Water Policy - FDACS – BMP Enrollment Maps for June 30, 2015

## ***Environmental Restoration and MFL Recovery Projects***

Included in this section are seven environmental restoration and MFL recovery projects that will benefit water resources. Chapter 2, Part B of the 2010 RWSP (each regional volume) outlines the District's strategy for establishing MFLs for surface waters, aquifers, and surface watercourses.

Three of the projects are key portions of the recovery strategy to restore minimum flows to the Lower Hillsborough River (LHR). Flows in the LHR have been reduced by a variety of factors including increased use of the Hillsborough River Reservoir, surface water drainage alterations, reduction in surface storage, long-term rainfall patterns, and induced recharge due to groundwater withdrawals. The District set minimum flows for the LHR, Sulphur Springs, and the Tampa Bypass Canal in 2007. These MFLs have been incorporated as amendments to Rule 40D-8.041, F.A.C. The LHR's flows have been below the adopted minimum flows in recent years, and the development of a recovery strategy was required by Florida Statutes. The recovery strategy will ensure that natural resources associated with the LHR are protected from significant harm by increasing freshwater flows during the months of April, May, and June to support the estuarine nursery habitat.

One project, the Lake Hancock Lake Level Modification, is an ongoing component of the recovery strategy to restore minimum flows to the upper segment of the Peace River. Another component, the Lake Hancock P-11 Outfall Structure Replacement project, has been removed from this year's Work Program due its successful completion. The flows of the upper Peace River have been below the adopted minimum flows, and a recovery strategy was required by Florida Statutes. The goal of the Lake Hancock projects is to store water by raising the lake's controlled water elevation and to slowly release the water into the upper Peace River during the dry season to help meet the minimum flow requirements.

#### **a. Lake Jackson Watershed Hydrology Investigation (N554)**

**Background** – Lake Jackson is a 3,412 acre lake located in the City of Sebring, and is one of nine lakes in Highlands County with an established MFL. Lake Jackson has not met its MFL in over a decade. Residents and local officials have voiced concerns over persistent low water levels potentially related to storm water canal structures, potential flow through the shallow aquifer to the canals, and possible leakage in the lake's hardpan bottom. This hydrologic investigation will collect data and attempt to identify the causes of the low water level in Lake Jackson and Little Jackson over the last decade and develop cost-effective recovery strategies. Aspects of the project include:

- An assessment of the storm water structures including the underwater portions, channel flow, and the installation of seepage meters.
- Installation of groundwater, lake level, and weather monitoring networks in order to calculate a more accurate lake water budget.
- Modeling the effects of a proposed subsurface wall on the lateral movement of water from Lake Jackson through the shallow aquifer to downstream sources, and calculating its potential improvement to the level of Lake Jackson.

The project will include a cost-benefit analysis if the investigation and modeling shows the subsurface wall or other recovery strategies may be beneficial to the lake water levels.

**Linkage to the Regional Water Supply Plan** – Although not specifically discussed in the 2010 RWSP, this project supports the SWUCA Recovery Strategy objective of stabilizing lake levels in Highlands County, discussed in Chapter 2, Part A, of the Heartland regional volume.

**Status** – The project is ongoing. Quarterly field assessments of hydrologic conditions are commencing in fall 2015 and will continue through 2017. A watershed management plan deliverable is expected in 2019.

#### **b. Lower Hillsborough River Recovery Strategy (H400)**

**Background** – The lower Hillsborough River (LHR) recovery strategy outlines six proposed projects and a timeline for their implementation. Four projects are being jointly funded by the District and the City of Tampa, and two are being implemented by the District. Implementation of specific projects is subject to applicable diagnostic/feasibility studies and contingent on any required permits. These projects and the estimated schedule of implementation are: Tampa Bypass Canal Diversions (2008), modifications at Sulphur Springs to the lower weir (2011) and pump station (2012), the Blue Sink project (2014), the Morris Bridge Sink project (2015), and the Investigation of Storage Options (2016).

**Linkage to the Regional Water Supply Plan** – This project is discussed in the Tampa Bay regional volume of the 2010 RWSP, Chapter 7, pages 144-145. The project is a component of the District's MFLs Program, which is detailed in Chapter 2, Part A.

**Status** – Dependent on hydrologic conditions, water to help meet the MFLs for the LHR continues to be supplied by a pump station that diverts flows (up to 11 mgd) from Sulphur Springs to the base of the City of Tampa Dam, and from a temporary pump station at the Tampa Bypass Canal (7.1 mgd). Four cooperative agreements with the City of Tampa for the recovery strategy were approved

in 2010. The agreements to modify the lower weir and pump station at the pool of Sulphur Springs have been completed. The City of Tampa and District have commenced construction on the Blue Sink pump station and pipeline that will withdraw up to 2 mgd from the sink and transport it to the base of the Hillsborough River dam. The design and construction of infrastructure to divert up to 3.9 mgd of water from Morris Bridge Sink through the Tampa Bypass Canal to the base of the dam is scheduled for 2016 and 2017. Additional water sources and supply options to help meet minimum flows are under consideration.

### c. Lower Hillsborough River Pumping Facilities (N492)

**Background** – This is a multiyear cooperative funding project with the City of Tampa for the construction of two permanent pumping facilities to implement the minimum flows recovery strategy for the LHR. Since 2008, the District has been operating two temporary pumping stations (H402) to transfer up to 7.1 mgd of water from the Tampa Bypass Canal to the Hillsborough River reservoir and up to 5.3 mgd from the reservoir to the river below the dam to meet the required minimum flows of the recovery strategy. The temporary facilities were implemented to get the recovery strategy under way while the City evaluated options for permanent pumping facilities. The City completed two investigations in December 2013 on which the design configuration was dependent; one investigation compared the modification of an existing pump structure on the Tampa Bypass Canal versus the construction of a new pump structure on the canal, the other was for a siphon system at the Hillsborough River Dam.

**Linkage to the Regional Water Supply Plan** – This project is discussed in the Tampa Bay regional volume of the 2010 RWSP, Chapter 7, pages 144-145. The project is a component of the District's MFLs Program, which is detailed in Chapter 2, Part A.

**Status** – The studies have determined that dedicated pumping facilities will be more efficient for maintaining MFLs than a siphon system or upgrades to pumping systems intended for public supply. The design and permitting work is ongoing and is expected to continue through 2016, with construction is scheduled for completion in 2018.

### d. Pump Stations on the Tampa Bypass Canal (H402)

**Background** – This project is a new budget item for FY2016 and is related to the LHR Recovery Strategy (H400). The budget accounts for District expenses of the temporary water transfer from the Tampa Bypass Canal to the LHR in accordance with adopted minimum flow requirements. The diversion is achieved through two temporary pump stations located on the Tampa Bypass Canal and a pump station located at the City of Tampa Dam. The project also includes design and construction of a permanent pump station at the Morris Bridge Sinkhole to divert 3.9 mgd to the Tampa Bypass Canal.

**Linkage to the Regional Water Supply Plan** – This project is a component of the Lower Hillsborough Recovery Strategy discussed in the Tampa Bay regional volume of the 2010 RWSP, Chapter 7, pages 144-145. The District's MFLs Program is detailed in Chapter 2, Part A.

**Status** – The transfer pumps continue to operate in accordance with the approved recovery strategy for the LHR to meet minimum flows. Pump operation is expected to continue until the City of Tampa completes new pumping facilities (Project N492 above).

### e. Lake Hancock Lake Level Modification Project (H008)

**Background** – The Lake Hancock Lake Level Modification project is part of the strategy for achieving MFLs recovery for the upper Peace River established by the District. The goal of the Lake Level Modification project is to store water by raising the control elevation of the existing outflow structure on Lake Hancock and to slowly release the water during the dry season to help meet the

minimum flow requirements in the upper Peace River between Bartow and Zolfo Springs. Historically, Lake Hancock fluctuated more than a foot higher than it has during the past several decades. The project increases the normal operating level from 98.7 feet to 100.0 feet by replacing the outfall structure to provide the storage and increase the number of days the upper Peace River will meet minimum flows. Increasing the operating level will also help restore wetland function for several hundred acres of contiguous lands to Lake Hancock, and provide recharge to the Upper Floridan aquifer through exposed sinks along the upper Peace River. The project will further the efforts to restore minimum flows in the upper Peace River, which is a major component of the District's SWUCA Recovery Plan. This project is being conducted in 5 steps:

- (1) Provide the preliminary evaluations and incremental probable costs for raising the normal high operating lake levels. The results of Step 1 were presented to the District Governing Board in October 2004 and the decision was made to move forward with Step 2 of the project.
- (2) Generate detailed information for submission of a conceptual Environmental Resource Permit (ERP), and identify impacts to private lands for acquisition and other mitigation needs. Step 2 was completed and the conceptual ERP was received in 2007.
- (3) Implement the mitigation components described in the conceptual ERP. Step 3 was completed in summer of 2015.
- (4) Development of an operational model to optimize the system to meet minimum flows. Step 4 is ongoing.
- (5) Five-year post-project monitoring for permit compliance. Step 5 commenced in September 2015.

***Linkage to the Regional Water Supply Plan*** – This project and other components of Restoration of Minimum Flows to the upper Peace River are listed in Chapter 7 of the Heartland regional volume of the 2010 RWSP, pages 126-129.

***Status*** – The District has completed construction of the P-11 Outfall Structure and holds title for all lands necessary to raise the level of Lake Hancock. Multiple conveyance projects related to Step (3) were completed by summer 2015. Step (4) modeling is ongoing. Step (5) post-project monitoring will continue through 2019.

#### **f. Lake Hancock Outfall Wetland Treatment Pump Station (H406)**

***Background*** – This project is related to the Lake Hancock Lake Level Modification project and accounts for the District's power expenses to operate the pumping station at the wetland treatment system. The pump station has a capacity of approximately 32 mgd consisting of 3 submersible pumps. The station conveys water from Lake Hancock into wetland treatment cells covering 980 acres, where water quality is improved before discharge to the upper Peace River. The project is part of the strategy to improve water quality in the Peace River and ultimately, Charlotte Harbor. This project supports MFL recovery for the upper Peace River by providing sufficient flow and improved water quality during the dry season.

***Linkage to the Regional Water Supply Plan*** – This project and other components of Restoration of Minimum Flows to the upper Peace River are listed in Chapter 7 of the Heartland regional volume of the 2010 RWSP, pages 126-129.

***Status*** – Construction of the pump station and related wetland treatment systems are complete and anticipated to be operational in 2016.

#### **g. Winter Haven Reuse – Aquifer Recharge (N739)**

***Background*** – The City of Winter Haven is pursuing multiple short and long-term projects to benefit impacted MFL lakes Starr, McLeod, Wales, and the Peace River Watershed by sending reclaimed water to adjacent rapid infiltration basins (RIBs). The city may have up to 5 mgd of uncommitted reclaimed water flows available by 2030 that can be beneficially reused for MFL

restoration and other uses. This aquifer recharge project includes the evaluation, design, permitting, and construction of the multiple RIBs, storage, and other recharge infrastructure. Additional projects may take advantage of the similar reclaimed water sources, but under different hydrologic conditions, to maximize the resource benefit and operability: When lake and river levels do not meet MFLs, reclaimed water would be dedicated to this purpose. When MFLs are met, reclaimed water would be recharged back into the aquifer.

***Linkage to the Regional Water Supply Plan*** – The use of aquifer recharge projects in the Heartland region is discussed in multiple sections of the 2010 RWSP. Multiple recharge project options for the City of Winter Haven are listed in Table 5-3 of the Heartland regional volume, pages 84-86.

***Status*** – This project is new for FY2016 and the initial phase includes pilot testing at two sites, along with 30 percent design and a third-party review to confirm the resource benefit and cost effectiveness of constructing the project. There are other alternate uses for the reclaimed water still under evaluation.

### ***Other Projects Related to Water Resource Development***

Projects that are not currently budgeted under the Water Resource Development Programmatic Activity code 2.2.1 but have a critical role in water resource development are listed separately in Table 2. This is intended to simplify the correlation of the project budget totals to the District's programmatic budget. The one project below is currently budgeted under 2.3.1 – Surface Water Management. It's anticipated that future phases, including design and construction of BMPs, may be budgeted under the Water Resource Development category when they commence.

### **Upper Myakka/Flatford Swamp Hydrologic Restoration and Implementation (H089)**

***Background*** – Hydrologic alterations and excess runoff has adversely impacted Flatford Swamp in the upper Myakka watershed. This project differs from the MFL recovery projects, as it intends to remove excessive water flows from the Flatford Swamp and portions of the surrounding area to improve the natural systems. Recent BMP evaluations explored potential uses for the excess water; including public supply, industrial/mining uses, and aquifer recharge. The Flatford Swamp hydrologic restoration alternative will work to re-establish hydroperiods close to historic levels and to restore natural systems.

***Linkage to the Regional Water Supply Plan*** – This project is discussed as a WRD Project in the Southern regional volume of the 2010 RWSP, Chapter 7, page 136.

***Status*** – Activities in FY2016 include further evaluation of an alternative injection option that would help recovery of impacted Upper Floridan aquifer levels near the MIA. The evaluation will include a test well in Flatford to explore groundwater quality and aquifer characteristics, if the feasibility study and permitting are positive for the injection option.

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## Water Supply Development Assistance

Regional water supply authorities, local governments, and public and privately owned water utilities typically have the lead role in implementing water supply development (WSD) projects (Chapter 373.705, F.S.). The District provides funding assistance to these entities for projects that are consistent with the District's RWSP and meet one of the following criteria: the project provides a dependable supply of water and would not otherwise be financially feasible to develop; the project has substantial environmental or water resource benefits but needs funding assistance to be economically competitive with other project alternatives; or the project significantly implements the reuse, storage, recharge, or conservation of water in a manner that helps sustain regional water sources.

The District has budgeted for 88 water supply development projects in FY2016. As shown in Tables 3 through 9, the District is funding approximately \$45.0 million in FY2016 for water supply development assistance. This amount includes \$6.0 million of Springs Initiative funding provided by DEP and budgeted by the District for the new Hernando County US-19 Reclaimed Water Transmission project. The project budgets shown are consistent with the Programmatic Budget activity code 2.2.2.

The WSD projects are categorized below as surface water projects, regional potable water interconnects, reclaimed water projects, brackish groundwater development, aquifer recharge and ASR projects, and conservation projects. It should be noted that many projects in the aquifer recharge and ASR category also have reclaimed water components. Projects within each category are sorted by the project number.

Funding amounts of less than \$10,000 generally represent ongoing management expenses of projects that received grant funding in a previous year. Most of the project costs are matched on a 50/50 cost-share basis through the District's Cooperative Funding Initiative, and a few may have received state and/or federal funding. The "total project cost" typically includes the cooperators' shares and other non-District funding sources.

The District has also budgeted for 10 water supply planning efforts at a cost of approximately \$0.61 million. The planning projects are listed in Table 10 and totaled separately from the WSD projects because they are budgeted independently under the Programmatic Budget activity code 1.1.1. Some planning projects are conducted through the Cooperative Funding Initiative to assist governmental entities, like the Pasco County Reclaimed Water Master Plan. Others are planning efforts performed by District staff, including development of the 2015-2035 District Regional Water Supply Plan. The water supply planning efforts are performed collaboratively with other water management districts, water supply authorities, utilities, and other stakeholders including agricultural and industry communities.

**Table 3. FY2016 Surface Water Projects**

Project Number	Water Supply Development Assistance - Surface Water Projects (Programmatic Budget 2.2.2.1)	FY2016 Funding	Prior District Funding	Total Project Cost	Supply (mgd)
N670	PRMRWSA Facility Treatment Capacity Expansion 3 mgd	\$1,656	\$610,830	\$1,224,580	3.000
P177	Water Supply Technical Assistance Program	\$11,575	\$0	Recurring	NA
<b>Total Surface Water Projects</b>		<b>\$13,231</b>	<b>\$610,830</b>	<b>\$1,224,580</b>	3.000

**Table 4. FY2016 Regional Potable Interconnects**

Project Number	Water Supply Development Assistance - Regional Potable Water Interconnects (Programmatic Budget 2.2.2.2)	FY2016 Funding	Prior District Funding	Total Project Cost	Supply (mgd)
H094	Polk County Partnership	\$10,000,000	\$10,000,000	\$176,000,000	NA
N416	PRMRWSA Regional Interconnect Phase 1 to Punta Gorda, Design	\$1,689	\$250,000	\$501,689	NA
N735	PRMRWSA Regional Interconnect Phase 1 to Punta Gorda, Construction	\$5,404,172	\$0	\$13,504,172	NA
<b>Total Regional Interconnect Projects</b>		<b>\$15,405,861</b>	<b>\$10,250,000</b>	<b>\$190,005,861</b>	0.000

**Table 5. FY2016 Reclaimed Water Projects**

Project Number	Water Supply Development Assistance - Reclaimed Water Projects (Programmatic Budget 2.2.2.3)	FY2016 Funding	Prior District Funding	Total Project Cost	Benefit (mgd)
H056	Pasco County Boyette Wet-Weather Reclaimed Water Reservoir	\$2,615	\$12,951,798	\$39,238,433	NA
H076	Southwest Polk County/Tampa Electric Reclaimed Water Project	\$2,977,615	\$46,207,070	\$97,058,855	10.000
L816	Plant City Sydney Road Reclaimed Water Project	\$2,626	\$3,170,054	\$6,105,950	0.400
N024	Polk County NWRUSA Storage and Pumping Station	\$11,790	\$2,978,783	\$5,268,873	NA
N339	Winter Haven #3 Reclaimed Interconnect, Storage, and Pumping	\$4,378	\$2,759,338	\$5,513,716	0.150
N358	City of Crystal River to Duke Energy Reclaimed Interconnect	\$3,720	\$2,571,427	\$6,228,712	0.750
N442	Pasco County Seven Springs Golf & Country Club Reuse	\$2,175	\$305,154	\$607,329	0.380
N462	Pasco County Groves Reclaimed Supply, Storage Pond Improvement	\$710	\$104,522	\$205,232	0.180
N464	Pasco County Meadow Point Reclaimed Transmission Main	\$721	\$994,467	\$1,985,188	NA
N470	Pasco County Covanta Reclaimed Water Power Plant Project	\$732	\$903,048	\$1,807,959	0.470
N488	Manatee County Regional 10 mg Reclaimed Storage Tank Southeast #3	\$3,647	\$4,421,648	\$8,834,042	NA
N494	Tarpon Springs Reclaimed Water Controls and Storage System	\$2,086	\$2,297,496	\$4,584,579	NA
N512	Venice Reclaimed Water Filtration System	\$2,020	\$791,506	\$1,573,526	NA
N536	Auburndale Polytechnic Reclaimed Water Storage and Transmission	\$153,636	\$1,360,550	\$2,864,186	0.650
N547	Pasco Heritage Pines Residential Reclaimed Water Service	\$3,720	\$938,099	\$1,266,600	0.430
N552	Plant City Reclaimed Water Seasonal Storage and AWS Feasibility Study	\$1,728	\$25,854	\$47,582	NA

Table 5. FY2016 Reclaimed Water Projects (continued)

Project Number	Water Supply Development Assistance - Reclaimed Water Projects (Programmatic Budget 2.2.2.3)	FY2016 Funding	Prior District Funding	Total Project Cost	Benefit (mgd)
N555	Dunedin San Christopher Reclaimed Water Storage Tanks	\$207,778	\$889,381	\$2,037,159	0.100
N556	Charlotte County Reclaimed Water Expansion Phase 3	\$2,114,271	\$242,265	\$9,456,431	1.300
N561	Clearwater Resident Initiated Reclaimed Water Expansion	\$1,958	\$759,453	\$1,511,411	0.085
N601	Hillsborough/Tampa/Temple Terrace Reclaimed Water Recharge Study	\$4,345	\$166,709	\$333,554	NA
N604	Venice Reclaimed Water Interconnect Feasibility Study	\$865	\$29,209	\$55,074	NA
N629	Quail Hollow Golf Course Reclaimed Water Transmission/Storage	\$1,984	\$203,171	\$405,155	0.100
N630	Rod Lincoln Groves Reclaimed Water Transmission	\$1,984	\$103,171	\$205,155	0.250
N649	Shady Hills Reclaimed Water Storage Tank	\$752,175	\$252,105	\$2,004,280	NA
N652	Hillsborough County 19th Ave Reclaimed Water Transmission	\$2,593	\$354,209	\$2,706,802	0.300
N666	Pasco Reclaimed Water Treatment Westland and Aquifer Recharge	\$5,013,083	\$397,237	\$13,687,498	TBD
N667	North Port Reclaimed Water Transmission Main Phase 3	\$370,701	\$59,485	\$1,684,186	0.360
N670	Pasco County Starkey Ranch Reclaimed Water Transmission	\$2,920	\$610,830	\$1,224,580	0.420
N679	Bexley Ranch Reclaimed Water Transmission	\$2,186	\$0	\$1,116,496	0.333
N692	Bradenton Reclaimed Water Pumping Station	\$335,636	\$0	\$667,636	2.000
N694	Port Richey Reclaimed Water Transmission Main	\$233,616	\$0	\$463,303	1.132
N696	Hernando County US-19 Reclaimed Water Transmission Phase 1	\$9,005,085	\$0	\$12,005,085	0.173
N697	Tampa Bay Golf & Country Club Reclaimed Water Connection	\$152,175	\$0	\$302,175	0.066
N711	Lakewood Ranch Stewardship District Reclaimed Water Transmission	\$1,080,503	\$0	\$4,305,503	0.666
N743	Starkey Ranch Reclaimed Water Transmission Project B	\$178,098	\$0	\$1,912,898	0.273
N745	Hillsborough County Reclaimed Recharge Modeling Study	\$4,334	\$0	\$654,334	NA
N749	Sugarmill Woods Reclaimed Water Project	\$704,075	\$0	\$2,004,075	0.262
N751	City of Tampa Augmentation Project	\$1,000,000	\$0	\$2,500,000	TBD
P118	Springs Reclaimed Water Hernando County 2016 Master Plan	\$4,334	\$0	\$154,334	NA
PM02	PMO Water Supply Support	\$17,331	\$14,493	Recurring	NA
PM07	PMO Cooperative Funding Support	\$54,639	\$74,514	Recurring	NA
WC02	Reclaimed Water Sugarmill Woods Advanced Wastewater Reuse	\$5,896	\$4,005,975	\$8,011,871	NA
Z557	Water Supply Support	\$255,084	\$1,468,031	Recurring	NA

**Table 5. FY2016 Reclaimed Water Projects (continued)**

Project Number	Water Supply Development Assistance - Reclaimed Water Projects (Programmatic Budget 2.2.2.3)	FY2016 Funding	Prior District Funding	Total Project Cost	Benefit (mgd)
Z585	Project Management Office	\$454,986	\$1,089,343	Recurring	NA
ZC57	Water Supply Support - CFI	\$67,198	\$46,753	Recurring	NA
<b>Total Reclaimed Water Projects</b>		<b>\$25,203,752</b>	<b>\$93,547,148</b>	<b>\$252,599,757</b>	<b>21.230</b>

**Table 6. FY2016 Brackish Groundwater Development Projects**

Project Number	Water Supply Development Assistance - Brackish Groundwater Development Projects (Programmatic Budget 2.2.2.4)	FY2016 Funding	Prior District Funding	Total Project Cost	Supply (mgd)
N563	Belleair Brackish Groundwater Pilot Testing and Engineering for Potential Use	\$2,412	\$129,231	\$231,643	NA
N600	Punta Gorda Brackish Wellfield Investigation	\$4,205	\$1,502,960	\$3,007,165	NA
<b>Total Brackish Groundwater Projects</b>		<b>\$6,617</b>	<b>\$1,632,191</b>	<b>\$3,238,808</b>	<b>0.000</b>

**Table 7. FY2016 Aquifer Recharge and Aquifer Storage and Recovery Projects**

Project Number	Water Supply Development Assistance - Aquifer Recharge & Aquifer Storage and Recovery Projects (Programmatic Budget 2.2.2.5)	FY2016 Funding	Prior District Funding	Total Project Cost	Supply (mgd)
K120	North Port Potable Water ASR	\$11,801	\$1,081,836	\$2,127,707	0.200
K269	Sarasota County North Reclaimed Water ASR	\$7,321	\$1,777,404	\$3,306,243	0.300
L608	Palmetto Reclaimed Water ASR	\$7,675	\$2,222,387	\$4,189,174	NA
N398	City of Oldsmar Reclaimed Water ASR	\$367,321	\$535,453	\$1,773,636	NA
N435	Bradenton Surface Water ASR	\$1,326,513	\$238,171	\$4,809,684	0.410
N665	Clearwater Groundwater Replenishment Project Phase 3	\$2,143,546	\$1,575,893	\$28,663,839	2.400
<b>Total Aquifer Recharge/ASR Projects</b>		<b>\$3,864,177</b>	<b>\$7,431,144</b>	<b>\$44,870,283</b>	<b>3.310</b>

**Table 8. FY2016 Water Conservation Projects**

Project Number	Water Supply Development Assistance - Conservation Rebates, Retrofits, Etc. Projects (Programmatic Budget 2.2.2.7)	FY2016 Funding	Prior District Funding	Total Project Cost	Benefit (mgd)
N321	Mira Bay Weather Based Controller Project	\$1,201	\$28,121	\$54,322	0.023
N363	Polk County Landscape Irrigation Evaluation	\$1,984	\$96,838	\$190,232	0.166
N491	WRSWA Regional Irrigation System Evaluation Program Phase 2	\$1,984	\$104,079	\$202,163	0.058
N517	St. Petersburg Toilet Rebate Program Phase 14	\$1,984	\$52,469	\$104,453	0.017
N530	DeSoto County Hull Avenue Water Main Improvements to Reduce Flushing	\$638	\$1,075,427	\$1,432,590	0.127
N538	St. Petersburg Sensible Sprinkling Program Phase 6	\$1,984	\$52,469	\$104,453	0.041

Table 8. FY2016 Water Conservation Projects (continued)

Project Number	Water Supply Development Assistance - Conservation Rebates, Retrofits, Etc. Projects (Programmatic Budget 2.2.2.7)	FY2016 Funding	Prior District Funding	Total Project Cost	Benefit (mgd)
N544	New Port Richey Toilet Rebate Program Phase 2	\$1,201	\$7,769	\$14,970	0.002
N553	Pasco County Toilet Rebate Program Phase 7	\$638	\$43,175	\$83,813	0.011
N568	City of Venice Plumbing Retrofit Program Phase 3	\$1,201	\$46,852	\$90,803	0.016
N571	Manatee County Toilet Rebate Program Phase 7	\$1,802	\$116,191	\$231,243	0.033
N593	New Port Richey Toilet Rebate Program Phase 3	\$1,212	\$7,769	\$14,981	0.002
N603	Port Richey Toilet Rebate Program	\$638	\$6,208	\$11,846	0.001
N613	Polk County Utilities Countywide Landscape Irrigation Evaluations	\$1,984	\$25,256	\$49,235	0.033
N620	Citrus County Rain Sensor Replacement Rebate Program	\$638	\$4,341	\$11,246	0.010
N623	Manatee County Toilet Replacement Rebate Program Phase 8	\$1,813	\$115,019	\$230,082	0.033
N625	City of Venice Plumbing Retrofit Program Phase 4	\$1,212	\$44,519	\$88,481	0.016
N634	Citrus County Toilet Rebate Program	\$638	\$7,070	\$20,642	0.004
N639	Marion County Utilities Toilet Rebate Program	\$638	\$33,708	\$66,846	0.010
N640	WRWSA Regional Landscape & Irrigation Evaluation Project	\$1,984	\$42,921	\$84,655	0.059
N655	St. Petersburg Toilet Replacement Program Phase 15	\$1,984	\$53,171	\$105,155	0.014
N662	Pasco County Toilet Rebate Program Phase 8	\$638	\$41,208	\$81,846	0.014
N678	Marion Count Toilet Rebate Program	\$16,275	\$0	\$30,175	0.005
N680	North Port Water Distribution System Looping	\$165,493	\$0	\$329,072	0.027
N714	Polk County Landscape Irrigation Evaluation Program	\$29,495	\$0	\$56,995	0.027
N716	Polk County Customer Portal Pilot Project	\$11,995	\$0	\$21,995	NA
N725	Manatee County Toilet Rebate Project Phase 9	\$115,663	\$0	\$228,913	0.033
N728	St. Petersburg Sensible Sprinkling Program Phase 7	\$51,984	\$0	\$101,984	0.042
N732	Pasco County Toilet Rebate Program Phase 9	\$51,275	\$0	\$101,275	0.014
P374	Urban Mobile Lab Leak Detection Permanent/Ongoing Program	\$37,484	\$311,988	Recurring	5.840
P375	Indoor/Outdoor Water Conservation Program	\$35,435	\$330,089	Recurring	NA
	<b>Total Conservation Rebates, Retrofits, Etc.</b>	<b>\$543,095</b>	<b>\$2,646,657</b>	<b>\$4,144,466</b>	<b>6.768</b>

**Table 9. FY2016 Total Funding for Water Supply Development Projects**

<b>Water Supply Development Assistance Project Totals (Programmatic Budget 2.2.2)</b>	<b>FY2016 Funding</b>
Surface Water Projects	\$13,231
Regional Potable Water Interconnects	\$15,405,861
Reclaimed Water Projects	\$25,203,752
Brackish Groundwater Development Projects	\$6,617
Aquifer Recharge and Aquifer Storage & Recovery Construction Projects	\$3,864,177
Conservation Rebates, Retrofits, Etc. Projects	\$543,095
<b>Total FY2016 Funding</b>	<b>\$45,036,733</b>

**Table 10. FY2016 Water Supply Planning Projects**

<b>Project Number</b>	<b>Water Supply Planning (Programmatic Budget 1.1.1)</b>	<b>FY2016 Funding</b>	<b>Prior District Funding</b>	<b>Total Project Cost</b>	<b>Supply (mgd)</b>
N380	Pasco County Reclaimed Water Master Plan	\$1,421	\$98,841	\$190,262	NA
N465	Polk County Comprehensive Water Supply Plan Update	\$1,902	\$17,871	\$19,773	NA
N605	Burnt Store Wellfield Study	\$72,271	\$120,145	\$419,916	NA
P289	Central Florida Watershed Initiative	\$166,471	Recurring	Recurring	NA
P376	Water Use Estimation for Planning and Regulatory Support	\$94,533	Recurring	Recurring	NA
P377	Planning for Reuse and Alternative Supplies	\$46,266	Recurring	Recurring	NA
P466	Development of the 2015-2035 District Regional Water Supply Plan	\$42,887	\$272,839	\$315,726	NA
P526	Reclaimed Water Master Plan Coordination	\$27,593	\$74,000	\$101,593	NA
P872	Water Supply Planning and Report Preparation	\$109,827	Recurring	Recurring	NA
P910	Utility Population Estimation Model and Demographic Analysis	\$46,277	\$1,519,901	\$1,566,178	NA
	<b>Total Planning Projects</b>	<b>\$609,448</b>	<b>\$2,103,597</b>	<b>\$2,613,448</b>	<b>0.000</b>

**Notes for Tables 3 to 10:**

Acronyms: ASR – Aquifer Storage and Recovery, CFI – Cooperative Funding Initiative, NWRUSA - Northwest Regional Utility Service Area, mg – Million Gallon, mgd – Million Gallons per Day (annual average), PMO – Project Management Office (District), PRMRWSA – Peace River Manasota Regional Water Supply Authority, WRWSA – Withlacoochee Regional Water Supply Authority.

District funding for 2016 includes District project management expenses. The “Total Project Costs” typically include cooperator shares, and may include other non-District funding sources.

## Descriptions of New Water Supply Development Projects

There are 19 new WSD projects introduced in the District's FY2016 budget. These projects can be recognized in Tables 3 through 8 as having zero prior funding. Descriptions of each new project are sorted alphabetically below. The inclusion of these project descriptions in the Work Program provides a mechanism for DEP to formally evaluate the projects for consistency with the goals of the District's RWSP. By adoption, the projects are incorporated into the District's RWSP and become potentially eligible for state funding. Descriptions of continuing WSD projects can be found in the prior editions of the Work Program for the year the project was introduced. The prior editions are available for download at <https://www.swfwmd.state.fl.us/projects/wrdwp/>

### 1. Bexley Ranch Reclaimed Water Transmission (N679)

**Background** – This reclaimed water transmission project is for a reclaimed water main in the Bexley Ranch South development in Pasco County. The project is expected provide 0.46 mgd to approximately 1,700 future residential units.

**Linkage to the Regional Water Supply Plan** – The District's commitment to maximizing reclaimed water reuse to offset traditional water supplies is described in Chapter 4, Section 2 in each regional volume of the 2010 RWSP. The project was not specifically mentioned as a project option in the RWSP, but is consistent with similar project components.

**Status** – Pasco County initially proposed the project as an out-of-cycle funding request in FY2015 to coincide with road and other utility construction. Construction is scheduled for completion in June 2016.

### 2. Bradenton Reclaimed Water Pumping Station (N692)

**Background** – This project is for construction of infrastructure improvements to increase the capacity of the City of Bradenton's reclaimed water pumping station to maximize the delivery from its wastewater treatment plant to two offsite storage and distribution locations that are interconnected to meet an additional 2.0 million gallons a day in pumping capacity. These improvements will allow for the transmission of additional reclaimed water to the reclaimed water distribution point that serves Lakewood Ranch and other existing users. Both sites are equipped with a two million gallon storage tank and delivery pumping station. The sites are located at Tropicana and River Run Golf Courses.

**Linkage to the Regional Water Supply Plan** – The District's commitment to maximizing reclaimed water reuse to offset traditional water supplies is described in Chapter 4, Section 2 in each regional volume of the 2010 RWSP. The project was not specifically mentioned as a project option in the RWSP but is consistent with similar project components.

**Status** – Project construction is scheduled from January to October 2016.

### 3. City of Tampa Augmentation Project (N751)

**Background** – This is a feasibility study and pilot project for the beneficial reuse of highly-treated reclaimed water from the City of Tampa's Howard F. Curren advanced wastewater treatment plant to recharge the aquifer adjacent to the Tampa Bypass Canal through the use of RIBs and wetland restoration. The project objective is to improve groundwater levels which in turn will increase water levels the Tampa Bypass Canal, resulting in additional surface water supply for the Tampa Bay region. The City will identify and address regulatory requirements, evaluate the technical feasibility of RIBs and restoration of wetlands, determine the potential additional surface water yield that can be obtained from the Tampa Bypass Canal, and conduct pilot trials to test recharge and water quality treatment.

**Linkage to the Regional Water Supply Plan** – The District’s commitment to maximizing reclaimed water reuse to offset traditional water supplies is described in Chapter 4, Section 2 in each regional volume of the 2010 RWSP. A similar conceptual recharge project option is discussed on pages 90-91 of the Tampa Bay regional volume.

**Status** – The regulatory analysis is scheduled to begin in spring 2016. The pilot wetland and RIB construction may occur by fall 2016.

#### **4. Hernando County US-19 Reclaimed Water Transmission Phase 1 (N696)**

**Background** – The project will involve constructing approximately 10 miles of reclaimed water main from the Glen wastewater treatment facility to the Timber Pines Subdivision along the US 19 and Hexam Road right-of-way in Hernando County. The project will provide up to 1.7 mgd of reclaimed water to the Timber Pines Subdivision and Golf Course.

**Linkage to the Regional Water Supply Plan** – The District’s commitment to maximizing reclaimed water reuse to offset traditional water supplies is described in Chapter 4, Section 2 in each regional volume of the 2010 RWSP. The expansion of the Glen Treatment Facility was included on page 82 of the Northern regional volume.

**Status** – Construction is tentatively scheduled for completion in August 2017.

#### **5. Hillsborough County Reclaimed Recharge Modeling Study (N745)**

**Background** – This project will evaluate and model potential reclaimed water recharge sites in eastern Hillsborough County to assess the benefits to MFLs in the Dover/Plant City, Northern Tampa Bay, and Southern Water Use Caution Areas. Several on-site evaluations may be conducted for individual recharge sites. The project stemmed from an ongoing feasibility study that identified up to 25 mgd of excess reclaimed water in the county that could be beneficially applied to reduce saltwater intrusion, meet MFLs, and reduce effluent disposal into Tampa Bay.

**Linkage to the Regional Water Supply Plan** – The District’s commitment to maximizing reclaimed water reuse to offset traditional water supplies is described in Chapter 4, Section 2 in each regional volume of the 2010 RWSP. Using reclaimed water for recharge and as a saltwater intrusion barrier in southern Hillsborough County is discussed on pages 99-100 of the Tampa Bay regional volume.

**Status** – The County withdrew the FY2016 request for project funds, and will reapply for FY2017 funding, because the related feasibility study is still ongoing.

#### **6. Lakewood Ranch Stewardship District Reclaimed Water Transmission (N711)**

**Background** – This project is to construct two reclaimed water transmission main extensions to serve future planned residential irrigation customers in the Lakewood Ranch development. An easterly transmission main will consist of approximately 17,070 linear feet of 16-inch pipeline to serve future customers in the development’s northeast and southeast sectors. A northerly transmission main will extend from White Eagle Boulevard to serve future customers in the northwest sector. The northerly transmission main also includes an approximate 12 mgd reclaimed water storage facility and 2 mgd booster pump station.

**Linkage to the Regional Water Supply Plan** – The District’s commitment to maximizing reclaimed water reuse to offset traditional water supplies is described in Chapter 4, Section 2 in each regional volume of the 2010 RWSP. Similar transmission projects to provide reclaimed water to Lakewood Ranch are listed in Chapter 6, Section 2 of the Southern regional volume.

**Status** – Construction is scheduled to run from December 2015 to June 2017.

## 7. Manatee County Toilet Rebate Project Phase 9 (N725)

**Background** – This rebate program provides financial incentives to customers of Manatee County Utilities for the replacement of conventional toilets with high-efficiency toilets which use 1.28 gallons per flush or less. This project will provide rebates for the replacement of approximately 1,500 high-flow toilets and conserve an estimated 33,000 gallons per day.

**Linkage to the Regional Water Supply Plan** – Toilet replacement and plumbing retrofit programs are a component of the District's water conservation strategy as described in Chapter 4, Section 7 in the Southern regional volume of the 2010 RWSP. The use of toilet rebate and plumbing retrofit programs are listed as a water supply development option in Chapter 5, Section 6.

**Status** – The rebate program is scheduled to run from April 2016 to March 2017.

## 8. Marion County Toilet Rebate Program (N678)

**Background** – This rebate program provides financial incentives to customers of Marion County Utilities for the replacement of conventional toilets with high-efficiency toilets which use 1.28 gallons per flush or less. This project will provide rebates for the replacement of approximately 200 high-flow toilets and conserve an estimated 5,100 gallons per day.

**Linkage to the Regional Water Supply Plan** – Toilet replacement and plumbing retrofit programs are a component of the District's water conservation strategy as described in Chapter 4, Section 6 in the Northern regional volume of the 2010 RWSP. The use of toilet rebate and plumbing retrofit programs are listed as a water supply development option in Chapter 5, Section 6.

**Status** – The rebate program is scheduled to run from October 2015 to September 2016.

## 9. North Port Water Distribution System Looping (N680)

**Background** – This project is for the design, permitting, and construction of approximately 6,500 feet of new potable water lines and associated components necessary to eliminate dead ends in the city's water distribution system. The improvements to the system will alleviate the need for auto-flushing of lines to maintain residual chlorine for potable standards. The project is considered a utility-based supply side conservation project, and will conserve approximately 26,900 gallon per day that is currently flushed from the system.

**Linkage to the Regional Water Supply Plan** – The reduction of water distribution system losses is part of the District's water conservation strategy defined in the 2010 RWSP, Chapter 4, Section 7, of the Southern planning volume. The concept of water conservation by eliminating flushing of potable water lines to maintain chlorine residuals was previously described for a transmission project on page 118.

**Status** – The completion of construction is scheduled for December 2016.

## 10. Pasco Toilet Rebate Program Phase 9 (N732)

**Background** – This rebate program offers financial incentives to customers of the Pasco County utilities department for the replacement of conventional toilets with high-efficiency toilets which use 1.28 gallons per flush or less. This project will provide rebates for the replacement of approximately 500 high-flow toilets and conserve an estimated 14,000 gallons per day.

**Linkage to the Regional Water Supply Plan** – Toilet replacement and plumbing retrofit programs are a component of the District's water conservation strategy as described in Chapter 4, Section 7 in the Tampa Bay regional volume of the 2010 RWSP. The use of toilet rebate and plumbing retrofit programs are listed as a water supply development option in Chapter 5, Section 6.

**Status** – The project is scheduled to commence on October 2015 and continue through November 2016.

### **11. Pasco County Customer Portal Pilot Project (N716)**

**Background** – This project is a 6 month pilot for an online software program that incorporates water use data in the utility customer service website. Customers who have questions can log onto their own accounts, access water use for the past year, and compare their consumption with their neighbors and in the surrounding region. This pilot program will involve 5,000 residential accounts in Polk County's Northeast region, where per capita water consumption is highest. The programming will have a utility-side dashboard, which will allow messages to be sent to the customers from utilities, such as irrigation restriction reminders and Landscape and Irrigation Evaluation program reminders. This type of customer portal program is coming into use in several public water supply areas in central Florida.

**Linkage to the Regional Water Supply Plan** – This is an innovative tool to support the District's water conservation strategy described in Chapter 4, Section 6 in the Heartland volume of the 2010 RWSP.

**Status** – The pilot program is scheduled to run from December 2015 through June 2016.

### **12. Polk County Landscape Irrigation Evaluation Program (N714)**

**Background** – This project is a cooperative with Polk County Utilities and municipalities in the county that will help utility customers become knowledgeable about how their individual irrigation system and landscaping can be modified to maximize water savings through efficiency. A contracted specialist will schedule evaluations for single family, multi-family, and commercial utility accounts referred by the municipalities based on their water consumption. Participants receive a free landscape and irrigation evaluation, which includes a detailed report of how much water they are currently using during an irrigation cycle compared to what they could be using if efficiency recommendations are implemented. They will also receive a rain sensor if one is inoperable or missing, and a water conservation kit including water saving items for indoor and outdoor water conservation. For reporting purposes, the water consumption information for each participant will be provided, and a percentage of participants will have a follow-up inspection after one year to determine if modifications have been implemented and to evaluate water use changes.

**Linkage to the Regional Water Supply Plan** – Water efficiency irrigation and landscape evaluations are a component of the District's water conservation strategy as described in Chapter 4, Section 6 in the Heartland volume of the 2010 RWSP. The use of evaluation programs is listed as a water supply development option in Chapter 5, Section 6.

**Status** – The cooperators have conducted the program annually for three prior years. This implementation cycle is scheduled to conduct evaluations from October 2015 through September 2016. A final evaluation report is scheduled due in January 2018.

### **13. Port Richey Reclaimed Water Transmission Main (N694)**

**Background** – This project is for construction of approximately 2 miles of reclaimed water transmission main to serve 119 residences and 12 commercial parcels in the City of Port Richey with 0.34 mgd of reclaimed water.

**Linkage to the Regional Water Supply Plan** – The District's commitment to maximizing reclaimed water reuse to offset traditional water supplies is described in Chapter 4, Section 2 in each regional volume of the 2010 RWSP. Similar transmission projects to provide reclaimed water in Pasco County are listed in Chapter 6, Section 2 of the Southern regional volume.

**Status** – Design and Construction will run through 2016.

#### 14. PRMRWSA Regional Interconnect Phase 1 to Punta Gorda, Construction (N735)

**Background** – This project is for construction services only; design and permitting were funded separately. The project is Phase 1 of the PRMRWSA Regional Loop System and will provide transmission capacity between the City of Punta Gorda and unincorporated Charlotte and DeSoto counties along the US-17 corridor. The Phase 1 interconnect includes 6 miles of 24-inch diameter transmission main from the Project Prairie booster station in DeSoto County along US-17 south to the Shell Creek water treatment facility in Charlotte County.

**Linkage to the Regional Water Supply Plan** – The Phase 1 Regional Interconnect is a portion of the Regional Integrated Loop System described as a project option in Chapter 5, Section 1, of the 2010 RWSP Southern planning volume.

**Status** – Interlocal agreements for cost sharing and water transfers are currently under negotiation. Project timelines will be identified once agreements are finalized.

#### 15. Springs Reclaimed Water Hernando County 2016 Master Plan (P118)

**Background** – This project will provide for a master plan to maximize reclaimed water supplies and benefits in priority springsheds within Hernando County. The plan will include county-wide reclaimed water routing, sizing, costing of infrastructure necessary to expand current components into one regionalized reclaimed water system. The project will include calculations of increased flows from future septic tank to sewer conversions.

**Linkage to the Regional Water Supply Plan** – The District’s commitment to maximizing reclaimed water reuse to offset traditional water supplies is described in Chapter 4, Section 2 in each regional volume of the 2010 RWSP.

**Status** – The study has been placed on hold for one year, and the county intends to resubmit a funding request for FY2017.

#### 16. St. Petersburg Sensible Sprinkling Program Phase 7 (N728)

**Background** – This project is the continuance of an outdoor water conservation education and irrigation evaluation project that educates customers on irrigation system modifications that can maximize watering efficiency. Project participants will receive an irrigation system evaluation, site-specific recommendations, rain sensor installation if an operable sensor is not present, Florida Friendly landscaping educational materials, and a watering shut-off nozzle. The evaluation and materials are available to customers who use potable water, private well, or reclaimed water for irrigation. Reclaimed water and private well water users have been included to encourage conservative practices and prevent over-utilization of these resources. Phase 7 expects to perform approximately 300 additional irrigation system evaluations.

**Linkage to the Regional Water Supply Plan** – Water efficiency irrigation and landscape evaluations are a component of the District’s water conservation strategy as described in Chapter 4, Section 7 of the Tampa Bay regional volume of the 2010 RWSP. The use of evaluation programs is listed as a water supply development option in Chapter 5, Section 6.

**Status** – The irrigation evaluations are scheduled to run from February 2016 to January 2017.

#### 17. Starkey Ranch Reclaimed Water Transmission Project B (N743)

**Background** – The Starkey Ranch development is a multi-phased community under construction near SR-54 and Little Road in southwest Pasco County. This phase of the multi-year project, Project B, is for the design and construction of approximately 3.5 miles of reclaimed water transmission mains to provide up to 0.41 mgd of reclaimed water to 409 irrigation customers.

**Linkage to the Regional Water Supply Plan** – The District’s commitment to maximizing reclaimed water reuse to offset traditional water supplies is described in Chapter 4, Section 2 in each regional volume of the 2010 RWSP. The project was not specifically mentioned as a project option in the RWSP, but is consistent with similar project components.

**Status** – Construction of the reclaimed water mains is scheduled to commence in October 2015 and is anticipated to be completed in September 2018.

#### **18. Sugarmill Woods Reclaimed Water Project (N749)**

**Background** – The project will distribute reclaimed water from the Sugarmill Woods Wastewater Treatment Plant, which has ongoing advanced treatment upgrades for disinfection and nitrogen removal. This project includes design, permitting, and construction of approximately 6,600 feet of 12-inch diameter reclaimed lines and distribution pumping. The infrastructure will serve the Southern Woods Golf Course and potentially the Sugarmill Woods and The Dunes golf courses in the future.

**Linkage to the Regional Water Supply Plan** – The District’s commitment to maximizing reclaimed water reuse to offset traditional water supplies is described in Chapter 4, Section 2 in each regional volume of the 2010 RWSP. The project was a component of other project options in the RWSP and is consistent with similar projects.

**Status** – Project construction is scheduled to begin December 2016 and to be completed in December 2017.

#### **19. Tampa Bay Golf & Country Club Reclaimed Water Connection (N697)**

**Background** – This project will construct approximately 1,200 feet of 8-inch reclaimed water distribution piping from the newly installed reclaimed water transmission main along SR-52 to an existing pump station, storage pond, and a reclaimed water assembly at the country club.

**Linkage to the Regional Water Supply Plan** – The District’s commitment to maximizing reclaimed water reuse to offset traditional water supplies is described in Chapter 4, Section 2 in each regional volume of the 2010 RWSP. The project was not specifically mentioned as a project option in the RWSP, but is consistent with similar project components.

**Status** – Project construction is scheduled to begin April 2016 and be completed in December 2016.

## Funding Sources

District matching funds for water resource development and water supply development projects are provided through the District's Cooperative Funding Initiative, which consists of the Cooperative Funding program and other District Initiatives. Portions of state funding are allocated to the District through DEP funding for the Springs Initiative, along with state appropriations for the Florida Forever Program, the Water Protection and Sustainability Program, the District's West-Central Florida Water Restoration Action Plan, and the District's FARMS Program. These sources are described below.

### District Funding

**Cooperative Funding Initiative** - The District's primary funding mechanism is the Cooperative Funding Initiative (CFI), which includes funding for major regional water supply and water resource development projects and localized projects throughout the District's 16-county jurisdiction. The Governing Board, through its regional sub-committees, jointly participates with local governments and other entities to ensure proper development, use and protection of the regional water resources of the District. The CFI is a matching grant program and projects of mutual benefit are generally funded 50 percent by the District and 50 percent by the public or private cooperators. Any state and federal funds received for the projects are applied directly against the project costs, with both parties benefitting equally. The CFI has been highly successful; since 1988, the District has provided over \$1.3 billion in incentive-based funding assistance for a variety of water projects addressing its four areas of responsibility: water supply, natural systems, flood protection and water quality. In FY2016, the District's adopted budget included over \$82 million for CFI projects and grants, of which \$68.6 million is from District funds and the remainder from State funding budgeted by the District. Approximately \$25 million is allocated for WSD assistance with reclaimed water projects, and \$15.4 million is for regional potable interconnects.

**District Initiatives** - District Initiatives are funded in cases where a project is of great importance or a regional priority. The District can increase its percentage match and, in some cases, provide total funding for the project. Examples of District Initiatives include: (1) the QWIP program to plug deteriorated, free-flowing wells that waste water and cause inter-aquifer contamination, (2) the water loss reduction program to conserve water by having District staff inspect meters and detect leaks in public water system pipelines, (3) data collection and analysis to support other District activities such as the MFL program, (4) the FARMS program and other various agricultural research projects that help increase the water-use efficiency of agricultural operations, and (5) the WRD investigations and MFL Recovery projects which may not have local cooperators.

### State Funding

**Springs Initiative** - The DEP Springs Initiative is a special legislative appropriation that has provided revenue for protection and restoration of major springs systems. The District has allocated Springs Initiative funding to implement projects to restore aquatic habitats, and to reduce groundwater withdrawals and nutrient loading within first-magnitude springsheds to improve the water quality and quantity of spring discharges. Projects include the reestablishment of aquatic and shoreline vegetation near spring vents, installation of wastewater force mains to allow for the removal of septic tanks and increase reclaimed water production, and implementation other BMPs within springshed basins.

The first year of the appropriation was FY2013, and \$1.1 million was allocated by the District to an industrial reuse project to transfer reclaimed water from the City of Crystal River to the Duke Energy power generation complex. In FY2014, the District allocated \$1.35 million of Springs Initiative appropriations to two stormwater improvement projects and one wastewater/reclaimed water project. In FY2015, \$6.46 million of Springs Initiative funding was budgeted for four wastewater/reclaimed water projects. In FY2016, \$13.4 million of Springs Initiative funding is allocated to one water supply development project (Hernando County US-19 Reclaimed Water Transmission, \$6.0 million) and four

surface water management projects that will reduce nutrients from septic infiltration in priority springsheds.

**Water Protection and Sustainability Program** - The state's Water Protection and Sustainability Program was created in the 2005 legislative session through Senate Bill 444. The program provides matching funds for the District's CFI and District Initiative programs for alternative WSD assistance. For 2006, the first year of funding, the Legislature allocated \$100 million for alternative WSD assistance, with \$25 million allocated to the District. The District was allocated \$15 million in FY2007 and \$13 million in FY2008. In FY2009, the District was allocated \$750,000 for two specific projects. The reduced funding is related to the state's budget constraints resulting from the economic downturn and the declining real estate industry. From FY2010 through FY2016, the state did not allocate funding for the program. During the 2009 legislative session, the Legislature passed Senate Bill 1740, which recreated the Water Protection and Sustainability Trust Fund as part of Chapter 373, F.S., indicating the state's continued support for the program. It is anticipated that the state will resume its funding for the program when economic conditions improve.

The program funds are applied toward a maximum 20 percent of the construction costs of eligible projects. In addition, the Legislature has established a goal for each water management district to annually contribute funding equal to 100 percent of the state funding for alternative WSD assistance, which the District has exceeded annually. If funding is continued by the Legislature, the state's Water Protection and Sustainability Program could serve as a significant source of matching funds to assist in the development of alternative water supplies.

**West-Central Florida Water Restoration Action Plan** - The West-Central Florida Water Restoration Action Plan (Plan) is an implementation plan for components of the SWUCA Recovery Strategy adopted by the District. The document outlines the District's strategy for ensuring that adequate water supplies are available to meet growing demands, while at the same time protecting and restoring the water and related natural resources of the area. The Plan prescribes measures to implement the recovery strategy and quantifies the funds necessary, making it easier for the District to seek funding for the initiative from state and federal sources. In 2009, the Legislature officially recognized the Plan through Senate Bill 2080, creating Section 373.0363, F.S., as the District's regional environmental restoration and water-resource sustainability program for the SWUCA. In FY2009, the District received \$15 million in funding for the Plan. No new funding was provided from FY2010 through FY2016.

**The Florida Forever Program** - The Florida Forever Act, passed in 1999, was a \$10 billion, 10-year, statewide program. A bill to extend the Florida Forever program was passed by the Legislature during the 2008 legislative session, allowing the Florida Forever program to continue for 10 more years at \$300 million annually, and reducing the annual allocation to water management districts from \$105 million to \$90 million, with \$22.5 million (25 percent) to be allocated to the District, subject to annual appropriation. For FY2010, the Legislature did not appropriate funding for the Florida Forever program, other than for the state's debt service. For FY2011, the 2010 Legislature appropriated \$15 million in total with \$1.125 million allocated to the District. For FY2012 through FY2015 the Legislature did not appropriate funding for the District. In FY2015 the District budgeted \$2.75 million for land acquisition, from prior year funds held in the State Florida Forever Trust Fund for this District and in the District's accounts. In 2016, \$10.5 million is budgeted from the prior year funds held in the Florida Forever Trust Fund. The funds held in District accounts have been generated through the sale of easements to the U.S. Department of Agriculture/Natural Resources conservation Services for the Wetland Reserve Program and the sale of land or easements for rights-of-way. These funds are available for potential land acquisitions consistent with the guidance provided by the DEP.

The District has allocated \$95 million of Florida Forever funding in support of water resource development. A "water resource development project" is specifically defined for eligibility with Florida Forever in Section 259.105, F.S., as a project that increases the amount of water available to meet the needs of natural systems and the citizens of the state by enhancing or restoring aquifer recharge, facilitating the capture and storage of excess flows in surface waters, or promoting reuse. Implementation of eligible projects under the Florida Forever program includes land acquisition, land and water body

restoration, ASR facilities, surface water reservoirs and other capital improvements. An example of how the funds were used for water resource development was the purchase of lands around Lake Hancock within the Peace River watershed as the first step in restoring minimum flows to the upper Peace River. In addition, the District Governing Board has expended \$35.7 million in ad valorem based funding to complete the acquisition of lands associated with the Lake Hancock project acquired on a voluntary basis and through eminent domain proceedings.

**State Funding for the FARMS Program** - Operating under Chapter 40D-26, F.A.C., the FARMS Program, through the District, utilizes additional state funding when available. Since the inception of the program, the District has received \$6.4 million in state appropriations and \$1.3 million from the FDACS. No funding was provided by state appropriations from FY2010 through FY2016.

**U.S. Department of Agriculture-Natural Resources Conservation Service (NRCS) Environmental Quality Incentive Program (EQIP)** - The EQIP provides technical, educational, and financial assistance to eligible farmers and ranchers to address soil, water and related natural resource concerns on their lands. The program provides assistance to farmers and ranchers to comply with federal, state of Florida, and tribal environmental laws that encourage environmental enhancement. The purpose of the program is achieved through the implementation of a conservation plan, which includes structural, vegetative, and land management practices. The program is carried out primarily in priority areas that may be watersheds, regions and/or multistate areas where significant resource concerns exist. Agricultural water supply and nutrient management through detention/retention or tailwater recovery ponds can be pursued through this program.

In addition to EQIP, the FARMS Program has partnered with NRCS through the Agriculture Water Enhancement Program (AWEP) and the Florida West Coast Resource Conservation and Development (RC&D) to bring additional NRCS cost-share funding to the SWUCA. The AWEP was created by the 2008 Farm Bill with similar goals as the EQIP program including conserving and/or improving the quality of ground and surface water. The RC&D is a nonprofit organization that promotes sustainable agriculture and local community food systems in Hillsborough, Manatee, Pinellas, and Sarasota counties.

The District's FARMS Program works cooperatively with the NRCS EQIP, AWEP, and RC&D programs on both financial and technical levels. In this effort, FARMS staff has coordinated dual cost-share projects whenever possible. By an agreement between the District, FDACS, and the NRCS, the maximum funding for using both FARMS and EQIP is 75 percent of total project cost. To date, 43 FARMS projects have involved some level of dual cost-share with EQIP, AWEP, or the RC&D, with several additional cooperative projects expected in the near future. On a technical level, agency interaction includes using the NRCS mobile irrigation lab to investigate using FARMS cost-share for improvements to overall irrigation system efficiency, using NRCS engineering designs for regulatory agricultural exemptions whenever possible, and coordinating cost-shares on specific project-related infrastructure. As an example, FARMS may assist with an alternative source of irrigation water and EQIP may assist with an irrigation delivery system upgrade. The relationship is mutually beneficial, extends cost-share dollars, and provides more technical assistance to participants in both programs.

## Summary/Conclusions

The water resource and water supply development projects and funds identified in the Work Program reflect the District's continuing commitment to ensure that adequate water resources are available to meet both existing and future reasonable-beneficial needs. The FY2016 budget for WRD Data Collection and Analysis activities and WRD Projects is approximately \$23.1 million and \$9.4 million respectively. Funding for data collection and analysis is expected to remain fairly constant over the next five years. The multiyear WRD Projects funding is likely to increase over the next five years as the construction phases of multiple projects commence, including future phases of the Upper Myakka/Flatford Swamp Hydrologic Restoration. The District plans to continue implementing FARMS projects at a cost of approximately \$6 million each year. The District is maintaining its water resource development efforts with a strong emphasis on agricultural irrigation efficiency projects to reduce groundwater withdrawals and improve aquifer levels, and watershed management activities that will be critical for flood protection, water quality, and springshed health. The District also continues its investigations of aquifer recharge feasibility to beneficially use reclaimed water for recovery of MFLs in water use caution areas.

Water Supply Development funding in FY2016 is approximately \$45.0 million, which includes funding made possible through the Springs Initiative. An additional \$0.61 million is scheduled for water supply planning efforts that support future Water Supply Development. With the District's cooperative funding assistance, utilities continue to implement reclaimed water and conservation projects to extend the availability of existing water supplies. Reclaimed water projects account for 56 percent of the budget for Water Supply Development assistance in FY2016. The District anticipates that approximately \$20 million will be available for reclaimed water projects each year. Funding for regional interconnects accounts for 34 percent of the FY2016 Water Supply Development budget, which includes \$10 million for the Polk County cooperative entity to help ensure the availability of potable water supply in the Polk County portion of the Central Florida Watershed Initiative planning region.

Consolidated **Annual**  
**Report**

March 1, 2016

# Florida Forever

## Work Plan

*Annual Update 2016*



Southwest Florida  
*Water Management District*

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# Table of Contents

Introduction .....	6-1
Project Modifications and Additions to the District Florida Forever Plan.....	6-4
Restoration Projects.....	6-4
Lake Hancock Outfall Treatment System .....	6-4
Hydrological Investigation of the Lower Floridan Aquifer in Polk County .....	6-6
Fiscal Year 2015 Land Acquisition .....	6-7
District Land Acquisition Status.....	6-8
Surplus Lands .....	6-10
Land Management Activities .....	6-11
Alafia River (including Alafia River Corridor, Chito Branch Reserve and Alafia River Reserve)	6-11
Annutteliga Hammock .....	6-11
Bright Hour Watershed .....	6-11
Brooker Creek.....	6-11
Charlotte Harbor State Park.....	6-12
Chassahowitzka River and Coastal Swamp.....	6-12
Conner Preserve .....	6-12
Crooked Lake/Bowlegs Creek .....	6-12
Cypress Creek Preserve .....	6-12
Edward W. Chance Reserve .....	6-13
Flying Eagle Preserve .....	6-13
Green Swamp Wilderness Preserve (including Colt Creek State Park).....	6-13
Gum Slough .....	6-13
Halpata Tastanaki Preserve.....	6-13
Hidden Lake .....	6-14
Jack Creek.....	6-14
Lake Hancock .....	6-14
Lake Panasoffkee .....	6-14
Little Manatee River .....	6-14
Lower Hillsborough Wilderness Preserve .....	6-15

Lower Peace River Corridor (including Deep Creek) .....	6-15
Myakka River/Deer Prairie Creek/Myakka State Forest .....	6-15
Myakka Conservation Area (including Myakka Prairie) .....	6-15
Panasoffkee/Outlet Tract.....	6-15
Potts Preserve.....	6-15
Prairie/Shell Creek.....	6-16
RV Griffin Reserve (including Lewis Longion Preserve).....	6-16
Sawgrass Lake.....	6-16
Starkey Wilderness Preserve .....	6-16
Tampa Bay Estuarine Ecosystem .....	6-16
Two-Mile Prairie State Forest.....	6-17
Upper Hillsborough Preserve .....	6-17
Upper Lake Marion Creek Watershed.....	6-17
Upper Myakka River Watershed (Flatford Swamp).....	6-17
Upper Saddle Creek.....	6-17
Weekiwachee Preserve .....	6-17
Progress of Funding, Staffing, and Resource Management.....	6-18
Florida Forever Land Acquisition Projects .....	6-19
Northern Planning Region.....	6-19
Heartland Planning Region .....	6-20
Southern Planning Region .....	6-21
Tampa Bay Planning Region .....	6-22

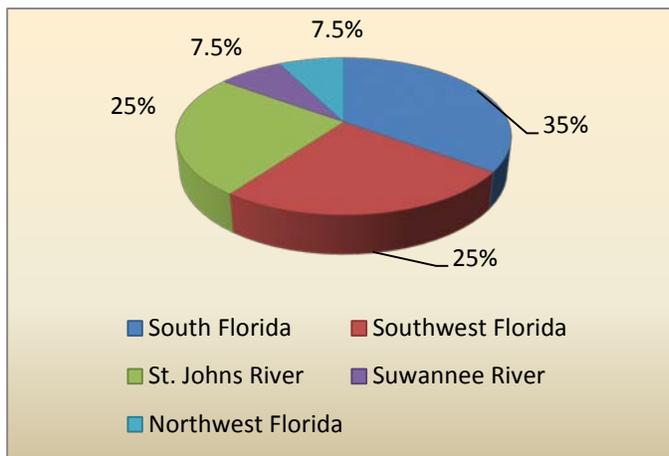
# Introduction

In 2008, the Florida Legislature reauthorized the Florida Forever program. The reauthorization continues Florida’s successful land acquisition initiative that has included the Save Our Rivers and Preservation 2000 programs. As required by Section 373.199(7), Florida Statutes (F.S.), this report is the District’s annual update of its original Florida Forever Work Plan.

The District’s approach to the Florida Forever Work Plan is to provide a discussion of those eligible projects that the District could fund through the Florida Forever program over a five-year period and may receive future Florida Forever funding under the Florida Forever Act, Section 259.105, F.S.; depict eligible properties on the maps included in this report; and to report on progress and changes since the report’s last update.

The Florida Forever Act provides for the issuance of up to \$3 billion in bonds through 2020 to state agencies, water management districts and local governments. Water management district funding is to be used for land acquisition (including less-than-fee purchases), water resource development and water body restoration. Over the life of the program, at least 50 percent of the funds allocated to the water management districts must be spent on land acquisition.

**Figure 1. Florida Forever Annual WMD Funding Distribution**



The annual update is organized into eight sections including the introduction, modifications to last year’s Florida Forever Work Plan, land acquisitions completed during fiscal year 2015, land acquisition status, lands surplus during fiscal year 2015, summaries of land management activities, five-year resource management budget information, and project maps and lands identified for potential acquisition by planning region.

Florida Forever funds must contribute to achieving the following goals, found in Section 259.105, F.S.:

- Enhance the coordination and completion of land acquisition projects.
- Increase the protection of Florida’s biodiversity at the species, natural community, and landscape levels.
- Protect, restore, and maintain the quality and natural functions of land, water, and wetland systems of the state.
- Ensure that sufficient quantities of water are available to meet the current and future needs of natural systems and the citizens of the state.
- Increase natural resource-based public recreational and educational opportunities.
- Preserve significant archaeological or historic sites.
- Increase the amount of forestland available for sustainable management of natural resources.
- Increase the amount of open space available in urban areas.

The District presently plans to use its Florida Forever funding to support multiple land acquisition projects and one capital improvement project through FY2017. Figure 2 shows the allocation between land acquisition and capital improvement funding.

**Figure 2. Expenditures, Budget and Projection for Capital Improvements and Land**



Table 1 provides expenditure, budget and projection by program and project over a five-year period. Individual water resource development and restoration projects are listed with projected Florida Forever funding provided for land acquisition and capital improvements. The budget for FY2016 consists of \$10 million of prior year funds held in the District’s accounts primarily generated through the sale of easements to the U.S. Department of Agriculture/Natural Resources Conservation Services for Wetland Reserve Program, the sale of rights-of-way for roads and the sale of land through the District’s surplus lands program. These funds will be available consistent with the Florida Forever work plan.

**Table 1. Florida Forever Work Plan Project Funding**

*(Numbers shown are in millions of dollars)*

Project	FY2015 & Prior		FY2016		FY2017		FY2018		FY2019		FY2020		Total	
	Cap Imp	Land	Cap Imp	Land	Cap Imp	Land	Cap Imp	Land	Cap Imp	Land	Cap Imp	Land	Cap Imp	Land
<b>Water Resource Development</b>														
Lake Hancock Lake Level Modification & Ecosystem Restoration		76.66												76.66
Lakes Horse, Raleigh and Rogers Recovery Project		0.06												0.06
Hydrogeological Investigation of the Lower Floridan Aquifer in Polk Co						0.20								0.20
<b>Water Resource Development Total</b>		<b>76.72</b>				<b>0.20</b>								<b>76.92</b>
<b>Restoration</b>														
Lake Hancock Outfall Treatment System	13.44	5.00											13.44	5.00
<b>Restoration Total</b>	<b>13.44</b>	<b>5.00</b>											<b>13.44</b>	<b>5.00</b>
<b>Conservation Land Acquisition Total</b>		<b>128.10</b>		<b>10.00</b>		<b>0.17</b>								<b>138.27</b>
<b>Capital Improvements &amp; Land Acquisition Subtotals</b>	<b>13.44</b>	<b>209.82</b>		<b>10.00</b>		<b>0.37</b>							<b>13.44</b>	<b>220.19</b>
<b>Grand Totals</b>	<b>\$223.26</b>		<b>\$10.00</b>		<b>\$0.37</b>									<b>\$233.63</b>

## Project Modifications and Additions to the SWFWMD Florida Forever Work Plan

The following changes have been made to the 2016 Work Plan:

- Land acquisition – An addition of approximately 246 acres have been identified for proposed acquisition within the 2016 Work Plan. The lands identified are within the Rainbow Springs springshed and are important for water quality, recharge, flood protection, and wetland habitat preservation/restoration.

### Restoration Projects

Listed below are the District restoration projects for which Florida Forever funding is being requested.

#### **Lake Hancock Outfall Treatment System**

**Cooperators** – District, State of Florida and federal government

**Purpose** – The purpose of this project is to improve the quality of water discharging from Lake Hancock into South Saddle Creek, the outflow channel from Lake Hancock, by constructing a regional water quality treatment system. This treatment system will remove nutrients and pollutants that Lake Hancock and its watershed contribute to the Peace River and Charlotte Harbor, an estuary included in the National Estuary Program.

**Need** – Nitrogen has been identified as the primary target nutrient in restoring water quality in the Peace River and preventing degradation of Charlotte Harbor, a Surface Water Improvement and Management priority water body. Historical data has shown that the Saddle Creek drainage basin, one of nine subbasins in the Peace River watershed, contributes approximately six percent of the total flow of the Peace River, yet contributes approximately 13 percent of the watershed's total annual nitrogen load. The Peace River ecosystem routinely suffers from algae blooms during periods of low flows and warm weather. These events not only affect the fish and wildlife associated directly with the river and estuary, but also affect the region's largest potable surface water supply system, operated by the Peace River/Manasota Regional Water Supply Authority. Many of the basins along the Peace River, including Lake Hancock, have been identified by the Florida Department of Environmental Protection as impaired under the Clean Water Act, requiring that Total Maximum Daily Loads be established. Water quality treatment of discharges from Lake Hancock has been identified as the most cost-effective means of reducing nitrogen loads into the Peace River and Charlotte Harbor. Additionally, improvements in the South Saddle Creek ecosystem will enhance a major greenway that extends from Charlotte Harbor through the Peace River watershed and Green Swamp and further north to the Ocala National Forest.

**Florida Forever Program Interest** – Florida Forever funds have been and will continue to be used for land acquisition and capital project expenditures for the water quality treatment project. Florida Forever land acquisition funding totals \$4.9 million, and a total of \$13,386,386 has been expended, and 49,060 is encumbered within the Florida Forever Trust fund for capital project expenditures such as design, permitting and construction to significantly improve water quality entering the Peace River.

**Description** – Discharges from Lake Hancock will be diverted to a water quality treatment system located at the south end of the lake and in the vicinity of South Saddle Creek, the tributary between the lake and the Peace River. The District acquired the 3,500-acre, Old Florida Plantation planned development property, and portions of this tract of land are being utilized for the outfall treatment project. At the February 2006 Governing Board meeting, the Board approved the staff recommendation for a 27 percent nitrogen load reduction goal and to utilize constructed wetlands as the primary treatment component. The treatment wetland will require ongoing operation and maintenance.

**Schedule**

Monitoring/Feasibility Study .....	2004-2007
Design and Permitting .....	2007-2010
Land Acquisition.....	2003-2004
Construction .....	2011-2014

**Table 2. Lake Hancock Outfall Treatment System Funding**

Funding Source	Prior Years	FY2016	Future Years	Totals
District	\$21,165,586		\$4,000,000	\$25,165,586
State Appropriation (ECO)	1,750,000			1,750,000
State Appropriations (WRAP)	1,000,000			1,000,000
State SWIM	655,140			655,140
Water Protection Sustainability Trust Fund	325,000			325,000
Water Management Lands Trust Fund	4,529,927			4,529,927
Requested Federal Funds	773,700			773,700
<b>Total</b>	<b>\$30,199,353</b>	<b>0</b>	<b>\$4,000,000</b>	<b>\$34,199,353</b>

*Note: This is a multi-year funded project. In fiscal years 2003, 2004, 2006, 2008, 2009 and 2010, \$30,199,353 was budgeted as follows: \$18,335,446 from Florida Forever for land acquisition (\$4,900,000) and capital project expenditures (\$13,435,446), \$2,750,000 from state appropriations (ECO & WRAP), \$773,700 from the United States Environmental Protection Agency (USEPA), \$1,890,070 from the Governing Board, \$940,070 from the Peace River Basin Board, \$655,140 from State SWIM, a reallocation of \$325,000 from the FY2006 and FY2007 Water Protection Sustainability Trust Fund, and a reallocation of \$4,529,927 from the FY2009 Water Management Lands Trust Fund.*

**Project Status** – District staff have been successful in acquiring property at the desired location. District staff procured the services of an engineering consultant to evaluate treatment options and assist with design and permitting of the outfall treatment project. The project involves five tasks: 1) Research, Monitoring and Data Acquisition, 2) Feasibility Study, 3) Design and Permitting, 4) Construction, and 5) System Start-up and Operation. Tasks 1, 2 and 3 are complete. Treatment wetlands are the recommended technology based on costs, proven track record and ancillary benefits. Construction of the project began on September 26, 2011 and was completed in June 2014. Task 5 involves vegetative establishment treatment system start-up and optimization of system performance to achieve target nutrient removal. The District is responsible for long-term operation and maintenance.

## **Hydrological Investigation of the Lower Floridan Aquifer in Polk County**

### **Cooperators** – District

**Purpose** – This project involves investigating the Lower Floridan aquifer (LFA) as a potential alternative water supply source. Project results will enhance groundwater modeling of the aquifer, and determine the practicality of developing the LFA as an alternative water supply source in areas facing future water supply deficits. Data from this project will also add to the geologic inputs in the Districtwide Regulation Model for the LFA to assess potential withdrawal-related impacts to water resources in the District.

**Need** – The District will need several well drilling and testing sites across Polk County. If possible, the District will partner with Polk County cities or the County for potential drilling locations; however, the need may arise in selected locations for the acquisition of lands and/or easements.

**Florida Forever Program Interest** – Florida Forever funds will be used for the purchase of land or easements needed for well sites.

**Description** – This project explores the LFA in Polk County to assess its viability as an alternative water supply source as well as to gain a better understanding of the LFA characteristics and groundwater quality.

### **Schedule**

Land Acquisition..... 2015-2017  
 Construction ..... 2016-2022

**Table 3. Hydrogeological Investigation of the Lower Floridan Aquifer in Polk County Funding**

Funding Source	Prior Years	FY2016	Future Years	Totals
District	\$6,000,000	\$2,000,000	\$4,000,000	\$12,000,000
Florida Forever Funds			200,000	200,000
<b>Total</b>	<b>\$6,000,000</b>	<b>\$2,000,000</b>	<b>\$4,200,000</b>	<b>\$12,200,000</b>

**Note:** This is a multi-year funded project. The original project budget did not include a provision for land and/or easement acquisition.

**Project Status** – District staff has approved the location for the first two drilling sites. The third site location will be determined once the first two projects are under way. The District was able to locate the first drilling site on District/Polk County jointly owned lands (Crooked Lake). The second drilling site is located on lands owned by Polk County in Frostproof.

## Fiscal Year 2015 Land Acquisition

The following table depicts the District's land acquisition activity during fiscal year 2015.

**Table 4. Fiscal Year 2015 Land Acquisition**

Management Unit	County	Acres Acquired	Land Cost (District)	Land Cost (Partner)	Interest Acquired	District Funding Source
Two-Mile Prairie/Tsala Apopka Connector	Citrus	403.51	\$1,277,116.84	0	Fee	Florida Forever, Ad Valorem
Weekiwachee Preserve	Hernando & Pasco	81.69	1,318,778.88	0	Fee	Florida Forever
<b>Total</b>		<b>485.20</b>	<b>\$2,595,895.72</b>	<b>0</b>		

## District Land Acquisition Status

The following table depicts all lands owned in fee simple and less-than-fee (LTF) interests acquired by the District as of September 30, 2015.

**Table 5. District Land Acquisition Status**

Management Unit	County	Fee Acres Acquired	LTF Acres Acquired	Total Acres Acquired	Purchase Price (District)	Purchase Price (Partner)	Purchase Price (Total)
Alafia River Corridor	Hillsborough	4,665	1,498	6,163	\$8,399,910	\$6,819,012	\$15,218,922
Alafia River Reserve	Polk	334		334	250,000	250,000	500,000
Annuteliga Hammock	Hernando	2,317		2,317	12,650,729		12,650,729
Bright Hour Watershed	DeSoto		32,247	32,247	11,638,594		11,638,594
Brooker Creek Headwaters	Hillsborough	1,039	67	1,106	3,309,648	2,109,648	5,419,296
Brooker Creek Preserve	Pinellas	1,635		1,635	11,104,266		11,104,266
Charlotte Harbor Preserve State Park	Charlotte	7,421		7,421	6,671,702	6,671,702	13,343,404
Chassahowitzka River and Coastal Swamps	Citrus	5,678	4	5,682	8,479,080		8,479,080
Chito Branch Reserve	Hillsborough	5,516		5,516	25,529,735	10,240,000	35,769,735
Cliff Stephens Park/ Alligator Creek	Pinellas	44		44	756,950		756,950
Conner Preserve	Pasco	3,486		3,486	9,792,677		9,792,677
Crooked Lake/Bowlegs Creek	Polk	3,587		3,587	5,514,762	14,383,045	19,897,807
Cypress Creek	Pasco	7,473	815	8,288	17,603,474		17,603,474
Deep Creek/ Lower Peace River	DeSoto	2,105		2,105	4,483,510		4,483,510
Edward Medard Park/Reservoir	Hillsborough	1,291		1,291	62,390		62,390
Edward W. Chance Reserve – Coker Prairie Tract	Manatee	2,136		2,136	1,989,111		1,989,111
Edward W. Chance Reserve – Gilley Creek Tract	Manatee	5,795	25	5,820	8,773,395		8,773,395
Flying Eagle Preserve	Citrus	16,338	100	16,438	21,214,140		21,214,140
Green Swamp – Colt Creek State Park	Polk	5,068		5,068	24,101,645	29,101,645	53,203,290
Green Swamp – East Tract	Lake, Polk & Sumter	67,864	3,843	71,710	53,701,842		53,701,842
Green Swamp – Little Withlacoochee Tract	Lake	4,622	19,545	24,167	696,310		696,310
Green Swamp – West Tract	Pasco	37,369	4,260	41,629	44,596,442		44,596,442
Half-Moon Wildlife Management Area – Gum Slough	Marion & Polk	4,096	5,800	9,896	7,823,944		7,823,944
Hálpata Tastanaki Preserve	Marion	8,189		8,189	13,841,846		13,841,846
Hidden Lake	Pasco	589		589	1,354,608		1,354,608
Hillsborough River Corridor	Pasco	276	79	355	237,500		237,500
Jack Creek	Highlands	1,287		1,287	1,528,808		1,528,808

Management Unit	County	Fee Acres Acquired	LTF Acres Acquired	Total Acres Acquired	Purchase Price (District)	Purchase Price (Partner)	Purchase Price (Total)
Jerry Lake	Pinellas	80		80	554,516		554,516
Lake Hancock - Circle B Bar Reserve	Polk	1,268		1,268	3,710,000	3,710,000	7,420,000
Lake Hancock - Marshall Hampton Reserve	Polk	1,167		1,167	37,175,000		37,175,000
Lake Hancock Project	Polk	4,829	1,182	6,008	79,850,325		79,850,325
Lake Lowry	Polk	394		394	126,593	126,593	253,186
Lake Marion Creek Horseshoe Scrub	Polk	290		290	382,134		382,134
Lake Panasoffkee	Sumter	9,881	5,486	15,367	14,260,856		14,260,856
Lake Tarpon Outfall Canal	Pinellas	161	101	262	215,561		215,561
Lake Tarpon Sink Enclosure	Pinellas	10		10	24,859		24,859
Lake Thonotosassa	Hillsborough	144		144			
Little Manatee River – Southfork Tract	Manatee	971		971	1,184,108		1,184,108
Little Manatee River – Upper and Lower Tracts	Hillsborough	6,180		6,180	7,583,418	7,457,518	15,040,936
Lower Cypress Creek	Hillsborough		290	290	974,408		974,408
Lower Hillsborough	Hillsborough	16,105	3	16,108	16,789,672	2,898,722	19,688,394
Lower Manatee River Floodway	Manatee	42		42	987,915		987,915
Masaryktown Canal	Hernando & Pasco	170		170	141,039		141,039
Myakka Conservation Area	Sarasota	4,747	18,283	23,030	49,976,495	39,036,345	89,012,840
Myakka Conservation Area – Lewis Longino Preserve	Sarasota		3,422	3,422	1,188,231	1,188,231	2,376,462
Myakka River – Deer Prairie Creek	Manatee & Sarasota	6,136		6,136	13,819,579	13,819,579	27,639,159
Myakka River – Flatford Swamp	Manatee	2,357		2,357	2,099,889		2,099,889
Myakka River – Schewe Tract	Sarasota	3,993		3,993	4,835,312		4,835,312
Myakka River State Park – Myakka Prairie Tract	Sarasota	8,248		8,248	9,522,072		9,522,072
Myakka State Forest	Sarasota	8,565	15	8,580	4,662,192	4,662,192	9,324,384
Panasoffkee/Outlet Tract	Sumter	807		807	1,641,757		1,641,757
Peace Creek Canal System	Polk	3	18	21			
Potts Preserve	Citrus	9,375	3	9,378	12,710,750		12,710,750
Prairie/Shell Creek	Charlotte	609		609	2,411,905		2,411,905
RV Griffin Reserve	DeSoto	5,919		5,919	5,309,770		5,309,770
Sawgrass Lake	Pinellas	398		398	2,042,332		2,042,332
Starkey Wilderness Preserve	Pasco	19,639	114	19,753	39,913,334		39,913,334
Structure Sites/Office Sites	Various	99	28	127	1,532,148		1,532,148
Tampa Bay – Clam Bayou	Pinellas	84		84	1,400,000		1,400,000

Management Unit	County	Fee Acres Acquired	LTF Acres Acquired	Total Acres Acquired	Purchase Price (District)	Purchase Price (Partner)	Purchase Price (Total)
Tampa Bay – Ekker Preserve	Hillsborough	84		84	364,719	364,719	729,438
Tampa Bay – Frog Creek	Manatee	127		127	830,000		830,000
Tampa Bay – Pine Island	Manatee	66		66	450,000	300,000	750,000
Tampa Bay – Schultz Preserve	Hillsborough	132		132	352,500	352,500	705,000
Tampa Bay – TECO Tract	Hillsborough	2,524		2,524	2,109,244	2,109,244	4,218,488
Tampa Bay – Terra Ceia Preserve State Park	Manatee	1,463		1,463	1,137,936	1,137,936	2,275,872
Tampa Bay – Terra Ceia/ Huber Tract	Manatee	287		287	3,287,657		3,287,657
Tampa Bypass/Harney Canal	Hillsborough	1,378	321	1,699	7,316,700		7,316,700
Three Sisters Springs	Citrus	57		57	1,278,000	4,222,000	5,500,000
Tsala Apopka Outfall Canal	Citrus	3	141	144	7,600		7,600
Two-Mile Prairie – Tsala Apopka Connector	Citrus	487		487	1,414,323		1,414,323
Two-Mile Prairie – Withlacoochee State Forest	Citrus	2,898		2,898	2,828,914	2,828,914	5,657,828
Upper Hillsborough Preserve	Hillsborough, Pasco & Polk	9,551	7,802	17,353	13,071,221		13,071,221
Upper Saddle Creek	Polk	38		38	54,926	54,926	109,852
Weeki Wachee Springs State Park	Hernando	539		539	17,395,214		17,395,214
Weekiwachee Preserve	Hernando & Pasco	11,274		11,274	29,629,677	2,320,485	31,950,162
Wysong Project	Sumter	4	1	5	7,500		7,500
<b>TOTAL</b>		<b>343,803</b>	<b>105,493</b>	<b>449,296</b>	<b>\$704,669,319</b>	<b>\$156,164,956</b>	<b>\$860,834,275</b>

*Note: Acreages derived using geographic information system software*

## Surplus Lands

The following table depicts lands surplus by the District during fiscal year 2015.

**Table 6. Surplus Lands**

Project	County	Acres Surplused	Compensation	Funding Source for Parent Tract	Comments
Flying Eagle Preserve	Citrus	0.52	7,500	Water Management Lands Trust Fund	Sold fee simple title
Green Swamp Wilderness Preserve	Polk	2.57	\$18,500	Preservation 2000	District retained conservation easement
Joe's Creek	Pinellas	16.30	0	Ad Valorem	Landed deeded to Pinellas County
<b>Total</b>		<b>19.39</b>	<b>\$26,000</b>		

## Land Management Activities

The District has developed numerous management partnerships that match land use to agency mission. For example, Colt Creek State Park was purchased with District, State and Polk County Florida Forever funds, yet it is managed as a state park. Hunting at the Green Swamp is via a wildlife management area with the Florida Fish and Wildlife Conservation Commission. Approximately 95 percent of the District's conservation lands have an approved management plan. The following is a brief description of land management activities for properties owned by the District.

### ***Alafia River (including Alafia River Corridor, Chito Branch Reserve and Alafia River Reserve)***

– The Alafia River Corridor contains parcels of land along the Alafia River corridor from Bell Shoals Road and extends upstream to the headwaters of the river. The river's natural floodplain is a mixture of hardwood swamps and upland hammocks. Acquisition of the land within Hillsborough County was co-funded by the District and the County with fee simple title conveyed to the District. In 1996 the District entered into a lease agreement with Hillsborough County that designated the County as manager of lands jointly purchased by the County and the District. Recreational improvements provided by Hillsborough County include hiking trails, equestrian trails, fishing, primitive and group camping. Approximately 5,516 acres of project lands in Hillsborough County acquired by the District for the C.W. "Bill" Young Reservoir are jointly managed by the District and Tampa Bay Water and are known as the Chito Branch Reserve. In Polk County, the District and the County have co-funded and co-own 334 acres known as the Alafia River Reserve. Polk County is responsible for a park site on the property and the District is responsible for resource management and trail development.

***Annutteliga Hammock*** – The Annutteliga Hammock project is located in Hernando and Citrus counties, generally within a regional area located between Homosassa Springs to the northwest, the Withlacoochee State Forest to the northeast, Brooksville to the southeast and Weeki Wachee Springs to the southwest. The Annutteliga Hammock area supports an important and unique assemblage of high quality temperate upland hardwood forest and exceptional caliber sandhills along the Brooksville Ridge. Preservation of the remaining large contiguous areas of the hammock region will protect some of the best remaining examples of those community subtypes that are the most endangered or rarest along the Brooksville Ridge. Since lands acquired to date are for the most part not contiguous, recreational use is limited to foot traffic and equestrian riding on more than eight miles of marked trails. Land management activities consist of security, prescribed burning, resource monitoring, exotic species control, and public use/recreational development and monitoring.

***Bright Hour Watershed*** – The project area consists of extensive, high quality prairie, hammock, marsh and slough systems that provide water management benefits for a traditionally water-poor region. Hydrologic values include protection of the headwaters of several important creek systems, such as Prairie and Shell creeks. Water storage, conveyance and flood control are also provided by the watershed's poorly drained landscape. Habitat protection for numerous rare plant and animal species and globally imperiled, high quality natural communities is amply afforded by this project. Since the District does not hold fee simple title, land management activities consist of monitoring the terms of the conservation easements.

***Brooker Creek*** – The Brooker Creek Headwaters Nature Preserve, located in Hillsborough County, remains as islands of undeveloped natural and rural lands in the changing landscape of northwest Hillsborough County. The lands include several extensive and interconnected cypress swamps, which form the headwaters of Brooker Creek. These headwater swamps are an important water resource feature on their own, as well as for their contribution to downstream elements of the creek. Lands within the Brooker Creek Headwaters are managed by Hillsborough County. The County has developed and made available several miles of unimproved interior roads that are open to hikers. The dominant habitats within the Brooker Creek Preserve, located in Pinellas County, include cypress and mixed hardwood swamps along portions of Brooker Creek. As part of the area's natural drainage system, Brooker Creek is an important water resource feature. Local low-lying areas are drained by the creek's system of sloughs and swamps. Floodplain vegetation offers treatment of runoff prior to discharging into Lake Tarpon. Lands within the Brooker Creek project in Pinellas County are managed by Pinellas County. Recreational

improvements/amenities available on the tract include equestrian trails, hiking trails and an interpretive foot trail. Land management activities primarily consist of coordination with the lead land managers.

***Charlotte Harbor State Park*** – The Charlotte Harbor Save Our Rivers project was jointly purchased between the District and the State of Florida's Conservation and Recreation Lands (CARL) program. Lands within the project area are characterized by a variety of natural lands including isolated freshwater marshes, tidal marshes and tidal swamps. Under a management agreement with the State, the Florida State Parks is the lead land manager for the project. Currently the park offers canoeing and boating. Land management activities consist primarily of coordination with State Parks, the land manager.

***Chassahowitzka River and Coastal Swamps*** – The Chassahowitzka River and its expansive coastal swamps are located in western Citrus County. This project includes nearly two miles along the Chassahowitzka River and includes Chassahowitzka Springs, which forms the river's headwaters. The project is contiguous with the federally owned Chassahowitzka National Wildlife Refuge to the west, the State's Homosassa Reserve to the north and the Chassahowitzka Wildlife Management Area to the south. The project contains the Chassahowitzka River Campground, which is operated and maintained by Citrus County. Recreational activities/amenities available are primarily managed by Citrus County and include canoe/boat launch, campsites (some with full hook-ups), canoe rental; picnic pavilions; restrooms; potable water; and primitive camp sites along the river. Hunting is managed by the Florida Fish and Wildlife Conservation Commission. Land management activities consist of prescribed burning, resource monitoring, land maintenance, fence repair and recreational monitoring.

***Conner Preserve*** – The Conner Preserve is located in Pasco County and includes the upper portion of Cypress Creek, a regionally important surface water feature and tributary creek of the Hillsborough River. Cypress Creek originates near I-75, east of CR 581 and north of CR 578 and has a contributing watershed of 74.5 square miles. Land use of the project area is primarily agricultural, dominated by several large cattle ranches. Land cover consists primarily of improved pasture, rangeland, live oak hammocks, pine flatwoods, xeric oak/longleaf pine, cypress domes and freshwater marshes/wet prairies. The project includes a number of shallow lakes, many of which include extensive marshes or open prairies. The project area itself is located between the District's Cypress Creek Preserve and the Cross Bar/Al-Bar Ranch complex, representing two major public supply wellfields operated by Tampa Bay Water. Recreational activities/amenities available include 2 primitive campsites, 1.7 miles of hiking trails, and approximately 15 miles of shared use trails for hiking, horseback riding and biking. Land management activities consist of prescribed burning, restoration, resource monitoring and recreational development/monitoring.

***Crooked Lake/Bowlegs Creek*** – Located in Polk County, the Crooked Lake/Bowlegs Creek project represents opportunities to protect important water resource ecosystems in the east central region of the District. Acquisition benefits include protecting important areas and habitat for aquifer recharge associated with the Lake Wales Ridge (Ridge), and protecting the water quality of Crooked Lake and the other Ridge lakes receiving flow from Crooked Lake (Lake Clinch and Lake Reedy). Crooked Lake is one of the largest lakes within the Ridge and is the only designated Outstanding Florida Water (OFW) in Polk County. The lake has good water quality as a result of existing shoreline vegetation coverage and relatively little urbanization along the lake. Although the alteration of natural lands throughout the region has resulted in habitat loss and fragmentation, this tract represents one of the few larger tracts remaining relatively intact and more importantly, is the last remaining large tract adjacent to a large Ridge lake. Lands within the project are jointly owned between the District and Polk County, and contain easements acquired by the United States Department of Agriculture/Natural Resources Conservation Services. Polk County manages the property.

***Cypress Creek Preserve*** – The Cypress Creek Preserve includes the heavily forested Cypress Creek swamp, formed by its namesake, Cypress Creek, as it flows to the Hillsborough River. As part of the tributary system to the Hillsborough River, the project serves both a water detention role and a water conveyance role. Additionally, the low-lying swamps provide treatment and assimilation of runoff waters. Recreational activities/amenities available include non-potable water, 5 equestrian/group and 3 primitive campsites, 3.5 miles of hiking trails, and approximately 15.5 miles of shared use trails for hiking,

horseback riding and biking. Land management activities include prescribed burning, mowing, exotic species control, timber management, resource management, and public use and recreation development/maintenance.

***Edward W. Chance Reserve*** – In 2007, the former Lake Manatee Reserve, was dedicated and renamed as the Edward W. Chance Reserve, in honor of departed Governing Board member, Ed Chance. The Reserve extends over a large area which includes narrow floodplain forests and native pine lands surrounded by vast areas of rangeland, improved pastures, croplands, and citrus groves. Lands purchased within this project protect an existing regional water resource, protect floodplains, and restore adjoining wetlands in the headwaters. Recreational activities/amenities available include non-potable water, more than 10 miles of hiking trails and approximately 13 miles of shared use trails for hiking, horseback riding and biking. Management units include the Coker Prairie and Gilley Creek Tracts. Land management activities include prescribed burning, mowing, exotic species control, timber management, resource management, and public use and recreation development/maintenance.

***Flying Eagle Preserve*** – The Flying Eagle Preserve is located within the Lake Tsala Apopka region of Citrus County. The property includes over five miles of frontage on the Withlacoochee River and its forested floodplain. A broad expanse of mixed hardwoods and cypress swamps cover the floodplain along the river. Areas of hammocks and xeric oak scrub lands occur throughout the higher elevations of the interior portions. Scattered marshes and wet prairies complete the landscape. The Tsala Apopka system is important because it has been described as a primary recharge area for the Floridan aquifer. Recreational activities/amenities available at Flying Eagle include non-potable water, 4 miles of hiking trails and approximately 18 miles of shared use hiking, horseback riding and bicycle trails; and 3 primitive and 5 equestrian campsites. Hunting, which is managed by the Florida Fish and Wildlife Conservation Commission, is also available.

***Green Swamp Wilderness Preserve (including Colt Creek State Park)*** – The Green Swamp Wilderness Preserve (GSWP) includes several efforts directed at protecting headwater swamps, floodplains and watershed areas in the Green swamp region and along two of its principal river systems (Withlacoochee and Hillsborough). The GSWP, which includes Green Swamp East and Green Swamp West, is the District's largest landholding and also includes Colt Creek State Park. The Green Swamp and its river systems are of hydrologic importance to central Florida, both in terms of surface water and ground water resources. Four river systems have their origin in the low-topography headwaters of the Green Swamp. Swamps, floodplains and headwaters serve as natural flood detention areas, while uplands serve as areas for recharge. Recreational amenities in the GSWP on District-managed lands include non-potable water, over 31 miles of hiking trails (including approximately 15 miles of the Florida National Scenic Trail) and 140 miles of shared use hiking, horseback riding and bicycle trails; and 5 primitive, 60 equestrian and 23 backcountry campsites. Hunting is managed by the Florida Fish and Wildlife Conservation Commission. Land management activities in the GSWP include prescribed burning, resource monitoring, natural systems restoration, mowing, exotic species control, security patrol, and public use and recreational development/maintenance.

***Gum Slough*** – Lands within the Gum Slough property are located within Marion and Sumter counties and are dominated by densely forested swamps and hammocks. Nearly 1,100 acres of forested hardwood swamps that line the Gum Slough run from a common boundary with state-owned lands to the east (Half-Moon Wildlife Management Area). The lands within the area offer protection to portions of the Withlacoochee River, Gum Slough and its various hydrologic characteristics. Recreational improvements/amenities available on the property are: non-potable water, shared-use trails available for hiking, bicycling and horseback riding, and woods roads available for hiking and hunting. The property is managed by the Florida Fish and Wildlife Conservation Commission.

***Hálpata Tastanaki Preserve*** – The Hálpata Tastanaki Preserve adjoins the Marjorie Harris Carr Cross Florida Greenway. Primary surface water features include five miles of floodplain along the northern bank of the Withlacoochee River. The isolated wetlands and marshes scattered throughout the site form the site's internal drainage system and provide local surface water storage. The site of Fort Izard, an important battleground during the second Seminole War, is located within the project lands. Recreational activities/amenities include approximately 4 miles of hiking trails and more than 12 miles of

shared use trails for hiking, horseback riding and bicycling. Land management activities include prescribed burning, natural systems restoration, timber management, exotic species control, resource monitoring, recreation development/maintenance and security.

***Hidden Lake*** – The Hidden Lake project is located in west-central Pasco County and is part of an interconnected system of lakes within the Rocky Sink/Boggy Creek basin of the Bear Creek Watershed. District ownership ensures protection of the lake and the surrounding forested wetlands and will help preserve water quality within the lake and sub-basin. Recreational use of the lands within the project is extremely limited due to development in the vicinity and the fact that the lands are essentially a “lake swamp.” Limited land management is required, primarily a security patrol for illegal activities (dumping and archaeological digging).

***Jack Creek*** – The Jack Creek project, located in Highlands County, includes a significant part of Jack Creek, its 100-year floodplain and outlying forested areas associated with the creek system and local lake outflow wetlands. The project area also includes portions of sand pine scrub and mixed scrub—among Florida's most unique threatened upland habitats. Jack Creek and its associated swamps serve as the natural drainage basin for the immediate area, as well as the water conveyance system for lakes in the area. Land management activities consist of prescribed burning, security patrol, public use/recreation maintenance and enhancements, exotic species control, mowing and monitoring for listed plants and animals. Recreational amenities/activities on the Jack Creek property are limited to 6.5 miles of hiking trails due its remote location, environmental sensitivity and access constraints.

***Lake Hancock*** – Lake Hancock is located southeast of the City of Lakeland and north of the City of Bartow in Polk County. At approximately 4,500 acres, Lake Hancock is the largest lake associated with the Peace River and the third largest lake in Polk County. A requirement of the statutorily mandated minimum flow establishment is the development of a recovery strategy. Part of the proposed strategy for the upper Peace River is to restore storage in Lake Hancock and release some of the water during the dry season to help meet the flow requirements. Historically, Lake Hancock fluctuated more than a foot higher than it has during the past several decades. Lands acquired within this project will assist in reversing those impacts by replacing the District's outfall structure so that water levels can be maintained at historical levels. The District and Polk County jointly acquired the Circle B Bar Reserve along the lake. The Reserve is managed by the County and provides hiking trails and picnic tables for recreationists. The County also manages the 1,166-acre Hampton Tract within the project area.

***Lake Panasoffkee*** – The Lake Panasoffkee project is located in Sumter County and is comprised of a large, contiguous area of relatively undisturbed lands along the eastern portion of the lake's watershed. The project extends north to include Big Jones and Little Jones creeks, both tributaries to the lake. Wetlands dominate the area with extensive mixed hardwood and maple swamps, lake front marshes and willow areas. Lands within the project protect local and regional drainage features and provide storage and detention of surface waters, while providing important wildlife resources. Recreational activities/amenities include non-potable water, more than 15 miles of shared use hiking, horseback riding and bicycle trails; group picnic pavilion, six horse stalls, 5 primitive and 20 equestrian campsites, restrooms and a campground host. The Florida Fish and Wildlife Conservation Commission manages hunting on the property. Land management activities include exotic species control, land security, cattle lease management, maintenance of facilities located on the property, public use, recreation development/maintenance, prescribed burning, timber management, natural systems restoration and resource monitoring.

***Little Manatee River*** – The Little Manatee River project, located in Hillsborough and Manatee counties, contains parcels of land along the Little Manatee riverine corridor from downstream estuarine waters to the river's headwaters. Dense forest dominates the land along the river's floodplain with the adjoining uplands being comprised of a mixture of pine flatwoods, mixed hardwoods and shrub and brushlands. The District has entered into an interlocal agreement with Hillsborough County wherein the County has lead responsibility for lands jointly purchased by Hillsborough County and the District. Lands within Manatee County, known as the Southfork Tract, are managed by the District, and include approximately six miles of hiking trails. Recreational improvements/amenities made available by the County include: canoe landing sites adjacent to five primitive campsites along the river, fishing, and

hiking trails. District land management activities on the Southfork Tract consist of road stabilization, prescribed burning, natural systems restoration, mowing and recreational development/maintenance.

***Lower Hillsborough Wilderness Preserve*** – The Lower Hillsborough Wilderness Preserve includes several miles of the Hillsborough River and its broad floodplain. The project contains important areas of natural flood conveyance and storage and contains the Morris Bridge Wellfield. Recreational activities available include five developed park sites managed by Hillsborough County including such amenities as hiking, equestrian and bicycle trails, picnic pavilions, restrooms, boat launches and visitor centers. The District has also made available an additional 25 miles of equestrian trails. Hunting is managed by the Florida Fish and Wildlife Conservation Commission. Land management activities include exotic species control, land security, public use and recreation development/maintenance, prescribed burning, timber management, wildlife management, natural systems restoration and mowing.

***Lower Peace River Corridor (including Deep Creek)*** – Located in DeSoto County, lands within the project include an extensive network of tributaries, floodplain swamps and connected headwaters. Recreational activities available include non-potable water, approximately 2 miles of hiking trails; more than 6 miles of shared use trails for hiking and horseback riding; and 1 backcountry and 10 equestrian campsites. Land Management activities include prescribed burning, mowing, exotic species control, wildlife monitoring, recreational amenity development/monitoring and security.

***Myakka River/Deer Prairie Creek/Myakka State Forest*** – A majority of the lands within the Myakka River project were jointly purchased with the State of Florida's Conservation and Recreation Lands (CARL) program (Myakka State Forest) and Sarasota County (Deer Prairie Creek). Lands within the project area are characterized by a variety of natural lands and lands altered by development including mesic pine flatwoods, oak hammocks, shell mounds, prairie hammock and improved pasture. The project area includes portions of the Myakka River and its floodplain forests. Lands included within the Myakka State Forest are managed by the Florida Forest Service (FFS). The FFS has made the following recreational improvements/amenities available on the property: shared use trails for bicycling, horseback riding and hiking, and primitive camping. Lands within Deer Prairie Creek are jointly managed by the District and Sarasota County. Land management activities include fencing, road upgrade, exotic species control, recreation development/maintenance and public use, prescribed burning, wildlife monitoring and mowing.

***Myakka Conservation Area (including Myakka Prairie)*** – The Myakka Conservation Area consists of oak/cabbage palm hammock dominated banks along the southern portions of the creek, isolated marshes and improved pastures within the upland portions and mixed natural lands scattered throughout. The property is characterized by the region's flat topography and includes landscapes of extensive shrub and brushlands, pine flatwoods and pastures. Numerous isolated freshwater marshes dot the site's flatlands. The main surface water feature, Myakkahatchee Creek, is a 21.5-mile long tributary creek of the Myakka River. Approximately 4,700 acres are managed by Sarasota County. The Myakka Prairie is adjacent to lands within the Myakka River State Park and is managed by the Florida State Parks. Recreational development/amenities on the property made available by the State Parks include hiking, bicycling and horseback riding trails. District land management activities primarily consist of exotic species control and conservation easement monitoring.

***Panasoffkee/Outlet Tract*** – Lands within the Panasoffkee/Outlet Tract extend over three miles along the eastern floodplain of the Withlacoochee River. For the most part, the areas are representative of the river's five-year floodplain, which include the regularly flooded cypress and mixed hardwood forests, as well as some areas of temperate hammock. Preservation of these lands along the river will maintain their function and protect forested swamps important to the water resources and water quality of the river system. Recreational activities on the property include approximately three miles of hiking trails, fishing and a boat access. Land management activities include prescribed burning, mowing, road repair, exotic species control, cattle lease management, public use and recreation development/maintenance.

***Potts Preserve*** – The Potts Preserve is located within the Lake Tsala Apopka region in eastern Citrus County and includes portions of the Hernando Pool. The Preserve's eastern boundary is formed

along 5 ½ miles of the Withlacoochee River and its associated floodplain. The lands are a mixture of lakes, ponds and marshes surrounding islands of oak forests and lands partially cleared for agriculture. The Tsala Apopka system is considered important as an area of recharge for the Floridan aquifer. Recreational activities/amenities available include non-potable water; approximately 12 miles of hiking trails; eight miles of shared use trails for hiking, horseback riding and bicycling; five equestrian and one backcountry campsites; and boat launch. Hunting is also allowed on the property. Land management activities include public use and recreation development/maintenance, land security, prescribed burning, wildlife monitoring, natural systems restoration and mowing.

***Prairie/Shell Creek*** – The Prairie/Shell Creek project is envisioned as a greenway corridor from the mouth of the Peace River to the District’s Bright Hour Watershed project to the north and to the State’s Babcock Ranch to the south. Recreational activities/amenities available include approximately five miles of hiking trails. Land management activities include prescribed burning, wildlife monitoring, resource monitoring, resource protection and recreational development.

***RV Griffin Reserve (including Lewis Longino Preserve)*** – The RV Griffin Reserve is located in DeSoto and Sarasota counties and includes lands supporting and surrounding the existing facilities at the Peace River/Manasota Regional Water Supply Authority treatment plant. Lands in the project area include mixed hardwood forests along the river; however, the majority of the lands consist of pine flatwoods, rangelands, pastures and pine plantations. The Reserve supports and protects present potable water supplies. The Water Supply Authority manages the approximately 6,000 acres owned in fee. Recreational activities/amenities include shared use trails available for bicycling, horseback riding and hiking. The District monitors the 3,804-acre conservation easement known as the Lewis Longino Preserve.

***Sawgrass Lake*** – Acquisition of the Sawgrass Lake project began in the 1970s to provide flood protection to the City of Pinellas Park. A water control structure was built to facilitate drainage canal improvements and to maintain desirable water level fluctuations in Sawgrass Lake and the surrounding swamp. The lake and swamp system provide natural water treatment to enhance the quality of water draining to Tampa Bay. In 1976, the District, Pinellas County and the Pinellas County School Board cooperatively agreed to establish a county park and an environmental education center on the site. The property is managed by Pinellas County and Pinellas County School Board. Pinellas County has developed a wide array of recreational amenities on the property including: restrooms, potable water, elevated boardwalks, hiking trail, nature center, outdoor interpretive displays; and they offer interpretive tours by reservation. The School Board has established an environmental education program that serves area students from kindergarten through fifth grade.

***Starkey Wilderness Preserve*** – Located in Pasco County, lands within the Starkey Wilderness Preserve are a combination of pine flatwoods, sandpine scrub, oak forests, scattered marshes and cypress swamps. The project lands are a part of the contributing watershed of the Anclote River. The Starkey Wellfield and part of the J. B. Starkey Wilderness Park are located within the project limits. Recreation at the Starkey Wilderness Park is managed by Pasco County, while the District manages recreation on the Serenova and Anclote Ranch tracts. Recreational activities/amenities available at Starkey Wilderness Park include paved bicycle trails, equestrian trails, hiking/backpacking trails, cabin rental, primitive camping, horse corral, picnic pavilions, self-guided educational nature trail and restrooms. Recreational amenities on the Serenova tract include approximately 20 miles of shared use hiking, horseback riding and bicycle trails; and ten equestrian and three primitive campsites. Land management activities on the Preserve include prescribed burning, natural systems restoration, wildlife monitoring, exotic species control, land security, recreational development/management and mowing.

***Tampa Bay Estuarine Ecosystem*** – The Tampa Bay Estuarine Ecosystem project furthers the Tampa Bay Surface Water Improvement and Management (SWIM) plan. Approximately half the project consists of mangroves and salt marsh which dominate the northern project area along Bishop Harbor and the western area associated with the tidal bays of Moses Hole, Clambar Bay and Williams Bayou. The natural upland and wetland habitats within the project area provide natural water quality treatment of overland flows before reaching the receiving waters of Tampa Bay. A majority of lands within the Tampa Bay Estuarine Ecosystem project were jointly purchased with the State or local governments.

Under an agreement with the State, Florida State Parks is the lead land manager for Terra Ceia Preserve State Park. Hillsborough County manages the Ekker Preserve and Schultz Preserve tracts; Pinellas County manages the Clam Bayou tract; Manatee County manages Pine Island; and the District manages the TECO, Frog Creek and Terra Ceia/Huber tracts.

***Two-Mile Prairie State Forest*** – Two-Mile Prairie State Forest lies along the southern bank of the Withlacoochee River at the northern end of the Tsala Apopka Lake system and includes a variety of upland plant communities characterized by well-drained soils. Wetlands and surface water features include several miles of the Withlacoochee River and isolated depression marshes. The project protects natural floodplain areas along portions of the southern bank of the river, while adjoining uplands provide buffer areas to protect the river from high intensity land uses. The lands within this project were jointly purchased between the District and the State's Conservation and Recreation Lands (CARL) program. Under a management agreement with the State, the Florida Forest Service (FFS) is the lead land manager. Recreational improvements/amenities made available by the FFS include a trail network north of CR-491 for bicycling and horseback riding, canoeing and non-gas powered boating, fishing, primitive camping, picnicking, and 2.8 miles of registered “trailwalkers” trail. Land management activities consist of monitoring and coordinating with the FFS regarding their management of the tract.

***Upper Hillsborough Preserve*** – The Upper Hillsborough project, located in Pasco and Polk counties, includes the channel of the Withlacoochee and Hillsborough rivers, including a unique hydrologic feature - the Withlacoochee River/Hillsborough River overflow. At this point, a portion of the flow of the Withlacoochee River naturally conveys to the Hillsborough River north of U.S. Highway 98. Lands within this project protect the hydraulic features of the river systems along with extensive areas of forested wetland habitats. Recreational activities/amenities available at the upper Hillsborough include non-potable water; approximately 9 miles of hiking trails; more than 30 miles of shared use hiking, horseback riding and bicycling trails; 5 primitive and 10 equestrian campsites, and fishing. Hunting is managed by the Florida Fish and Wildlife Conservation Commission. Land management activities include prescribed burning, exotic species control, public use and recreational development/maintenance, land security, natural systems restoration and wildlife monitoring.

***Upper Lake Marion Creek Watershed*** – The relatively undisturbed creek system of the Upper Lake Marion Creek Watershed flows north out of Lake Marion, joins Snell Creek and ultimately flows southeast to Lake Hatchineha. The entire Lake Marion Creek basin extends over 18,300 acres and includes portions of both the Southwest and South Florida water management districts. This district has entered into an agreement with the SFWMD to assist in the management of its lands since, due to the property's proximity to SFWMD-managed lands, the SFWMD can manage the property more cost effectively. District land management consists primarily of coordination with the SFWMD.

***Upper Myakka River Watershed (Flatford Swamp)*** – The Upper Myakka River Watershed project is located in Manatee County and includes forested floodplain swamps and marshes along the upper portions of the Myakka River watershed. The headwater swamps function as retention and detention areas for local drainage. Wetland forests and adjoining uplands provide treatment of surface runoff. Access to the property is limited to hiking since the project lands are often flooded, which is not conducive to recreational trail development. However, the property contains narrow flatwoods roads and jeep trails that can be used for hikers during dry weather.

***Upper Saddle Creek*** – The Upper Saddle Creek corridor is located in Polk County between the state-owned Tenoroc Fish Management Area and Lake Hancock. The property lies upstream of Lake Hancock and the upper Peace River and adjoins Saddle Creek Park which is owned by Polk County. The property is part of and provides protection to the floodplain of Saddle Creek, the major tributary to Lake Hancock. The property is in a natural state characterized by dense, existing forestation with limited encroachment of exotic species. The District and Polk County jointly acquired and co-own the project lands. Polk County is responsible for management of the property.

***Weekiwachee Preserve*** – The Weekiwachee Preserve is located in Hernando and Pasco counties and includes several miles of the Weeki Wachee River and extensive areas of hardwood swamps and hammocks. The Weeki Wachee Swamp extends several miles along the coastal portions of Hernando County and represents a regionally important wildlife area. The riverine swamps are environmentally

sensitive areas, which play an important role in the river's conveyance system and in flood and storm abatement. As they approach their outfall at the Gulf of Mexico, the Weeki Wachee and Mud rivers form a complex system of productive estuarine marshes and lowlands. Recreational activities/amenities include approximately six miles of hiking trails and six miles of shared use hiking and bicycling trails, and fishing. The Preserve is open to vehicular access two Saturdays of every month. Hunting is managed by the Florida Fish and Wildlife Conservation Commission. Land management activities include natural systems restoration, exotic species control, land security, public use and recreational development/ maintenance, prescribed burning, wildlife monitoring, road repair and mowing. The Weeki Wachee Springs State Park is managed by Florida State Parks.

## Progress of Funding, Staffing and Resource Management

The following table depicts the District's budget for funding and staffing for resource management, public use and payments in lieu of taxes.

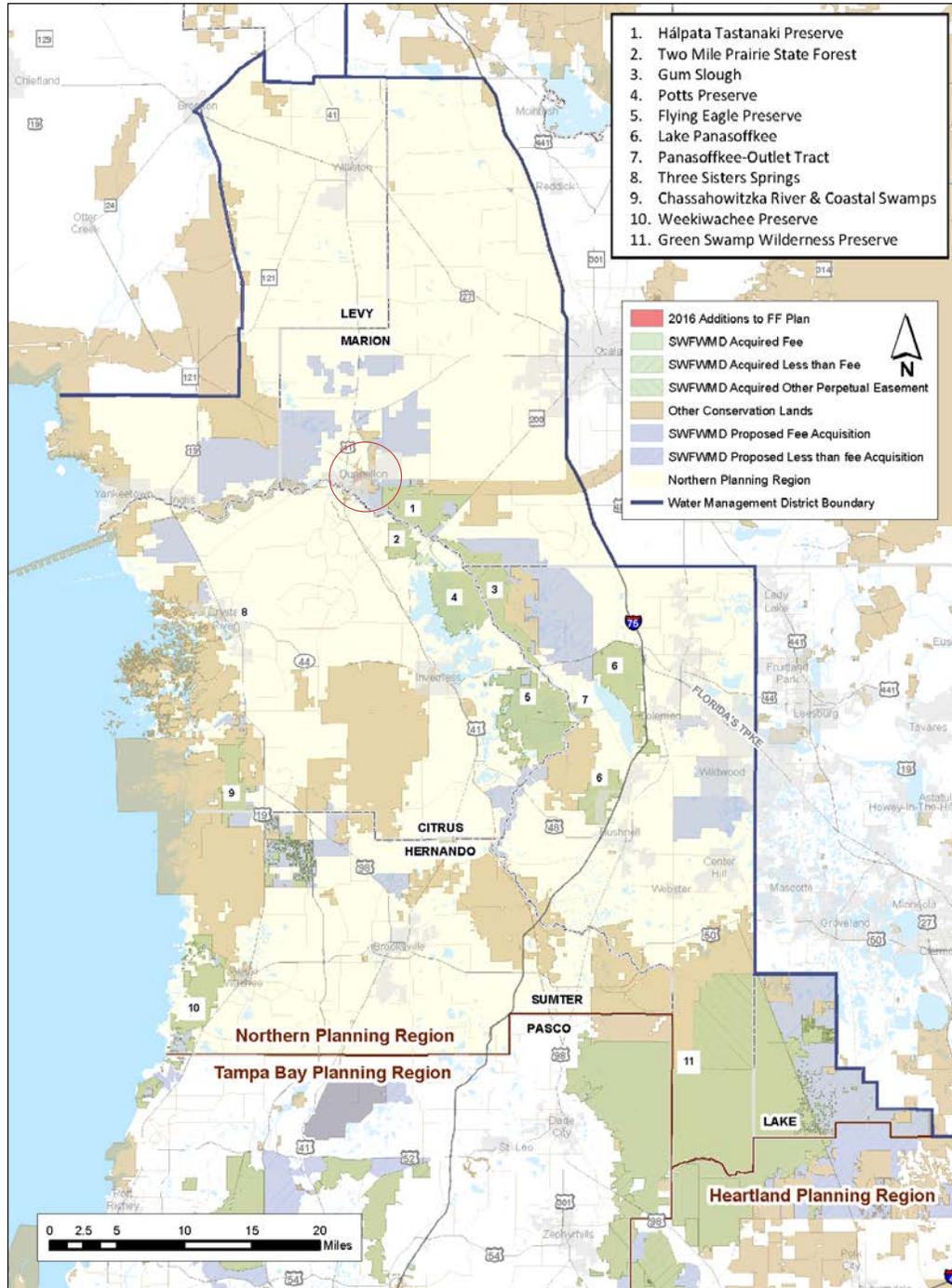
**Table 7. Progress of Funding, Staffing and Resource Management**

Budget Area	FY2011 - 2012 Budget	FY2012 - 2013 Budget	FY2013-2014 Budget	FY2014 – 2015 Budget	FY2015 – 2016 Budget
FTEs	45	37	37	38	38
Resource management	\$4,114,344	\$3,109,969	2,968,826	2,947,869	871,909
Public use	1,657,544	781,154	1,067,067	1,073,655	4,712,815
Payments in lieu of taxes	134,124	134,124	0	0	132,775
<b>Total</b>	<b>\$5,906,012</b>	<b>\$4,025,247</b>	<b>\$4,035,893</b>	<b>\$4,021,524</b>	<b>\$5,717,499</b>

# Florida Forever Land Acquisition Projects

## Northern Planning Region

Figure 3. Northern Planning Region Map

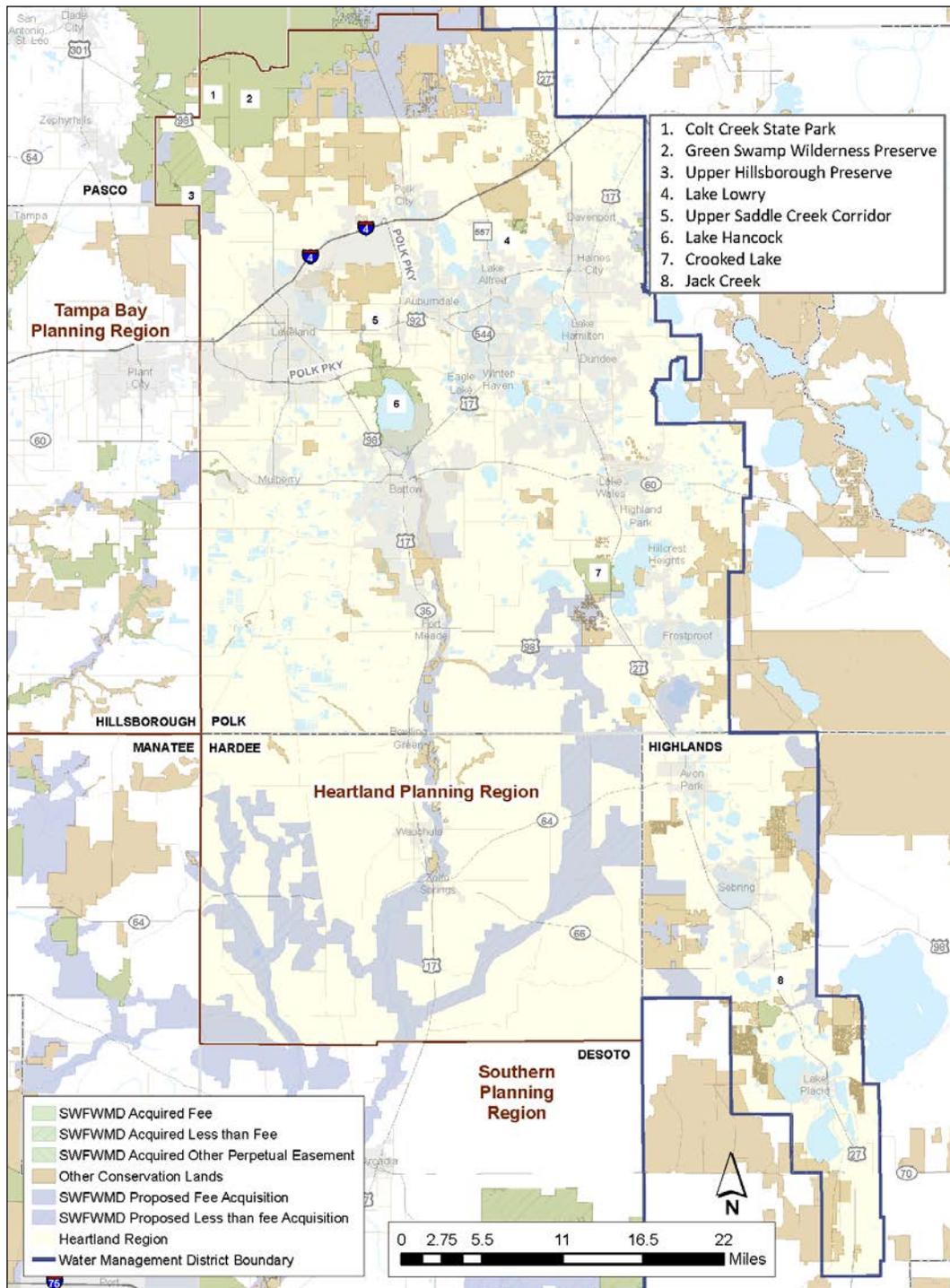


The lands eligible for acquisition within the Northern Planning Region are identified as follows:

- Approximately 92,100 acres identified for potential fee simple acquisition
- Approximately 45,700 acres identified for potential acquisition through less-than-fee techniques

## Heartland Planning Region

Figure 4. Heartland Planning Region Map

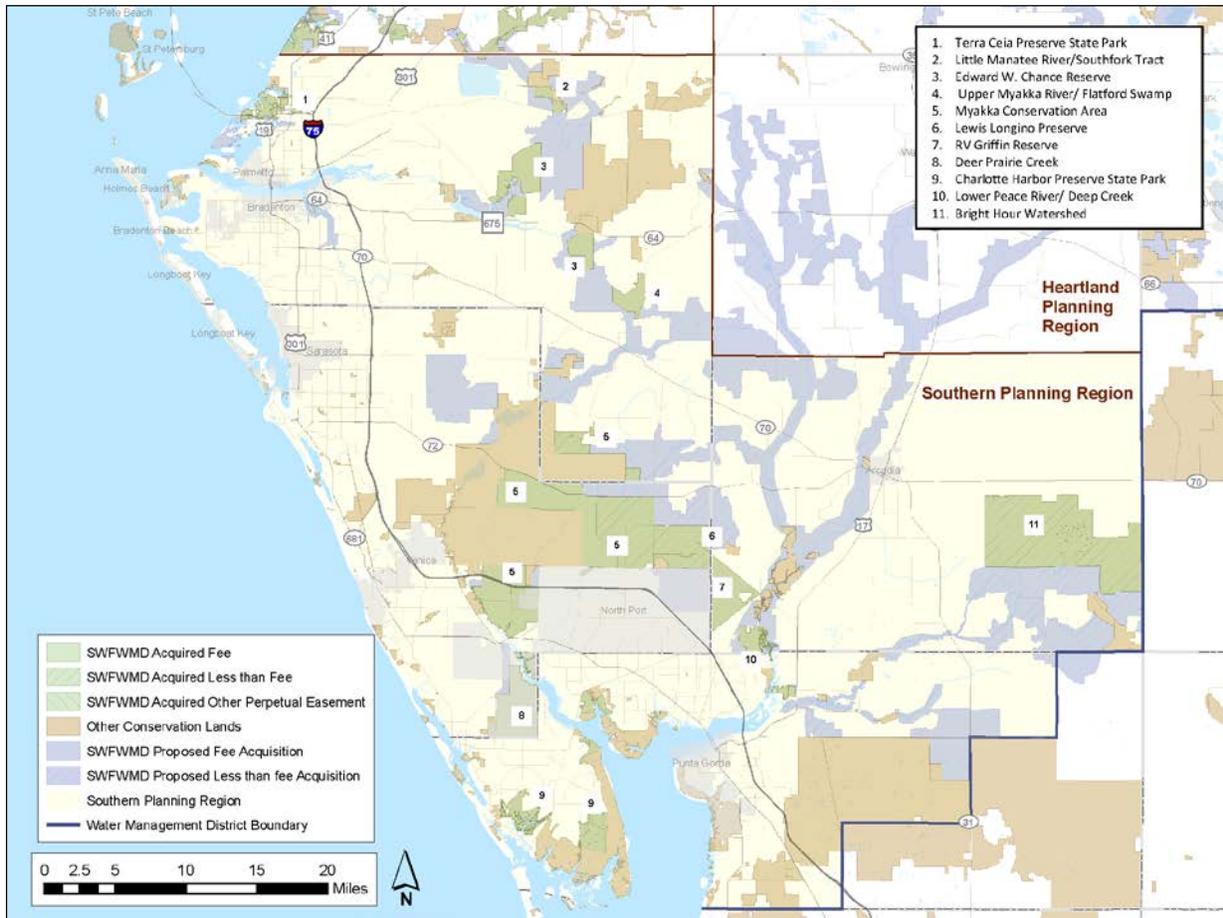


The lands eligible for acquisition within the Heartland Planning Region are identified as follows:

- Approximately 68,500 acres identified for potential fee simple acquisition
- Approximately 104,200 acres identified for potential acquisition through less-than-fee techniques

## Southern Planning Region

Figure 5. Southern Planning Region Map



The lands eligible for acquisition within the Southern Planning Region are identified as follows:

- Approximately 121,200 acres identified for potential fee simple acquisition
- Approximately 57,300 acres identified for potential acquisition through less-than-fee techniques

## Tampa Bay Planning Region

Figure 6. Tampa Bay Planning Region Map



The lands eligible for acquisition within the Tampa Bay Planning Region are identified as follows:

- Approximately 32,000 acres identified for potential fee simple acquisition
- Approximately 17,700 acres identified for potential acquisition through less-than-fee techniques

Consolidated **Annual**  
**Report**  
*March 1, 2016*

# Mitigation Donation

Annual Report 2015

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Sarasota, Florida 34240-9711  
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**David W. Dunbar**  
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**Kelly S. Rice**  
Citrus, Lake, Levy, Sumter

**Robert R. Beltran, P.E.**  
Executive Director

January 4, 2016

The Honorable Rick Scott  
Governor of Florida  
Plaza Level 05, The Capitol  
400 South Monroe Street  
Tallahassee, Florida 32399-0001

Subject: Annual Report on Cash Payments as Mitigation

Dear Governor Scott:

This letter is written pursuant to Section 373.414(1)(b)(2), Florida Statutes, which requires that each water management district report annually to the Executive Office of the Governor "all cash donations accepted under subparagraph 1 during the preceding calendar year for wetland mitigation purposes."

During the reporting period, the Southwest Florida Water Management District received no cash payments as mitigation, pursuant to 373.414(1)(b), Florida, Statutes.

Sincerely,

Robert R. Beltran, P.E.  
Executive Director

cc: Secretary Jonathan P. Steverson, FDEP



# Strategic Plan 2014–2018

*Updated January 2016  
and 2015 Annual Work Plan*

Southwest Florida  
*Water Management District*





# MESSAGE FROM THE CHAIR

## District committed to meeting its core water resources mission

The Southwest Florida Water Management District (District) serves its stakeholders, the citizens of the 16-county west central Florida region, by managing and protecting the region's water resources to ensure their continued availability while maximizing the benefits to the public. Our core areas of responsibility are water supply, water quality, natural systems and flood protection.

The District is a solution-oriented agency that emphasizes scientific and technical excellence while also providing high quality service to its customers. Our ongoing commitment is to be responsive to our stakeholders as we meet our responsibilities.

The region faces many water resource challenges as our communities continue to grow and the water resources remain limited. This Strategic Plan provides the road map for meeting those challenges by identifying what needs to be accomplished, how it will get done, and how success will be measured.

Two years ago we revamped our five-year plan to more specifically target priorities in each of our four planning regions. In the Northern Region our priorities are improving our coastal spring systems and improving water use efficiencies to ensure a long-term sustainable water supply. In the Tampa Bay region, we are focused on recovering water resources impacted by water withdrawals and improving water bodies such as Tampa Bay. The priorities in the Heartland and Southern regions include meeting the goals of the Southern Water Use Caution Area Recovery Strategy and improving priority water bodies.

As we enter the third year of the plan, we have accomplished many of our objectives. Some of the larger accomplishments include:



**Michael A. Babb**  
*Governing Board Chair*

- working closely with local, regional and state agencies to develop a regional water supply plan for the Central Florida Water Initiative, a five-county region that spans three water management districts
- completing construction on both the Lake Hancock Lake Level Modification project to help increase flows in the upper Peace River and the Lake Hancock Wetland Treatment System to improve water quality entering into the Peace River and Charlotte Harbor
- assisting the Peace River Manasota Regional Water Supply Authority to complete three phases of the Regional Integrated Loop System
- partnering with the Withlacoochee Regional Water Supply Authority to develop a regional water supply plan

While much has been done, many water resource challenges remain. Funded primarily through property taxes, the District is responsible to the taxpayers to protect their investment in water management. The District has been able to reduce its operational expenses by more than 40 percent over the last seven fiscal years. Funds saved through these efficiency measures are used for projects such as springs restoration, alternative

water supply development, water quality improvements and flood protection.

The District is continually looking for ways to reduce costs, improve effectiveness and maximize the taxpayer investment in our mission. We will continue to use developing technology to deliver a better value to our citizens by increasing efficiencies in all areas.

### Governing Board

**Michael A. Babb**  
Chair/Hillsborough County

**Randall S. Maggard**  
Vice Chair/Pasco County

**Jeffrey M. Adams**  
Secretary/Pinellas County

**David W. Dunbar**  
Treasurer/Hillsborough,  
Pinellas Counties

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Citrus, Lake, Levy, Sumter Counties

*The Governing Board establishes policies for the District. Board members are unpaid citizen volunteers appointed by the Governor and confirmed by the Florida Senate. At printing, there is one vacant Board seat.*

### Table of Contents

Overview	4-5
Strategic Initiatives	6-9
Regional Priorities	10-21
Core Business Process	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 98 local governments spread over approximately 10,000 square miles, with a total population estimated to be 4.9 million in 2014. For planning purposes, the District is divided into four regions:

Northern, Tampa Bay, Heartland, and Southern. (See *District Planning Regions map*.)

## Governing Board

A 13-member board governs the District. The 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 diverse backgrounds and interests. Board members, who must live in the District, serve four-year terms.

## Budget

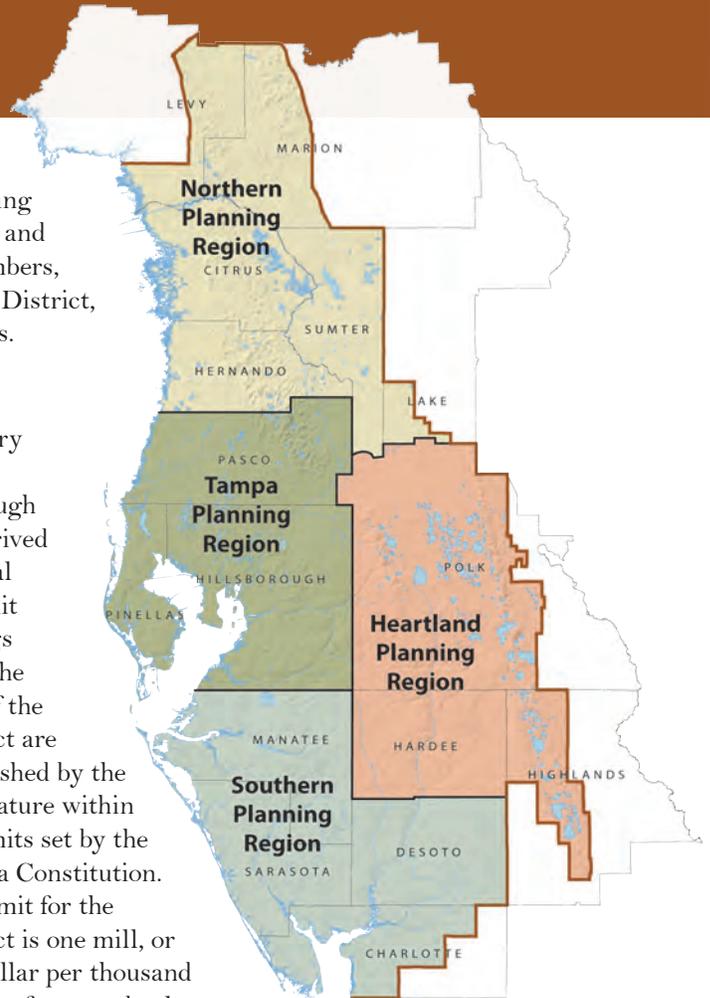
The District's primary funding source is ad valorem taxes, although revenues are also derived from state and federal appropriations, permit fees, interest earnings and other sources. The taxing capabilities of the

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 2015 is 0.3658 mill. More information about budgeting is included in this document's Core Business Practices section.

## Core Mission

Florida Statutes, primarily Chapter 373, authorizes 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 the water resources 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, 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 10 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 Establishment and Recovery
- Natural Systems Conservation and Restoration
- Floodplain Management
- Emergency Flood Response

The Strategic Initiatives section of this document will provide additional information on each of the Initiatives, including goals and strategies.

## 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.

## Vision and Values

Every organization has an identity that is forged not only by what it does, but by how it conducts itself. The qualities identified in this Vision include being dynamic, efficient, ethical, collaborative, competent and committed to the vitality of the state and its environment.

To achieve this Vision, the District has established five Core Values that set the tone and the direction for its employees:

- Service Excellence
- Teamwork & Collaboration
- Self Management
- Professional Integrity
- Professional and Technical Excellence

*(See Vision/Values chart for more information.)*

These Core Values are further defined in, and serve as the foundation of, the District's annual employee evaluation process, embedding these principles in the fabric of the organization and making them meaningful to employees in their daily activities.

## 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
- Regulation
- Long-Range Financial Planning
- Land and Structure Operations
- Knowledge Management
- Public Engagement

These business processes are explained in more detail in the Core Business Processes section.

## VISION

The District is a dynamic and efficient public organization led and staffed by ethical, collaborative and highly competent people who provide superior service to our community. As stewards of Florida's water and related natural resources, we find our work rewarding and are driven by a desire to sustain the vitality of our state and its precious environment.

## CORE VALUES

Beliefs setting the tone and direction for our employees

### Service Excellence

We are a solution-oriented agency committed to achieving results and efficiently meeting the needs of the public and the water resources.

### Teamwork & Collaboration

We communicate and work together effectively to achieve our common goals.

### Self Management

We set challenging goals for our personal achievement and hold ourselves accountable for the results.

### Professional Integrity

We operate transparently and apply our processes, rules and regulations in a consistent manner.

### Professional and Technical Excellence

We use our expert knowledge, technology and other available resources to achieve high-quality work.

# 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 for all 16 counties within the District. This is a collaborative 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. As of 2015, the District has helped to develop more than 212 million gallons daily (mgd) of alternative water supplies.

#### Strategies

- Develop surface water capture, desalination and brackish groundwater systems
- Partner with the agricultural community to provide alternative water supplies
- Continue to leverage District funds to facilitate the development of alternative water supplies
- Continue to support research into aquifer storage and recovery viability
- Promote conjunctive use approaches 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 source 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. As of 2014 (latest data available), more than 151 mgd of reclaimed water was being beneficially reused in the District, accounting for more than 13 percent of overall water use.

#### Strategies

- Increase availability by increasing storage capacity
- Increase availability by promoting interconnects
- 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
- Augment reclaimed water with traditional sources when appropriate
- Provide regulatory incentives to increase beneficial use and offsets
- Increase benefits by promoting recharge and environmental enhancement projects

### 4. Conservation

*Goal Statement: Enhance efficiencies in all water-use sectors.*

The District fosters water stewardship awareness and sustainable behaviors among the people who live, work and play within the District's boundaries. 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
- Utilize regulatory programs to establish effective conservation practices

# STRATEGIC INITIATIVES

## Water Quality

### 1. Water Quality 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 data. Good decisions require reliable information.

#### Strategies

- Continue to develop and maintain long-term water quality monitoring networks to collect, analyze and distribute accurate water quality information
  - Coastal Groundwater 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

### 2. Water Quality 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. Through fiscal year 2013, District projects had provided water quality treatment for approximately 120,000 acres of watershed, resulting in the reduction

of an estimated 120 tons per year of nitrogen to area waters. Examples of these efforts include partnerships for best management practices (BMPs) implementation such as the Facilitating Agricultural Resource Management Systems (FARMS) Program, focused on the agriculture community, and the Watershed Management Program, addressing watershed improvements; well abandonment assistance offered by the Quality of Water Improvement Program (QWIP); and the restoration of surface waters performed by the Surface Water Improvement and Management (SWIM) and the Springs and Environmental Flows programs.

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 process. In addition, water quality assistance is accomplished through data and information sharing and the implementation of improvement projects.

#### Strategies

- Use cooperative funding to support local government efforts in development and implementation of basin management action plans (BMAPS)
- Continue to monitor the USEPA Numeric Nutrient Criteria process
- Promote Florida-Friendly Landscaping™ principles and other behaviors that help protect water quality
- Participate in the development and implementation of the statewide stormwater management criteria to enhance an active environmental resource permitting (ERP) program



*Rainbow Springs*

- Utilize regulatory programs to promote water quality protection and improvement
- Continue to promote partnerships through District water quality programs such as the SWIM and the FARMS programs

# STRATEGIC INITIATIVES

## Natural Systems

### 1. Minimum Flows and Levels Establishment and Recovery

*Goal Statement: To prevent significant harm and reestablish the natural ecosystem, determine MFLs and, where necessary, develop and implement recovery plans.*

Minimum flows and levels (MFLs) for aquifers, surface watercourses, and other surface water bodies identify the limit at which 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. MFLs are used for permitting or planning decisions concerning how much water may be safely withdrawn from a water body.

Through fiscal year 2015, the District has set 204 minimum flows and levels on rivers, lakes, aquifers and wetlands. The District's process for establishing MFLs includes independent scientific peer review and opportunities for interested stakeholders to participate in public review. The District also assesses potential water supply/resource problems and evaluates water use permit applications to ensure no violation of established MFLs occurs. In addition, MFLs are monitored and evaluated for compliance. This includes determining the need for recovery, implementing strategies to prevent flows or levels from falling below established MFLs, and assessing the recovery of water bodies where significant harm has occurred. To date, the District has developed three regional recovery strategies associated with Water Use Caution Areas (Northern Tampa Bay, Southern and Dover/Plant City) and two water body-specific plans that cover the water resources currently known to not meet established MFLs.

#### Strategies

- Update MFL priority list and schedule annually
- Establish water body-specific MFLs through:
  - Data collection
  - Data analysis and reporting
  - Independent scientific peer review and public review
  - Rule adoption
- Continue to incorporate MFLs in District water use permit application review processes and compliance monitoring
- Monitor and report hydrologic conditions to ensure compliance with MFLs
- Continue to review and refine scientific methodologies used in establishing MFLs
- Implement adopted recovery strategies
- Incorporate MFL recovery and prevention strategies into the Regional Water Supply Plan development process

### 2. Conservation and Restoration

*Goal Statement: Identify critical environmentally sensitive ecosystems and implement plans for protection or restoration.*

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. Through 2013, nearly 30,000 acres of habitat had 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, land is restored and managed to maintain

ecological and hydrological functions. Restoration initiatives, such as the Surface Water Improvement and Management (SWIM) Program, are overseen by the District to restore priority water bodies. Numerous recreation and educational opportunities are offered on District lands to enhance conservation land stewardship.

The District also regularly tracks land and water resource alterations through its aerial land use/land cover, wetland and seagrass mapping efforts. Staff is able to monitor changes and offer feedback to better link land and water resources for developments of regional impact (DRI) and local government comprehensive plan amendments. The District's environmental resource permit (ERP) program helps protect water resources.

#### Strategies

- Evaluate acquisition opportunities, placing priority on ecological value, inholdings, additions, core conservation areas, realistic landowner expectations, and leveraging partnership dollars
- Promote innovative restoration projects and partnerships
- Promote conservation of land through recreation and education opportunities
- 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
- Utilize management tools to enhance maintenance of conservation lands

# STRATEGIC INITIATIVES

## Flood Protection

### 1. Floodplain Management

*Goal Statement: Develop better floodplain information and implement floodplain management programs to maintain storage and conveyance and to minimize flood damage.*

The District's Watershed Management Program (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's environmental resource permit (ERP) program protects floodplain and historic basin storage and ensures that new development does not increase the rate of stormwater runoff onto neighboring properties.

Strategic acquisition allows land to fulfill natural functions of storing and accommodating excess water and reduces the risk of flooding damage by preserving floodplains. The District also maintains and operates four major canal and conveyance systems and 81 flood control and water conservation structures as an important strategy in floodplain management. Extensive areas of the District depend upon the maintenance and operation of these facilities.

#### Strategies

- Implement the WMP, collect and analyze data and develop and distribute accurate floodplain information

- Implement the ERP program using WMP floodplain information
- Identify floodplain management and flood protection value associated with land acquisition opportunities
- Operate, maintain and upgrade water management structures and associated facilities
- Increase public awareness of floodplains

### 2. Emergency Flood Response

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

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 (EOC) and Emergency Operations Organization (EOO) 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 District provides emergency assistance to local governments and the public. District regulatory flood investigation teams assist local governments with emergency construction authorizations,

equipment and staff 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 water conservation and flood control structures with remote control and equipping mission-critical structures with digital video monitoring. Emergency notification sirens have been installed at two high-hazard District water control facilities — Medard Reservoir in Hillsborough County and G-90 in Highlands County. With these sirens, downstream residents can be warned to evacuate should either of the facilities fail.

#### Strategies

- Continue to promote the National Incident Management System (NIMS) and Incident Command System (ICS) as the District's incident management system
- Establish redundant control systems for all mission-critical infrastructure
- Use technology, including automation, to the fullest extent to ensure optimal response capabilities
- Train staff in NIMS/ICS structure and exercise the District's CEMP and high hazard structure Emergency Action Plans
- Provide emergency assistance to local governments and agencies as requested

# REGIONAL PRIORITIES AND OBJECTIVES

## Northern Region — Springs

### PRIORITY:

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

### OBJECTIVES:

- Complete natural systems restoration plans with targets and implement identified projects for each priority spring system
- Implement plans and projects for water quality, critical shoreline, wetlands and/or submerged habitats in each priority water body or springshed

### Narrative:

Among the most precious water resources in the District are the more than 150 documented springs, and the rivers, bays, and estuaries that are fed by them. Over the past half century virtually all of these spring-fed systems have experienced significant ecological changes caused by both natural variability and human activities.

Most individual springs cluster around 16 groups of springs. The five largest are classified as first-magnitude groups (flow rates of 100 cubic feet per second or greater). These are the Rainbow Springs, Crystal River/Kings Bay, Homosassa Springs, Chassahowitzka Springs and Weeki Wachee Springs.

The District recognizes the need to manage all springs within its boundaries but places a priority on the five first-magnitude spring groups, which fall within the northern area of the District. These five spring groups collectively discharge more than one billion gallons per day.

Four of the five groups discharge into the Gulf coastal waters, home to the second longest seagrass area in the United States.

With an estimated 700,000 acres, the Springs Coast seagrass area is one of the largest seagrass areas in the world. These coastal groups are also critical manatee habitat providing thermal refuge during the winter months. Kings Bay is the largest natural thermal refuge for manatees in the United States.

These groups are important not only for their ecological value but also for their economic impact on the communities that call these areas home. Four of the five first-magnitude systems have state parks associated with them that draw over one million non-resident visitors annually. This translates into \$46 million in direct economic impact.

More than 900 jobs are generated by state parks associated with these springs groups. According to the United States Fish and Wildlife Service, Kings Bay supports 42 small businesses through kayaking and diving tours alone.

The District takes an ecosystem-level approach to springs management by minimizing human impacts on flow regimes, improving water quality and clarity, and restoring natural habitats. The District's Springs Management Plan lays out a general restoration strategy for the five-year period 2015–2019. This plan is a living document with adaptive management at its core, and builds upon earlier comprehensive watershed management and years of Districtwide expertise designing and implementing projects. The District, in partnership with the various stakeholders, implements projects to conserve and restore the ecological balance of our spring systems and tracks its performance against the goals identified in the management plan.

Development of SWIM plans for the five first-magnitude springs is one of several initiatives discussed in the Springs Management Plan. The revised Rainbow SWIM plan was approved in November 2015. The Crystal River/Kings Bay plan is under way, with completion scheduled for January 2016.

**Rainbow River** watershed, located in Marion and Levy counties, covers a surface area of 73-square miles and discharges 493 mgd into the Withlacoochee River. The river is designated an Outstanding Florida Water, Aquatic Preserve and a SWIM priority water body.

Main challenges facing the Rainbow River are elevated nitrate concentrations, reduced water clarity, long-term stream flow reduction and altered aquatic vegetation communities.

The Rainbow River SWIM Plan includes quantifiable objectives for improving the systems. These objectives include targets for water clarity, submerged aquatic vegetation coverage, nitrate concentrations, and the minimum flows for the springs and river systems.

**Crystal River/Kings Bay** watershed is 364 square-miles and situated in Citrus County. This hydrologically unique water body is made up of more than 30 springs, and tidally-influenced Kings Bay is its headwater. The system is designated as an Outstanding Florida Water and a SWIM priority water body.

Primary challenges for the Crystal River/Kings Bay watershed are reduced water clarity, altered aquatic vegetation, elevated nitrate concentrations and sea level rise.

Quantifiable objectives in the Crystal River/Kings Bay SWIM Plan include water clarity, nitrogen, phosphorus and chlorophyll concentrations, coverage of desirable and invasive aquatic vegetation and natural shoreline, enhancement of disturbed shoreline and minimum flows for the springs and river systems.

SWIM Plans for the remaining water bodies, **Chassahowitzka, Homosassa and Weeki Wachee rivers**, are to be completed in 2016–2017. Each management plan will identify priority management actions, ongoing and proposed projects and quantifiable objectives for determining success.

# REGIONAL PRIORITIES AND OBJECTIVES

## Northern Region — Water Supply

### PRIORITY:

Ensure long-term sustainable water supply

### OBJECTIVES:

- **Increase conservation**
  - Achieve and maintain 150 gallon per day compliance per capita with all public supply utilities by December 31, 2019
  - Reduce 2011 regional average compliance per capita of 133 by 15 percent to 113
- **Maximize beneficial use of reclaimed water**
  - Achieve 75 percent utilization of all wastewater flows and a 75 percent resource benefit by 2040. As of 2014, the Northern Region had a utilization rate of 63 percent and resource benefit of 71 percent
  - Increase beneficial reuse flow to 21 mgd by 2035. As of 2014, the Northern Region had 12.85 mgd of reuse flow
  - Increase reclaimed water quality discharge to rapid infiltration basins (RIBs) in springsheds
- **Partner with Withlacoochee Regional Water Supply Authority to promote regional water supply planning and development**

### Narrative:

The District's 2015 Regional Water Supply Plan shows that demand for water in the Northern Planning Region through 2035 and beyond could be met with fresh groundwater if the region's considerable potential for reuse and conservation were realized.

Public supply use, which accounts for about 50 percent of the water use in the Northern Planning Region, has significant potential for water savings. In 2011, public supply water use in the northern region averaged 133 gallons per person per day (gpcd). This figure represents a 35 percent reduction from water usage in 2000. However, it's still significantly higher than the other three planning regions. In 2015, there were four utilities in the northern region with compliance per capita figures higher than 150 gpcd, which will be the maximum allowed starting on December 31, 2019. The public supply water use averaged 121 gpcd in 2015. This per capita is still significantly higher than that experienced in the other regions.

The District's goals are to ensure that all utilities fall below the maximum per capita usage and to reduce the regional per capita usage 15 percent by 2020. 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.

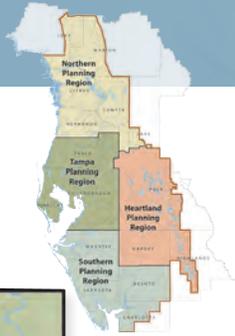


The District promotes regional approaches to water supply planning and development. The benefits of regional systems include economies of scale, better ability to manage environmental impacts, improved system reliability, operational flexibility and emergency backup capability. Larger, regional systems 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.

# REGIONAL PRIORITIES AND OBJECTIVES

## Tampa Bay Region — MFL Recovery



### PRIORITY:

Implement Minimum Flow and Level Recovery Strategies

### OBJECTIVES:

- **Northern Tampa Bay Water Use Caution Area (NTBWUCA) Recovery Strategy**
  - Recover minimum flows for rivers, lakes, wetlands, and other water bodies
  - By 2018, complete an assessment to determine whether Tampa Bay Water's reduction to 90 mgd of groundwater withdrawal from the Central Wellfield System provides necessary recovery for impacted rivers, lakes and wetlands
  - Complete the permitting, final design and construction of Blue Sink and Morris Bridge Sink projects for the Lower Hillsborough River recovery
  - Conduct a 5-year assessment of the adopted MFL for the Lower Hillsborough River
  - Increase use of reuse for recharge and MFLs
- **Dover/Plant City Water Use Caution Area (DPCWUCA) Recovery Strategy**
  - Ensure compliance with the DPCWUCA area minimum aquifer level of 10 ft NGVD for the Upper Floridan aquifer at the District's DV-1 Suwannee monitor well
  - Reduce January 2010 withdrawal quantities by 10 percent by January 2015 and by a total of 20 percent by January 2020
  - Establish automatic flow meter reporting equipment on 960 agricultural withdrawal points
- **Southern Water Use Caution Area (SWUCA) Recovery Strategy**
  - Achieve a net reduction up to 50 mgd in groundwater in SWUCA by 2025 with 40 mgd achieved through FARMS
  - Recover the SWUCA saltwater intrusion minimum aquifer level of 13.1 ft 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



### Narrative:

The District sets minimum flows and levels on priority water bodies. An MFL is the limit at which withdrawals would be significantly harmful to the water resources or ecology. 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.

In the Tampa Bay Region, the District has identified recovery strategies associated with MFLs in three WUCAs: Northern Tampa Bay, Dover/Plant City, and Southern.

# REGIONAL PRIORITIES AND OBJECTIVES

## Tampa Bay Region — MFL Recovery

The **Northern Tampa Bay Water Use Caution Area** was established to address adverse impacts to water resources from groundwater pumping. The WUCA encompasses all of Pinellas and Pasco counties, and those portions of Hillsborough County north of Highway 60. The first phase of the District's recovery strategy for restoring water resources called for reducing pumping from Tampa Bay Water's regional well-fields and providing financial incentives for construction of alternative water supply projects. In the Northern Tampa Bay WUCA, these efforts have produced 149 mgd of new alternative water sources and allowed for groundwater withdrawals to be reduced by more than 60 mgd.

Significant hydrologic recovery has resulted from these reductions. However, more information is needed to fully evaluate the effects of the reductions on MFL recovery. Therefore, the District initiated a second phase of the recovery strategy through adoption of a comprehensive plan that includes continued monitoring and evaluation of environmental mitigation for withdrawal impacts and continued water conservation activities by Tampa Bay Water's member governments.

One of the water resources impacted in the NTBWUCA is the Hillsborough River. The recovery strategy for the lower Hillsborough River calls for the augmentation of the river from a variety of sources, including Sulphur Springs, Blue Sink, Morris Bridge Sink and the Tampa Bypass Canal. Since December 2007, the District has transferred 11 cubic feet per second of water from the Tampa Bypass Canal to the Hillsborough River Reservoir and pumped 75 percent of this volume over 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 cubic feet per second of flow from Sulphur Springs to the base of the City of Tampa dam. Projects to develop additional augmentation quantities for the lower Hillsborough River are planned at Blue and Morris Bridge sinks.

The **Dover/Plant City Water Use Caution Area** was established to address impacts from groundwater pumping for frost/freeze protection. To protect crops from freeze events, a best management practice for many farmers with agricultural commodities including strawberries, blueberries, citrus, and nurseries is to pump groundwater and irrigate when temperatures drop to near freezing. Substantial irrigation use during these times strains the aquifer system which lowers groundwater levels and can also impact residential wells and contribute to sinkhole development.

During the historic 11-day January 2010 freeze event, many residential wells were impacted and sinkholes were reported. Moreover, significant freeze events resulting in well failures and sinkholes have occurred three times over the past 10 years. As a result, the District has developed and adopted a comprehensive management plan to significantly reduce and monitor in real time groundwater pumping during future freeze events that may cause impacts to existing legal users.

A southern portion of Hillsborough County is included in the **Southern Water Use Caution Area**. In the eight-county 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 were

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

The District has adopted MFLs for 41 priority water bodies in the SWUCA. As of 2013, approximately half of the established MFLs are not being met. The District adopted the SWUCA Recovery Strategy to recover flows and levels to established MFLs, including reducing the rate of saltwater intrusion by achieving the proposed minimum aquifer level, restoring minimum flows in the upper Peace River, and restoring minimum levels to the priority lakes in the Highlands Ridge area.

Some of the primary Recovery Strategy elements for the SWUCA include:

- Updating the Regional Water Supply Plan to identify how to address growing regional water needs while minimizing impacts to the water resources and natural systems. The District approved the updated plan in November 2015.
- Providing financial incentives for conservation, creation of alternative supplies and regional interconnections.
- Resource monitoring, reporting and cumulative impact analysis. The cumulative impact analysis evaluates changes in permitted and used groundwater quantities and water resource development projects benefiting the Upper Floridan aquifer in and around the MIA.

# REGIONAL PRIORITIES AND OBJECTIVES

## Tampa Bay Region — Improve Water Bodies

### PRIORITY:

Improve Lake Thonotosassa, Tampa Bay, Lake Tarpon and Lake Seminole

### OBJECTIVES:

- Complete plans and implement natural system projects that restore critical shoreline, coastal upland and Intertidal habitats
- Implement plans and projects for water chemistry, critical shoreline, wetlands and/or submerged habitats in each priority water body
- Complete the Old Tampa Bay Water Quality and Habitat Assessment and begin implementation of priority projects **(PROJECT COMPLETED)**



*Lake Thonotosassa shoreline.*

### Narrative:

**L**ake 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. The lake is designated as a District priority water body through its implementation of the state SWIM program.

Four main challenges exist in the Lake Thonotosassa watershed. Nutrient loadings from the watershed have caused extreme nutrient enrichment resulting in algal blooms. Habitat quality and

species diversity have declined. Nonnative plant species are more abundant, while availability of desirable sport fish has declined.

The District is partnering with other government agencies to identify nutrient sources in the watershed. Areas with high nutrient loadings will be 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 and the importance of water quality and wetlands.

Success indicators include meeting numeric targets for nitrogen, chlorophyll and phosphorus identified in the Lake Thonotosassa SWIM Plan.

**Tampa Bay** is designated as an “Estuary of National Significance” and a 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 2 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. Water quality has been degraded from pollutants and nutrient loading.

The District is working with other government agencies on a comprehensive conservation and management plan, implementation of water quality improvement projects, and restoration of the balance between coastal upland, wetland and intertidal habitats.

Success indicators include coverage of submerged vegetation and wetlands, and meeting targets for chlorophyll, nitrogen and phosphorus concentrations identified in the Tampa

# REGIONAL PRIORITIES AND OBJECTIVES

## Tampa Bay Region — Improve Water Bodies

Bay SWIM Plan. Through efforts of the region, this year, the program met its goal of recovering seagrasses to the acreage observed in the 1950s. In addition, the bay's nitrogen loading is on the decline, and the District SWIM program and local cooperators restored 4,500 acres of coastal habitats as of 2013.

**Lake Tarpon** is the largest freshwater lake in the Tampa Bay area with 2,532 acres of surface area. The lake is designated as an Outstanding Florida Water, a Fish Management Area and a SWIM priority water body.

The main challenge for the Lake Tarpon watershed is extreme nutrient enrichment resulting in water and habitat quality declines.

Success indicators include improvement in numeric targets for chlorophyll, nitrogen and phosphorus concentrations identified in the Lake Tarpon SWIM Plan.

The District is working in partnership with other government agencies to further assess Lake Tarpon and develop an updated plan that identifies projects and programs to reduce nutrient loading to the lake.

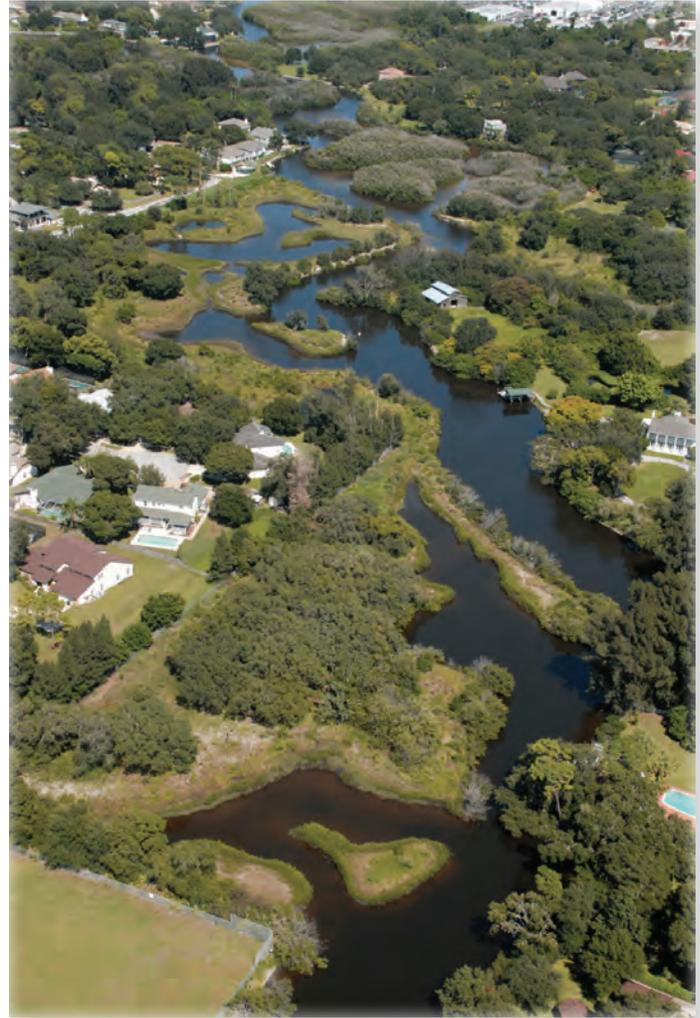
**Lake Seminole** is a 684-acre freshwater lake in west-central Pinellas County that was created in the 1940s by the impoundment of an arm of Long Bayou, a brackish water segment of Boca Ciega Bay. The Lake Seminole watershed encompasses approximately 3,500 acres, of which almost 90 percent is developed as urban land uses.

Lake Seminole is currently listed by the Florida Department of Environmental Protection as an impaired water body. The primary pollutants associated with this impairment are nutrients, which have resulted in hyper-eutrophic

conditions and poor water quality.

Improvement targets for chlorophyll, nitrogen and phosphorus concentrations are identified as measures of success in the Lake Seminole SWIM Plan. The control of excessive nutrients entering the lake and the fate of the nutrients that do reach the lake (e.g., internal nutrient recycling) would help in achieving 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 the five highest nutrient loading sub-basins with alum treatment systems, treating and redirecting a portion of flows in the Lake Seminole Bypass Canal into Lake Seminole, and removing organic muck sediments. The District has been partnering with the county on these projects.



*Lancaster Tract Restoration Project created several new wetland areas and also formed a freshwater pond to collect and treat stormwater entering the site. Lancaster Tract now provides improved water quality entering Tampa Bay.*

# REGIONAL PRIORITIES AND OBJECTIVES

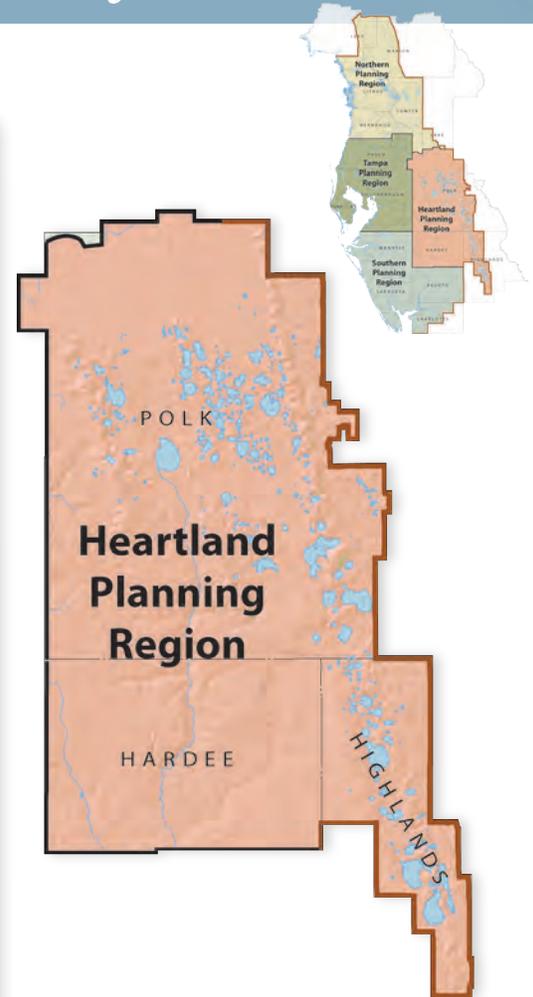
## Heartland Region — SWUCA Recovery

### PRIORITY:

Implement Southern Water Use Caution Area Recovery Strategy

### OBJECTIVES:

- Achieve a net reduction of up to 50 mgd of groundwater use in SWUCA by 2025 with 40 mgd of offsets achieved through agricultural reductions via the Facilitating Agricultural Resource Management Systems (FARMS) Program
- Recover the SWUCA saltwater intrusion minimum aquifer level of 13.1 ft NGVD for the Upper Floridan aquifer to slow the rate of saltwater intrusion in the Most Impacted Area
- Recover 87 to 89 percent of the minimum flows for three segments of the upper Peace River through implementation of the Lake Hancock Lake Level Modification project
- Recover minimum levels at seven Polk County lakes and nine Highland County lakes by 2025
- Ensure a sustainable water supply
  - Achieve and maintain the 150-gallon-per-day compliance per capita with all public supply utilities
  - Reduce 2011 regional average per capita of 104 gallons per capita daily by 5 percent to 99 by 2020
  - Assist Polk County and its municipalities in the development of 30 mgd of alternative supply sources through the creation of a regional water supply entity
  - Increase percentage of total water use supplied by alternative sources
  - Maximize the water conservation potential for the region
  - Maximize 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
  - Develop a Regional Water Supply Plan for the Central Florida Water Initiative by 2014 **(COMPLETED)**
  - Achieve 75 percent utilization of all wastewater flows and a 75 percent resource benefit by 2040. As of 2014, the Heartland Region had a utilization rate of 34 percent and resource benefit of 91 percent
  - Increase beneficial reuse flow to 53 mgd by 2040. As of 2014, the Heartland Region had about 11 mgd of reuse flow
  - Complete the TECO's SW Polk Power Station Interconnects of reclaimed water from the Cities of Lakeland and Mulberry and Polk County by 2017. Once fully operational, this project is anticipated to provide a resource benefit of 17 mgd



### Narrative:

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.

The District has adopted MFLs for 41 priority water bodies in the SWUCA. An MFL is the limit at which withdrawals would be significantly harmful to the water resources or

# REGIONAL PRIORITIES AND OBJECTIVES

## Heartland Region — SWUCA Recovery

ecology. As of 2013, approximately half of the established MFLs were not being met. The District adopted the SWUCA Recovery Strategy to recover flows and levels to established MFLs, including reducing the rate of saltwater intrusion by achieving the proposed minimum aquifer level, restoring minimum flows to the upper Peace River, and restoring minimum levels to priority lakes in the Ridge area, which extends roughly 90 miles along the center of the state in Polk and Highlands counties.

Some of the primary Recovery Strategy elements for the SWUCA include:

- Updating the Regional Water Supply Plan to identify how to address growing regional water needs while minimizing impacts to the water resources and natural systems. The District approved the updated plan in November 2015.
- Providing financial and regulatory incentives for conservation, construction of alternative supplies and regional interconnections. District funding sources include the Cooperative Funding and Water Supply and Resource Development initiatives.
- Resource monitoring, reporting and cumulative impact analysis. The Recovery Strategy includes the continuous monitoring of trends in resource conditions and permitted and actual water use. The cumulative impact analysis evaluates changes in permitted and used groundwater quantities and water resource development projects benefiting the Upper Floridan aquifer in and around the Most Impacted Area.
- Developing and implementing water resource projects to aid in reestablishing minimum flows to rivers, recover levels in Ridge lakes, and enhance recharge. A project focus area is to increase the wet-

weather storage in the upper Peace River watershed.

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 in the south. The District's cooperatively funded FARMS program has helped the agricultural community reduce its use of groundwater from the Upper Floridan aquifer. The FARMS program combined with other conservation efforts have helped to reduce Upper Floridan groundwater withdrawals by more than 50 mgd, one of the targets established by the SWUCA Recovery Plan. The District's Lake Hancock Lake Level Modification Project will be operational in 2015 to help meet the minimum flows for the upper Peace River.

Challenges remain in reducing the rate of saltwater intrusion along the coast and meeting minimum levels for Ridge lakes in Highlands and Polk counties.

While the southern portion of Polk County is included in the SWUCA, all of Polk County is part of a designated Central Florida Water Initiative (CFWI) region that is reaching sustainable groundwater limits, facing increased demands on water resources, and involves overlapping regulatory programs.

The CFWI region covers five counties, including Polk, Orange, Osceola, Seminole and southern portions of Lake. The boundaries of the St. Johns River, South Florida and Southwest Florida water management districts meet in the area.



The District is collaborating with the other water management districts and local governments to identify a sustainable water supply for the region. The keys to meeting the water resource challenges of the CFWI region include developing:

- One shared groundwater model to determine availability (completed)
- One coordinated strategy for MFL prevention & recovery (ongoing)
- One Regional Water Supply Plan (completed)
- Consistent rules among the permitting agencies (ongoing)

Polk County has a need to develop 30 mgd of water supply sources by 2035. The District is assisting Polk County and its municipalities in establishing a regional water supply entity.

# REGIONAL PRIORITIES AND OBJECTIVES

## Heartland Region — Improve Water Bodies

### PRIORITY:

Improve Winter Haven Chain of Lakes and Ridge Lakes

### OBJECTIVES:

- Implement plans and projects for water chemistry, critical shoreline, wetlands and/or submerged habitats in each priority water body
- Reduce nitrogen load from Lake Hancock into Charlotte Harbor via the Peace River by 27 percent through the Lake Hancock Wetland Treatment System (**CONSTRUCTION COMPLETED**)
- Complete Surface Water Resource Assessments (SWRA) for the Peace Creek Canal Watershed and develop operational levels for the Winter Haven Chain of Lakes structures to optimize natural systems and water quality improvement while maintaining flood protection services (**COMPLETED**)

### Narrative:

**T**he Winter Haven Chain of Lakes is a system of 19 interconnected lakes in Polk County. Designated as a 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 were 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.

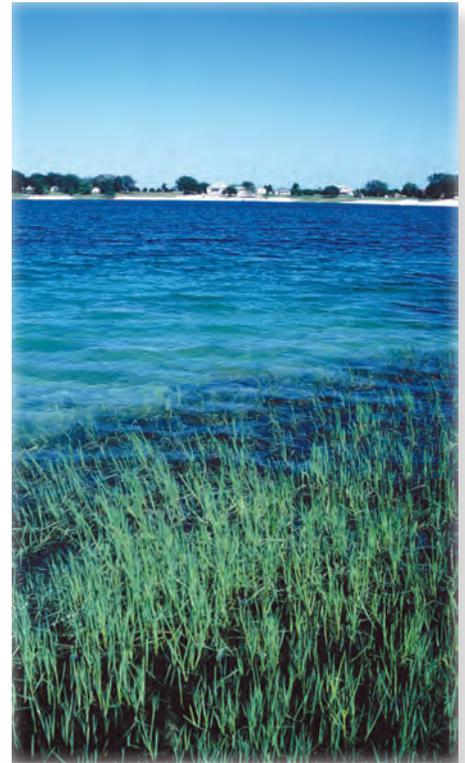
The District is working with other government agencies to reduce non-point source pollutant loadings through pollutant reduction goals and stormwater management, to restore upland and aquatic habitats while preserving plant and wildlife populations, and to implement ecologically and environmentally sound land-use practices.

Success will be measured by water quality improvements including reductions in non-point source loading of phosphorous, decreases in nonnative or undesirable species, and increases in native aquatic and upland vegetation. More information is available in the SWIM plan for the Winter Haven Chain of Lakes.

As of 2013, water quality improvement projects have been implemented for eight lakes (Conine, Howard, May, Lulu, Hartridge, Jessie, Cannon, and Mariana). In addition, twelve low impact development (LID) best management practices (BMPs) have been installed within the downtown area of the City of Winter Haven.

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

Declining water quality and lake levels are challenges for the lakes along the Ridge. Common water quality impacts include stormwater runoff, wastewater effluent, residential and fertilizer applications, agricultural runoff, groundwater pollution, shoreline habitat degradation and hydrologic alterations.



*Lake Isis, Highlands County*

Success indicators are reductions in chlorophyll, nitrogen and phosphorus concentrations. Through the District's Ridge Lakes Restoration Initiative, emphasis is placed on protective lake management strategies. Stormwater treatment is identified as a high priority, as well as enhancement and restoration of natural systems and further flood protection.

# REGIONAL PRIORITIES AND OBJECTIVES

## Southern Region — SWUCA Recovery

### PRIORITY:

Implement Southern Water Use Caution Area Recovery Strategy

### OBJECTIVES:

- Achieve a net reduction of up to 50 mgd of groundwater use in SWUCA by 2025 with 40 mgd of offsets obtained through agricultural reductions via the Facilitating Agricultural Resource Management Systems (FARMS) Program
- Recover the SWUCA saltwater intrusion minimum aquifer level of 13.1 ft NGVD for the Upper Floridan aquifer to slow the rate of saltwater intrusion in the Most Impacted Area
- Ensure a sustainable water supply
  - Achieve and maintain 150 gallon per day compliance per capita with all public supply utilities
  - Reduce 2011 regional average compliance per capita of 87 gallons per capita daily by 5 percent to 83 by 2020
  - Develop ASR options for potable and reclaimed water supply
  - Increase percentage of total water use supplied by alternative sources
  - Complete Feasibility Study for Flatford Swamp Hydrologic and Adaptive Management Restoration by 2014 **(COMPLETED)**
  - Assist the Peace River Manasota Regional Water Supply Authority in completing construction on three of the eight planned phases of the Regional Integrated Loop System project by 2014 **(COMPLETED)**

- Providing financial incentives for conservation, development of alternative supplies and regional interconnections. District funding sources include the Cooperative Funding and Water Supply and Resource Development initiatives.
- Resource monitoring, reporting and cumulative impact analysis. The Recovery Strategy includes the continuous monitoring of trends in resource conditions and permitted and actual water use. The cumulative impact analysis evaluates changes in permitted and used groundwater quantities and water resource development projects benefiting the Upper Floridan aquifer in and around the MIA.

### Narrative:

The entire Southern Planning 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 were identified as the primary cause of the depressed aquifer levels throughout the groundwater basin, with drawdowns in some areas exceeding 50 feet.

The District has adopted MFLs for 41 priority water bodies in the SWUCA. As of 2013, approximately half of the established MFLs are not being met.

The District adopted the SWUCA Recovery Strategy to recover flows and levels to established MFLs, including reducing the rate of saltwater intrusion by achieving the proposed minimum aquifer level, restoring minimum flows to the upper Peace River, and restoring minimum levels to the priority lakes in the Ridge area, which extends roughly 90 miles along the center of the state in Polk and Highlands counties.

Some of the primary Recovery Strategy elements for the SWUCA include:

- Updating the Regional Water Supply Plan to identify how to address growing regional water needs while minimizing impacts to the water resources and natural systems. The District approved the updated plan in November 2015.

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. The District's cooperatively funded FARMS program has helped the agricultural community reduce its use of groundwater from the Upper Floridan aquifer. The FARMS program combined with other conservation efforts have helped to reduce Upper Floridan groundwater withdrawals by more than 50 mgd, one of the targets established by the SWUCA Recovery Plan. The District's Lake Hancock Lake Level Modification Project will be operational in 2015 to help meet the minimum flows for the upper Peace River.

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 for the Ridge lakes.

# REGIONAL PRIORITIES AND OBJECTIVES

## Southern Region — Improve Water Bodies

### PRIORITY:

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

### OBJECTIVES:

- Implement plans and projects for water chemistry, wetlands, critical shoreline and/or submerged habitats in each priority water body
- Reduce nitrogen load from Lake Hancock into Charlotte Harbor via the Peace River by 27 percent through the Lake Hancock Wetland Treatment System (**CONSTRUCTION COMPLETED**)
- Develop and update plans and implement natural system projects that restore critical shoreline, coastal upland and intertidal habitats
- Complete Surface Water Resource Assessments for 45 percent of the Southern Region to assess the water quality of surface waters and identify potential best management practices needed to achieve standards
- Assist local governments with implementation of BMPs to achieve water quality standards

### Narrative:

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

Success indicators include improved water quality, reductions in chlorophyll, nitrogen and phosphorus concentrations, and restoration of 18,436 acres of seagrasses, 4,354 acres of tidal marsh and 463 acres of saltern. More information is available in the District’s SWIM Plan for the harbor.

The District is working with other government agencies on a comprehensive conservation and management plan, implementation of water quality improvement projects, and restoration of the balance between coastal upland, wetland and intertidal habitats.

As of 2013, the District and its cooperators have completed 13 natural systems projects which have restored 1,083 acres of coastal habitats for Charlotte Harbor. Construction of the District’s Lake Hancock Outfall Treatment System has been completed. This project, when fully operational, will remove an estimated 85 tons of nitrogen annually discharged from Lake Hancock to the Peace River and, ultimately, Charlotte Harbor.

**Sarasota Bay** is designated as an “Estuary of National Significance” and a SWIM priority water body. Similar to Charlotte Harbor, challenges to this 150-square-mile watershed include changes to coastal uplands and loss of wetlands, an increase in nonnative and plant species, and water quality degradation from point and non-point source pollutants.

Success indicators include improved water quality, meeting chlorophyll, nitrogen and phosphorus concentration

# REGIONAL PRIORITIES AND OBJECTIVES

## Southern Region — Improve Water Bodies

targets, maintenance of seagrasses at 9,739 acres and restoration or creation of 18 acres of intertidal wetlands and 11 acres of wetlands annually.

Similar to efforts under way for Charlotte Harbor, the District is working with other government agencies on initiatives for Sarasota Bay. These initiatives include a comprehensive conservation and management plan, implementation of water quality improvement projects, and restoration of the balance between coastal upland, wetland and intertidal habitats.

As of 2013, the District and its cooperators have completed projects that have reduced nitrogen loading to Sarasota Bay by approximately 64 percent since 1988 and restored more than 900 acres of coastal habitats. Seagrass coverage has increased by 46 percent above that present in 1988.

**The Shell, Prairie and Joshua Creek (SPJC)** watersheds are located 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 their associated tributaries) are designated as Class I waters, which means they are designated for use as potable water supplies. These creeks converge at, and sustain, the City's reservoir.

Various source inputs, over an extended period of time, created the issues in the Shell, Prairie and Joshua creeks watersheds. The Shell Creek and Prairie Creek Watershed Management Plan was adopted in 2004 to improve water quality degraded by increased salinity and to achieve Class I surface



*Sarasota Bay © Roger Wollstadt, Creative Commons*

water standards throughout the watersheds.

The plan includes a multitude of regulatory, technical assistance, research and education programs being used in combination with incentives and other non-regulatory tools to form a comprehensive approach to address the full scope of water quality issues within Shell Creek, Prairie Creek, and Joshua Creek. The effort involves a substantial level of state, federal and private resources.

The signatories of the Plan agreed to assess sources of salinity to Shell Creek, Prairie Creek and Joshua Creek to optimize reductions in concentrations to waters of these watersheds emphasizing voluntary, incentive-based programs for protecting the environment and public health.

A key success indicator is the reduction in the amount of dissolved solids in water (i.e., specific conductance improvement) as identified in the SPJC Reasonable Assurance Plan. Since the implementation of management actions outlined within the SPJC Reasonable Assurance Plan, water quality (chloride, specific conductance, and Total Dissolved Solids) has significantly improved as measured at five reference sites.

# CORE BUSINESS PROCESSES

**M**anaging 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 Southern Water Use Caution Area Recovery Strategy Five-Year Assessment, Minimum Flows and Levels studies, Regional Water Supply Planning, Strategic Plan Update, Consolidated Annual Report and reviews of proposed Comprehensive Plan amendments and 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 District's Core Mission goals in water supply, flood protection, water quality, and natural systems.

To ensure that these 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.

To best use available funds to meet its Core Mission, 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 monitors subsequent operational performance of permitted systems to protect the region's citizens and water resources.

The District is committed to protecting the water resources while also providing quality service in a timely, convenient and consistent

manner to the regulated community. The District's Regulatory 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 is also working with the other water management districts and the Florida Department of Environmental Protection 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 340,000 acres of land that provide various water resource benefits. These lands are managed to restore and sustain those ecosystems, store flood waters, recharge the aquifer, and treat water quality.

The District also operates 81 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 provide maximum



*District staff work in a variety of fields and disciplines to conserve, protect and restore water resources in west-central Florida.*

flood protection. Structure S-160 on the Tampa Bypass Canal is the largest flood control structure in the state.

## Knowledge Management

As a science-based organization, high quality data are critical to making informed decisions that protect and enhance the water resources. Knowledge Management is the process of systematically and actively collecting, managing and leveraging an organization's information. As the region's knowledge leader for water resources information, the District collects a variety of scientific and socio-economic 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.

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 District promotes consistency of data collection activities by coordinating with local, regional and state entities through participation on statewide and regional Florida Water Resource

Monitoring 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 precious 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

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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 and activities. Anyone requiring reasonable accommodation as provided for in the Americans with Disabilities Act should contact the District's Human Resources Bureau, 2379 Broad St., Brooksville, FL 34604-6899; telephone (352) 796-7211 or 1-800-423-1476 (FL only), ext. 4706; or email [ADACoordinator@WaterMatters.org](mailto: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).

# 2015 Strategic Plan Annual Work Plan

## Table of Contents

Northern Region Priorities and Objectives ..... 8-1

Tampa Bay Region Priorities and Objectives ..... 8-3

Heartland Region Priorities and Objectives..... 8-9

Southern Region Priorities and Objectives ..... 8-11

# Strategic Plan Annual Work Plan

Section 373.036(2)(e)4 Florida Statutes (F.S.) indicates the water management districts may substitute an annual work plan report included as an addendum to an annual strategic plan for the statutorily required District Water Management Plan. The statute specifies that the strategic plan establish the water management district's strategic priorities for at least a future five-year period and identify the goals, strategies, success indicators, funding sources, deliverables and milestones to accomplish the strategic priorities. The plan development process must include at least one publicly noticed meeting to allow public participation in its development. The annual work plan report must detail the implementation of the strategic plan for the previous fiscal year, addressing success indicators, deliverables, and milestones. The Southwest Florida Water Management District (District) has decided to submit an annual Strategic Plan and Annual Work Plan Report in lieu of the District Water Management Plan.

The Annual Work Plan Report is intended to fulfill the statutory requirement by identifying the regional priorities and objectives in the Strategic Plan, and providing a discussion of the milestones, success indicators and deliverables achieved in FY2015 as they relate to the specific programs that implement the plan.

## Northern Region Priorities and Objectives

### Priority: Improve Northern Coastal Spring Systems

**Objective: Implement water quality improvement projects in each priority water body or springshed to move closer to the established water quality standards**

The Crystal River/Kings Bay SWIM (approval anticipated January 2016) and Rainbow River SWIM plans were developed to identify and implement specific management actions and projects that address major issues facing the system, and will restore, maintain and preserve the ecological balance of the resource. The following table summarizes the status of projects identified in the management plans.

**Projects and Initiatives for Crystal River/Kings Bay and Rainbow River**

Resource	Completed	Ongoing	Proposed
Crystal River/Kings Bay	1	27	12
Rainbow River	2	35	4

*Sources: Crystal River/Kings Bay SWIM Plan, draft 10/23/15.*

*Rainbow River SWIM Plan, 2015.*

*Springs and Environmental Flows staff, 2015*

The three FY2015 completed projects include the Project Coast monitoring initiative for both the Crystal River/Kings Bay and Rainbow River systems and the Village of Rainbow Springs Stormwater Retrofit.

**Project Coast - North Water Quality Monitoring:** This project sampled water quality at 50 stations in and near the Weeki Wachee, Chassahowitzka, Homosassa and Withlacoochee rivers. The project uses the data, and that collected from previous years to examine water quality status and trends of springs and the estuary along the Springs Coast.

**Village of Rainbow Springs Stormwater Retrofit:** Project construction was completed, and monitoring has commenced for this initiative. The project examines the performance of soil amendments for reducing nitrates entering groundwater on 127 acres in the Rainbow Springs springshed. This project is jointly funded by the District and Marion County.

The District also published the 2015-19 Springs Management Plan. This plan lays out the general restoration strategy and goals for springs within the District. The update also provides a revised list of projects to be completed over the next five years.

***Objective: Establish natural systems restoration plans with targets and implement identified projects for each spring***

The District has developed a schedule to complete the management plans for the five first-magnitude springs groups. Although the Springs Management Plan recognizes the need to manage all springs, the five first-magnitude springs groups have been prioritized. These plans will also serve as the SWIM plan for the corresponding water body. The schedule is as follows:

**Management Plan Schedule**

<b>Water Body</b>	<b>Management Plan Target Completion Date</b>
Rainbow River	Approved
Crystal River/Kings Bay	2016 (anticipated January)
Chassahowitzka River	2016-17
Homosassa River	2016-17
Weeki Wachee River	2016-17

*Source: District Springs and Environmental Flows staff, 2015*

Each approved SWIM plan will include numeric targets called quantifiable objectives. These are long-term objectives used to develop and prioritize management actions and projects, thus promoting effective and efficient resource management. If the objectives are achieved, the expected result is a healthy spring ecosystem. Quantifiable objectives were approved this fall for the Crystal River/Kings Bay and Rainbow systems. Crystal River/Kings Bay objectives include water clarity, nitrogen, phosphorus and chlorophyll concentrations, coverage of desirable and invasive aquatic vegetation and natural shoreline, enhancement of disturbed shoreline and minimum flows for the springs and river systems. Rainbow's objectives include targets for water clarity, submerged aquatic vegetation coverage, nitrate concentrations and the minimum flows for the springs and river systems.

Quantifiable objectives for Chassahowitzka, Homosassa and Weeki Wachee rivers will be approved in the 2016-17 timeframe.

**Priority: Ensure Long-Term Sustainable Water Supply**

***Objective: Increase conservation***

Conservation is achieved through education, financial incentives and various regulatory and non-regulatory programs. It is one mechanism to manage demand and help ensure sufficient future supply. Per capita is a measure of conservation success. For the Northern Region, the per capita goal is to achieve and maintain 150 gallons per day compliance per capita for all public supply utilities by December 31, 2019, and to reduce the 2011 regional average compliance per capita by 15 percent by 2020.

The District has been making progress toward meeting the conservation and per capita goals for the Northern Region. In 2011, there were 14 utilities not in compliance. As of this report, only four utilities were not in compliance. The regional average compliance per capita has also declined 13 percent from 133 to 121 since 2011. The progress in per capita can be attributed to water savings that have been achieved in the planning region through regulatory, economic, incentive-based and outreach measures. Technical assistance has also played a role in reducing per capita.

***Objective: Maximize beneficial use of reclaimed water***

The Strategic Plan identifies the objectives of 75 percent utilization and resource benefit by a 2040 timeframe. As of 2014 (latest data), this region has 63 percent utilization and 71 percent resource benefit, exceeding the interim 2020 goals of 55 percent utilization/resource benefit. As of 2014, the region has a beneficial reuse flow of 12.85 mgd while the objective is 21 mgd by 2035. The District's reuse targets were formulated in the late 1990s. The regional water supply planning process updates these targets as needed.

***Objective: Partner with the Withlacoochee Regional Water Supply Authority to promote regional water supply planning and development***

The District continues its partnership with the Withlacoochee Regional Water Supply Authority (WRWSA) to promote regional water supply planning and development. In FY2014, the District and the WRWSA completed the Regional Water Supply Plan for the Northern Region. This Plan evaluated water use demand for all use categories and found that it is projected to increase by approximately 96.7 mgd from 2010 to 2035, and the demand reduction potential and the quantity of water available for the same period ranges from 175 to 195 mgd. This shows that demands for all use categories can be met at least through 2035 and probably well into the future.

Water supply development partnerships under way with WRWSA include the Regional Irrigation System Evaluation project Phase 2 and Regional Landscape & Irrigation Project. Both initiatives address outdoor water conservation.

## Tampa Bay Region Priorities and Objectives

### **Priority: Implement Minimum Flows and Level (MFL) Recovery Strategies**

***Objective: Northern Tampa Bay Water Use Caution Area (NTBWUCA) Recovery Strategy***

The NTBWUCA was established to address adverse impacts to water resources from groundwater pumping. The "Comprehensive Environmental Resource Recovery Plan for the Northern Tampa Bay Water Use Caution Area" serves as the recovery plan for the NTBWUCA.

The 2014 MFL status assessment indicated that MFLs for 7 of 7 groundwater levels, 21 of 41 wetlands, 1 of 2 river segments, 2 of 2 springs, 1 of 3 estuaries and 38 of 71 lakes within the NTBWUCA are currently met. This assessment documents hydrologic recovery for 2 lakes and 7 wetlands. An earlier 2013 assessment identified the resources as still in recovery.

As part of the Recovery Plan, Tampa Bay Water is required to develop and implement a "Permit Recovery Assessment Plan." This plan will identify assessments to determine the beneficial impact of reducing groundwater withdrawals in regional wellfields. Additionally, Tampa Bay Water will identify remaining adverse impacts and evaluate potential options to address them. The final results will be submitted with Tampa Bay Water's permit renewal in 2020. The current permit contains a special condition requiring that draft results be submitted to the District in 2018. Tampa Bay Water and the District are currently

meeting monthly to discuss analyses, review findings and project status. It is expected that these meetings will continue on a regular basis through 2020.

The Hillsborough River is a major water resource affected by withdrawals in the NTBWUCA. The recovery strategy for the lower Hillsborough River calls for augmentation of flows in the river below the Hillsborough River Reservoir using a variety of sources and projects. In accordance with the strategy, the District has, since November 2007, supported City of Tampa projects associated with diversion of water from Sulphur Springs to a point downstream of the reservoir for recovery of MFLs established for the lower river. Also, since December 2007, the District has diverted water from the Tampa Bypass Canal to the lower river via the reservoir, when needed for MFLs recovery. In FY2015, the District submitted a water use permit application for the Tampa Bypass Canal diversions to the DEP for review. This review is still under way. The District also provided funding support for the City of Tampa's Blue Sink project, which includes pumping water from Blue Sink for augmentation of the lower river. The Blue Sink project is currently in the construction phase, and is to be completed in 2017.

The Morris Bridge Sink project, which will be funded, owned and operated by the District, is also expected to assist in meeting MFLs in the lower river. The project involves pumping water from Morris Bridge Sink into the Tampa Bypass Canal for diversion to the lower river through the reservoir. A water use permit application for the planned withdrawals from the sink was submitted to the DEP in FY2015, and is currently under review. The Morris Bridge Sink project is to be completed in 2017.

The District continues to evaluate and monitor recovery of the MFLs established for the lower Hillsborough River. The District completed this fiscal year the first of three planned five-year recovery strategy assessments for the lower river. This first assessment documented hydrologic and other environmental improvements associated with the ongoing implementation of recovery strategy projects.

### ***Objective: Dover/Plant City (DPCWUCA) Recovery Strategy***

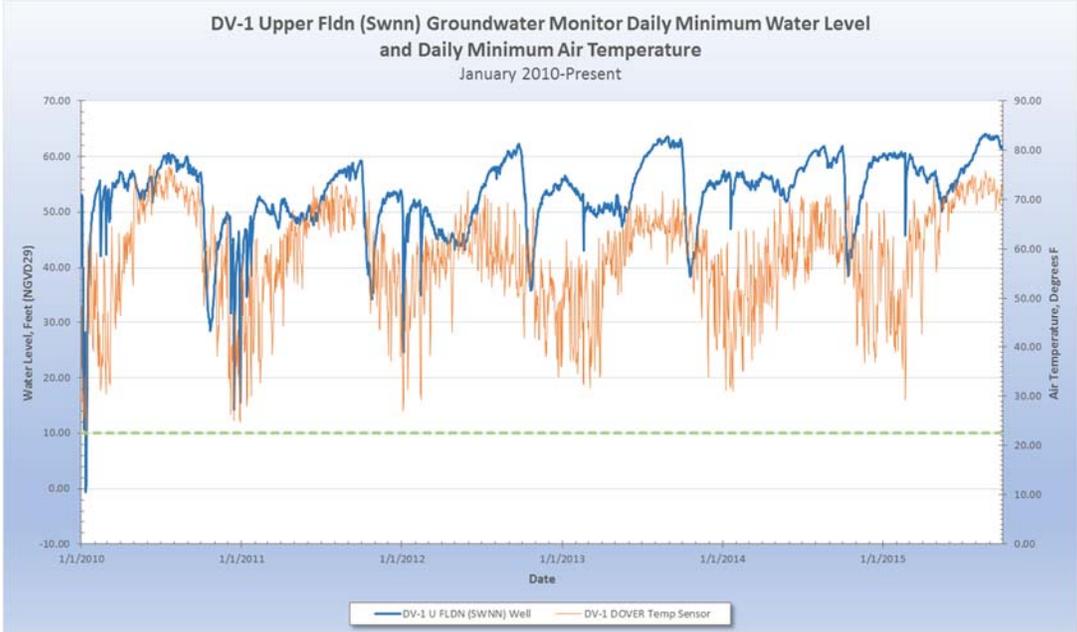
The DPCWUCA was established to address impacts from groundwater pumping for frost/freeze protection. The District has developed and adopted a comprehensive management plan to reduce and monitor groundwater pumping during future freeze events.

The DPCWUCA's recovery strategy established a minimum aquifer level (MAL) of 10 feet at the DV-1 monitoring well. The graph below depicts the correlation between temperature and the water levels at DV-1. As temperature drops, farmers increase pumping for crop protection, affecting the aquifer. As depicted below, the aquifer level has not come close to the MAL since January 2010. The additional strategies outlined below help to ensure continued compliance with this target.

One of the tactics in this strategy is to reduce January 2010 crop protection withdrawals by 20 percent by January 2020. An evaluation was completed in 2015 assessing the required 10 percent reduction in groundwater withdrawals for cold protection, and the resulting impact on the minimum aquifer level. This evaluation indicated significant reductions in groundwater withdrawals in the WUCA, primarily as a result of declines in citrus cold protection. In addition, the distribution of reductions near the vicinity of DV-1 monitoring well is considered acceptable, modelling results suggest that actual withdrawals register between a 10 and 20 percent reduction.

The installation of automatic meter (AMR) devices is another critical component of the DPCWUCA Recovery Strategy. Metering is critical so that the recovery assessment can include an empirical evaluation of actual pumping reduction, as opposed to only a review of permitted quantities. At the time of rule development, there were approximately 626 unmetered freeze protection withdrawals in the DPCWUCA. The District has set an objective to achieve AMR installation on all 960 points by 2018. The District has currently installed AMR devices on 399 of the targeted agricultural withdrawal points, slightly ahead of schedule. The District is also providing reimbursements for the installation of flow meters, which are a pre-requisite for AMR installation. The District has completed 59 percent of these reimbursements.

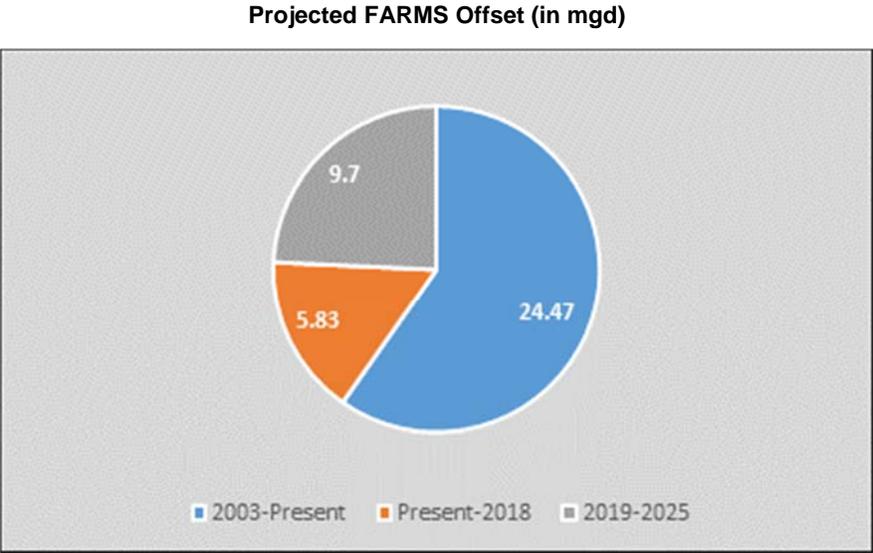
### **Water Level and Air Temperature Tracking (January 2010-Present)**



Source: District Hydrologic Data staff, 2015

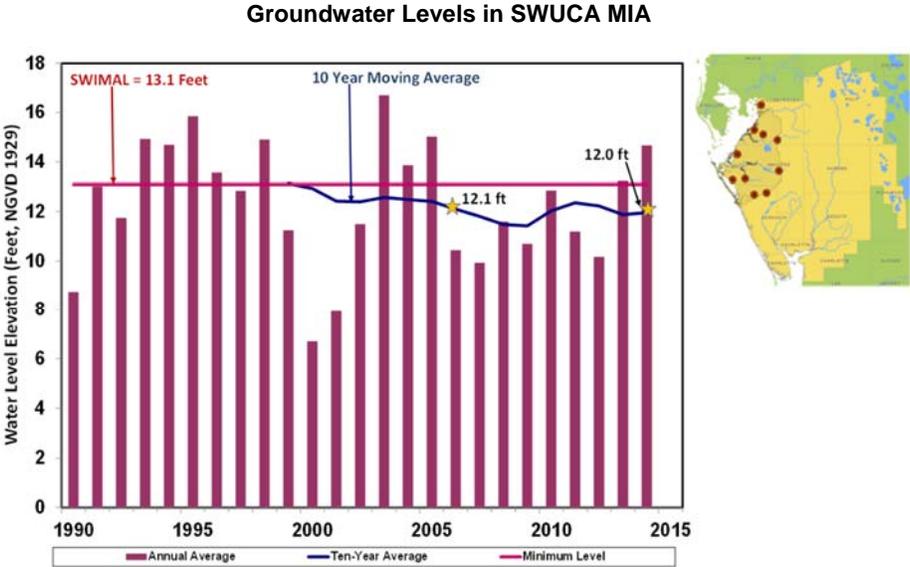
**Objective: Southern Water Use Caution Area (SWUCA) Recovery Strategy**

The District has a target of offsetting up to 50 mgd in groundwater in the SWUCA in 2025, with 40 mgd to be achieved through FARMS. To date the District has offset approximately 24.469 mgd of groundwater in the SWUCA through FARMS, well beyond the midpoint for achieving the mgd goal. The table below depicts current offset and future FARMS targets for Strategic Plan period (present to 2018) and the remainder of the timeframe for SWUCA (2019-2025). Because the District is currently ahead of schedule toward meeting its SWUCA goal, the projection for 2019-2025 has been capped to meet the 40 mgd target.



Source: District FARMS staff, 2015

One of the goals for this effort is the recovery of the saltwater intrusion minimum aquifer level (SWIMAL) of 13.1 feet by 2025. The table below depicts progress in this recovery. The level was 12.0 feet in 2014.



Source: District Resource Evaluation staff, 2015

In FY2014, the District completed its five-year assessment of the SWUCA Recovery Strategy. The analysis indicated that, although the District has succeeded in meeting the water supply needs and in reducing overall groundwater use by more than 50 mgd, challenges lie ahead due to the aquifer not responding as anticipated. The recovery goal is to reach the SWIMAL goal of 13.1 feet by 2025. A related stakeholder outreach effort to identify potential solutions for achieving recovery of impacted water bodies was completed in the spring of 2015. District staff used the information obtained from the stakeholder meetings to develop options for consideration by the District's Governing Board. The Board acted on these options at its April 28, 2015 meeting. Options approved included increasing the District's cost share to 75% to expand the FARMS program in the MIA. In addition, staff was directed to gather more information regarding the exploration of aquifer recharge/aquifer storage and recovery.

## **Priority: Improve Lake Thonotosassa, Tampa Bay, Lake Tarpon and Lake Seminole**

### ***Objective: Implement plans and projects for water chemistry, critical shoreline, wetlands and/or submerged habitats in each priority water body***

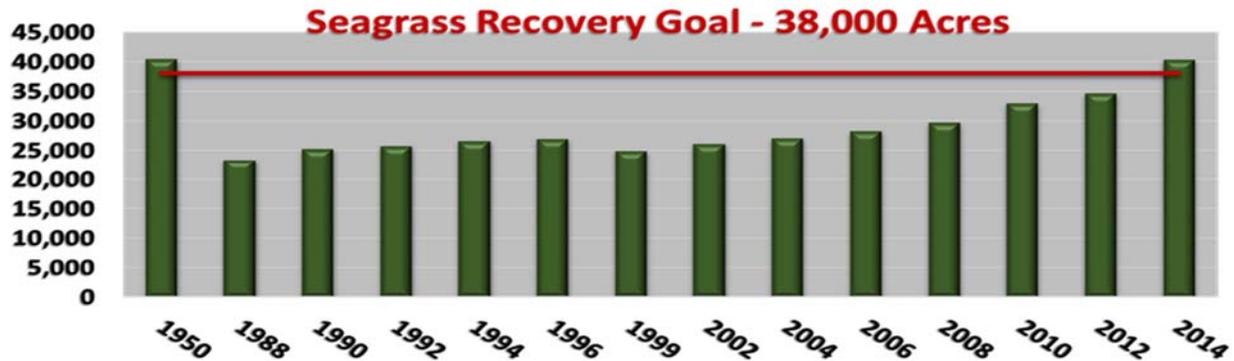
The District's Tampa Bay water quality priorities include Lake Seminole and the SWIM water bodies, Lake Thonotosassa, Tampa Bay and Lake Tarpon. The District is working with local governments on projects to assess the conditions of these water bodies and to identify priority projects to improve water quality and habitat. Specific projects and associated FY2015 milestones include the following:

**Lake Thonotosassa:** The District has partnered with Hillsborough County to conduct a Nutrient Source Tracking Project to determine the source of nutrients affecting the lake's health. This project will also identify potential areas where high concentrations of nutrients can be treated at the source. In 2015, Hillsborough County's consultant developed a nutrient source tracking methodology and completed Phase 1 sampling in the watershed. Due to subsequent refinements to the sampling locations, additional sampling is under way. This study is expected to be completed by 2017 and will identify priority actions to improve water quality. The study's findings and recommendations will be used to update the SWIM plan.

**Lake Tarpon:** The District has partnered with Pinellas County to update a Lake Tarpon Water Quality Management Plan. The effort includes evaluating the lake's water quality and identifying potential Best Management Practices (BMPs) for water quality improvement. In FY2015, the Watershed and Water Quality Evaluation was completed, as well as the collection of submerged aquatic vegetation data that will be used to evaluate the relationships between lake water quality and submerged aquatic vegetation. Lake level, rainfall and other data were compiled and will also be used to evaluate water quality drivers. The overall effort is expected to be completed by March 2016. The study's findings and recommendations will be used to update the SWIM plan.

**Tampa Bay:** Tampa Bay has shown significant water quality improvement in recent years, as evidenced by growth in seagrass recovery, an indicator of overall bay health. Data for 1988-2014 (latest available) are presented below. The table shows seagrass coverage has surpassed the goal of 38,000. The District's SWIM program continues its restoration work for Tampa Bay. In FY2015, the District restored 779 acres of habitat, including wetland, upland and submerged lands, in Tampa Bay. The following table shows a breakdown of restored habitat types.

## Seagrass Coverage Tracking (1988-2014)



**Lake Seminole:** Lake Seminole is the only non-SWIM priority water body included as a regional priority for the Tampa Bay region. A major concern for Lake Seminole is nutrients. The District is cooperatively funding a project with Pinellas County for the design, permitting and implementation of four water quality treatment systems to improve the quality of runoff currently entering Lake Seminole. In FY2014, the District completed two of these projects, which removed 623 pounds (lbs) of nitrogen per year. Another Lake Seminole project was completed in a previous fiscal year, bringing the total removal rate to 1,397 lbs per year. The final water quality treatment system is anticipated to be complete in FY2016. The objective is to remove 2,055 lbs per year.

***Objective: Complete the Old Tampa Bay Water Quality and Habitat Assessment and begin implementation of priority projects***

Objective has been removed from the Strategic Plan due to its completion.

***Objective: Complete plans and implement natural system projects that restore critical shoreline, coastal upland and intertidal habitats***

The District's SWIM program continues its restoration work for Tampa Bay. In FY2015, the District restored 779 acres of habitat, including wetland, upland and submerged lands, in Tampa Bay. The following table shows a breakdown of restored habitat types.

FY2015 Restoration, Tampa Bay

Habitat Type	Acres
Estuarine Wetlands	99
Freshwater Wetlands	130
Coastal Uplands	381
Submerged Habitat	169
<b>Total Acres</b>	<b>779</b>
Shoreline (linear feet)	85,590

*Source: District SWIM staff, 2015*

Fiscal year 2014 was the first year the District tracked restoration by habitat type. This activity will continue into the future. The District supports the Tampa Bay Estuary Program's (TBEP) restoration work. In 2008, TBEP identified 3,070 acres remaining to satisfy the 37,914 acre freshwater wetland

restoration target, and 2,758 acres remaining to reach the estuarine wetland restoration target of 7,600 acres. Plans are to reassess progress in this area soon.

## Heartland Region Priorities and Objectives

### **Priority: Implement Southern Water Use Caution Area (SWUCA) Recovery Strategy**

***Objective: Achieve a net reduction of up to 50 million gallons daily (mgd) of groundwater use in SWUCA by 2025 with 40 mgd of offsets achieved through agricultural reductions via the Facilitating Agricultural Resource Management Systems (FARMS) Program***

Please see the Tampa Bay Regional Priorities and Objectives for a discussion on this objective.

***Objective: Recover the SWUCA saltwater intrusion minimum aquifer level of 13.1 ft NGVD for the Upper Floridan aquifer to slow the rate of saltwater intrusion in the Most Impacted Area (MIA)***

Please see the Tampa Bay Regional Priorities and Objectives for a discussion on this objective.

***Objective: Recover 87 to 89 percent of the minimum flows for three segments of the upper Peace River through implementation of the Lake Hancock Lake Level Modification Project***

The Lake Hancock Lake Level Modification Project involves replacing the control structure (P-11) to raise the normal operating level of the lake and releasing excess water during the dry season to increase the number of days the upper Peace River will meet minimum flows. Currently, the upper Peace meets minimum flows 70 percent of the time. Following construction completion, it is projected to meet the minimum flows 88-89 percent of the time. In FY2014, the District completed construction of the new control structure and turned the project over to its structure operations personnel. See companion Heartland objective entitled “Reduce nitrogen load from Lake Hancock into Charlotte Harbor via the Peace River by 27 percent through the Lake Hancock Wetland Treatment System “ for additional information.

***Objective: Recover minimum levels at seven Polk County lakes and nine Highlands County lakes by 2025***

In FY2014, the District completed the SWUCA Recovery Five-Year Assessment, which determined the District is not making sufficient progress toward meeting the minimum levels established for several Ridge Lakes. In FY2015, staff initiated review of several established minimum lake levels in Polk County to ensure consistency with recent improvements to methodologies; similar analyses are planned for the lakes in Highlands County in 2016. The District also updated the SWUCA Recovery Five-Year Assessment in FY2015 to include options for MFLs recovery that were identified through facilitated stakeholder meetings.

***Objective: Ensure a sustainable water supply***

The District utilizes per capita to help ensure a sustainable water supply in the future and to measure progress in measuring conservation. Specifically, the goals are to achieve and maintain 150 gallons per day compliance per capita with all public supply utilities and to reduce 2011 Heartland regional average compliance per capita by five percent by 2020. The District has been making progress toward meeting these per capita objectives in the Heartland. The region’s average compliance per capita has declined 13 percent to 99 gpcd in 2014.

The progress in per capita can be attributed to water savings achieved through a combination of regulatory, economic, incentive-based and outreach measures, as well as technical assistance. The number of utilities above 150 gpcd has remained steady, with four utilities above in both 2011 and 2014.

In June, 2015, the District approved a cooperative funding agreement with Polk County that requires the County to:

- Develop an inter-local agreement for the creation and governance of a regional water supply entity involving the County and its municipalities.
- Prepare a comprehensive water supply assessment for use by the regional entity in evaluating potential alternative water supply projects for development of up to 30 mgd of alternative water supply.

The draft versions of the inter-local agreement and the comprehensive water supply assessment are scheduled for completion by late 2015.

The Lower Floridan aquifer (LFA) study is ongoing. This project is intended to assess the LFA's viability as an alternative water supply (AWS), as well as to gain a better understanding of the LFA characteristics and groundwater quality in Polk County. In FY2015, the District executed agreements with two consultants for investigations near Crooked Lake and Frostproof. A third site is being evaluated in Lake Wales. Contractor selection for the first two sites will be conducted in FY2016.

In November 2015, the District approved the Central Florida Water Initiative (CFWI) Regional Water Supply Plan. The CFWI region covers five counties, including Polk and southern Lake in the District, as well as Orange, Osceola, and Seminole counties. The water supply plan details how to best meet the regional water supply needs for the region out to 2035. As part of this planning effort, the CFWI teams identified potential alternative water supply options. Examples of project options include surface water, brackish groundwater and reclaimed water.

The District is working to maximize beneficial use of reclaimed water to result in benefits to potable water supplies. Reclaimed water targets for the Heartland Region are 75 percent utilization and resource benefit by 2040. As of 2014 (latest data), the region has 34 percent utilization and 91 percent resource benefit. The District is on track to exceed its interim target of 55 percent utilization by 2020, with combined growth at existing and funded reuse projects projected to be 85 percent. The District also has a goal to increase beneficial reuse flow to 36 mgd by 2035. Reuse flow is currently at 11.5 mgd (2014 – latest data). The combined growth of existing and funded reuse projects is projected to reach 44 mgd by 2020.

The District's reuse targets were formulated in the late 1990s. The regional water supply planning process updates these targets as needed.

The TECO Southwest Polk Power Station Reclaimed Water Interconnects to the City of Lakeland, Polk County and Mulberry is approximately 95 percent complete. The Lakeland portion of the project is now online, and providing TECO with 3 to 5 mgd in reclaimed water. The projected benefits are expected to be 5 to 6 mgd in 2017, 10 mgd in 2025 and 17 mgd in 2035.

Finally, the District is working to maximize reclaimed interconnects. As of FY2015, seven wastewater treatment plants of 40 in the Heartland have interconnected reuse systems.

## **Priority: Improve Ridge Lakes, Winter Haven Chain of Lakes and Peace Creek Canal**

***Objective: Implement plans and projects for water chemistry, critical shoreline, wetlands and/or submerged habitats in each priority water body***

An assessment of the Ridge Lakes was completed in 2003 for development of management strategies. The assessments were performed for 105 lakes (61 in Highlands County and 44 in Polk County) and 26 lakes

were identified as threatened by the direct discharge of untreated stormwater. Of these 26 lakes, 11 were selected for additional analysis and implementation activity based on a variety of factors (cost, land ownership, feasibility, etc.). Progress to date on this effort includes six lakes (Lakes Menzie, Clay, Marie, Isis, Tulane and Clinch) with constructed projects, three lakes with ongoing or soon to be initiated construction (Lakes June in Winter, McCoy and Verona) and two lakes where restoration activity is on hold.

Construction is under way on Lake Isis and Lake Verona. Construction on Lake Verona is near completion, slated for 2016. Construction activity will be initiated for Lake McCoy and June-in-Winter in 2015. The construction permit for Lake June-in-Winter has been approved and construction will commence in 2015. Lake McCoy will be constructed in 2016.

The District continues to partner with the City of Winter Haven to implement projects to improve water quality in the Winter Haven Chain of Lakes. Most of downtown Winter Haven is located within the Northern and Southern Chain of Lakes watersheds, which are SWIM priority water bodies. Hydrologic changes to the lakes and the high degree of urbanization have increased nutrient loading to the lakes and degraded water quality. More than 40 BMPs, including the addition of rain gardens, improved swales, small isolated wetlands and other passive treatment methods within the downtown area of the City of Winter Haven and the outlying neighborhoods, have been installed. Ongoing projects with the City include the design and construction of low impact design (LID) percolation and infiltration BMPs.

The Jan Phyl Village Stormwater Retrofit Project was completed in September 2015. This project provides water quality treatment for the Lake Howard watershed. Improvements included increasing the size of the storm sewer pipes to the stormwater ponds, expansion and deepening of the in-series ponds, construction of an outfall control structure, improvements to the roadside ditch, and vegetative plantings. The estimated annual load reduction is 163 lbs of total nitrogen, 58 lbs of total phosphorus and 7,107 lbs of total suspended solids.

***Objective: Reduce nitrogen load from Lake Hancock into Charlotte Harbor via the Peace River by 27 percent through the Lake Hancock Wetland Treatment System***

In FY2014, the District completed the construction and plantings for the Lake Hancock Wetland Treatment System, which is designed to reduce nitrogen loading in the water discharging from Lake Hancock through Saddle Creek to the Peace River. Nitrogen has been identified as the primary target in restoring water quality to the Peace River and preventing degradation of Charlotte Harbor. Initially, the project is being managed to promote growth and recruitment of wetland vegetation. Once a dense stand of wetland plants is established, the system will be operated to optimize nutrient removal. The treatment system will be operational in 2016.

***Objective: Complete Surface Water Resource Assessments (SWRA) for the Peace Creek Canal Watershed and develop operational levels for the Winter Haven Chain of Lakes structures to optimize natural systems and water quality improvement while maintaining flood protection services***

Objective has been removed from the Strategic Plan due to its completion.

## Southern Region Priorities and Objectives

### **Priority: Implement Southern Water Use Caution Area (SWUCA) Recovery Strategy**

***Objective: Achieve a net reduction of up to 50 million gallons daily (mgd) of groundwater use in SWUCA by 2025 with 40 mgd of offsets achieved through agricultural reductions via the Facilitating Agricultural Resource Management Systems (FARMS) Program***

See the Tampa Bay Regional Priorities and Objectives for a discussion on this objective.

***Objective: Recover the SWUCA saltwater intrusion minimum aquifer level of 13.1 ft NGVD for the Upper Floridan aquifer to slow the rate of saltwater intrusion in the Most Impacted Area (MIA)***

See the Tampa Bay Regional Priorities and Objectives for a discussion on this objective.

***Objective: Ensure a sustainable water supply***

The District utilizes per capita to help ensure a sustainable water supply in the future and to measure progress in measuring conservation. Specifically, the goal is to achieve and maintain 150 gallons per day compliance with all public supply utilities and to reduce the 2011 Southern Region average compliance per capita by five percent by 2020. The District has been making strides in meeting these per capita objectives in the Southern Region, which already has the lowest per capita in the District. The region has only one utility above 150 gpcd, and the regional average compliance per capita has declined by eight percent to 79 gpcd.

The progress in per capita can be attributed to water savings that have been achieved in the planning region through a combination of regulatory, economic, incentive-based and outreach measures.

The District continues to explore ASR options and partnership opportunities in the SWUCA. Both surface water and reclaimed water sources exist in sufficient quantity for recharge and ASR to provide recovery benefit. Preliminary stakeholder feedback on this issue indicates that utilities will be looking for ways to provide a benefit to their customers. The District continues to fund an aquifer recharge feasibility and pilot testing project in Hillsborough County. This project would use excess reclaimed water to recharge the Most Impacted Area (MIA) of the SWUCA. Potential benefits include providing additional groundwater supplies and a salinity barrier.

The District is working to develop AWS in the SWUCA. AWS is an important tool in meeting recovery goals, specifically to offset projected increases in public supply groundwater demand. The SWUCA Recovery Strategy identified more than 50 mgd of potential alternative water supply projects.

One such alternative water supply option involves Flatford Swamp in eastern Manatee County. Hydrologic alterations and excess water have resulted in tree mortality within Flatford Swamp. The District has completed a feasibility study examining alternatives that would transfer excess water from Flatford Swamp for improvement of its health. Decision was made to explore an injection option that would benefit the SWIMAL. Work on this option is expected to start early 2016.

Additionally, the Peace River Manasota Regional Water Supply Authority (PRMRWSA) has completed construction of three phases of the Regional Integrated Loop System project. The Regional Water Interconnect, Phase I project, new in fiscal year 2015-16, is the fourth authority interconnect project to receive District funding. These projects are part of a series of transmission pipelines developed to transfer and deliver water from existing and future alternative supplies to demand centers. This will provide PRMRWSA's customers with maximum flexibility to address changing needs and emerging circumstances. Future phases are planned over the next 20 years.

## **Priority: Improve Water Bodies**

***Objective: Implement plans and projects for water chemistry, wetlands, critical shoreline and/or submerged habitats in each priority water body***

The District continued work on several phased water quality improvement projects related to this objective.

**Coral Creek Ecosystem Restoration:** This project helps to improve Charlotte Harbor’s water quality. The District completed phase one of this project in FY2014. Phase two consists of hydrologic and habitat restoration of degraded and impacted wetlands on approximately 400 acres. Currently, phase two is in the design and permitting phase and slated to include restoration and enhancement of historic and man-made creek channels, removal of invasive vegetation and construction of stormwater features to improve Charlotte Harbor’s water quality.

**Alligator Creek Habitat Restoration Project:** This District initiative is to restore hydrology and remove exotic vegetation from approximately 225 acres. This is the third phase of the project. It is currently under design, which is to be completed in 2016.

Seagrass coverage tracking for both Charlotte Harbor and Sarasota Bay is to be completed in January 2016. Consequently, this information will be reported in the next update of the Annual Work Plan.

***Objective: Develop and update plans and implement natural system projects that restore critical shoreline, coastal upland and intertidal habitats***

The District’s SWIM program continues restoration activity for Charlotte Harbor and Sarasota Bay. For FY2015, the following table shows 8.97 restored acres for Sarasota Bay. Although no habitat restoration projects were completed in 2015 for Charlotte Harbor, there are several ongoing projects, including Alligator Creek and Coral Creek. These restored lands include wetlands, upland and submerged habitats (see table). FY2014 was the first time the District tracked restored acres by habitat type. This activity will continue into the future.

FY 2015 Restoration, Sarasota Bay

Habitat Type	Acres
Estuarine Wetlands	3.97
Freshwater Wetlands	1.3
Coastal Uplands	4.25
Submerged Habitat	0
<b>Total Acres</b>	<b>8.97</b>
Shoreline (linear feet)	4498

Source: District SWIM staff, 2015

***Objective: Complete Surface Water Resource Assessments (SWRA) for 45 percent of the Southern region to assess the water quality of surface waters and identify potential best management practices (BMPs) needed to achieve standards***

Objective removed from Strategic Plan.

***Objective: Assist local governments with implementation of BMPs to achieve water quality standards***

The District uses its local comprehensive plan review program to communicate development strategies and practices for achieving greater water quality protection. This tool has assisted with the implementation of many District efforts. Examples of strategies communicated include the retention of native vegetation and preference for central sewer use when water bodies are in close proximity; incorporation of open spaces in floodprone areas; and use of clustering in more appropriate development areas. Most plan review feedback is provided for consideration and voluntary implementation. The District’s review feedback also helps in satisfying provisions in Chapters 373 and 163, Florida Statutes, which require technical assistance for the development of comprehensive plan amendments.

In addition, the District uses its Cooperative Funding Initiative program to help fund BMP implementation. The funding of BMPs has been used extensively for watershed management and SWIM springs initiatives. There were no BMP projects completed for the Southern Region in 2015 although projects exist for previous years.