

4. MISCELLANEOUS ITEMS TO BE RECEIVED FOR FILING

- a. City of Clearwater Notice of Public Hearings regarding proposed Ordinances Nos. 8365-12 through 8367-12 amending the Annexation, Land Use Plan, and Zoning Atlas; public hearings to be held December 6, 2012.
- b. City of Largo Notice of Public Hearings to be held December 4, 2012, regarding proposed Ordinances Nos. 2013-01 through 2013-11, annexing certain property.
- c. City of Pinellas Park Notice of Public Hearing re proposed Ordinance No. 3830 held November 22, 2012, de-annexing certain property.
- d. City of Safety Harbor Resolution No. 2012-21 adopted October 15, 2012, opposing implementation of Priority Dispatch as proposed by Pinellas County Emergency Medical Services Authority.
- e. Southwest Florida Water Management District Draft Five-Year Water Resource Development Work Program for Fiscal Year 2013.

If a copy of a report or CD is desired, please check the web page of the organization/municipality or contact Board Records at 464-3465.



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Blake C. Guillory
Executive Director

October 23, 2012

The Honorable Rick Scott
Governor, State of Florida
The Capitol
400 South Monroe Street
Tallahassee, FL 32399-0001

Subject: Draft Five-Year Water Resource Development Work Program

Dear Governor Scott:

Pursuant to subsection 373.536(6)(a)(4), Florida Statutes, each water management district is required to furnish a five-year water resource development work program within 30 days after the adoption of the final budget. The Southwest Florida Water Management District (District) adopted its fiscal year 2012-2013 budget and approved its draft 2013 Five-Year Water Resource Development Work Program at its Governing Board meeting held on September 25, 2012.

After receiving comments from the Florida Department of Environmental Protection (DEP), the District will respond to the evaluation within 45 days. Any revisions prompted by DEP's evaluation will be incorporated into the final report that will be included as part of the District's Consolidated Annual Report. The Consolidated Annual Report is due no later than March 1, 2013, pursuant to subsection 373.036(7), Florida Statutes.

Sincerely,

Blake C. Guillory, P.E.
Executive Director

Enclosure

cc: Herschel T. Vinyard Jr., Secretary, Department of Environmental Protection (w/enclosure)
Distribution List (w/o enclosure)

Note: The District's draft Five-Year Water Resource Development Work Program has been published and is available on the District website at: watermatters.org/WRDWP. Should any recipients of this letter require a hard copy of the draft report, please contact the District at 352-796-7211, ext. 4871; or email your request to: john.ferguson@watermatters.org.

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Southwest Florida Water Management District
List of Recipients of the Draft Five-Year Water Resource Development Work Program Letter

October 23, 2012

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The Honorable Herschel T. Vinyard Jr, Secretary, Department of Environmental Protection
The Honorable Mike Haridopolos, President, The Florida Senate
The Honorable Dean Cannon, Speaker, Florida House of Representatives

The Honorable Charles S. Dean, Sr., Senate Committee on Environmental Preservation and Conservation
The Honorable D. Alan Hays, Senate Budget Subcommittee on General Government Appropriations
The Honorable J. D. Alexander, Senate Committee on Budget
The Honorable Trudi K. Williams, House Agriculture & Natural Resources Appropriations Subcommittee
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DRAFT

2013 Five-Year
Water Resource
Development
Work Program



Southwest Florida
Water Management District

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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 twelfth Five-Year Water Resource Development Work Program and covers the period from fiscal year (FY) 2013 through FY2017. This Work Program is consistent with the planning strategies of the District's 2010 Regional Water Supply Plan (RWSP).

In 2012, the Legislature approved updates to Section 373.536, F.S., that require the assessment of "water supply and alternative water supply development components" in the Work Program. The District has voluntarily included information on Water Supply Development projects since 2008 at the request of the Florida Department of Environmental Protection (DEP). Prior editions of the Work Program included tables of water supply projects funded by the District, and descriptions of water supply projects introduced that fiscal year were included in the appendices. These project descriptions are now included in the body of the report.

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 **Water Resource Development (Data Collection and Analysis)** 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 **Water Resource Development (Projects)** section of this report.

Water Resource Development (Data Collection and Analysis)

The District has budgeted significant funds in FY2013 to implement 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 \$26.1 million will be allocated toward these activities in FY2013 and a total of approximately \$127.3 million will be allocated between FY2013 and FY2017. Because budgets for the years beyond FY2013 have not yet been developed, most funding estimates for FY2014 through FY2017 are set equal to FY2013 funding. The annual expenditure for data collection and analysis activities is an increase from FY2012 funding and is comparable to FY2011 funding, as displayed in Figure 1. Funding for these activities is from the District's Governing Board, water supply authorities, local governments, and the United States Geological Survey (USGS). Each of the activities in Table 1 is further described below.

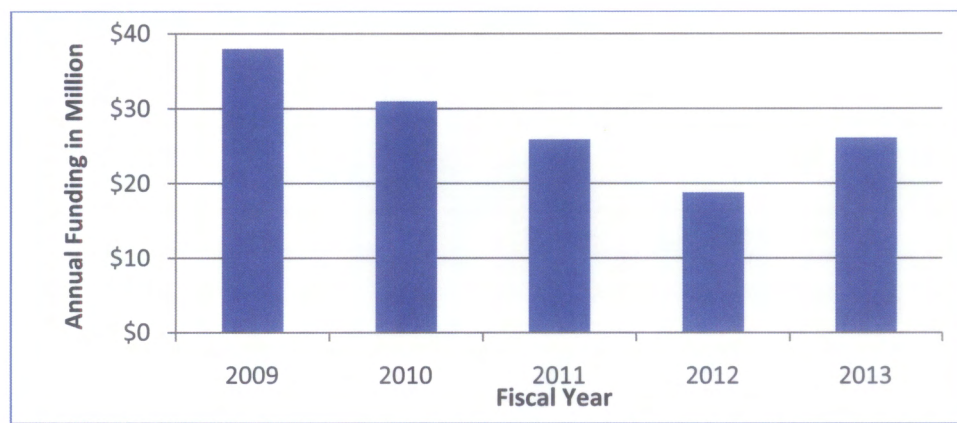


Figure 1. Funding for Water Resource Data Collection and Analysis from FY2009 through FY2013

Hydrologic Data Collection - (Chapter 7, Section 1.1.0 of the 2010 RWSP) The District has a comprehensive hydrologic conditions monitoring program. This 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 from this program 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 primary hydrologic conditions that are monitored include rainfall, evapotranspiration, lake levels, discharge and stage height of major streams and rivers, groundwater levels, various water quality parameters of both surface and groundwater (including springs), and water use. In addition, the District monitors ecological conditions as they relate to both potential water use impacts and changes in hydrologic conditions. The District also monitors data submitted by Water Use Permit (WUP) holders to ensure compliance with permit conditions and to assist in monitoring hydrologic conditions.

Geohydrologic Data Well Network - (Chapter 7, Section 1.2.0 of the 2010 RWSP) The Regional Observation and Monitor-well Program (ROMP), administered by the Geohydrologic Data Section, has been the District's primary means for hydrogeologic data collection since 1974. The purpose of the ROMP was to develop a hydrogeologic framework of the District by constructing a regional groundwater monitoring network. Recently, however, changing District directives have created the need for more project-support type monitor well networks for the various programs administered by the District. In 2012, the ROMP well network was revised to include historic and new project-specific well sites. The ROMP network is now known as the Geohydrologic Data Well Network. Data from these monitor well sites is used to evaluate seasonal and long-term changes in groundwater levels and quality, and the interaction and connectivity between ground and surface water bodies. Geophysical logging is also conducted on existing wells to provide data on well construction, hydrogeology, and water quality,

Table 1. Major Water Resource Development Data Collection and Analysis Activities

WRD Data Collection and Analysis Activity	FY2013 Costs (\$)	FY2014 Costs (\$)	FY2015 Costs (\$)	FY2016 Costs (\$)	FY2017 Costs (\$)	Total Costs (\$)	Funding Source
1) Hydrologic Data Collection	\$2,911,101	\$2,911,101	\$2,911,101	\$2,911,101	\$2,911,101	\$14,555,505	SWFWMD, USGS
2) Geohydrologic Data Well Network (formerly ROMP)	\$1,683,310	\$1,683,310	\$1,683,310	\$1,683,310	\$1,683,310	\$8,416,550	SWFWMD, local partnerships
3) Quality of Water Improvement Program	\$466,552	\$466,552	\$466,552	\$466,552	\$466,552	\$2,332,760	SWFWMD
4) Minimum Flows and Levels Program							
a) Establishment	\$1,441,417	\$1,355,000	\$1,320,000	\$305,000	\$0	\$4,421,417	SWFWMD
b) Maintenance and Compliance	\$46,634	\$50,000	\$50,000	\$50,000	\$50,000	\$246,634	SWFWMD
c) Re-evaluation	\$251,525	\$310,000	\$100,000	\$0	\$0	\$661,525	SWFWMD
5) Flood Control Projects:							
a) Data Collection	Included in Hydrologic Data Collection	Included in Hydrologic Data Collection	Included in Hydrologic Data Collection	Included in Hydrologic Data Collection	Included in Hydrologic Data Collection		SWFWMD, USGS
b) Watershed Management Program	\$18,723,326	\$18,723,326	\$18,723,326	\$18,723,326	\$18,723,326	\$93,616,630	SWFWMD, Local Government Cooperators
6) Hydrologic Investigations:							
a) USGS Hydrologic Studies	\$256,000	\$256,000	\$256,000	\$256,000	\$256,000	\$1,280,000	SWFWMD/USGS Local Government Cooperators
b) Water Resource Assessment Projects	\$359,271	\$359,271	\$359,271	\$359,271	\$359,271	\$1,796,355	SWFWMD/USGS Local Government Cooperators
Totals	\$26,139,136	\$26,114,560	\$25,869,560	\$24,754,560	\$24,449,560	\$127,327,376	

Source for FY2012: SWFWMD FY2012 Summarized Programmatic Activities Report.

most of which is incorporated into the District's Water Management Information System (WMIS) database. Impacts resulting from increased groundwater withdrawals over nearly four decades have been documented and assessed through analysis of data collected from the Geohydrologic Data Well Network. These impacts directly affect the District's planning, regulatory policies, and programs. For example, data collected from the Geohydrologic Data Well Network is used during the permitting process to model potential impacts of new uses and to monitor existing permittees to prevent impacts to natural systems and existing legal users. During construction of new monitor wells, valuable hydrogeologic information such as formation lithology, aquifer hydraulic characteristics, water quality, and water level data is collected. From these data, aquifers and confining units are delineated, the location of the freshwater/saltwater interface is determined, and water quality within aquifers is characterized. The Northern Planning Region, water use caution areas (WUCAs), and Lower Floridan aquifer will be the focus for long-term groundwater monitoring sites for the next few years. This will provide additional data for the Water Resource Assessment Projects (WRAPs), Central Florida Water Initiative, aquifer characteristics inventory, wellhead protection projects, and development of alternative water sources.

Quality of Water Improvement Program (QWIP) – (Chapter 7, Section 1.3.0 of the 2010 RWSP) The QWIP was established in 1974 through Chapter 373, F.S., to restore groundwater conditions altered by well drilling activities. The QWIP'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 the degradation of groundwater from inter-aquifer contamination. Thousands of wells constructed prior to current well construction standards were often deficient in casing, which interconnected aquifers and enabled poor-quality mineralized water from deeper aquifers to migrate into shallower aquifers that contain potable-quality water. These wells also allow mineralized water to flow to the surface and contaminate surface 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 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. In January 1994, the District increased QWIP funding as an incentive for property owners to comply with well plugging requirements contained in the Florida Statutes.

Minimum Flows and Levels Program (MFLs) - (Chapter 2, Part B of the 2010 RWSP) MFLs are hydrologic and ecological standards that can be used for permitting and planning decisions concerning how much water may be safely withdrawn from a water body. Florida law (Chapter 373.042, F.S.) requires the state water management districts or the 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 to the water resources or ecology of the area. 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 permitting program to ensure that withdrawals do not cause significant harm to water resources or the environment.

The District's process for establishing MFLs includes an independent scientific peer review and an opportunity for interested stakeholders to participate in a public review, both of which 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.

Flood Control Projects – (Chapter 7, Section 1.4.0 of the 2010 RWSP) The District undertakes a number of flood protection activities including data collection to monitor and warn of flooding events, and the Watershed Management Program to remediate existing problems. These flood protection efforts are described below:

- a. Data Collection** - Data collection related to flood protection includes the regular assembly of information on such key indicators as rainfall, water levels, and stream flows. The District's capability to assist in flood control has continued to improve during the past several years with the expansion of the District's Supervisory Control and Data Acquisition (SCADA) system. This computerized data collection system comprises the cornerstone of the District's flood data collection through a Districtwide network of more than 261 continuous water level and rainfall data collection stations. These stations are considered "near-real time," meaning the data are available to District staff within minutes of being measured. These data are augmented by 57 remote data loggers that record continuous water level and rainfall data until the data are manually downloaded to a computer in the field by a technician.

The SCADA system provides an early warning mechanism that allows flood problems to be anticipated by observing water level and rainfall trends. This information, which is automatically transmitted to District headquarters by radio, allows the District to operate its structures much more effectively during rainfall events and provides limited capability to remotely operate gates at water control structures. The system was designed with several fail-safe components to keep it operational during major storm events, when traditional communication lines may be inoperable.

The amount and detail of rainfall and stream level data now available for use by modelers has expanded significantly in recent years. In addition to the 135 rainfall sites on SCADA, the District operates 42 other recording rainfall gauges without telemetry. These instruments record rainfall accumulations every 15 minutes transmitting data hourly or daily.

The USGS has monitored flow on all major rivers and streams in west-central Florida during the past few years, mostly through a cooperatively funded program with the District. The USGS has instrumented 136 surface water sites on these rivers and streams with data collection instruments that have the capability to relay data in near-real time by satellite. These data are posted on the USGS' Internet site, increasing accessibility for the many entities that use this information.

- b. Watershed Management Program** – The District addresses flooding problems in existing areas by preparing and implementing Watershed Management Plans (WMPs) in cooperation with local governments. The WMP evaluates the capacity of a watershed to protect, enhance and restore water quality and natural systems, while achieving flood protection. The Watershed Management Program identifies ways to effectively coordinate and implement watershed management strategies and has five elements: (1) collecting topographic information to delineate surface features and understand the boundaries of each watershed, (2) developing a watershed evaluation using the topographic information, (3) determining whether a watershed can provide adequate water for water supply and the environment and provide flood protection and good water quality, (4) implementation of best management practices (BMPs) to improve a watershed when its level of service is below targets assigned by local governments, and (5) maintenance of watershed information to account for changes to watershed features produced by new growth, land alteration, and other natural or anthropogenic events.

Local governments and the District combine their resources and exchange watershed data to implement the WMP. The District creates coordination documents for each county government (and city government as requested) to address coordination and enhance cooperation. Local governments' capital improvement plans and the District's Cooperative Funding Initiative provide funding for local elements of the WMP. Additionally, flood hazard information generated by watershed evaluations is used by the Federal Emergency Management Agency (FEMA) to revise the Flood Insurance Rate Maps (FIRMs). Since the WMP may change based on growth and shifting priorities, decision-makers will have opportunities throughout the program to determine when and where funds are needed.

Hydrologic Investigations – (Chapter 7, Section 1.5.0 of the 2010 RWSP) Hydrologic investigations include USGS Hydrologic Studies and WRAPs; both of which are described below:

- a. USGS Hydrologic Studies** - The District has a long-term cooperative funding program with the USGS to collect hydrologic data and conduct regional hydrogeologic investigations. The goals of this program are to monitor for changes in the hydrologic system and improve the understanding of cause and effect relationships. Funding for this program is generally on a 50/50 cost-share basis, although shares may vary based on whether other cooperators are involved in the project and whether requests for non-routine data collection or special project assignments are implemented. Hydrologic data collection is a large part of the cooperative funding program and is closely coordinated with the District's Hydrologic Data Section.

Regional investigations of the hydrogeology of the District are an important aspect of the cooperative program. These investigations are intended to augment work conducted by the District and are focused on improving the understanding of cause and effect relationships and developing analytical tools to be used in resource evaluations. These investigations have included: (1) development of computer models of the regional groundwater flow systems for the District, Highlands Ridge area, Hardee and DeSoto counties, Cypress Creek, Cross Bar, and Morris Bridge wellfields, and the St. Petersburg aquifer storage and recovery (ASR) site; (2) detailed analysis of the hydrologic budgets for two benchmark lakes (Lucerne and Starr); (3) hydrogeologic characterization of the intermediate aquifer; (4) hydrologic assessments of the Peace and Alafia rivers; and (5) investigation of the hydrology of the upper Hillsborough River basin. In recent years, this program has included projects to determine the effects of using groundwater to augment stressed lakes and investigation of factors influencing coastal spring flows. Currently, the hydrology of Lake Tsala Apopka is being characterized.

- b. Water Resource Assessment Projects (WRAPs)** - In the late 1980s, the District initiated a program to conduct WRAPs to assess water availability in several regions and to support the development and establishment of MFLs. These projects are detailed assessments of regional water resources and include intensive data collection and monitoring to characterize hydrologic conditions and determine effects of water withdrawals. There are five areas in the District for which WRAPs were initiated. The first three WRAPs were initiated in the late 1980s and early 1990s for the Northern Tampa Bay (NTB), Eastern Tampa Bay (ETB), and Highlands Ridge (HR) areas. These projects were initiated in response to declining lake and wetland water levels and the increased inland movement of the freshwater/saltwater interface. In the mid-1990s, a fourth WRAP was initiated that encompassed the southern portion of the District, encompassing the ETB and HR WRAPs. A fifth WRAP is being conducted for the northern portion of the District, primarily focusing on areas north of Pasco County. The data collection element for the Northern District WRAP was initiated in 1998 to determine baseline hydrologic conditions. The ETB WRAP was completed in 1993 and the NTB WRAP was completed in 1996. The Southern District and Northern District WRAPs are ongoing and principally include expansion of the data collection networks, updating groundwater flow models for the areas, and continued resource monitoring. As these projects progress, they provide the foundation for determining water availability and can assist in the establishment of MFLs. Information and analyses developed from these projects provide the technical foundation for determining water availability and are used in the establishment and monitoring of MFLs. This information is also used to establish resource management programs in critical areas of the District.

In 1999, the District initiated the NTB Phase II investigation as a follow-up to the NTB WRAP. Through a series of projects, this study continued assessments of the biologic and hydrologic systems in NTB to support the ongoing development of MFLs, water resources recovery, water use permitting, and environmental resource permitting. A key component of the NTB Phase II study was the assessment and expansion of the network of hydrologic and biologic data collection sites maintained by both the District and Tampa Bay Water. Impacts to surface water features are generally the most limiting factor to water supply development in the NTB area. Because the data from monitoring sites in surface water features will form the basis of decisions concerning key water management issues, it

is critical that data in the NTB area be collected for various types of systems throughout the study area. Phase III of this effort was initiated in conjunction with the District's adoption of the second phase of the NTB Recovery Plan (Chapter 40D-80, F.A.C.) in 2009. Key components to this phase of the project will include the continued development of MFLs, continued assessment of water resource restoration techniques, and the assessment of water resource recovery based on reduced levels of groundwater withdrawal.

Water Resource Development (Projects)

The District currently has 18 projects that meet the definition of WRD “Projects.” The total cost of these projects is approximately \$243.9 million and a minimum of 57 million gallons per day (mgd) of additional water supply will be produced or conserved. At the start of FY2013 (October 1, 2012), the District has allocated approximately \$10.9 million in the budget for these projects. A comparison of prior year project funding levels is provided in Figure 2. Beyond FY2013, it becomes difficult to accurately determine the amount of funding that will be allocated to WRD projects each year. Some ongoing multiyear projects such as the Lake Hancock Level Modification and Wetland Treatment are nearing completion, and some projects such as the Flatford Swamp Hydrologic Restoration have future phase options that require additional cost evaluation. District funding for a number of these projects is matched to varying degrees by local cooperators, including local governments, regional water supply authorities and others. In addition, a number of projects have received state and federal funding. 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

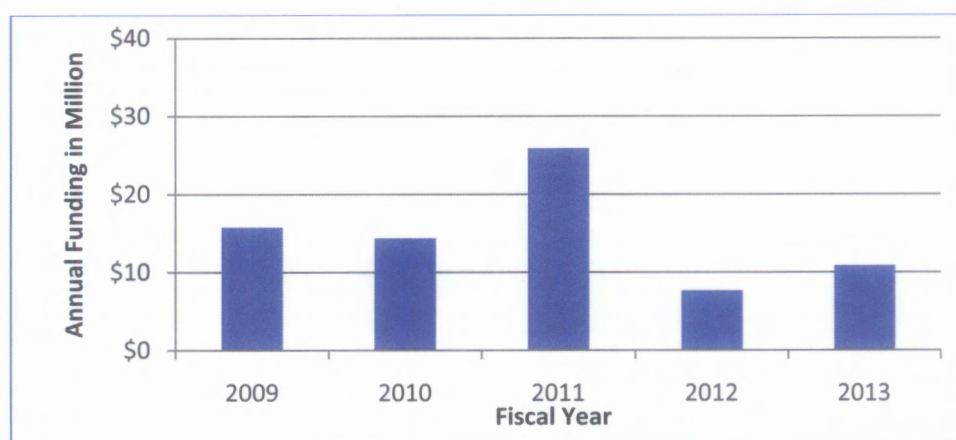


Figure 2. Funding for Water Resource Development Projects from FY2009 through FY2013

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 is research to improve the water quality and functionality of ASR systems, and feasibility projects for recharging the Upper Floridan aquifer with excess stormwater and reclaimed water, and the exploration of deeper aquifers as a viable water source for inland utilities. The successful completion of these projects may lead to the development of major sources of water supply in the future.

a. ASR Pretreatment Investigation (H046)

Background – This project investigates methods to control the mobilization of arsenic occurring during ASR activities. This effort will help water suppliers meet the recently lowered drinking water standard for arsenic. There are five sub-projects being conducted as part of this activity, described as follows:

1. Evaluation of Arsenic Mobilization Processes Occurring During Aquifer Storage and Recovery Activities - This project involved contracting with two different consultant teams to assess causes of arsenic mobilization and propose options for minimizing mobilization in the aquifer

Table 2. Total Project Cost and FY2013 - FY2017 District Funding for Water Resource Development Projects

	Total Prior District Funding	FY2013 District Cost	FY2014 District Cost	FY2015 District Cost	FY2016 District Cost	FY2017 District Cost	Total Cost District + Cooperator	Funding Source ^{1,2}	Quantity developed or conserved ¹
1) Alternative Water Supply Feasibility Research and Pilot Projects									
a) ASR Pretreatment Investigation	\$1,343,822	\$21,969					\$1,765,791	SWFWMD, PRMRWSA, City of Bradenton, SJRWMD, SFWMD	NA
b) Bradenton Surface Water ASR Feasibility Study	\$0	\$155,493	\$800,000	\$800,000			\$3,505,493	City of Bradenton	TBD
c) Clearwater Groundwater Replenishment Project	\$1,021,484	\$764,471	\$25,000				\$3,572,205	SWFWMD, City of Clearwater	3 mgd
d) Hydrogeologic Investigation of Lower Floridan Aquifer in Polk County ³	\$2,029,671	\$2,061,787	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$12,091,458	SWFWMD	TBD
e) Polk Groundwater Recharge Investigation	\$396,547	\$2,934					\$777,230	SWFWMD, Polk County	0.22 mgd
f) South Hillsborough Aquifer Recharge Program (SHARP) ³	\$1,199,279	\$21,352	\$50,482	\$50,482	\$50,482	\$50,482	\$2,805,058	SWFWMD, Hillsborough County	2 mgd
2) Agricultural Resource Management Projects									
a) FARMS Program ³	\$24,919,757	\$6,796,668	\$6,000,000	\$6,000,000	\$6,000,000	\$6,000,000	\$97,300,000	FDACS, SWFWMD, State of FL, private farms	40 mgd
b) Mini-FARMS Program ³	\$200,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$1,000,000	FDACS, SWFWMD	2 mgd
c) FARMS Irrigation Well Back-Plugging Program	\$1,468,988	\$63,404	\$63,000	\$63,000	\$63,000	\$63,000	\$1,784,392		NA
d) IFAS BMP Implementation Team ³	\$150,000	\$50,760	\$50,000	\$50,000	\$50,000	\$50,000	\$650,760	SWFWMD, IFAS	TBD
3) Environmental Restoration/Minimum Flows and Levels Recovery⁴									
a) Lakes Horse, Raleigh, and Rogers Recovery Project	\$4,203,044	\$30,108					\$4,422,656	SWFWMD, TBW	3.24 mgd
b) Upper Myakka /Flatford Swamp Hydrologic Restoration and Implementation ³	\$3,800,116	\$29,885	\$25,000	\$8,050,000	\$8,050,000	\$8,050,000	\$42,814,000	SWFWMD	TBD

Table 2 (Continued) Total Project Cost and FY2012 - FY2016 District Funding for Water Resource Development Projects

	Total Prior District Funding	FY2013 District Cost	FY2014 District Cost	FY2015 District Cost	FY2016 District Cost	FY2017 District Cost	Total Cost District + Cooperator	Funding Source ^{1 2}	Quantity developed or conserved ¹
c) Lower Hillsborough Recovery Strategy	\$5,454,480	\$60,818					\$16,223,078	SWFWMD, City of Tampa	TBD
d) Lower Hillsborough River Pumping Facilities	\$0	\$371,713	\$2,003,866				\$4,839,031	SWFWMD, City of Tampa	TBD
e) Pump Stations on Tampa Bay Canal	\$3,177,443	\$106,732					\$3,284,175	SWFWMD, City of Tampa	7.1 mgd
f) L. Hancock Lake Level Modification	\$10,903,336	\$91,028					\$10,994,364	SWFWMD, State of FL, Federal	TBD
g) L. Hancock Outfall Structure P-11 Replacement	\$5,531,841	\$17,813					\$5,549,654	SWFWMD, State of FL	NA
h) L. Hancock Outfall Wetland Treatment System	\$25,789,354	\$186,648					\$30,481,012	SWFWMD, State of FL, Federal	TBD
Water Resource Development Projects - Totals	\$91,589,162	\$10,883,583	\$11,067,348	\$17,063,482	\$16,263,482	\$16,263,482	\$243,860,357		

1. Acronyms: TBD - to be determined; NA - not applicable; PRMRWSA - Peace River Manasota Regional Water Supply Authority; SJRWMD - St. Johns River Water Management District; SWFWMD - South Florida Water Management District; FDACS - Florida Department of Agriculture and Consumer Services; IFAS - University of Florida Institute of Agricultural Sciences; TBW - Tampa Bay Water; FEMA - Federal Emergency Management Agency.
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.
4. Some restoration projects require substantial land acquisition. Expenditures for land purchases near Lake Hancock have totaled approximately \$130 million.

Changes from the 2012 Work Program Table 2.

- a) New projects this year include: the Bradenton Surface Water ASR Feasibility Study and the Lower Hillsborough River Pumping Facilities.
- b) In prior editions of the Work Program the funding for the FARMS Back-Plugging Program was combined with QWIP activities (in Table 1).
- c) The Sulphur Springs Weir Modification was removed due to completion.
- d) Three projects have been withdrawn or canceled: The Punta Gorda Reverse Osmosis Facility, the Polk County Aquifer Recharge to Relieve Flooding, and the Anclote River Structure Changes to Maximize Storage at South Pasco Wellfield.
- e) Funding for the Peace Creek Canal Watershed Management Program is now included with other WMP activities in Table 1.

2. Florida Geological Survey Bench Scale Leaching Study - This project conducted bench scale leaching studies on geologic core material from aquifer storage zones at different sites to determine whether geochemical processes could be replicated in the laboratory. Information gained from this study was used to better assess options for minimizing mobilization.
3. City of Bradenton Pilot Degasification Project - This project was a pilot project to design, permit, and construct a degasification system to remove dissolved oxygen from the injection water prior to storage at the City of Bradenton's ASR site. The project was co-funded by the PRMRWSA, SFWMD, SJRWMD and the City of Bradenton. The degasification system was designed to process water at 0.65 mgd at 99.98 percent dissolved oxygen removal, but is actually capable of flow rates as high as 1.1 mgd with the same removal efficiency. Cycle testing with degassed water is being performed under the City of Bradenton's Potable Water ASR project.
4. University of Florida Evaluation of Pre-Treatment Techniques and Operational Strategies for Controlling Arsenic Mobilization During Artificial Recharge and ASR - This project involved the evaluation of pretreatment methods to control arsenic mobilization being performed by the University of Florida. The project involves bench scale tests and development of a computer model to assess methods to minimize mobilization of arsenic in the aquifer.
5. ASR Treatment Cost Efficiency Study - This project is to identify and test cost effective options for improving the treatment efficiency associated with removing dissolved oxygen from different sources of injection water (i.e., reclaimed water, direct surface water, and conventionally treated surface water). The first degas system constructed at the City of Bradenton facility struggled with clogging and fouling of the equipment. Methods to minimize this fouling and remove it as it occurs are being developed/improved to make pretreatment more viable. Additional methods to deoxygenate water are being tested that may provide better performance or address unique water quality characteristics found at different facilities.

Linkage to the Regional Water Supply Plan – One of the principal components of surface and reclaimed water projects discussed in the RWSP is storage of seasonally available sources. This project is discussed in Chapter 7, Section 2.1 in the Heartland, Southern, and Tampa Bay regional volumes of the RWSP. The success of ASR will be critical to the future development of surface water and reclaimed water sources, and will affect the District's ability to meet future demands. These projects will further the development of ASR systems by addressing the problem of mobilization of arsenic in the aquifer that contributes to the recovery of a lower quality of water.

Status – The Phase 1 evaluation was completed in 2007, and the Phase 2 study was completed in 2009. The Phase 3 degasification system was installed in 2008. Injection of the first deoxygenated water into the aquifer began in December 2008 at approximately 1.0 mgd. Dry conditions left the City with very little extra water for cycle testing that year and cycle testing was postponed until the following wet season. Recovery of the 6 million gallons of degassed water stored was completed in May 2009. A full-scale cycle test (160 million gallons) was conducted from August 2009 to February 2011 and arsenic concentration was consistently below the drinking water standard for arsenic. Results from this test indicated that removal of dissolved oxygen does solve the arsenic mobilization problem. A final cycle test has injected 110 million gallons and is in recovery through December 2012. The final report for Phase 4 was completed by the University of Florida in June 2011. Phase 5 commenced in August 2012 with the City of Bradenton conducting a study to identify the foulants that cause reduced flow rates through the degas system. A summary report is due in September 2013. The pretreatment investigation is expected to influence the direction of other ASR projects in the District and help ensure the viability of ASR as a water supply technology.

b. Bradenton Surface Water ASR Feasibility Study (N435)

Background – The City of Bradenton is performing a feasibility assessment of a surface water ASR program to be located near the Bill Evers Reservoir. 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 potentially serve as a recovery strategy option to meet minimum flow requirements for the lower Manatee River basin when the levels are established. Tasks completed during the first year of this project will include a regulatory review, identifying the optimal site location and layout, design and permitting of an exploratory well and ASR facilities, the compilation of bidding documents, and contract award.

Linkage to the Regional Water Supply Plan – Storage of seasonally available surface water supply is one of the principal alternative source components discussed in the RWSP. This project has evolved from the success of the ASR Pretreatment Investigation discussed above. The project is being developed as an alternative to the City of Bradenton Reservoir Expansion listed on page 117 of the RWSP Southern regional volume.

Status – The project design is commencing in October 2012. Well construction is expected to commence in September 2013. Future timelines will be determined.

c. Clearwater Groundwater Replenishment Project (N179)

Background – This is a multiyear potable reuse study to determine if highly treated reclaimed water can be utilized to directly recharge the Upper Floridan aquifer at the City of Clearwater's Northeast Advanced Pollution Control Facility to indirectly supplement potable water withdrawals. The project would potentially enable the City to utilize 100 percent of their reclaimed water, supplement water supplies within the aquifer, and possibly provide a seawater barrier to help prevent saltwater intrusion along the coast. 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 includes permitting and installing recharge and monitor wells, collecting lithologic cores, performing aquifer testing and groundwater modeling, conducting pilot treatment and aquifer recharge testing, and additional public outreach. If successful, this project could provide the City with the information needed to construct a full-scale aquifer recharge facility and potentially obtain up to 3 mgd in additional potable water supplies.

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 – Phase 1 was completed in 2011 and Phase 2 is currently underway. Design of the pilot purification plant was completed in June 2012. The pilot plant and well construction is scheduled for completion in December 2012. Phase 2 is scheduled for completion by February 2014. If pilot testing is successful, it is anticipated that the City will request additional funding for plant construction in FY2014 - FY2016.

d. 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. This data will enhance groundwater modeling of the Lower Floridan, and determine the practicality of developing the Lower Floridan aquifer as an alternative supply in areas facing future water supply deficits. The overall scope of the investigation water is to drill exploratory wells at up to six key locations, each of which will be chosen based on water needs of communities and to improve coverage of the Lower Floridan in the Districtwide Regulation Model to assess potential withdrawal-related impacts to water resources. If the tests prove that the water quality and productivity are suitable, the water and facilities could be available to a utility in Polk County

The initial exploratory well will be designed as a monitor well and drilled on property owned by the City of Winter Haven. This site was chosen because of the City of Winter Haven's need for additional

water and because formation water produced during tests can be disposed of properly. The initial well will be tested to determine if there is suitable water quality and permeability in the Lower Floridan. If the tests on the exploratory well are positive, a production well will be drilled and tested at the site. An aquifer performance test will be performed on the production well to obtain transmissivity and leakance information to address the productivity of the aquifer at this site. This data will be added to District regional models to further understand the Lower Floridan aquifer regionally. Regardless of the suitability of the Lower Floridan aquifer at this site, the first exploration well will be added 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 – District and City staff have identified a location for the initial exploratory well. A Request for Proposal package is under development to acquire consulting services for drilling supervision and testing activities. The investigation is expected to take one to two years per site, and future site locations will likely be explored one at a time.

e. Polk County Groundwater Recharge Investigation (N304)

Background – This project is an indirect aquifer recharge desktop feasibility study and field pilot testing to monitor and quantify the effects of applying highly-treated reclaimed water in rapid infiltration basins (RIBs) in northeast Polk County. The County will use varying quantities of highly-treated reclaimed water flows from their Northeast Regional Wastewater Treatment Facility to recharge the RIBs, monitor water level changes in the surficial and Upper Floridan aquifers, and develop a groundwater model to better quantify the amount of recharge occurring in the aquifers. If successful, the project could provide the County with an option for mitigating the effects of potential future groundwater withdrawals. This would enable the County to beneficially use 100 percent of their excess reclaimed water flows while providing opportunities for developing additional water supplies in an area where water supply options are limited. Results from this project would also help the District's effort to obtain more data and information that would support other similar projects.

Linkage to the Regional Water Supply Plan – This project is listed as a component of the Polk County Aquifer Recharge project listed in the Heartland regional volume of the 2010 RWSP, Chapter 7, Section 2.1, page 123.

Status – The site testing plan was completed in December 2012. The pilot RIB system was constructed and a 30-day loading test was conducted in May/June 2012. A final report is anticipated by January 2013.

f. 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 the 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 that are listed in the 2010 RWSP.

Status – The project commenced in August 2011. The aquifer recharge well was permitted for construction and testing by the DEP in May 2012. Completion of the injection well facilities is expected in May 2014. It is anticipated that test operations, analyses, and operational permitting will continue to 2017.

Agricultural Resource Management Projects

These 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.

a. Facilitating Agricultural Resource Management Systems (FARMS) Program (H017)

Background – 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 (180 MGD) within the Dover/Plant City WUCA. These goals are critical in the District's overall strategy to manage water resources.

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. Therefore, the focus of FARMS projects is not only to offset groundwater use with surface water but to increase the overall efficiency of irrigation water use. Groundwater use reductions not only benefit the Upper Floridan aquifer but also can improve surface water quality in areas such as Shell Creek where groundwater is highly mineralized.

The FARMS Program also funds a limited amount of non-project related activities and data collection efforts, including IFAS Flatwood Citrus BMP Implementation. This is an outreach effort by IFAS that furthers the goals of FARMS Program projects in the Shell, Prairie, and Joshua Creek watersheds, in addition to growers within Manatee, Hardee, Sarasota, DeSoto, and Charlotte counties.

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 August 2012, there are 97 operational FARMS projects, and 62 additional projects have been approved and are in the contract development or construction stage. The 159 total projects are projected to have a groundwater offset of 23.7 million gallons of water per day Districtwide and 22.1 mgd for the 114 Board-approved projects within the SWUCA. The projected offset for the 25 approved Frost-Freeze Protection projects (post-January 2010) within the Dover/Plant City WUCA is 44.4 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 partnerships to implement additional projects.

b. Mini-FARMS Program (H529)

Background – FDACS and the District initiated the Mini-FARMS Program in 2005, and has since co-funded project cost-share reimbursements to assist agriculturalists with operations under 100 acres to implement BMPs for water resources conservation and water quality improvements within the District. Mini-FARMS is administered by both FDACS and participating Soil and Water Conservation Districts, and authorizes maximum reimbursements capped at \$5,000 per project or 75 percent of program eligible costs. Estimates indicate the Mini-Farms Program would offset up to 2 mgd of groundwater use by 2025, primarily through increased irrigation efficiencies and updated technologies.

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 September 2012, the Mini-FARMS Program has initiated 21 water conservation BMP projects costing a total of \$72,264 out of the \$85,000 available funds (\$50,000 funded by the District in FY2012 combined with \$35,000 remaining from FY2011). For FY2013, the District is funding the Mini-FARMS Program for \$50,000 together with an additional \$50,000 from FDACS that would support at least twenty BMP projects. The Dover/Plant City WUCA priority area is targeted for about half of this funding.

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 QWIP, which focuses on proper well abandonment. The 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 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 2.2 and Chapter 7, Section 2 of each regional volume of the 2010 RWSP.

Status – A total of 71 wells have been back-plugged in the SWUCA overall to date, with 52 of these wells located in the Shell, Prairie and Joshua Creek (SPJC) priority watersheds. Analytical results for samples collected from the 52 back-plugged wells in the SPJC area indicated averages of conductivity, total dissolved solids (TDS) and chloride were decreased by 42 percent, 44 percent and 60 percent, respectively, with well volume 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, four 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 and preparation. 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 in conducting site assessments, selecting applicable FDACS BMPs, and filing notices of intent (NOIs) to implement the practices. Staff will follow up with growers to determine whether they need help understanding or implementing the BMPs. 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 will be provided to growers and their employees. Technical assistance will also identify areas of future educational need.

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 – To date, the FDACS has developed and adopted twelve BMP manuals covering Ridge citrus, Indian River citrus, Peace River citrus, Florida container nurseries, Gulf citrus, vegetable and agronomic Crops, Florida sod, Florida cow/calf operations, Florida specialty fruit and nut crops, Florida equine operations, silviculture and aquaculture. The BMPs involve water management systems including tailwater recovery systems, surface water use, and soil moisture monitoring activities. Below is a list of some of the statewide BMP Programs promoted to date; and it includes the number of NOIs submitted and the associated acres enrolled as of June 2012.

Summary of groves, farms and nurseries enrolled statewide as of June 30, 2012 in Ag BMP Program by the BMP Implementation Teams.

Programs	Number of NOIs	Total Acres
BMPs for Gulf Citrus, Indian River Citrus, Peace River and Manasota Basins & Ridge Citrus	3,317	532,038
Lake Okeechobee Protection Program	241	531,303
Specialty Fruit & Nut	66	3,512
Statewide Cow/Calf	374	1,256,958
Statewide Dairy Program	3	4,574
Statewide Equine	5	82
Statewide Sod	48	28,676
Vegetable & Agronomic Crops	732	881,160
Florida Container Nurseries	1137	28,249
Total	5,923	3,266,552

Source: Office of Agricultural Water Policy - FDACS - Report from June 30, 2012.

Environmental Restoration and MFL Recovery Projects

Included in this section are nine environmental restoration and MFL recovery projects that will develop 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 are below the adopted minimum flows, and the development of a recovery strategy was required by Florida Statute. 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.

Four of the projects are components of the recovery strategy to restore minimum flows to the upper Peace River. The District has established minimum flows for upper, middle, and lower segments of the Peace River. The actual flows of upper Peace River are below the adopted minimum flows, and a recovery strategy is required by Florida Statute. 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. Lakes Horse, Raleigh, and Rogers Recovery Project (B027)

Background – The Lakes Horse, Raleigh, and Rogers Recovery Project (formerly the Rocky Creek Lake Enhancement) is a cooperative project with Tampa Bay Water to enhance chronically low lake levels in northwest Hillsborough County resulting from groundwater withdrawals. The project is an element of the Mitigation Plan for Tampa Bay Water's Consolidated Wellfields Water Use Permit issued by the District.

Rocky Creek flows through Pretty Lake into Lake Armistead and then toward Tampa Bay. During wet periods when water levels meet or exceed the normal operating levels on lakes Pretty and Armistead, a portion of the water that would otherwise flow out of Lake Armistead and into Tampa Bay can be diverted to nearby Horse Lake and eventually into lakes Raleigh and Rogers. The District has adopted a minimum level for Horse Lake, and has proposed minimum levels for lakes Raleigh and Rogers. The project is expected to raise lake levels in these lakes to help achieve the minimum levels. Higher lake levels will increase vegetative and habitat restoration and will enhance fish passage by joining lake lobes that separate when water levels are low.

The project has been put on hold by the Governing Board and Tampa Bay Water in response to public concerns. The District, in conjunction with Tampa Bay Water and the public, is investigating alternatives to help recover lakes Horse, Raleigh, and Rogers. This includes a no project alternative, allowing additional monitoring of the recovery achieved from the Tampa Bay Water wellfield cutbacks.

Linkage to the Regional Water Supply Plan – This project is discussed as a WRD Project in the Tampa Bay regional volume of the 2010 RWSP, Chapter 7, page 141.

Status – The final technical memorandum for the Phase 1 Lake Water Budget Model was presented in January 2008. The Phase 2 hydrologic model report has been submitted and reviewed, and will be finalized as design progresses. Land acquisition activities for an intake structure and pipeline at Pretty Lake were completed in April 2011; however, the District was denied permission by Hillsborough County to use two parcels needed for the project. In response to public concerns, the District is currently working with Tampa Bay Water staff to explore and evaluate alternatives to the

current project, including a no project alternative.

b. Upper Myakka/Flatford Swamp Hydrologic Restoration/Implementation (Ho89)

Background – Hydrologic alterations and excess runoff has adversely impacted Flatford Swamp in the upper Myakka watershed. This project differs from MFL recovery projects, for it intends to remove excessive flows from the Flatford Swamp and portions of the surrounding area to improve the natural systems. The Flatford Swamp hydrologic restoration alternative will work to re-establish hydroperiods close to historic levels and to restore natural systems.

Work from the Myakka River Watershed Initiative (MRWI) has shown there is no single BMP that will mitigate problems within the Flatford Swamp. The plan remains to address the issues with a multi-prong adaptive management approach; but from the evaluations, it is apparent that a larger "workhorse" project is needed to successfully bring hydroperiods within the swamp back closer to historic levels. The analysis of the hydrologic restoration alternatives has been divided into three parts: (1) withdrawal scenarios from the Flatford Swamp either by diverting flow before it reaches the swamp or removal from the swamp, (2) storage for excess water depending on where the end user of the excess water is located, and (3) transmission and water quality treatment to potential users.

This project includes feasibility studies, design/permitting and construction of the alternatives identified from the results of the evaluation from the MRWI. The Upper Myakka Water Budget Model developed under the MRWI will be utilized to track performance of the proposed BMPs after construction.

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 – The most promising alternative for reducing excess flows is to transport flows to Mosaic Fertilizer for storage and use in their mining operations. A joint feasibility study with Mosaic was executed in September 2011. A restoration system preferred alternative is scheduled for completion by January 2013. A best estimate for project completion at this point in development is January 2018. In addition, a portion of project funding will be used to continue wetland restoration planning. SWIM staff will continue the investigation into natural systems restoration and enhancement opportunities in Flatford Swamp.

c. Lower Hillsborough Recovery Strategy (H400)

Background – The 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 to be 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 to the weir (2011) and pump station (2012) at Sulphur Springs, the Blue Sink project (2013), the Morris Bridge Sink project (2013), 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 the Tampa Bypass Canal (7.1 mgd). Four cooperative agreements with the City of Tampa for the recovery plan were approved in 2010. The agreements to modify the lower weir and pump station at the pool of Sulphur Springs have been completed. The District is

moving forward with construction of a pipeline from Blue Sink to the base of the dam, and the investigation of additional water sources and supply options that may be needed to meet minimum flows.

d. 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 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 underway while the City evaluated options for permanent pumping facilities.

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 design phase was initiated in May 2012 and is scheduled for completion in May 2013. There is a separate set of pumps on the Tampa Bypass Canal that are operated by Tampa Bay Water to transfer water to the Hillsborough River reservoir to augment the City's water supply. The District is discussing with the City and Tampa Bay Water the feasibility of using these pumps to also provide the water required for the LHR recovery strategy. If these pumps can be used, it would eliminate the need for one of the two new pumping facilities proposed by the City. Completion of one or both of the new pumping facilities is projected for December 2014.

e. Pump Stations on the Tampa Bypass Canal (H402)

Background – Beginning January 1, 2008, the District became responsible for diverting up to 75 percent of the 7.1 mgd of water from the Tampa Bypass Canal to the LHR in accordance with adopted minimum flow requirements. The diversion is achieved through two pump stations located on the Tampa Bypass Canal and a pump station located at the City of Tampa Dam. This project accounts for District expenses of the water transfer. 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 are being operated 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). The design of the Morris Bridge Sinkhole pump station was completed in July 2011, and the facility is expected to be operational in October 2012.

f. Lake Hancock Lake Level Modification Project (H008)

Background – The Lake Hancock Lake Level Modification project is part of the proposed 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 proposes to increase the normal operating level from 98.7 feet to 100.0 feet by modifying the P-11 outfall structure, which will provide the storage to 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 river. The project will further the District's recent 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 3 steps: Step (1) provided 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. Step (2) involved generating detailed information for submission of a Conceptual Environmental Resource Permit (ERP), and to identify impacts to private lands for acquisition and other mitigation needs (environmental, facilities, etc). Major components of the Conceptual ERP include: pre- and post-condition analysis; private property, dwelling, environmental, and infrastructure mitigation; outfall structure operation characteristics; and an anticipated fluctuation schedule for the lake. Step 2 was completed in 2007. Step (3) is the implementation of the mitigation components described in the Conceptual ERP.

The project is being coordinated with the Outfall Wetland Treatment System, which is intended to improve the quality of water released from the lake.

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 continues to negotiate with private land owners and purchases property when successful negotiations are achieved. ERPs for construction for conveyance projects at State Road 540, Polk Parkway pond, City of Lakeland Cemetery, Old Florida Plantation (OFP) and Lake Lena run were obtained in 2011. Construction began in March 2012 on the Lakeland Cemetery conveyance improvements. On August 14, 2012, a cooperative agreement with Florida Department of Transportation (FDOT) was executed for conveyance improvements along Highway 540. Construction for the Polk Parkway pond, OFP, and Lake Lena run conveyance improvement projects are scheduled to begin in December 2012 and completion is anticipated by May 2013.

g. Lake Hancock Outfall Structure P-11 Modification Project (H009)

Background – This project is directly related to the Lake Hancock Lake Level Modification project. The project involves the actual replacement of the present P-11 control structure to raise the normal operating water level by nearly 1.5 feet. The new P-11 water control structure design consists of two lift gates for flood control and two drop gates for slowly releasing water to meet MFLs in the upper Peace River.

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 – An engineering consultant completed the new P-11 design plans in May 2010. The District has received an ERP (issued March 2, 2010) to construct the new P-11 structure from DEP. The project faced a delay when a first round of construction bidding was met with several protests and petitions. Construction began in November 2011 and the majority of concrete work was completed by September 2012. Final completion of the new outfall structure is expected by September 2013.

h. Lake Hancock Outfall Wetland Treatment System (H014)

Background – 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. Historical data has shown that the Saddle Creek drainage basin contributes the greatest nitrogen load to the Peace River of the nine sub-basins in the Peace River watershed. 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 (SWIM) priority water body. The project is specifically identified in the DEP's Peace River Basin Resource Management Plan (March 2007), the Charlotte Harbor National Estuary Program Comprehensive Conservation Management Plan and the Charlotte Harbor SWIM Plan. 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 PRMRWSA. Many of the basins along the Peace River, including Lake Hancock, have been identified by DEP as impaired under the Clean Water Act. Treating water quality of discharges from Lake Hancock is the most cost-effective means of reducing nitrogen loads into the Peace River and Charlotte Harbor. The creation of a 1,000-acre functional marsh system will provide habitat where historic mining has altered the landscape.

The District has acquired a 3,500-acre property south of Lake Hancock. Portions of this tract are being utilized for the outfall treatment project. The District is responsible for long-term operation and maintenance of the treatment system. Another separate but related task includes habitat enhancement on adjacent District-owned parcels. The objective of habitat enhancement is to maintain a vegetated corridor along South Saddle Creek for migratory birds. Polk County has indicated interest in creating and enhancing wetlands on the District-owned lands on the west side of South Saddle Creek for mitigation needed for landfill expansion.

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 – A feasibility study was completed in 2005 which recommended the treatment wetland system to achieve the project goals. A basis of design report was completed in 2007. A pilot scale project was operated from June 2007 to June 2008. Geotechnical testing and design was completed in 2010. Construction was competitively bid in 2011. Construction commenced in September 2011 and is expected to be complete in summer 2013.

i. Peace Creek Canal Watershed Management Project (H034)

Background – This is a multiyear project to collect topographic information, evaluate the watershed, and to develop and conduct elements of the District's Peace Creek Canal WMP. In 2005, the District took on the responsibility to maintain and/or improve the water conveyance and storage capabilities of the Peace Creek Canal. Development of the WMP commenced in May 2005.

The Peace Creek Canal watershed covers an area of approximately 230 square miles in Polk County. The District has identified the upper Peace River watershed, which includes the Peace Creek Canal system, as an area that has undergone significant land alterations including land clearing, draining and recontouring of lands for residential and commercial purposes, transportation, agriculture, recreation, timbering, power generation, ore and mineral extraction, and other land uses. These activities required extensive withdrawals of groundwater that has resulted in significant declines in the level of the Floridan aquifer system and flow in the upper Peace River. This project identifies future projects that will restore lost basin storage, improve water quality, provide flood protection benefits, and improve natural systems.

The WMP provides a method to evaluate the capacity of a watershed to protect, enhance, and restore water quality and natural systems, while achieving flood protection. The information developed

provides the science for the District's ERP program. It assists local governments: (1) with their land management responsibilities by establishing a level of service and developing BMPs to address level of service deficiencies, (2) provides a geodatabase and projects results from watershed model simulations for floodplain management, and (3) achieves water quality management through the Total Maximum Daily Loads process for their National Pollution Discharge Elimination System permit requirements. In addition, the WMP will also define lake management levels for storage optimization and flood protection of the Winter Haven Chain of Lakes, identify and assess the impacts of new surface water storage sites within the canal, and analyze the potential for ecological restoration of seventeen sites located along the canal previously identified by the District.

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 topographic information, watershed evaluation, and immediate canal maintenance are completed. A canal maintenance evaluation report was completed in May 2005 which identified short- and long-term maintenance activities to improve conveyance in the canal. The watershed evaluation covered approximately 13,000 acres of lakes and 13,000 acres of wetland areas for surface water storage potential to help improve natural systems and enhance flood protection. The project was amended multiple times to include additional tasks to the scope of work such as the acquisition of 13 residential properties that routinely flooded, and new modeling requirements necessary to update the FEMA Digital Flood Insurance Rate Maps. The surface water model for the Peace Creek Canal watershed is expected to be complete in early 2013. The evaluation of wetland and flood protection enhancement opportunities and lake level optimization is expected to be complete in Fall 2013.

In June 2009, the District approved a plan to secure permanent access rights for maintenance activities by obtaining voluntary conveyance of easement rights from individual property owners and through local government development orders as land transition occurs. Local property owners were contacted to determine their interest in donating access rights. Sixteen sediment removal sites were established and two culvert replacements have been completed. The District provides aquatic plant maintenance in the canal under its operational budget.

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 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.

In 2012, the Legislature revised Subsection 373.536(6), F.S., to require the Work Program to include an assessment of water supply and alternative water supply development projects, including project's funding plan, how the project will provide water for consumptive uses, and the estimated quantity of water to be produced by each project. Previously, the District has voluntarily included the funding for each ongoing water supply development project in this report because of the significant magnitude of annual funding provided. To address the change in statute, this year's Work Program also includes the estimated water offset/supply quantities associated with the project (when applicable) in the tables below. Descriptions of new water supply development projects were previously listed in an appendix to the Work Program and are now included after the tables below.

The District has budgeted for 95 water supply development projects in FY2013. As shown in Tables 3 through 6, the total amount of District funding in FY2013 for water supply development assistance is approximately \$23.7 million. This level of funding is an increase from the FY2012 budget, but is much less than prior year budgets, as displayed in Figure 3. The high level of funding in prior years was primarily for construction costs of large-scale potable water supply treatment facilities and regional transmission projects, for which there is currently less activity. To a lesser extent, cooperative funding requests from local governments to develop/expand reclaimed water system began to decline in FY2011 due to availability of cooperator funds. The cooperator demand for water supply development assistance is expected to fluctuate over the long term when new water supplies are constructed in the future. The District has an ongoing commitment to continue this funding in an effort to ensure there are adequate water sources available to meet existing and future demands.

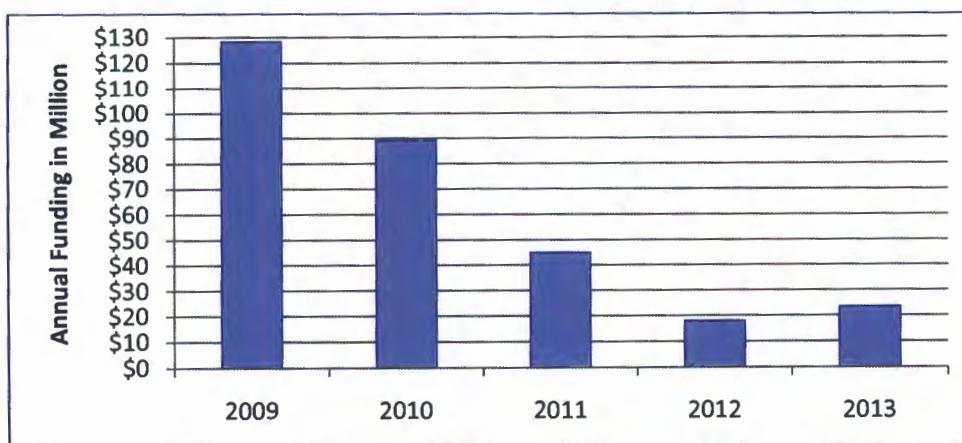


Figure 3. Funding for Water Supply Development Projects from FY2009 through FY2013

The projects are categorized below as reclaimed water, conservation, and potable water projects. Project funding amounts of less than \$10,000 generally represent management expenses allocated to previously funded projects. Most of the project costs are matched on a 50/50 cost-share basis through the District's Cooperative Funding Initiative. In addition, a number of projects have received state and federal funding. The "total project cost" typically includes the cooperator shares and other non-District funding sources.

Table 3. FY2012 Reclaimed Water Projects

Code	Water Supply Development Assistance - Reclaimed Water Projects	FY2013 Funding	Prior District Funding	Total Project Cost	Offset (mgd)
N336	Braden River Utilities to Bradenton Reclaimed Interconnect	\$4,953,141	\$750,000	\$11,403,141	4.000
N355	Braden River Utilities to City of Sarasota Reclaimed Interconnect	\$2,340	\$754,166	\$1,506,506	1.500
L169	Brooksville Storage, Pumps, and Pipes Cobb Road to Southern Hills	\$1,608	\$2,741,564	\$5,102,086	1.000
H085	Charlotte County Regional Reclaimed Water Expansion Phase 2	\$166,901	\$1,332,086	\$2,813,537	NA
N358	City of Crystal River to Progress Energy Reclaimed Interconnect	\$1,119,368	\$321,921	\$5,114,516	0.750
N398	City of Oldsmar Reclaimed Water ASR	\$7,447	\$514,468	\$1,749,763	NA
L810	Clearwater Chautauqua/Coachman Ridge Transmission, Distribution	\$804	\$1,988,903	\$3,966,707	0.160
N095	Clearwater Glen Oaks/Palmetto Reclaimed Water Distribution Project	\$1,625	\$2,902,680	\$5,794,305	0.310
N169	Clearwater Harbor Reclaimed Water	\$1,641	\$1,111,544	\$2,215,210	0.100
L695	Clearwater Skycrest Area Transmission, Distribution, Storage, Pumps	\$804	\$6,233,834	\$10,933,638	0.300
L823	Dade City Reclaimed Water Project	\$2,329	\$1,963,540	\$3,858,278	0.300
N370	FGUA Wet Weather Reclaimed Water Project	\$351,666	\$500,357	\$2,402,023	0.225
N486	Hernando County County Line Road Reclaimed Distribution System	\$2,002,626	\$0	\$10,002,626	0.520
N395	Hernando County Reclaimed Water Transmission Phase 1, US19	\$5,429	\$626,921	\$1,257,350	0.500
N335	Lake Wales Country Club Reuse	\$34,507	\$250,357	\$849,198	0.262
H093	Manatee County 10 MG Reclaimed Water Storage Tank #2	\$2,373	\$2,506,891	\$5,009,264	NA
N344	Manatee County Meadows Reclaimed Water Transmission	\$2,351	\$238,562	\$475,771	0.032
N488	Manatee County Regional 10 MG Reclaimed Storage Tank SE-3	\$462,329	\$0	\$6,119,823	NA
L650	Marion County Oak Run Reclaimed Water Project	\$7,306	\$1,565,246	\$3,130,552	0.375
N279	Marion County Spruce Creek Reclaimed Water Transmission	\$10,402	\$814,776	\$1,636,178	0.263
N461	New Port Richey Meadowlawn Cemetery Reclaimed Water Project	\$216,626	\$0	\$430,626	0.064
N277	North Port Reclaimed Water Transmission Expansion Phase 1	\$585,840	\$784,107	\$3,898,447	0.800
L608	Palmetto Reclaimed Water ASR	\$414,662	\$887,081	\$2,367,743	NA
N429	Pasco County Beacon Point Residential Reclaimed Distribution	\$51,674	\$0	\$201,674	0.040
H056	Pasco County Boyette Wet-Weather Reclaimed Water Reservoir	\$1,633	\$9,444,719	\$18,579,127	NA
N470	Pasco County Covanta Reclaimed Water Power Plant Project	\$901,674	\$0	\$1,801,674	0.470
N462	Pasco County Groves Reclaimed Supply, Storage Pond Improvement	\$26,674	\$0	\$201,674	0.180
N485	Pasco County Lexington Oaks Golf Course Reclaimed Storage Pond	\$62,674	\$0	\$123,674	0.090
N464	Pasco County Meadow Point Reclaimed Transmission Main	\$101,674	\$0	\$1,981,674	NA

Table 3. FY2012 Reclaimed Water Projects (continued)

Code	Water Supply Development Assistance - Reclaimed Water Projects	FY2013 Funding	Prior District Funding	Total Project Cost	Offset (mgd)
H092	Pasco County Reclaimed Water Natural Systems Restoration	\$184,627	\$617,453	\$16,682,780	5.000
N450	Pasco County Saddlebrook Golf Course Reclaimed Supply	\$31,674	\$0	\$241,674	0.380
H041	Pasco County SE Regional Reclaimed Water Loop	\$1,641	\$1,539,199	\$3,170,352	NA
N442	Pasco County Seven Springs Golf & Country Club Reuse	\$76,674	\$0	\$601,674	0.380
H067	Pasco County Shady Hills SR 52 Regional Reclaimed Interconnect	\$1,652	\$6,876,407	\$13,141,306	4.500
H055	Pasco County SR 52 East/West Regional Reclaimed Interconnect	\$1,673	\$9,958,269	\$18,639,942	3.000
K682	Pinellas County S. Reclaimed Water ASR Project	\$10,288	\$562,546	\$1,081,834	NA
L816	Plant City Sydney Road Reclaimed Water Project	\$1,007,340	\$1,996,667	\$6,139,092	0.400
H090	Polk County Holly Hill Reclaimed Storage, Pumping, and LFA Well	\$854	\$1,969,247	\$2,981,075	NA
N024	Polk County NWRUSA Storage and Pumping Station	\$5,526	\$2,275,024	\$6,389,686	NA
N346	Riverwood CDD Reclaimed Water Expansion	\$1,538	\$304,000	\$609,538	0.098
N327	Riverwood CDD Reclaimed Water Interconnect to Charlotte County	\$1,571	\$356,209	\$707,780	0.454
K269	Sarasota County N. Reclaimed Water ASR	\$15,931	\$2,237,951	\$6,520,821	NA
H076	Southwest Polk County/Tampa Electric Reclaimed Water Project	\$4,124,560	\$32,220,147	\$73,271,441	7.000
N157	St. Leo University Reclaimed Water Storage Pond and Piping	\$1,674	\$459,482	\$909,482	0.034
N494	Tarpon Springs Reclaimed Water Controls and Storage System	\$126,813	\$0	\$4,576,993	NA
N471	Temple Terrace Hillsborough Reclaimed Water Master Plan	\$51,674	\$0	\$101,674	NA
N452	Venice Reclaimed Water Storage Tank	\$1,385,465	\$0	\$2,760,465	NA
N339	Winter Haven #3 Reclaimed Interconnect, Storage, and Pumping	\$1,032,924	\$691,725	\$5,505,899	0.150
	Total Reclaimed Water Projects	\$19,564,227	\$100,298,049	\$278,960,293	33.637

Acronyms: NWRUSA - Northwest Regional Utility Service Area, LFA - Lower Floridan Aquifer, CDD - Community Development District.

District funding includes project management expenses.

The "Total Project Costs" may include cooperator shares and other non-District funding sources.

The reclaimed water "Offset" is the amount of traditional water supply projected to be replaced by reclaimed water, rather than the amount of reclaimed water made available.

Four projects above (N398, L608, K682, and K269) are ASR projects to store reclaimed water and are budgeted under the 2.2.2.5 "Aquifer Recharge/Storage Recovery" category of the District's programmatic budget. For this reason, the total of the 2.2.2.3 "Reclaimed Water" category in the programmatic budget is **\$19,116,096**.

Table 4. FY2012 Conservation Projects

Code	Water Supply Development Assistance - Conservation Projects	FY2013 Funding	Prior District Funding	Total Project Cost	Offset (mgd)
N365	Bay Laurel Center CDD Toilet Rebate Program	\$6,367	\$32,241	\$67,608	0.008
N107	Braden River Soil Moisture Sensor Pilot Project	\$5,384	\$107,033	\$212,417	TBD
N412	City of Venice Toilet Replacement Program	\$2,318	\$44,133	\$89,201	0.016
N291	East Pasco County Low Flow Toilet Rebate Program	\$2,038	\$28,450	\$44,888	0.007
N410	FGUA Conservation Initiative - Toilet Rebate Phase 2	\$1,939	\$21,691	\$42,393	0.006
N499	FGUA Toilet Rebate Program Phase 3	\$19,299	\$0	\$36,671	0.005
N245	FGUA Water Conservation Incentive Program	\$1,950	\$27,226	\$40,107	0.002
N249	Frostproof Toilet Rebate Project	\$3,238	\$7,271	\$13,359	0.001
N397	Home Depot Rainwater Harvesting and Commercial Reuse	\$3,298	\$326,269	\$654,567	0.034
P375	Indoor/Outdoor Water Conservation Program	\$27,904	\$224,952	\$252,856	NA
N314	Lake Alfred Water Conservation Project	\$5,384	\$12,453	\$25,937	0.008
N231	Manatee County Toilet Rebate Program Phase 4	\$768	\$69,961	\$133,801	0.021
N325	Manatee County Toilet Rebate Program Phase 5	\$1,538	\$113,997	\$224,285	0.036
N443	Manatee County Toilet Rebate Project, Phase 6	\$111,068	\$0	\$219,818	0.022
N253	Marion County Toilet Rebate Program	\$3,643	\$54,382	\$108,025	0.016
N411	Marion County Toilet Rebate Program Phase 2	\$3,665	\$51,213	\$104,878	0.016
N321	Mira Bay Weather Based Controller Project	\$3,643	\$26,922	\$55,565	0.023
N329	Mobile Irrigation Lab for Highlands Soil and Water Conservation District Phase 2	\$5,367	\$17,719	\$29,751	0.008
N427	New Port Richey ULV Toilet Rebate Program Phase 1	\$11,206	\$0	\$17,206	0.002
N466	Pasco County Low Flow Toilet Rebate Program Phase 6	\$11,928	\$0	\$21,928	0.003
N382	Pasco County Toilet Rebate Program	\$1,961	\$103,083	\$205,044	0.037
N324	Pasco County Toilet Rebate Program Phase 4	\$1,936	\$157,537	\$309,473	0.036
N232	Pasco Low Flow Toilet Rebate Program Phase 3	\$1,928	\$117,128	\$219,056	0.036
N161	Polk County Utilities Rain Sensor Rebate Program	\$1,608	\$67,095	\$126,978	0.123
N160	St. Petersburg Sensible Sprinkling Program Phase 4	\$779	\$56,139	\$106,918	0.035
N408	St. Petersburg Sensible Sprinkling Program Phase 5	\$2,318	\$51,383	\$103,701	0.042
N498	St. Petersburg Toilet Rebate Project Phase 13	\$77,318	\$0	\$152,318	0.026
N239	St. Petersburg Toilet Replacement Program Phase 11	\$1,549	\$81,226	\$157,775	0.027

Table 4. FY2012 Conservation Projects (continued)

Code	Water Supply Development Assistance - Conservation Projects	FY2013 Funding	Prior District Funding	Total Project Cost	Offset (mgd)
N330	St. Petersburg Toilet Replacement Program Phase 12	\$1,549	\$79,122	\$155,671	0.024
N409	St. Petersburg Toilet Replacement Program Phase 13	\$1,549	\$76,383	\$152,932	0.016
P374	Urban Mobile Lab Permanent/Ongoing Program	\$15,777	\$246,091	\$261,868	5.600
N423	Venice Toilet Rebate and Retrofit Project Phase II	\$45,068	\$0	\$87,818	0.016
N476	Windstream Utilities Landscape & Irrigation Evaluation Project	\$19,009	\$0	\$31,009	0.007
N491	WRWSA Regional Irrigation System Evaluation Program Phase 2	\$98,784	\$0	\$194,884	0.058
N278	WRWSA Regional Irrigation Audit and Education Pilot Program	\$5,367	\$104,988	\$210,355	0.060
	Total Conservation Projects	\$507,445	\$2,306,088	\$4,871,061	6.377

District funding includes project management expenses. The "Total Project Costs" may include cooperator shares and other non-District funding sources.

Conservation project offsets are the amount of water supply conserved and subsequently made available for other uses.

Acronyms: FGUA – Florida Governmental Utility Authority, WRWSA – Withlacoochee Regional Water Supply Authority.

Table 5. FY2012 Potable Water Projects

Code	Water Supply Development Assistance - Potable Water Projects	FY2013 Funding	Prior District Funding	Total Project Cost	Supply (mgd)
K114	Bradenton ASR Program	\$5,526	\$1,182,504	\$2,393,375	0.411
N176	Clearwater Brackish Facility at WTP No. 2	\$3,422,114	\$1,428,672	\$30,460,531	5.000
K120	North Port ASR Feasibility Phase 5	\$105,526	\$1,060,229	\$2,299,825	0.274
N082	North Port Treatment Reliability Project	\$2,108	\$1,414,656	\$10,416,764	1.400
N041	Oldsmar Alternative Water Supply	\$1,193	\$9,172,396	\$20,821,596	2.000
H079	PRMRWSA Investigation of Brackish Groundwater Development	\$5,393	\$1,268,661	\$1,868,661	NA
H069	PRMRWSA Regional Integrated Loop System Phase 1A Interconnect	\$5,619	\$12,095,066	\$19,108,185	NA
H051	PRMRWSA Regional Integrated Loop System Phase 2 Interconnect	\$112,264	\$7,695,916	\$15,425,165	NA
H052	PRMRWSA Regional Integrated Loop System Phase 3A Interconnect	\$1,391	\$13,365,582	\$27,526,078	NA
H088	Sarasota County Pilot Treatment Study Cow Pen Slough	\$5,316	\$1,151,047	\$2,203,863	NA
L825	Tarpon Springs Alternative Water Supply Project	\$4,972	\$20,166,346	\$45,029,423	3.200
H082	Tampa Bay Water Surface Water Expansion Feasibility Study	\$2,129	\$786,665	\$2,284,814	NA
	Total Potable Water Projects	\$3,673,551	\$70,787,740	\$179,838,280	12.285

District funding includes project management expenses. The "Total Project Costs" may include cooperator shares and other non-District funding sources.

Table 6. FY2012 Total Funding for Water Supply Development Projects

Project Totals	FY2013 Funding
Reclaimed Water Projects	\$19,564,227
Conservation Projects	\$507,445
Potable Water Projects	\$3,673,551
Total FY2013 Funding	\$23,745,223

District FY2013 funding includes project management expenses.

Descriptions of New Water Supply Development Projects

There are 21 water supply development projects that are newly funded in the District's FY2013 budget. These new projects can be recognized in Tables 3 to 5 as having no prior funding, and are described below in alphabetical order. The inclusion of these projects in the Work Program provides a mechanism for the DEP to formally evaluate the projects for consistency with the goals of the District's RWSP. By adoption, the projects are incorporated into the RWSP and become potentially eligible for state funding.

1. FGUA Toilet Rebate Program Phase 3 (N499)

Background – This toilet rebate project provides account credits for the purchase and installation of ultra low-flow and high-efficiency toilets to residential customers of the Florida Governmental Utility Authority (FGUA) in Pasco County to replace conventional toilet fixtures designed and installed prior to 1995. The FGUA will provide up to a \$100 account credit for the purchase of a low-flow toilet and a \$60 credit for the purchase of a second low-flow toilet. The program will cover the replacement of up to 220 toilets, with a maximum of two rebates per customer account. The estimated savings will be 5,235 gallons per day (gpd). The FGUA, through its management contractor, will be tasked with developing and maintaining records of program participants, providing credits to customers and reporting project milestones.

Linkage to the Regional Water Supply Plan – Toilet replacement programs are a component of the District's water conservation strategy as described in Chapter 4, Section 6.1 in each 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 rebates will be advertized beginning in April 2013. The program is expected to run through April 2014

2. Hernando County, County Line Road Reclaimed Distribution (N486)

Background – This is a multiyear alternative water supply project for the construction of reclaimed water transmission mains, distribution piping, an interconnect with the County's existing reclaimed water system, a 2 million gallon storage tank, and a high service pump station in southwest Hernando. The project includes approximately 11 miles of reclaimed water lines. The project will connect the County's central reclaimed water service area with their west service areas and provide reclaimed water to approximately 1,100 residential irrigation customers, additional flows to the Timber Pines Golf Course, and other commercial reclaimed water customers in the southwestern portion of the County. The main transmission portion is along County Line Road and the primary distribution portion is located north of County Line Road and east of Mariner Boulevard. The project will provide 0.92 mgd of reclaimed water to offset 0.52 mgd of potable quality water. The project will also interconnect three of the County's WWTP's, give the ability to move reclaimed water to areas of high demand, and provide for the pumping and storage necessary to serve additional customers in southwest Hernando County.

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. This project is related to the reclaimed water development options for Hernando County in Chapter 5, Section 2 in the Northern regional volume, page 82.

Status – Design activities commenced in October 2012 and are not a District-funded component of the project. Construction is projected to occur between October 2013 and September 2014.

3. Manatee County Regional 10 MG Reclaimed Storage Tank SE-3 (N488)

Background – This project will design and construct the third of four planned 10 million gallon reclaimed water storage tanks and a high service pump station in support of the Manatee County Agricultural Reuse System (MARS). MARS is a regional reuse system that consists of over 21 miles of transmission lines that interconnect Manatee County’s three regional wastewater treatment facilities. The MARS system supplies reclaimed water for irrigation of agricultural, residential, and recreational customers, thereby decreasing dependence on potable groundwater. The MARS system is designed to distribute over 30 mgd. Wastewater plant peak flows are processed during the daytime and used primarily at night, which requires the system to have sufficient tank storage to meet the nighttime peak demand. The District and County constructed the first of four tanks in 2011 and is in the process of constructing the second tank at the Southwest Wastewater Reclamation Facility with FY2011 and FY2012 funds. This third tank and high service pump station is located at the Southeast Wastewater Reclamation Facility and will allow the County to serve the Shroeder Manatee Farm operation and continue to supply reclaimed water to the Southeast service area. The addition of this third tank, and one more planned tank at the North Wastewater Reclamation Facility, will better enable the County’s regional reclaimed water system to provide for the nightly peak demand events, without compromising pressure and water quality.

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 MARS Storage project option is discussed in the Southern Planning Volume, page 95.

Status – Project design is scheduled to begin by January 2013. Construction is projected to take place between November 2013 and November 2014.

4. Manatee County Toilet Rebate Project, Phase 6 (N443)

Background – This toilet rebate project provides a financial incentive to the County’s existing residential, multifamily, and commercial/industrial water customers to replace high-flow toilets with low-flow, high-efficiency toilets. The County currently services over 90,000 potable water accounts and anticipates continued growth over the next 20 years. The objective of the rebate program is to replace an estimated 1,500 high-flow toilets during FY2013. Any program participant that replaces a toilet using 3.5 gallons per flush or more with a high-efficiency toilet will receive up to a \$100 rebate for each toilet with a maximum limit of two toilets per dwelling unit. This program will also focus on educating the new low-volume toilet owners on the proper maintenance, specifically flappers and leak detection, necessary to ensure that each toilet remains a water conserving fixture. Rebate payments are subject to the recipient’s submittal of the completed application and documented cost. Rebates will be distributed after a personal inspection of the completed installation and verification that the old toilets are ready for disposal. The estimated total water savings for this project is 22,407 gpd.

Linkage to the Regional Water Supply Plan – Toilet replacement programs are a component of the District’s water conservation strategy as described in Chapter 4, Section 6.1 in each 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 will commence in February 2013 and run through January 2014. A program evaluation report is scheduled for completion by February 2015.

5. New Port Richey Meadowlawn Cemetery Reclaimed Water Project (N461)

Background – This project consists of the design and construction of approximately 3,300 linear feet of 12-inch diameter reclaimed water transmission main to extend reclaimed water service for outdoor irrigation of the Meadowlawn Memorial Gardens Cemetery. This project also includes the design and construction of approximately 1,100 linear feet of 2-inch diameter reclaimed water pipe to replace a second irrigation system on the cemetery that currently uses potable water. The cemetery consists of approximately 22 acres of irrigable land. At the completion of the project, the resulting reclaimed water flow of 85,300 gpd and would offset 64,000 gpd of potable quality groundwater currently used for landscape irrigation. Future extensions of the transmission main could potentially serve the Hazeldon, Briar Patch and Sunnybrook residential neighborhoods.

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 projects.

Status – Design is scheduled to commence in November 2012. Construction is projected to occur from March 2013 to June 2013.

6. New Port Richey ULV Toilet Rebate Program Phase 1 (N427)

Background – This toilet rebate project offers financial incentives to water customers within the City of New Port Richey's utility service area to replace existing high-volume toilets with ultra low-flow and high-efficiency toilet models to save potable water. The project will retrofit and rebate approximately 60 toilets through an outside contracted consultant. This is a first-year program for the City of New Port Richey's Public Works Department, which has previously provided customers with low-flow shower heads and toilet flappers and will continue to do so. More than 5,000 shower heads and flappers have been distributed over the past five years. Depending on the program's success, the City may continue the toilet rebate program for additional years. High citizen demand for such a program has been developing in recent years. In a 2005 public opinion survey conducted by Tampa Bay Water, about 60 percent of residents surveyed indicated they would be willing to participate in a rebate program of low-flow toilets.

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 6.1 in each 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 City intends to hire a consultant in FY2013.

7. Pasco County Beacon Point Residential Reclaimed Water Distribution (N429)

Background – This FY2013 and FY2014 project will extend an existing distribution line to residential customers in the Beacon Woods East subdivision with reclaimed water. The project will supply 93 customers with 70,000 gallon per day of reclaimed water to offset 40,000 gpd of potable quality groundwater. Pasco County will be the cooperator; however, the Beacon Point Home Owner's Association will reimburse the county for the local share of the project. The County will also assist Beacon Point subdivision in reducing the overall cost of the project by providing in-kind services which include providing the crews and machinery needed to construct the distribution line (portions

not part of District funded project).

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 is not specifically mentioned as a project option in the RWSP, but is consistent with similar projects.

Status – Project design is scheduled for completion by May 2013. Construction is projected to occur from September 2013 through June 2014.

8. Pasco County Covanta Reclaimed Water Power Plant Project (N470)

Background – This FY2013 project is for the design and construction of an advanced reclaimed water treatment system at the Pasco County Resource Recovery Facility in Central Pasco County. The facility is a 30 megawatt waste-to-energy power plant owned by Pasco County and operated by Covanta Pasco, Inc. The project will include an on-site advanced treatment system with an average flow of 0.45 mgd to reduce phosphorus down to acceptable levels for cooling tower use and a side stream 0.02 mgd average flow membrane system capable of producing extremely high quality water for boiler feed water. The technology to be used is conventional, commercially available, and has been successfully implemented in other reclaimed water projects in Florida. The facility currently uses reclaimed water but is limited to approximately 0.3 mgd in order to blend reclaimed water with groundwater from an onsite well due to high phosphorus levels. The project will supply 0.47 mgd of reclaimed water to offset 0.47 mgd potable quality groundwater at 100 percent efficiency.

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 is not specifically mentioned as a project option in the RWSP, but addresses water supply priorities of the District by implementing reclaimed water supply and provides regional benefits as it is near regional potable water wellfields. In 2002, a similar District co-funded project was successfully completed with Pinellas County that included the design and construction of a low pressure membrane system to utilize reclaimed water for boiler feed water at a similar waste-to-energy facility.

Status – In 2011, Pasco County and Covanta Pasco, Inc. initiated pilot testing, preliminary design and cost analysis (no District funding). The conceptual design was completed in March 2012, and is not part of the District-funded project. Construction is projected to occur from March 2013 to September 2013.

9. Pasco County Groves Reclaimed Supply, Storage Pond Improvement (N462)

Background – This multiyear FY2013 and FY2014 project is for the design and construction of an 8-inch diameter reclaimed water line from Pasco County's reclaimed water transmission main on US-41 to a new isolated pond on the Groves Golf Course property in Land O' Lakes. The project will provide 0.25 mgd of reclaimed water to offset 0.18 mgd of existing groundwater irrigation at the golf course and some common areas within the community.

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. Reclaimed water expansion options for Pasco County are listed in Chapter 5, Section 2, Table 5-2 of the Tampa Bay regional volume.

Status – Project design is scheduled to begin in February 2013. Construction is projected to run from December 2013 to September 2014.

10. Pasco County Lexington Oaks Golf Course Reclaimed Storage Pond (N485)

Background – This FY2013 project is for the design and construction of 4-inch diameter reclaimed water line to provide additional reclaimed water to the Lexington Oaks Golf Course and subdivision. The project also includes a sheet-pile barrier to separate reclaimed water from storm water inside the golf course's existing on-site storage pond. The golf course has been limited to the amount of reclaimed water it can use due to pH and scaling issues caused by the commingling of reclaimed water with stormwater and the long residence time in the existing 8-acre pond. The segregation of the reclaimed water from the rest of the pond by building the barrier will create 1 million gallons of reclaimed water storage to supply 0.12 mgd of reclaimed water and offset 0.09 mgd of potable quality groundwater currently used for irrigation.

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. Reclaimed water expansion options for Pasco County are listed in Chapter 5, Section 2, Table 5-2 of the Tampa Bay regional volume.

Status – Project design commences in October 2012. Construction is scheduled to occur between January and September 2013.

11. Pasco County Low-Flow Toilet Rebate Program Phase 6 (N466)

Background – This toilet rebate project offers financial incentives to water customers within Pasco County Utility's service area to replace existing high-volume toilets with ultra low-flow toilet and high-efficiency toilet models to save potable water. The project proposes to retrofit and rebate up to an additional 100 toilets through an outside contracted consultant. The estimated savings will be 2,700 gpd. Depending on the program's continued success, the Utilities Department may continue the program for additional years.

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 6.1 in each 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 five previous plumbing retrofit projects have been successful in Pasco County, and high citizen demand for such programs has remained steady and consistent. The rebate period for Phase 6 commences in February 2013.

12. Pasco County Meadow Point Reclaimed Transmission Main (N464)

Background – This is a multiyear FY2013, FY2014, and FY2015 project to design and construct 4.5 miles of 16-inch diameter reclaimed water transmission main along Meadow Point Boulevard between State Road 56 and County Road 54. The project will supply future-planned developments in the Meadow Point subdivision with reclaimed water for residential irrigation customers. The customer locations potentially served by this project have not been built yet; therefore, estimated future flows and offsets have not been quantified.

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. Reclaimed water expansion options for Pasco County are listed in Chapter 5, Section 2, Table 5-2 of the Tampa Bay regional volume.

Status – Project design is expected to commence in March 2013. Construction is projected to take place from April 2014 to February 2015.

13. Pasco County Saddlebrook Golf Course Reclaimed Supply (N450)

Background – This multiyear FY2013 and FY2014 project is for the design and construction of 1,100 linear feet of 8-inch diameter reclaimed water transmission main and a pump station to supply Saddlebrook Golf Course with additional supply. The project will supply the golf course with an additional 0.50 mgd of reclaimed water to offset 0.38 mgd of potable quality groundwater. The golf course currently irrigates using deep groundwater wells and some reclaimed water. The golf course utilizes the County's reclaimed water by filling a pond system with reclaimed water, but the reuse supply is currently limited by the location of the pond system and the size of the booster pump. This project will allow the County to establish a larger supply and a larger booster pump station which will enable the golf course to increase their use of reclaimed water for irrigation purposes.

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. Reclaimed water expansion options for Pasco County are listed in Chapter 5, Section 2, Table 5-2 of the Tampa Bay regional volume.

Status – Project design is expected to commence in April 2013. Construction is projected to take place from July 2014 to March 2015.

14. Pasco County Seven Springs Golf & Country Club Reuse (N442)

Background – This multiyear FY2013 and FY2014 alternative water supply project is for the design and construction of a reclaimed water transmission main, storage pond, and pump station at the Seven Springs Golf and Country Club. The project will supply the golf course with an additional 0.50 mgd of reclaimed water to offset 0.38 mgd of potable quality groundwater. Currently, the golf course utilizes some reclaimed water by filling a stormwater pond system with reclaimed water; however, the amount of reuse storage is limited by stormwater permitting requirements. This project will allow the County to establish an isolated pond and pump station which will enable the golf course to increase their use of reclaimed water for irrigation purposes.

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. Reclaimed water expansion options for Pasco County are listed in Chapter 5, Section 2, Table 5-2 of the Tampa Bay regional volume.

Status – Project design is expected to commence in February 2013. Construction is projected to take place from December 2013 to September 2014.

15. St. Petersburg Toilet Rebate Project Phase 13 (N498)

Background – This toilet rebate project will offer financial incentives to customers for the replacement of conventional toilets with ultra low-flow toilets or high-efficiency toilets which use 1.6 gallons per flush or less. This project will be the sixteenth year of this program and will provide rebates for the replacement of approximately 900 high-flow toilets. Since Phase I of this program was initiated in 1997, the City of St. Petersburg has replaced over 32,000 conventional toilets with more efficient fixtures.

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 6.1 in each 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 program phase is scheduled to run from November 2012 to November 2013. A program evaluation will be prepared once the phase is completed.

16. Tarpon Springs Reclaimed Water Controls and Storage System (N494)

Background – This project consists of improvements to the City of Tarpon Springs reclaimed water system. Automated control valves and associated control systems will allow the City operate residential irrigation zones on a weekly schedule, prevent shut-downs during peak demand periods, and ensure reliability for new industrial users who require uninterrupted service. A 5 million gallon storage tank and booster pumping station will also be constructed at the City's municipal golf course. The additional storage and pumping capacity will reduce water losses occurring from unlined storage ponds, improve energy efficiency, and allow greater operational flexibility. The City's current reclaimed water system produces 2.05 mgd on average, of which 1.40 mgd is beneficially reused and 0.65 mgd is annually discharged to the Anclote River. This project will prepare the system for additional customer connections to maximize beneficial reuse.

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 preliminary control system design was developed during the City's recently completed reuse optimization study. Final design engineering of the control system is scheduled for completion by June 2013, and the system start-up is projected for December 2013. The storage tank and pumping station construction is scheduled to occur from July 2014 through February 2015.

17. Temple Terrace Hillsborough Reclaimed Water Master Plan (N471)

Background – This FY2013 project is a reclaimed water master plan that explores the potential of developing a regional reclaimed water system for the City of Temple Terrace and the northeast Hillsborough County area. The plan will identify potential reclaimed water users, the quantity and quality of the reclaimed water, potential offsets to groundwater use, and determine the sizing and costs of the system components. The project will also explore the potential for aquifer recharge in the Dover/Plant City frost/freeze area. The plan will provide options to optimize beneficial use of the reclaimed water, and create a schedule for implementing recommendations. Participants include Hillsborough County and the cities of Tampa, Temple Terrace, and Plant City. Potential users include Two River's Ranch, CF Industries, USF, MOSI, Busch Gardens, and existing golf resorts.

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 is not specifically mentioned as a project option in the RWSP, but is consistent with similar projects.

Status – The Study is projected to commence by October 2012 and be completed by November 2013.

18. Venice Reclaimed Water Storage Tank (N452)

Background – This project is to construct a 7.5 million gallon reclaimed water storage tank for the City of Venice's reclaimed water system. The City currently has approximately 38 miles of reclaimed water distribution mains and approximately 2,600 reclaimed water customers. The City plans to expand its reclaimed water system over the next decade to provide service to as many homeowners as possible in the city. The system operates in conjunction with the City's Eastside Water Reclamation Facility and most of the effluent is utilized as reclaimed water within the city. This project will help

meet increasing customer demand and provide additional flow to customers during dry season periods.

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 is not specifically mentioned as a project option in the RWSP, but is consistent with similar projects.

Status – The project design has been conducted solely by the City. Construction is scheduled to commence in January 2013.

19. Venice Toilet Rebate and Retrofit Project Phase II (N423)

Background – This toilet rebate and retrofit project provides financial incentives for potable water customers to replace conventional high-flow toilets and urinals with water-conserving equivalents. The project provides toilet rebates, do-it-yourself retrofit kits, and includes an educational component. The project targets the replacement of approximately 400 pre-1995 conventional toilets and urinals with low-flow toilets and urinals which 1.6 gallons or less per flush. The City will provide up to a \$100 credit to the customer's water bill upon low-flow toilet or urinal installation and inspection. To ensure that the replaced conventional high-flow toilets or urinals will not be reinstalled at another location, the City will require permanent disposal of the conventional high-flow toilet or urinal as a condition of the rebate. It is estimated that 50 percent of the City's water customers are eligible for this rebate. The retrofit component of the program consists of providing 500 free water conservation do-it-yourself kits and educational materials to City potable water customers. These retrofit kits contain such items as low-flow showerhead, bath and kitchen faucet aerators, a toilet tank dam, toilet flapper valve, toilet tank leak detection dye tablets, and water conservation educational materials. The City plans to hire a consultant to administer the project. The consultant will perform the rebate qualifications, educational component, installation inspections, and customer surveys. The City will track actual pre- and post-water usage and provide the final report to the District. The total estimated potable water savings from this project is 16,330 gpd.

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 6.1 in each 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 commencement of the toilet rebates and distribution of the kits is scheduled for February 2013. The program will run through July 2014.

20. Windstream Utilities Landscape & Irrigation Evaluation Project (N476)

Background – Windstream Utilities will provide approximately 50 irrigation system evaluations at no cost to their customers. Participants will receive an irrigation system evaluation and recommendations for optimizing outdoor water use through Florida-Friendly Landscaping™ practices and other efficient irrigation BMPs. Rain sensor devices will be provided and installed for all project participants who do not have a functioning device. A qualified irrigation contractor will be hired to perform the evaluations. The amount of water to be saved by the evaluations is estimated at 7,000 gpd, and an additional savings of approximately 100 gpd will be realized for each of the rain sensors installed.

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 6.1 in each 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 evaluations are scheduled to run from December 2012 through September 2013, with follow up visits to conclude by March 2014. A final report on the program is expected in April 2014.

21. WRSWA Regional Irrigation System Evaluation Program Phase 2 (N491)

Background – This project will provide up to 320 site-specific single family residential irrigation system evaluations and recommendations optimize use of water outdoors through Florida-Friendly Landscaping™ practices and other irrigation BMPs. The irrigation audits will be conducted in Citrus and Hernando counties, eligible portions of Marion County, and two utilities that serve The Villages in Sumter County. There are approximately 154,000 total residential water customers within the region and 2,125 single family customers have been identified as potential participants in the program. A certified irrigation auditor will target inefficient landscaping practices and irrigation devices, and will provide recommendations to optimize water use. Rain sensor devices will also be provided and installed for all project participants who do not have a functioning device. The project will include follow-up site visits to verify the proper installation of efficiency devices. It is anticipated that 76,800 gpd will be saved through the proper installation of rain sensors, appropriate water scheduling, and implementation of Florida-Friendly Landscaping™ practices.

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 6.1 in each 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 pilot phase of the WRWSA irrigation audit program was well received and over 200 evaluations have been implemented. This second phase is scheduled to commence in May 2013 and run through April 2014. A savings analysis will be conducted once the irrigation audits are completed.

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 Water Supply and Resource Development and Cooperative Funding programs, and other District Initiatives. Portions of state funding are allocated to the District through state appropriations for the state's Water Protection and Sustainability Program, the District's West-Central Florida Water Restoration Action Plan, the state's Florida Forever Program, and the District's FARMS Program. These sources are described below.

District Funding

Cooperative Funding Initiative (CFI) - The primary funding mechanism is the District's Cooperative Funding Initiative (CFI), which includes the Cooperative Funding program for more localized projects and the Water Supply and Resource Development (WSRD) program for larger, regional projects. 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; and since 1988, the District has provided approximately \$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.

District Initiatives - District Initiatives are funded in cases where a project is of great importance or priority to a region. The District can increase its percentage match and in some cases provide total funding for the project. Examples of these initiatives include: (1) the QWIP initiative to plug deteriorated, free-flowing wells that waste water and cause inter-aquifer contamination, (2) the leak detection program to conserve water by having District staff inspect and detect leaks in public water system pipelines, (3) data collection and analysis to support major District initiatives such as the MFL program, and (4) various agricultural research projects designed to increase the water-use efficiency of agricultural operations.

State Funding

Water Protection and Sustainability Program - The state of Florida'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 WSRD program for alternative water supply development assistance. For 2006, the first year of funding, the Legislature allocated \$100 million for alternative water supply development assistance, with \$25 million allocated for 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. In FY2010, FY2011, FY2012, and FY2013, 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 state funds are applied toward the 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 water supply development 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. Again, due to economic conditions, no new funding was provided for FY2010, FY2011, FY2012 or FY2013. It is anticipated that the state will again provide funding for the Water Restoration Action Plan as the economy stabilizes.

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 and FY2013 the Legislature did not appropriate funding for the District. In FY2013 the District budgeted \$2.8 million from prior year funds held in the District's accounts primarily generated through the sale of easements and right-of-ways. These funds will be available for potential land acquisitions consistent with the Florida Forever work plan and in accordance with guidance provided by the DEP. Future funding for the Florida Forever program will depend on improvement in the economy and stabilization of the documentary stamp tax funding source.

The District has allocated \$95 million (\$81.6 million for land acquisition and \$13.4 million for water body restoration) of Florida Forever funding in support of water resource development. A "water resource development project" is defined as a project eligible for funding pursuant to Section 259.105, F.S., (Florida Forever) 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 allocated \$41.9 million (\$35.6 million expended to date) 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 - Now operating under Rule 40D-26, F.A.C., the FARMS Program, through the District, seeks additional state funding annually. 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 for FY2010, FY2011, FY2012 or FY2013. Future state funding for the program will likely depend on improvement in the economy.

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. Water supply and nutrient management through detention/retention or tailwater recovery ponds can be pursued through this program.

The District's FARMS Program works cooperatively with the NRCS EQIP program 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, 31 FARMS projects have involved some level of dual cost-share with EQIP, 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-share on specific project related infrastructure. As an example, FARMS may assist with an alternative source of irrigation water and EQIP assists with an upgrade to an irrigation delivery system. The relationship is mutually beneficial, extends cost-share dollars, and provides more technical assistance to participants in both programs.

In addition to EQIP, the FARMS Program has partnered with NRCS through the Agriculture Water Enhancement Program (AWEP) 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. By entering into a partnership agreement, the District and NRCS can leverage existing cost-share funds toward mutual water conservation goals and provide project funding to more producers in the SWUCA. The AWEP funding for the Dover/Plant City WUCA (DPWUCA) was for a two-year period starting in May 2010 and has been completely obligated to projects for that area. There is no longer any AWEP funding available for projects in the DPWUCA.

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 FY2013 budget for WRD Data Collection and Analysis activities and WRD projects is approximately \$26.1 million and \$10.9 million respectively, which combined is a 40 percent increase from FY2012, but less than prior years. Funding for Data Collection and Analysis is expected to remain constant over the next five years, with the exception of MFL establishment which is projected to meet its goals by FY2017. The multiyear WRD projects for the recovery of the Upper Peace and Lower Hillsborough rivers will likely be completed in FY2013. Future WRD project funding needs are projected for the Upper Myakka restoration and to investigate potential water sources in/near Polk County. The District plans to continue implementing FARMS projects at a cost of approximately \$6 million each year.

Water Supply Development has also increased by 30 percent for FY2013. A reduced budget in FY2012 reflected the near completion of some large-scale projects and cooperators' temporary postponement of some reclaimed water projects, along with District efforts to lower the balance of unexpended project funds. Utilities are pursuing more reclaimed water and conservation projects to extend the availability of existing water supplies. Reclaimed water projects account for 82 percent of the budget for water supply development assistance in FY2013. The District anticipates that approximately \$20 million will be available for reclaimed water projects 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 during the increased rainfall projected for the southwest region. The District also continues its investigations of ASR systems, aquifer recharge, and the viability of the Lower Floridan aquifer as a water supply. This research is expected to create new water supply options available for development when water demands begin to increase.