

4. MISCELLANEOUS ITEMS TO BE RECEIVED FOR FILING:

- a. City of Clearwater Ordinances Nos. 8424-13 and 8427-13 adopted September 19, 2013, and Nos. 8439-13, 8442-13, 8445-13, 8448-13, 8451-13, 8454-13, 8457-13, 8460-13, 8463-13, 8466-13, and 8472-13 adopted October 3, 2013, annexing certain property.
- b. City of Oldsmar Ordinance No 2013-19 adopted October 15, 2013, annexing certain property.
- c. City of Safety Harbor Ordinance No. 2013-25 adopted October 21, 2013, annexing certain property.
- d. The Oaks of Clearwater notice of intent to pay remaining principal balance of Revenue Bonds, Series 2004.
- e. Southwest Florida Water Management District Draft Five-Year Water Resource Development Work Program for Fiscal Year 2014.

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*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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**Robert R. Beltran, P.E.**  
Executive Director

October 20, 2013

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

Subject: Draft 2014 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 2013-2014 budget and approved its draft 2014 Five-Year Water Resource Development Work Program at its Governing Board meeting held on September 24, 2013.

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, 2014, pursuant to subsection 373.036(7), Florida Statutes.

Sincerely,

Robert R. Beltran, 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](http://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](mailto: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, 2013

The Honorable Rick Scott, Governor  
The Honorable Herschel T. Vinyard, Jr., Secretary, Department of Environmental Protection  
The Honorable Dan Gaetz, President, The Florida Senate  
The Honorable Will W. Weatherford, Speaker, Florida House of Representatives

The Honorable Charles S. Dean, Sr., Senate Committee on Environmental Preservation and Conservation  
The Honorable D. Alan Hays, Senate Appropriations Subcommittee on General Government  
The Honorable Joe Negron, Senate Committee on Appropriations  
The Honorable Ben Albritton, House Agriculture & Natural Resources Appropriations Subcommittee  
The Honorable Matthew Caldwell, House Agriculture & Natural Resources Subcommittee  
The Honorable Steve Crisafulli, House State Affairs Committee  
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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 13th Five-Year Water Resource Development Work Program and covers the period from fiscal year (FY) 2014 through FY2018. 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 included information on Water Supply Development Assistance beginning on page 28. The section contains tables of water supply projects funded by the District in FY2014, and descriptions of new water supply projects.

## 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.

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

<b>WRD Data Collection and Analysis Activity</b>	<b>FY2014 Costs (\$)</b>	<b>FY2015 Costs (\$)</b>	<b>FY2016 Costs (\$)</b>	<b>FY2017 Costs (\$)</b>	<b>FY2018 Costs (\$)</b>	<b>Total Costs (\$)</b>	<b>Funding Source</b>
1) Hydrologic Data Collection	\$2,933,371	\$2,933,371	\$2,933,371	\$2,933,371	\$2,933,371	\$14,666,855	SWFWMD, USGS
2) Geohydrologic Data Well Network (includes ROMP)	\$2,136,071	\$2,136,071	\$2,136,071	\$2,136,071	\$2,136,071	\$10,680,355	SWFWMD, Local Partnerships
3) Quality of Water Improvement Program	\$605,730	\$605,730	\$605,730	\$605,730	\$605,730	\$3,028,650	SWFWMD
4) Minimum Flows and Levels Program							
a) Establishment	\$1,246,557	\$1,355,000	\$1,320,000	\$1,305,000	\$1,000,000	\$6,226,557	SWFWMD
b) Maintenance and Compliance	\$54,753	\$54,500	\$54,400	\$54,200	\$54,200	\$272,053	SWFWMD
c) Re-evaluation	\$459,527	\$410,000	\$250,000	\$250,000	\$100,000	\$1,469,527	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	\$18,614,536	\$18,614,536	\$18,614,536	\$18,614,536	\$18,614,536	\$93,072,680	SWFWMD, Local Government Cooperators
6) Hydrologic Investigations:							
a) USGS Hydrologic Studies	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$750,000	SWFWMD, USGS, Local Government Cooperators
b) Water Resource Assessment Projects	\$319,004	\$319,004	\$319,004	\$319,005	\$319,004	\$1,595,021	SWFWMD, USGS, Local Government Cooperators
<b>Totals</b>	<b>\$26,519,549</b>	<b>\$26,578,212</b>	<b>\$26,383,112</b>	<b>\$26,367,913</b>	<b>\$25,912,912</b>	<b>\$131,761,698</b>	

Source for FY2014: SWFWMD FY2014 Summarized Programmatic Activities Report.



## Water Resource Development (Data Collection and Analysis)

The District has budgeted significant funds in FY2014 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 \$26.5 million will be allocated toward these activities in FY2014 and a total of approximately \$131.8 million will be allocated between FY2014 and FY2018. Because budgets for the years beyond FY2014 have not yet been developed, many future funding estimates for activities continuing through FY2018 are set equal to FY2014 funding. The annual expenditure for data collection and analysis activities is comparable to FY2013 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.

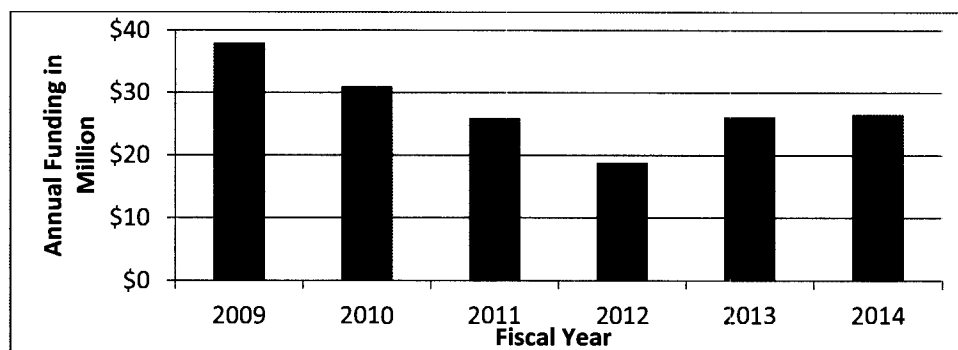


Figure 1. Funding for Water Resource Data Collection and Analysis from FY2009 through FY2014

**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 water 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, changing District directives have created the need for more project-support type monitor well networks for the various programs administered by the District; therefore, the ROMP well network was revised to include both 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 are used to evaluate seasonal and long-term changes in groundwater levels and quality, as well as the interaction and connectivity between groundwater and surface water bodies. During construction of new monitor well sites, valuable hydrogeologic information is collected including lithology, aquifer hydraulic characteristics, water quality, and water levels. These data support various projects throughout the District including the Central Florida Water Initiative, Water Resource Assessment Projects (WRAPs), Water Use Caution Areas, Northern Tampa Bay Phase III Program, springs, sea level rise and other salt-

water intrusion assessments, and development of alternative water supplies.

***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 for domestic supply, agriculture, and other uses. 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 prevents mineralized groundwater from contaminating surface water bodies. Thousands of wells constructed prior to current well construction standards were often deficient in casing, which interconnected aquifer zones and enabled poor-quality mineralized water to migrate into zones containing potable-quality water. 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.

Plugging wells involves filling the abandoned well with cement or bentonite. Isolation of the aquifers is reestablished and the mixing of varying water qualities and free flow is stopped. Prior to plugging an abandoned well, geophysical logging is performed to determine the reimbursement amount, the proper plugging method, 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.

***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 Florida Department of Environmental Protection (DEP) to establish MFLs for aquifers, surface watercourses, and other surface water bodies to identify the limit at which further withdrawals would be significantly harmful 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 263 continuous water level and rainfall data collection stations. These stations are considered "near-real time" (NRT), meaning the data are available to District staff within minutes of being measured. These data are augmented by 63 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 134 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 NRT by satellite. These data are posted on the USGS' Internet site, increasing accessibility for the many entities that use this information.

\*There are 134 USGS NRT water-level sites, and 108 USGS NRT discharge/flow sites (most of them measure both; not mutually exclusive), and 142 single or combo sites in all.

- 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. WMP defines flood conditions, identifies flood level of service deficiencies, and evaluates best management practices (BMPs) to address those deficiencies. The WMP includes consideration of the capacity of a watershed to protect, enhance, and restore water quality and natural systems while achieving flood protection. The Watershed Management Program identifies effective watershed management strategies and culminates in defining floodplain delineations and constructing selected BMPs. The program 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 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 quantify evapotranspiration for urban land settings, develop a regional groundwater model of the Central Florida area, and correlate changes in aquifer levels with water level changes in lakes and wetlands in the Northern Tampa Bay area. 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 and biologic conditions and determine effects of water withdrawals.

The initial WRAPs investigated eastern and northern portions of Tampa Bay area and the Highlands Ridge in response to saltwater intrusion and declining lake and wetland water levels. In the mid-1990s, a WRAP was initiated for the southern portion of the District that encompassed the Highlands Ridge and eastern Tampa Bay WRAPs. A Northern District WRAP was initiated in 1998 to develop baseline hydrologic conditions for the region, and continues to support the assessment of the northern springsheds, development of MFLs, and enhance hydrologic modeling of water resources.

The Southern District, Northern Tampa Bay, 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. These projects will provide the technical foundation to determine water availability, support permitting and MFL establishment and monitoring, and help establish resource management and restoration programs in critical areas of the District.

## Water Resource Development (Projects)

The District currently has 16 projects that meet the definition of WRD “Projects.” As shown in Table 2, the total cost of these projects is approximately \$219.1 million and a minimum of 55 million gallons per day (mgd) of additional water supply will be produced or conserved. At the start of FY2014 (October 1, 2013), the District has allocated approximately \$9.5 million in the budget for these projects. A comparison to prior year project funding levels is provided in Figure 2. All are multiyear projects, and some are approaching future construction-oriented phases that will require increased funding by FY2015 or later, such as the Clearwater Groundwater Replenishment Project and the Flatford Swamp Hydrologic Restoration. District funding for a number of these projects is matched to varying degrees by local cooperators, including local governments, other water management districts and state agencies, and others. District funds for these projects are being generated through a number of different mechanisms described in the **Funding Sources** section of this report. Each of the projects in Table 2 is described in detail below.

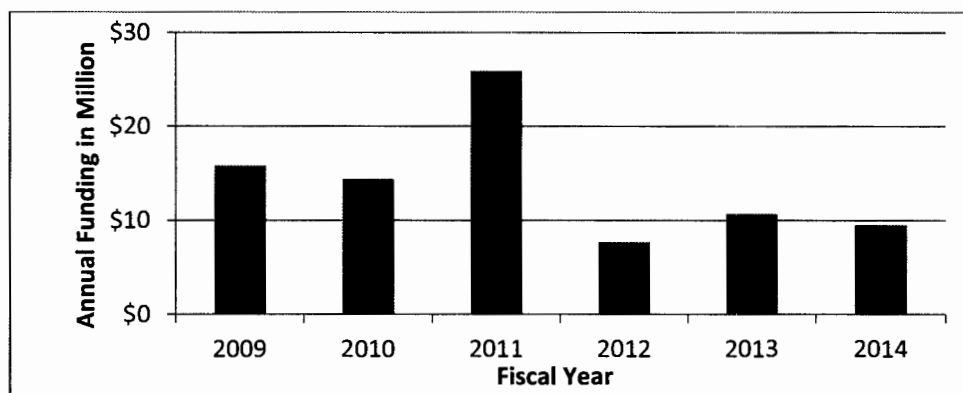


Figure 2. Funding for Water Resource Development Projects from FY2009 through FY2014

## 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, feasibility projects for recharging the Upper Floridan aquifer with excess stormwater and reclaimed water, and the exploration of Lower Floridan aquifer zones 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 (Ho46)

**Background** – This multiyear 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. This phase was completed in 2007.
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. This phase was completed in 2009.

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 Peace River Manasota Regional Water Supply Authority (PRMRWSA), South Florida Water Management District, St. Johns Water Management District, and the City of Bradenton. The degasification system is capable of removing 99.98 percent dissolved oxygen prior to injection. The system was installed and commenced operation in 2008. Eight injection/recovery cycle tests have been completed as of June 2012, and arsenic concentrations have been consistently below drinking water standard.
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. This phase was completed in 2011.
5. ASR Treatment Cost Efficiency Study - This project identifies and tests cost options for improving the treatment and cost efficiency of removing dissolved oxygen from different sources of injection water (i.e., reclaimed water, direct surface water, and conventionally treated surface water). The study will identify methods to make degassing pretreatment systems a more viable option for utilities and 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 2010 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 3 degasification system's ninth cycle may be complete by December 2013. Results from prior cycle tests indicate that removal of dissolved oxygen solves the arsenic mobilization problem. The City is in the process of obtaining an operational permit for the system. Phase 5 commenced in August 2012 with a study to identify foulants which impaired flow rates during preliminary cycle tests at the Bradenton pretreatment system. The ongoing pretreatment efficiency study 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.



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

	Total Prior District Funding	FY2014 District Cost	FY2015 District Cost	FY2016 District Cost	FY2017 District Cost	FY2018 District Cost	Total Cost District + Cooperator	Funding Source <sup>1,2</sup>	Quantity developed or conserved <sup>1</sup>
<b>1) Alternative Water Supply Feasibility Research and Pilot Projects</b>									
a) ASR Pretreatment Investigation (H046)	\$1,365,791	\$4,557					\$1,770,348	SWFWMD, PRMRWSA, City of Bradenton, SJRWMD, SFWMD	NA
b) Bradenton Surface Water ASR Feasibility Study Phase 1 (N435)	\$5,493	\$159,113	\$650,000	\$650,000	\$650,000	\$650,000	\$5,664,606	City of Bradenton	0.55 - 0.82 mgd
c) Clearwater Groundwater Replenishment Project (N179)	\$1,551,551	\$52,317	\$4,597,120	\$746,315			\$13,826,988	SWFWMD, City of Clearwater	3 mgd
d) Hydrogeologic Investigation of Lower Floridan Aquifer in Polk County (P280) <sup>3</sup>	\$4,091,458	\$2,057,825	\$2,000,000	\$4,000,000			\$12,149,283	SWFWMD	TBD
e) South Hillsborough Aquifer Recharge Program (SHARP, N287) <sup>3</sup>	\$1,220,631	\$12,068	\$12,068	\$55,040	\$146,887		\$2,817,126	SWFWMD, Hillsborough County	2 mgd
<b>2) Agricultural Resource Management Projects</b>									
a) FARMS Program (H017) <sup>3</sup>	\$31,716,425	\$6,515,238	\$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 (H529) <sup>3</sup>	\$450,000	\$117,524	\$50,000	\$50,000	\$50,000	\$50,000	\$1,000,000	FDACS, SWFWMD	2 mgd
c) FARMS Irrigation Well Back-Plugging Program (H015)	\$1,529,927	\$51,856	\$51,856	\$51,856	\$51,856	\$51,856	\$1,789,207		NA
d) IFAS BMP Implementation Team (H579) <sup>3</sup>	\$200,760	\$59,733	\$50,000	\$50,000	\$50,000	\$50,000	\$710,493	SWFWMD, IFAS	TBD

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

	<b>Total Prior District Funding</b>	<b>FY2014 District Cost</b>	<b>FY2015 District Cost</b>	<b>FY2016 District Cost</b>	<b>FY2017 District Cost</b>	<b>FY2018 District Cost</b>	<b>Total Cost District + Cooperator</b>	<b>Funding Source<sup>1 2</sup></b>	<b>Quantity developed or conserved<sup>1</sup></b>
<b>3) Environmental Restoration/Minimum Flows and Levels Recovery<sup>4</sup></b>									
a) Upper Myakka /Flatford Swamp Hydrologic Restoration and Implementation (H089) <sup>3 4</sup>	\$3,830,001	\$154,197	\$9,220,500	\$9,220,500	\$9,220,500	\$9,220,500	\$41,091,198	SWFWMD	TBD
b) Lake Jackson Watershed Hydrology Investigation (N554)	\$0	\$65,977	\$73,913	\$92,663	\$90,675		\$420,000	SWFWMD, Highlands County	NA
c) Lower Hillsborough Recovery Strategy (H400)	\$8,085,548	\$59,329	\$75,000	\$75,000			\$16,432,407	SWFWMD, City of Tampa	TBD
d) Lower Hillsborough River Pumping Facilities (N492)	\$371,713	\$11,013	\$1,001,933	\$1,001,933			\$4,850,044	SWFWMD, City of Tampa	TBD
e) Pump Stations on Tampa Bypass Canal (H402)	\$3,284,175	\$96,849					\$3,381,024	SWFWMD, City of Tampa	7.1 mgd
f) Lake Hancock Lake Level Modification (H008) <sup>5</sup>	\$9,787,309	\$109,831	\$109,831	\$109,831	\$109,831	\$109,831	\$10,336,464	SWFWMD, State of FL, Federal	TBD
g) Lake Hancock Outfall Structure P-11 Replacement (H009)	\$5,549,654	\$1,827					\$5,551,481	SWFWMD, State of FL	NA
<b>Water Resource Development Project Totals</b>	<b>\$73,040,436</b>	<b>\$9,529,254</b>	<b>\$23,892,221</b>	<b>\$22,103,138</b>	<b>\$16,369,749</b>	<b>\$16,132,187</b>	<b>\$219,090,669</b>		

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. FY2014 funding budgeted under the 2.3.1.3 "Restoration Initiatives" category of the District's programmatic budget.

5. Some restoration projects require substantial land acquisition. Expenditures for land purchases near Lake Hancock have totaled approximately \$130 million.

**Changes from the 2013 Work Program Table 2.**

a) One new project is included this year: Lake Jackson Watershed Hydrology Investigation.

b) The Polk Groundwater Recharge Investigation was removed due to completion.

c) One project has been canceled: Lakes Horse, Raleigh, and Rogers Recovery Project.

d) Operational funding for the Lake Hancock Outfall Wetland Treatment System was moved to 2.3.1.1; Surface Water Quality Improvements in the programmatic budget.

e) Continuing funding for the Peace Creek Canal Watershed Management Project is now budgeted under the Watershed Management Program in Table 1.

## **b. Bradenton Surface Water ASR Feasibility Study (N435)**

**Background** – The City of Bradenton is proceeding with a surface water ASR system to be located at the Bill Evers Reservoir site. The goal for the project is to store approximately 300 million gallons per year (2 to 3 mgd for 100 days a year) for public supply. The ASR system would augment the existing in-stream reservoir as an alternative to an upland storage reservoir. The cost for an ASR system is approximately one-third of the estimated cost of a comparable upland storage reservoir. The project may potentially serve as a recovery strategy option to meet minimum flow requirements for the lower Manatee River basin when the levels are established.

**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 2010 RWSP Southern regional volume.

**Status** – A feasibility study is nearing completion and the City is proceeding with design and construction.

## **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. The pilot purification system and recharge well construction was completed in spring 2013, and the pilot testing is ongoing. Phase 2 is scheduled for completion by February 2014. With the pending successful completion of the pilot testing, it is anticipated that the City will request additional funding for plant construction in FY2015 - 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 aquifer, and determine the practicality of developing the aquifer as an alternative supply in areas of Polk County facing future water supply deficits. The overall scope of the investigation is to drill exploratory wells at up to six key locations chosen for their locality to water demand centers and to improve data coverage for groundwater resource monitoring and the Districtwide Regulation Model. If the tests prove that the water quality and productivity are suitable,

the water and facilities could be made available to utilities in Polk County. Regardless of the suitability of the Lower Floridan aquifer for water supply at each site, the exploration wells will be significant additions to the District's well monitoring network.

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

***Status*** – Several sites are currently being identified and, if needed, agreements/easements sought with the appropriate agencies. If the tests on the initial exploration monitor well drilled on each site are positive, a test/production well will be constructed to perform one or more aquifer performance tests to obtain productive capability and confinement information. The District is preparing to solicit for engineering services in early FY2014, and multiple consultants may be selected in order to conduct testing at up to three sites simultaneously.

#### **e. 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. Aquifer Recharge is discussed in Chapter 4 of the 2010 RWSP, pages 73-74 in the Tampa Bay regional volume.

***Status*** – 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 2013, there are 123 operational FARMS projects; and 38 additional projects have been approved and are in the contract development or construction stage. The 161 total projects are projected to have a groundwater offset of 24.6 million gallons of water per day Districtwide and 22.8 mgd for the 114 Board-approved projects within the SWUCA. The projected offset for the 23 approved frost-freeze protection projects (post-January 2010) within the Dover/Plant City WUCA is 46.5 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 August 2013, the Mini-FARMS Program has initiated 134 water conservation BMP projects since FY2006. The projects are projected to have a total annual average groundwater offset of 139,196 gallons per day (gpd), including 101,158 gpd for the projects within the SWUCA. The projected offset for the frost-freeze protection projects (post-January 2010) within the Dover/Plant City WUCA is 139,289 gpd per freeze event. For FY2014, the District is funding the Mini-FARMS

Program for \$100,000 together with an additional monetary contribution 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 74 wells have been back-plugged in the SWUCA overall to date, with 55 of these wells located in the Shell, Prairie and Joshua Creek (SPJC) priority watersheds. Analytical results for samples collected from the 55 back-plugged wells in the SPJC area indicated averages of conductivity, total dissolved solids (TDS) and chloride were decreased by 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 needs.

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



**Status** – To date, FDACS has developed and adopted six BMP manuals covering Cow/Calf operations, Citrus, Vegetable and Agronomic Crops, Container Nurseries, Equine Operations, and Specialty Fruit and Nut Crops. Other rules and documents related to IFAS BMPs include: Best Management Practices for Agriculture in the Lake Okeechobee Watershed, Tri-County Agricultural Area Potato Farms, Conservation Plans for Specific Agricultural Operations, Florida Forest Service Silviculture Best Management Practices, and Aquaculture Best Management Practices. Below is a list of the statewide BMP enrollment to date, which includes the number of NOIs submitted and the associated acres enrolled as of June 2013.

**Summary of groves, farms and nurseries enrolled statewide as of June 30, 2013 in Ag BMP Programs by the BMP Implementation Teams.**

Usage	Number of NOIs	Total Acres
Citrus	3,434	577,170.59
Cow/Calf	774	1,895,689.56
Dairies	26	47,165.77
Equine	20	912.35
Fruit/Nuts	137	5,344.44
Mixed use	4	101,323.65
Nursery	1,187	29,352.89
Row Crops	1,147	1,006,598.52
Sod Farms	59	35,946.29
Forestry	372	5,643,916
<b>TOTAL</b>	<b>7,157</b>	<b>9,343,420.07</b>

Source: Office of Agricultural Water Policy - FDACS - Report from June 30, 2013.

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

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

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

Two 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 have been below the adopted minimum flows, and a recovery strategy was required by Florida Statutes. The goal of the Lake Hancock projects is to store water by raising the lake's controlled water elevation and to slowly release the water into the upper Peace River during the dry season to help meet the minimum flow requirements.

## **a. 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** – A joint feasibility study with Mosaic was completed in March 2013 indicating a project to utilize the excess water from the swamp is feasible. Discussions continue with Mosaic on whether to move forward into preliminary design evaluating the benefits of the project. Another option under consideration is to treat then inject the excess water into the aquifer to combat coastal saltwater intrusion. In addition, a portion of project funding will be used to continue wetland restoration planning. District staff will continue the investigation into natural systems restoration and enhancement opportunities in Flatford Swamp.

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

**Background** – Lake Jackson is a 3,412 acre lake located in the town of Sebring, and is one of nine lakes in Highlands County with an established MFL. Lake Jackson has not met its MFL over the last 10 years. Residents and local officials have voiced concerns over persistent low water levels potentially related to storm water canal structures, potential flow through the shallow aquifer to the canals, and possible leakage in the lake's hardpan bottom. This hydrologic investigation will collect data and attempt to identify the causes of the low water level in Lake Jackson and Little Jackson over the last decade and develop cost-effective recovery strategies. Aspects of the project include: (1) an assessment of the storm water structures including the underwater portions, channel flow, and the installation of seepage meters; (2) installation of groundwater, lake level, and weather monitoring networks in order to calculate a more accurate lake water budget; and (3) modeling the effects of a proposed subsurface wall on the lateral movement of water from Lake Jackson through the shallow aquifer to downstream sources, and calculating its potential improvement to the level of Lake Jackson. The project will include a cost-benefit analysis if the investigation and modeling shows the subsurface wall or other recovery strategies may be beneficial to the lake water levels.

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

**Status** – This is a new project beginning in FY2014. The installation of monitoring equipment is expected to commence in January 2014.

### **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 (2015), the Morris Bridge Sink project (2014), 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 City of Tampa has submitted a water use permit application to withdraw up to 2 mgd from Blue Sink to transport it via pipeline to the base of the Hillsborough River dam. The District will cooperatively fund that project. The District will submit a water use permit application to the Florida Department of Environmental Protection to use up to 3.9 mgd of water from Morris Bridge Sink for diversion through the Tampa Bypass Canal to the base of the dam. There is also an ongoing cooperative study with the City and the District for 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 District is funding a cooperative funding agreement with the City of Tampa to construct the two permanent pumping facilities to implement minimum flows for the LHR. Completion of both of the new pumping facilities is projected for December 2015.

### **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).

#### **f. Lake Hancock Lake Level Modification Project (Hoo8)**

***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 replacing 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 Peace 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 titles of all parcels necessary to implement the project have been acquired (74 parcels, 8,340 acres). All permits necessary to implement the project have been issued. Construction of the new P-11 Outfall Structure began in November 2012 and is anticipated to be completed in September 2013. The Lakeland Cemetery conveyance improvements project was completed in November 2012. Construction of the State Road 540 conveyance improvement project began in June 2013 and is anticipated to be completed in October 2013. Construction for the Polk Parkway pond, OFP, and Lake Lena run conveyance improvement projects are scheduled to begin in December 2013 and completion is anticipated by June 2014.

**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.

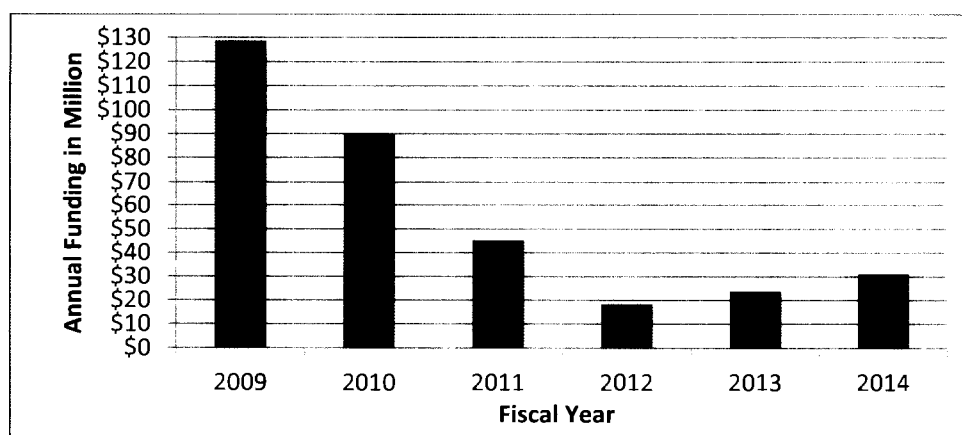
**Status** – An engineering consultant completed the new P-11 design plans in May 2010. The District has received an ERP (issued March 2, 2010 from DEP) to construct the new P-11 structure. The project faced a temporary delay in the first round of construction bidding. Construction began in November 2011 and the majority of concrete work was completed by October 2013.

# Water Supply Development Assistance

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

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 projects' funding plan, how the projects will provide water for consumptive uses, and the estimated quantity of water to be produced by each project. The District has voluntarily included WSD project information in the Work Program since 2008 because of the significant number of projects supported and the magnitude of annual funding provided. Narrative descriptions of WSD projects newly funded in FY2014 are included herein, and descriptions of continuing WSD projects can be found in the prior editions of the Work Program for the year the project was introduced. The prior editions are available for download at: <https://www.swfwmd.state.fl.us/projects/wrdwp/>

The District budgeted for 84 water supply development projects in FY2014. As shown in Tables 3 through 6, the total amount of District funding in FY2014 for water supply development assistance is approximately \$31.2 million. This level of funding is an increase from the FY20102 and FY2013 budgets, 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 systems began to decline in FY2011 due to the ability of cooperators to implement projects at the time. The cooperator demand for WSD assistance is expected to fluctuate over the long term when new water supply facilities are constructed. 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 FY2014**

The WSD projects are categorized below as reclaimed water, conservation, and potable water projects. FY2014 funding amounts less than \$10,000 generally represent ongoing 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, and a few may have received state and/or federal funding. The "total project cost" typically includes the cooperators' shares and other non-District funding sources.



**Table 3. FY2014 Reclaimed Water Projects**

<b>Code</b>	<b>Water Supply Development Assistance - Reclaimed Water Projects</b>	<b>FY2014 Funding</b>	<b>Prior District Funding</b>	<b>Total Project Cost</b>	<b>Offset (mgd)</b>
N336	Braden River Utilities to Bradenton Reclaimed Interconnect	\$2,536	\$5,703,141	\$11,405,677	4.000
N355	Braden River Utilities to City of Sarasota Reclaimed Interconnect	\$1,676	\$756,506	\$1,508,182	2.000
H085	Charlotte County Regional Reclaimed Water Expansion Phase 2	\$4,686	\$1,498,987	\$2,818,223	NA
N358	City of Crystal River to Progress Energy Reclaimed Interconnect	\$2,238,846	\$1,441,289	\$6,235,620	0.750
N398	City of Oldsmar Reclaimed Water ASR	\$8,100	\$519,211	\$1,757,863	NA
N169	Clearwater Harbor Reclaimed Water	\$2,784	\$1,113,185	\$2,217,994	0.100
L823	Dade City Reclaimed Water Project	\$1,676	\$1,965,869	\$3,859,954	0.300
N370	FGUA Wet Weather Reclaimed Water Project	\$351,709	\$852,023	\$2,403,732	0.225
N335	Lake Wales Country Club Reuse	\$2,320	\$284,864	\$851,518	0.262
H093	Manatee County 10 MG Reclaimed Water Storage Tank #2	\$1,094,350	\$2,190,352	\$7,193,257	NA
N344	Manatee County Meadows Reclaimed Water Transmission	\$2,935	\$240,913	\$478,706	0.032
N277	North Port Reclaimed Water Transmission Expansion Phase 1	\$588,907	\$1,369,947	\$3,903,854	0.800
L608	Palmetto Reclaimed Water ASR	\$903,491	\$1,301,743	\$4,164,346	NA
N429	Pasco County Beacon Point Residential Reclaimed Distribution	\$51,374	\$51,674	\$203,048	0.040
H056	Pasco County Boyette Wet-Weather Reclaimed Water Reservoir	\$4,157	\$9,446,352	\$18,583,284	NA
H092	Pasco County Reclaimed Water Natural Systems Restoration	\$23,595	\$735,914	\$14,688,709	5.000
N450	Pasco County Saddlebrook Golf Course Reclaimed Supply	\$91,374	\$31,674	\$243,048	0.380
N442	Pasco County Seven Springs Golf & Country Club Reuse	\$226,374	\$76,674	\$603,048	0.380
H055	Pasco County SR 52 East/West Regional Reclaimed Interconnect	\$1,709	\$9,959,942	\$18,641,651	3.000
N380	Pasco Reclaimed Water Master Plan	\$2,022	\$96,448	\$188,470	NA
K682	Pinellas County South Cross Reclaimed Water ASR	\$6,961	\$572,834	\$1,088,795	NA
L816	Plant City Sydney Road Reclaimed Water Project	\$203,502	\$3,004,007	\$6,140,779	0.400
H090	Polk County Holly Hill Reclaimed Storage, Pumping, and LFA Well	\$4,379	\$1,970,101	\$2,985,454	NA
N024	Polk County NWRUSA Storage and Pumping Station	\$689,031	\$2,280,550	\$5,247,881	NA
K269	Sarasota County North Reclaimed Water ASR	\$6,680	\$1,763,656	\$3,291,854	NA
H076	Southwest Polk County/Tampa Electric Reclaimed Water Project	\$5,679,806	\$36,344,707	\$80,122,836	7.000
N157	St. Leo University Reclaimed Water Storage Pond and Piping	\$1,709	\$459,482	\$911,191	0.034

**Table 3. FY2014 Reclaimed Water Projects (continued)**

<b>Code</b>	<b>Water Supply Development Assistance - Reclaimed Water Projects</b>	<b>FY2014 Funding</b>	<b>Prior District Funding</b>	<b>Total Project Cost</b>	<b>Offset (mgd)</b>
N452	Venice Reclaimed Water Storage Tank	\$258,687	\$1,385,465	\$3,269,152	NA
N339	Winter Haven #3 Reclaimed Interconnect, Storage, and Pumping	\$1,032,959	\$1,724,649	\$5,507,608	0.150
N536	Auburndale Polytechnic Reclaimed Water Storage and Transmission	\$356,416	\$0	\$2,706,416	0.490
N455	Avon Park Reuse Master Plan	\$8,027	\$20,310	\$34,587	NA
N556	Charlotte County Reclaimed Water Expansion Phase 3	\$242,265	\$0	\$9,436,515	1.300
N512	City of Venice Reclaimed Water Filtration System	\$786,515	\$0	\$1,556,515	NA
N561	Clearwater Resident Initiated Reclaimed Water Expansion	\$752,164	\$0	\$1,502,164	0.790
N555	Dunedin San Christopher Reclaimed Water Storage Tanks	\$885,832	\$0	\$1,765,832	NA
N505	Hernando County US-19 Reclaimed Water Transmission Main	\$1,302,022	\$0	\$2,602,022	0.030
N488	Manatee County Regional 10 MG Reclaimed Storage Tank Southeast #3	\$2,605,174	\$462,329	\$6,126,250	NA
N461	New Port Richey Meadowlawn Cemetery Reclaimed Water Project	\$2,033	\$216,626	\$432,659	0.060
N521	Northwest Hillsborough Regional ASR Project	\$1,465,481	\$0	\$4,015,481	NA
N470	Pasco County Covanta Reclaimed Water Power Plant Project	\$1,374	\$901,674	\$1,801,674	0.470
N462	Pasco County Groves Reclaimed Supply, Storage Pond Improvement	\$76,374	\$26,674	\$203,048	0.180
N464	Pasco County Meadow Point Reclaimed Transmission Main	\$491,374	\$101,674	\$1,983,048	NA
N524	Pasco Handcart Road Reclaimed Water Pump Station Expansion	\$126,341	\$0	\$251,341	NA
N547	Pasco Heritage Pines Residential Reclaimed Water Service	\$334,641	\$0	\$1,267,941	0.260
N552	Plant City Reclaimed Water Seasonal Storage and AWS Feasibility Study	\$24,157	\$0	\$44,157	NA
N494	Tarpon Springs Reclaimed Water Controls and Storage System	\$401,472	\$126,813	\$4,578,465	NA
N471	Temple Terrace Hillsborough Reclaimed Water Master Plan	\$4,190	\$51,674	\$105,864	NA
<b>Total Reclaimed Water Projects</b>		<b>\$23,354,187</b>	<b>\$91,049,933</b>	<b>\$250,929,713</b>	<b>28.433</b>

Acronyms: ASR – Aquifer Storage and Recovery, FGUA – Florida Governmental Utility Authority, NWRUSA - Northwest Regional Utility Service Area, LFA - Lower Floridan Aquifer, MG – Million Gallon.

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.

Five projects above (N398, L608, K682, K269, and N521) are reclaimed water projects using ASR or recharge systems, 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 less than total shown above.

**Table 4. FY2014 Conservation Projects**

<b>Code</b>	<b>Water Supply Development Assistance - Conservation Projects</b>	<b>FY2014 Funding</b>	<b>Prior District Funding</b>	<b>Total Project Cost</b>	<b>Offset (mgd)</b>
N365	Bay Laurel Center CDD Toilet Rebate Program	\$2,784	\$37,608	\$70,392	0.008
N107	Braden River Soil Moisture Sensor Pilot Project	\$2,784	\$112,417	\$215,201	TBD
N568	City of Venice Plumbing Retrofit Program Phase 3	\$45,083	\$0	\$87,833	0.016
N412	City of Venice Toilet Rebate Program Phase 1	\$1,172	\$46,451	\$90,373	0.016
N423	City of Venice Toilet Rebate Program Phase 2	\$2,333	\$45,068	\$90,151	0.016
N530	DeSoto County Hull Avenue Water Main Improvements to Reduce Flushing	\$1,071,761	\$0	\$1,428,286	0.127
N291	East Pasco County Low Flow Toilet Rebate Program	\$759	\$30,488	\$45,647	0.007
N410	FGUA Conservation Initiative - Toilet Rebate Phase 2	\$1,319	\$23,630	\$43,712	0.006
P375	Indoor/Outdoor Water Conservation Program	\$44,137	\$252,856	\$296,993	NA
N325	Manatee County Toilet Rebate Program Phase 5	\$1,161	\$115,535	\$225,446	0.036
N443	Manatee County Toilet Rebate Program Phase 6	\$2,333	\$111,068	\$222,151	0.022
N571	Manatee County Toilet Rebate Program Phase 7	\$115,583	\$0	\$228,833	0.033
N411	Marion County Toilet Rebate Program Phase 2	\$839	\$51,246	\$102,085	0.016
N321	Mira Bay Weather Based Controller Project	\$591	\$26,933	\$52,524	0.023
N544	New Port Richey Toilet Rebate Program Phase 2	\$6,000	\$0	\$12,000	0.002
N232	Pasco County Toilet Rebate Program Phase 3	\$660	\$119,056	\$219,716	0.036
N324	Pasco County Toilet Rebate Program Phase 4	\$660	\$159,473	\$310,133	0.036
N382	Pasco County Toilet Rebate Program Phase 5	\$1,352	\$105,044	\$206,396	0.037
N466	Pasco County Toilet Rebate Program Phase 6	\$1,319	\$11,928	\$23,247	0.003
N553	Pasco County Toilet Rebate Program Phase 7	\$41,341	\$0	\$81,341	0.011
N363	Polk County Landscape Irrigation Evaluation	\$2,773	\$8,473	\$186,335	0.166
N538	St. Petersburg Sensible Sprinkling Program Phase 6	\$50,556	\$0	\$100,556	0.041
N498	St. Petersburg Toilet Rebate Program Phase 13	\$567	\$77,318	\$152,885	0.026
N517	St. Petersburg Toilet Rebate Program Phase 14	\$50,556	\$0	\$100,556	0.017
P374	Urban Mobile Lab Leak Detection Permanent/Ongoing Program	\$20,532	\$261,868	\$282,400	5.600
N476	Windstream Utilities Landscape & Irrigation Evaluation Project	\$2,784	\$19,009	\$33,793	0.007

**Table 4. FY2014 Conservation Projects (Continued)**

<b>Code</b>	<b>Water Supply Development Assistance - Conservation Projects</b>	<b>FY2014 Funding</b>	<b>Prior District Funding</b>	<b>Total Project Cost</b>	<b>Offset (mgd)</b>
N278	WRSWA Regional Irrigation System Evaluation Program Phase 1 Pilot	\$2,773	\$110,355	\$191,253	0.060
N491	WRSWA Regional Irrigation System Evaluation Program Phase 2	\$3,360	\$98,784	\$198,244	0.058
	<b>Total Conservation Projects</b>	<b>\$1,477,872</b>	<b>\$1,824,608</b>	<b>\$5,298,482</b>	<b>6.426</b>

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: CDD – Community Development District, FGUA – Florida Governmental Utility Authority, WRWSA – Withlacoochee Regional Water Supply Authority.

**Table 5. FY2014 Potable Water Projects**

<b>Code</b>	<b>Water Supply Development Assistance - Potable Water Projects</b>	<b>FY2014 Funding</b>	<b>Prior District Funding</b>	<b>Total Project Cost</b>	<b>Supply (mgd)</b>
N176	Clearwater Brackish Facility at Water Treatment Plant No. 2	\$6,002,230	\$4,850,786	\$30,462,761	5.000
K120	North Port ASR Feasibility Phase 5	\$6,868	\$1,165,755	\$2,206,693	NA
N465	Polk County Comprehensive Water Supply Plan Update	\$3,023	\$199,647	\$391,670	NA
H069	PRMRWSA Regional Integrated Loop System Phase 1A Interconnect	\$725	\$12,100,685	\$19,108,910	NA
N518	PRMRWSA Regional Pipeline Interconnect with Venice	\$301,515	\$0	\$596,515	NA
N493	PRMRWSA Regional Water Supply Master Plan	\$85,847	\$110,476	\$371,323	NA
H088	Sarasota County Pilot Treatment Study Cow Pen Slough	\$6,570	\$1,156,363	\$2,210,433	NA
L825	Tarpon Springs Alternative Water Supply Project	\$2,197	\$20,171,318	\$45,031,620	5.000
N438	WRWSA Regional Water Supply Plan Update	\$1,516	\$133,389	\$259,905	NA
	<b>Total Potable Water Projects</b>	<b>\$6,410,491</b>	<b>\$39,888,419</b>	<b>\$100,639,830</b>	<b>10.000</b>

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

Acronyms: ASR – Aquifer Storage and Recovery, PRMRWSA – Peace River Manasota Regional Water Supply Authority, WRWSA – Withlacoochee Regional Water Supply Authority.

**Table 6. FY2014 Total Funding for Water Supply Development Projects**

<b>Project Totals</b>	<b>FY2014 Funding</b>
Reclaimed Water Projects	\$23,354,187
Conservation Projects	\$1,477,872
Potable Water Projects	\$6,410,491
<b>Total FY2013 Funding</b>	<b>\$31,242,550</b>

District funding includes project management expenses.

## Descriptions of New Water Supply Development Projects

There are 18 water supply development projects that are newly funded in the District's FY2014 budget. These new projects can be recognized in Tables 3 through 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 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. Auburndale Polytechnic Reclaimed Water Storage and Transmission (N536)

**Background** – This project is for design and construction of a storage tank and approximately 10,500 linear feet of 16-inch diameter reclaimed water line from the City's Allred wastewater treatment facility to the Florida Polytechnic University. The project will provide reclaimed water for irrigation at the University and along the Polk Parkway corridor to reduce groundwater pumping.

**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 potential reuse of the flows from the Allred facility was identified in the Heartland regional volume, page 85.

**Status** – The project design and permitting is commencing. The anticipated completion is summer 2016.

### 2. Charlotte County Reclaimed Water Expansion Phase 3 (N556)

**Background** – This project expands the County's reclaimed water service area in their central and western areas to provide service to 7 golf courses and 1 park in Charlotte County. Components include retrofitting a 95 million gallon reclaimed water storage pond, a post chlorination system, a pond transfer pump station, over 53,000 linear feet of pipelines, and high service pump stations in the mid and west areas of Charlotte County. The project is primarily located in the Rotunda Circle and also includes numerous smaller connections throughout the mid and western county areas.

**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 listed as a water supply option in the Southern regional volume, page 94.

**Status** – The County is developing agreements with potential users and is commencing design in January 2014.

### 3. City of Venice Plumbing Retrofit Program (N568)

**Background** – This project will replace approximately 400 pre-1995 conventional toilets and urinals and provide 500 free water conservation kits. The replacement toilets are EPA WaterSense Program-approved toilets and urinals which use no more than 1.6 and 0.5 gallons per flush, respectively. The City will provide a \$100 credit to the customer's water bill upon WaterSense toilet or urinal installation and inspection.

**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 toilet rebates and distribution of kits is scheduled for December 2013.

#### **4. City of Venice Reclaimed Water Filtration System (N512)**

**Background** – This filtration system will improve the availability of reclaimed water from the City's onsite storage pond at the Eastside Water Reclamation Facility. The pond currently generates large amounts of algae, and reclaimed water extracted from the pond requires retreatment at the wastewater facility prior to distribution. Construction of a 2 mgd water filtration system specifically designed to remove algae will allow the City to improve the availability of reclaimed water from the onsite storage pond for existing and future customers.

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

**Status** – Project construction is scheduled to begin January 2014.

#### **5. Clearwater Resident Initiated Reclaimed Water Expansion (N561)**

**Background** – This reclaimed water project will expand the City of Clearwater's existing reclaimed water transmission and distribution system in residential areas adjacent to existing infrastructure including 4,300 linear feet of 8-inch diameter transmission mains and 15,200 linear feet of 4- to 6-inch diameter distribution lines. The project will meet irrigation demands in areas where the residents have petitioned the City requesting this service.

**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 a continuation of Clearwater's distribution expansions listed in the Tampa Bay regional volume, page 120.

**Status** – The expansion project is expected to commence in early 2014.

#### **6. DeSoto County Hull Avenue Water Main Improvements to Reduce Flushing (N530)**

**Background** – This project will install approximately 2.7 linear miles of 4- to 8-inch diameter piping and related appurtenances to create loops in segments of DeSoto County's potable water transmission system in order to reduce line flushing needed to maintain water quality. The project is located in a rural neighborhood where water lines currently have multiple dead ends, and water quality is maintained by four auto-flushers that discharge 0.13 mgd into drainage swales. The new piping will create loops at existing dead ends in the system to eliminate the need for flushing, and reduce the overall flow time between the Peace River surface water treatment facility and the City of Arcadia. The project also eliminates chlorinated water discharges to natural systems.

**Linkage to the Regional Water Supply Plan** – Projects to reduce potable line flushing were not specifically discussed in the RWSP. However, the reduction of water losses in distribution systems is included as water conservation in Chapter 4, Section 6.1 in each regional volume of the RWSP.

**Status** – The project design work is complete, and construction is expected to commence in December 2013.



## **7. Dunedin San Christopher Reclaimed Water Storage Tanks (N555)**

**Background** – This project consists of two 1 million gallon reclaimed water storage tanks and pumping facilities to assist the City in providing reclaimed water to its customers during 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 project was not specifically mentioned as a project option in the RWSP, but is consistent with similar projects.

**Status** – The City is designing the project in-house and will not be reimbursed by the District for design activities. Construction commencement is scheduled for January 2014.

## **8. Hernando County US-19 Reclaimed Water Transmission Main (N505)**

**Background** – This project will provide the infrastructure necessary to interconnect the County’s three coastal water reclamation facilities to transfer reclaimed water to areas of high demand. The transmission will also relocate excess reclaimed water from coastal rapid infiltration basins to inland recharge areas to provide recharge away from sensitive springsheds. The project consists of the construction of 21,000 linear feet of 16-inch reclaimed water transmission mains and conversion of 32,000 linear feet of abandoned potable water mains to reclaimed water transmission mains. The project will provide additional reclaimed water to the Timber Pines Golf Course and residential community in the Spring Hill.

**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 combines elements of reclaimed water projects listed in the Northern planning volume, page 82.

**Status** – Construction is scheduled to begin in February 2014.

## **9. Manatee County Plumbing Retrofit Program Phase 7 (N571)**

**Background** – This project is for the replacement of an estimated 1,500 high-flow toilets with low-flow, high-efficiency toilets. The project provides financial incentive to the County’s existing water residential, multi-family, and commercial customers. The County currently services over 90,000 potable water accounts. Any program participant that replaces a pre-1995 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 customers 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, documented cost and will be distributed after personal inspection of the completed installation and verification that the old toilets are ready for disposal.

**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 toilet rebate program is scheduled for February 2014.

## **10. New Port Richey Plumbing Retrofit Program Phase 2 (N544)**

**Background** – This project will replace an estimated 80 high-flow toilets with low-flow, high-

efficiency toilets by offering financial incentives to water customers within the City of New Port Richey's utility service area. Depending on the program's success, The Public Works 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 project is scheduled to commence in FY2014.

## **11. Northwest Hillsborough Regional ASR Project (N521)**

***Background*** – This project provides site testing at two ASR facilities anticipated to store up to 17 mgd of seasonally available reclaimed water to supplement dry season supplies within the Northern Tampa Bay region. Each site includes the construction of an injection and observation well. The seasonal storage of reclaimed water in a cost-effective manner will result in offsetting and reducing the use of potable water, as well as reducing surface water discharges to Tampa Bay.

***Linkage to the Regional Water Supply Plan*** – The District's commitment to maximizing reclaimed water reuse to offset traditional water supplies is described in Chapter 4, Section 2 in each regional volume of the 2010 RWSP, and ASR for seasonal reclaimed water storage is described in section 6. This project is not specifically mentioned as a project option in the RWSP, but is consistent with similar projects.

***Status*** – A preliminary desk-top feasibility study was completed in May 2013 and concluded the ASR systems were a viable option for Hillsborough County. Well construction is scheduled to commence in January 2014.

## **12. Pasco County Toilet Rebate Program Phase 7 (N553)**

***Background*** – This project will replace an estimated 400 high-flow toilets with low-flow, high-efficiency toilets by offering financial incentives to water customers within the Pasco County Utility service area. This will be Pasco County's seventh phase of their successful toilet rebate program. The project will help reduce the demand on the Tampa Bay Water regional system as Pasco County is a member government.

***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 project is scheduled to commence in October 2013.

## **13. Pasco Handcart Road Reclaimed Water Pump Station Expansion (N524)**

***Background*** – This project will supply existing orange grove customers with reclaimed water from the Handcart Road reservoir. Currently, there is no reliable method to use reclaimed water from the Lake Rita Reservoir for high-demand frost/freeze protection on the 900 acres of surrounding orange groves. This project will install submersible pumps and a pipeline to transport reclaimed water flow from the Lake Rita Reservoir to the reclaimed water ground storage tank located at the same site. The construction of the pump station and associated piping will also allow for the continued expansion of the County's master reuse system.

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

**Status** – Construction is anticipated to begin in May 2014.

#### **14. Pasco Heritage Pines Residential Reclaimed Water Service (N547)**

**Background** – This project is for design and construction of reclaimed water transmission mains and distribution piping in the Heritage Pines Community in northwest Pasco County. The project will include over 6,100 linear feet of 4- to 12-inch diameter reclaimed water lines, as well as the installation of 2-inch diameter lines to provide reclaimed water irrigation service to approximately 725 residences. The infrastructure will allow an expansion to 1,300 total residences in the future. Heritage Pines properties currently irrigate with groundwater from irrigation wells or potable water from the County’s distribution system. The community already has a significant network of reclaimed water transmission piping to provide reuse water to the golf course and clubhouse ponds, creating a favorable opportunity to retrofit the existing residential irrigation system for reclaimed water use.

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

**Status** – Project design is ongoing and construction may begin in fall 2014.

#### **15. Plant City Reclaimed Water Seasonal Storage and AWS Feasibility Study (N552)**

**Background** – This feasibility study will evaluate the technical viability, regulatory issues, and financial opportunities to increase the storage capacity of an existing 17-acre reclaimed water pond near Plant City. Preliminary calculations show that a 1-foot increase in the pond’s water level may provide over 5 million gallons of additional storage volume. A more ambitious storage volume of 20 to 30 million gallons may be developed if soil conditions and physical limitations permit. The study will also evaluate the potential reuse of water currently discharged by a local industry as an additional source of reclaimed water. The facility discharges once-through cooling water at over 1 mgd to a canal adjacent to the pond site. The project will provide Plant City with a plan to develop a reclaimed water storage and supply project which would reduce the disposal of unused reclaimed water.

**Linkage to the Regional Water Supply Plan** – The District’s commitment to maximizing reclaimed water reuse to offset traditional water supplies is described in Chapter 4, Section 2 in each regional volume of the 2010 RWSP. Reclaimed water expansion options for Pasco County are listed in Chapter 5, Section 2, Table 5-2 of the Tampa Bay regional volume.

**Status** – The commencement of the feasibility study is pending and should be complete within the fiscal year.

#### **16. PRMRWSA Regional Pipeline Interconnect with Venice (N518)**

**Background** – This project will install approximately 500 linear feet of 16-inch diameter transmission main from an existing "T" and valve on the regional water supply authority’s Phase 3A Interconnect. The project will allow the City of Venice to receive alternative water supplies from the Peace River Water Treatment Facility and become a partner in the regional water system. The physical connection point was installed for this specific purpose during construction of the Phase 3A Interconnect, which was completed and placed in service July 2011.

**Linkage to the Regional Water Supply Plan** – The Phase 3A Interconnect is a component of the PRMRWSA Regional Integrated Loop System, which is discussed in Chapter 6 of the RWSP, Heartland regional volume, pages 117-118.

**Status** – Project construction is projected to commence in April 2014.

## **17. St. Petersburg Sensible Sprinkling Program Phase 6 (N538)**

**Background** – This project is the continuance of an outdoor water conservation education and irrigation evaluation project that educates customers on irrigation system modifications that can maximize watering efficiency. Project participants will receive an irrigation system evaluation, site-specific recommendations, rain sensor installation if an operable sensor is not present, Florida Friendly landscaping educational materials, and a watering shut-off nozzle. The evaluation and materials are available to customers who use potable water, private well, or reclaimed water for irrigation. Reclaimed water and private well water users have been included to encourage conservative practices and prevent over-utilization of these resources. The FY2014 phase expects to perform approximately 300 additional irrigation system evaluations. The project helps to protect natural systems and water quality, minimize flooding potential, and increase resource availability to customers.

**Linkage to the Regional Water Supply Plan – 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 program implementation is scheduled for February 2013.

## **18. St. Petersburg Toilet Rebate Program Phase 14 (N517)**

**Background** – This project will replace an estimated 700 high-flow toilets with low-flow, high-efficiency toilets by offering financial incentives to water customers within the City of St. Petersburg's service area. Since the City initiated Phase I of this program in 1997, over 32,000 conventional toilets have been replaced 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 project is scheduled to commence in February 2014.

# 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** - 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 over \$1.3 billion in incentive-based funding assistance for a variety of water projects addressing its four areas of responsibility: water supply, natural systems, flood protection and water quality.

**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. From FY2010 through FY2014, 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 through FY2014. 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 through FY2014 the Legislature did not appropriate funding for the District. In FY2014 the District budgeted \$2.75 million for land acquisition, from prior year funds held in the State Florida Forever Trust Fund for his District and in the District's accounts. The funds held in District accounts have been generated through the sale of easements to the U.S. Department of Agriculture/Natural Resources conservation Services for the Wetland Reserve Program and the sale of land or easements for rights-of-way. These funds are available for potential land acquisitions consistent with the guidance provided by the DEP. 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 expended \$35.6 million in ad valorem based funding to complete the acquisition of lands associated with the Lake Hancock project acquired on a voluntary basis and through eminent domain proceedings.

**State Funding for the FARMS Program** - 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 through FY2014. 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, 36 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) and the Florida West Coast Resource Conservation and Development (RC&D) to bring additional NRCS cost-share funding to the SWUCA. The AWEP was created by the 2008 Farm Bill with similar goals as the EQIP program including conserving and/or improving the quality of ground and surface water. 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 was obligated for two projects in that area. The RC&D is a nonprofit organization that promotes sustainable agriculture and local community food systems in Hillsborough, Manatee, Pinellas, and Sarasota counties. The FARMS program has partnered with the RC&D on one project to date.



## 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 FY2014 budget for WRD Data Collection and Analysis activities and WRD Projects is approximately \$26.5 million and \$9.5 million respectively; which is similar to the FY2013 budget, but about 30 percent less than the funding levels prior to economic downturn. Funding for Data Collection and Analysis is expected to remain fairly constant over the next five years. The multiyear WRD Projects funding is likely to increase over the next five years as the construction phases of multiple projects commence. Future WRD Projects funding needs are projected for the Upper Myakka restoration, Polk County Hydrogeologic Investigations, and for aquifer recharge projects in Pinellas and Hillsborough counties. The District plans to continue implementing FARMS projects at a cost of approximately \$6 million each year.

Water Supply Development funding in FY2014 is comparable to FY2013 levels. Utilities continue to implement reclaimed water and conservation projects to extend the availability of existing water supplies. Reclaimed water projects account for 76 percent of the budget for Water Supply Development assistance in FY2014. The District anticipates that approximately \$20 million will be available for reclaimed water projects each year. Funding for new potable water supply development will likely increase within the next five years; utilities and water authorities are expected to request funding assistance for new water supply projects in proportion with economic and population growth.

The District is maintaining its water resource development efforts with a strong emphasis on agricultural irrigation efficiency projects to reduce groundwater withdrawals and improve aquifer levels, and watershed management activities that will be critical for flood protection, water quality, and springshed health. The District also continues its investigations of ASR systems, aquifer recharge, and the viability of the Lower Floridan aquifer as a resource for the Heartland planning region. This research is expected to create new water supply options available for development as water demands increase.