DRAFT
FY 2011-2012

Water Resource Development Work Program

As required by
Section 373.536(6)(a)4, *Florida Statutes*

October 27, 2011

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FIGURES AND TABLES

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ACRONYMS

ASR	aquifer storage and recovery
AWS	Alternative Water Supply
CFCA	Central Florida Coordination Area
CFWI	Central Florida Water Initiative
CROT	Cocoa, Reedy Cr. Improvement District, Orange County, Toho Water Authority
DWSP	District Water Supply Plan
ECFS	East Central Florida Services
FDEP	Florida Department of Environmental Protection
FF	Florida Forever
F.S.	*Florida Statutes*
gpd	gallons per day
IRL	Indian River Lagoon
LWA	Lake Water Alliance
MCL	Maximum Contaminant Level
MFL	Minimum Flows and Levels
NFUCG	North Florida Utility Coordinating Group
NSRA	North Shore Restoration Area
mgd	million gallons per day
mgy	million gallons per year
NCFCA	North Central Florida Coordination Area
OUC	Orlando Utilities Commission
SFWMD	South Florida Water Management District
SJRWMD	St. Johns River Water Management District
SRWMD	Suwannee River Water Management District
STAG	State Tribal Assistance Grant
SWFWMD	Southwest Florida Water Management District
TCR	Taylor Creek Reservoir
UIC	Underground Injection Control

USGS	United States Geologic Survey
VWA	Volusian Water Alliance
WAV	Water Authority of Volusia
WBS	Work Breakdown Structure
WRDWP	Water Resource Development Work Program

INTRODUCTION

The St. Johns River Water Management District (SJRWMD) completed the 2003 Water Supply Assessment (WSA) and the 2005 District Water Supply Plan Fourth Addendum (DWSP) in compliance with the water supply planning provisions of Section 373.709, *Florida Statutes* (*F.S.*). Projections made for the DWSP indicate that alternative water supply sources will have to be developed in significant portions of SJRWMD's priority water resource caution areas to meet future demands while sustaining water quality, wetland and aquatic systems, and existing legal uses. Fresh groundwater alone probably cannot meet all future water supply needs. DWSP identifies water resource development projects based on the provisions of Subsection 373.709(2)(b), *F.S.*, to meet the identified demands.

SJRWMD developed the Water Resource Development Work Program (WRDWP) pursuant to the requirements of Subparagraph 373.536(6)(a)4, F.S., in association with its water supply planning effort. SJRWMD considers a water resource development project to be one that contributes to the formulation and implementation of the following regional water resource management strategies, based on the definition of water resource development included in Subsection 373.019(19), F.S.:

- The collection and evaluation of surface water and groundwater data
- Structural and nonstructural projects to protect and manage water resources
- The development of regional water resource implementation projects
- The construction, operation, and maintenance of public works facilities to provide for flood control, surface and underground water storage, and groundwater recharge augmentation
- Related technical assistance to local governments and to government-owned and privately owned water utilities

The following water resource development projects have been identified by SJRWMD in the DWSP. These projects, including phases and elements of the projects, are cross-referenced to the statutory definitions (Table 1). Several water resource development projects correspond to more than one water resource management strategy. SJRWMD's water resource development projects and their current status are:

1. Abandoned artesian well plugging – on-going
2. Aquifer storage and recovery construction and testing - completed
3. Cooperative well retrofit – completed
4. Demineralization concentrate management – completed
5. Facilitation of regional decision-making – completed
6. Feasibility of seawater demineralization - completed
7. Water Resources Information – on-going
8. Investigation of the augmentation of public supply systems with local surface water / stormwater sources – on-going
9. Lake Apopka basin water resource development project – on-going

10. Upper St. Johns River basin project – on-going
11. Water resource development components of water supply development projects – on-going
12. MFL Prevention Recovery Strategy alternative water supply projects

In addition, Table 2 presents a summary of estimates of water made available (both potential and actual) for the listed projects. The reader should note that the quantities given are not cumulative and in some cases there is overlap between projects.

The WRDWP is updated annually to augment the DWSP and provide implementation guidance for water resource development projects identified in the DWSP. The WRDWP contains a description of each current project, organized alphabetically and including a programming estimate of the project cost by year, an estimate of the quantity of water the project will make available when feasible, a timeline for commencement and completion, cross references to the SJRWMD budget, and specific project tasks where such tasks have been developed. Not all cooperative funds identified in this document appear in the corresponding Fiscal Year Work Plan and Budget. However, SJRWMD has worked diligently to ensure that the ad valorem, state, and federal funds shown herein do match the SJRWMD Fiscal Year 2011 - 2012 Work Plan and Budget as adopted by the SJRWMD Governing Board on September 27, 2011.

A portion of the project work has been and will continue to be accomplished by SJRWMD staff; however as funding allows a portion of the work may be conducted by contractors. Contractors historically have performed approximately 80% to 90% of the project work for this program, but due to budgetary constraints, more project work may be conducted by District staff.

A more detailed explanation of the water resource development component and additional information for each project may be found in the DWSP. Table A-1 in Appendix A contains a summary of the funding for all program elements. Appendix B contains two figures that graphically depict total program funding and spending. Figure B-1 shows the proportion of funds coming from various sources and Figure B-2 shows the proportion of funds spent on different projects.

Table 1. Water resource development projects and the strategies they support. (This table is based on the definition of water resource development included in Subsection 373.019(19), *F.S.*.)

Project Name	Definition				
	A) Collection and evaluation of surface water and groundwater data	B) Structural and nonstructural projects to protect and manage water resources	C) Development of regional water resource implementation projects	D) Construction, operation, and maintenance of major public works facilities to provide for flood control, surface and underground water storage, and groundwater recharge augmentation	E) Related technical assistance to local governments and to government-owned and privately owned water utilities
Abandoned Artesian Well Plugging		●			
Aquifer Storage and Recovery Construction and Testing*				●	●
Cooperative Well Retrofit*		●			●
Demineralization Concentrate Management*					●
Facilitation of Regional Decision-Making*			●		
Feasibility of Seawater Demineralization*					●
Hydrologic Data Collection and Analysis	●				
Investigation of the Augmentation of Public Supply Systems With Local Surface Water / Stormwater Sources	●	●			●
Lake Apopka Basin Water Resource Development Project	●		●		●
Upper St. Johns River Basin Project		●	●	●	
Water Resource Development Components of Water Supply Development Projects		●	●	●	
Water Resource Development Minimum Flows and Levels Prevention/Recovery Strategy Projects		●	●	●	

Note: ***** Indicates completed projects, described in Appendix C.

Table 2. Water made available by water resource development projects.

Project Name	Water Made Available[8]	
	Potential	Current
Abandoned Artesian Well Plugging	Indeterminate	Indeterminate
Aquifer Storage and Recovery (ASR) Construction and Testing[1]	6 mgd[9]	4 mgd[9]
Cooperative Well Retrofit[1,2]	12,500 gpd	0
Demineralization Concentrate Management[1]	57-268 mgd[6]	0
Facilitation of Regional Decision-Making[1]	200 mgd[4,5]	0
Feasibility of Seawater Demineralization[1]	15-75 mgd[4,6]	0
Hydrologic Data Collection and Analysis	Indeterminate	Indeterminate
Investigation of the Augmentation of Public Supply Systems With Local Surface Water / Stormwater Sources	2- 4 mgd	0
Lake Apopka Basin Water Resource Development Project	5-10 mgd	0
Upper St. Johns River Basin Project	25 mgd[7]	Indeterminate
Water Resource Development Components of Water Supply Development Projects	5 mgd	3
Water Resource Development Minimum Flows and Levels Prevention/Recovery Strategy Projects	2 – 10 mgd[10]	0

Notes:

1. Indicates completed projects, described in Appendix C.
2. Although wells have been repaired to correct this problem, cooperative funds available through this project have not been used.
3. Based on projects currently identified in the DWSP 2005, first update, Table 15, and includes brackish groundwater, surface water and seawater projects, all for potable use.
4. These projects will not directly make more water available. Quantities are for projects that are expected to be undertaken as outcomes of these projects. Projects which will directly make the specified quantities of water available will be included in future updates of the WRDWP.
5. This value range is a composite of average projected deficits , which must be met by other projects, and includes projected deficits for the East Central Florida area, Volusia County, Flagler County, St. Johns County, the East Putnam Water System and Marion County
6. Based on projects currently identified in the DWSP 2005, first update, Table 15, and includes identified seawater projects for potable use.
7. This value was taken from DWSP 2005, but more recent estimates indicate that the yield may be lower.
8. The quantities in this table are not cumulative. There is overlap between projects.
9. ASR projects continue to undergo cycle testing through the FDEP Underground Injection Control (UIC) program. Final capacities will be determined when UIC Operating Permits are issued. These constructed capacities will be fully utilized through demand management practices and long term implementation of Alternative Water Supply (AWS) projects.
10. Quantities of groundwater estimated for projects anticipated for construction cost-share in FY 2011/2012.

ABANDONED ARTESIAN WELL PLUGGING

Background

The goal of this program is to assure the continued availability of groundwater resources by detecting, evaluating, and controlling abandoned artesian wells. Uncontrolled or improperly constructed artesian wells (abandoned artesian wells) reduce groundwater levels and contribute to the contamination of both ground and surface waters.

Update

SJRWMD has plugged or repaired approximately 100 abandoned artesian wells per year since the program was established in 1983. Abandoned artesian wells in priority water resource caution areas are given the highest priority for plugging. However, the program is also tasked with locating abandoned artesian wells not in the inventory. Additional abandoned wells are detected each year and added to the inventory.

Specific estimates of the amount of water made available as a result of this project are not made by SJRWMD. However, this project supports the water supply development program.

Funding and Additional Information

This program has been absorbed by the Conservation and Demand Management program for FY 2011-12. As funding has not been budgeted this fiscal year for this program, it is uncertain at this time if this program will be funded in the future. At the present time, SJRWMD does not anticipate funding for continuation of this program through FY 2016. Individual well owners and several counties historically have contributed to support this program. A description of this cooperative funding effort is included in the *Abandoned Artesian Well Plugging Program 2004, Technical Fact Sheet SJ2004-FS4*.

Cooperative funds source:	Various
Implementing agency:	SJRWMD
Potential water made available:	Indeterminate
Current water made available:	Indeterminate

SJRWMD DWSP SJ2006-2 page:	125
WBS reference:	2.2.3
FY 2011-2012 budget page:	138-139

Funding and Expenditures for Abandoned Artesian Well Plugging

	Funds Needed/Expended -- $ Million							
Fund Sources and Disbursements	**Prior Years**	**2012 [1]**	**2013**	**2014**	**2015**	**2016**	**Future**	**Total Cost**
Sources								
SJ-Ad Valorem	$2.935	$0.000	$0.010	$0.010	$0.010	$0.010	$0.010	$2.985
SJ-FF Const.	$1.400	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$1.400
SJ-FF Land Acq.								
SFWMD								
Cooperators	$1.105	$0.000	$0.010	$0.010	$0.010	$0.010	$0.010	$1.155
Total	**$5.440**	**$0.000**	**$0.020**	**$0.020**	**$0.020**	**$0.020**	**$0.020**	**$5.540**
Disbursements								
Internal	$2.408	$0.000	$0.010	$0.010	$0.010	$0.010	$0.010	$2.458
Contract	$3.032	$0.000	$0.010	$0.010	$0.010	$0.010	$0.010	$3.082

1: No funding allocated for FY12. However, this is an ongoing program and funding may be allocated in future years.

WATER RESOURCES INFORMATION (FORMERLY KNOWN AS HYDROLOGIC DATA COLLECTION

Background

SJRWMD identified the need to continue hydrologic data collection and analysis in association with required five-year revisions of WSA and DWSP and for WRDWP implementation. The following data collection and analysis efforts are ongoing and will continue, with alteration as necessary to better support WSA, DWSP and WRDWP development processes.

- SJRWMD's hydrologic data collection water resources information network
- Water use data management
- Hydrology of native plant communities
- Groundwater modeling
    - Integrated groundwater and surface-water modeling
    - Integrated decision modeling
- Surface water modeling

Update

Specific estimates of the amount of water to be made available as a result of this project will not be made by SJRWMD. However, this project will support all existing and proposed future water resource development projects. SJRWMD estimates that this project will continue into the foreseeable future. To date $40.157 M has been expended.

Funding and Additional Information

Cooperative funds source:	Various
Implementing agency:	SJRWMD
Potential water made available:	Indeterminate
Current water made available:	Indeterminate

SJRWMD DWSP SJ2006-2 page:	146
WBS reference:	1.1.1 & 1.2
FY 2011-2012 budget pages:	98-101

Funding and Expenditures for Water Resources Information (formerly known as Hydrologic Data Collection and Analysis)

	Funds Needed/Expended -- $ Million							
Fund Sources and Disbursements	**Prior Years[1]**	**2012**	**2013**	**2014**	**2015**	**2016**	**Future[2]**	**Total Cost**
Sources								
SJ-Ad Valorem	$39.984	$5.895	$6.500	$6.500	$6.500	$6.500	$6.500	$78.947
SJ-FF Const.								
SJ-FF Land Acq.								
SFWMD								
Cooperators	$0.173	$0.197	$0.100	$0.100	$0.100	$0.100	$0.100	$0.870
Total	**$40.157**	**$6.092**	**$6.600**	**$6.600**	**$6.600**	**$6.600**	**$6.600**	**$79.817**
Disbursements								
Internal	$17.067	$4.757	$5.200	$5.200	$5.200	$5.200	$5.200	$48.349
Contract	$23.090	$1.335	$1.400	$1.400	$1.400	$1.400	$1.400	$31.468

Note 1. In previous years, only portions of the program were not considered WRDWP-related. Beginning in FY 2007, the entire program will be reported as supporting WRDWP, resulting in a significant increase in the annual amounts.
Note 2. This is forecast as an ongoing program with continued funding at a similar level in future years.
Note 3: The budget reflects funding for the Hydrologic Data Collection, water use data management, groundwater resource assessment contractual services, and MFL modeling services.

INVESTIGATION OF THE AUGMENTATION OF PUBLIC SUPPLY SYSTEMS WITH LOCAL SURFACE WATER / STORMWATER SOURCES

Background

Much effort is being focused on the development of alternative water supplies from surface water bodies that have the potential to produce relatively large quantities of water. The St. Johns River is such a source. These surface water sources are often remote from the service areas where the water will be used; thus, considerable transport costs may be incurred.

Smaller quantities of surface water supplies may be available within a public supply service area. The sources of these supplies may include storm water, dewatering/drainage canals, naturally occurring or manmade water bodies, etc. Although these sources of supply may be relatively small, with adequate storage and treatment they could provide important supplemental water supplies to public supply systems.

Through this water resource development project, SJRWMD and cooperating public supply utilities will investigate the feasibility of developing local surface water sources. This investigation will address technical, environmental, and economic feasibility considerations. At the time of preparation of the DWSP 2005, SJRWMD had identified only one project for inclusion in this investigation, the Bracco Reservoir Project. Since publication of the DWSP, SJRWMD has continued to investigate augmentation of public supply systems with local surface water and stormwater sources, and anticipates the identification of additional, similar projects for investigation in future years.

The Bracco Reservoir Project was to consist of a series of storm water detention ponds, used as a source of water to augment the City of Cocoa's reclaimed water system. A treatment facility would be included to incorporate multiple barriers and modern treatment technologies to produce potable water from localized sources of storm water runoff. The first phase of this project included a bench-top study to characterize water quality and expected contaminants from Cocoa's Bracco Reservoir system and a review of applicable regulatory requirements. The first phase benchtop study was completed in FY2006 and found the concept to be feasible. The second and third phases would include additional water quality sampling, a treatability study, economic feasibility analysis, design, permitting, and construction. The cost of these second and third phases was estimated at $5.4M.

Update

Cocoa originally planned to proceed with the second and third phases of the Bracco Reservoir project in FY 2009 but there are no current plans to continue with the project. SJRWMD has no funding dedicated for this effort; thus previously planned funding will be pursued by the City of Cocoa under other programs if and when they proceed with the project.

SJRWMD anticipates the identification of additional augmentation projects for investigation in future years.

Funding and Additional Information

Cooperative funds source:	Various
Implementing agency:	SJRWMD
Potential water made available:	2-4 mgd
Current water made available:	0 mgd

SJRWMD DWSP SJ2006-2 page:	152
WBS reference:	2.2.1
FY 2011-2012 budget page:	N/A

Funding and Expenditures for Investigation of the Augmentation of Public Supply Systems with Local Surface Water / Stormwater Sources

	Funds Needed/Expended -- $ Million							
Fund Sources and Disbursements	**Prior Years**	**2012**	**2013**	**2014**	**2015**	**2016**	**Future**	**Total Cost**
Sources								
SJ-Ad Valorem	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000
SJ-FF Const.								
SJ-FF Land Acq.								
SFWMD								
Cooperators	$0.040	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.040
Total	**$0.040**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.040**
Disbursements								
Internal								
Contract	$0.040	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.040

LAKE APOPKA BASIN WATER RESOURCE DEVELOPMENT PROJECT

Background

This water resource development project was included in the DWSP 2005. SJRWMD has been working on the restoration of Lake Apopka since 1985. More recently, SJRWMD has identified the need for additional water supplies in the vicinity of the lake. The City of Apopka has identified Lake Apopka as a potential source to provide additional water to its reclaimed water service area. Apopka has identified an immediate need for approximately 2 mgd average annual daily flow (AADF) to augment the city's reclaimed water system. Apopka estimated that it will need an additional supply of approximately 8 mgd AADF for its reclaimed water system by the year 2010 and an additional 16 mgd by 2020. In May 2006, a District cost-share funded study was completed by the City of Apopka. It identified the most cost-effective pretreatment method for using Lake Apopka water for augmenting their reclaimed water. The cities of Clermont and Minneola have also expressed an interest in developing a reclaimed water augmentation supply from Lake Apopka.

District staff and an independent consultant evaluated the potential for developing water supplies from Lake Apopka while still achieving lake restoration goals. The Lake Apopka Basin Water Resource Development Project evaluated the potential water supply yield from the lake. Project work components included:

- Hydrologic modeling
- Evaluation of alternative lake regulation schedules
- Evaluation of storage augmentation options
- Evaluation of potential impacts of management options
- Identification of potential water users including the timing and locations of withdrawals

Suitable projects were identified as a result of the evaluationand a project implementation schedule was recommended.

Update

The city of Apopka was issued a 20-year consumptive use permit in December 2008 for 5.0 mgd of surplus surface water from the North Shore Restoration Area (NSRA) of the Lake Apopka basin. The intake, treatment, and transmission facilities are planned for implementation on a phased basis. Regional planning for the NSRA and determination of long term water supply potential for Lake Apopka is ongoing. As future projects are identified, their funding will be contingent on availability of funds in current or future budgets.

Funding and Additional Information

Cooperative funds source:	Various
Implementing agency:	SJRWMD
Potential water made available:	5-10 mgd
Current water made available:	0 mgd

SJRWMD DWSP SJ2006-2 page:	149
WBS reference:	2.2.1
FY 2011-2012 budget page:	N/A

Funding and Expenditures for Lake Apopka Basin Water Resource Development Project

	Funds Needed/Expended -- $ Million							
Fund Sources and Disbursements	**Prior Years**	**2012**	**2013**	**2014**	**2015**	**2016**	**Future**	**Total Cost**
Sources								
SJ-Ad Valorem								
SJ-FF Const.								
SJ-FF Land Acq.								
SFWMD								
Cooperators								
Total								
Disbursements								
Internal								
Contract								

Note: No funds have been designated in budget. If and when the project moves forward, a future budget request or budget amendment will be requested.

UPPER ST. JOHNS RIVER BASIN PROJECT

Background

The Upper St. Johns River Basin extends from the headwaters of the St. Johns River in Indian River and Okeechobee counties to the confluence of the St. Johns and Econlockhatchee rivers in Seminole County. The basin originally contained more than 400,000 acres of floodplain marsh. The Upper St. Johns River Basin Project began in the 1950s as a flood control project. By the early 1970s, 62% of the original floodplain marsh area had been drained for agricultural and flood control purposes. Canals had been constructed to divert floodwaters from the basin to the Indian River Lagoon. Impacts included a loss of water storage areas, diminished water quality, excessive freshwater going into the Indian River Lagoon, and significant decreases in fish and wildlife populations. The marsh that remained was further degraded by hydrologic alterations and nutrients in agricultural runoff.

Concerns about environmental degradation led to a comprehensive review of the project beginning in the early 1970s. Environmental restoration goals were added to the project in the 1980s. The upper basin project is now a semi-structural system of water management areas, marsh conservation areas, and marsh restoration areas covering 166,500 acres in Indian River and Brevard counties. The system is designed to reduce damage from floods, improve water quality, reduce freshwater discharges to the Indian River Lagoon, provide additional water supplies, and restore or enhance wetland habitat.

SJRWMD has expanded the Upper St. Johns River Basin Project into a multi-objective water resource development project. SJRWMD anticipates that it will need to complete a number of tasks in conjunction with this effort. The scope of the effort has not been fully developed, but it is anticipated that the work will include:

- Evaluation of the yield of the St. Johns River under current management practices
- Identification of alternative management strategies, including operating schedules and storage options
- Optimization of alternative management strategies
- Coordination with federal, state, and local government agencies
- Environmental analyses and permitting
- Addition of storage, structural improvements, and operating capacity

Current work for the Upper Basin is budgeted as part of restoration efforts for Upper St. Johns River Basin, as well as the Indian River Lagoon Basin. Additional funding needs for water resource development in the Upper Basin are anticipated as details of the SJR/TCR Water Supply Project are developed.

Update

Future activities may involve a modest amount of funding as other strategies are developed. As future projects and funding are identified, they will be added to the water resource development work program document.

Florida Forever Discussion: This use of FF funds is consistent with the following subparagraphs of the *Florida Statutes*:

> 259.03(6)—It 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, and promoting reuse.

259.105(3)—The budget for this project falls within the prescribed percentage distribution limits of this subparagraph.

259.105(4)(d)—This project is one component of a regional water supply plan that will help ensure that sufficient quantities of water are available to meet the current and future needs of natural systems and the citizens of the state, as measured by:

> The quantity of water made available through the water resource development component of a district water supply plan for which a water management district is responsible; and possibly
>
> The number of acres acquired of groundwater recharge areas critical to springs, sinks, aquifers, other natural systems, or water supply.

259.105(6)—No significant harm is predicted as a result of the project; the project will comply with all applicable permitting requirements; and the project is consistent with the District's regional water supply plan.

Funding and Additional Information

Cooperative funds source:	None
Implementing agency:	SJRWMD
Potential water made available:	25 MGD[1]
Current water made available:	None

SJRWMD DWSP SJ2006-2 page:	155
WBS reference:	2.2.1
FY 2011-2012 budget page:	N/A

Note 1: This value was taken from DWSP 2005, but more recent estimates indicate that the yield may be lower.

Funding and Expenditures for Upper St. Johns River Basin Project

	Funds Needed/Expended -- $ Million							
Fund Sources and Disbursements	**Prior Years**	**2012**	**2013**	**2014**	**2015**	**2016**	**Future**	**Total Cost**
Sources								
SJ-Ad Valorem	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000
SJ-FF Const.								
SJ-FF Land Acq.	$67.610	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$67.610
SFWMD								
Cooperators	$14.933	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$14.933
Total	**$82.543**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$0.000**	**$82.543**
Disbursements								
Internal								
Contract	$82.543	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$82.543

Note: Expenditures include identifiable Florida Forever and cooperative funding utilized to purchase land for water resource development purposes. However, internal programmatic expenses and land exchanges are not included. Funding for future projects is contingent on identification and acquisition of suitable land and will be identified as land purchases occur.

WATER RESOURCE DEVELOPMENT COMPONENTS OF WATER SUPPLY DEVELOPMENT PROJECTS

Background

This water resource development effort was a new addition in recent years to the workplan. SJRWMD recognizes that many of the water supply development projects identified in DWSP 2005 will include components that may be eligible for funding pursuant to the Florida Forever Act. Section 259.03(6), F.S., defines projects that are eligible for funding under the Act:

> *"Water resource development project" means a project eligible for funding pursuant to s. 259.105 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. The implementation of eligible projects under s. 259.105 includes land acquisition, land and water body restoration, aquifer storage and recovery facilities, surface water reservoirs, and other capital improvements. The term does not include construction of treatment, transmission, or distribution facilities.*

Based on the statutory definition, SJRWMD has identified five categories of water resource development components that appear to be eligible for funding under the Florida Forever Act. These categories are:

- Surface water intake facilities to capture excess surface water flows
- Storage reservoirs to store excess surface water flows
- Aquifer storage and recovery facilities
- Groundwater recharge facilities
- Land acquisitions associated with these water resource development facilities

SJRWMD anticipates that a number of the water supply development projects included in this DWSP will include one or more of these water resource development components. A summary of the potential water resource development components associated with each of the water supply development projects is provided in Table 20 of the 2005 District Water Supply Plan.

Update

Several projects that were initiated in 2008 and 2009 have been completed or continue to progress through various phases of implementation. However, due to the economic downturn and the expiration of the FF program, project timelines have been extended or postponed.

Florida Forever Discussion: This use of FF funds is consistent with the following subparagraphs of the *Florida Statutes*:

> 259.03(6)—It 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, and promoting reuse.
>
> 259.105(3)—The budget for this project falls within the prescribed percentage distribution limits of this subparagraph.

259.105(4)(d)—This project is one component of a regional water supply plan that will help ensure that sufficient quantities of water are available to meet the current and future needs of natural systems and the citizens of the state, as measured by:

The quantity of water made available through the water resource development component of a district water supply plan for which a water management district is responsible; and possibly

The number of acres acquired of groundwater recharge areas critical to springs, sinks, aquifers, other natural systems, or water supply.

259.105(6)—No significant harm is predicted as a result of the project; the project will comply with all applicable permitting requirements; and the project is consistent with the District's regional water supply plan.

Funding and Additional Information

Implementation began in FY 2007. Specifically identified projects account for the total projected cost of $2.950 million over the planning period for construction of feasible projects. Currently due to limited funding from Florida Forever Program and increased use of Water Protection and Sustainability Program (WPSP) funds there is reduced inquiries for use of this project. Future projects will be considered as funding becomes available.

Cooperative funds source:	Various	SJRWMD DWSP SJ2006-2 page:	158
Implementing agency:	SJRWMD	WBS reference:	2.2.1
Potential water made available:	Indeterminate	FY 2011-2012 budget page:	N/A
Current water made available:	Indeterminate		

Funding and Expenditures for Water Resource Development Components of Water Supply Development Projects

	Funds Needed/Expended -- $ Million							
Fund Sources and Disbursements	**Prior Years**	**2012**	**2013**	**2014**	**2015**	**2016**	**Future[1]**	**Total Cost**
Sources								
SJ-Ad Valorem								
SJ-FF Const.	$1.158							$1.158
SJ-FF Land Acq.								
SFWMD								
Cooperators	$1.792							$1.792
Total	**$2.950**							**$2.950**
Disbursements								
Internal								
Contract	$2.950							$2.950

Note 1: The Florida Forever program expired in 2010. Funding for 2012-2016 and future years will be addressed when the uncertainty surrounding alternative funding is ascertained.

WATER RESOURCE DEVELOPMENT MINIMUM FLOWS AND LEVELS PREVENTION/RECOVERY STRATEGY PROJECTS

Background

Work leading to the preparation of the District Water Supply Plan 2010 has found that flows and levels for 39 waterbodies are below established minimum flows and levels (MFLs) or are anticipated to be below minimum flows and levels within 20 years. Pursuant to Section 373.0421(2) Florida Statutes, the District must expeditiously implement a recovery or prevention strategy to achieve recovery to the established minimum flow or level as soon as practicable or prevent the existing flow or level from falling below the established flow or level.

SJRWMD identified the need to cost-share water resource development projects that have a demonstrated benefit for prevention or recovery of Minimum Flows and Levels (MFL) waterbodies. Projects selected for funding are likely to be alternative water supply projects that have already been identified and are ready for quick implementation.

Update

Specific estimates of the amount of water to be made available as a result of this project will vary based on the quantity of groundwater off-sets available as projects are brought on-line. SJRWMD estimates that this project will continue into the foreseeable future. To date no funding has been expended.

Funding and Additional Information

Cooperative funds source:	N/A
Implementing agency:	SJRWMD
Potential water made available:	Indeterminate
Current water made available:	None

SJRWMD DWSP SJ2006-2 page:	N/A
WBS reference:	1.1.1 & 1.2
FY 2011-2012 budget pages:	122

Funding and Expenditures for Water Resource Development MFL Prevention/Recovery Strategy Projects

Fund Sources and Disbursements	Prior Years	2012	2013	2014	2015	2016	Future	Total Cost
Sources								
SJ-Ad Valorem	$0.000	$11.568	$10.000	$10.000	$10.000	$10.000	$10.000	$61.568
SJ-FF Const.								$0.000
SJ-FF Land Acq.								$0.000
SFWMD								$0.000
Cooperators								$0.000
Total	**$0.000**	**$11.568**	**$10.000**	**$10.000**	**$10.000**	**$10.000**	**$10.000**	**$61.568**
Disbursements								
Internal	$0.000	$11.568	$10.000	$10.000	$10.000	$10.000	$10.000	$61.568
Contract	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000

GENERAL PROGRAM COSTS

Background

Formerly called project support services, this item encompasses those activities required to implement the WRDWP. Specifically, project management, engineering services and peer review are not identified in the DWSP but are critical for successfully accomplishing all identified projects. This element has existed since the inception of WRDWP and will continue to be needed in future years. The work effort covered in this element comprises:

- Staff project managers
- Staff subject area experts
- Contract project managers
- Contract subject area experts
- Contracts to develop Preliminary Design Reports

Update

Currently there are multiple countywide efforts involving numerous local governments to develop Preliminary Design Reports and other supporting investigations for developing the St. Johns River and the Atlantic Ocean as a water supply source. Project management services continue to be critical components of the effort to implement many of the projects previously described in the WRDWP document.

The cities of Palm Coast, Leesburg, and DeLand, along with St. Johns County, completed Phase 2A of the Coquina Coast Desalination Project in FY2010-11. SJRWMD is a funding partner in this project. Phase 2A consisted of continued engineering investigations to support the preparation of a Preliminary Design Report in Phase 2B. In FY2011-12 during transition to Phase 2B, the project suppliers will seek additional partners and other funding sources.

In addition to the categories eligible for Florida Forever funding, listed above, other opportunities exist for cooperative funding. Federal STAG (State and Tribal Assistance Grants) program funds are being used to accomplish preliminary design and federally-required environmental studies associated with the St Johns River Taylor Creek Reservoir (TCR) Water Supply Project. These funds are captured in the table below under cooperative funding.

As noted previously and restated below there are three separate projects involving TCR.

- The TCR Improvement Project, undertaken by SJRWMD is designed to change the current operating schedule, with improvements that will allow an increase of 3 ft in the year round operating pool level. Raising the pool level creates a potential water supply yield from the reservoir of about 30 mgd using the existing watershed. The design is currently underway.
- The Enhanced TCR Project capitalizes on the increased potential yield afforded by the TCR Improvement Project. The City of Cocoa is spearheading the effort and several utility partners are currently in talks to develop and use the additional yield from the watershed—the City of Titusville, Orange County Utilities, Orlando Utilities Commission, Tohopekaliga (Toho) Water Authority and East Central Florida Services Inc. (ECFS). The plan is to treat the water to potable standards and transport it to

partners' existing systems. Expected capacity will likely be in the 12-24 mgd range of additional supply and treatment capacity. While timing is still undecided, customer demands, economic conditions, permit and agreement conditions and planned changes to the Central Florida Coordinating Area Rule all will affect the schedule.

- The SJR/TCR Water Supply Project was begun in 2003 by these same six partners, together with the SJRWMD and financial assistance from the South Florida Water Management District, to develop the St. Johns River for potable water production using the TCR for storage. Because of the TCR Improvement Project and in addition to the Enhanced Taylor Creek Reservoir Project, the opportunity exists to capitalize further on the available storage space in the TCR by holding water at a higher level and diverting water from the St. Johns River into the reservoir. This project together with other measures could potentially increase the volume of water available for water supply to approximately 54 mgd.

  The project included the preliminary design, and federally mandated environmental assessments necessary to proceed with final facility construction design, transmission systems and permitting. A preliminary design report and environmental information document were completed. At this point, the individual participants are evaluating their options to determine when and if this project meets their future water supply demands.

Funding and Additional Information

SJRWMD's project management costs are typically less than 3 percent of project value. It is expected that project management, engineering services and peer review efforts will be necessary beyond FY 2011.

Cooperative funds source:	N/A	SJRWMD DWSP SJ2006-2 page:	N/A
Implementing agency:	SJRWMD	WBS reference:	2.2.1
Potential water made available:	N/A	FY 2011-2012 budget pages:	119-120
Current water made available:	N/A		

Funding and Expenditures for General Program Costs

	Funds Needed/Expended -- $ Million							
Fund Sources and Disbursements	**Prior Years**	**2012**	**2013**	**2014**	**2015**	**2016**	**Future**	**Total Cost**
Sources								
SJ-Ad Valorem	$9.484	$1.182	$1.000	$1.000	$1.000	$1.000	$1.000	$15.666
SJ-FF Const.								
SJ-FF Land Acq.								
SFWMD								
Cooperators	$1.008	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$1.008
Total	**$10.492**	**$1.182**	**$1.000**	**$1.000**	**$1.000**	**$1.000**	**$1.000**	**$16.674**
Disbursements								
Internal	$3.029	$1.182	$0.200	$0.200	$0.200	$0.200	$0.200	$5.211
Contract	$7.463	$0.000	$0.500	$0.500	$0.500	$0.500	$0.500	$9.963

Notes:
1. Previous years budgets were calculated as a portion of other programs not dedicated entirely to WRDWP. Beginning in

FY 2008, the specific budget item General Program Costs will be used to identify the services used to support the program.

2. Beginning in FY 2009, the St. Johns River Taylor Creek Reservoir Water Supply Project (Federal Funding) will be accounted for under this project. In previous years it was accounted for under WRD Components line item, however since the preliminary design reports (PDRs) are budgeted and managed under this project and the Federal Funding directly supports the PDR effort, accounting for this item under this location is more appropriate.

APPENDIX A. FUNDING AND EXPENDITURE SUMMARY

The table below contains the total values of the funding sources and expenditures provided for all projects in the WRDWP.

Table A-1: Water resource development work program funding and expenditure summary

	Funds Needed/Expended -- $ Million							
Fund Sources and Disbursements	**Prior Years [1]**	**2012**	**2013**	**2014**	**2015**	**2016**	**Future[2]**	**Total Cost**
Sources								
SJ-Ad Valorem	$67.922	$19.163	$17.445	$17.445	$17.410	$17.410	$17.410	$174.205
SJ-FF Const.	$32.841	$0.530	$0.000	$0.000	$0.000	$0.000	$0.000	$33.371
SJ-FF Land Acq.	$73.596	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$73.596
SFWMD	$0.150	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.150
Cooperators	$45.268	$0.197	$0.110	$0.110	$0.110	$0.110	$0.110	$46.015
Total	**$219.777**	**$19.890**	**$17.555**	**$17.555**	**$17.520**	**$17.520**	**$17.520**	**$327.337**
Disbursements								
Internal	$25.523	$17.982	$15.410	$15.410	$15.410	$15.410	$15.410	$120.555
Contract	$194.254	$1.908	$1.945	$1.945	$1.910	$1.910	$1.910	$205.782

Notes:

1. "Prior Years" and "Total Costs" columns include completed projects not shown in the current WRDWP: Adaptive Management, Investigation of Areas Where Domestic Self-Supply Wells Are Sensitive to Water Level Fluctuation, Regional Aquifer Management Plan, and Surface Water In-Stream Monitoring & Treatability Studies.

2: Not all projects are forecast into future years, because they either are continuing programs that would skew the data, already have been completed, or they have not yet been programmed beyond FY 2015. Therefore, the forecast column is not a complete accounting of future work.

APPENDIX B: TOTAL PROGRAM FUNDING AND COST

The estimated total cost of all projected and completed projects in the SJRWMD Water Resource Development Work Program is $268.467 million. The distribution of this cost is shown by funding source in Figure B-1 and by type of project in Figure B-2. Descriptions of completed projects are presented in Appendix C.

Figure B-1: Water Resource Development Funding Sources

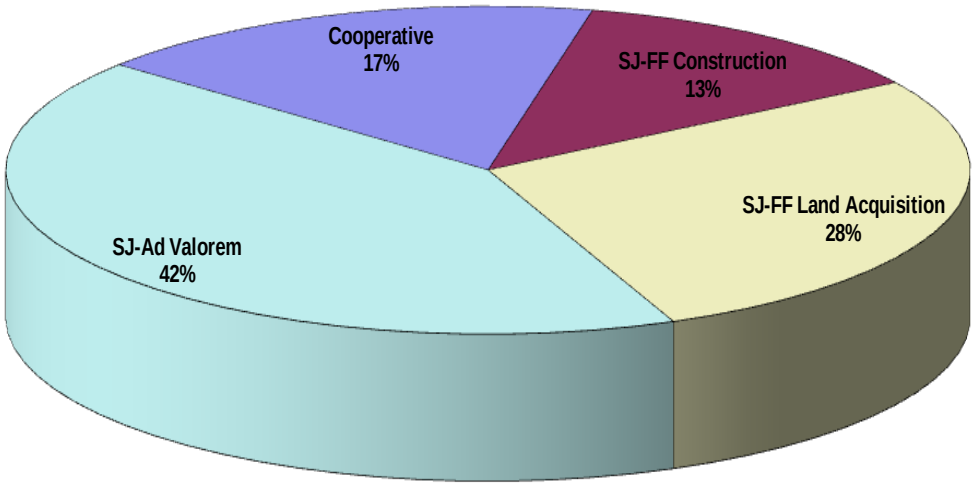
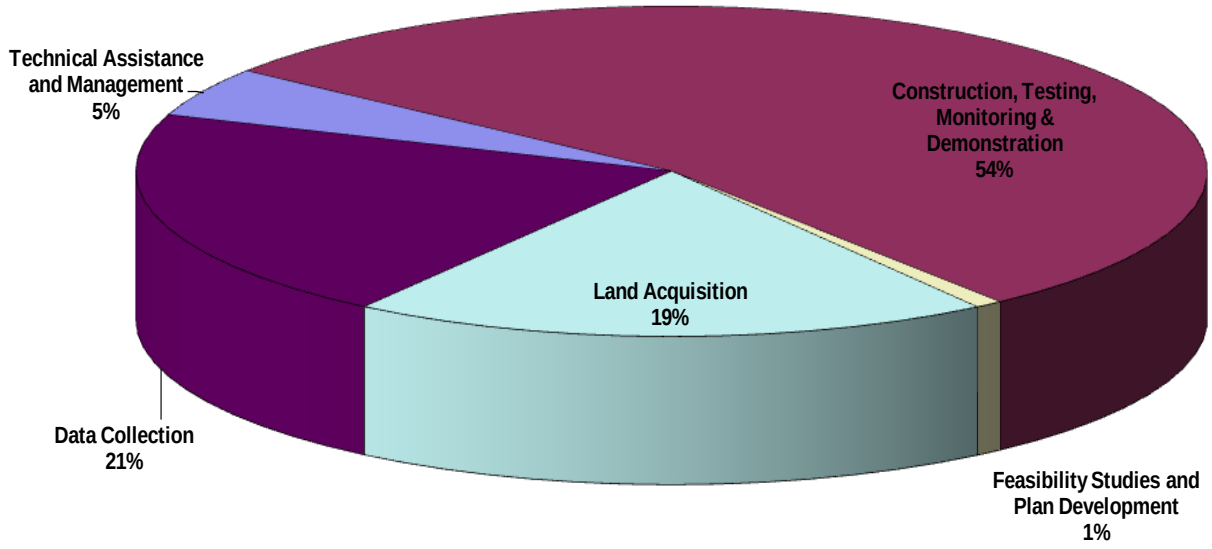


Figure B-2: Water Resource Development Spending by Project Type



APPENDIX C. COMPLETED PROJECTS NOT LISTED IN 2005 DWSP

AQUIFER STORAGE AND RECOVERY CONSTRUCTION AND TESTING

Aquifer storage and recovery (ASR) construction and testing are necessary to assure that ASR can be used successfully at specific sites. SJRWMD is pursuing ASR construction and testing projects with water treated to primary and secondary drinking water standards cooperatively with local governments to test the feasibility of this technique as a means of managing the availability of water. The results of this project are critical to the development of ASR systems associated with future water supply development projects. ASR testing by SJRWMD is performed only with water treated to primary and secondary drinking water standards. Ownership of completed ASR projects will be transferred to cooperators for their operational phase after construction. A cooperator then may operate the ASR facility with water treated to primary and secondary drinking water standards or with reclaimed water treated to reclaimed water standards. Both of these types of ASR uses can be permitted under current regulations. No special legislation or rule variances will be necessary to implement these projects. Effective ASR systems could make it economically feasible to use surface water sources that may yield significant additional quantities of water supply.

SJRWMD has awarded work order-based contracts for this construction and testing to three engineering firms. Each phase or component of each potential ASR project will be accomplished as a single work order. Each work order will yield data that will facilitate a feasibility go/no-go decision by SJRWMD staff. This approach, summarized in the *Aquifer Storage and Recovery Construction and Testing Program Plan*, dated April 2003, will limit financial commitment for each ASR project and maximize the use of available funds.

At the end of FY 2010-11, construction of the four projects was completed, including installation of pretreatment systems on three of them. The potential for mineral leaching during cycle testing is being addressed by pretreatment consisting of de-chlorination and or de-oxygenation systems on three of the four projects. The project without pretreatment has features which will lessen the impact of mineral leaching if it occurs, so pretreatment will not be added. Technical assistance was provided during initial cycle testing and the transfer of ownership to the local government cooperator was completed in FY2010-11. Cycle testing will continue on all four projects by the cooperator, in accordance with Florida Department of Environmental Protection requirements. In FY2011-12, SJRWMD will continue to interact with the local government cooperators through Memorandums of Understanding to monitor ongoing cycle testing activities.

DEMINERALIZATION CONCENTRATE MANAGEMENT PROJECT

SJRWMD identified brackish groundwater and surface water as potential significant sources of supply to meet projected 2025 demands. The use of this brackish water will require management of the concentrate that is a byproduct of the demineralization process. Available management options include placement in deep injection wells, discharge to surface waters, land spreading, discharge to wastewater treatment facilities, and more. Implementation of these management options is subject to FDEP regulations. These regulations are based on federal guidelines administered by EPA. The history of the permitting of demineralization concentrate discharges in SJRWMD indicates the need to develop acceptable management strategies for demineralization concentrate discharge that can be dependably utilized by public supply utilities and other water users. SJRWMD is working cooperatively with FDEP, EPA, public supply utilities, and other affected parties to develop these management strategies and identify any required technical studies, data collection, or analysis needed to formulate management strategies and monitor the effectiveness of management strategies.

The Demineralization Concentrate Management Plan was completed in September 2003. Additional investigations identified in the plan started during FY 2004. A study concerning the appropriateness of reclassifying demineralization concentrate as non-corrosive and of the corrosiveness of concentrate on materials used in the construction of injection wells was performed in FY 2004 and FY 2005.

Subsequently a cooperative project with the National Oceanic and Atmospheric Administration (NOAA) began in FY 2004 to support rules related to demineralization concentrate management. NOAA with assistance from CH2M Hill conducted a preliminary investigation and literature search on the viability of coastal and open ocean concentrate disposal options that include consideration of mixing and dilution models and relating the results to current permitting rules. Their combined work products recommended multiple avenues to pursue in order to assist future cooperators, one of which was a long-term (approximately 5 years) data gathering effort to support potential rule changes or application of current rules.

CH2M Hill completed the final year of their contract to provide project management and technical support services for the Districts Demineralization Concentrate Management Project. CH2M Hill completed planning-level conceptual engineering designs, conducted modeling of a range of St. Johns River outfall discharge scenarios that bracket potential concentrate outfall locations and river conditions likely to be encountered. They also provided technical support services for the District and conducted some minor investigations into the use of Class V (shallow) injection wells for demineralization concentrate and blending of demineralization concentrate with reclaimed water.

Update

Current efforts were completed. Currently there are no plans to conduct additional studies. Should specific projects be identified that would require assistance, funding would be considered either under this project or as part of the specific project identified.

FEASIBILITY OF SEAWATER DEMINERALIZATION

Seawater demineralization is considered a general option available to all water supply utilities. However, because of the lower cost and ready availability of other options, seawater demineralization was not considered among the utility-specific options identified in the current DWSP. Two demineralization (desalination) projects were included in the DWSP approved in 2005.

Based on current projections, it is reasonable to assume that seawater will be developed as a water supply source within SJRWMD in the future. Special case situations, such as co-siting a seawater demineralization plant with an existing or new electric power plant or limited other options, may make this source competitive with the development of other water supply sources. Early identification of potential desalination projects continues to be a regionally significant effort because of the extended timeframes needed to investigate, plan, test, design, permit, and construct desalination facilities.

This project includes the investigation of the technical, environmental, and economic feasibility of seawater demineralization projects. This feasibility investigation consists, at a minimum, of the following tasks:

- Perform investigations to determine available technologies.
- Investigate potential sites, including sites on the Atlantic Ocean and along the Atlantic Intracoastal Waterway system, with special emphasis on opportunities to co-site with an electric power plant.
- Investigate opportunities for demineralization concentrate management and potential impacts of various options related to seawater demineralization projects under consideration.
- Perform site and cost feasibility assessments.

The first element of this project, consisting of a site selection study, was completed in 2004. This element identified five potential sites for future consideration. Two of these sites, both of which are existing once-through cooling power plants, are located on the Indian River Lagoon (IRL) in Brevard County. SJRWMD completed work to further evaluate the feasibility of these two sites in FY 2006. The work completed in FY 2006, known as the "IRL Salinity Study", included coordination with local governments in Brevard County on development of the scope, objectives, approach, and findings for the feasibility study of these two sites.

Update

In FY 2008, to address future water demands in the greater Flagler County area — a region known as the Coquina Coast — the SJRWMD partnered with several county and local governments to further investigate and prepare preliminary design documents for a desalination facility in Flagler County. This effort is identified under the general program costs section of this document and is described here only due to its relevance to seawater demineralization.

COOPERATIVE WELL RETROFIT PROJECT

Interference of higher volume pumpage with the use of domestic self-supply wells has been common during the peak agricultural irrigation season in southwestern St. Johns County and northeastern Putnam County. The Water Supply Planning Area IV work group for the DWSP 2000 developed a proposed solution to deal with existing and potential future well interference problems in this area. The proposed solution, if successfully implemented, should eliminate interference with existing legal domestic users and avoid the construction of new domestic well systems that are inadequate for producing water during the peak irrigation period. The two-pronged solution developed in 2000 and carried forward to DWSP 2005 is described as follows:

Background

SJRWMD has historically received complaints concerning the loss-of-flow from domestic self-supply wells during the peak agricultural irrigation season in southwest St. Johns County and northeast Putnam County. Each loss-of-flow complaint is investigated by SJRWMD to verify that it is directly attributable to water level declines related to localized agricultural pumpage and not to a well system construction, operation, or maintenance problem. If the loss of flow is clearly due to water level declines, the well system will be repaired and SJRWMD and involved water users will share the cost.

Additionally, SJRWMD has worked with St. Johns County and Putnam County to adopt county ordinances and well construction procedures to ensure that new domestic self-supply well installations are capable of producing water during the seasonal fluctuations in aquifer levels.

St Johns County has one of the few local government programs that regulate the construction of self-supply wells to avoid reduction or loss of service to these wells. The program specifies pump standards for a large portion of the unincorporated area of the county. The program requires pumping system operate properly with an additional 45 ft of seasonal drawdown depending on the relative location of the Upper Floridan aquifer potentiometric surface (static water level) at the time of well installation. It specifies the use of submersible pumps under certain circumstances.

Putnam County had a well construction ordinance but it did not apply to all areas of the county subject to significant seasonal water level declines. SJRWMD worked with county staff to revise the ordinance to include all affected areas. The county commission approved the revised ordinance.

Update

This effort was completed in St. Johns County and Putnam County. The development of similar ordinances or efforts are expected to occur in other programs.

FACILITATION OF REGIONAL DECISION-MAKING PROCESS

Background

SJRWMD has supported an active regional decision-making process in the east-central Florida and northeast Florida areas and plans to continue this effort and extend it into other areas of SJRWMD as necessary. This regional decision-making process seeks to encourage mutually beneficial cooperation of all participants and is not intended to create any particular form of intergovernmental or institutional structure.

SJRWMD strives to maximize decision-oriented discussions between major water users, particularly public supply utilities. SJRWMD proactively implements this regional decision-making process where necessary through the following tasks:

- Provide facilitators for the process at SJRWMD's expense.
- Provide SJRWMD staff, consultant expertise, and funding as appropriate.
- Amend and update the DWSP as necessary to incorporate sustainable water source options selected by water supply utilities that are consistent with the DWSP.

SJRWMD facilitated three water supply planning subgroups in east-central Florida in 2001:

- Seminole County subgroup
- North Lake County/south Marion County subgroup
- South Lake County, Orange County, Osceola County, and Polk County subgroup

SJRWMD focused much of its attention in 2004 and 2005 on securing inter-local government agreements to support development of county-level water supply plans. Meetings with local governments and water suppliers in each county began in 2005 and continued into 2008 with the ultimate goal being to organize and jointly produce county-level water supply plans. Putnam County and Orange County both indicated an interest in 2006 to have the District sponsor the preparation of a County Water Supply Plan following the steps of the other county plans. Activities occurred in each of the following counties:

County-level activities

- SJRWMD staff attends Brevard Water Supply Board and Water Authority of Volusia meetings as needed and coordinates regionally significant activities with both organizations.
- Water Supply Plans have been completed for Flagler County on September 5, 2007, Lake County on December 12, 2007, Seminole County on May 24, 2007 (the contract between the District and Casselberry was closed out in July 2007), and Marion County on May 8, 2007 (the contract between the District and Marion County was closed out in the fall of 2007).
- Putnam County - On May 9, 2006 District consultants and the Putnam County Administrator met to discuss water supply planning in Putnam County. Putnam County indicated it would like for the District to sponsor a county-wide water supply planning effort in Putnam County similar to those taking place in other counties. The plan was developed with input from representatives from local public water supply utilities and local governments (deemed "Cooperators"). The plan was finalized in late 2008.

Project-level activities

CROT Integrated Water Supply Alternatives Study - The city of Cocoa, Reedy Creek Improvement District, Orange County, and the Toho Water Authority (CROT) worked cooperatively during 2004

and 2005 to identify possible joint alternative water supply projects, which if implemented, could delay the need for more costly projects. The focus of CROT's attention is focused on reclaimed water and storm water projects. The group advised SJRWMD that it would like to perform an integrated water supply alternatives study with coordination and support of the South Florida Water Management District (SFWMD) and SJRWMD. Both districts reviewed the proposed scope of services, estimated costs, and timeline. The study began in FY 2005 and was completed in FY 2007. A subsequent group formed, comprising of St Cloud, the Toho Water Authority, Orange County, Polk County, and Reedy Creek (STOPR) to work cooperatively and interact with SJRWMD, SFWMD, and Southwest Florida Water Management District (SWFWMD) to assess ground water supply and alternative water supply sources.

- Taylor Creek Reservoir - The Taylor Creek Reservoir (TCR), located in Orange and Osceola counties near the St. Johns River and State Road 520, was designed to provide flood control and water supply in the upper St. Johns River drainage basin. The city of Cocoa began using the reservoir for water supply in 1999, and is currently withdrawing approximately 5 million gallons per day (mgd) from the reservoir to supplement its groundwater sources.

  Three separate projects involving TCR are described here in further detail.

  - The TCR Improvement Project, undertaken by SJRWMD is designed to change the current operating schedule, with improvements that will allow an increase of 3 ft in the year round operating pool level. Raising the pool level creates a potential water supply yield from the reservoir of about 30 mgd using the existing watershed. The design is currently underway.

  - The Enhanced TCR Project capitalizes on the increased potential yield afforded by the TCR Improvement Project. The City of Cocoa is spearheading the effort and several utility partners are currently in discussion to develop and use that additional yield from the watershed—the City of Titusville, Orange County Utilities, Orlando Utilities Commission, Tohopekaliga (Toho) Water Authority and East Central Florida Services Inc. (ECFS). The plan is to treat the water to potable standards and transport it to partners' existing systems. Expected capacity will likely be in the 12-24 mgd range of additional supply and treatment capacity. While timing is still undecided, customer demands, economic conditions, permit and agreement conditions and planned changes to the Central Florida Coordinating Area Rule all will affect the schedule.

  - The SJR/TCR Water Supply Project was begun in 2003 by these same six partners, together with the SJRWMD and financial assistance from the South Florida Water Management District, to develop the St. Johns River for potable water production using the TCR for storage. Because of the TCR Improvement Project and in addition to the Enhanced Taylor Creek Reservoir Project, the opportunity exists to capitalize further on the available storage space in the TCR by holding water at a higher level and diverting water from the St. Johns River into the reservoir. This project together with other measures could increase the amount of available water supply to around 54 mgd.

    The project included the preliminary design, and federally mandated environmental assessments sufficient to proceed with final facility construction design, transmission systems and permitting. A preliminary design report and environmental information document were completed. At this point in time, the various participants are weighing their options to determine when and if this project meets their future water supply goals.

North Central Florida Coordination Area (NCFCA)

- An initiative was begun in 2007 by SWFWMD and SJRWMD to establish a common approach for water supply planning, regulation and modeling for the North Central Florida Coordination Area. In 2007, the two districts focused on developing a common approach for collecting and analyzing groundwater data and withdrawal impacts. In addition, the districts have been working to establish a single methodology for determining MFLs for Silver Springs and Rainbow Springs. These efforts have included numerous face-to-face meetings between district staffs, field visits and teleconferences to coordinate activities. Due to effective on-going coordination efforts between the two districts, it was decided in 2008 that there was no longer a need to formally designate a NCFCA initiative. The districts agreed to continue to coordinate on an as-needed basis planning, regulation and modeling efforts in this geographic region.

Update

Northeast Florida/Southeast Georgia Water Resources Coordination

SJRWMD has coordinated with the State of Georgia, the U.S. Geologic Survey (USGS), and the Suwannee River Water Management District (SRWMD) for more than ten years concerning water resource issues in the northeast Florida/southeast Georgia area. Groundwater withdrawals from the Floridan aquifer in Georgia can affect water levels in Florida and withdrawals in Florida can affect water levels in Georgia. SJRWMD, SRWMD and the State of Georgia have a common interest in management of the water resources of the area for that reason. SJRWMD desires to work cooperatively with the State of Georgia to avoid conflicts that have the potential to arise as water supplies from the Floridan aquifer are developed in the future and has provided a facilitator for discussions between SJRWMD, the State of Georgia, the Florida Department of Environmental Protection, and other interested parties. These discussions were designed to enhance working relationships and avoid conflicts. An initial coordination meeting was held in August 2004 with additional facilitation and coordination continuing to take place through 2011.

Central Florida Water Initiative (CFWI) (Central Florida Coordination Area (CFCA))

In the spring of 2006, the Executive Directors of SJRWMD, SFWMD and SWFWMD directed their staffs to develop better mechanisms for formal water supply coordination and communication in the area of central Florida where the boundaries of the three districts come together and where permitting actions in one district can impact water resources and water users throughout the area. In response to this directive a "Recommended Action Plan for the Central Florida Coordination Area" was developed and adopted by the three district governing boards. The Action Plan has three individual components addressing (1) regulation, (2) planning, and (3) computer modeling and tools. Teams consisting of staff and consultants from the three districts were established for each of the three Action Plan components.

- Regulation - The regulation team met with stakeholders on February 20, 2007 and received input on draft documents and suggested revisions. The team had additional stakeholder meetings in 2007 and revised the draft rule language based on stakeholder input. The three districts adopted the CFCA rules in 2008.

- Planning - The planning team met with stakeholders on February 20, April 27 and June 22, 2007. During these meetings staff and consultants from the three districts reviewed and received input on water demand projections, AWS project descriptions and selection processes, and funding alternatives. The final planning group report was completed in January 2008.

- Computer Modeling and Tools - The computer modeling and tools team has had numerous team meetings in 2007 developing an action plan. In 2008, the team continued coordination efforts with the regulatory group with the goal of unified approach to evaluating water resource impacts resulting from current and projected ground water withdrawals in the central Florida region.

The primary planning tool to implement the Action Plan was the development and calibration of the necessary hydrologic models to determine the sustainability of the groundwater supplies. Because of the complexity of the effort and the desire for consensus among the stakeholders, including the water management districts, the effort to implement the Action Plan is being modified to incorporate a more collaborative approach to resolving the technical issues.

To address the limitations of the 2006 Action Plan yet still fulfill the overarching water resource objectives in Central Florida outlined in that plan, a new Central Florida Water Initiative (CFWI) has been created. In addition to revising the implementation date for the new rules, Guiding Principles and Collaborative Process Goals have been established, and an executive level Steering Group has been formed to direct the coordinated effort of the CFWI. Team meetings and coordination are expected through 2013. For more information about the CFWI, go to http://cfwiwater.com/