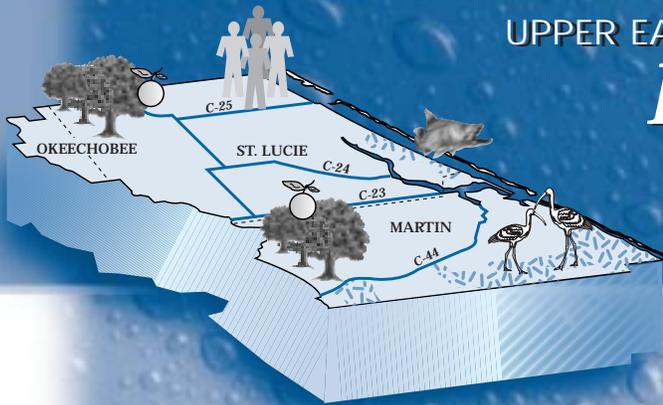


*Second Annual*

UPPER EAST COAST WATER SUPPLY PLAN

**Implementation  
Progress Report**

AUGUST 2000

***We're still going strong!***

*by Mark Elsner, SFWMD Project Manager,  
Upper East Coast Water Supply Plan*

During the Upper East Coast Water Supply Plan development process, we committed to keeping you informed on the implementation of the Upper East Coast Water Supply Plan. Implementation of the plan by the District was strongly recommended by the advisory committee. Last year we sent you our first newsletter that informed you of the success we were realizing implementing the water supply plan during 1999. The good news is that we're still going strong in 2000! Several water resource development recommendations are either on schedule or have been brought to a successful closure. In addition, a number of new water supply development projects have been funded -- through the South Florida Water Management District's Alternative Water Supply Funding Program (see back page). Several users in the area

have initiated plans to diversify their supply sources, while others have implemented water conservation measures. We continue to encourage local initiatives to develop water supply alternatives. I think you will agree that we are on target in meeting the water needs of the region.

Also, our hard work has benefited the other three planning areas of the District. The UECWSP was used as a template for the water supply plans recently completed by the District for those planning areas. This promotes consistency between the plans, thereby making it easier to review and compare the different plans.

We hope you find this newsletter informative and helpful. Please contact me, or Sharon Fowler, if you have questions or comments. Phone numbers and e-mail addresses are located at the end of this document. Also, check out our web site on water supply planning:  
<http://www.sfwmd.gov/org/pld/proj/wsp>



## *Status of Water Resource Development Projects*

As we did last year, this newsletter is organized by the seven water source options and their associated water resource development recommendations in Chapter 6 (Plan Implementation and Funding) of the planning document. This is to assist you in understanding the progress on implementing the plan recommendations.

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### *SURFACE WATER STORAGE*

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#### **I**ndian River Lagoon Restoration Feasibility Study -

The Feasibility Study is a cost-share project between the SFWMD and U.S. Army Corps of Engineers. This study was originally scheduled to be completed by 2001, but will be more likely completed by February 2002. After evaluating several alternatives, wetland restoration and water preserve areas hold the most promise for regional water storage in Martin and St. Lucie counties. Computer models are being used to evaluate

alternatives as they are developed. The Optimization Model was completed, and is now being used to help determine the size of needed water preserve areas. Field observations of selected sites have been completed, and detailed surveys and geotechnical fieldwork is underway. Completion of the engineering design and report preparation phase is expected in 2001. The total cost of this study is \$6.1 million.

#### **T**en Mile Creek Critical Restoration Project -

This project is a cost-share project between the SFWMD, the U.S. Army Corps of Engineers and local sponsors, and is closely linked to the Feasibility Study. Conceptual design is complete, and detailed design, including survey and geotechnical fieldwork is underway. The SFWMD closed on the largest piece of property needed for the project in October 1998. Construction is not likely to begin until 2001. The total cost of this project is estimated at \$30 million.

#### **M**inimum flows and levels for the St. Lucie Estuary -

The District completed its work on developing a general scientific approach for determining minimum flows and levels for the Caloosahatchee and St. Lucie Estuaries. This approach includes examining freshwater flow distributions -- with respect to salinity tolerance ranges of key estuarine species and/or ecological communities. For the St. Lucie Estuary, data collection, seagrass and water quality monitoring, and laboratory experiments are underway. Seagrass mesocosm and transplant experiments examining the effects of high and low salinities on the estuary are continuing. Optimization models were applied to develop estimates of the water storage required to meet the healthiest salinity ranges for the estuary. A conceptual model of the estuary was developed, and fieldwork to map oyster bed and submerged aquatic vegetation began in 1998. The technical criteria for the St. Lucie Estuary minimum flows and level are expected to be completed by November 2000. Minimum flows and levels for the

### **Canoeing - South Fork of St. Lucie River**



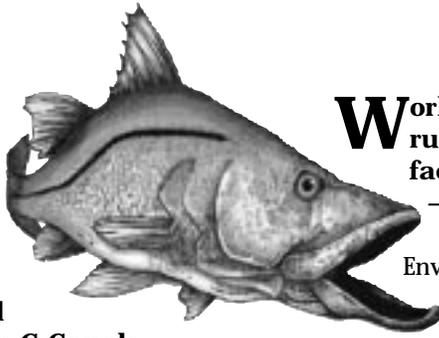
*Second Annual*

Upper East Coast Water Supply Plan

**Implementation Progress Report**

AUGUST 2000

St. Lucie Estuary therefore should be established by December 2001.



## **W**ork with FDEP and EPA rulemaking efforts to facilitate untreated water ASR

Last year, the U.S. Environmental Protection Agency (EPA) considered revising their policy regarding requirements of water injected into an underground source of drinking water (USDW) aquifer. These proposed changes were prompted by the incorporation of ASR in the Restudy and in particular, the use of water from Lake Okeechobee as an ASR source of water. Even though this change in policy is in response to a specific project, it has national and state implications. Specifically, the EPA was con-

## **I**ncrease storage and conveyance in C-Canals –

This recommendation will be realized under the District's Canal Conveyance Capacity (CCC) Program. The CCC program is a 12-year plan for dredging in six canals in the District, with \$3 million budgeted each year for the project. These canals were prioritized based on technical factors such as the severity of deposition within the canal, and the likely monetary consequences of flooding. The C-23 is the second canal on the CCC program priority list. The first phase of the C-23 dredging project is currently planned for the first quarter of FY01, making it one full year ahead of the District's schedule.

## AQUIFER STORAGE AND RECOVERY

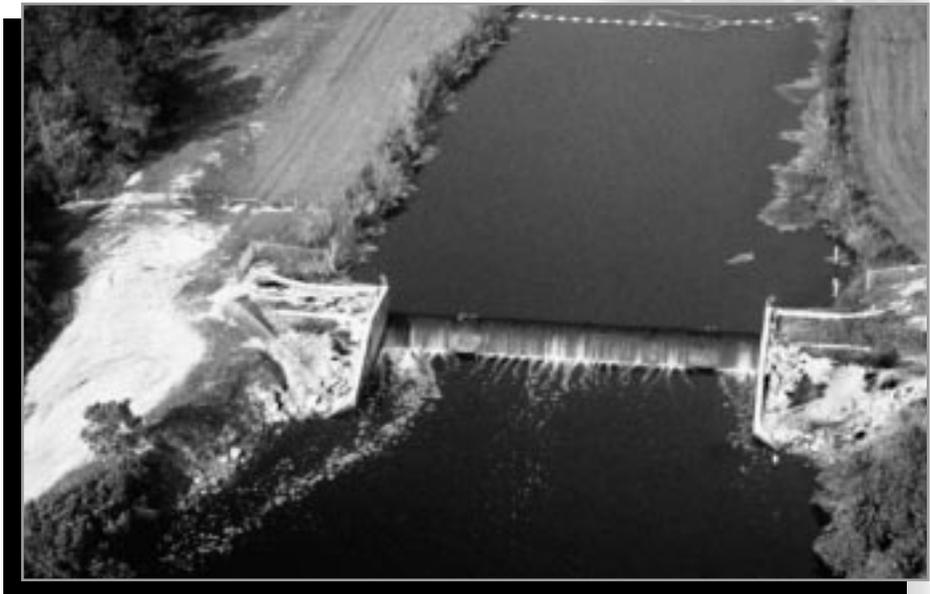
There are seven Aquifer Storage and Recovery (ASR) recommendations in the Upper East Coast Water Supply Plan. Four of these have been suggested for incorporation into the Indian River Lagoon Restoration Feasibility Study. This section describes the three remaining recommendations that are to be implemented as a result of the water supply plan or other ongoing activities.

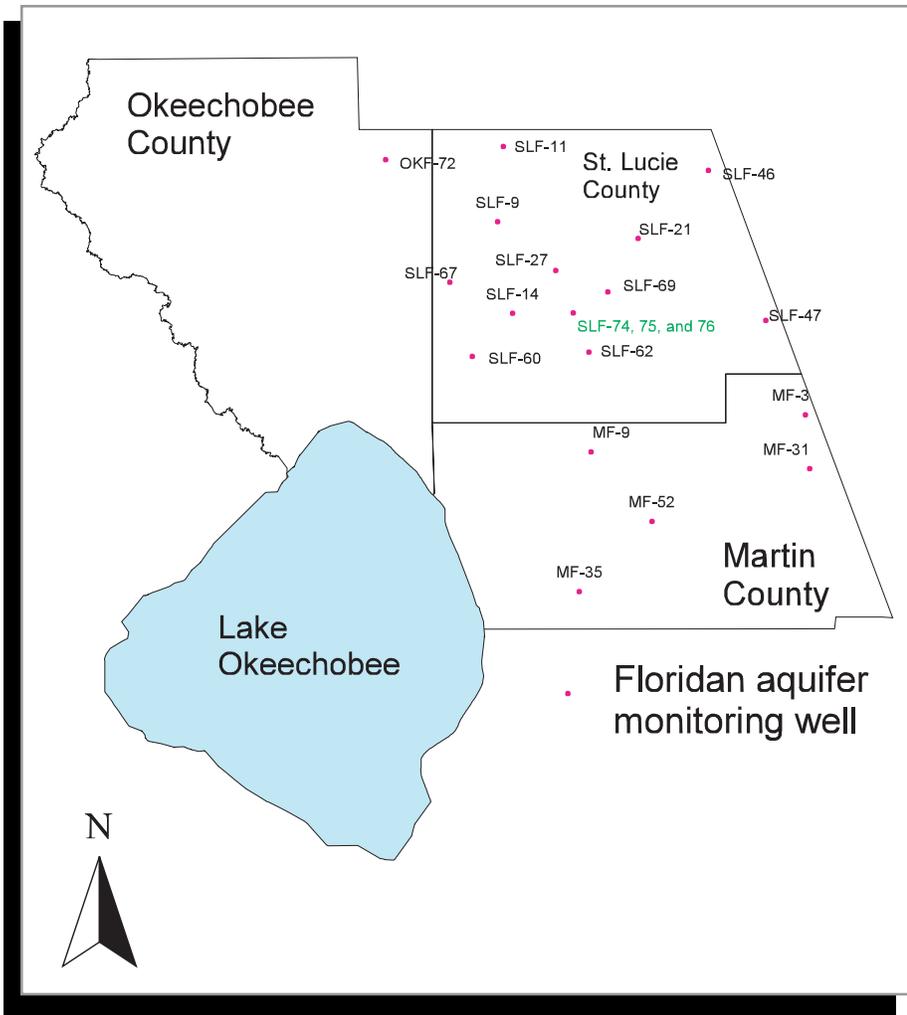
## **R**eactivate the District's Demonstration Project for Lake Okeechobee ASR –

Last year, the District's plan was to evaluate its current condition, and investigate the possibility of rehabilitating the site to functional status. In FY01, the District intends to conduct this analysis. Also, note that this project became a recommendation of the recently approved Lower East Coast Water Supply Plan.

sidering evaluating coliform from a public health approach rather than a formal drinking water regulatory standard. In February 1999, the EPA submitted a letter to the District indicating they were willing to consider a flexible approach to constructing and permitting untreated ASR wells proposed by the Restudy. As part of the Site 1 ASR Pilot Project and the Lake Okeechobee ASR Pilot Project, additional data will be collected and a formal request from the District for policy change will be submitted through a permit application.

## *C-23 Canal*





based on the recommendation and analysis associated with the UECWSP. The need to include the Floridan aquifer on future MFL priority lists will be reassessed during future updates to this plan.

**Develop a comprehensive Floridan aquifer monitoring network –**

A monitoring network to collect data on water quality and water levels in the Floridan aquifer was budgeted last year to gain a better understanding of the relationship between water quality, water levels and water use in the Floridan aquifer. This sub-task has been completed. As a result, the comprehensive Floridan aquifer monitoring well network will consist of 37 monitoring locations distributed across the UEC Planning Area, and should be established by the end of FY00. There will be 21 SFWMD monitoring locations (21 monitoring wells) all monitored for water levels and water quality. The remaining 16 locations (43 monitoring wells - 16 monitored for water levels and water quality; 43 monitored for water use) under contract by the St. Lucie Soil & Water Conservation District. The District will also continue its study with the USGS to evaluate potential water quality changes and the sustainability of the Floridan aquifer. This study began in April 1999 and will continue until September 2002.

**Develop a Floridan well abandonment program –**

The District entered into a contract with the Natural Resource Conservation Service (NRCS) to share the cost of well plugging and irrigation conversion projects in Martin and St. Lucie counties. In St. Lucie County, 37 wells were plugged; and three wells were plugged in Martin County. The contract period was from April 1998 through February 2000, in the amount of \$75,000 (District's share). Approximately \$18,000 remains from this contract to do similar work. The District is in the process of entering into a new agreement with the NRCS to close nine additional wells in St. Lucie County with the remaining funds.

**South Florida Water Management District Floridan Aquifer Monitoring Well Network**

**Develop rules to address potential conflicts of ASR and existing use of the Floridan aquifer –**

Revisions to the District's Water Use Basis of Review related to Floridan use and ASR are planned and incorporated in the upcoming rulemaking effort (see Related Strategies below).

**FLORIDAN AQUIFER**

Remove Floridan Aquifer from MFL Priority List –

Remove Floridan Aquifer from MFL Priority List - The Floridan aquifer has been removed from the District's list for establishment of a minimum flow and level (MFL)

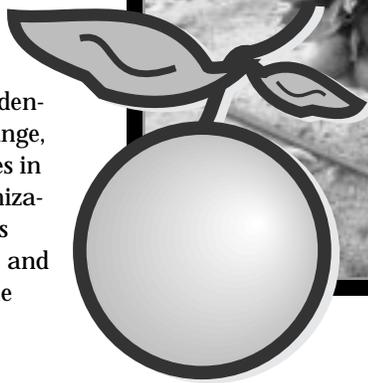
## Explore desalination concentrate disposal options –

As reported last year, the District participated in a workshop with the SJRWMD, FDEP, and EPA concerning options for disposal of concentrate from desalination treatment facilities. Potential methods of disposal include deep well injection, surface water discharge, and blending with reclaimed water. For deep well injection, reclassifying concentrate to something other than industrial waste was discussed to reduce construction costs (requirement for tubing and packer). For surface water discharges, FDEP had indicated a desire to assist applicants early on to characterize water quality in receiving bodies and of the concentrate (based on source quality and treatment method), and applying a screening level process to identify potential concerns up front, including toxicity. For more information related to toxicity and ion imbalance, contact Steve Wolfe, FDEP Bureau of Laboratories, at (850) 487-2245.

Reclassifying concentrate to something other than industrial waste was discussed during this year's Legislative session: however, nothing was passed related to this issue.

## Evaluate Floridan aquifer recharge areas –

This recommendation is being addressed in the Kissimmee Basin Water Supply Plan. It involves reducing the amount of projected drawdown on the Floridan aquifer by placing more water into the Floridan aquifer to replenish the amount removed. The identified sources for this recharge are reclaimed water and storm water. A major task of this recommendation will be to identify recharge areas in Orange, Osceola, and Polk counties in support of recharge optimization modeling. This task is expected to begin in FY01 and be completed by FY05. The



total cost of this task is estimated at \$1.2 million.

## CONSERVATION

### Promote water conservation –

The District, in cooperation with the Natural Resource Conservation Service, plugged abandoned Floridan aquifer wells and converted a number of irrigation projects in Martin and St. Lucie counties. A total of 480 acres in St. Lucie County, and 40 acres in Martin County of citrus were converted from flood irrigation to microjet irrigation. The contract period was from April 1998 through February 2000, in the amount of \$75,000 (District's share). Additional water conservation proposals are encouraged. The District is also in the process of developing a comprehensive water conservation program that should be completed later this year or early next year.

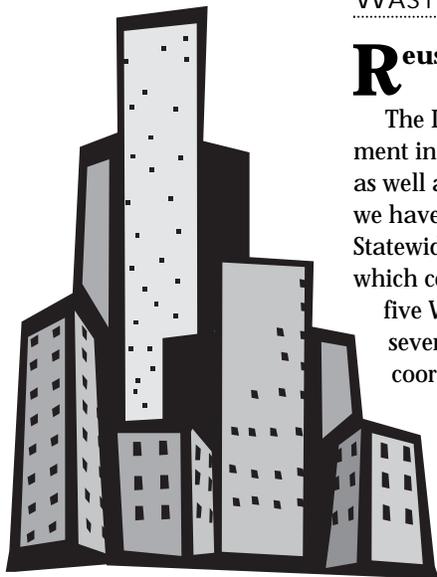
### Urban Mobile Irrigation Laboratory –

The St. Lucie and the Martin Soil and

### *Direct Irrigation*



Water Conservation Districts (SWCD's) are currently operating Urban Mobile Irrigation Labs (MILs) in each of the respective counties providing homeowners, condo associations, golf courses and public buildings and parks with on-site analyses, system evaluations and water quality evaluations. The Martin and St. Lucie labs were established in 1998 and 1999 respectively. There is also one agricultural lab that serves both counties. The labs educate property owners/operators on irrigation efficiency and system design needs. Each urban MIL completes 140 evaluations per year, with a potential water savings of 50 to 60 million gallons of water per year and an associated reduction in lawn chemicals and fertilizers leaving the site as runoff. The urban MIL's priority area is the St. Lucie Estuary Watershed and has been funded in part by the St. Lucie River Issue Team funds that are administered through the FDEP. Each Lab previously operated on a budget of \$110,000 with 50 percent coming from the St. Lucie River Issue Team fund and the other 50 percent from the local SWCD and the USDA-NRCS. Due to higher priorities, FY01 funding of the urban MILs by the Issues Team has been discontinued.




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## WASTEWATER REUSE

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### **R**euse coordination -

The District has continued its involvement in wastewater reuse at the state level as well as the local level. At the state level, we have continued our participation on the Statewide Reuse Coordinating Committee, which consists of representatives from the five WMDs, FDEP, DOH, PSC, FDACs and several other agencies. This committee coordinates reuse related activities statewide, and develops consistent policies and approaches for encouraging reuse. We have also continued to meet with the local FDEP District offices to coordinate reuse activities at the local level, as well as on specific projects.

### **R**euse regulations -

In addition to our coordination efforts, we have continued our participation in the rule-making activities associated with Chapter 62-610, F.A.C., Reuse of Reclaimed Water and Land Application. Public workshops have been completed and the Environmental Regulation Commission adopted revisions on January 28, 1999, and they became effective on August 8, 1999. For more information, please contact David York, FDEP Reuse Coordinator, at (850) 922-2034 or on the FDEP WEB site at: <http://www.dep.state.fl.us/water/wf/dom/reuse>.

Revisions to the District's Water Use Basis of Review related to reuse are also planned and incorporated in the upcoming rulemaking effort (see Related Strategies below).

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## UTILITY INTERCONNECTS

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### **E**ncourage potable water interconnects -

The District continues to encourage potable water interconnects between utilities for emergency purposes through our consumptive use permitting program.

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## RELATED IMPLEMENTATION STRATEGIES

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### **I**ncorporate the assumptions and criteria of the Upper East Coast Water Supply Plan into the District's consumptive use permitting program -

A major rulemaking effort was initiated in 1999 to revise the Water Use Basis of Review, including incorporating the recommendations identified in the UECWSP. Rule development will continue through 2000, with rule adoption anticipated in late 2000. Several public workshops will be conducted as part of this process to gather public input on the proposed rules. Please contact Virg Cruz at (561) 682-6926 to receive future mailings related to this effort.

## **C**ontinue coordination of the Upper East Coast Water Supply Plan –

Coordination of the UECWSP with local governments and utilities continues through many activities including comprehensive plan reviews, consumptive use permitting activities, and the alternative water supply funding program. A memorandum of understanding has been signed with the SJRWMD formalizing our coordination efforts in the areas of water resource investigations, water supply planning, water use regulation, and water shortage management. We meet, as well as share information, on a regular basis. Coordination of the UECWSP with the IRL Feasibility Study and other District regional planning efforts continues through internal forums and utilization of the same staff.

## **C**ontinue District's Wetland Drawdown Study –

This study was initiated in 1995. A great deal has already been accomplished. Long-term wetland monitoring sites are in place, monitoring wells installed, historical aerial photography has been analyzed, weather stations installed, and biological inventories have been completed. Most of the remaining tasks are now underway, including: analysis of hydrologic data, intensive study of wetland-aquifer interactions, and intensive pilot-scale biological monitoring. A scientific workshop to review findings and make recommendations for wetland drawdown rules or further research and monitoring convened in early summer 1999; also, an interim technical publication of research findings and recommendations was completed and is currently in peer review. The study has expanded its responsibilities to develop additional criteria of water drawdown rules that will specifically target listed species.

## **W**etland mitigation in Upper East Coast should remain in region –

St. Lucie County is moving forward with plans to establish a mitigation area within the county. The area under consideration is

a 102-acre citrus grove on Sunrise Boulevard, north of Platt's Creek adjacent to the North Fork of the St. Lucie River. A contract for this project was executed in December 1999 to purchase the grove so that it can be transformed back to its original state -- a forested floodplain and marsh. A \$1,000,000 grant from the St. Lucie River Issues Team (with \$70,000 in matching funds) financed this project.



***Savannas,  
St. Lucie County***

## What's Next?

We will continue to provide you with a regular update on the implementation of the Upper East Coast Water Supply Plan, at this time each year, following the District's budget process. These annual newsletters will continue until the water supply plan is updated in 2003.

## Alternative Water Supply Funding Program

Five projects in the UEC Planning Area qualified for funding from the District's Alternative Water Supply Funding Program in FY00. The purpose of this program is to provide financial assistance to local governments, public or private utilities, and other users -- for projects involving conservation or the development of alternative supplies. The five projects are:

- Fort Pierce Utilities Authority Reverse Osmosis Water Treatment Plant
- North Martin County Reverse Osmosis Well Construction
- South Martin County Regional Utility Floridan Aquifer Supply Wells
- Jupiter Island Holdings Irrigation Water Supply and Treatment
- Loxahatchee River Environmental Control District Expansion of Reclaimed Water System (including Martin County)

These projects have a total estimated cost of \$14.4 million of which the SFWMD contribution is \$927,000.

## Indian River Lagoon SWIM Plan Update

The original surface water improvement and management (SWIM) Plan for the Indian River Lagoon was completed in 1989. This plan was updated in 1994. An update to this document is underway, with a continuation of implementation activities in both research and "turn-dirt" projects. A high priority has been intensive coordination with

the St. John's River Water Management District regarding the technical aspects of the plan, including seagrass and water quality data analysis and presentation. A draft of the update is anticipated in September 2000. Public participation will be an important part of the update process.

Other efforts in the St. Lucie River Watershed include projects reviewed and approved in July 1999 by the St. Lucie River Issue Team. Funding comes from the \$7.5 million in FY99-00 identified by the State of Florida for implementation of approved projects to occur within the next five years. These projects are intended to accelerate the progress of water quantity, quality and timing improvements in the St. Lucie River and Estuary. The highest ranked projects submit-



**seagrass**

ted were funded and are currently underway. For FY00-01, the State has set aside \$10 million to continue funding St. Lucie projects that were submitted for review to the Issue Team, and then to Tallahassee for review by the newly created Florida Water Advisory Panel. After the final signing of the state budget, the FY00-01 money will become available in July 2000. For more information, contact Patti Sime at the SFWMD Martin/St. Lucie Service Center at (561) 223-2600.



[www.sfwmd.gov](http://www.sfwmd.gov)

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## Questions or Comments?

Contact Sharon Fowler, plan implementation manager, for more information on the water supply plan at (561) 682-6155 or email [tsfowler@sfwmd.gov](mailto:tsfowler@sfwmd.gov). In addition, you may view our Upper East Coast Water Supply Plan web site at: <http://www.sfwmd.gov/org/pld/proj/wsp>.