

October 2013

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Chairman's Message

Daniel O'Keefe, Governing Board Chairman



With the start of the 2014 fiscal year this month, the Governing Board took action in moving forward two significant projects that support our water quality and ecosystem restoration work. Both projects are part of the State's Restoration Strategies to clean water for the Everglades.

The first project is the construction contract for the A-1 Flow Equalization Basin, or FEB, a reservoir designed to hold and send water into our stormwater treatment areas, helping to equalize flows during wet and dry times. The consistency of flow optimizes the nutrient-removal performance of these treatment wetlands. The A-1 FEB is the largest of three storage basins planned for Restoration Strategies, and it is the second one to move forward with construction. We look forward to breaking ground and seeing construction work at the site in the coming months.

Another key action was the decision to acquire the 1,800-acre Mecca property from Palm Beach County to store water and direct it to the federally designated "Wild and Scenic" Loxahatchee River. The additional flows will help to restore the river's ecosystem and benefit key species such as mangroves, cypress trees and oysters as well as wildlife. Two weeks after the Board's action, the Palm Beach County Board of County Commissioners also voted to approve the sale, clearing the way for this property to benefit an important regional watershed.

Public interest remains high in progress on the Central Everglades Planning Project. With federal agencies back at work, the Corps extended the public comment period and continues moving forward. The Board anticipates an update next month on financial responsibilities and expectations of the District.

Looking ahead to next year, the Board's schedule of monthly meetings for 2014 has been set and includes two meetings in local communities outside of the West Palm Beach headquarters. In February we'll be in Lee County and next June in Osceola County. The Board and I look forward to each of these meetings as we continue the important work of managing and improving South Florida's water resources.

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Construction to Begin on Project to Improve Everglades Water Quality

A-1 shallow-water reservoir is the second major effort underway in the Governor's Restoration Strategies plan

The South Florida Water Management District (SFWMD) has approved a contract to start construction on a key project in the State's Restoration Strategies plan to clean water for America's Everglades.

"This is an important step for the Everglades, as science and planning become a working construction project for achieving water quality goals," said SFWMD Governing Board Chairman Daniel O'Keefe. "Building this expansive storage site will significantly improve our ability to remove nutrients and further improve Florida's famed *River of Grass*."

Design is complete and all necessary permits have been obtained so that Central Florida Equipment Rentals, the lowest responsive and responsible bidder, can begin construction work with the approved investment of \$59.9 million.



A-1: How it Works

With the capacity to hold 60,000 acre-feet of water at a site west of U.S. 27, the A-1 Flow Equalization Basin (FEB) is designed to capture and store peak stormwater flows during the wet season or heavy rainfall events. Along with providing significant storage, emergent vegetation such as bulrush and cattail planted within the site will help reduce the concentration of phosphorus in the water.

A system of 21 miles of earthen levees and 15 water control structures will allow water managers to move water south for treatment. This provides the steady flow necessary to optimize the performance of Stormwater Treatment Areas (STAs) 2 and 3/4 just to the south at the Palm Beach/Broward county line.

Stormwater Treatment Areas are constructed wetlands that serve as the water-cleaning workhorses of Everglades restoration, using both emergent and submerged aquatic vegetation such as hydrilla to naturally remove nutrients from the water that eventually flows to Everglades National Park.

The District operates a network of five STAs south of Lake Okeechobee with an effective treatment area of 57,000 acres. Since 1994, the treatment areas have retained more than 1,700 metric tons of total phosphorus that would have otherwise entered the Everglades.

The A-1 FEB will utilize significant work already completed at the site for a reservoir originally planned to provide deep water storage, known as the Everglades Agricultural Area (EAA) Reservoir. All of the material excavated for the reservoir will be utilized to build new levees, and existing canals have been incorporated into the new plan.

Restoration Strategies

In June 2012, the State of Florida and the U.S. Environmental Protection Agency reached a consensus on new strategies for improving water quality in America's Everglades.

Based on months of scientific and technical discussions, these strategies will expand water quality improvement projects to achieve the ultralow phosphorus water quality standard established for the Everglades.

Key features of the plan include:

- Design and construction of 116,000 acre-feet of additional storage adjacent to existing Everglades STAs, better controlling water flow into the treatment wetlands and thereby improving their performance. These storage areas, known as Flow Equalization Basins, will be designed to assist all five Everglades STAs.
- Design and construction of the STA-1 West expansion, increasing by 50 percent the treatment capacity of water quality facilities currently discharging into the Arthur R. Marshall Loxahatchee National Wildlife Refuge.
- Additional sub-regional source controls in areas of the eastern EAA where phosphorus levels in runoff have been historically higher, building on the District's existing Best Management Practices (BMPs) Regulatory Program.

For more information, see:

- [Improving Water Quality](#)
- [Restoration Strategies for Clean Water for the Everglades](#)
- [BMPs and Source Controls](#)

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SFWMD Approves Acquisition to Restore Loxahatchee River Flows

Mecca Farms property provides a direct source of fresh water for the river



The South Florida Water Management District (SFWMD) in October approved the acquisition from Palm Beach County of a key piece of property that will help provide vital freshwater flows to the federally designated "Wild and Scenic" Loxahatchee River.

Located on 1,800 acres west of the Beeline Highway, the Mecca Farms parcel will become a shallow-water storage area capable of sending water directly to the unique riverine ecosystem of mangroves, cypress trees, oysters and seagrasses teeming with life.

"Freshwater flows are the lifeblood of this extraordinary river," said SFWMD Executive Director Blake Guillory. "By working with Palm Beach County, we have secured a long-term source of water that will help ensure the future health of the wild and scenic Loxahatchee."

Significant components of the plan include:

- A \$26 million investment from the Save Our Everglades Trust Fund for the District to purchase the property
- Conveyance of 150 acres of the property to the Florida Fish and Wildlife Conservation Commission (FWC) for an Olympic-quality, state-owned shooting range to provide a public recreation benefit
- An option for the County to repurchase approximately 98.56 acres as needed for a new extension alignment of Seminole-Pratt Whitney Road

Project Detail and Ecological Benefits

Following a closing on the property, the District will begin work to design and construct a system of pump stations to move water onto the site and earthen embankments capable of holding water up to 4 feet deep, providing 7,200 acre-feet of storage.

Control structures will allow for the gravity flow of water east through the C-18 Canal and into the Northwest Fork of the river.

This flow will provide significant environmental benefits, including:

- Supplementing water flow to the river during the dry season to meet its minimum flows and levels, which are defined as the minimum water levels and/or flows required to prevent significant harm to the water resources.
- Helping to prevent saltwater intrusion in the lower reaches of the Loxahatchee. This keeps mangroves from encroaching on the cypress slough portion of the river.
- Repurposing the L-8 Reservoir, originally slated to provide water for the Loxahatchee, to serve as a key component of the Governor's Restoration Strategies plan to improve water quality in the Everglades.

Loxahatchee History

On May 17, 1985, 7.6 miles of the Northwest Fork of the Loxahatchee River were designated as a national Wild and Scenic River. Under the National Wild and Scenic River Act of 1968, free-flowing rivers with outstanding scenic, recreational, fish and wildlife, historic and cultural values are designated for preservation for the enjoyment and benefit of present and future generations.

The Northwest Fork of the Loxahatchee River — from Riverbend Park in Jupiter downstream to Jonathan Dickinson State Park in Martin County — was the first river in Florida to receive such a designation.

Since 1985, the SFWMD has acquired more than 20,000 acres of land in the river corridor and tributary watersheds for preservation and restoration. Through the Loxahatchee River Preservation Initiative, numerous agencies and local governments have worked together on 65 habitat and water quality restoration projects, most of which have been completed. Nearly \$18 million in legislative appropriations have been matched by more than \$23 million in local funds to accomplish this work.

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South Florida Water Levels Are Well Positioned for the Dry Season Start

National Weather Service outlook is for drier-than-normal conditions

Following an above-average wet season, South Florida water levels are positioned to handle a drier-than-average start to the dry season, officials announced on Oct. 18 at a joint briefing by the South Florida Water Management District (SFWMD) and the National Weather Service (NWS).

"Above-average wet season rainfall provided South Florida with some insurance going into the driest months of the year," said Susan Sylvester, SFWMD Chief of the Water Control Operations Bureau. "We remain mindful, however, that a sustained period of below-average dry season rainfall can have a significant impact on water levels."



The National Oceanic and Atmospheric Administration's Climate Prediction Center forecast calls for drier-than-normal conditions. The absence of an El Niño or La Niña, however, creates a higher level of uncertainty in the forecast, according to the NWS.

Among the official forecast highlights for the 2013-2014 South Florida dry season:

- Below-normal precipitation
- A possibility of near to slightly above-normal temperatures
- Precipitation in an average dry season: 12 to 15 inches in the interior/west to 15 to 21 inches in the east

Entering the dry season, Water Conservation Areas 2 and 3 in Broward and Miami-Dade counties remain above normal, while Water Conservation Area 1 in Palm Beach County is slightly below normal. Overall, water levels across South Florida are at or near their targets for this time of year, with regulation schedules designed to reflect that the hurricane season does not officially end until Nov. 30.

Wet Season Update

South Florida's 2013 wet season produced above-average rainfall in the entire 16-county District, from Orlando to the Florida Keys. District-wide, an average of 39.03 inches of rain, or 6.42 inches above the average, fell between May 19 and Oct. 9. This time period reflects the start and end of the daily sea breeze cycle that characterizes the wet season.

This year's summer season produced several notable numbers:

- Wettest July since 2001
- Wettest June since 2005
- Combination of late May through July months led to the wettest start to the wet season since 1968
- Wettest April-through-July period on record in South Florida since 1932
- Wettest April-through-September period District-wide since 1960
- Tropical Storm Andrea in June produced 3.1 inches of rain District-wide — about as much rain as the District receives in an average year from tropical activity

The Kissimmee and Southwest Coast regions experienced the largest rainfall totals, ranging from 9.63 inches above-average in Lee and Collier counties to 18.61 inches above-average in Highlands and Okeechobee counties. Florida's east coast ranged from 3.82 inches above-average in Martin and St. Lucie counties to 4.34 inches and 5.88 inches above average in Palm Beach and Broward counties, respectively.

Miami-Dade County received the least amount of rainfall in populated areas during the wet season, with 1.44 inches above average.

Lake Okeechobee, which stood at 15.26 feet on Oct. 31, received 34.65 inches of rain during the wet season, representing 126 percent of average or 7.14 inches above average. The Everglades Agricultural Area received 36.30 inches of rainfall, representing 120 percent of average or 6.01 inches above average.

Some highlights of South Florida's recent weather roller coaster include:

- **Normal:** Florida receives an average of 52 inches of rainfall a year, with 70 percent falling during the five-month wet season from approximately June through October.
- **Wet Conditions:** The 2013 wet season produced the wettest start to the wet season since 1968 and the wettest April-through-July period on record in South Florida since 1932.
- **Record Wet Conditions:** Tropical Storm Isaac in late August 2012 proved to be a 1-in-100 year storm event.
- **Record Dry Conditions:** January 2012 was the driest January in the agency's 16-county region since recordkeeping began in 1932.
- **Record Dry Conditions:** The 2011 wet season saw one of its latest starts in 20 years following the driest October-to-mid-June period on record.
- **Record Wet Conditions:** In 2009, the sea breeze cycle ushered in the wet season in May. With 9.04 inches of rain falling

across the District, May 2009 became the wettest May on record, according to District records dating back to 1932.

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SFWMD Invests in Projects to Promote Efficient Water Use

Funding partnerships for water conservation and alternative water supply provide benefits by diversifying South Florida's water supply



The South Florida Water Management District (SFWMD) has approved 14 funding partnerships for alternative water supply and water conservation projects in the coming year. The District will invest close to \$600,000 for these efforts through its Alternative Water Supply (AWS) Program and Water Savings Incentive Program (WaterSIP).

"Partnerships that support conservation efforts and alternative supplies are important in meeting South Florida's future water needs," said SFWMD Governing Board Chairman Daniel O'Keefe. "Because droughts and water shortages are always possible, we continuously seek out projects that protect this vital resource."

WaterSIP

Created 10 years ago, WaterSIP provides matching funds to public and private water providers or to large users to implement water-saving technologies. The District will provide funding assistance through WaterSIP to the following (estimated water savings in million

gallons per year in parentheses):

- **Broward County Natural Resources Planning and Management Division (on behalf of Broward Water Partnership):** High Efficiency Toilet Rebate Program (15.73 MGY)
- **Toho Water Authority:** High Efficiency Toilet Rebate Program (2.50 MGY)
- **Miami Dade Water and Sewer Department:** High Efficiency Toilet Rebate Program (10.59 MGY)
- **Florida Keys Aqueduct Authority:** High Efficiency Toilet Retrofit Rebate Program (3.00 MGY)
- **Broward County Water & Wastewater Services:** High Efficiency Toilet Rebate Program (5.35 MGY)
- **City of West Palm Beach:** High Efficiency Toilet Rebate Program (5.70 MGY)
- **City of Coral Springs:** Automatic Line Flushing Devices (5.50 MGY)
- **Palm Beach County Utilities:** Automatic Line Flushing Devices (6.24 MGY)
- **City of Delray Beach:** Automatic Line Flushing Devices (4.59 MGY)
- **Ramblewood East Condominium Association:** High Efficiency Toilet Rebate Program (1.47 MGY)
- **PGA Village Property Owners Association, Inc.:** Reserve Blvd Irrigation Upgrade Project (24.05 MGY)

In the first decade of the program, the District invested approximately \$4.6 million in 161 projects throughout the agency's 16-county region. These projects together have saved an estimated 2.67 billion gallons of water per year, or 7.3 million gallons of water per day.

Alternative Water Supply

From 1997 to 2013, the AWS Funding Program, in cooperation with the State of Florida, has invested more than \$190 million in 482 alternative water supply projects. To date, these projects have created 436 million gallons a day of water supply capacity, reducing reliance on freshwater sources.

The District is investing in the following alternative water supply projects:

- **City of St. Cloud:** Hickory Tree 24-inch Reclaimed Water Main Extension
- **City of Delray Beach:** Reclaimed Water System Area 12A Phase II
- **City of LaBelle:** 1.5 MGD Reverse Osmosis Membrane Plant, Phase 2

Alternative water sources diversify South Florida's water supply while reducing the region's dependence on traditional freshwater resources and improving a community's ability to withstand drought impacts. Examples of alternative water supplies include:

- Salt water and brackish water
- Reclaimed water
- Surface water captured during wet weather
- Sources made available through new storage
- Storm water (for consumptive use)

Development of alternative water supplies is an important component of the District's regional water supply plans. Updated every

five years, the plans create a framework for future water use decisions and establish strategies to meet future water demands.

More information on alternative water supplies in South Florida is available at www.sfwmd.gov/AWS. For more information on WaterSIP, please visit the District's [Water Conservation website](#).

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Big Cypress Basin Flood Control, Water Supply Projects Move Forward

Efforts also help to improve water quality and restore watersheds



The South Florida Water Management District (SFWMD) Governing Board recently approved the investment of \$3.3 million for projects located in the Big Cypress Basin that will enhance flood protection, improve water quality and expand alternative water supply. The Big Cypress Basin Board previously reviewed and recommended the projects for approval.

"The District is an ardent supporter of local communities in their efforts to improve flood protection and manage and protect vital water resources for residents," said Rick Barber, Big Cypress Basin Board chairman. "This latest investment will help this suite of projects move forward to achieve lasting benefits for communities in the Big Cypress Basin."

The funded projects and their locations include:

- **North Golden Gate Estates Flow-Way Restoration (Collier County)** – The project aims to restore remnant sloughs in the Winchester Head, Horsepen Strand and other wetlands impacted by roads, canals and residential developments. Restoration of these features will help convey surface water to key areas, ease the demand on the basin's canal system, reduce flows to Naples Bay and provide aquifer recharge for the public water supply.
- **Livingston Road Aquifer Storage and Recovery (ASR) Well Phase II (Collier County)** – Continued support of this project will help advance the long-term goal of enhancing alternative water supplies in the region. This ASR well will help conserve water by providing an expected 1 million gallons a day of reclaimed water. This reduces the demand on the potable water supply.
- **Swallow Avenue Drainage Improvements (Marco Island)** – The project will help alleviate severe flooding impacts to the area while also improving water quality. Work will include installation of reinforced concrete pipes and drainage structures along Swallow Avenue to collect runoff.
- **City of Naples Aquifer Storage and Recovery Well No. 3 (Naples)** - Support for this project will help the city continue construction of an ASR well field at the Riverside Circle location. The project includes four ASR wells, three monitoring wells and related evaluation work.
- **Reclaimed Water System Distribution Expansion (Naples)** – In another effort to enhance alternative water supply, the city will continue construction of its reclaimed water distribution system, which provides alternative water supply for irrigation instead of utilizing potable water. The work includes installation of approximately 17,000 linear feet of 12-inch and 8-inch reclaimed water main pipes.
- **28th Street Culvert Replacement (North Golden Gate Estates)** – This project will increase capacity to move storm water under the bridge, which is being rebuilt by Collier County.

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