#### The Florida Senate

#### **COMMITTEE MEETING EXPANDED AGENDA**

APPROPRIATIONS SUBCOMMITTEE ON AGRICULTURE, ENVIRONMENT AND GENERAL GOVERNMENT Senator Mayfield, Chair Senator Powell, Vice Chair

MEETING DATE: Wednesday, October 16, 2019

**TIME:** 1:30—3:00 p.m.

PLACE: Toni Jennings Committee Room, 110 Senate Building

MEMBERS: Senator Mayfield, Chair; Senator Powell, Vice Chair; Senators Albritton, Bean, Berman, Broxson,

Hooper, Hutson, Rodriguez, and Stewart

BILL DESCRIPTION and
TAB BILL NO. and INTRODUCER SENATE COMMITTEE ACTIONS COMMITTEE ACTION

Presentations on Completed and In-progress Water Protection and Restoration Projects by: Presented Northwest Florida Water Management District Suwannee River Water Management District St. Johns River Water Management District Southwest Florida Water Management District South Florida Water Management District South Florida Water Management District

Other Related Meeting Documents

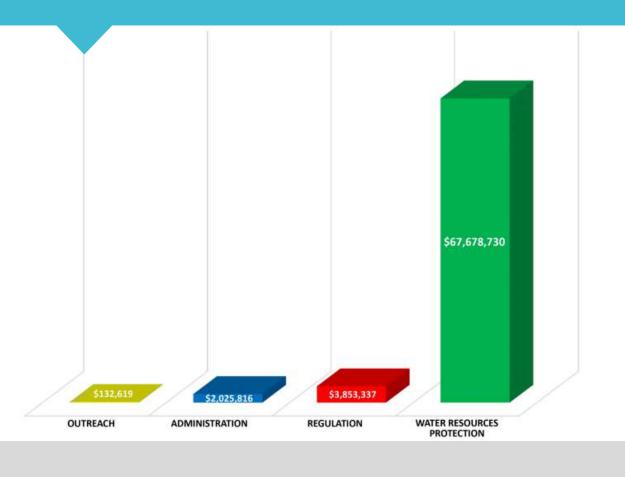
Northwest Florida Water Management District

October 16, 2019



#### **Not Just Another Permitting Agency**





FY 2019-2020 Tentative Budget (\$73.7 million)

#### Where's the \$68 million?





Northwest Florida Water Management District - 3

#### A Tale of Two Springs (and also another spring)







Jackson Blue Spring (Jackson County)

Wakulla Spring (Wakulla County)

#### Wakulla Spring

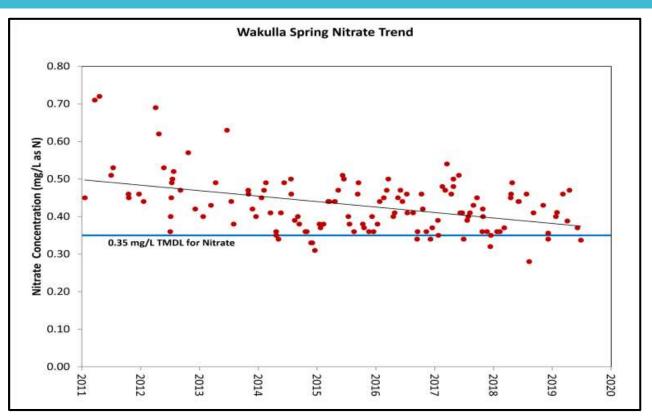


#### **BMAP**

Adopted June 2018

#### <u>MFL</u>

- Technical Assessment 2020
- Rule Adoption 2021



#### Wakulla Spring – \$63.6 million since 2013





- <u>Leon County Septic-to-Sewer Projects</u> (\$15.28 million)
- Woodside Heights Wastewater Retrofit Project
   90% complete
- Woodville Sewer System Project Phase I Design 30% complete
- Northeast Lake Munson Sewer System Project
   Design 60% complete
- Belair/Annawood Sewer System Project Design and permitting 100% complete
- Advanced Septic Systems Pilot Project Project work plan is being finalized
- Septic Connection to Existing Sewer in the Wakulla BMAP – 19% complete
- Projected Nutrient Reduction: 32,283 pounds/year Total Nitrogen

#### Wakulla Spring – \$63.6 million since 2013





- Wakulla County Septic-to-Sewer Projects (\$18.53 million)
- Magnolia Gardens Phase I & II Complete;
   Entering Phase III
- Wakulla Gardens Phase I Complete; Phase II 90% Complete; Additional Phases Planned
- Medart Bypass Complete
- Projected Nutrient Reduction: 9,921 pounds/year Total Nitrogen

#### Jackson Blue – Tale Number Two





#### **Jackson Blue Spring & Merritts Mill Pond**

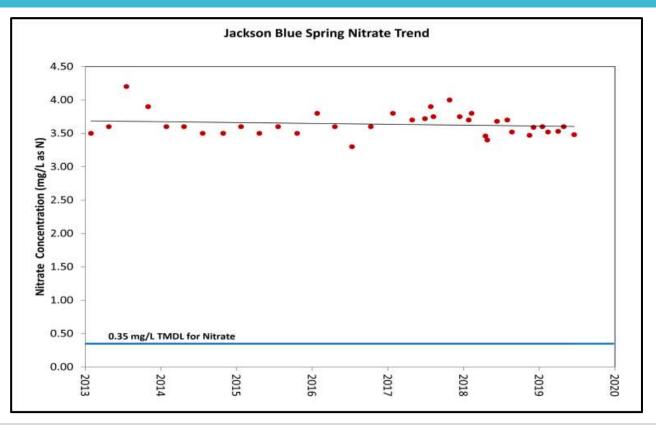


#### **BMAP**

Adopted June 2018

#### **MFL**

- Technical Assessment 2022
- Rule Adoption 2023



#### **Agricultural BMPs Program**









**Center Pivot Retrofit** 

Variable Rate Irrigation System

Flow Meter

- Total program funding (since 2013): \$9,857,597
- 87 projects | 61 producers | 28,346 acres
- 89 percent of irrigated acres within the Jackson Blue BMAP area reached

#### **Jackson Blue Spring**





- 7.99 million gallons of water saved each day in Jackson County
- 668,396 pounds reduction in nitrogen

#### **Jackson Blue Spring**





- Jackson County Septic-to-Sewer Projects (\$10.9 million)
- Indian Springs Sewer Extension Phase I 75% complete
- Indian Springs Sewer Extension Phase 2A Engineering design at 65% complete
- Blue Springs Road Sewer Project & Expansion Engineering design at 60% complete
- Malone High School Sanitary Sewer Connection Project – Complete
- Projected Nutrient Reductions:
   3,577 pounds/year Total Nitrogen

#### Williford Spring on Econfina Creek

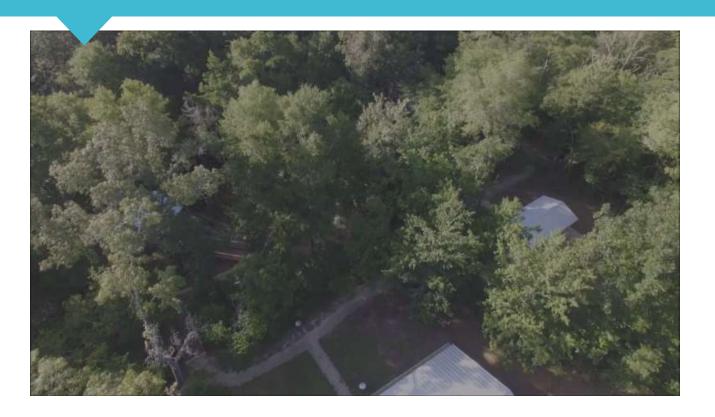




**BEFORE - 2011** 

#### Williford Spring on Econfina Creek





Williford Spring 2016
Total Project Cost: \$1.7 million



#### **QUESTIONS?**



## Suwannee River Water Management District

Senate Appropriations Subcommittee on Agriculture, Environment and General Government

Debbie Mayfield, Chair Bobby Powell, Vice Chair

Hugh Thomas, Executive Director

#### **District Overview**



- 7,640 square miles
- All or part of 15 counties
- 13 river basins
- 14 Outstanding Florida Sprin
- Population: 340,000

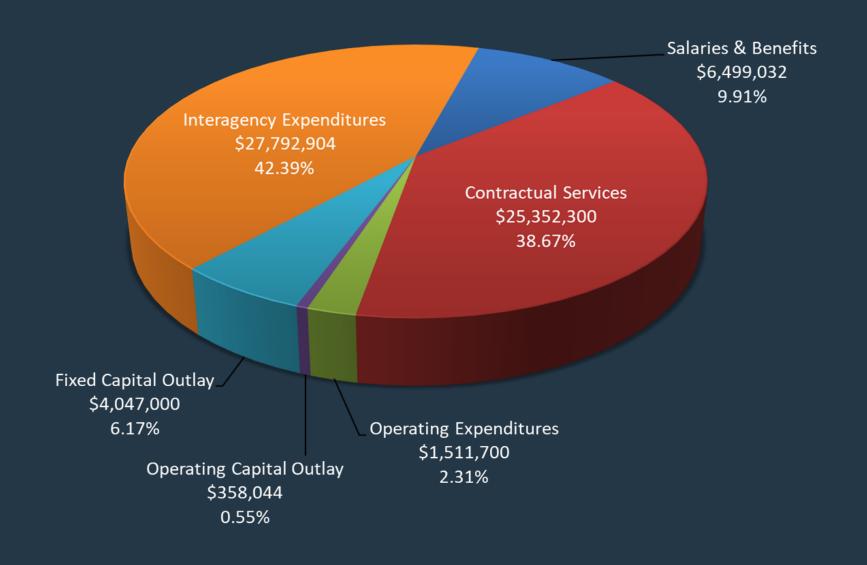
#### **Core Missions:**

- Water Supply
- Water Quality
- Flood Protection
- Natural Systems Restoration



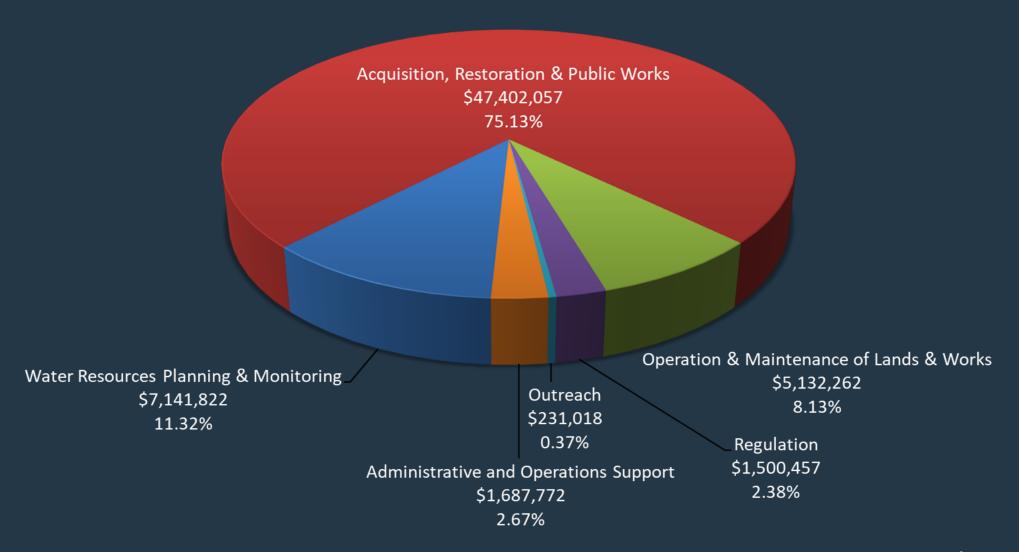
## Expenditure Budget FY 2019-20 \$65,650,980





#### **Expenditure Budget by Program**

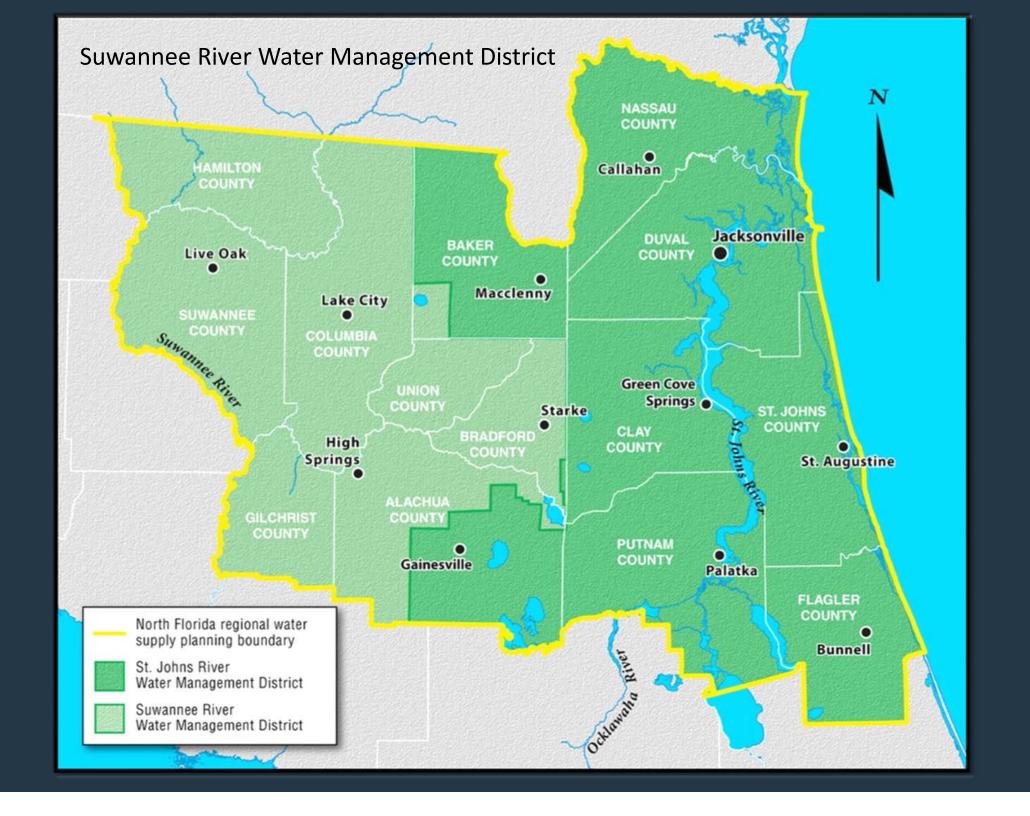


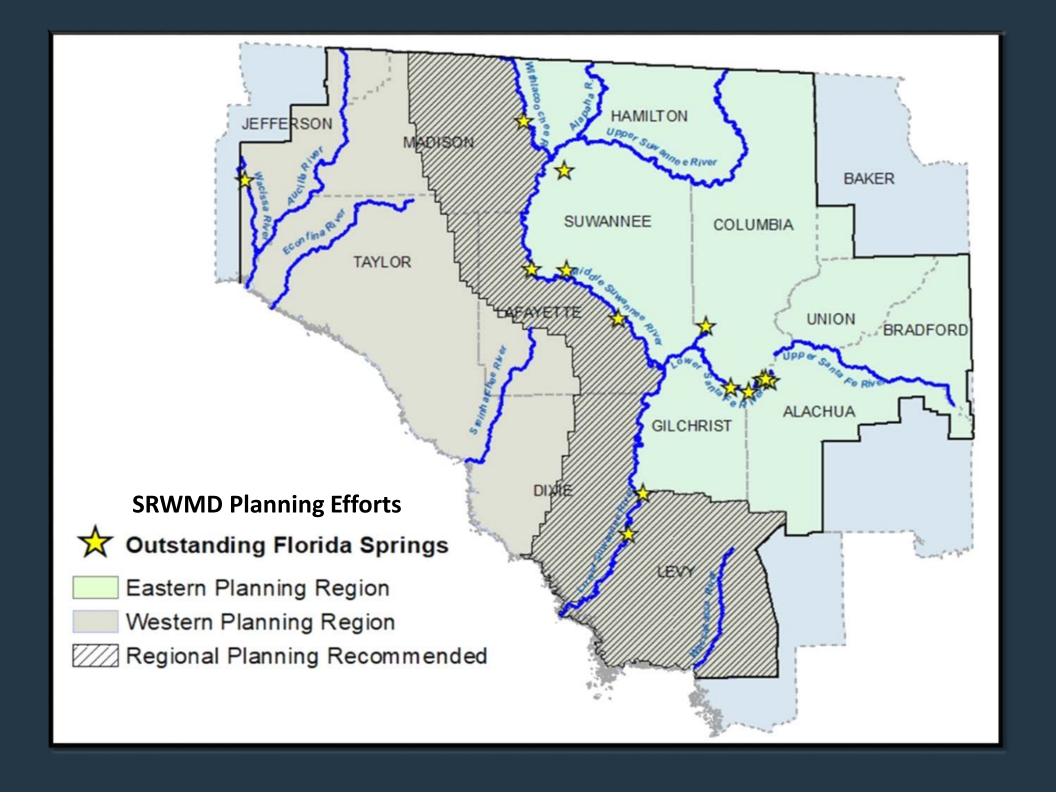


#### **Major Initiatives**



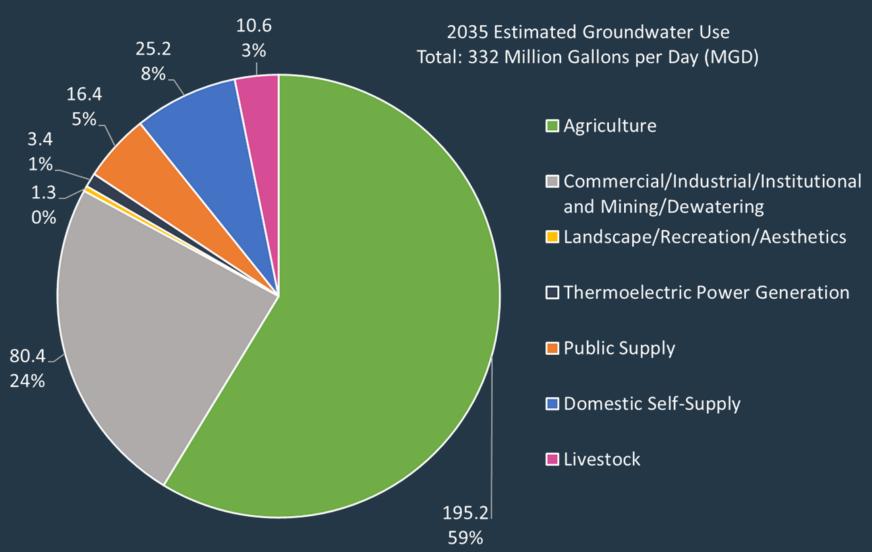
- Minimum Flows and Minimum Water Levels
- North Florida Regional Water Supply Plan
- Water Supply Planning
- Water Resource Development
- Water Quality Improvement
- Funding Initiatives:
  - Springs Restoration
  - Alternative Water Supplies
  - RIVER Cost-Share Program
  - Agricultural Cost-Share Program





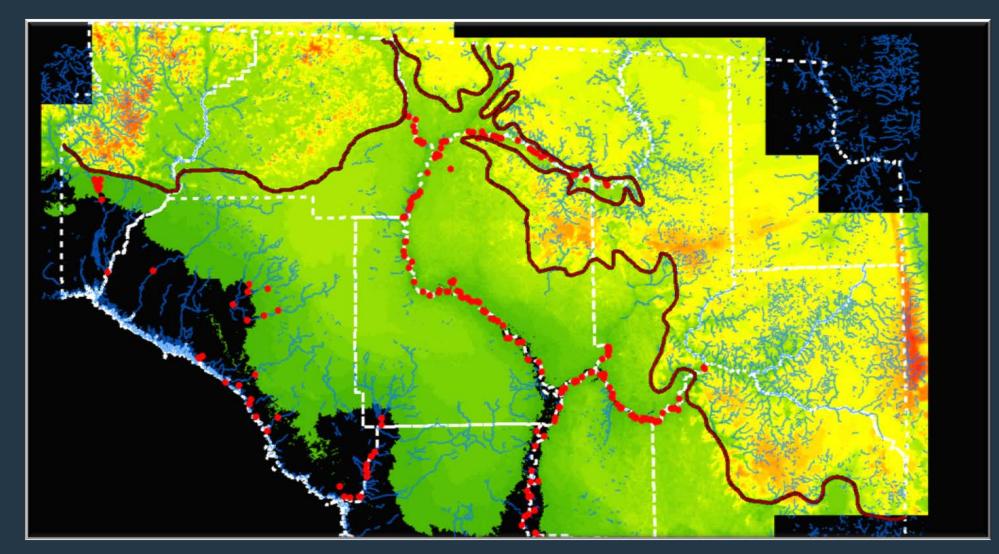
#### Projected District Groundwater Use





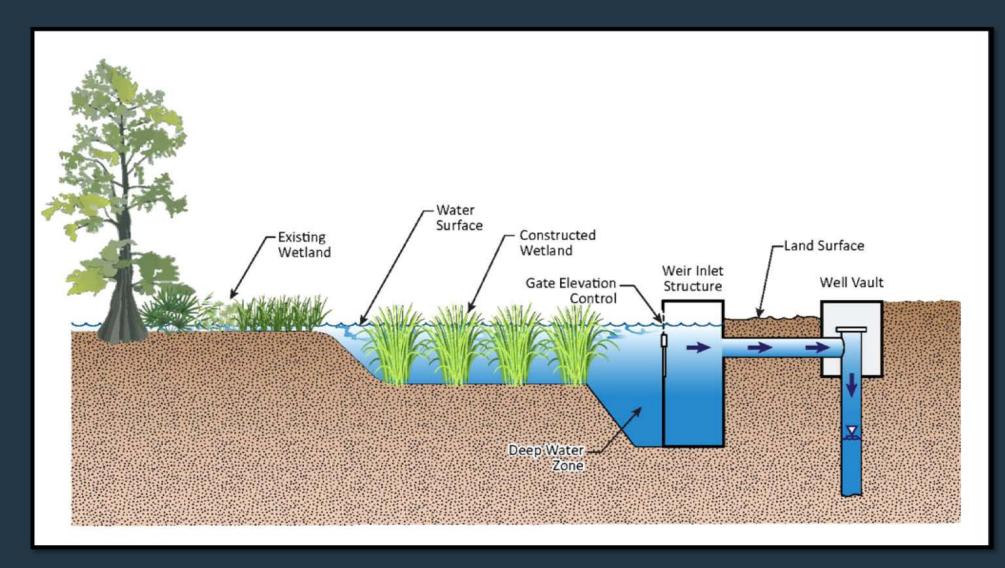
## **Upper Suwannee River Regional Aquifer Recharge Project**





#### **Gravity Recharge Well Concept**





#### Lake Francis Project: City of Madison



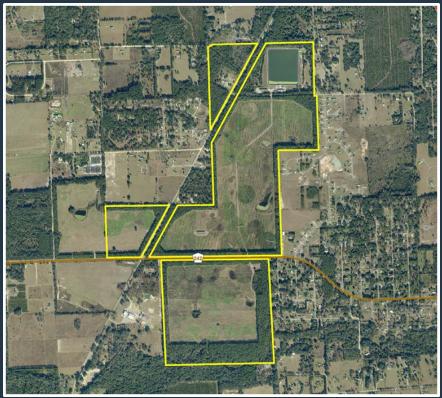




#### St. Margaret's Wastewater Treatment Facility – Lake City







#### **Bioreactor Project**

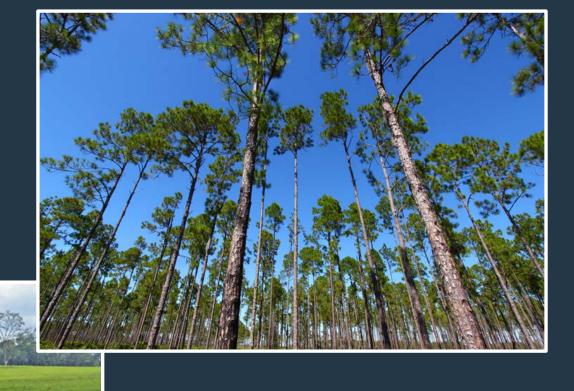




### Sustainable Suwannee Pilot Program



- Estimated Water
   Use Reduction: 5.1
   MGD
- Estimated Nutrient Reduction: 375,000





# Hugh Thomas Executive Director Hugh.Thomas@srwmd.or g

## St. Johns River Water Management District

Presentation to the Senate Appropriations Subcommittee on Agriculture, the Environment, and General Government



Ann B. Shortelle, Ph.D. Executive Director
Oct. 16, 2019



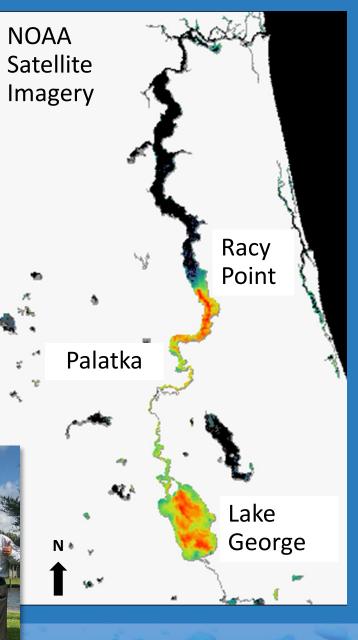
#### **Governor's Executive Order**

- Transparency and accountability
- Improve water quality
- Identify alternative water supplies



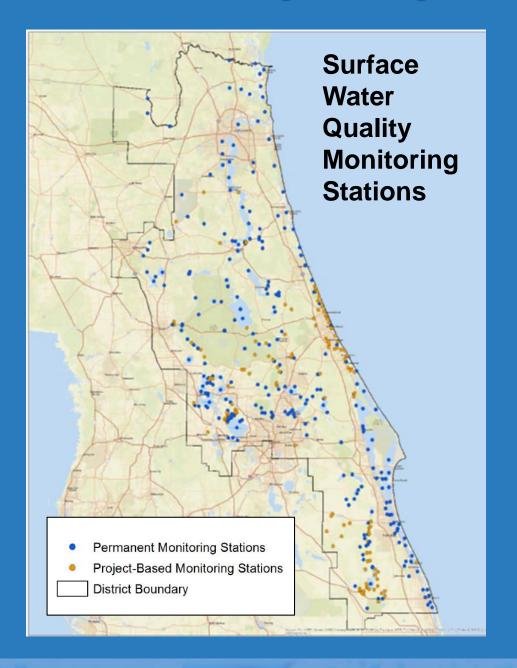


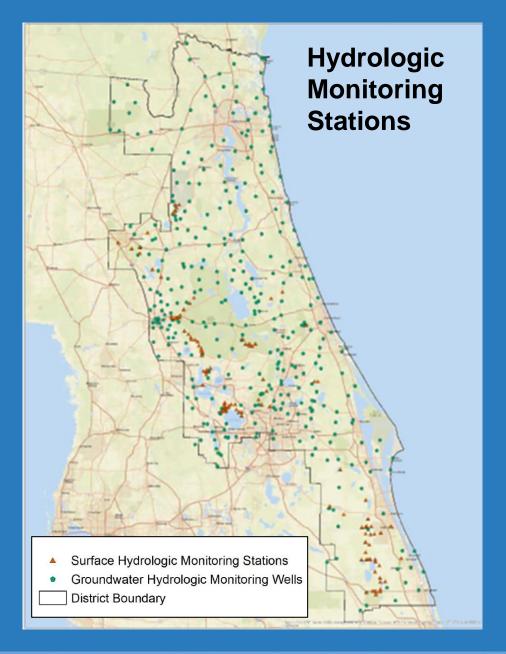
St. Johns River





#### Water Quality and Hydrologic Monitoring Locations





## St. Johns River / Indian River Lagoon Projects

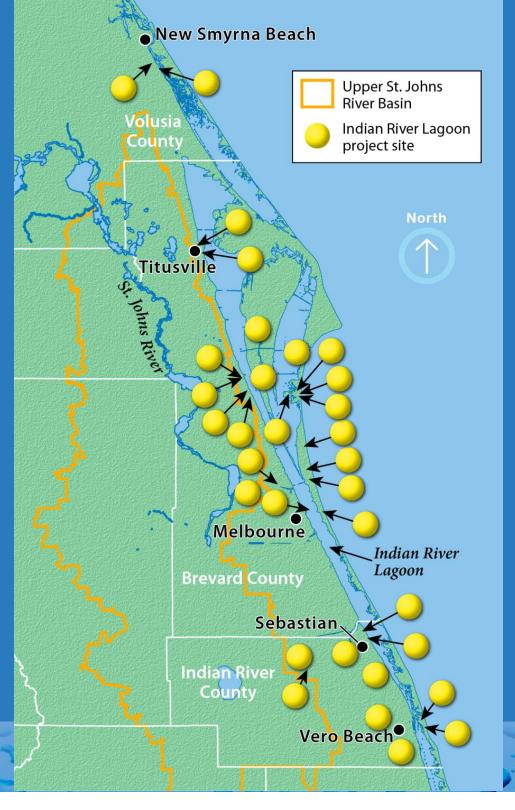












#### Lake Apopka Restoration







# District Lands, Land Acquisition Trust Fund









# SJRWMD Cost-Share

- Since FY 2014 to current fiscal year:
  - SJRWMD awarded \$138.8 million
  - \$481 million in construction costs
- Estimated benefits:
  - Alternative water supply: 157.3 million gallons per day (mgd)
  - Water conserved: 17.59 mgd
  - Total Nitrogen reduction: 1.9 million lbs/yr
  - Total Phosphorus reduction: 395,165 lbs/yr



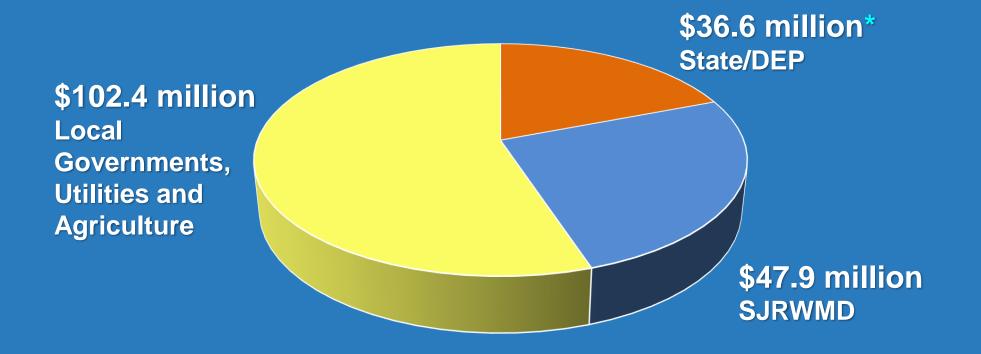






# SJRWMD Springs Cost-Share Program

(Fiscal years 2014–2020)



**Total investment = \$185.9 million** 



# Alternative Water Supply (AWS)

# **Lower Floridan Aquifer Wells Benefitting OFS Silver Springs**

- Non-traditional alternative water supply
- Listed in Silver Springs Prevention Strategy
- Estimated benefits:
  - 9 MGD flow restoration to Silver Springs
- Construction costs:
  - \$49 million (wells and treatment plant)











# Water Quality Efforts and Successes



Brian J. Armstrong, P.G.
Executive Director
Southwest Florida Water Management District

# **Areas of Responsibility**

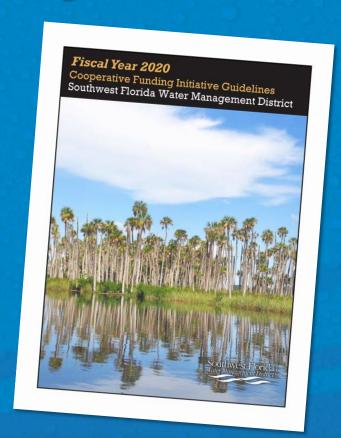


### **MISSION**

Protect Water
Resources
Meet Water Needs
Reduce Flood Risks

# Cooperative Funding Initiative

- Leverage District funds with local funds
- \$1.6 billion in District funding since 1988
- \$3.2 billion combined regional investment



# Water Quality Funding

- \$300 million in District funding since 2002
- \$500 million combined regional investment
- 400 water quality improvement projects
- 215,000 acres of watershed treated



Clam Bayou, St. Petersburg and Gulfport

#### SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## **SWIM Plans**



#### SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

# **SWIM Habitat Restoration Projects**

13,572 Total Acres Restored

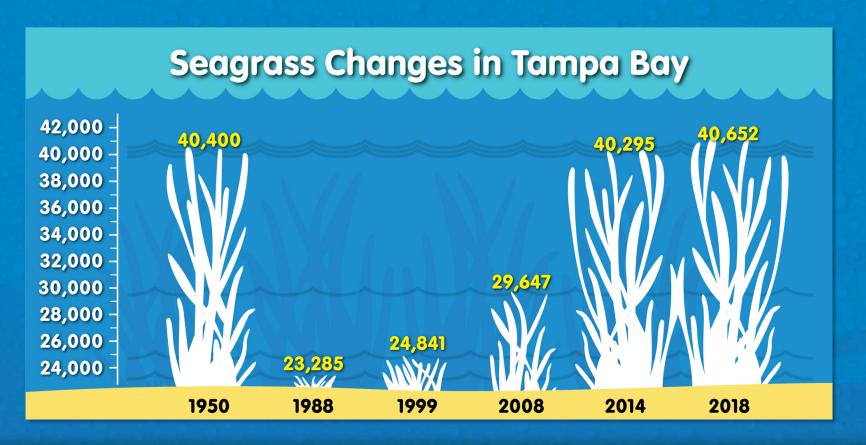


# Clam Bayou Habitat Restoration and Stormwater Treatment Project

- Completed in 2012
- 2,400-acre highly urbanized watershed
- Estimated 5,700 pounds of nitrogen removed per year
- \$6 million cost
- US EPA grant, State SWIM
   & District ad valorem



# Tampa Bay Seagrass Success Story



# **National Estuary Program Support**









# First-Magnitude Springs SWIM Plans



- Defines issues & drivers
- Sets quantifiable objectives
- Develops management actions
- Establishes priority projects & initiatives

#### SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

# **Springs Coast Steering Committee**



















Steering Committee

**Management Committee** 

Technical Working Group



# First-Magnitude Springs Projects

(Since 2005)

- 38 projects
- \$50.2 million total
  - \$17.3 million District
  - \$32.9 state and local







# Three Sisters Springs Wetland Treatment Project



- Completed in 2016
- Six-acre wetland
- Restored one acre of hydric hammock
- Treats nutrients and pollutants from 100+ acres
- \$640,000 cost
- District ad valorem

### **DEP BMAPs**

### 2016 Florida Springs and Aquifer Protection Act

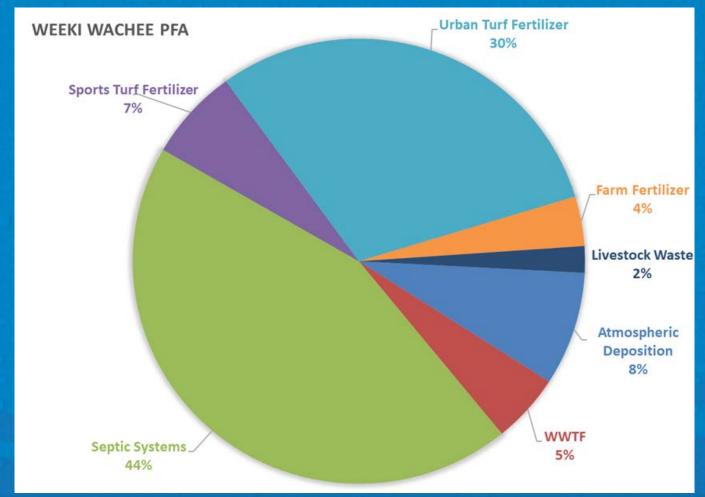
- Impaired OFS BMAPs Adopted July 1, 2018
- Delineate Priority Focus Area (PFA)
- Fertilizer Ordinance for all local governments
- Agricultural BMPs

### **Springs Coast BMAPs**

- OSTDS remediation plan PFA requirements:
  - -No new conventional septic tanks on lots < 1 acre
  - -Eliminate or retrofit all conventional septic tanks (20 years)

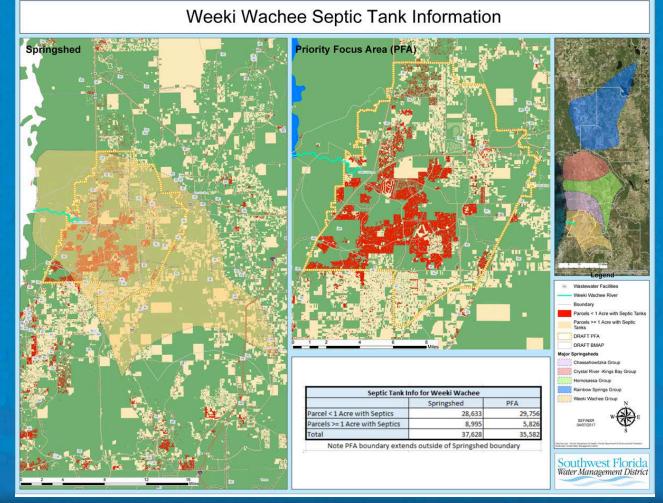
#### SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

# Septic to Sewer



#### SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

# Septic to Sewer



## **Septic to Sewer Initiative**

- District Cooperative Funding Initiative
  - 7 Projects
  - \$39 million total cost
- Controls
  - Must be in a PFA
  - Funding 50% DEP, 25% District, 25% Cooperator
  - Ordinances
  - Payback clauses

## **Data Collection and Analysis**



- \$1.7 million a year collecting and analyzing water quality data
- 20 water quality monitoring networks
- 893 water quality stations
- 2,630 samples collected annually
- 57,943 lab analyses performed annually

# Quality of Water Improvement Program (QWIP)

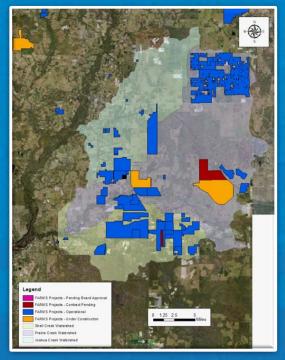
- Funding assistance to plug abandoned or deteriorating artesian wells:
  - 200 wells annually
  - 5,700 wells over the last 25 years
  - \$440,000 annually





# Facilitating Agricultural Resource Management Systems (FARMS)

- Shell, Prairie and Joshua Creek Priority Area
  - 72 projects
  - \$27.3 million total project costs
  - \$17.7 million District reimbursed costs
  - 11.77 MGD estimated groundwater offset

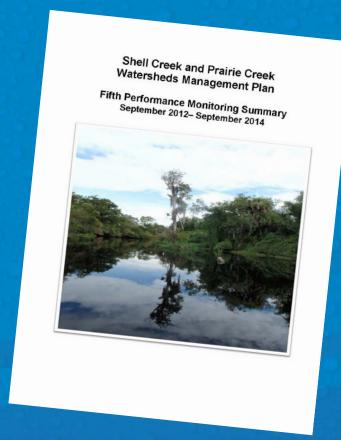




#### SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

### **Prairie Creek Success**

- Addressed TMDL impairments
- FARMS and QWIP BMPs
- DEP delisted as impaired in 2015
- \$47 million from state, local and federal agencies



# Other FARMS Water Quality Projects

- Springs Area:
  - Dairy
  - Blueberry Farm
  - Equine Manure Compost Facility Pilot Project
- Investigating nutrient reduction through alternative water supply reservoirs





# **Comments**and Questions



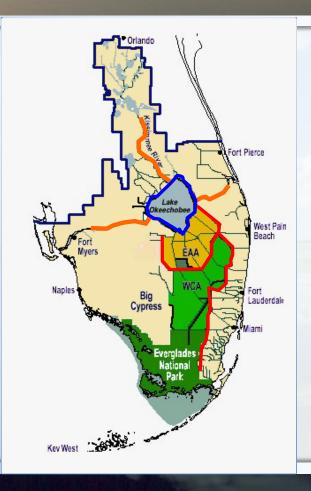
# South Florida Water Management District

Drew Bartlett
Executive Director
South Florida Water Management District



## Major Features of South Florida's Water System

- River Channelization
- Herbert Hoover Dike
- Water Conservation Areas
- Protective Levees
  - Everglades Agricultural Area
  - Lower East Coast
- Drainage Network
  - Regional Canals
  - Salinity Structures
- Today's expanded system includes:
  - 16 Counties (8.7 million people)
  - 2,100 miles of canals
  - 2,800 miles of levees
  - 657 Water Control Structures
  - 600+ Culverts
  - 77 Pump Stations
  - Approximately 1.5 Million Acres of District Owned Land



# C&SF Dramatically Impacted Lake Okeechobee, Estuaries and Entire Everglades

- C&SF eliminated much of the historic floodplain storage
- > Altered estuaries
- Disruption in conditions of water flow
- Water quality impacts
- ➤ 68 Federally-listed threatened and endangered species



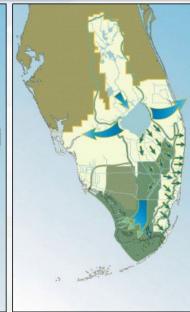
Blue-green algae in estuary



Everglade snail kite



Historic Everglades Flow



Current Everglades Flow



Restored Everglades Flow

# **Governor DeSantis' Priority**Restoration Projects



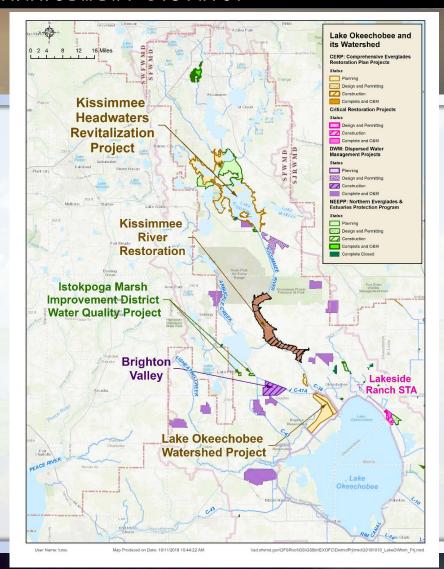
➤ SFWMD is working with its partners and under the leadership of Gov. DeSantis to expedite the completion of all these priority projects identified in Executive Order 19-12 to restore and protect South Florida's environment and water resources



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# Lake Okeechobee and Its Watershed

- Kissimmee River Restoration
  - USACE expects to complete construction by 2021
  - Upper Kissimmee Chain of Lakes operations updates complete by 2022
- Lake Okeechobee Watershed Restoration Project
  - Tentatively selected plan including shallow above-ground storage, Aquifer Storage and Recovery Wells and wetland features to restore Lake Okeechobee watershed and improve ecology of lake
- Dispersed Water Management partnerships with private landowners such as Brighton Valley improve water quality
- Lakeside Ranch STA will be complete next year, improve water quality flowing into lake

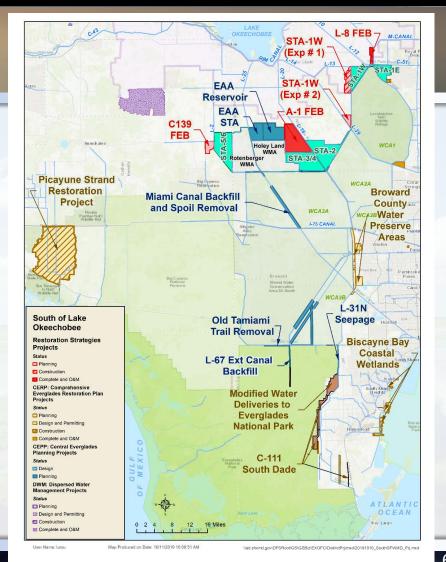


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### South of Lake Okeechobee

- Dozens of projects underway to restore the quality and flow to the Southern Everglades
- > Everglades Agricultural Area Reservoir
  - SFWMD submitted permit application for EAA Reservoir's Stormwater Treatment Area (STA) in August
  - District hopes to start STA construction this year
- Restoration Strategies
  - Storage complete
  - STA expansion underway
- > Tamiami Trail
  - 1-mile and 2.6-mile bridges elevating road completed
  - Remainder of road removal fully funded
  - Removal of Old Tamiami Trail begins next year
- > C-111 South Dade Project
  - Repairs by USACE nearly complete



### Caloosahatchee Watershed

For Caloosahatchee River and Estuary, the C-43 Storage Reservoir will hold 170,000 acre-feet of water

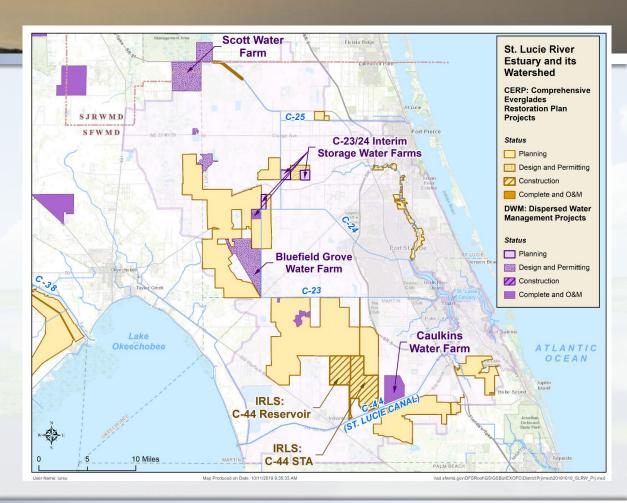
- Reduces the need for releases in the wet season
- Provides fresh water the estuary needs in the dry season
- Will be completed by 2023
- ➤ First phase of the Lake Hicpochee
  Hydrologic Enhancement complete
  - Provide shallow storage benefitting the Caloosahatchee Estuary
  - Improves water quality and habitat
  - Land for second phase acquired



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### St. Lucie Estuary Watershed

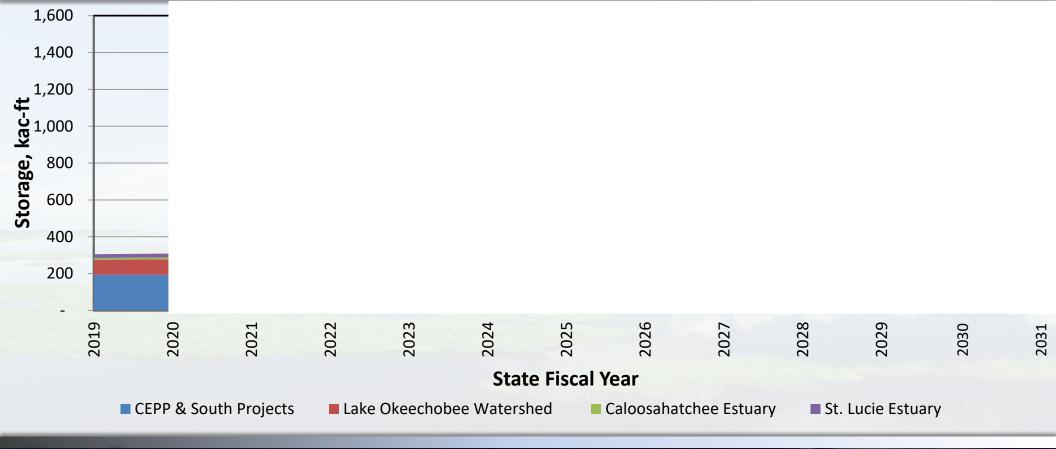
- C-44 Reservoir and Stormwater Treatment Area
  - Will store about 60,000 acre-feet of local runoff and releases from Lake Okeechobee
  - SFWMD will complete the STA portion of the project soon and start using it to improve the water quality
    - SFWMD will start pumping water into the first cell this month
  - USACE completing reservoir by next year
- Caulkins Water Farm
  - Completed and is operating
  - Storing thousands of acre-feet of water ever year from the C-44 watershed and Lake Okeechobee
  - Reducing the need for damaging releases to the estuary
  - Similar water farm partnership projects in development which will store local basin runoff



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# Estimated Annual Storage Capacity by Region



sfwmd.gov 9



Southwest Florida Water Management District's

# Water Quality Efforts



#### \$300 Million in Projects

Since 2002

the District has invested more than

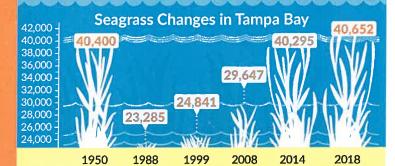
\$300 million to fund more than

water quality improvement projects.

District funds are often leveraged with local government contributions through the Cooperative Funding Initiative for a total investment in water quality projects within our District of more than \$500 million, providing water quality treatment for more than 215,000 acres of watershed.

#### Tampa Bay Seagrass Success Story

Since 1988, the District has been mapping seagrass habitat from Tampa Bay south. In 2014, the amount of seagrass surpassed the recovery goal of 38,000 acres.



#### Support of National **Estuary Programs**

The District works closely with the three National Estuary Programs in our region -Tampa Bay, Sarasota Bay and Charlotte Harbor providing financial support and partnering on natural systems and water quality improvement projects and planning efforts.

#### Regional **Springs Approach**

All five first-magnitude springs in the District are identified as priority water bodies in the District's Surface Water Improvement and Management (SWIM) Program. The District established the Springs Coast Steering Committee in August 2014. The SWIM plans for springs were developed collaboratively uniting a variety of public and private stakeholders in a regional approach.

#### **Quality of Water Improvement Program**

In the last 25 years, the District has helped plug nearly 5,700 abandoned or deteriorating artesian wells, at a rate of slightly more than 200 per year, spending approximately \$440,000 annually. As a result of QWIP BMPs, Prairie Creek was delisted as impaired by DEP in 2015.

#### **Data Collection and Analysis**

The District spends nearly \$2 million a year on an extensive program collecting and analyzing water quality data.

9 Long-term water quality monitoring networks 11 Project-related water quality monitoring networks \*2,630 Discrete samples collected

(1,250 Groundwater/1,380 Surface Water) \*57.943 Individual analyses performed in the lab Continuous real-time springs & MFL \*78.840

measurement sets collected WQMP sample collection budget \*\$973,000 \*\$811,000 Lab analysis budget

#### **Protecting Water Quality Through Regulation** The District's three permitting programs help protect water quality. The Environmental Resource Permitting Program requires new development to treat stormwater runoff before it discharges off-site. The Water Use Permitting Program requires

Rainbow

Crystal River/ Kings Bay

CITRUS

Homosassa

Springs

Chassahowitzka Springs

HERNANDO

Weeki

Springs

PASCO

LEVY

MARION

permittees to demonstrate that their withdrawals will not harm the water resources, including not inducing saltwater intrusion which would harm water quality.

The Well Construction Program requires wells to be constructed properly to not waste water and to reduce the risk of cross-aquifer contamination.



#### APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

10-16-19			
Meeting Date			Bill Number (if applicable)
Topic Water Protection and Re	storation Projects by	y WMD's	Amendment Barcode (if applicable)
Name Brett J. Cyphers			
Job Title Executive Director			
Address 81 Water Managemen	t Dr.		Phone 850-539-5999
Street Havana	FL	32333	Email brett.cyphers@nwfwater.com
City	State	Zip	
Speaking: For Against	Information		peaking: In Support Against r will read this information into the record.)
Representing Northwest Flo	orida Water Manage	ment District	
Appearing at request of Chair:	✓ Yes  No	Lobbyist registe	ered with Legislature: Yes No
While it is a Senate tradition to encour meeting. Those who do speak may be			persons wishing to speak to be heard at this persons as possible can be heard.
This form is part of the public recor	d for this meeting		S-001 (10/14/14)

#### APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

Meeting Date	Bill Number (if applicable)
Topic Water quality presentation  Name Hugh Thomas	Amendment Barcode (if applicable)
Job Title Executive Director	
Address 9005 CL 49	Phone 380-302-1001
Speaking: For Against Information Waive Sp	eaking: In Support Against will read this information into the record.)
Representing Synannee River Water Mgt. D	istict
Appearing at request of Chair:  No Lobbyist register	ered with Legislature: Yes Wo

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

This form is part of the public record for this meeting.

S-001 (10/14/14)

### APPEARANCE RECORD

Meeting Date (Deliver BOTH copies of this form to the Senator of Senate Professional S	Bill Number (if applicable)
Topic <u>STRWMD-budge</u> & projects  Name <u>Ann B. Skortelle</u>	Amendment Barcode (if applicable)
Job Title Executive Director	
Address 4049 Reid 54.	Phone <u>386 - 329-4104</u>
Pulutka FL 32177 City State Zip	Email ashortelles sirund.com
	Speaking: In Support Against air will read this information into the record.)
Representing 5TRWMD	
	tered with Legislature: Yes No
While it is a Senate tradition to encourage public testimony, time may not permit all meeting. Those who do speak may be asked to limit their remarks so that as many	
This form is part of the public record for this meeting.	S-001 (10/14/14)

#### APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

Meeting Date	Bill Number (if applicable)
Topic Water Quality Presentation	Amendment Barcode (if applicable)
Name Brian Armstrong	
Job Title Executive Director	
Address 2379 Broad Street	Phone 352-796-721
Brockville FL 346	04 Email brian, armstrong a
	Water Nothers org Waive Speaking: In Support Against (The Chair will read this information into the record.)
Representing Southwest Florida Water	Management District
Appearing at request of Chair: Yes No Lobbyis	st registered with Legislature: Yes No

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S-001 (10/14/14)

#### **CourtSmart Tag Report**

Room: EL 110 Case No.: Type: Caption: Subcommittee on Agriculture, Environment, and General Government Judge: Started: 10/16/2019 1:32:41 PM Ends: 10/16/2019 2:58:31 PM Length: 01:25:51 1:32:40 PM Sen. Mayfield (Chair) 1:34:50 PM TAB 1 - Presentations on Completed and In-progress Water Protection and Restoration Projects 1:35:02 PM Brett J. Cyphers, Executive Director, Northwest Florida Water Management District 1:49:06 PM Sen. Broxson 1:49:47 PM B. Cyphers 1:51:16 PM Sen. Mayfield 1:51:47 PM B. Cyphers 1:52:54 PM Sen. Mayfield 1:52:58 PM B. Cyphers 1:53:22 PM Sen. Mayfield 1:53:45 PM Hugh Thomas, Executive Director, Suwannee River Water Management District Sen. Mayfield 2:15:42 PM H. Thomas 2:16:07 PM 2:16:14 PM Sen. Mayfield 2:16:19 PM B. Cyphers 2:16:28 PM Sen. Mayfield 2:16:35 PM H. Thomas 2:16:53 PM Sen. Mayfield H. Thomas 2:16:59 PM Sen. Mayfield 2:17:20 PM 2:17:48 PM H. Thomas 2:17:58 PM Sen. Mayfield Sen. Rodriguez 2:18:03 PM 2:18:21 PM H. Thomas 2:20:32 PM Sen. Mavfield 2:20:51 PM Ann B. Shortelle, Ph.D., Executive Director, St. Johns River Water Management District 2:34:51 PM Sen. Albritton 2:35:26 PM A. Shortelle 2:36:41 PM Sen. Albritton 2:37:19 PM A. Shortelle 2:37:35 PM Sen. Stewart 2:37:51 PM A. Shortelle 2:38:33 PM Sen. Mayfield Brian Armstrong, Executive Director, Southwest Florida Water Management District 2:38:39 PM Sen. Mayfield 2:39:50 PM 2:40:21 PM B. Armstrong 2:50:48 PM Sen. Powell 2:51:12 PM B. Armstrong 2:51:36 PM Sen. Powell 2:51:54 PM B. Armstrong 2:52:18 PM Sen. Powell 2:52:49 PM B. Armstrong Sen. Powell 2:53:09 PM 2:53:27 PM B. Armstrong 2:53:48 PM Sen. Hooper

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2:57:42 PM

B. Armstrong

Sen. Albritton

B. Armstrong

Sen. Broxson

B. Armstrong

Sen. Mayfield