# LA-FL Regional Watershed Management Webinar

March 31, 2021

Louisiana Office of Community Development

St. Johns River Water Management District

LOUISIANA WATERSHED INITIATIVE

working together for sustainability and resilience

# AGENDA

## 1. Introduction

**Pat Forbes**, Executive Director
Louisiana Office of Community Development

## 2. St. Johns River Water Management District

*Presenters:*

**Marc von Canal**
Environmental Resource Program Manager
Division of Regulatory Services

**Cammie Dewey**
Environmental Resource Program Manager
Bureau of Environmental Resource Permitting

*Participants:*

**Abby Johnson**
Intergovernmental Coordinator
Government Affairs Division

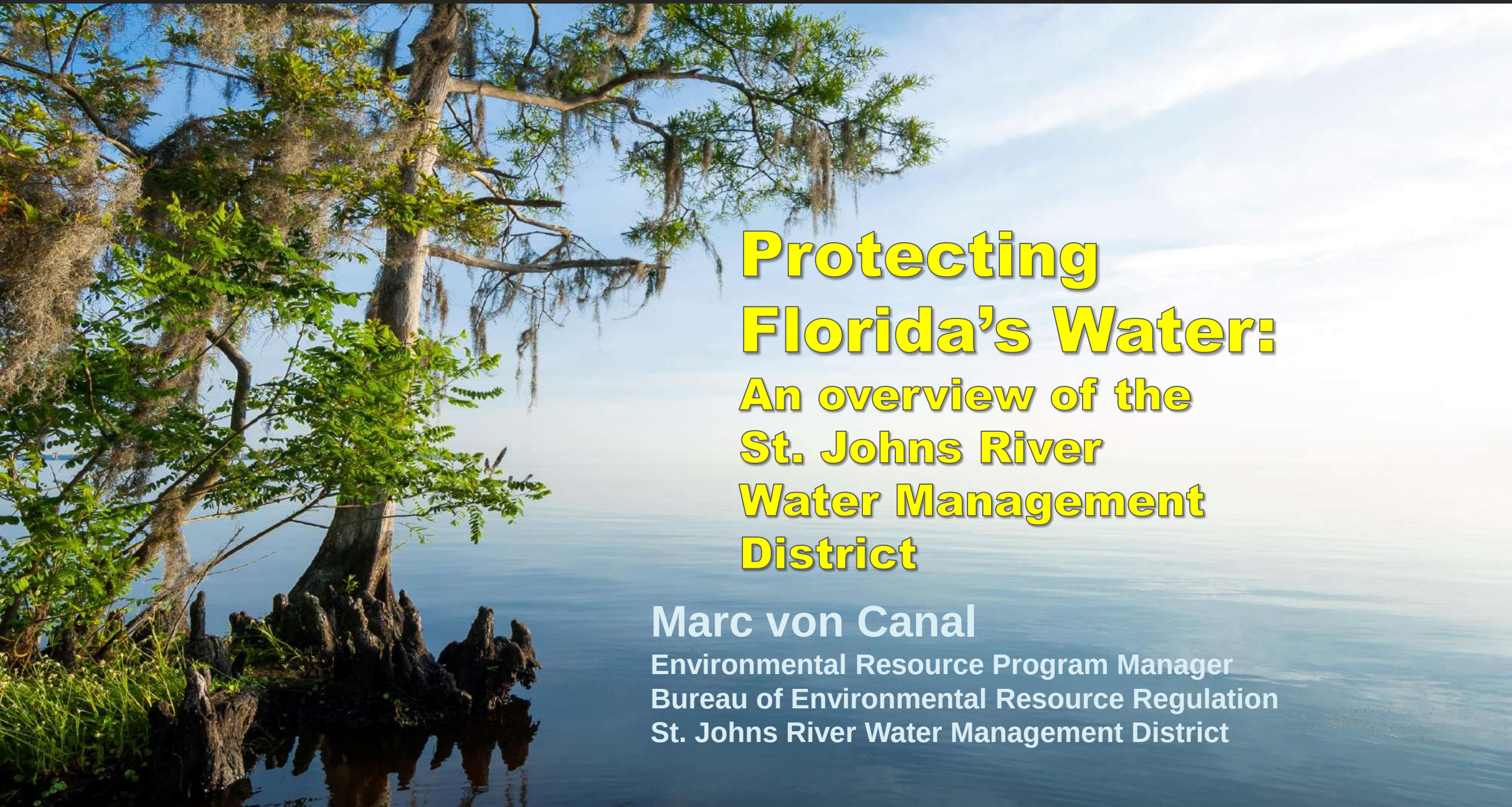
**Yanbing Jia**
Technical Program Manager
Bureau of Watershed Management and Modeling

## 3. Questions

*Facilitated by:*

**David Lessinger**, Senior Advisor
CSRS

**Alexandra Carter**, LWI Program Manager
Louisiana Office of Community Development



# Protecting Florida's Water:

## An overview of the St. Johns River Water Management District

**Marc von Canal**
Environmental Resource Program Manager
Bureau of Environmental Resource Regulation
St. Johns River Water Management District

# Who We Are

- 12,283 square miles
- Covers all or part of 18 counties in northeast and east-central Florida

# Budget Summary

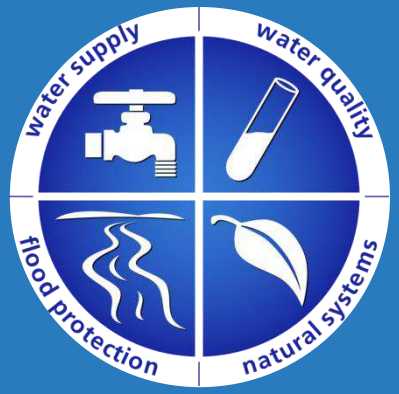
| SOURCE OF FUNDS: | ALL FUNDS |
|---|---|
| Appropriated Fund Balance | $ 26,577,667 |
| Ad Valorem Taxes | 90,783,700 |
| Other District Revenues | 6,058,600 |
| Local | 2,211,944 |
| State | 116,269,179 |
| Federal | 136,910 |
| SOURCE OF FUNDS TOTAL | $ 242,038,000 |

| USE OF FUNDS: | |
|---|---|
| Salaries and Benefits | $ 49,467,885 |
| Contracted Services | 10,846,734 |
| Operating Expenses | 12,295,444 |
| Operating Capital Outlay | 1,590,114 |
| Fixed Capital Outlay | 19,987,362 |
| Cooperative Funding | 147,850,461 |
| USE OF FUNDS TOTAL | $ 242,038,000 |

# Core Missions

Water supply

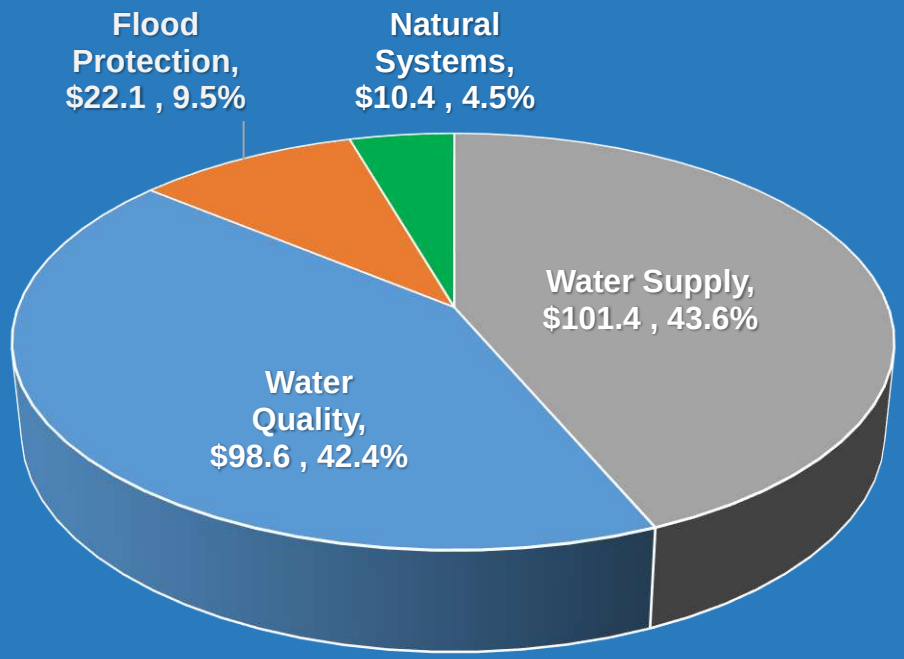
Water quality




Flood protection

Natural systems

# District Budget by Core Mission
## Fiscal Year 2020-2021

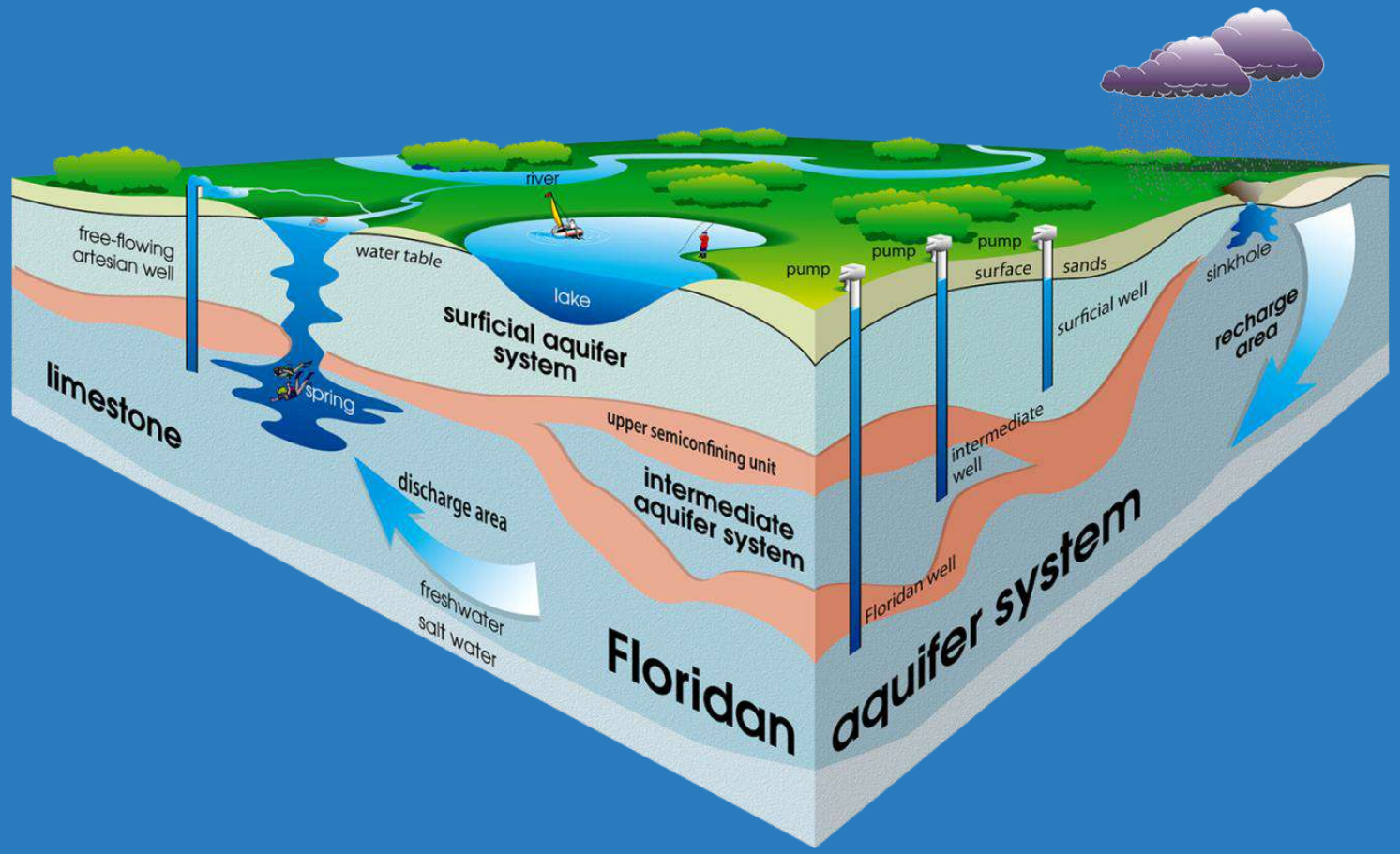



**The District's Fiscal Year 2020–2021 Adopted Budget is $242 million, including $9.6 million in Administrative Expenses**

# Water Supply

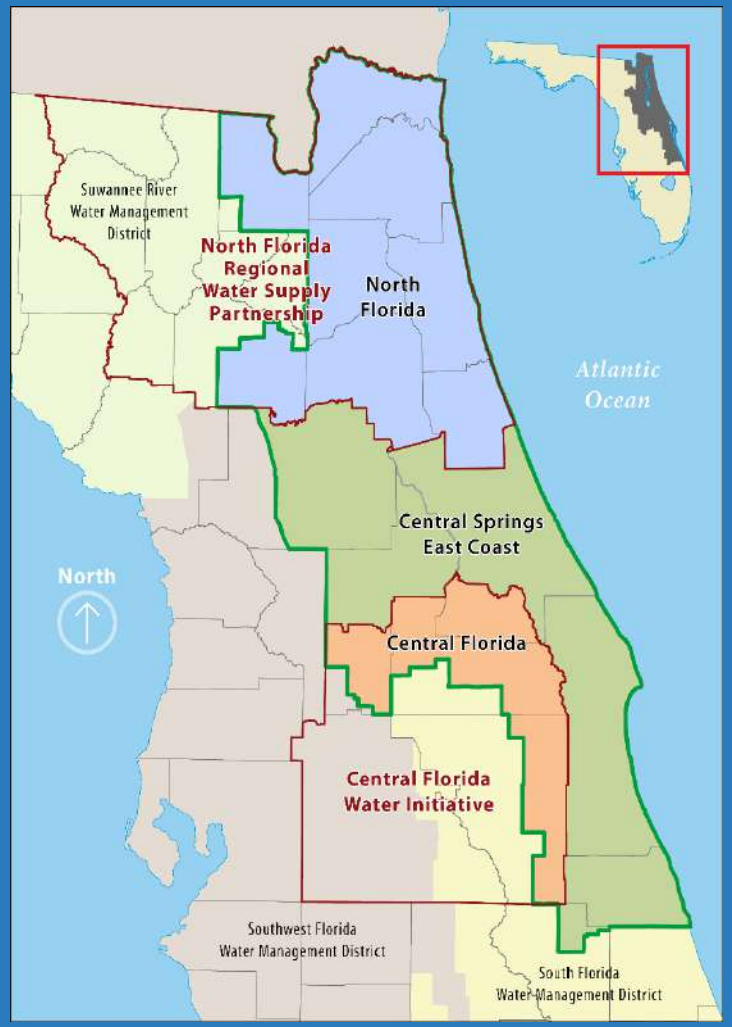
## Our water in northeast and east-central Florida

- More than 90 percent comes from the Floridan aquifer system.



# Water Supply Planning

- Districtwide water supply plan and regional plans
- Looks 20 years out
- Three regions



# Water Conservation



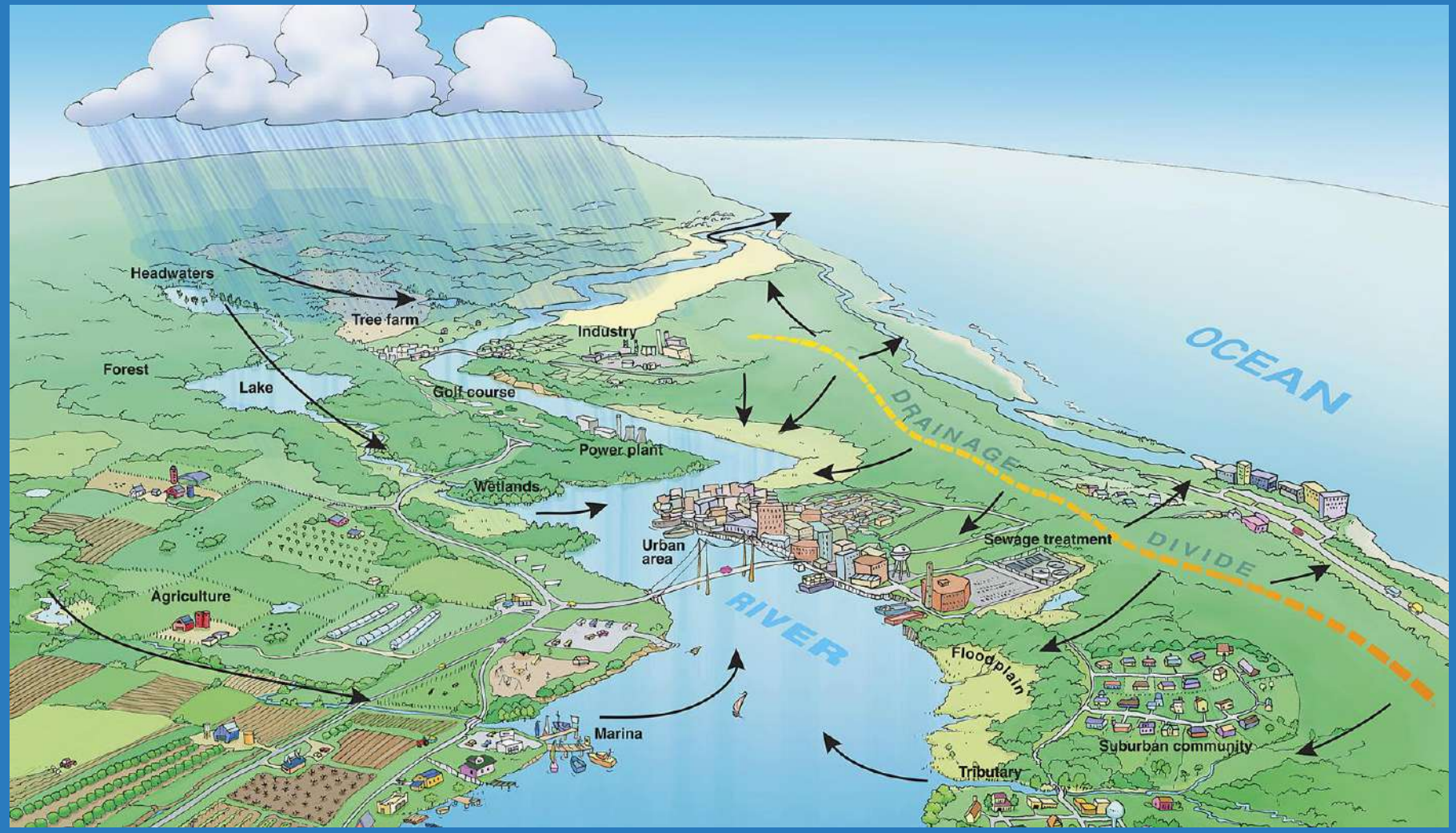
# Alternative Water Supply Options

- Reclaimed water
- Stormwater capture
- Surface water
- Seawater

# SJRWMD Cost-Share

- Since FY 2014 to 2020
  - SJRWMD awarded $204.2 million
  - $500.6 million in construction costs
- Estimated benefits:
  - Alternative water supply: 166.5 million gallons per day (mgd)
  - Water conserved: 20.7 mgd
  - Total Nitrogen reduction: 2.2 million lbs/yr
  - Total Phosphorus reduction: 406,112 lbs/yr

# A Typical Florida Watershed



# Protecting our Rivers, Lakes and Streams

- Agriculture
- Industry
- Wastewater discharges
- Stormwater runoff

# Decisions Based on Sound Science

www.sjrwmd.com/data

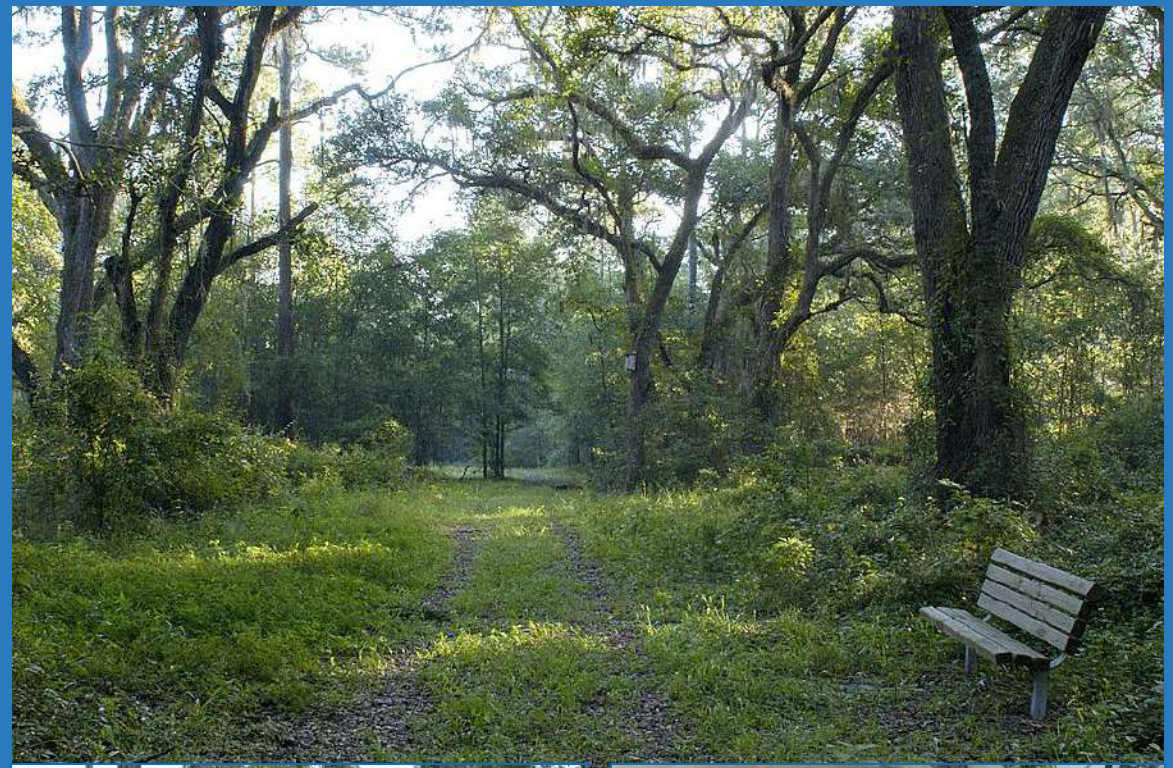
# Restoration

Lake Apopka Marsh Flow-way

Crane Creek

Doctors Lake

# Managing Public Lands



# Permitting

# Environmental Resource Permitting (ERP)

- ERP Rules are authorized by Florida Statute and described under Chapter 62-330, Florida Administrative Code (F.A.C.).
- Guidance for the design, criteria, and submittal of ERP applications is provided in the Applicant's Handbook and the Permit Information Manual.
- The specific criteria for individual permit issuance (those projects that do not qualify for an exemption or a general permit) are described in Section 62-330.301 and 302, F.A.C.
-

# Individual ERP Criteria

- An applicant must provide reasonable assurance that the construction, alteration, operation, maintenance, removal, or abandonment of a system will not:
- (a) cause adverse water quantity impacts to receiving waters or adjacent lands;
- (b) cause adverse flooding to on or off-site properties;
- (c) cause adverse impacts to existing surface water storage and conveyance capabilities;
- (d) adversely impact the value of functions provided to fish and wildlife and listed species by wetlands and other surface waters;
- (e) adversely affect the quality of receiving waters to cause violation of water quality standards;
- (f) cause adverse secondary impacts to water resources;
- (g) adversely impact maintenance of surface or ground water levels or surface water flows;
- (h) cause adverse impacts to works of the District;

# Public Interest Test for ERPs in Wetlands

- In addition to the previous criteria, projects requiring an individual ERP that are located in, on, or over wetlands or other surface waters must pass a public interest test.
- In any wetland or other surface water, the project must not be contrary to the public interest (i.e.: neutral or better); in designated Outstanding Florida Waters (OFW), the activity must be clearly in the public interest (i.e.: positive), based on these considerations:
- 1. public health, safety, or welfare of others;
- 2. conservation of fish and wildlife, including endangered or threatened species and their habitats;
- 3. navigation, flow of water, harmful erosion or shoaling;
- 4. fishing or recreational values or marine productivity in the vicinity;
- 5. temporary or permanent in nature;
- 6. historical and archaeological resources;
- 7. current condition and relative functions provided by affected area

- There are additional considerations for cumulative impacts, shellfish classified waters, and seawalls in estuaries.

# The SJRWMD ERP Regulatory Team

- The Bureau of Environmental Resource Regulation (BERR) is within the Division or Regulatory Services (DRS) and administers the ERP Program.
- The Review, Compliance and Mitigation Banking and FDOT Mitigation Program Teams are composed of approximately 50 Scientists and Engineers and their leadership team.
- In 2020, the Bureau issued over 3,200 permits.

# Thank You

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***www.sjrwmd.com***

# Statewide ERP (SWERP) Permitting 101 SJRWMD


## Cammie Dewey, PE

**Environmental Resource Program Manager**

**St. Johns River WMD**


ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

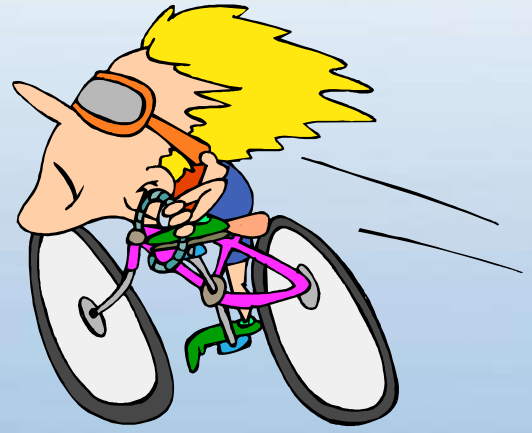
# Thresholds

- ERP Thresholds (62-330.020, F.A.C.)
  - 4,000sf of impervious/semi-impervious surface subject to vehicular traffic
  - 9,000sf of impervious/semi-impervious surface
  - Project area of 5 acres or more
  - Impound more than 40 ac-ft of water
  - Any project in, on, or over wetlands or other surface waters
  - Additional listed, plus any District-specific threshold

# Authorization Types

- Exemptions (62-330.050, 62-330.051, 62.330.0511, F.A.C., Section 1.3 Applicant's Handbook Volume II, and 373.406 F.S.)
- General Permits (62-330.402, F.A.C.)
- Individual Permits (62-330.054, F.A.C.)

# Individual Permit Application Submittals



- Coordination/Pre-App mtg
- e-permitting
- Water Quality
- Water Quantity/Flooding
- Wetlands/Surface Waters
- Special Hydrologic Basins
- Operation & Maintenance

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

# Water Quality

- Traditional Treatment BMPs
- Impaired waters
- Low Impact Development (LID)

# Water Quantity

- Mean annual storm event
- 10-year, 24-hour storm event
- 25-year, 24-hour storm event
- 25-year, 96-hour storm event
- Floodplain
  - 10-year floodplain - Districtwide
  - 100-year floodplain - Special Hydrologic Basins
  - Traversing works

# Special Hydrologic Basins

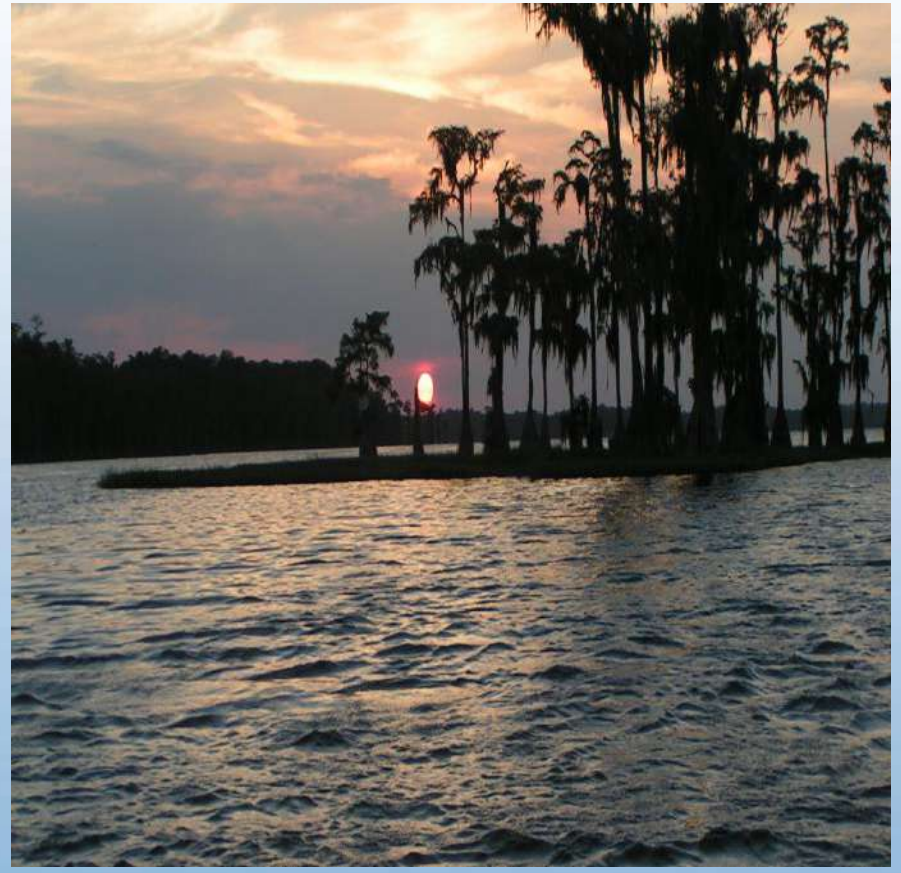
- Upper St. Johns River Hydrologic Basin, 12/7/83
- Ocklawaha River Hydrologic Basin, 12/7/83
- Wekiva River Hydrologic Basin, 5/17/87; 8/30/88
- Wekiva Recharge Protection Basin, 5/17/87; 8/30/88; 12/3/06
- Econlockhatchee River Hydrologic Basin, 4/3/91
- Sensitive Karst Area Basin, 9/25/91
- Tomoka River and Spruce Creek Hydrologic Basins, 11/25/98
- Lake Apopka Hydrologic Basin, 3/7/03

# Long-term O & M

- Section 12 AH Vol I
- As-Built certification by a PE
- Long-term inspections

# Coordination with Local Governments

- Regional versus Local requirements
- Coordination during review and compliance
- Local government projects
  - Restoration projects
  - Flooding and/or water quality retrofit projects
  - Public lands access improvements



# Thank You

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ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

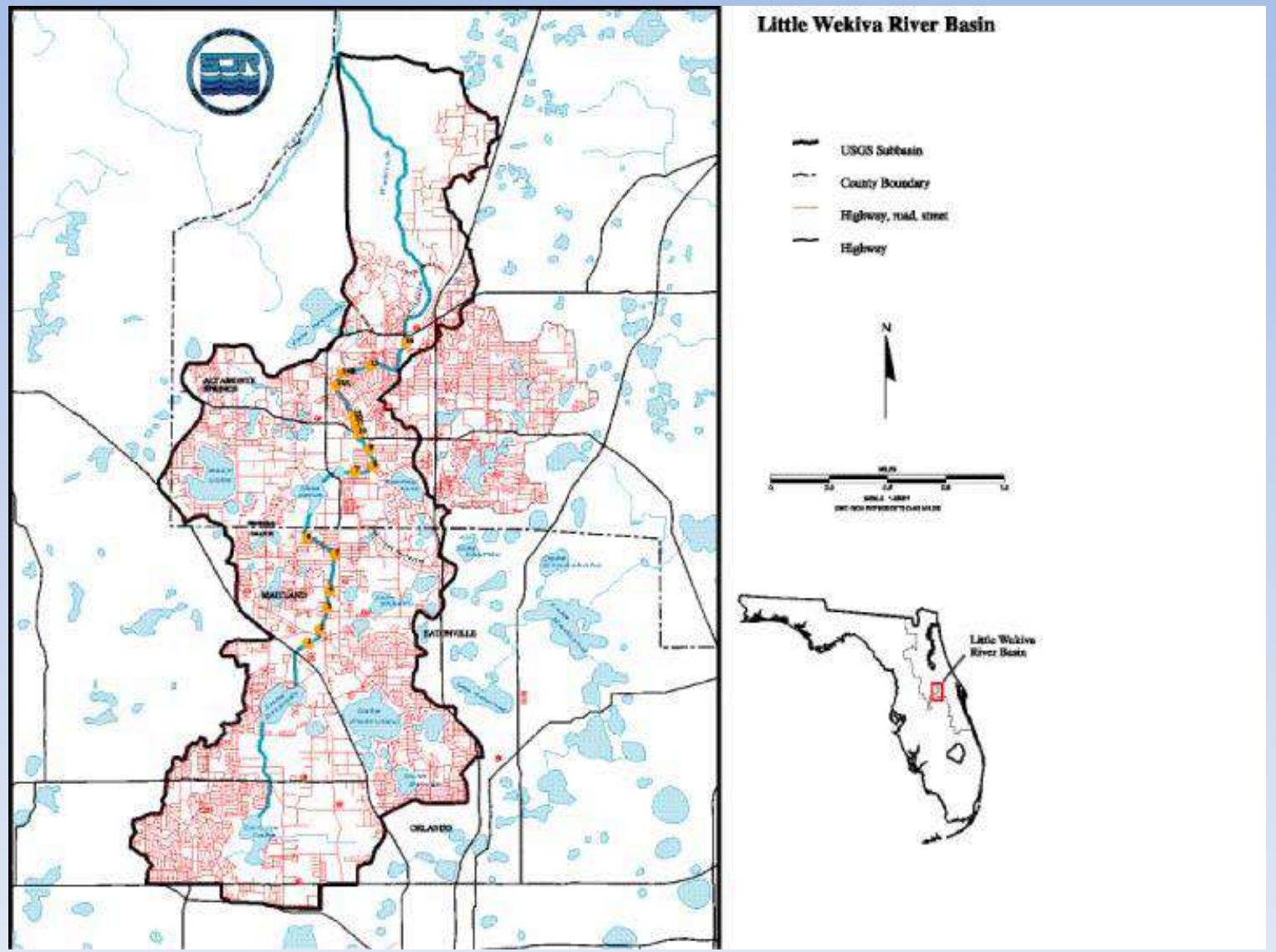
# Urban River Restoration – The Elba Way Erosion Control Improvements


ORANGE COUNTY GOVERNMENT FLORIDA

SJR

DEPARTMENT OF ENVIRONMENTAL PROTECTION FLORIDA

# Little Wekiva River Basin



# Little Wekiva River Erosion Control History

- Urban streams often have to handle flows far in excess of their capacity – Little Wekiva River (LWR) is no exception
- Hydraulic models and Sediment & Geomorphic model identified river bed erosion as major issue –drove goal to develop profile slope
- Master Plan identified 16 projects
- Elba Way Dredge and Grade Project became number 15

# LWR – Typical Impacts of Erosion

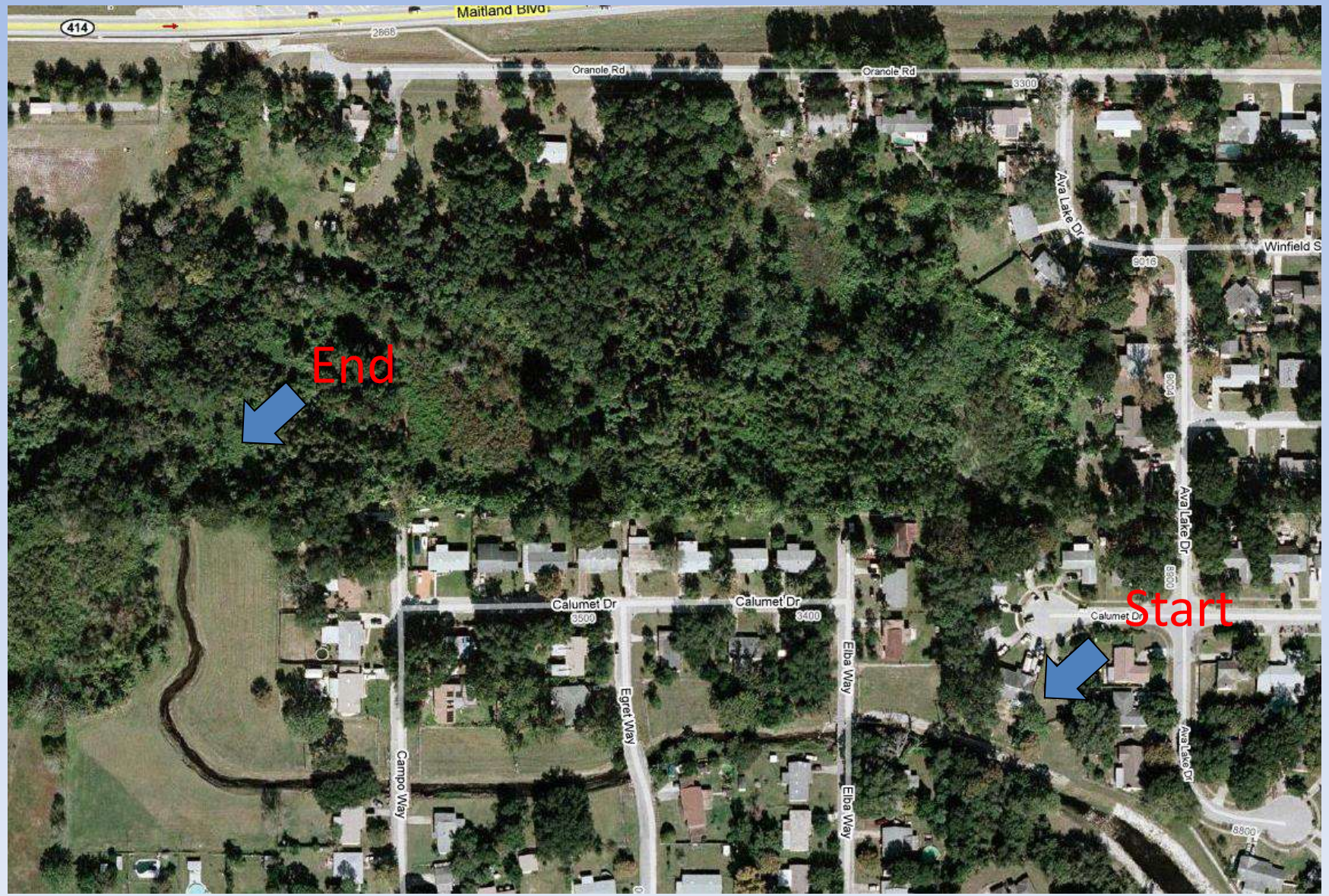
# H&H and Geomorphologic Models

- AdICPR with its two modules was used to model the entire watershed of the LWR work done by Singhofen & Associates under contract with Woodward-Clyde
- A geomorphologic model developed by URS-Woodward-Clyde in cooperation with St. Antony Falls, University of Minnesota, was used to model the river sediment transport
- A stable riverbed slope of 0.075% was established for all improvements

# Urban River Restoration – The Elba Way Erosion Control Improvements

- The Little Wekiva River over the past 20 years has been subject of numerous erosion and sediment control improvement projects
- These improvements include bank restoration, widening of the hydraulic cross section, implementation of grade control structures, sedimentation ponds, and bank stabilization

# Project Extent



# Elba Way: Pre-project Conditions


# Project H&H Model

- The AdICPR model was updated to the most recent windows version
- All river improvements were also added (i.e. other upstream erosion control projects)
- Elba Way proposed improvements were added to the model

# Rainfall Events

- Rainfall for storm events with 24-hr duration and with the following return periods; mean annual, 10-yr, 25-yr, 50-yr and 100-yr were simulated
- Rainfall type used was SCS Type II (Florida Modified)
- Rainfall totals ranged from 4.5 to 10.6 inches (from mean annual to 100-yr storm event)

# Streamflow Velocities

- Mean annual modeled velocities  ranged from 1.1 ft/s (downstream) to 2.8 ft/s (upstream)
- Under the 25-yr return period storm modeled velocities ranged from 1.6 ft/s (downstream) to 3.4 ft/s (upstream)
- For the 100-yr event modeled velocities ranged from 1.8 ft/s (downstream) to 4.4 ft/s (upstream)

# Selection of Construction Materials

- Cost was the primary controlling factor in the selection of the revetments and control structures
- Alternative analyzed revetments were gabions, Reno-mattresses, rip-rap, cable block, and grass
- The final design considered a combination of rip-rap and grass, grass lined banks, fixing the existing cable block, and the addition of two gabion weirs
- The upstream weir will function as a grade control structure while the downstream will control flows to allow a pool to be created


After construction - Mid-section of the project area


Downstream weir and final river section:
•Wider cross section
•Flatter slopes
•Trees along bank

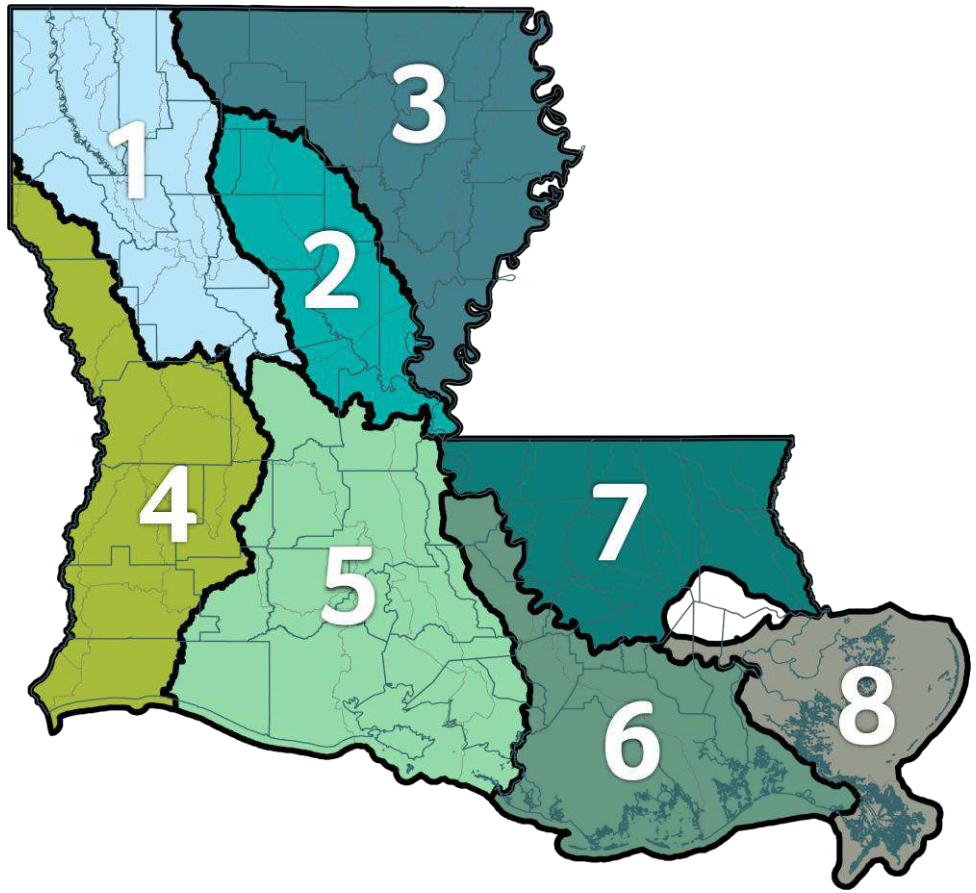
# Recommendations

- Work in sections that are manageable – heavy rain and high flows present a problem to any cleared area
- Size bypass pumps in accordance with normal flow and for higher storm event flows
- Have contingency plans

# Conclusions

- Projects such as Elba Way require planning
- Coordination between stakeholders
- Community involvement (public meetings, involvement of local politicians and authorities)
- More importantly, projects of this magnitude take time in all stages of planning, designing, and construction

# Questions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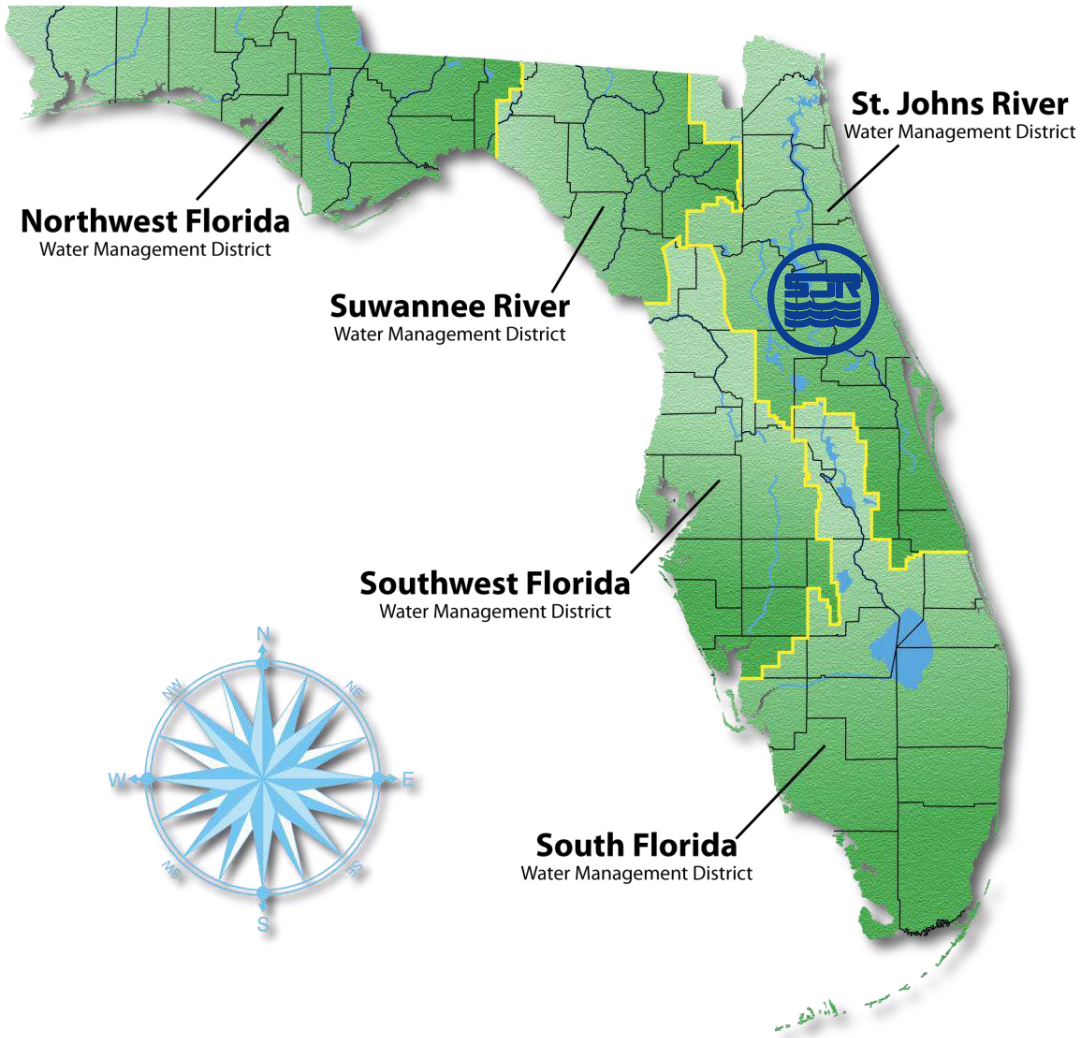
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Suwannee River
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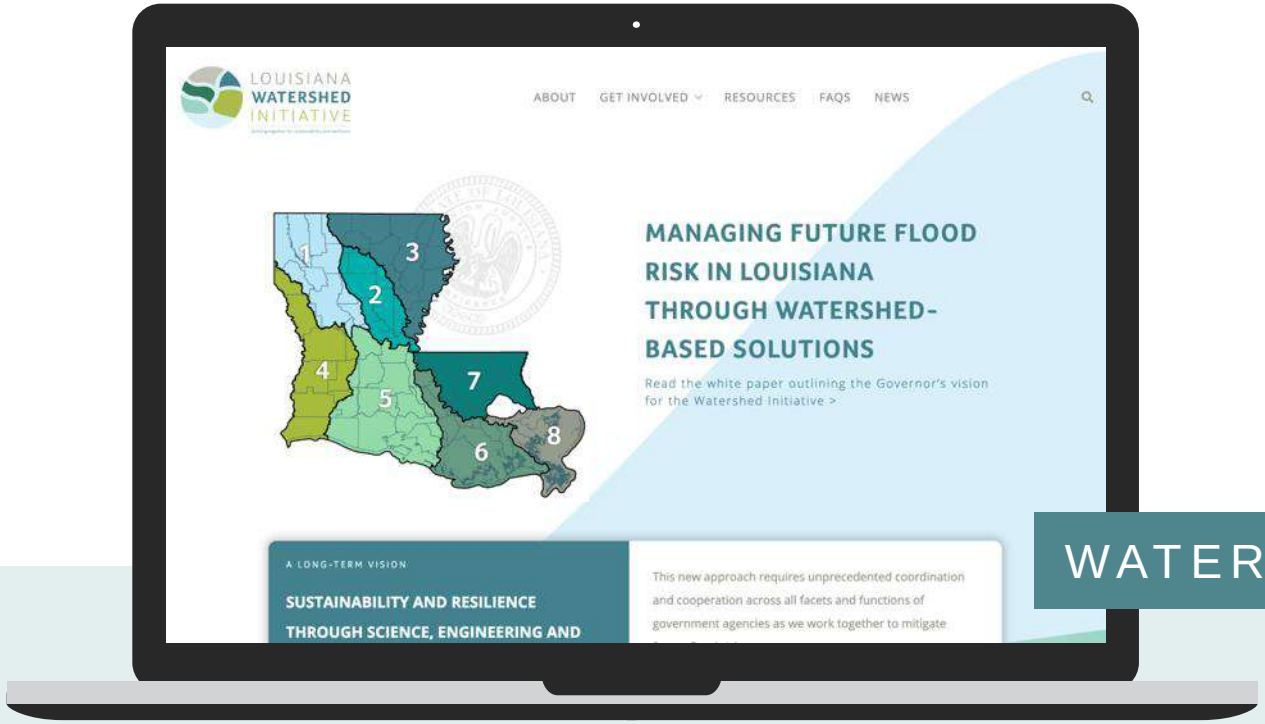
# THANK YOU

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