

# Water Supply Planning and Springs Discharge

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# Presentation Agenda

- Statutory requirements
- History
- Tools, methods, and results
- Water supply planning process
- Status/Summary




# Statutory Requirements

Subparagraph 373.036(2) (b) 4, *Florida Statutes*

- **Districtwide assessment which determines**
  - Existing and projected water use through a 20 year planning horizon
  - Existing and proposed sources of water and conservation efforts
  - Areas where projected uses cannot be sustained with proposed sources without unacceptable impacts to water resources and related natural systems





# Regional Water Supply Planning Requirements

## Chapter 373, *Florida Statutes*

- 20-year planning horizon
- Public process
- Coordination with water supply entities, local governments, and other affected parties
- Identifies:
  - Water supply development projects adequate to meet projected water supply needs
  - Water resource development projects
  - Sources of project funding

# Water Supply Planning History

- 1997 legislation requiring water supply planning
- **1998 Water Supply Assessment**
- 2000 District Water Supply Plan
- **2003 Water Supply Assessment**
- 2005 District Water Supply Plan
- **2010 Draft Water Supply Assessment**
- 2010 Draft District Water Supply Plan



# Water Supply Assessment Tools

- Water use data (1995-2030)
- Groundwater flow models
- Water resource constraints



# Water Use Data Categories

- Public supply
- Domestic self-supply and small public supply systems
- Agricultural self-supply
- Commercial/industrial/institutional self-supply
- Recreational self-supply
- Thermoelectric power generation self supply



# Population Projections

- Based on projections made by the Bureau of Economic and Business Research at the University of Florida
- Basis for water use projections in many water use categories

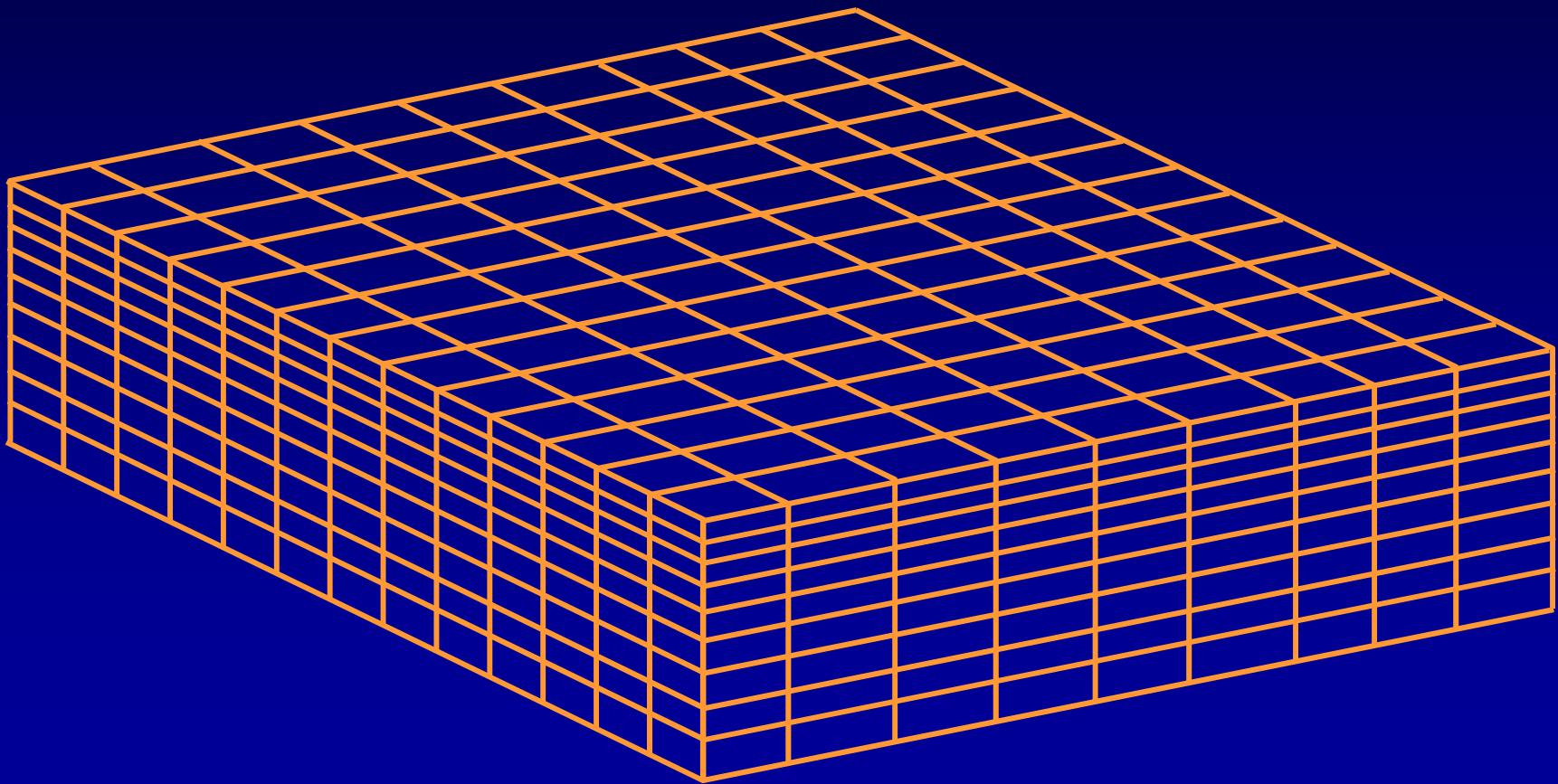


# District Population and Water Use 1995 to 2030

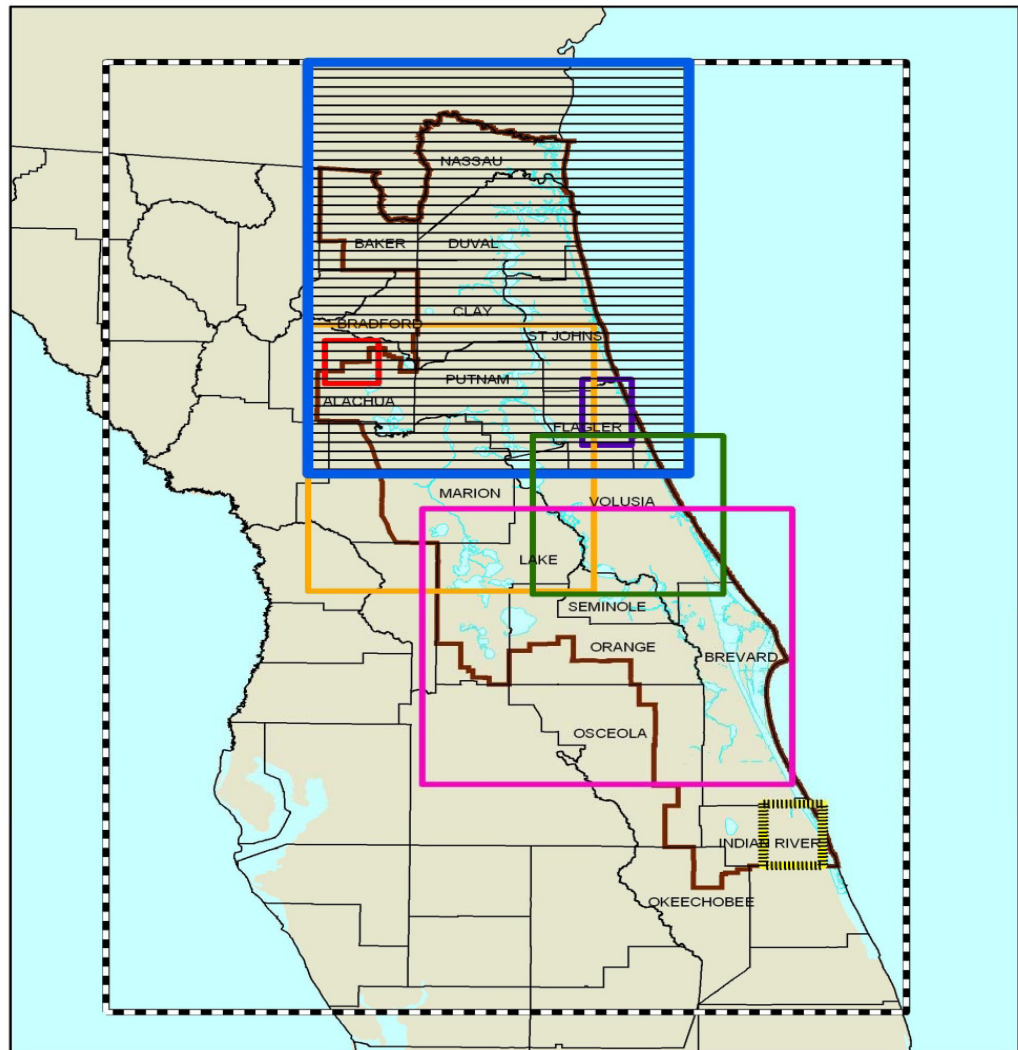
1995	2030	Percent Change
<b>Population</b>		
<b>3,516,495</b>	<b>6,371,119</b>	<b>81</b>
<b>Total Water Use (mgd)</b>		
<b>1,343.59</b>	<b>1,580.33</b>	<b>18</b>
<b>Public Supply Water Use (mgd)</b>		
<b>464.82</b>	<b>882.17</b>	<b>90</b>

# Use of Water Demand Data

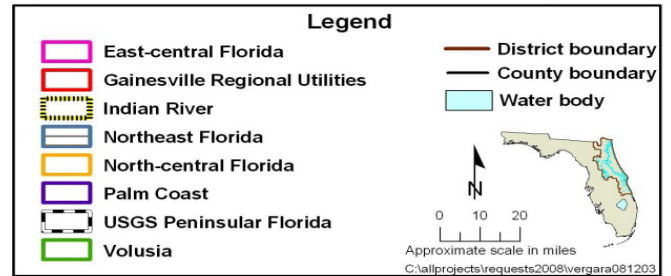
- **Distributed spatially to flow model cells**



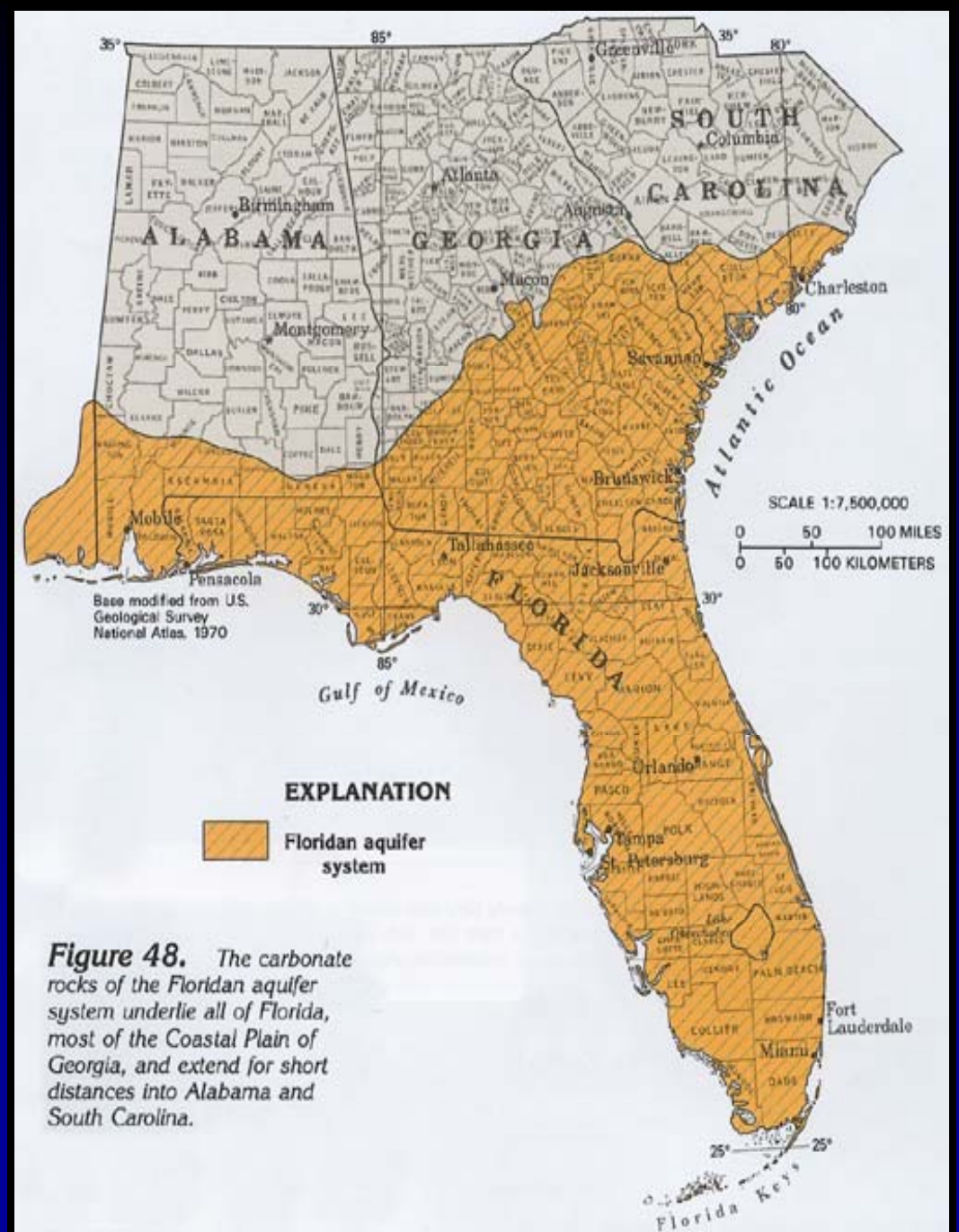
# Regional Groundwater Flow Models



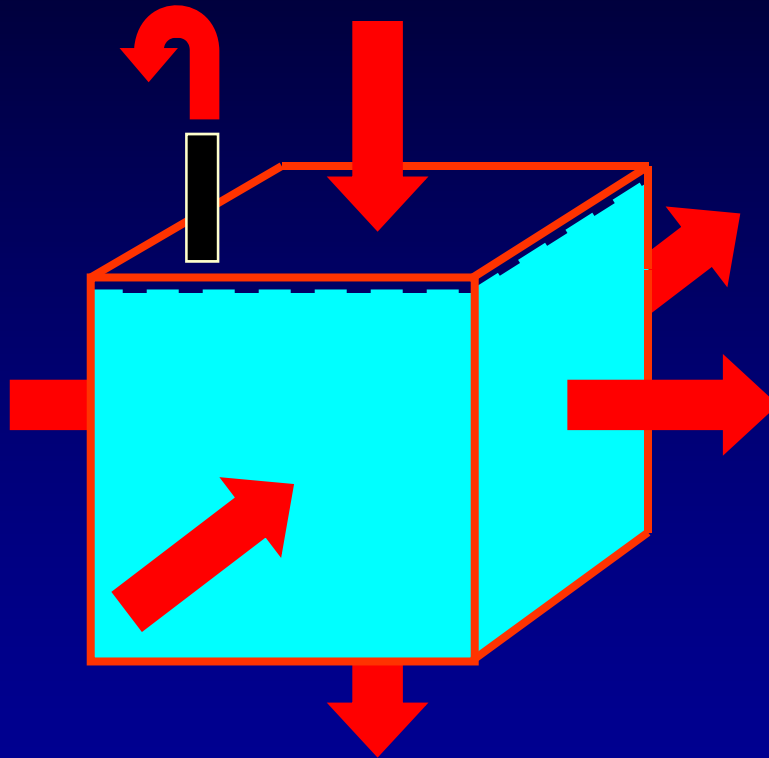
SJRWMD regional groundwater flow model boundaries



# Extent of the Floridan Aquifer system



# Numerical Model = Water Budget



WATER-BUDGET EQUATION:  
INFLOW – OUTFLOW  
= CHANGE IN STORAGE

GROUND-WATER  
INFLOW & OUTFLOW

STRESSES:  
e.g. WELLS, RIVERS

CHANGE IN STORAGE:  
WATER-LEVEL DECLINE



# Water Resource Constraints

*Identify limits of water level change at which unacceptable impacts are likely to occur*

- **Natural systems constraints**
  - Native vegetation (wetlands)
  - Springs
  - Minimum flows and levels (MFLs)
- **Groundwater quality constraint**
  - Salt water intrusion

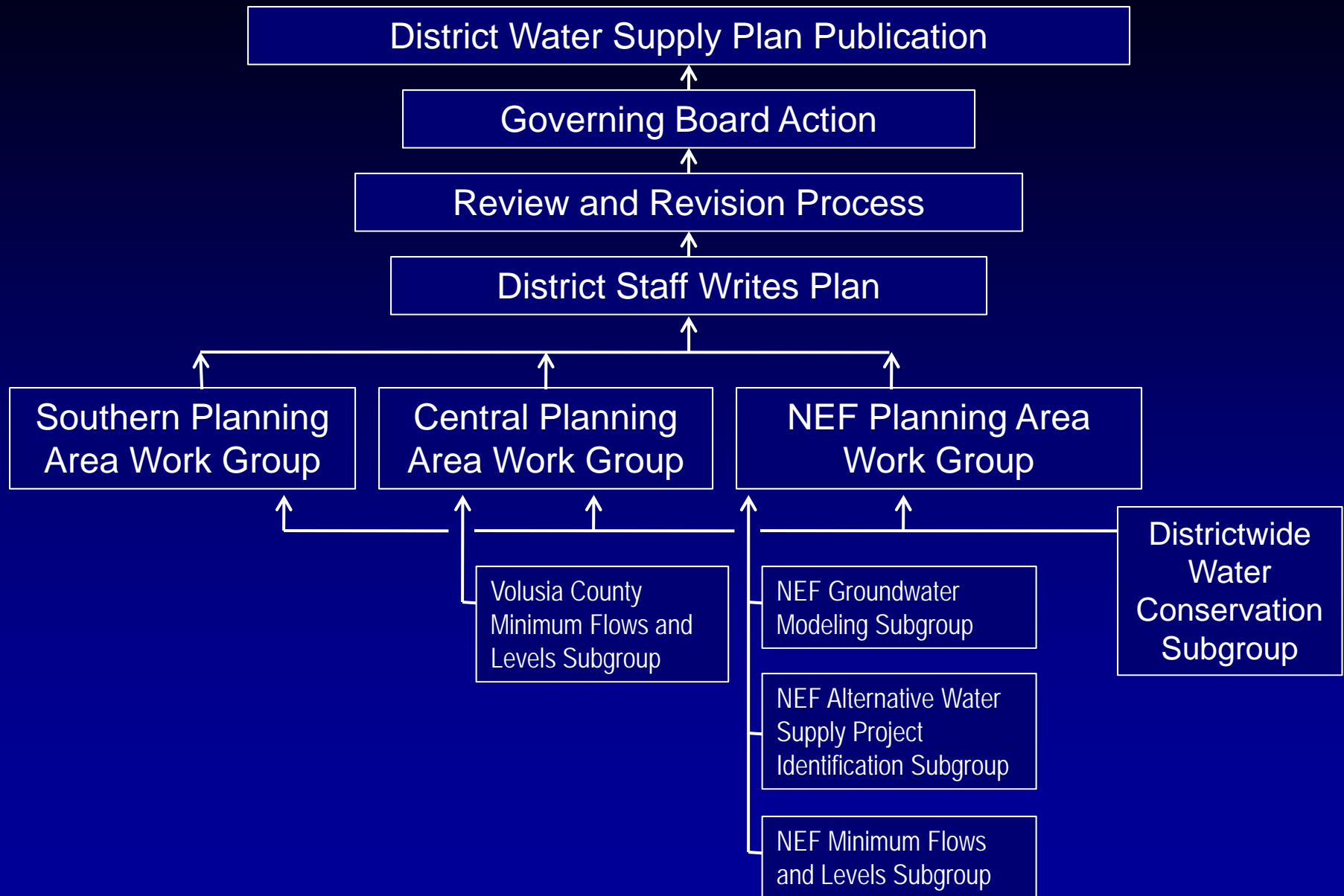


# Planning Process Objectives

- Promote water conservation
- Identify water supply options
- Identify strategies to recovery and prevention strategies



# District Water Supply Planning Process



# Impacts to Springs with Established MFLs

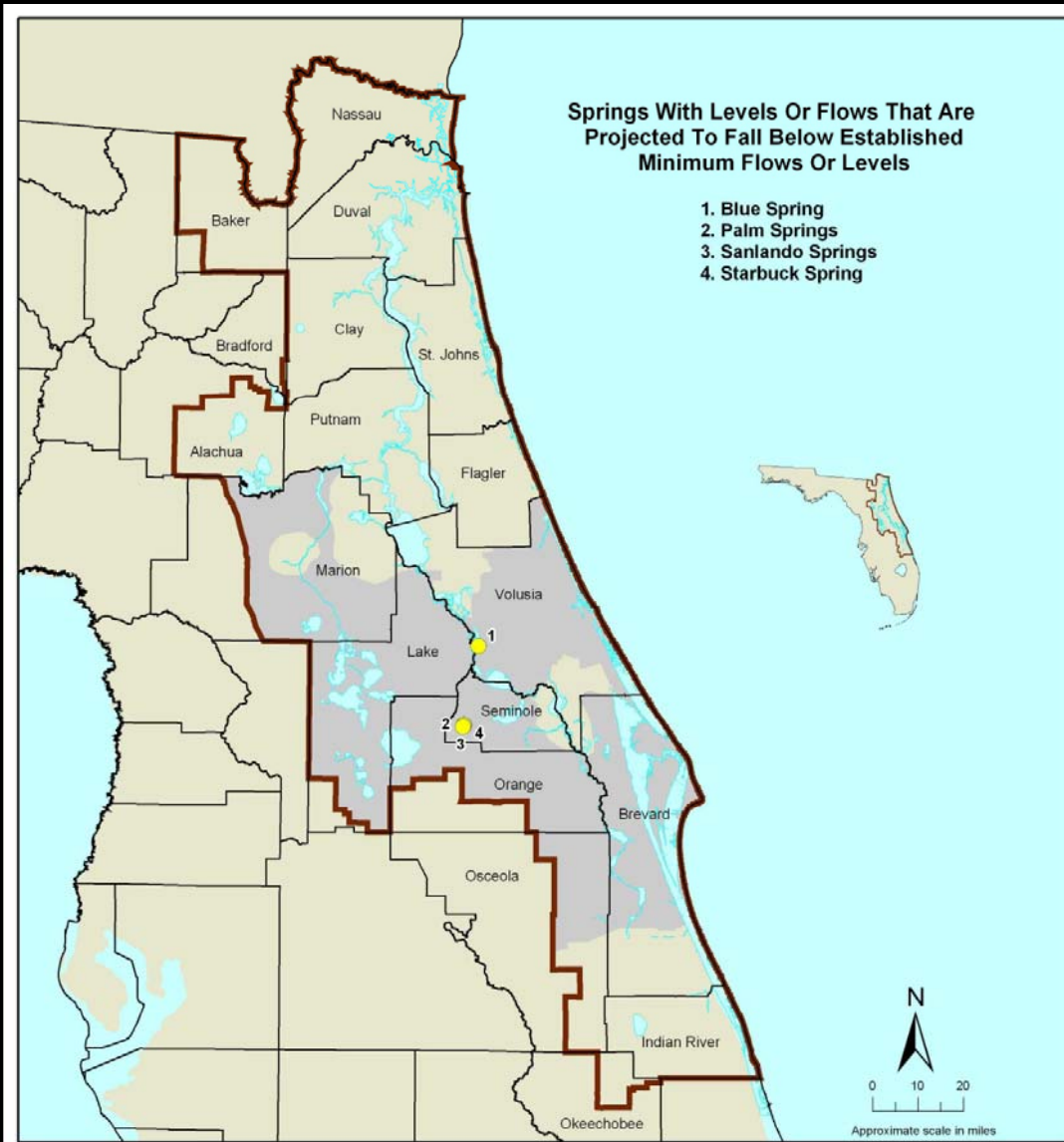
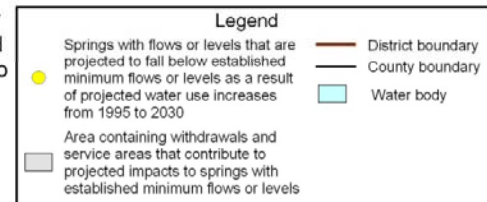



Figure 10. General areas within which anticipated water sources are not adequate to supply projected 2030 demands based on projected impacts to springs with established minimum flows or levels





# Statutory Requirements for MFL Recovery & Prevention Strategy (373.0421(2), *F.S.*)

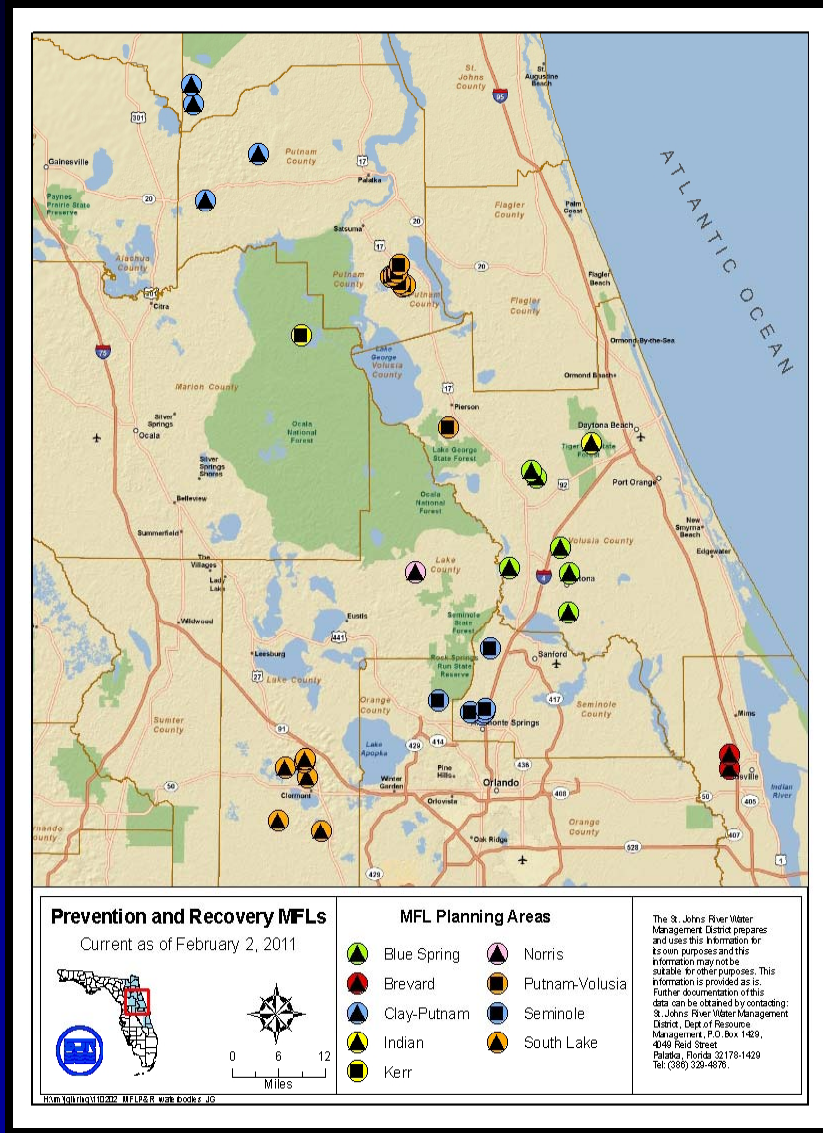
- **If flow or level is projected to fall below MFL within 20 years:**
  - Expediently implement a prevention strategy
- **If flow or level is below MFL:**
  - Expediently implement a strategy to achieve recovery to established MFLs as soon as practicable



# MFL Prevention/Recovery Strategy Approach

- Status assessment indicates 36 water bodies projected to not achieve MFL
- Long-term comprehensive solutions needed
- Numerous and diverse stakeholders
- Flexible solutions to accommodate variability of water users
- Level of scientific understanding varies
- Vastly diverse arrays of solutions
- Constraints on District resources
- Equity for all water users in implementing strategy

# MFL Prevention/Recovery Strategy



- **Approach**
  - 9 P/R Strategy Development Areas
  - Stakeholder Strategy Development Teams for each area
  - Stakeholders develop suite of measures to achieve MFLs and meet future water demands



# MFL Prevention/Recovery Strategy Development

- Objectives
  - Meaningful stakeholder involvement
  - Identify feasible measures to protect or achieve MFLs for 36 P/R water bodies
  - Equitable and flexible solutions for diverse water uses
  - Provide sufficient water supplies for all reasonable-beneficial uses
  - Rely on existing Rules to extent possible
  - Provide certainty to support future growth
  - Support regulatory decisions

# Status/Summary

- **Draft Water Supply Assessment and Draft Water Supply Plan documents are temporarily on hold**
  - Data and analyses will be posted on website
- **Developing MFL prevention and strategies**



# Questions



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