



Presentation:

- Introduction
- Water Supply Plans (WSPs)
- Lower West Coast Water Supply Plan
- Implementation of 2006 Plan Projects
- Population and Demand Projections
- Goals and Objectives



State Law Requirements



**Alternative
Water Supply**



**Water Use
Regulation**



**Water Supply
Planning**



**Local
Comprehensive
Planning**



**Natural
Systems**



Link Land Use with Water Supply Planning

- After the District updates the Water Supply Plan:
 - Local governments must amend their comprehensive plans to incorporate a water supply facilities work plan within 18 months of District's water supply plan update
 - Utilities identify the projects to be developed
 - 10 year minimum planning horizons
- Annual Progress Reports





State Law Requirements

Florida Water Law (Section 373.0361(1))

Water management districts must conduct water supply planning where conventional sources of water are not adequate for:

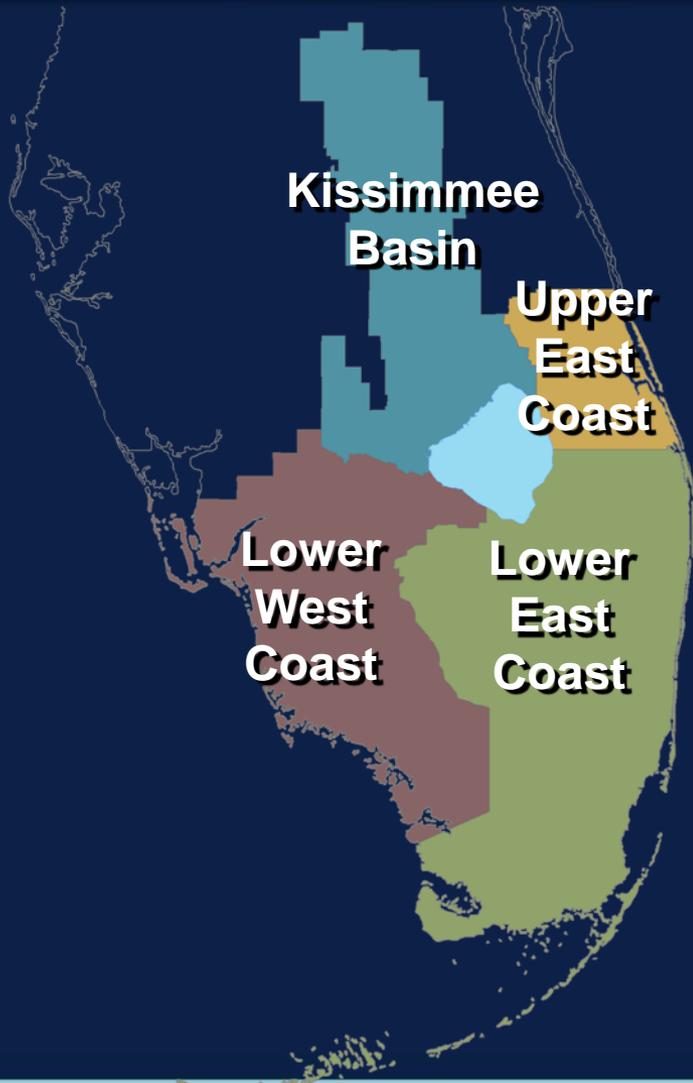
all existing and future reasonable-beneficial uses, and to sustain water resources and related natural systems





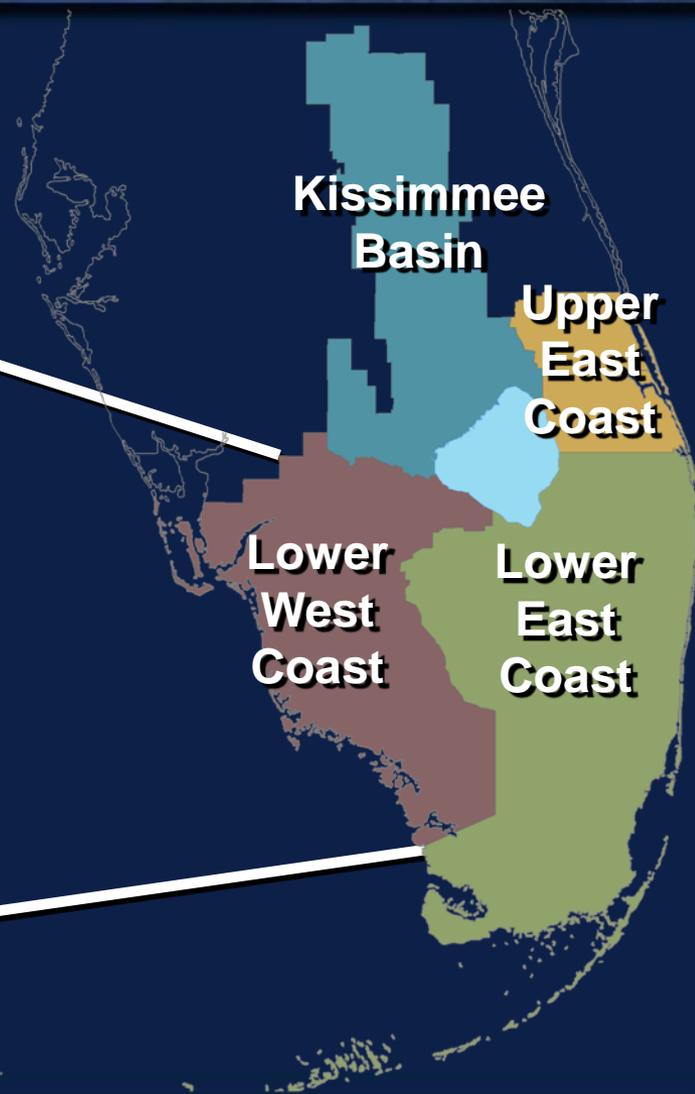
Water Supply Plans

- **Considers Six Water Use Categories:**
 - **Agriculture**
 - **Public Water Supply**
 - **Domestic Self Supply**
 - **Recreational**
 - **Commercial/Industrial**
 - **Thermoelectric Power Generation**



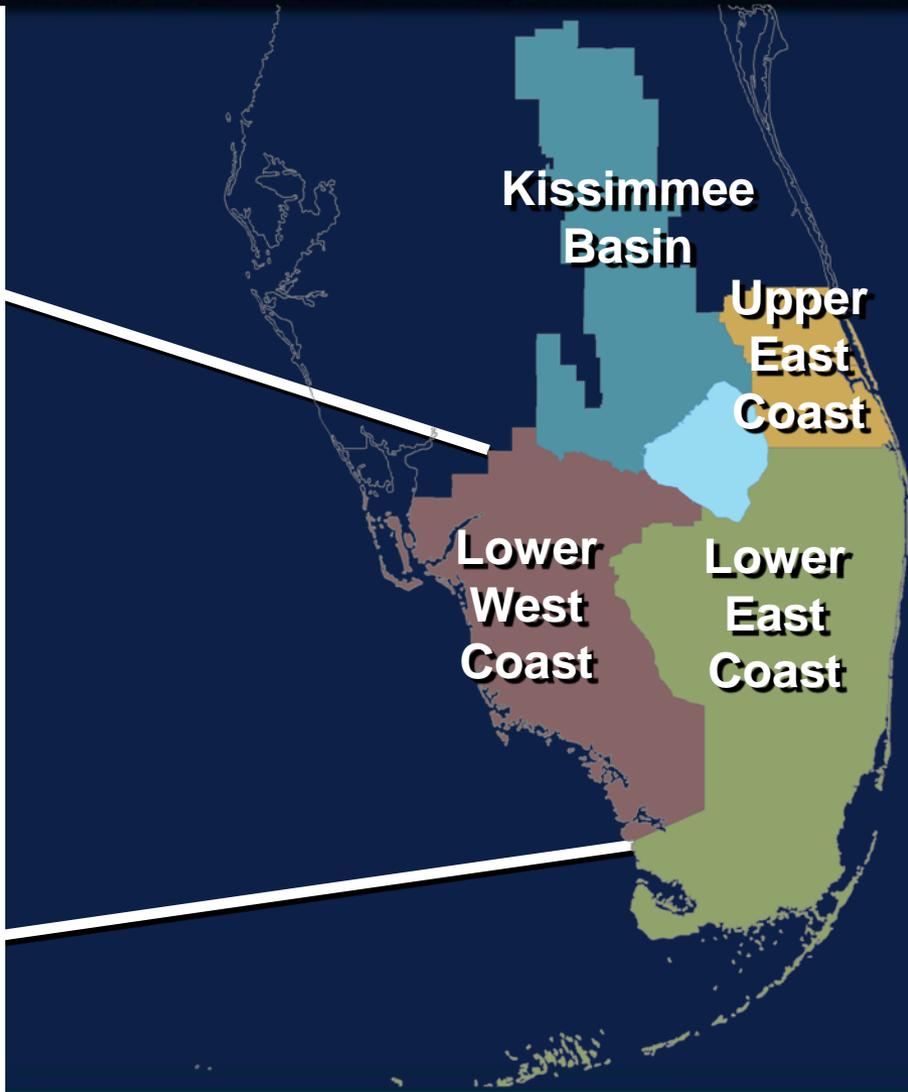
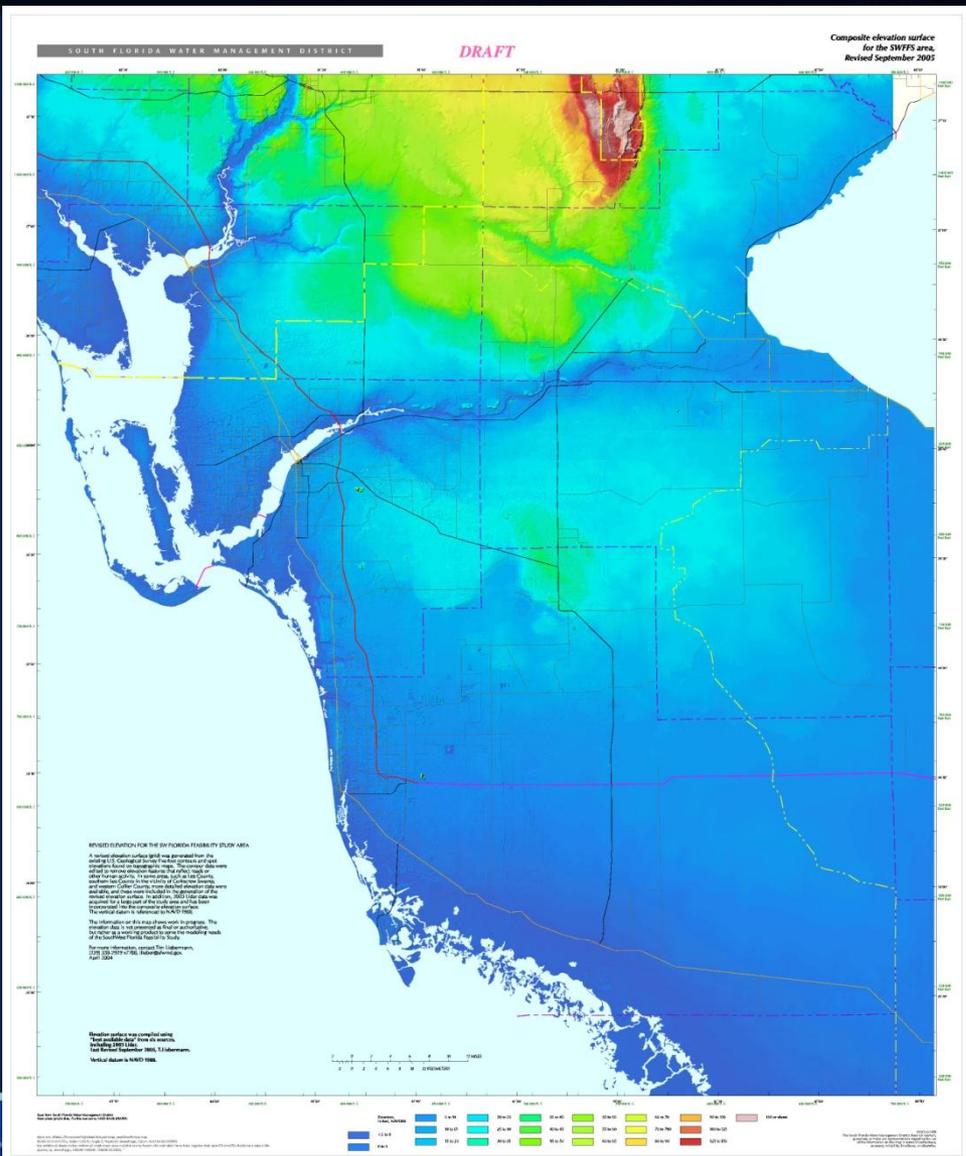


Water Supply Planning Regions





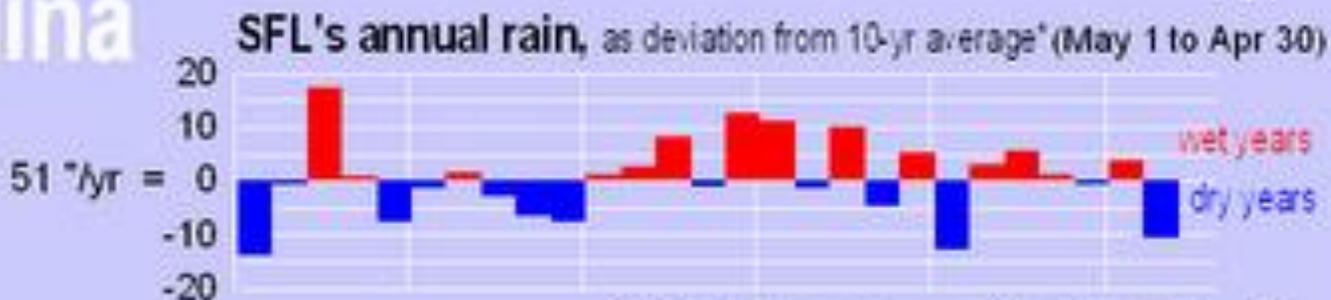
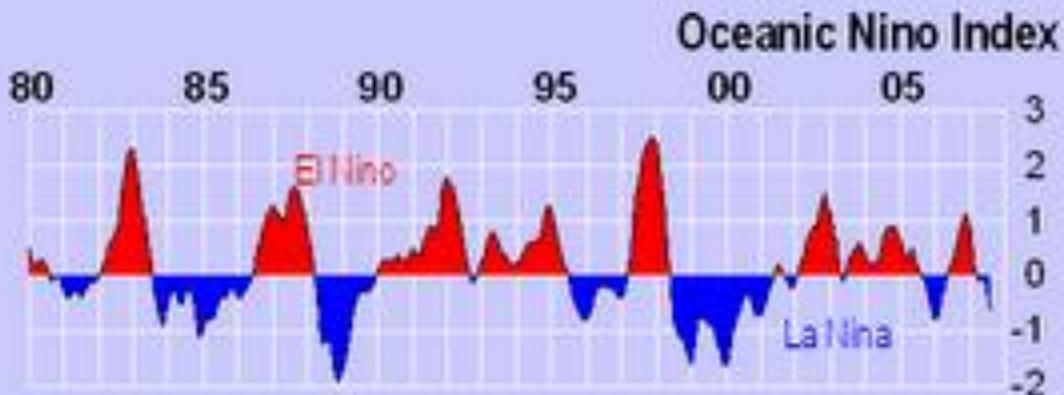
Lower West Coast Topography





Lower West Coast Rainfall

ENSO
swings
toward
La Nina

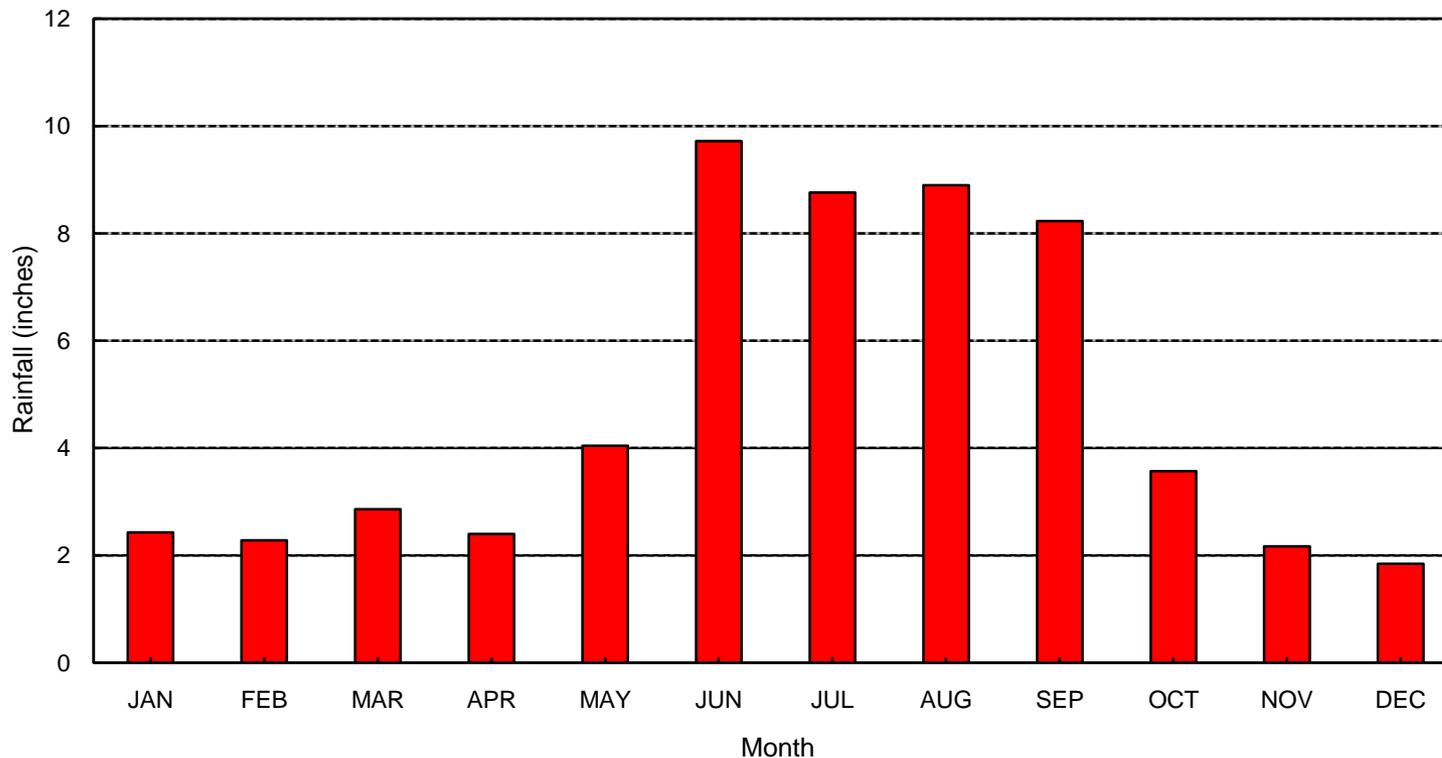


source: NOAA, SFWMD



Lower West Coast Rainfall

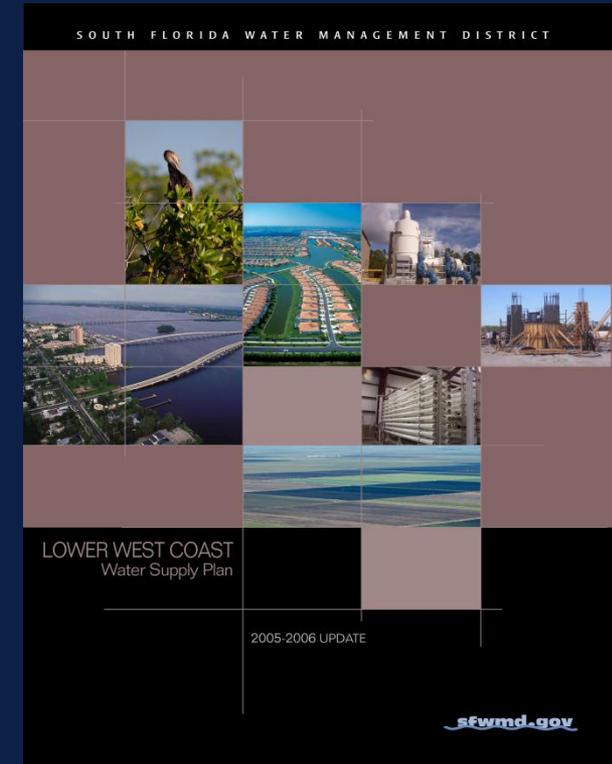
Southwest Coast Rainfall
Historical Average By Month





Lower West Coast Water Supply Plans

- **2010-11 LWC Plan Update**
 - 2005 – 2030 Planning Horizon
- **2006 LWC Plan Update**
 - 2005 – 2025 Planning Horizon
- **2000 LWC Plan**
 - 2000 – 2025 Planning Horizon
- **1994 LWC Plan**
 - 1990 – 2010 Planning Horizon





2006 Water Supply Plan Update

Web Site:

https://my.sfwmd.gov/portal/page/portal/pg_grp_sfwmd_watersupply/pg_sfwmd_watersupply_lowerwestcoast?_piref1874_4166899_1874_4166896_4166896.tabstring=tab1604290

**Go: [www:sfwmd.gov](http://www.sfwmd.gov) and in Search Box -
'Lower West Coast Water Supply Plan'**



2006 Water Supply Plan Update

Issues Identified in plan

- Limit on New Uses of Traditional Sources
- Environmental & Regulatory Efforts to Protect the Caloosahatchee River and Estuary
- Connection to Local Comprehensive Plans- future land uses based on water availability
- Constraints on Optimal Use of Reclaimed Water
- Planning for Growth in Eastern Charlotte County
- Planning for Growth in Hendry and Glades Counties



2006 Water Supply Plan Update

Concluded:

- Future demands required emphasis on alternative water supply development
- Develop additional storage, such as ASR
- Fresh surface and ground water not adequate to meet all projected demands
- Largest projected percent increase is in Public Water Supply
- Need for Coordination with local governments and their Water Supply Facility Work Plans



Desalination

- **Water Desalination Concentrate Management Study completed in 2009**
- **Florida RO Concentrate Management Summit 2009**
 - **Encourage utilities to implement new desalination technologies at their facilities**
 - **Facilitated by District**
- **Seawater desalination co-location feasibility study completed in 2006**





Conservation

- Conservation
 - Most cost-effective method to increase water supplies
- Comprehensive Water Conservation Plan
- Water Savings Incentive Program
- Water Conservation Outreach and Education





Water Conservation

Comprehensive Water Conservation Program for South Florida

- GB Approved September 2008
- Year-round conservation ethic
- Three Program Initiatives
 - Regulatory
 - Voluntary and Incentive-based
 - Education and Marketing

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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In the News ▶
A new comprehensive Water Efficiency Resource Library website.

Tell Us What You Think ▶
Comment on year-round irrigation limits.

Proposed Year-Round Water Conservation Measures ▶
Two-day per week irrigation will reduce overuse of water for irrigation, and stretch limited regional supplies.

Comprehensive Water Conservation Program ▶
Instilling a water conservation ethic to preserve our shared regional water supply.

REDUCE YOUR WATER USE no excuse!

Current Restrictions

YardSmart Landscaping

More Water-Saving Tips

MyFlorida.com | Disclaimer | User Survey

REDUCE YOUR WATER USE no excuse!

WATER LINE

THINK OF YOUR PROBLEMS AS YOU POUR YOUR LAWN HAS RECEIVED A 10% DISCOUNT OF \$100

PLEASE DO YOUR PART BY CONSERVING WATER.

savewaterfl.com

PLEASE DO YOUR PART BY CONSERVING WATER.

savewaterfl.com



Water Savings Incentive Program (WaterSIP)

■ WaterSIP Program

- Established in 2003
- Provides cost-share funding for implementation of water savings projects that reduce urban water usage

■ Districtwide

- 101 projects funded
- \$2.8M Funded
- 1,792 MGY water saved
- 50/50 cost shared





Floridan Aquifer Density Dependent Model

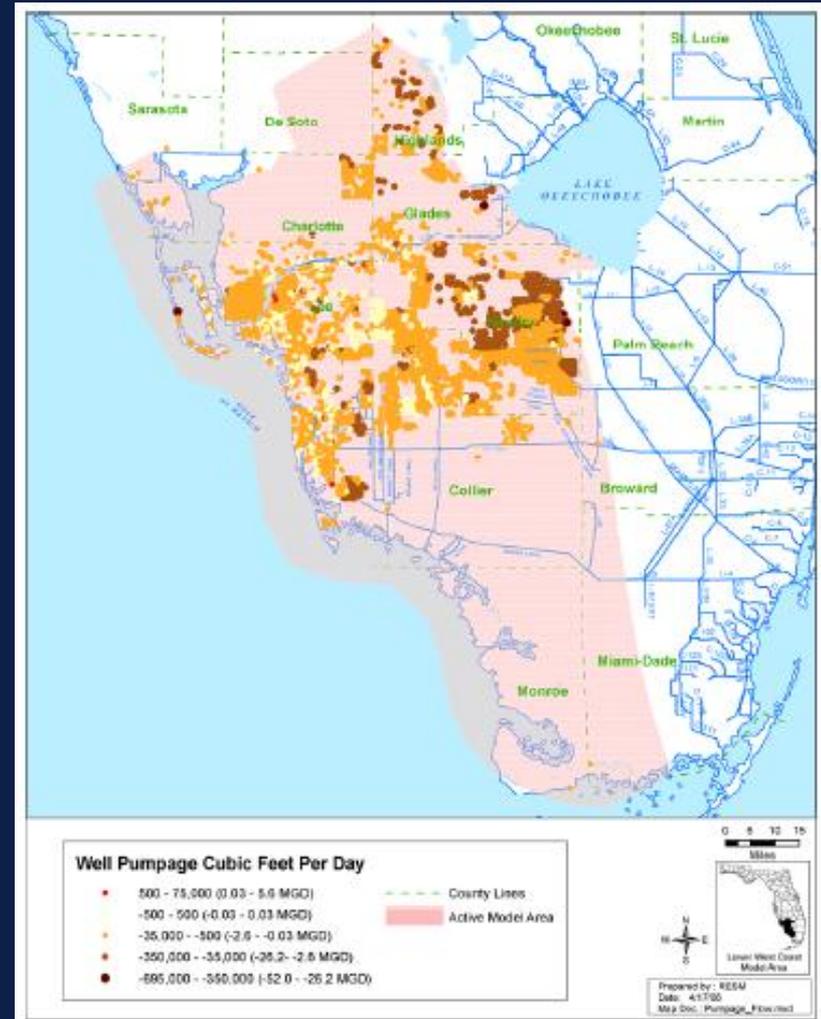
- Floridan Aquifer System Model developed
 - Calibrated to existing data
 - Glades, Hendry, Collier, Lee, Charlotte counties
 - Peer reviewed
 - Incorporating comments





Surficial Aquifer System Ground Water Flow Model

- Surficial Aquifer System Model developed
 - Calibrated to existing data
 - Same Hydrologic Boundaries as Floridan Aquifer Model
 - Waiting for Peer Review



ACTUAL EVAPOTRANSPIRATION MONITORING

Big Cypress

Marsh

Color key to ecosystems

- Oprun
- Florked
- Drainwater Slough
- Mapum
- Developed or disturbed land
- Hardwood hammock
- Cypress/marsh
- Coastal marsh
- Marine and Estuarine



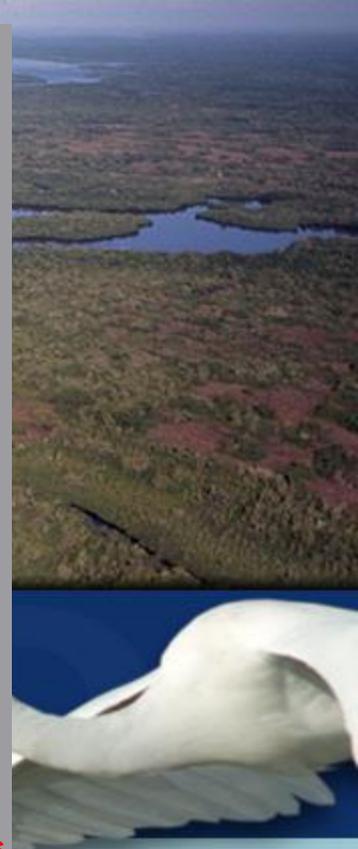
Location of proposed ET site

Vegetation Community

Cypress-swamp

Dwarf cypress

Wet prairie





Tentative Lower West Coast Plan Process

Workshop 1 (Dec. 18, 2009)
 Kick-Off Meeting - Estero
 Update Process, Population, & Demands

Local Government
 Presentations

Workshop 2 (Feb. 2010)
 Agriculture, Other Demand Projections,
 MFLs & CERP Updates - Fort Myers

Workshop 3 (May 2010)
 Conservation, Water Resource and
 Water Supply Development - Fort Myers

Local Government
 Presentations

Workshop 4 (July 2010)
 Final Water Resource & Supply
 Development- Fort Myers

Report to WRAC
 and Governing Board

Distribute Draft Plan by Mail (Sept. 2010)

Local Government
 Presentations

Workshop 5 (Nov. 2010)
 Review Final Draft Plan

Present Draft Plan to WRAC
 (Dec. 2010)

Present Draft Plan to Gov.
 Bd. (Dec. 2010)

DEP Review of Draft Plan
 (Dec. – Dec. 2010)

Present Final Plan to WRAC
 (Mar. 2011)

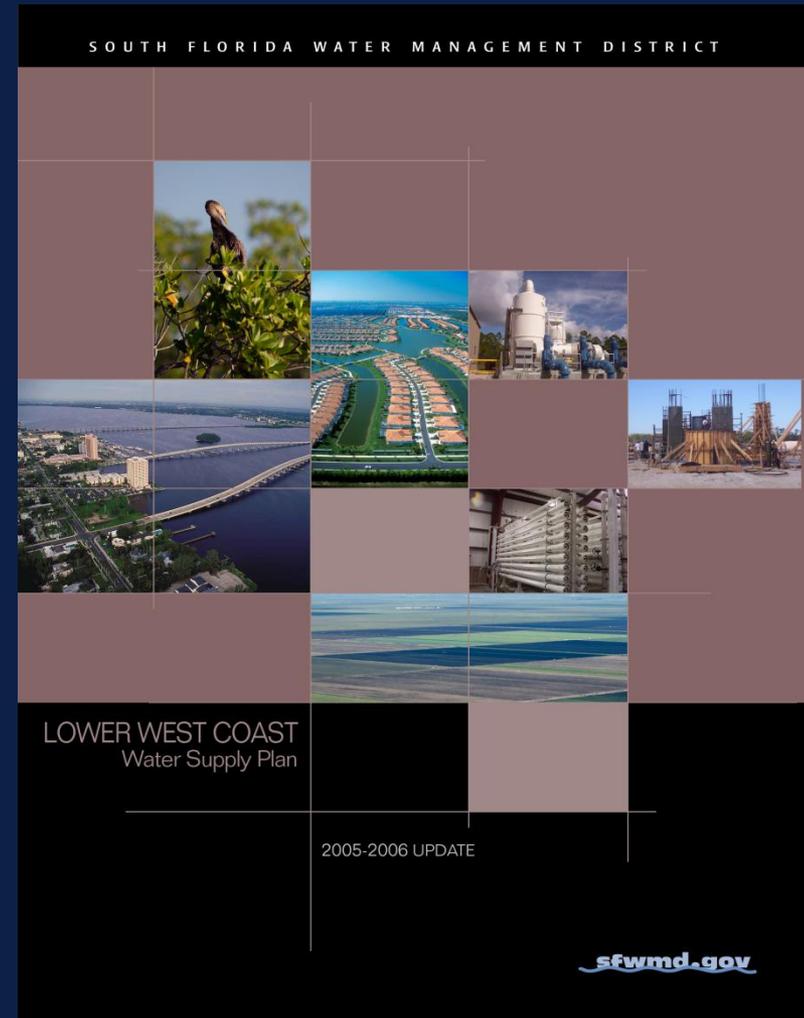
Present Final Plan to Gov.
 Bd. (Mar. 2011)



Water Supply Plan Documents

Design-

- Concise (<140 pages)
- Enclosed CD
 - Technical Reports
 - Data and Information for Local Governments
- Reader-Friendly Plan
 - Deliver take home messages for public and decision-makers



SFWMD Regional Water Supply Plans

Three documents
comprise each
plan



- **The Plan:** DEP mandated sections, summaries of projections & demands and utility summaries
- **Appendices:** detailed data, methodology, project lists & conservation plan
- **Support Document:** information that applies to all plans or does not change over the years



UTILITY SUMMARY WORKING DRAFT

County: Sample County

Supply Entity: Sample County Utilities

Local Government Served: Unincorporated Sample County (portion), Plain City, Park Place and City of Coolville (portion).

Bulk Water: Sample County has an interlocal agreement with the City of Coolville to provide bulk alternative water from 0.50 to 1.2 MGD from 2009-30.

Utility Purchases: Sample County has contracted to purchase one existing utility, Regional Utility by late 2010. Sample County plans on connecting this utility to their water system by mid 2011.

Description: Water supplies are comprised of 45 percent traditional groundwater supplies and 55 percent brackish groundwater, and are projected to be 31 percent traditional and 69 percent alternative water supplies in the future.

POPULATION AND DEMANDS	Historical		Projected	
	2005	2010	2020	2030
Population	68,820	75,500	90,868	109,316
Per Capita (gallons per day finished water)	129	129	129	129
Potable Water Demands (daily average annual finished water in MGD)	8.79	9.74	11.72	14.10

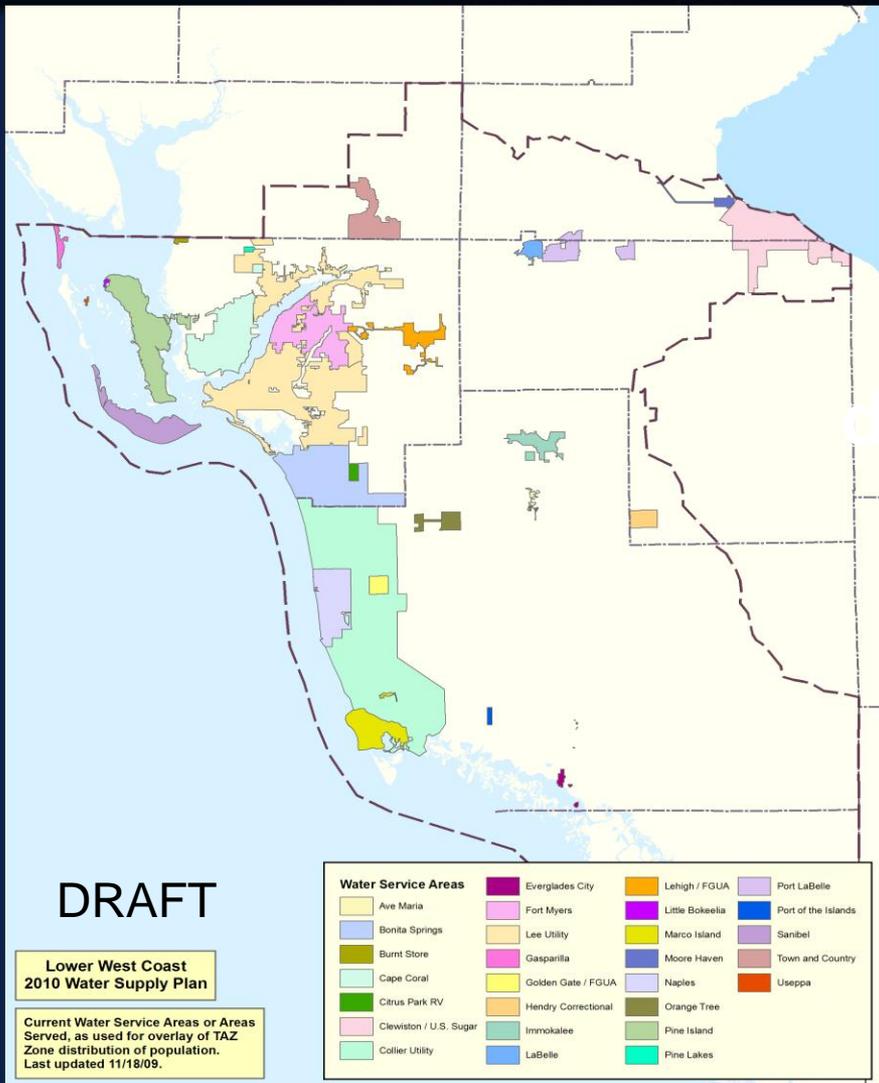
FACILITY PRODUCTION CAPACITY				
FDEP Facility Design Capacity plus projects design capacity	Capacity MGD	Cumulative Facility & Project Capacity (MGD)		
	2005	2010	2020	2030
Water Source: Surficial	4.50	4.50	4.50	4.50
Floridan	5.50	6.50	9.00	11.00
Total Capacity	10.00	11.00	13.50	15.50
Non-potable Water				
Source: Reclaimed	2.00	8.00	9.00	9.00

PROJECTS SUMMARY					
Water Supply Facility Projects	Alt. Src.	Total Cap. Cost (\$ M)	Cumulative Design Capacity (MGD)		
			2010	2020	2030
Completed Brackish Projects (2006-07)	B	\$6.00	1.00	3.50	4.50
WTP RO expansion from 4.0 to 4.80	B	\$0.50	0.00	0.00	1.00
Brackish Total	B	\$2.50	1.00	3.50	5.50
Completed Reclaimed Projects (2006-08)	R	\$2.00	6.00	6.00	6.00
South WWTP expansion from 1.6 to 2.8 MGD	R	\$7.20	0.00	1.00	1.00
Reclaimed Total	R	\$9.20	6.00	7.00	7.00

Alternative sources legend: T=Traditional; B=Brackish; R=Reclaimed; C=Captured Storm/Surface Water; O=Other.
 Note: Methodology is being considered to reflect planned conservation water savings.
 SFWMD Consumptive Use Permit Number: 43-xxxx-W, Annual Allocation: 15.0 MGD, Permit Expires: 2028



Water Supply Plan Update

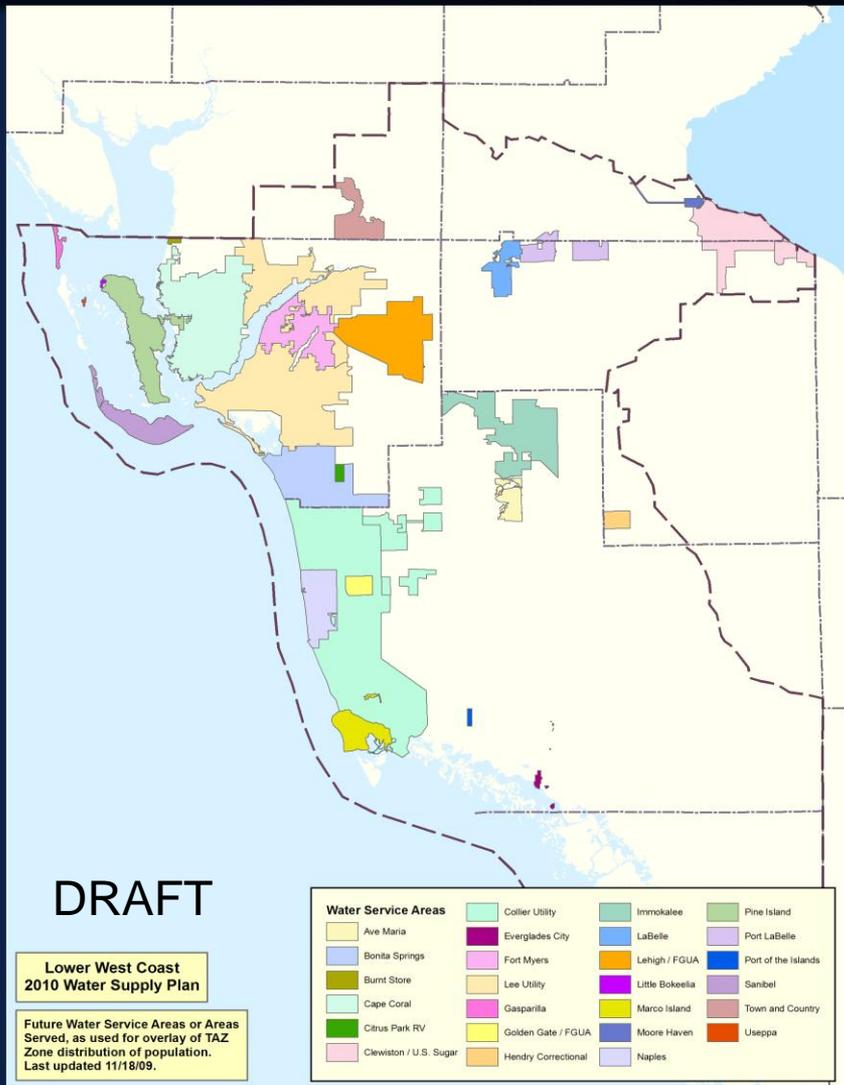


Current Areas Served by Utilities > 100,000 GPD

- 28 Utilities
- 10 Municipalities



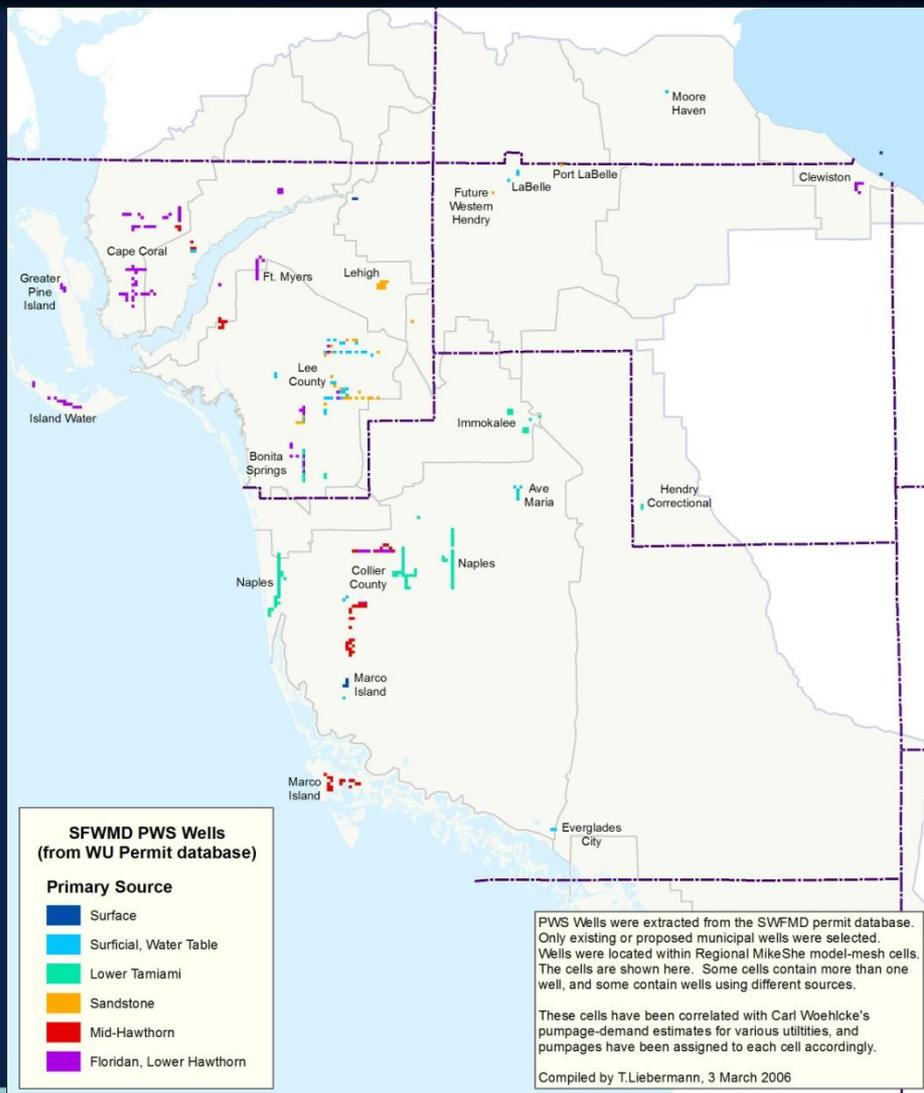
Water Supply Plan Update



Future Areas Served by Utilities > 100,000 GPD



Water Supply Plan Update



Exiting Facilities



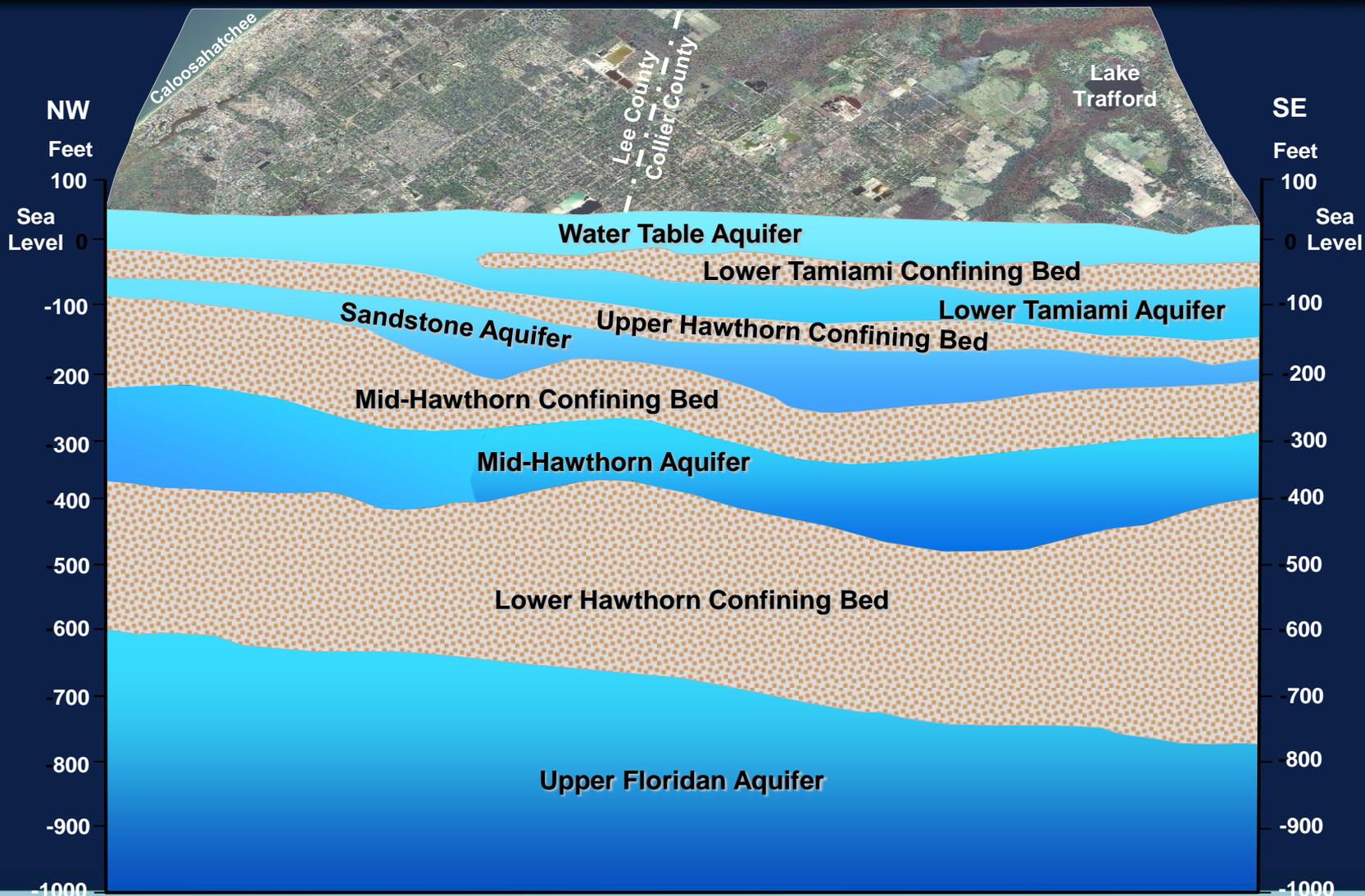
Water Supply Plan Update



Surface Water Basins



Water Supply Sources





Alternative Water Supply Options

- **Brackish Water – Surface and Ground**
- **Conservation- decrease use and increase efficiency**
- **Reclaimed Water- Increase supply, greater distribution and efficiency**
- **Stormwater storage- reservoirs and ASR wells**