

2013 LOWER EAST COAST WATER SUPPLY PLAN UPDATE



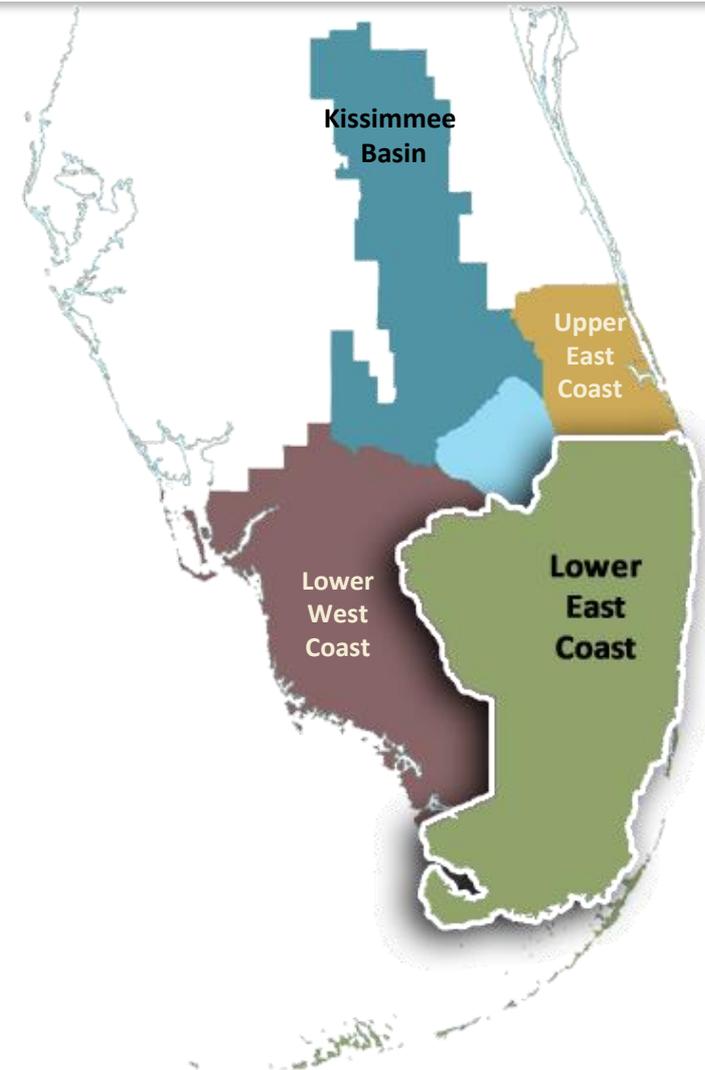
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Section Administrator
Water Supply Development

**Biscayne Bay Regional
Restoration Coordination Team**
August 21, 2013



What is a Regional Water Supply Plan?

- ▶ **Current and future look at water needs**
- ▶ **Strategies and sources to meet future water demands and the needs of the environment**
- ▶ **Based on at least a 20-year future planning horizon**
- ▶ **Updated every 5 years**
- ▶ **Local governments required to respond with updates to water facilities element of comprehensive plan**



Regional Water Supply Plan Requirements



- ▶ 20-year planning period
- ▶ 1-in-10 level of certainty
- ▶ Demand estimates and projections
- ▶ Resource analyses/issue identification
- ▶ Evaluation of water source options, including conservation
- ▶ Water Resource Development
 - *Responsibility of water management*
- ▶ Water Supply Development
 - *Responsibility of water utilities/users*
- ▶ Minimum Flows and Levels (MFLs)
 - *Prevention or recovery strategies*

Lower East Coast (LEC) Planning Area

- ▶ **Geographic Area:**
 - Palm Beach, Broward, Miami-Dade and Monroe counties
 - Eastern Collier and Hendry counties
- ▶ **Major urban areas**
- ▶ **112 local governments**
- ▶ **50 public water supply utilities**
- ▶ **Major agricultural industry**
- ▶ **Significant environmental resources**



LEC Planning Area

Planning Horizon 2010 – 2030

► Population:

- 2010 5,637,725
 - 2030 6,666,866 (projected)
- 18% population increase*

► Irrigated agricultural acreage:

- 2010 575,316
 - 2030 575,897
- Slight increase (< 1%) in ag acres*

► Gross water demands:

- 2010 1,719 MGD
 - 2030 1,933 MGD
- 12% water demand increase*



Miami-Dade County

► Population:

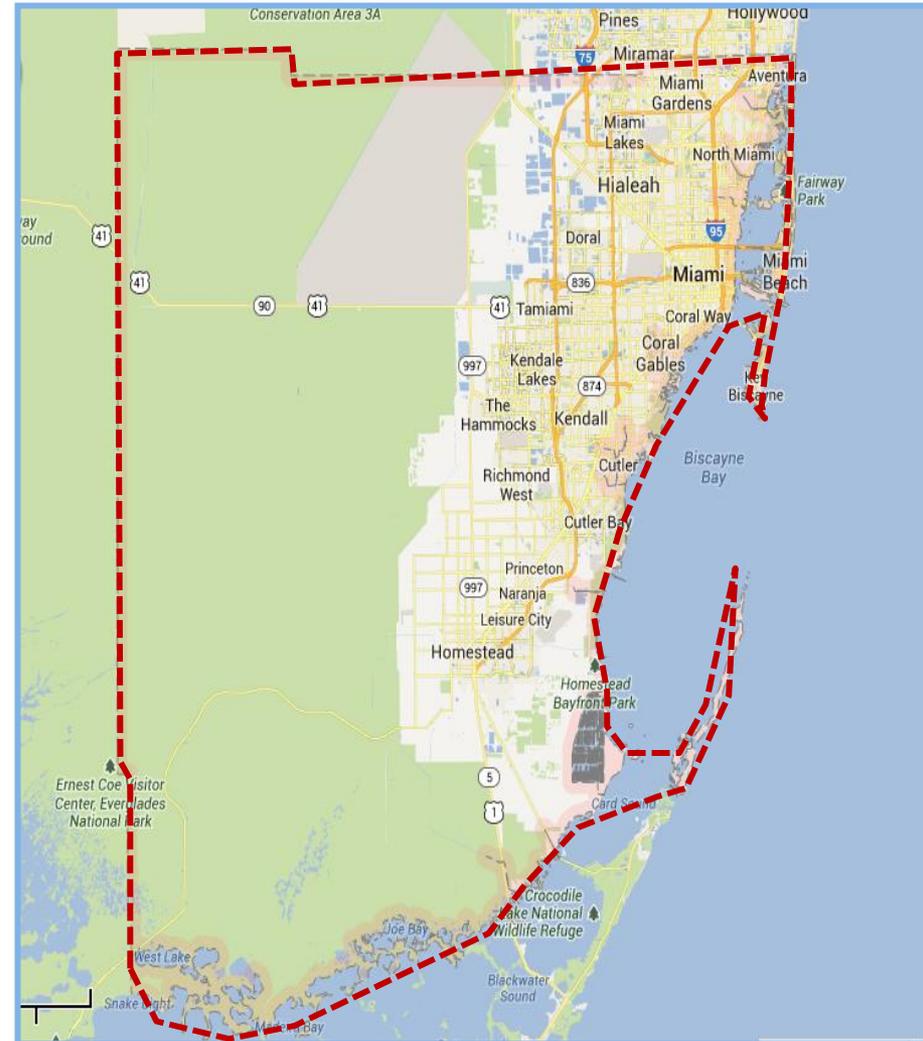
- 2010 2,496,435
 - 2030 2,952,800 (projected)
- 18% population increase*

► Irrigated agricultural acreage:

- 2010 47,805
 - 2030 46,954
- 2% ag acreage decrease*

► Gross water demands:

- 2010 486 MGD
 - 2030 570 MGD
- 17% water demand increase*



Goal

To identify sufficient water supply sources and future projects to meet existing and future reasonable-beneficial uses during a 1-in-10 year drought condition through 2030 while sustaining water resources and natural systems



Objectives

Water Supply

- Identify sufficient water resource and water supply development options to meet projected 2030 demands during a 1-in-10 year drought event

Conservation and Alternative Source Development

- Increase levels of conservation, efficiency of water use, and development of alternative water sources to meet projected demands

Natural Systems

- Protect and enhance the environment including the Everglades and other federal, state and locally identified natural resource areas

Objectives (cont.)

Linkage with Local Governments

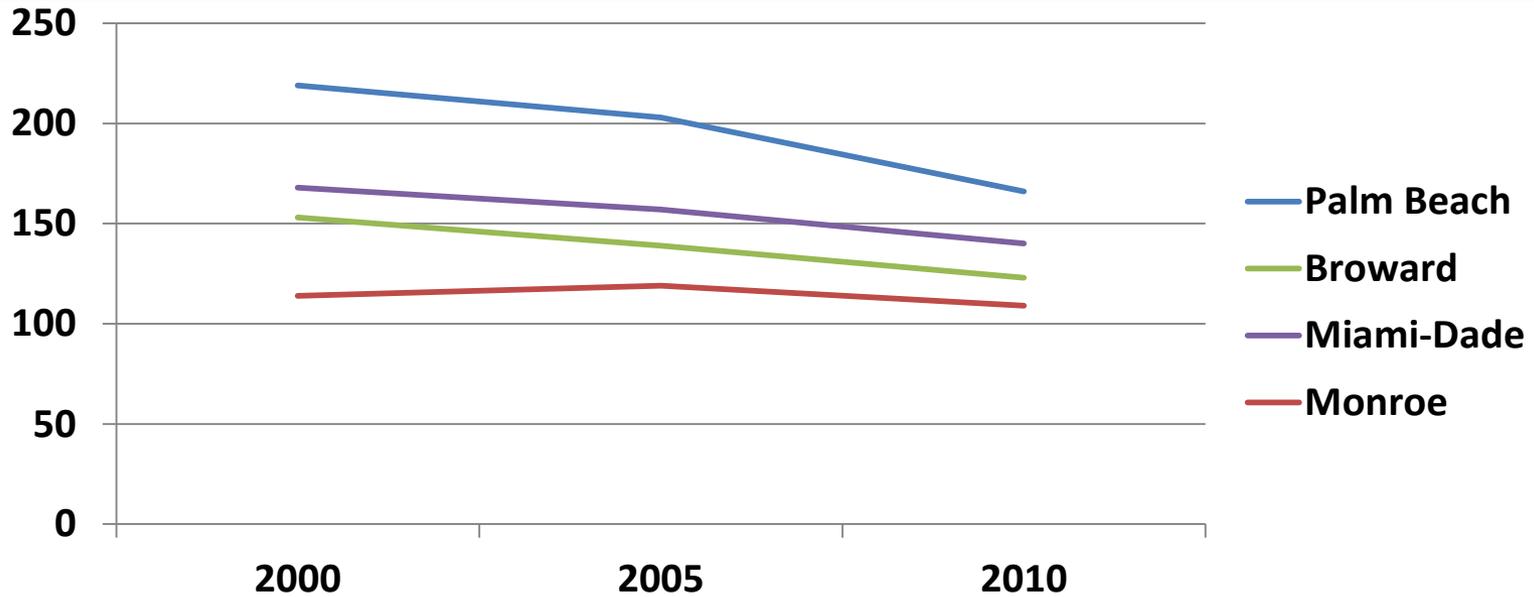
- Provide information to support local governments comprehensive plans

Compatibility and Linkage with Other Efforts

- Achieve compatibility and integration with:
 - CERP and other environmental restoration projects
 - Modifications to operating schedules for the regional system, including Lake Okeechobee
 - Water use permitting process, minimum flows and level criteria, and water reservations
 - Other local and regional water resource planning efforts

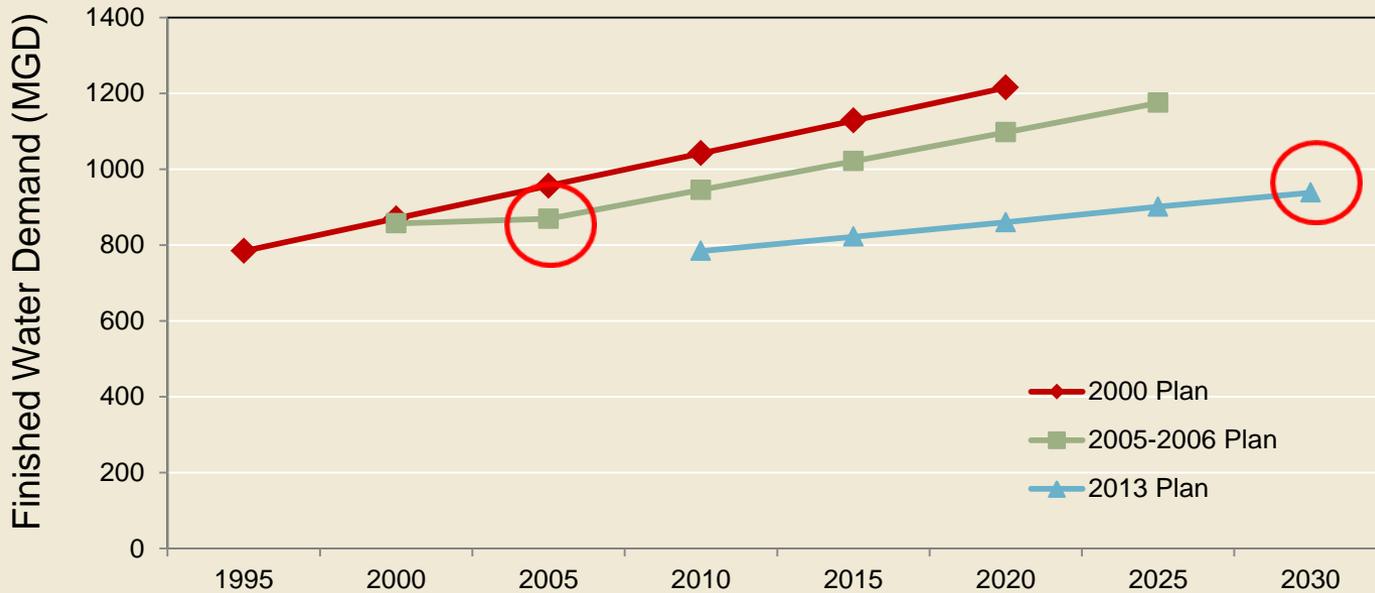
LEC Declining Per Capita Usage

Gallons Per Capita Per Day



County	Gallons Per Capita Per Day		
	2000	2005	2010
Palm Beach	219	203	166
Broward	153	139	123
Miami-Dade	168	157	140
Monroe (includes permanent and seasonal population)	114	119	109
LEC Area Average	176	163	142

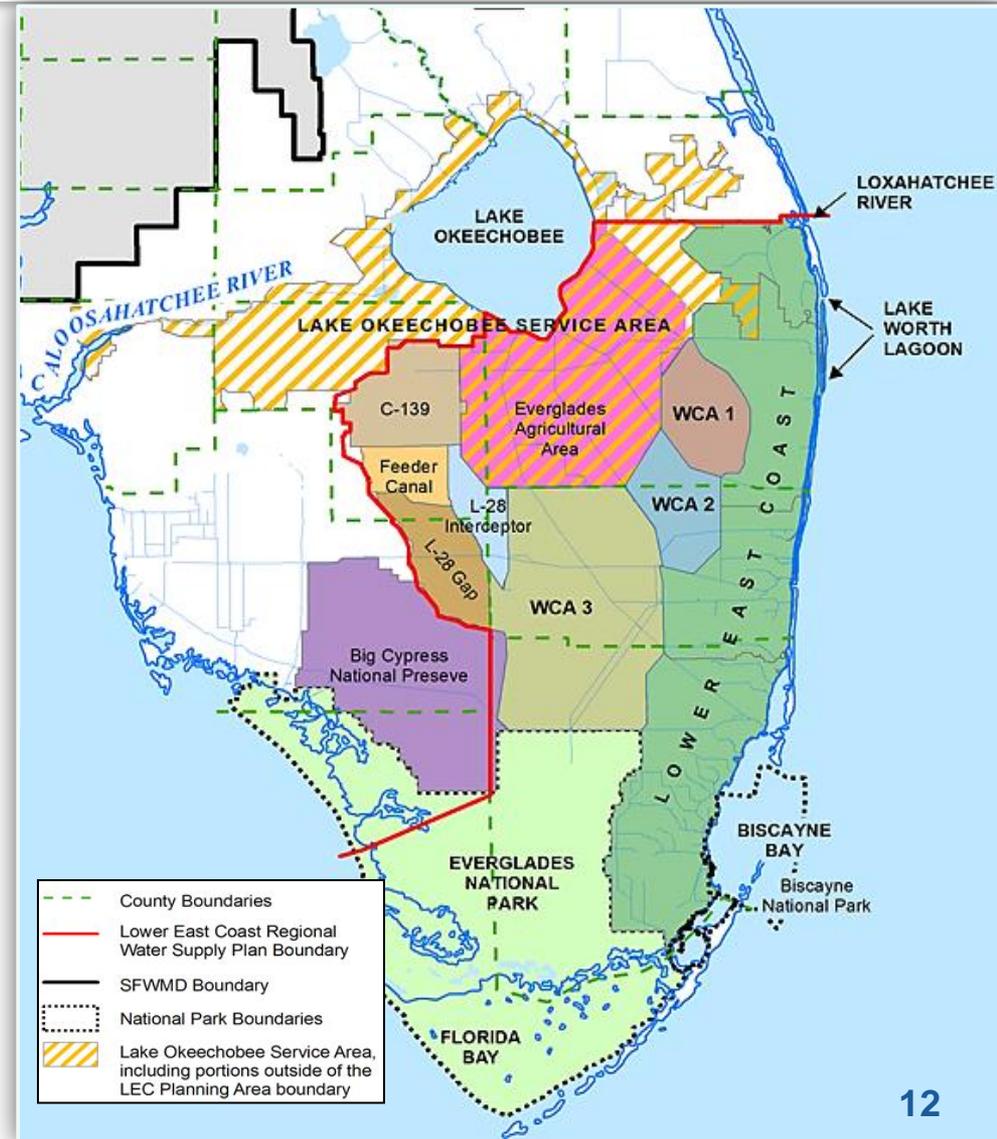
History of Public Water Supply Demand Projections (Finished Water)



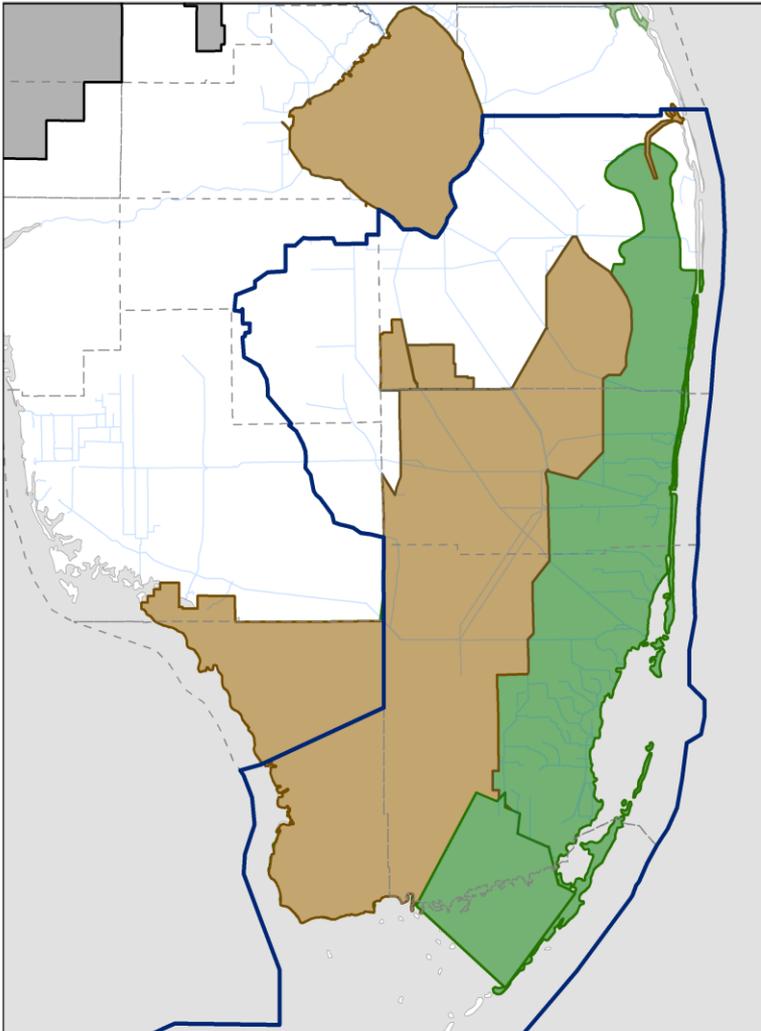
Plan Year	1995	2000	2005	2010	2015	2020	2025	2030
2000 Plan	784	870	956	1,042	1,128	1,215		
2005 Plan		857	869	945	1,021	1,097	1,175	
2013 Plan				784	822	860	901	938

Water Resources

- ▶ Regulatory Criteria
- ▶ Resource Regions
 - Lake Okeechobee
 - Everglades
 - Loxahatchee River and Estuary
 - Lake Worth Lagoon
 - Biscayne Bay
 - Florida Bay
 - Lower East Coast Service Area



LEC Minimum Flows and Levels (MFLs) Water Bodies



MFL Prevention Water Bodies

- Biscayne aquifer
- Northeastern Florida Bay

MFL Recovery Water Bodies*

- Northwest Fork of Loxahatchee River
- Lake Okeechobee
- Everglades (WCAs and ENP)

***Recovery and prevention strategies
rely on CERP implementation**

Table B-3. Water resource development projects that provide water supplies associated with MFL recovery and prevention strategies.^a

MFL Water Body	Water Resource Development Projects	Program	Finish Date ^b
Everglades (including WCAs and Everglades National Park) – projects needed for MFL recovery	Modified Water Deliveries to Everglades National Park	Department of Interior/USACE	Substantially complete
	C-111 Spreader Canal Western	CERP/SFWMD	Operational testing
	C-111 South Dade	SFWMD/USACE	Substantially complete
	Broward County Water Preserve Area – WCA 3A/3B Seepage Management	CERP	Waiting for congressional authorization
	Environmental Preserve at Marjory Stoneman Douglas Everglades Habitat	SFWMD	Operational
	Fran Reich Preserve Reservoir	CERP	Under construction
	Broward County Water Preserve Area C-11 Impoundment	CERP	Waiting for congressional authorization
	Broward County Water Preserve Area C-9 Impoundment	CERP	Waiting for congressional authorization
	WCA 3 Decompartmentalization and Sheetflow Enhancement	CERP	To be determined
	EAA Storage Reservoir on EAA A2 Site	CERP	To be determined
Lake Okeechobee – projects needed for MFL recovery	WCA 3B/Everglades National Park Seepage Management	CERP	To be determined
	Lake Okeechobee Watershed	CERP	To be determined
Loxahatchee River - projects needed for MFL recovery	USACE Herbert Hoover Dike Major Rehabilitation	USACE	2030 ^c
	Loxahatchee River Watershed Restoration	CERP	To be determined
	Loxahatchee River Watershed Restoration – G-160 and G-161 Structures	CERP/SFWMD	Operational
Florida Bay – projects needed for MFL prevention	Interim Use of L-8 Site	SFWMD	To be determined
	Everglades National Park Seepage Management	CERP	To be determined
	WCA 3 Decompartmentalization and Sheetflow Enhancement	CERP	To be determined
	C-111 Spreader Canal Western Project	CERP/SFWMD	Substantially complete

a. MFL rules identify the general programs that will be used to develop and implement prevention or recovery, rather than specific projects. The potential role of specific projects to address MFL water needs is generally considered in the respective MFL technical supporting documentation.

b. Finish dates indicate when construction will be complete.

c. Time shown is for complete dike repair. Partial repairs may be sufficient to allow additional storage in Lake Okeechobee necessary to prevent MFL violations.

Updated MFL Recovery & Prevention Strategies - Projects

Water Resource Development – Project Examples

► Structural

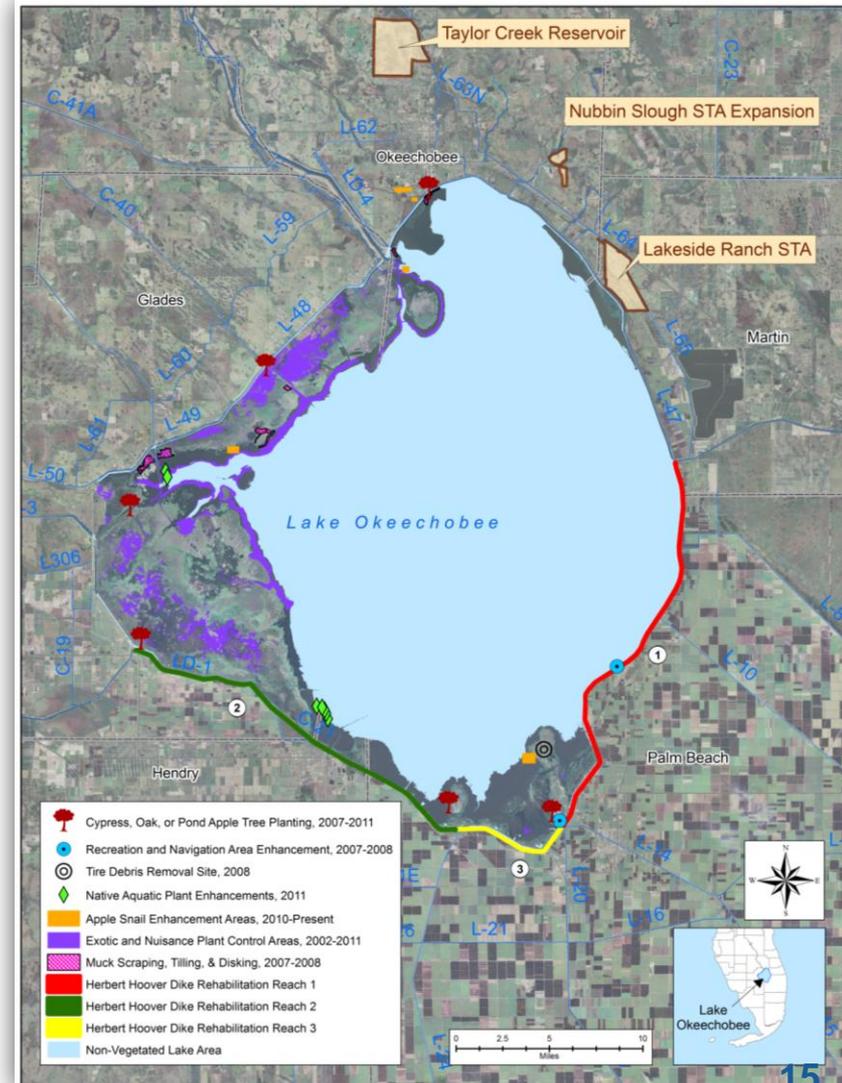
- USACE Herbert Hoover Dike Rehabilitation

► Ecosystem Restoration

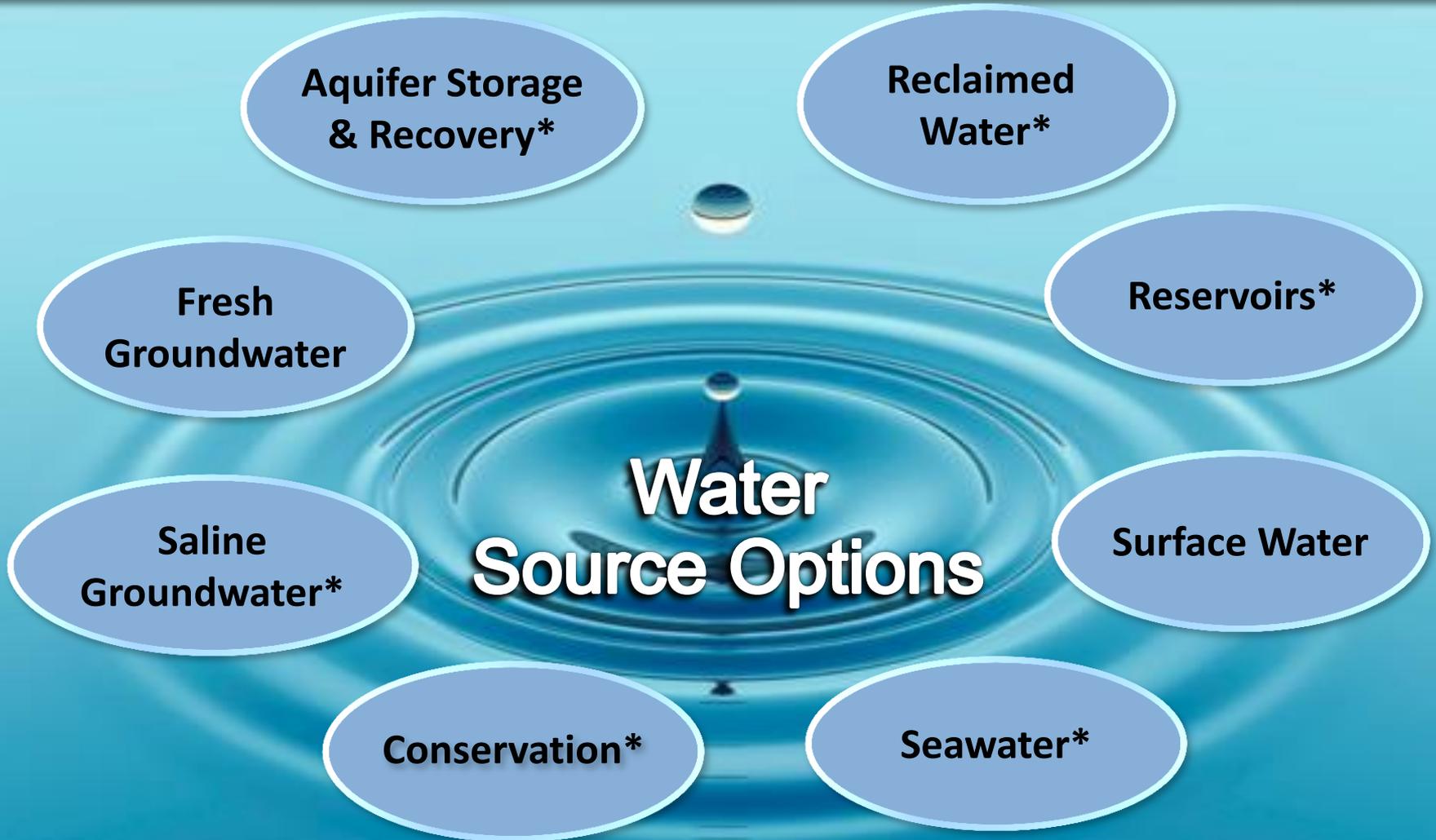
- Restoration Strategies Regional Water Quality Plan
- CERP
 - Lake Okeechobee Watershed Plan
 - Broward Water Preserve Areas
 - WCA 3 Decompartmentalization and Sheetflow Enhancement, Part 1 (Decomp)
 - WCA 3B/Everglades National Park Seepage Management

► Evaluation Tools

- East Coast Floridan Aquifer Model



Water Source Options



* Alternative water source

How Will Future Demands Be Met? (PWS, Ag and Rec/Landscaping)

Category	Surface Water	Fresh Groundwater	Brackish Groundwater	Reclaimed Water	Storage	Conservation
Public Water Supply		✓	✓		✓	✓
Agricultural Irrigation	✓	✓				✓
Recreation/ Landscape Irrigation	✓	✓		✓		✓



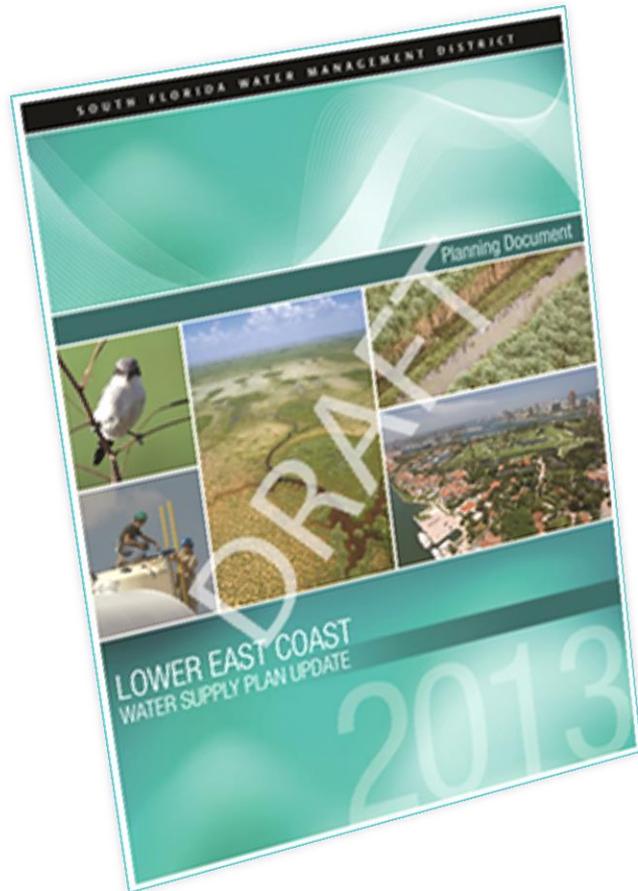
Environmental Water Needs



- ▶ **Implementation of CERP and other projects**
- ▶ **Regulatory protection of water resources**
 - Water Use Permitting Program
 - Minimum Flows and Levels*
 - Water Reservations
 - Restricted Allocation Area Rules
 - Water Shortage Criteria

** Recovery & prevention strategies rely on CERP implementation*

Conclusion



The future water demands of the region can be met through the 2030 planning horizon with appropriate management, conservation and implementation of projects in this Plan

Dependent on completion of:

- ▶ Water supply development projects by 7 utilities
- ▶ Completion of USACE Herbert Hoover Dike Rehabilitation Project and subsequent revision to the Lake Okeechobee regulation schedule
- ▶ CERP and other projects to meet environmental needs

2013 LEC Plan Update Documents

The screenshot displays the website for the South Florida Water Management District. The main navigation bar includes links for Home, About Us, Managing & Protecting Water, Protecting & Restoring Ecosystems, News, and Library & Multimedia. A secondary navigation bar lists various user groups: Residents & Visitors, Businesses, Scientists & Engineers, Educators & Students, Topics, and Regions. The main content area features a large image of a coastal city with a map overlay showing the Lower East Coast Water Supply Planning Area. Below the image is the title "Lower East Coast Water Supply Plan" and a "VIEW LARGER" button. To the left, a "RELATED LINKS" sidebar lists various planning documents and workshops. The main text area contains a notice about a WRAC Issues Workshop on June 27, 2013, followed by a section for the "DRAFT 2013 LOWER EAST COAST (LEC) WATER SUPPLY PLAN UPDATE" with links to planning documents and appendices. A "REGIONAL MODEL RESULTS" section is also visible. On the right side, there are sections for "In the News" with a list of recent news items and a "NEWS ARCHIVE" link, and "Upcoming Events" with a list of future workshops and training sessions.

RELATED LINKS

- ▶ About Water Supply Planning
- ▶ Lower East Coast Water Supply Plans
- ▶ Alternative Water Supply
- ▶ Water Supply Facilities Work Plan Support
- ▶ Intergovernmental Programs: Linking Land and Water
- ▶ C-51 Reservoir Partnership Study
- ▶ Where does our drinking water come from? [PDF]
- ▶ Water Conservation
- ▶ Water Resources Advisory Commission (WRAC)
- ▶ Past Lower East Coast Water Supply Plans
- ▶ Public Workshops

The next WRAC Issues Workshop will be held on June 27, 2013. more »

The Lower East Coast Water Supply Planning Area includes Palm Beach, Broward, Miami-Dade and parts of Monroe, Collier and Hendry counties. The SFWMD is developing the 2013 Lower East Coast Water Supply Plan Update to assess projected water demands and Water Supply Plan Update to assess projected water demands and update will be used by local governments, water users and utilities to update and modify local comprehensive plans, facility work plans and ordinances. Check this page for upcoming workshop information. more »

DRAFT 2013 LOWER EAST COAST (LEC) WATER SUPPLY PLAN UPDATE

- ▶ Planning Document [PDF]
- ▶ Appendices [PDF]

REGIONAL MODEL RESULTS

- ▶ Support Information
- ▶ Performance Measure Graphics

In the News

- ▶ Purple Prevails During Water Reuse Week (May 22)
- ▶ SFWMD Water Levels Positioned Well for NWS Forecast of Average Wet Season (May 16)
- ▶ South Florida Sees 2nd Wettest April Since 1997 (May 01)
- ▶ Florida Water Star Shines in South Florida (Apr 30)
- ▶ SFWMD Expo Focuses on Efficient Water Use for Facilities (Apr 12)

NEWS ARCHIVE

Restoring America's Everglades

Upcoming Events

- ▶ Land Assessment Public Workshop Everglades Region - June 26
- ▶ Florida Water Star Accredited Professional Training for Irrigation and Landscape Professionals (4 CEU hours for FNGLA), June 12-13, West Palm Beach
- ▶ Workshop: Understanding How Building Codes Can Increase Water Use Efficiency, June 27, Miami

- ▶ Further information including LEC Plan documents, can be found at:

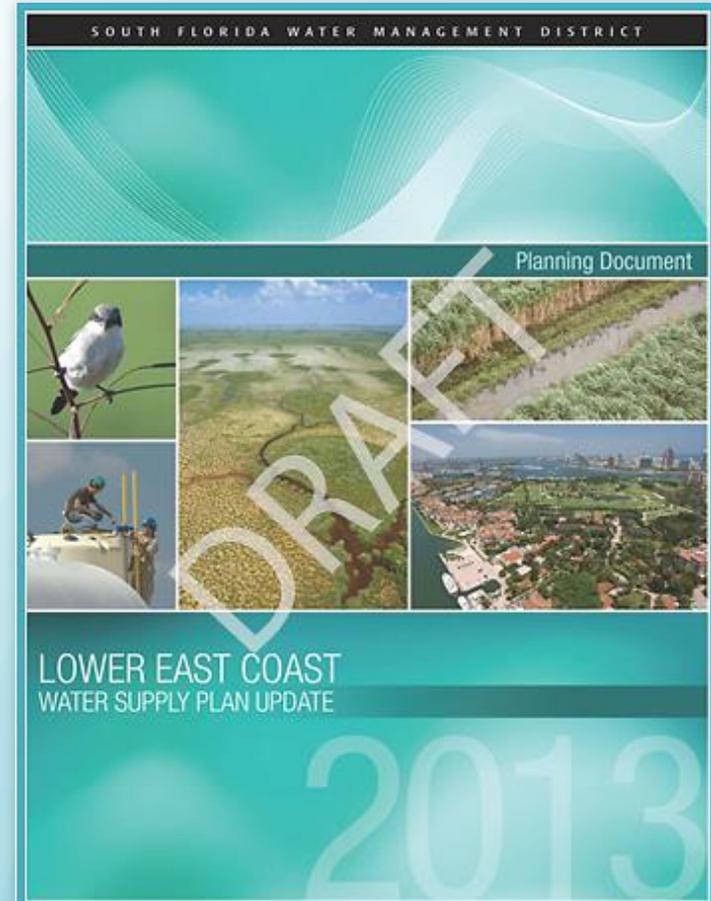
www.sfwmd.gov/watersupply

What's Next?

- | | |
|-----------|--|
| Sept 5 | Final Plan to SFWMD WRAC |
| Sept 12 | Final Plan to SFWMD
Governing Board |
| June-Sept | Presentations to local
governments and others |



QUESTIONS?



2013 Lower East Coast Water Supply Plan Update

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