



LEC Water Supply Plan, CERP & LOSOM: Inextricable Links to the Future of Water Supply for the Lower East Coast

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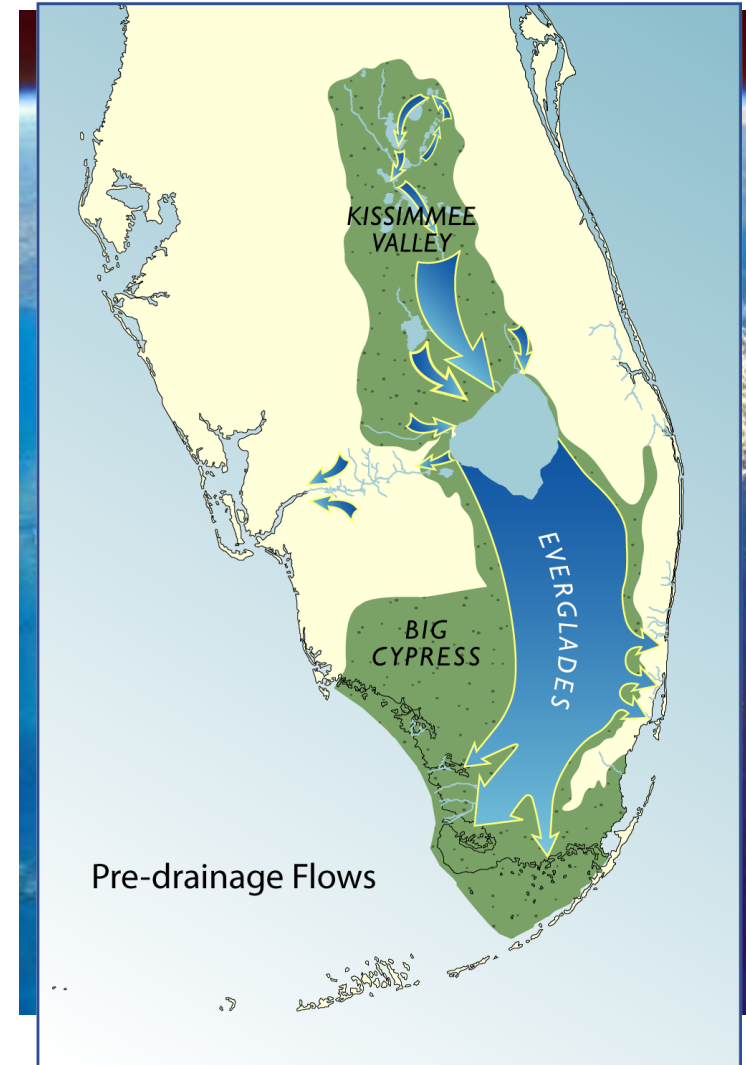
Water Defines and Drives the Environment of South Florida

- Human Environment
- Agricultural Environment
- Natural Environment

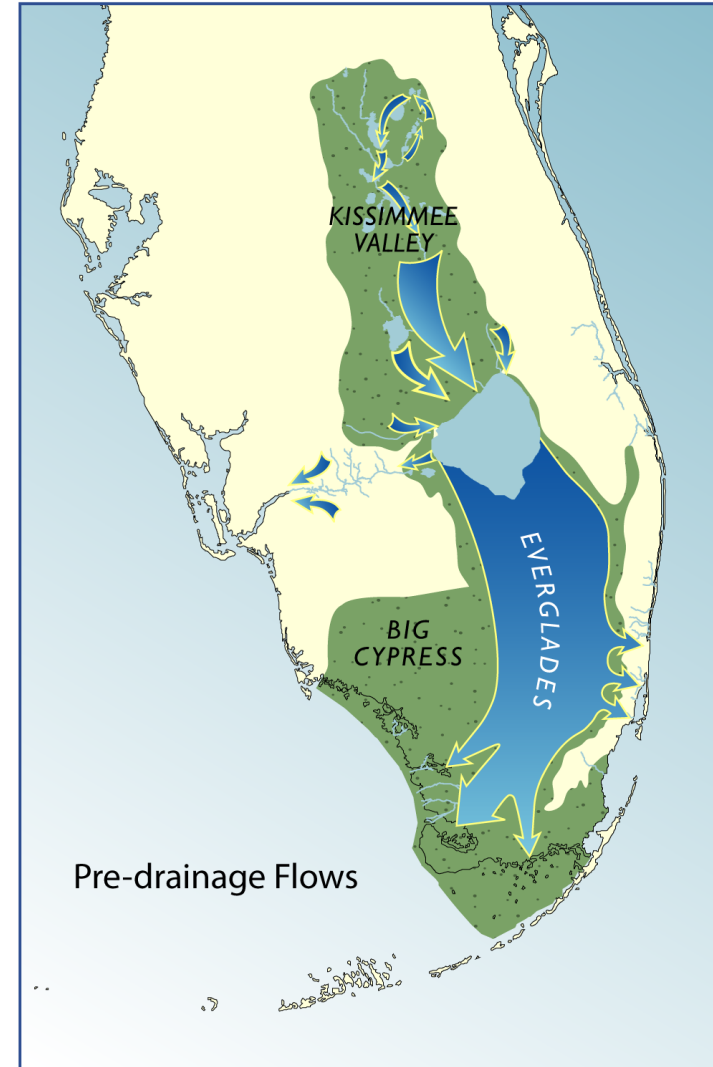
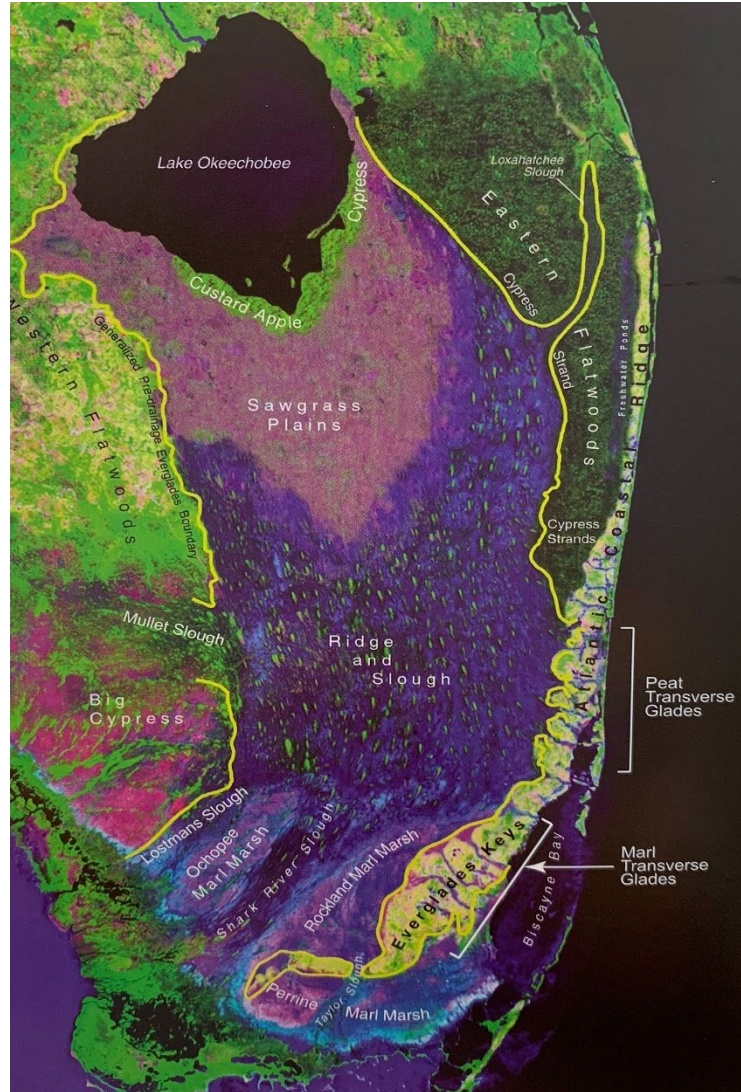
Average of 55" of rainfall annually

Lake Okeechobee is the 10th largest lake in the U.S. - 730 sq miles in size

Historically, water flowed from central Florida to Lake Okeechobee and south into Florida Bay

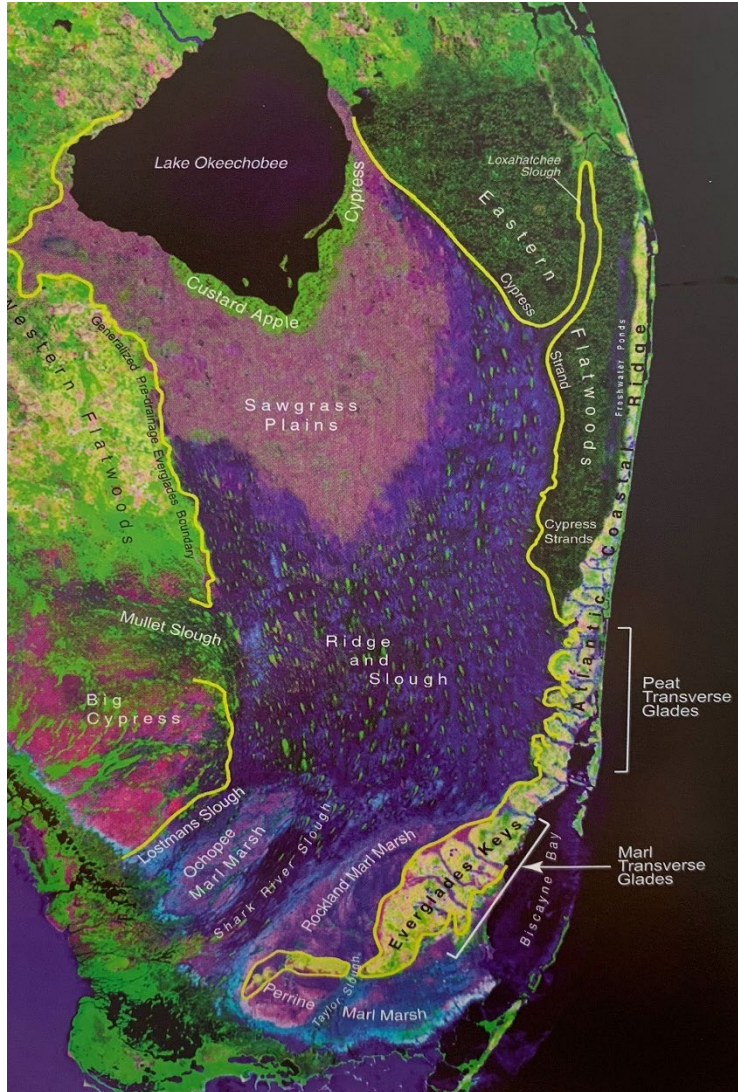


South Florida has evolved from the “River of Grass” ...

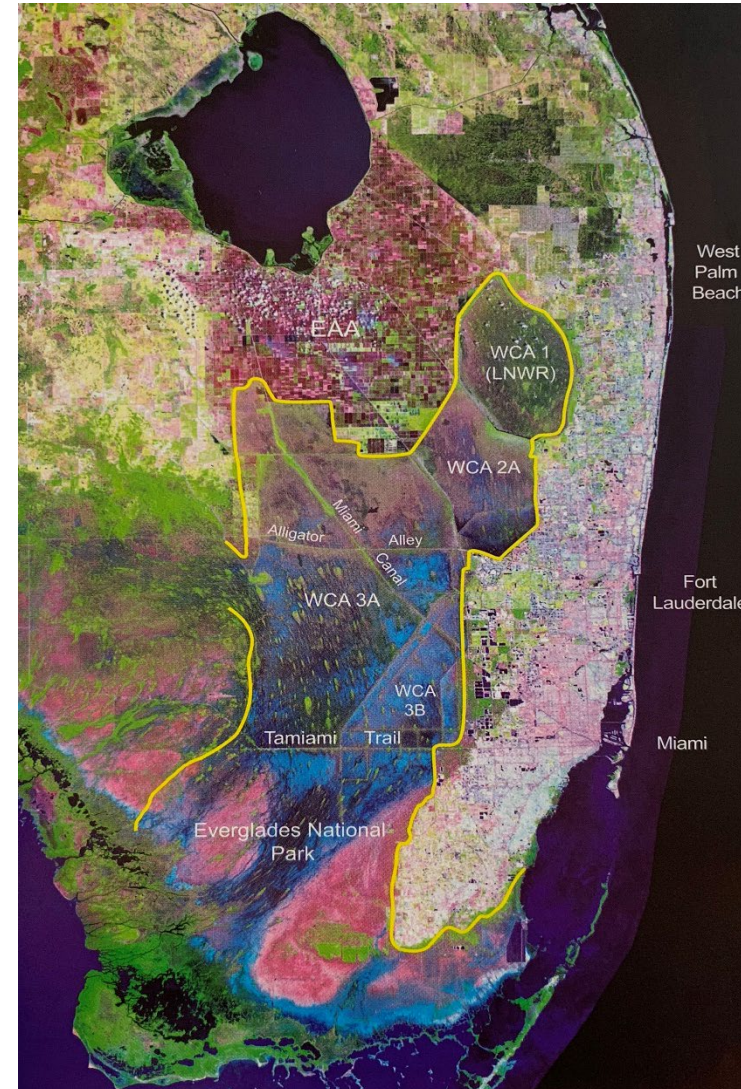


Pre-drainage Everglades 1850 satellite image simulation
McVoy (2011)

South Florida has evolved from the “River of Grass” ... to a highly urbanized and managed system



Pre-drainage Everglades 1850 satellite image simulation
McVoy (2011)



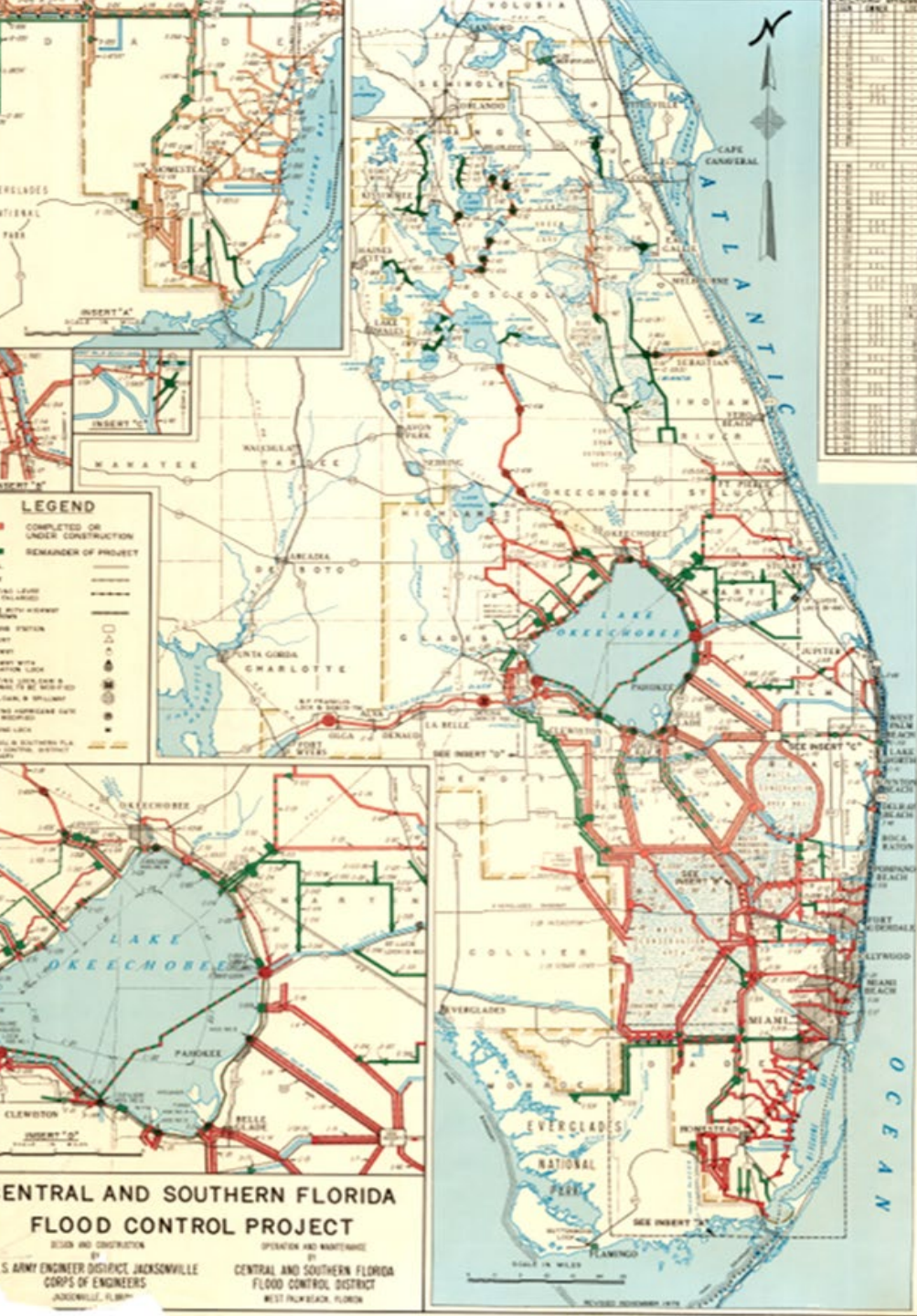
1994 satellite image
McVoy (2011)

6.2 million
people

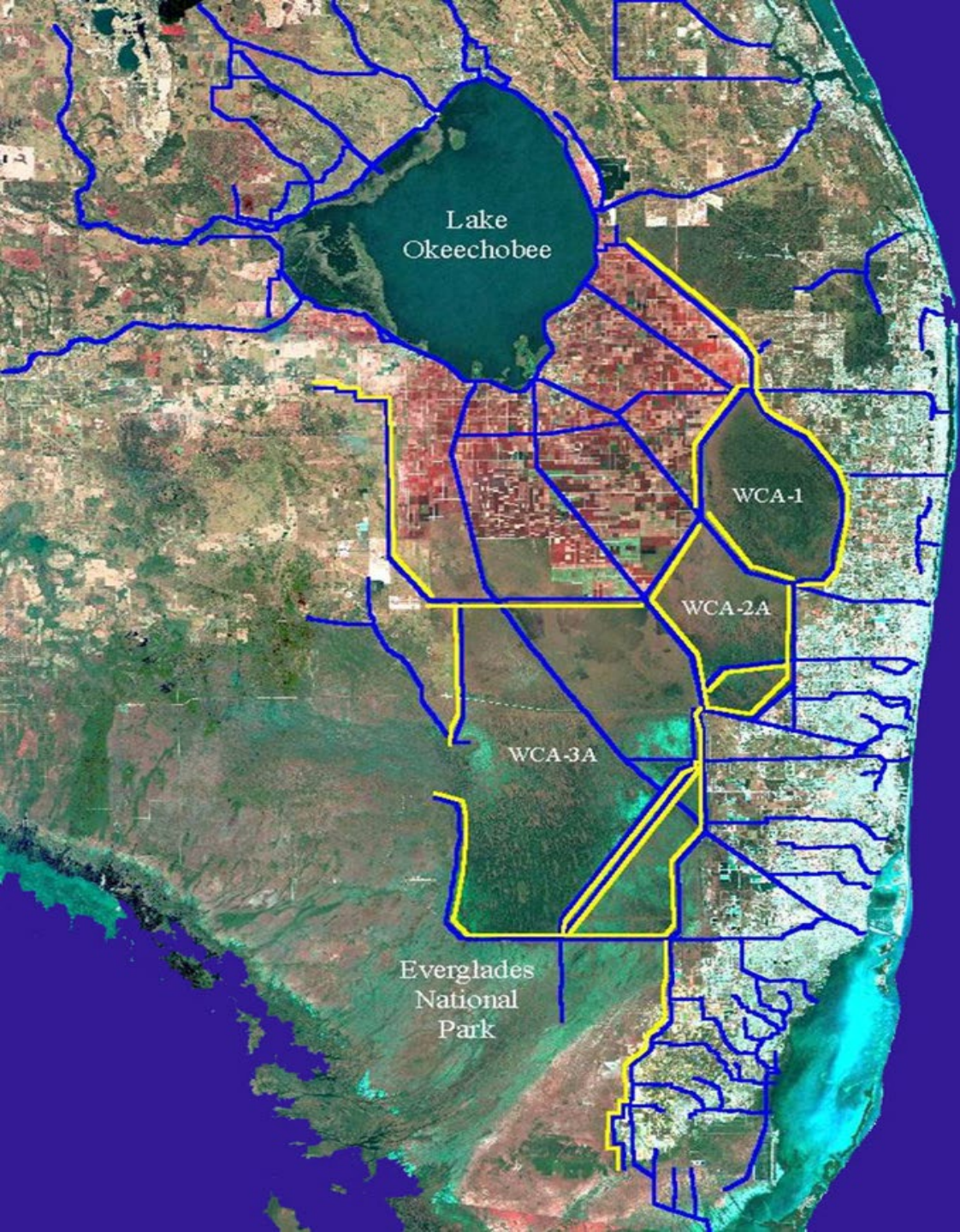
Central & Southern Florida Flood Control Project

Project Purposes:

- Flood Control
- Water Supply
 - Agriculture
 - Urban
 - Everglades National Park
 - Saltwater Intrusion
- Navigation
- Protection of fish and wildlife

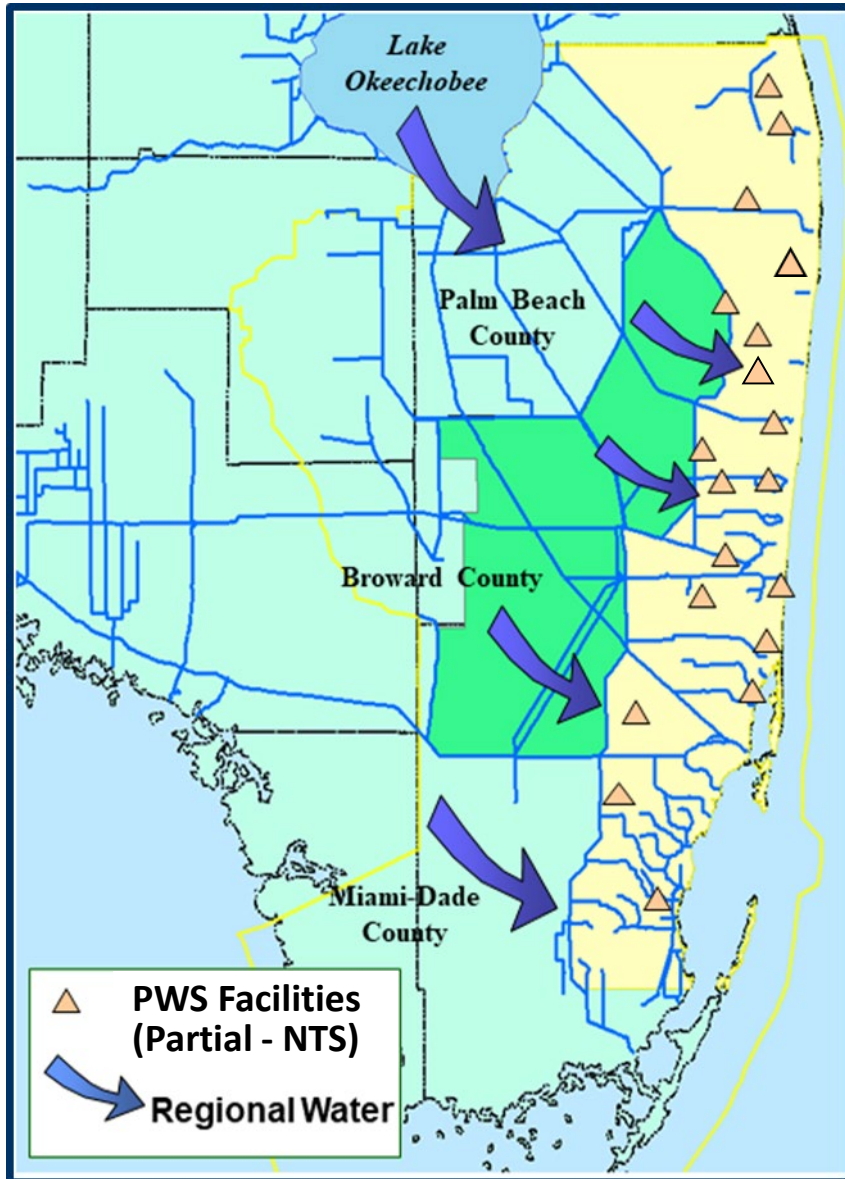


Lake Okeechobee is the Heart of the C&SF Project



- Flood Storage
- Important Ecological Resource
- Water Supply
 - Environmental Areas
 - Agriculture
 - Public Water Supply
 - Seminole & Miccosukee Tribes
 - Stormwater Treatment Areas
 - Lower East Coast

Canals, Lake Okeechobee, Everglades... what does that have to do with me?



Everyone in south Florida relies on Lake Okeechobee and the Water Conservation Areas to:

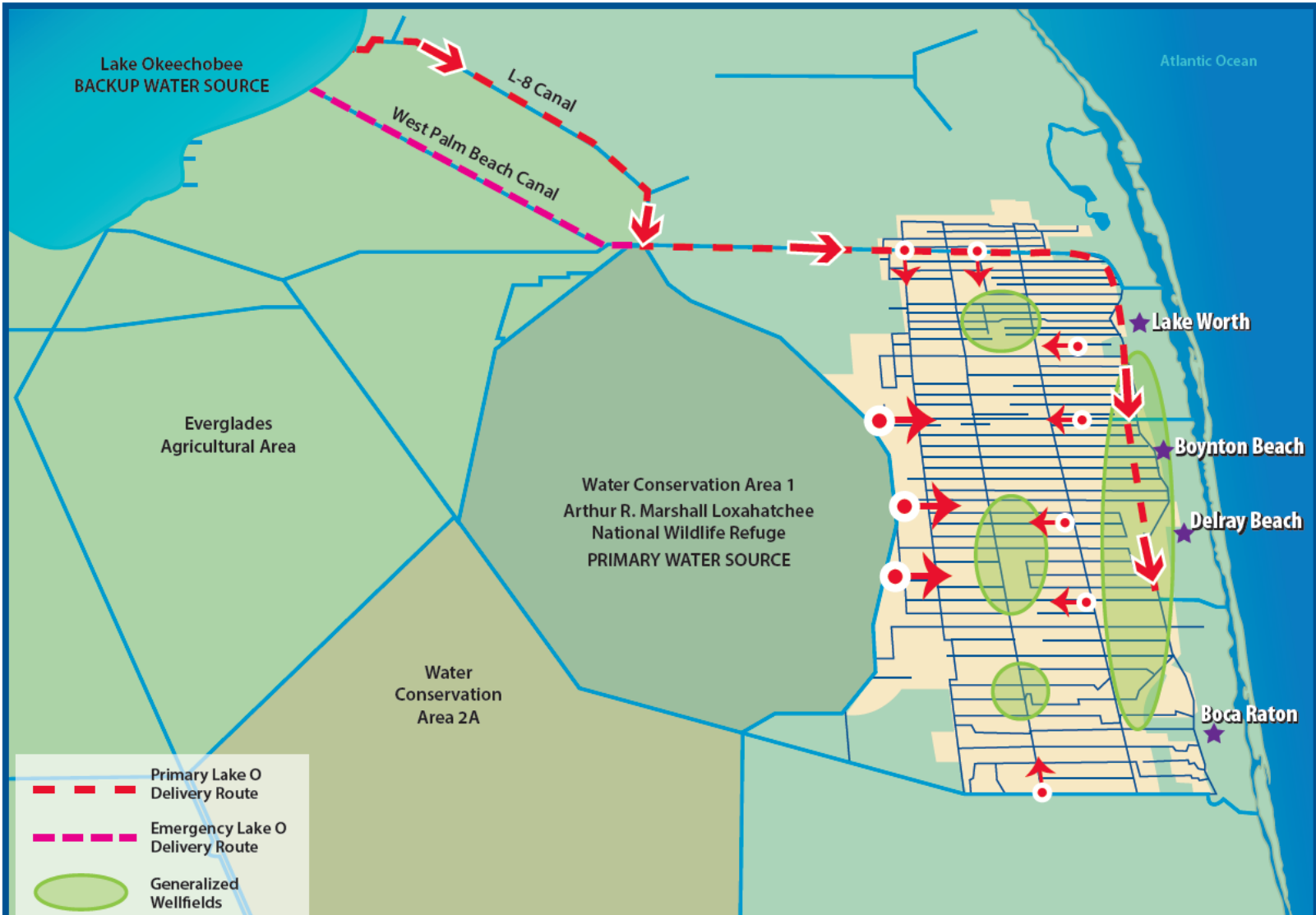
- Replenish and recharge drinking water and irrigation supplies
- Maintain ground water and canal levels
- Protect against saltwater intrusion that could contaminate wellfields

**30% of Florida's population
lives along Lower East Coast**

<i>2018 Population</i>	<i># of PWS Utilities</i>	
Palm Beach	1,433,417	19
Broward	1,897,976	26
Miami-Dade	2,779,322	6
Monroe	73,940	1
TOTAL:	6,184,655*	52

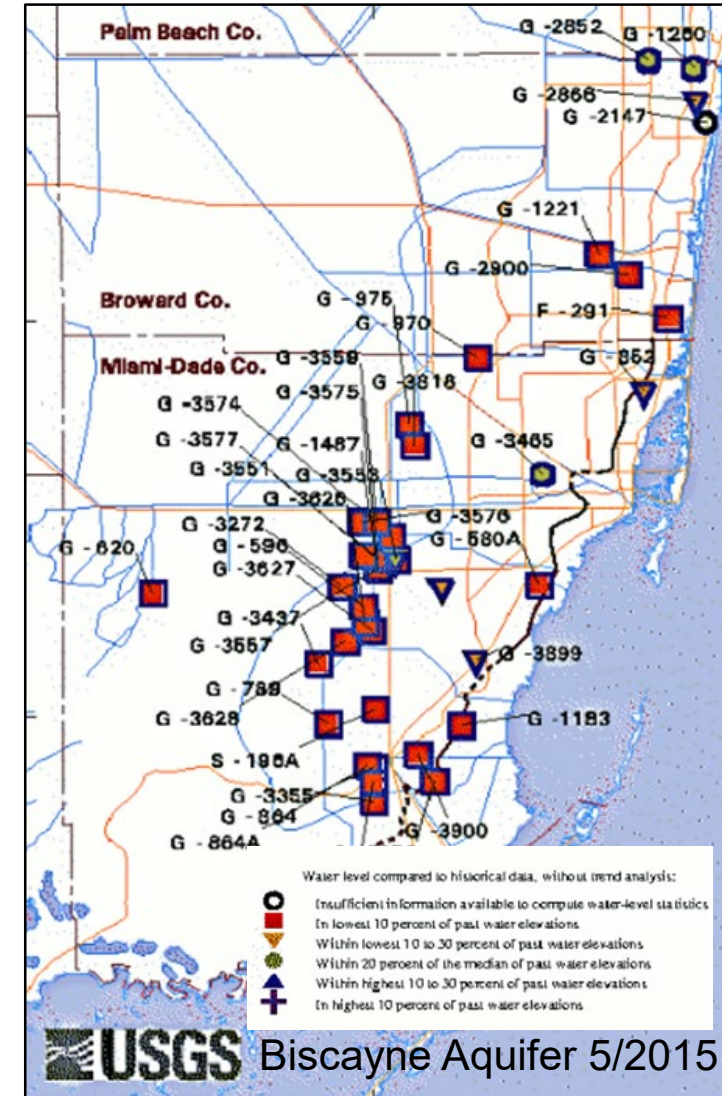
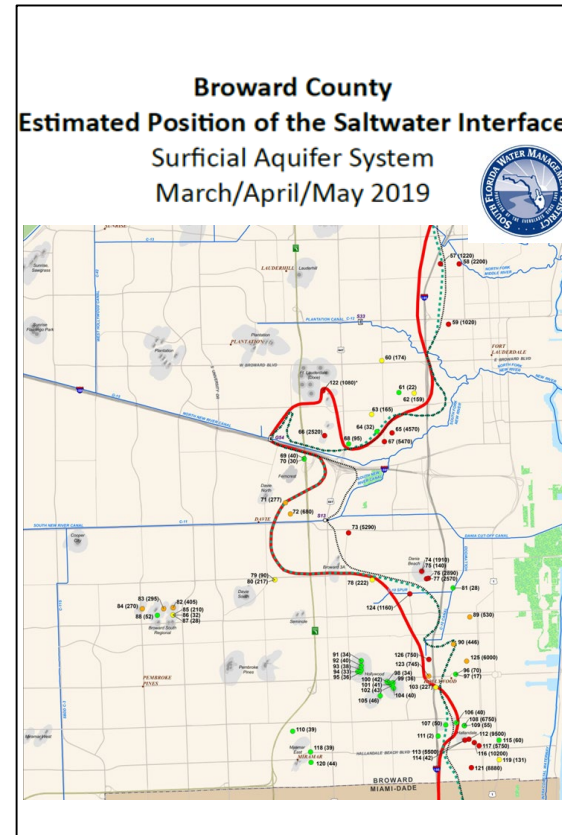
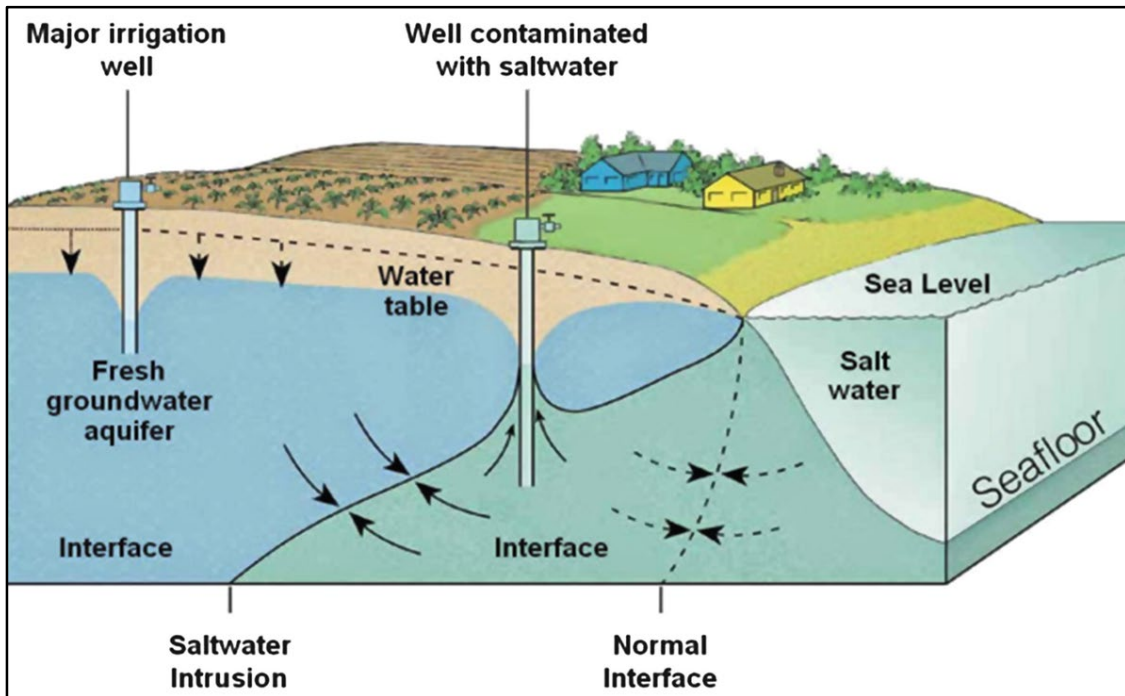
Lake Okeechobee: Back-Up Water Supply for LEC

Lake Worth Drainage District Water Supply Sources

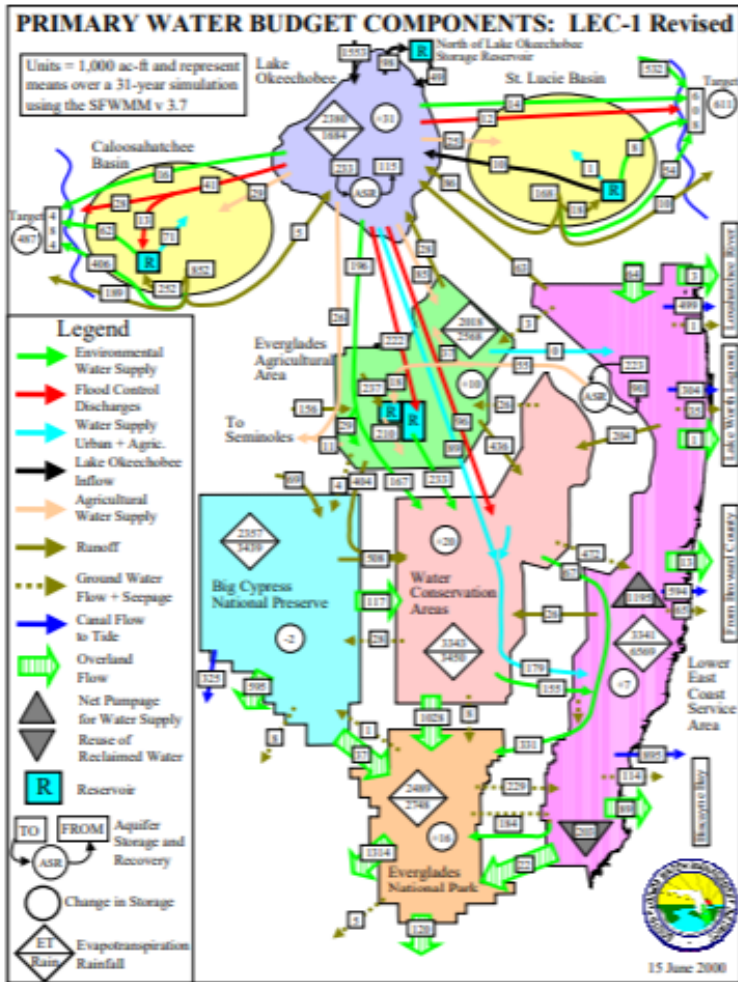


Why are low Lake Okeechobee levels a concern?

- With no water deliveries/recharge from WCAs, there is an increased risk of permanently compromising freshwater supplies in utility wellfields due to saltwater intrusion in urban coastal areas
- Sea level rise exacerbates these concerns

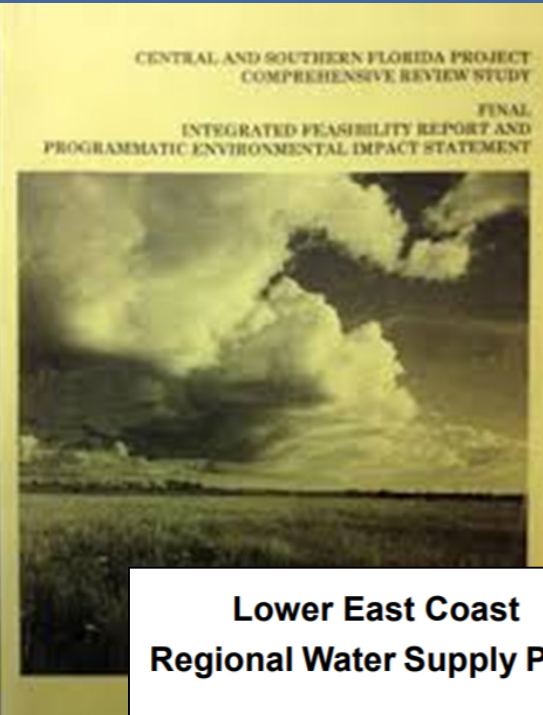


Background - LEC Water Supply Plan & CERP



- 1993 - ACOE began Restudy of C&SF Project to investigate ways to modify Project to restore the Everglades while still providing water-related services to area's residents & industry
- 1994 - Governor Lawton Chiles created the Governor's Commission for a Sustainable South Florida and tasked it with developing and implementing options for restoring the ecosystem in cooperation with all stakeholders
- SFWMD water supply planning efforts completed from 1992 to 1997 for the Lower East Coast Water Supply Plan provided the foundation for the Restudy in the form of:
 - *analytical tools*
 - *performance targets for environment and people*
 - *evaluation techniques*
 - *storage project options*

Background - LEC Water Supply Plan & CERP



Lower East Coast Regional Water Supply Plan

Planning Document



prepared by

South Florida Water Management District
May 2000

Water Supply Planning and
Development Department
West Palm Beach, Florida

1997 - State enacted significant new water supply planning legislation requiring such things as:

- *20-year planning period*
- *Quantification of water supply needs for existing & projected uses*
- *Level-of-certainty planning goal of 1-in-10 year drought*
- *MFL recovery & prevention strategies*
- *Intent to avoid competition and authority for water resource and water supply development projects*

1997 - the District merged its LEC regional water supply analyses of major water storage facilities into the Restudy process and incorporated CERP features into the state planning process

1999 – ACOE Restudy Completed

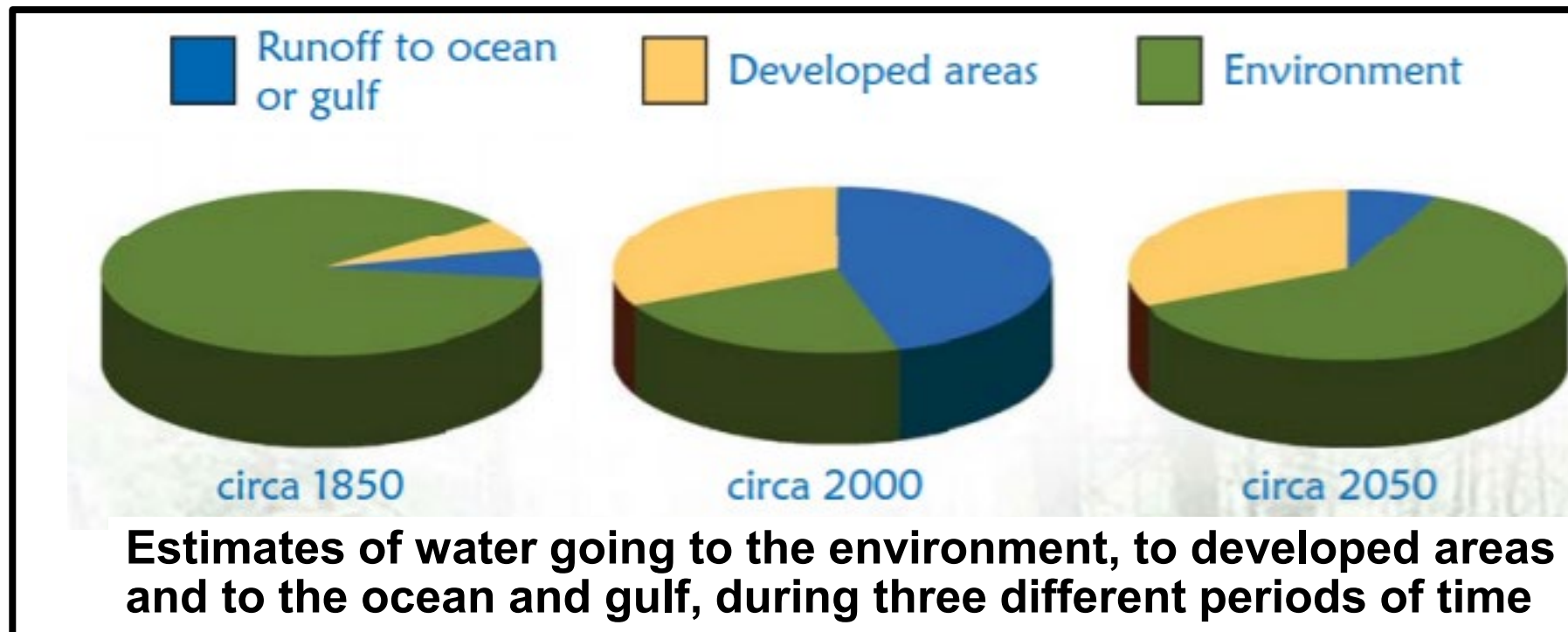
2000 – Lower East Coast Water Supply Plan Completed

Key to CERP – “Making the Water Pie Bigger”

Basic premise of CERP – implement projects to capture and redirect freshwater to where it is most needed in the Everglades and to supplement urban and agricultural water supplies.

CERP Planning Estimate – 80% of new water goes to environment; 20% to agriculture & urban

2020 Reality – only environmental projects are under construction / advanced



WRDA 2000 – Assurance of Project Benefits (§601(h))



- Comprehensive Everglades Restoration Plan authorized in WRDA 2000
- Governor's Commission Support and 'arm-in-arm' lobbying for passage of WRDA by environmental, agricultural and development interests because

WRDA 2000 contained several key provisions to address concerns of both federal and state interests

Federal Concerns

- Ensuring that 'new' water goes to natural areas as first priority
- Ensuring new water is legally protected for the environment

State Concerns

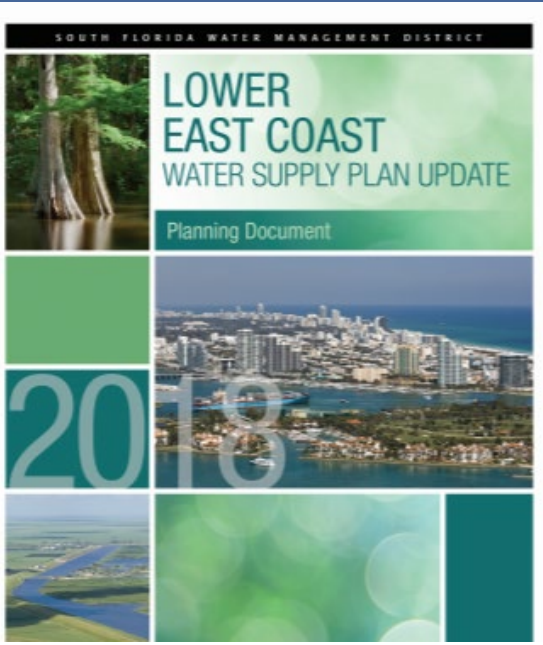
- Ensuring existing water supplies and flood protection not be diminished in order to achieve restoration (***Savings Clause***)
- Maintaining state's water allocation sovereignty - e.g. "State's Rights"

Lake Okeechobee System Operating Manual (LOSOM)¹⁴

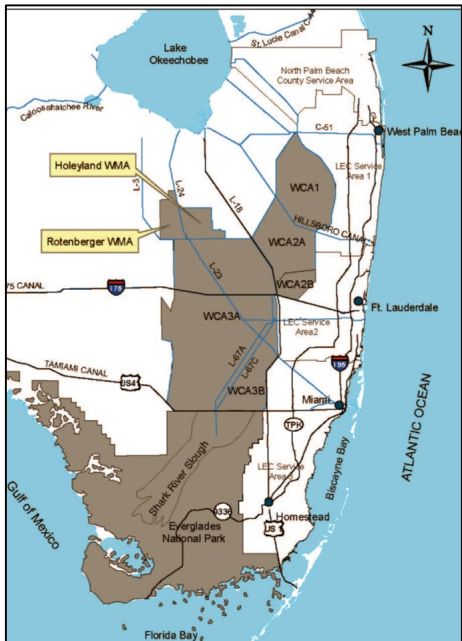
- U.S. Army Corps of Engineers manages Lake Okeechobee level using federal Lake Okeechobee Regulation Schedule (LORS08 – levels lowered in 2008 due to dike concerns)
- Repairs to Herbert Hoover Dike nearing completion
- Corps is in the process of developing a new Lake Okeechobee Level Regulation Schedule called the Lake Okeechobee System Operating Manual (LOSOM)



Future of LEC Water Supply



- 2007 Regional Water Availability Rule limits increased withdrawals
- 2008 Lake Okeechobee Regulation Schedule (LORS) change due to dike integrity concerns reduced the level of certainty for lake users from a 1-in-10 year to a 1-in-6 year drought return frequency.
- As goes Lake Okeechobee, so goes the Lower East Coast
- When lake goes into water shortage, historically SFWMD has placed LEC under water restrictions since the lake is back-up source for maintaining canal stages for wellfield recharge and to protect against saltwater intrusion
- ACOE's LOSOM process and recently released "Planned Deviation"
- Need to update LEC water supply plan modeling?? (not done since 2000)
- Effect on Consumptive Use Permit renewals??



What can you do?

- Stay informed about ongoing ACOE and SFWMD processes
 - ACOE Planned Deviation – *Awaiting Record of Decision*
 - ACOE LOSOM regulation schedule development
 - Encourage your local government to participate in PTD process;
 - Email ACOE Project Manager Tim Gysan & get added to email meeting Earl.T.Gysan@usace.army.mil
 - SFWMD EAA Reservoir Reservation rulemaking process

Questions?

