

# CENTRAL EVERGLADES PLANNING PROJECT

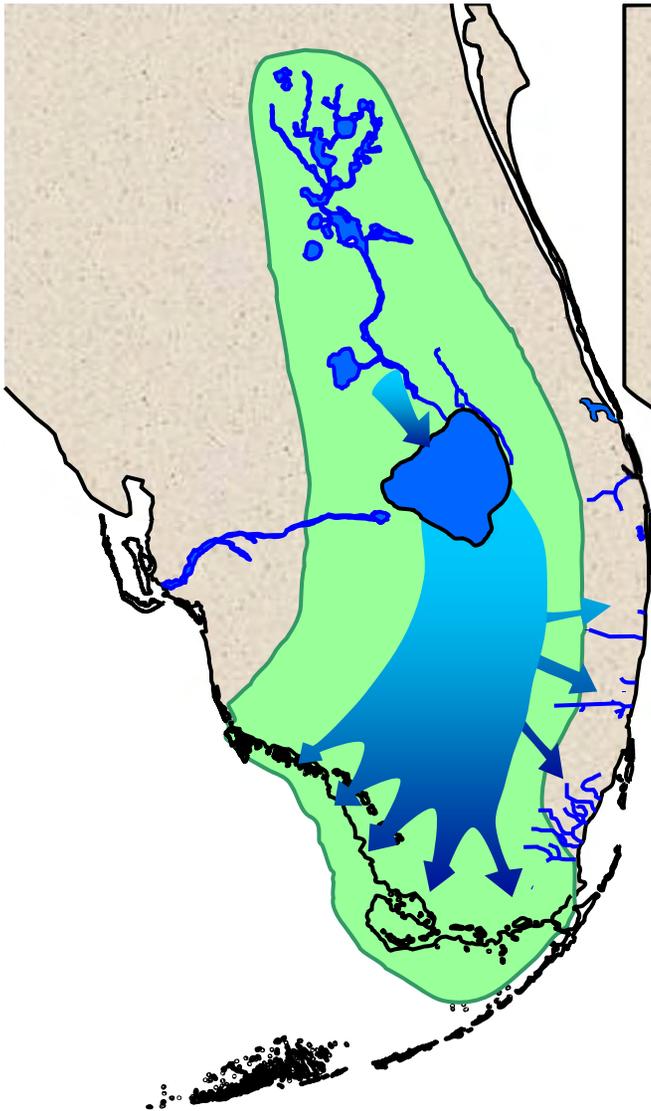


## Existing Hydrology

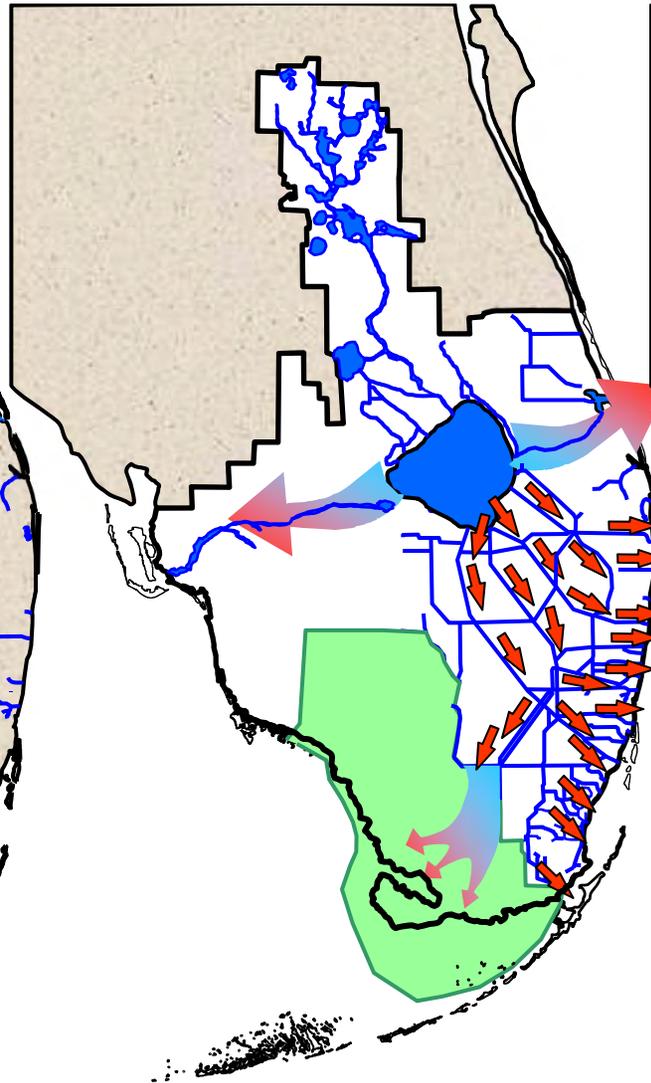
PRESENTED BY  
Susan Sylvester,  
Water Control  
Operations

South Florida Water  
Management District

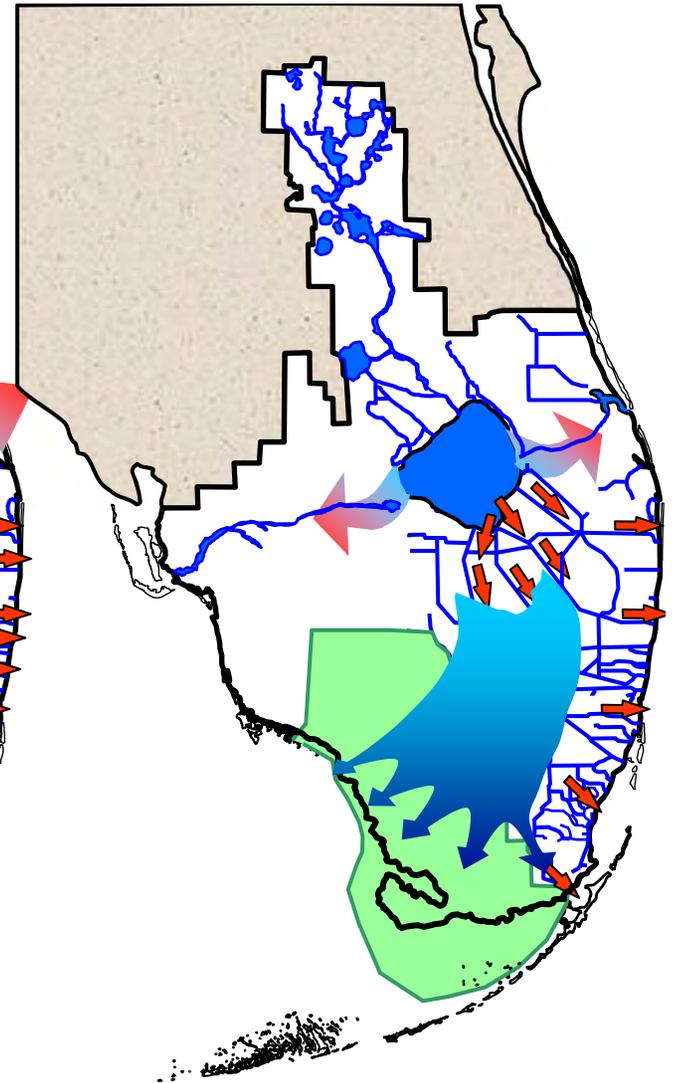
April 17, 2012



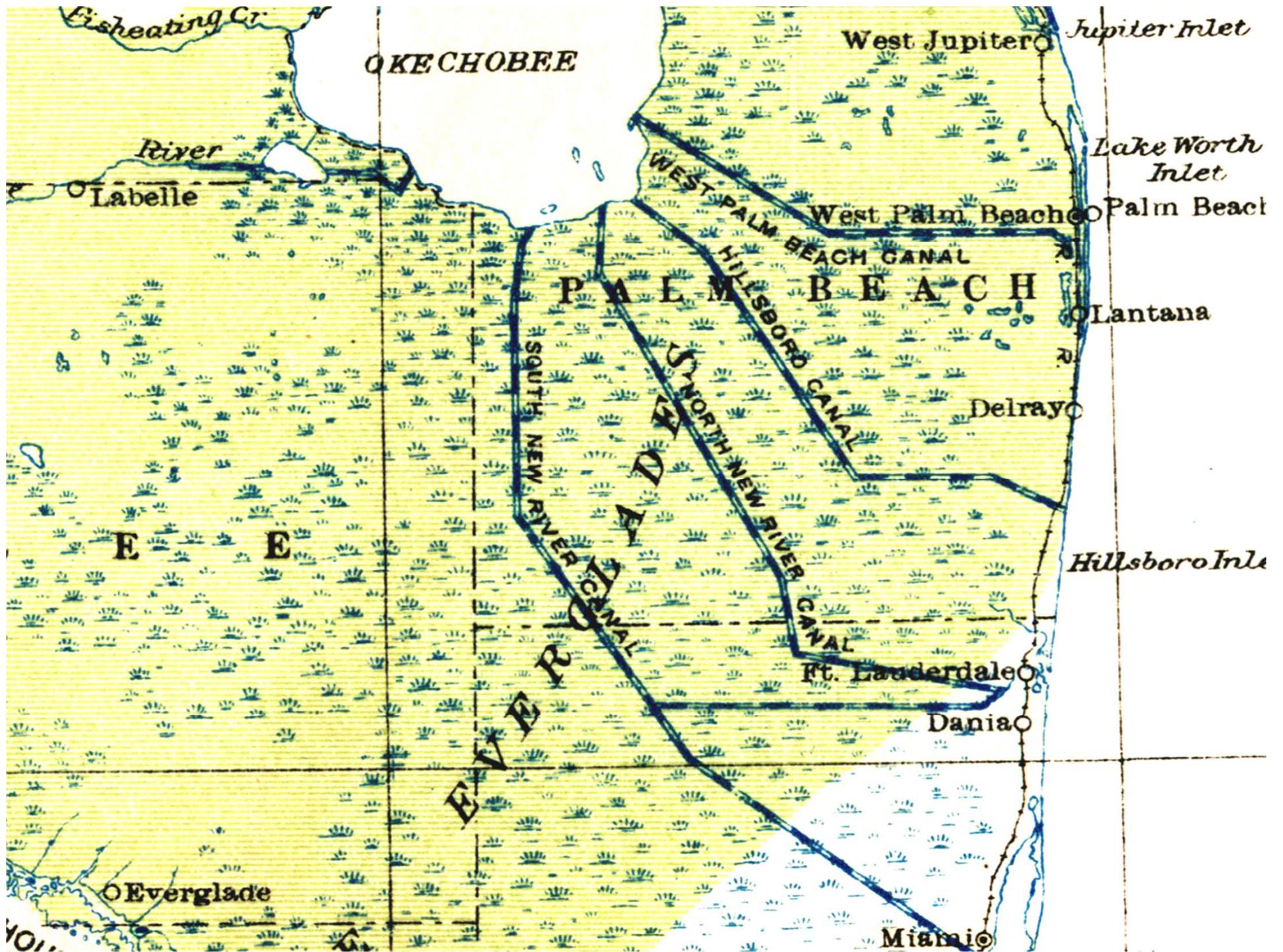
**Historic  
Flow**



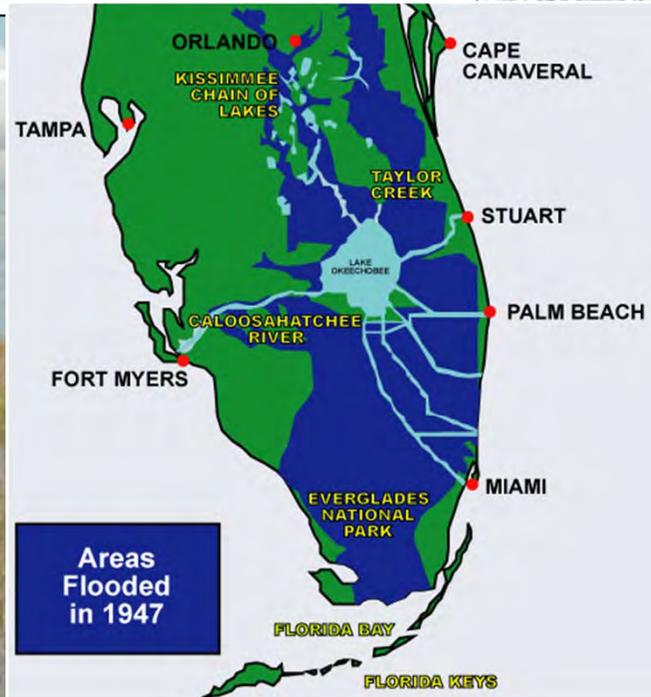
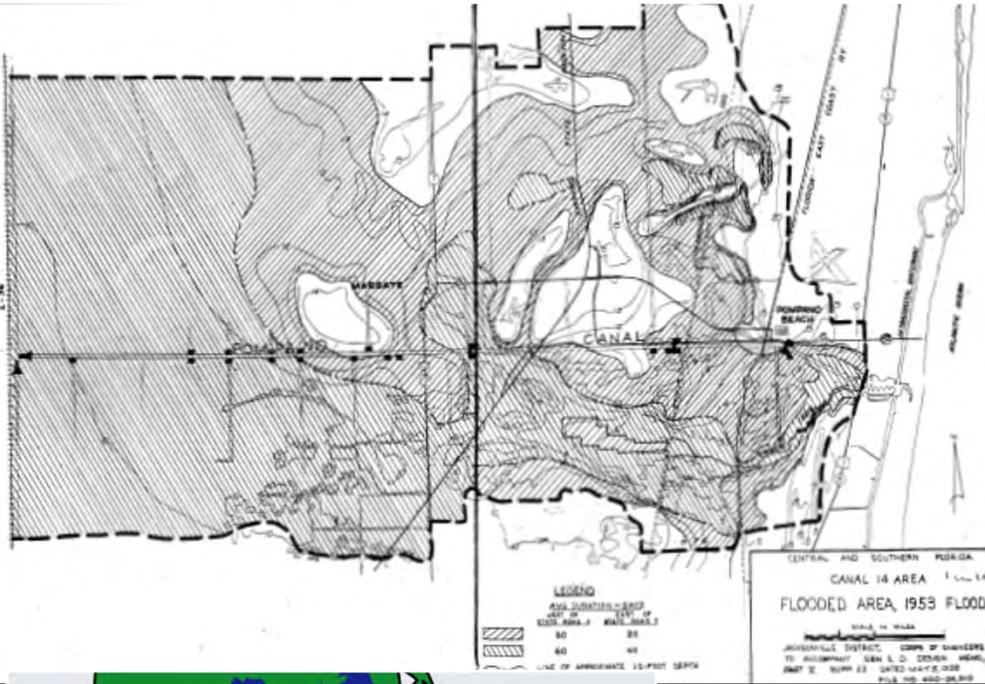
**Current  
Flow**



**Future  
Flow**

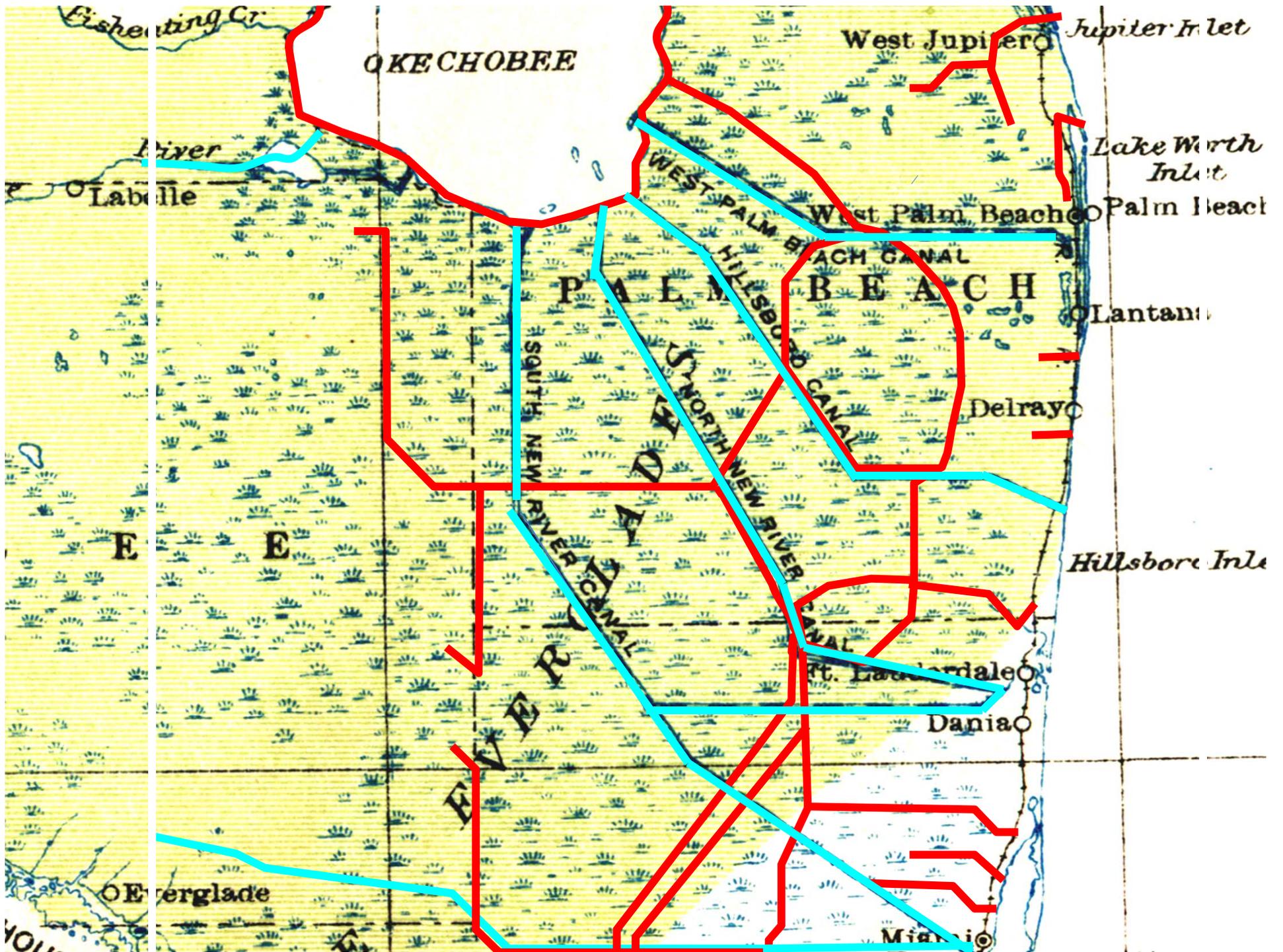


# The Entire Region Flooded in 1947, 1950 & 1951



GETTING TO THE HEART OF THE EVERGLADES

CENTRAL EVERGLADES



**2012 SYSTEM**

**653 Major Water Control Structures**

- 411 Gated Culverts
- 110 Gated Spillways
- 64 Pump Stations
- 17 Locks
- 49 Weirs
- 2,669 miles of Canals
- Berms and Levees



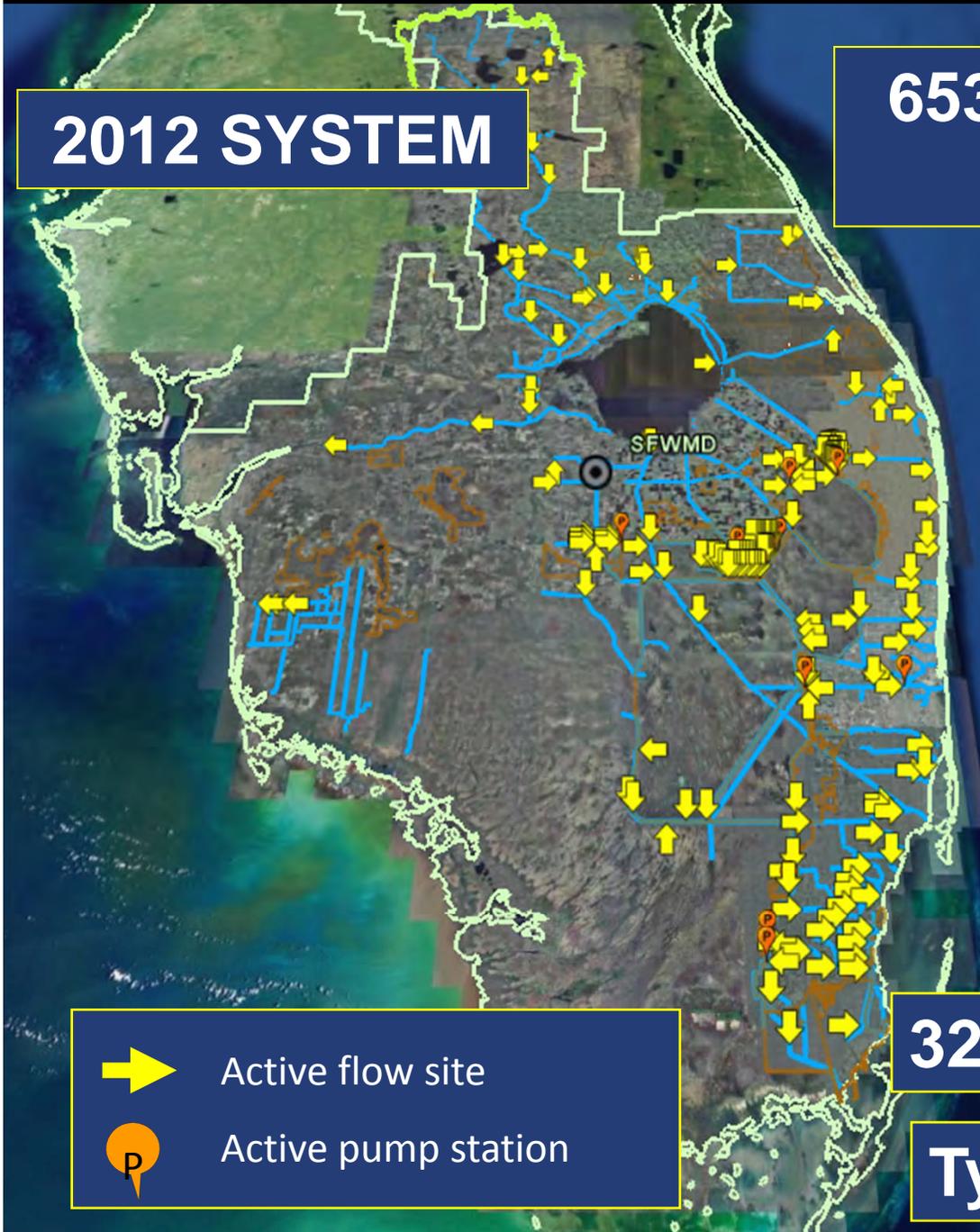
Active flow site



Active pump station

**322 of these are in STAs**

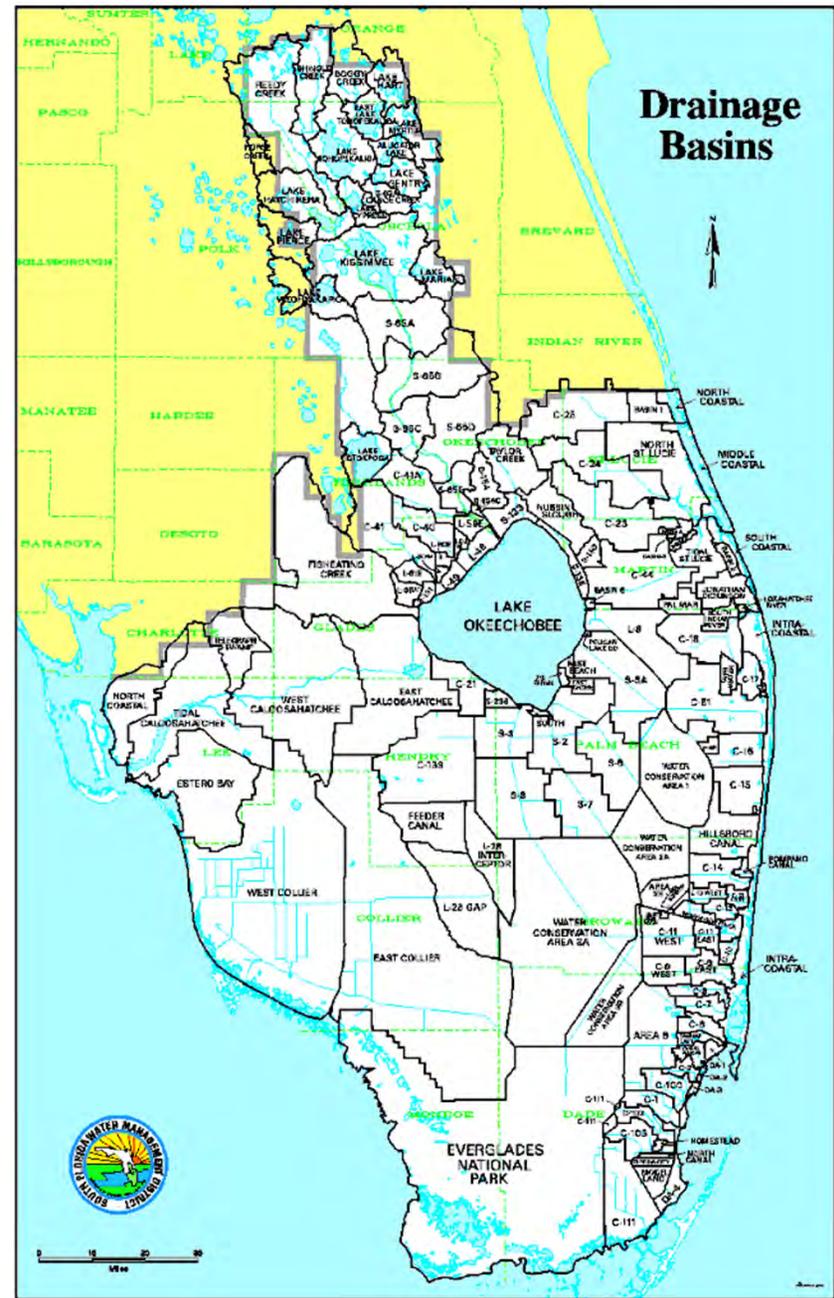
**Typical Wet Season Ops**



# 160 Drainage Basins

Composed of linked areas that water managers think of as

“Water Control Units”



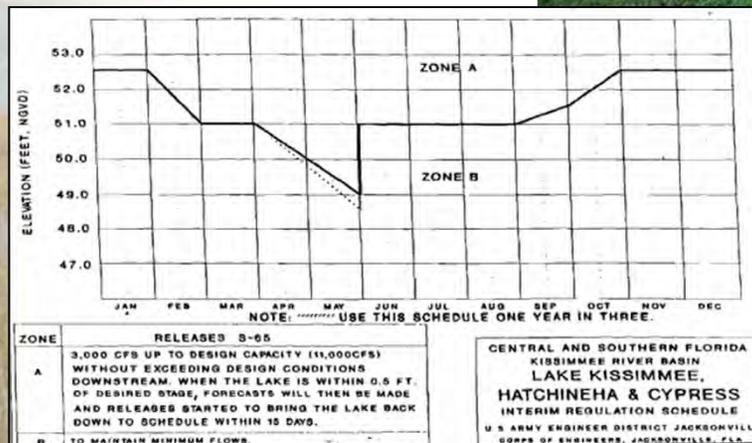
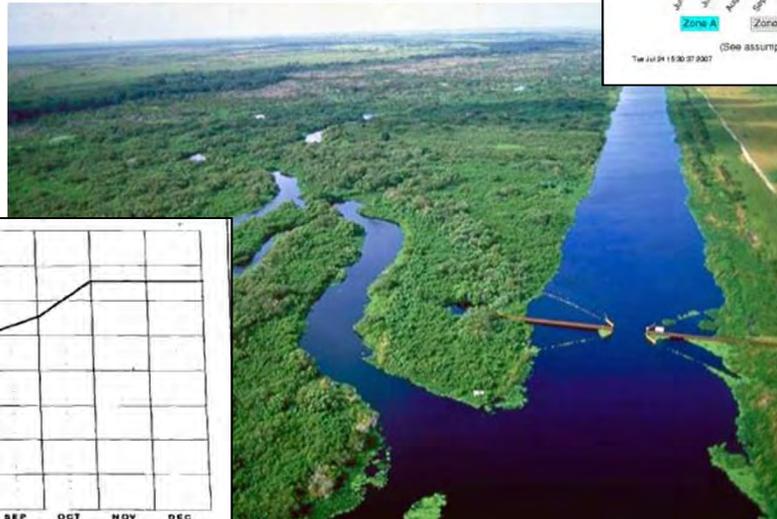
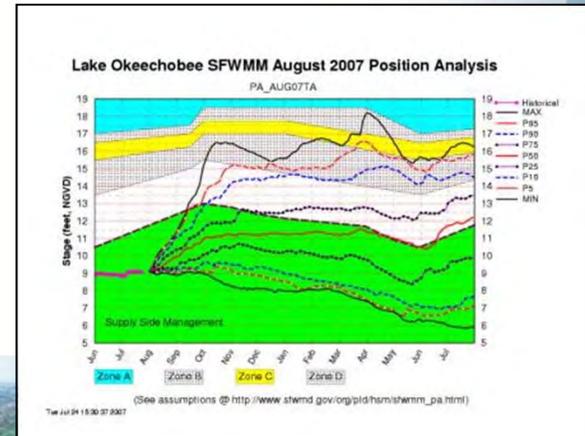
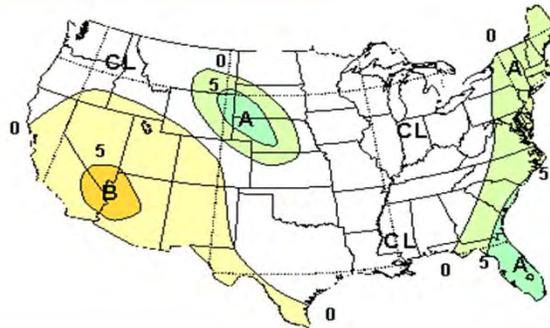
# How operational decisions are made



September 20, 2000

**Climate Prediction Center**  
National Centers for Environmental Prediction  
National Weather Service

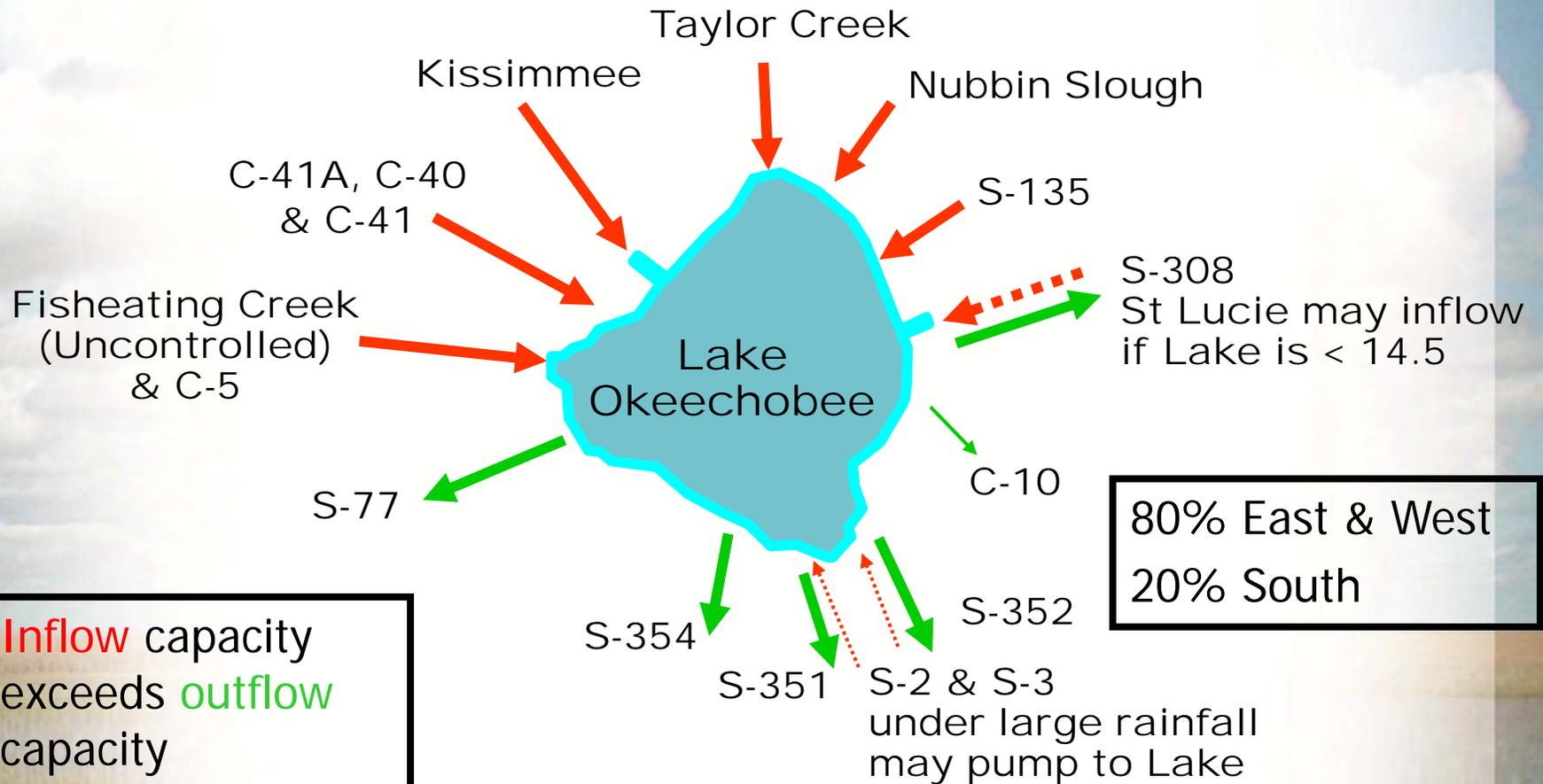
WB serve the public by assessing and forecasting the impacts of short-term climate variability, emphasizing enhanced risks of weather-related extreme events, for use in mitigating losses and maximizing economic gains.



GETTING TO THE HEART OF THE EVERGLADES

CENTRAL EVERGLADES

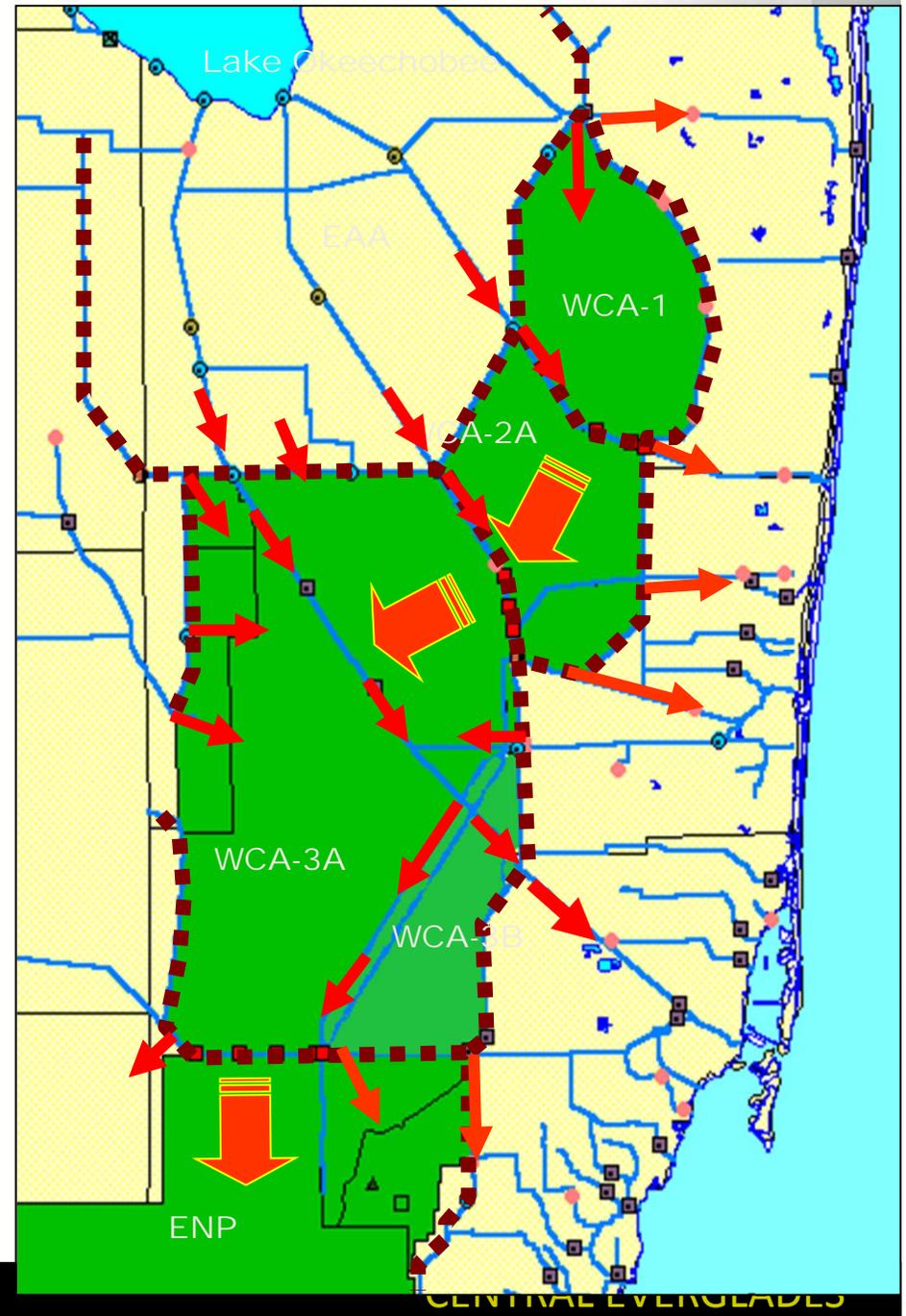
# Inflows & Outflows



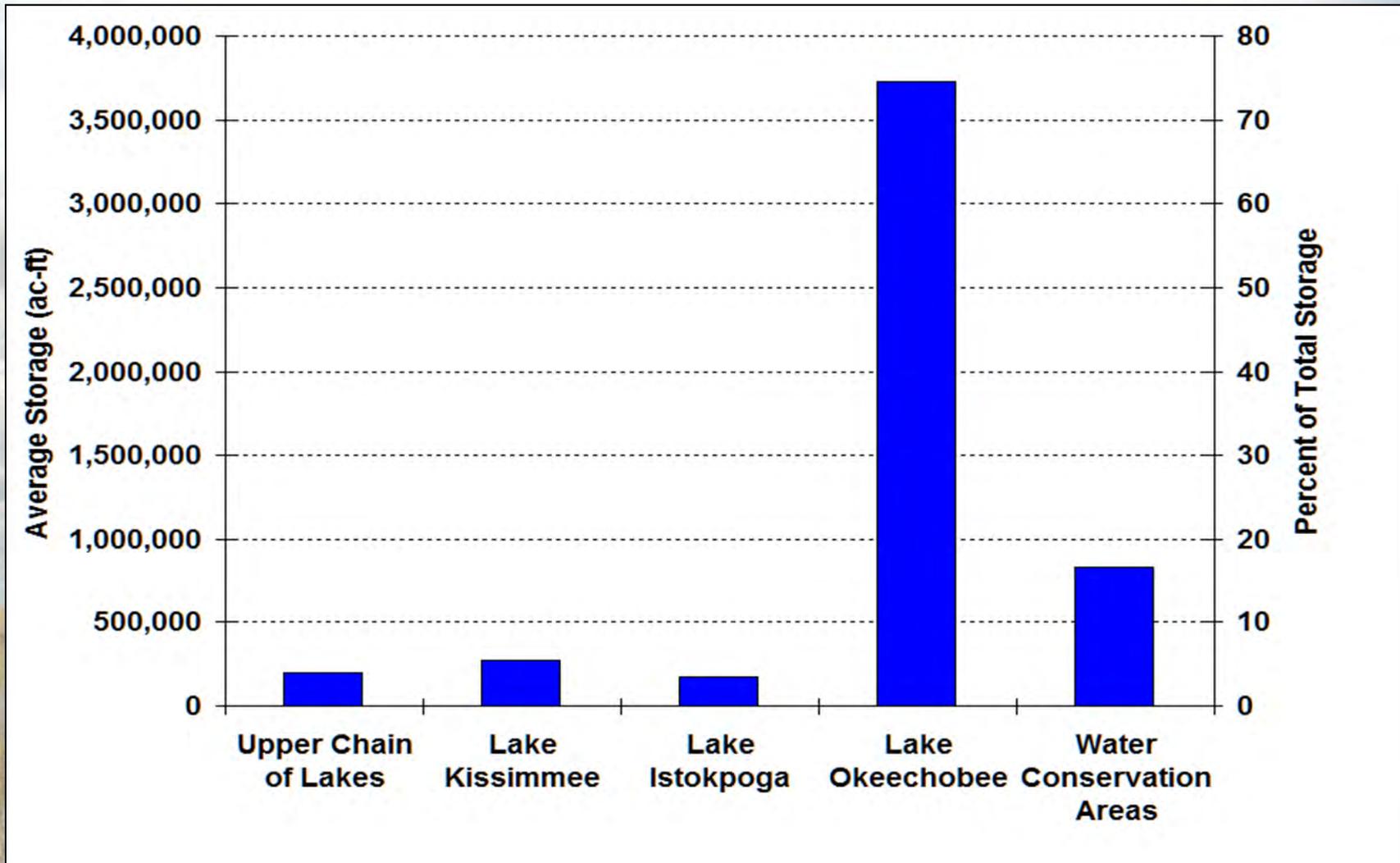
Lake Okeechobee's drainage basin covers more than 4,600 square miles

## Water Conservation Area Flow Patterns

- **Levees surround the Water Conservation Areas**
  - Primary inflow sources
    - EAA Drainage
    - Lake Okeechobee
      - Flood control discharge
      - Water supply to Lower East Coast
- **Major structures move excess water south**
- **Smaller structures can discharge some excess water to the ocean**
  - Provide water supply to maintain coastal canals



# Average Storage in Lakes and Water Conservation Areas

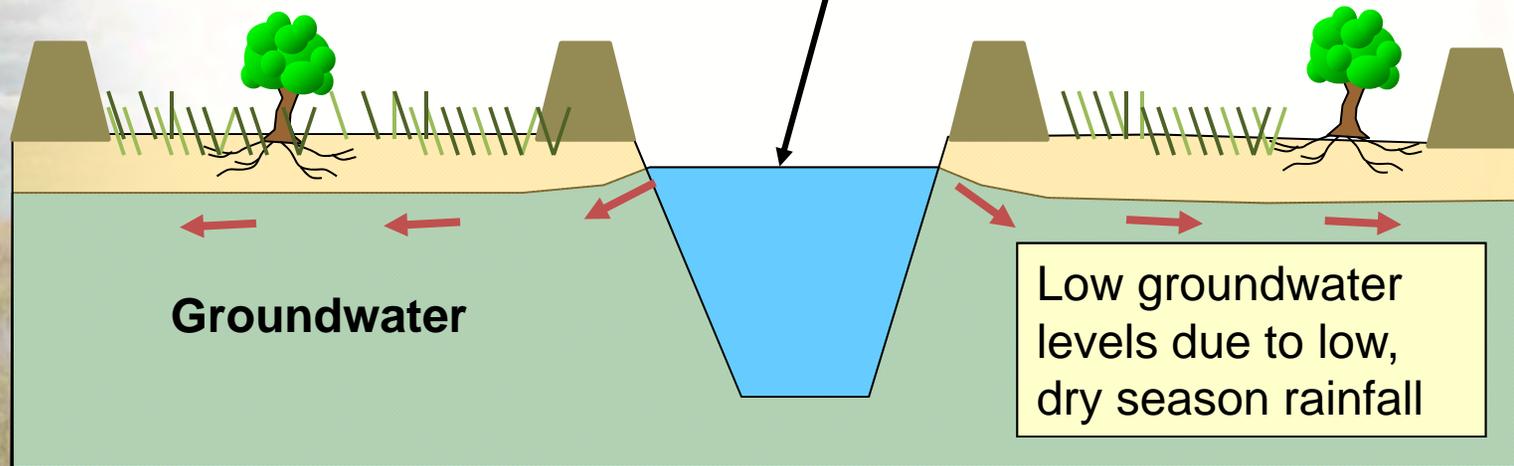


# Canal / Marsh Interaction

## Dry Season Operations

Canals serve two primary purposes....  
1. Flood Control  
2. Water Supply

Canal stages move but lose water to surrounding area and recharges groundwater



# General WCA Hydrology

- WCAs important for preservation of wildlife & regional water recharge.
- Water levels must be managed to preserve vegetation
- Sheet flow is hampered by marsh vegetation – therefore, where there is a canal, water is inclined to take the path of least resistance.
- Canals provide influx on nutrients & transport sediment which can encourage non-ideal vegetation expansion



# QUESTIONS?

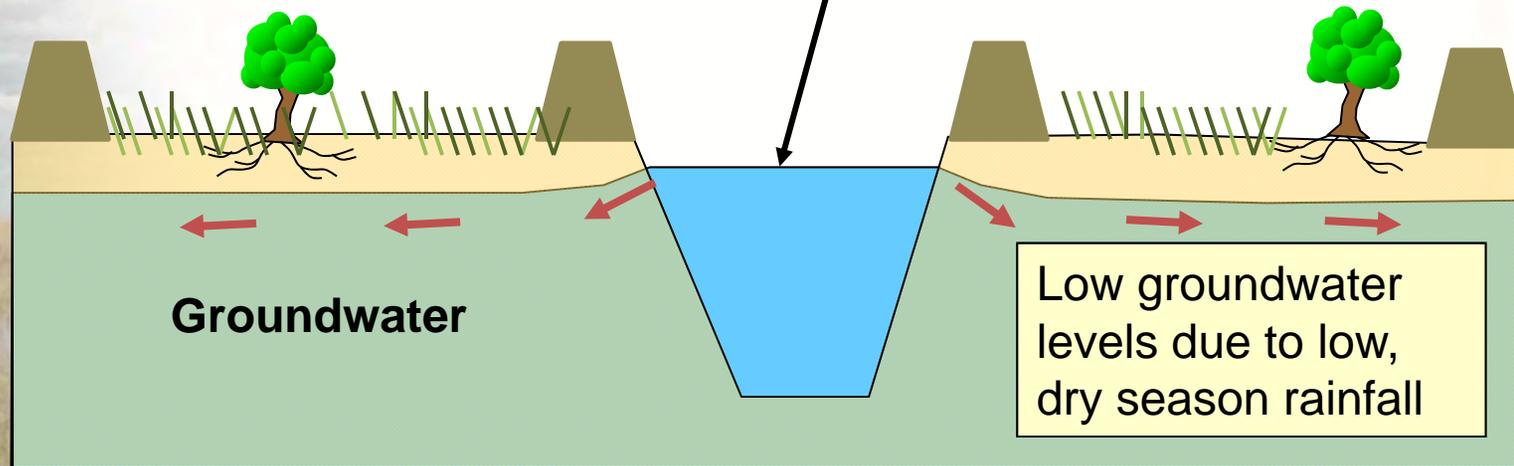
Visit [www.evergladesplan.org](http://www.evergladesplan.org) for updates and current information

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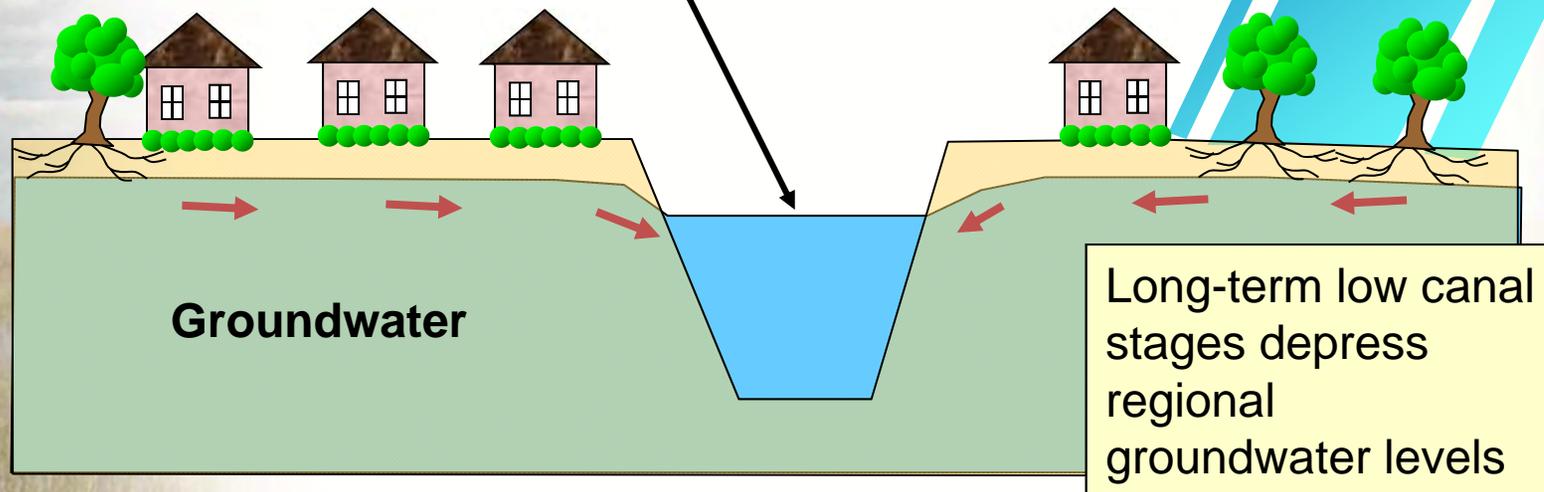
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# Canal / Groundwater Interaction

## Normal Wet Season Operations

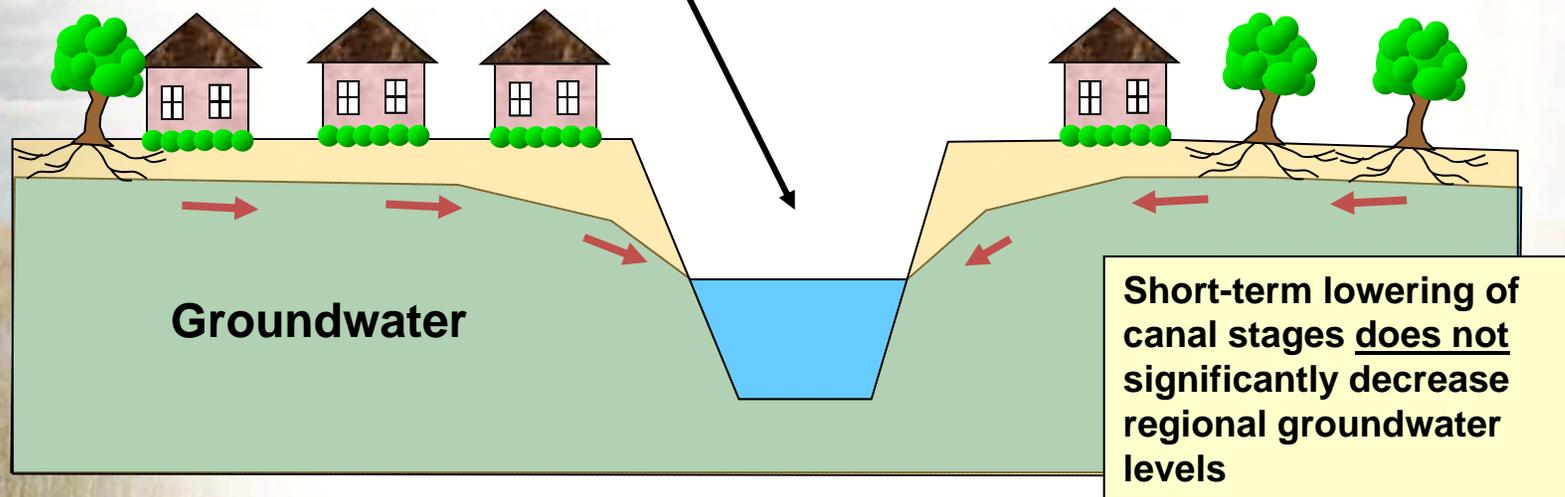
Canal stages low to facilitate surface drainage of urban & ag lands



# Canal / Groundwater Interaction

## Pre-Storm Drawdown Operations

Canal stages lowered an additional ~1 foot to increase **surface drainage** of urban & ag lands prior forecasts storms

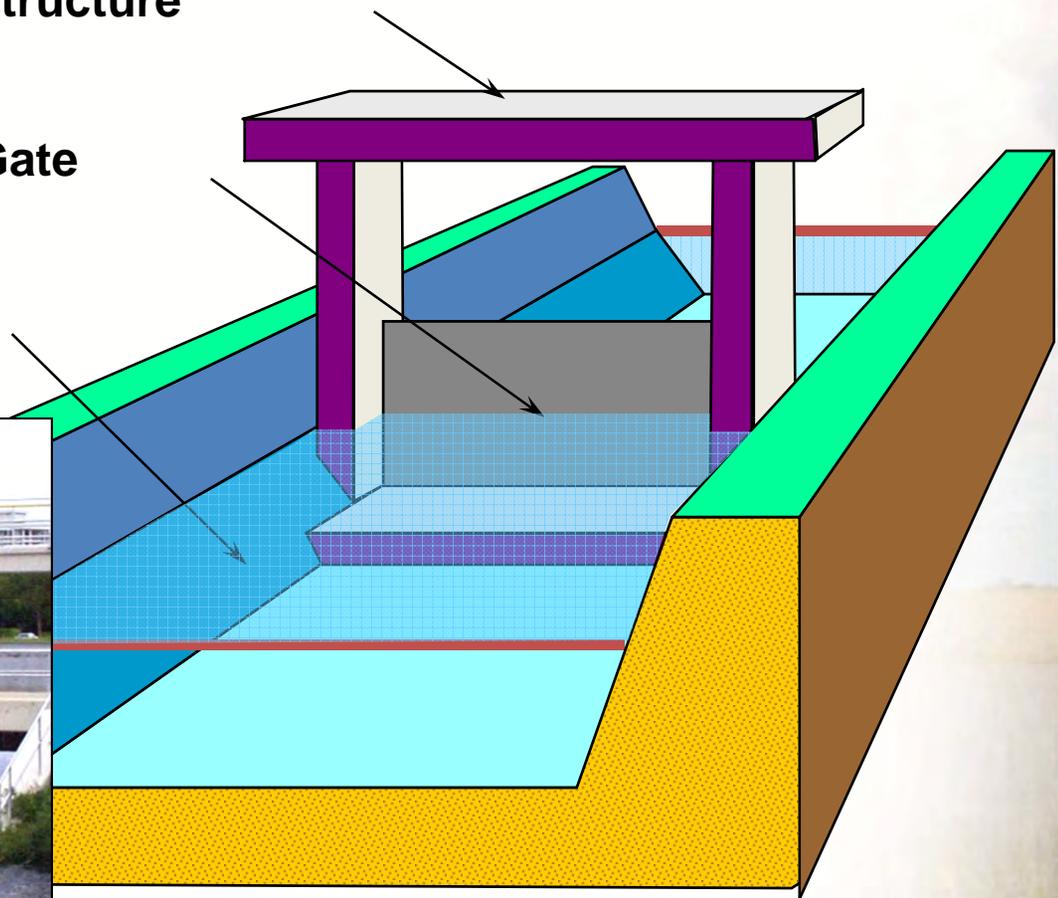


# Gate Operations

Water Control Structure

Vertical Lift Gate

Canal



mi Dade Flood