

# *Protecting our Treasured Ecosystems for our Economy, Future, and Way of Life*



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# Overview

- What ecosystems are impacted by the Lower East Coast Water Supply Plan?
- Economic benefits of ecosystem protection and restoration
- Recommendations for the Lower East Coast Water Supply Plan update to enhance and protect our treasured water bodies

# Ecosystems within LEC planning area

- Lake Okeechobee
- WCAs and Everglades National Park
- Biscayne Bay
- Florida Bay
- Loxahatchee River
- Caloosahatchee and St. Lucie Rivers and Estuaries



# Lake Okeechobee

- Optimum range: Lake stage envelope 12.5 to 15.5 feet
- Habitat for: Everglade Snail Kites, alligators, wading birds, and fisheries
- Sources: North of the Lake, rainwater
- Stressors: too high levels, too low levels
- First ever Lake O MFL violation in 2011

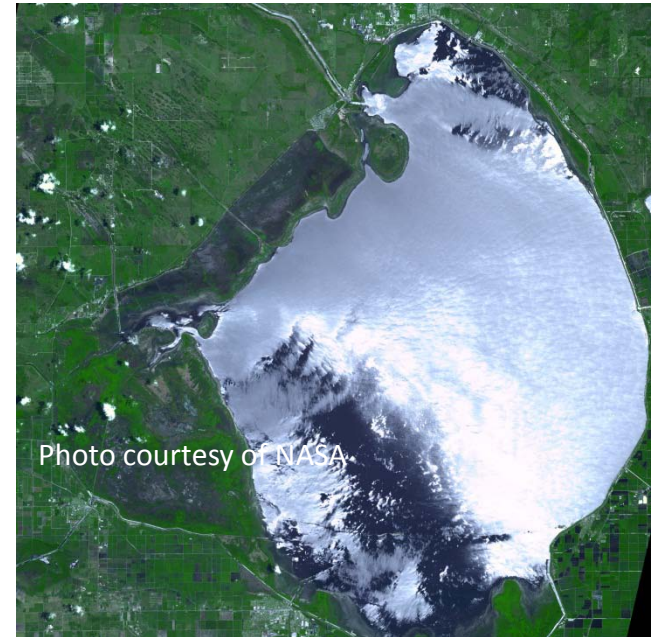


Photo courtesy of NASA



*Everglade Snail Kite and her chicks*

# WCAs and Everglades National Park

- Historically there was abundant wildlife in area but numbers have gone down in recent times
- Everglades restoration projects aim to normalize hydrologic conditions
- Connection with public water supply/ Biscayne Aquifer recharge



# Biscayne Bay

- For beneficial ecology, need freshwater flows at right times for salinity
- Habitat for American Crocodile, fish, and shellfish in tidal wetlands
- Currently unprotected by rule



# Florida Bay

- Rising salinity is an issue
- Roseate Spoonbills an indicator for the health of the Bay
- Check out Audubon's website [restorefloridabay.com](http://restorefloridabay.com)



# Loxahatchee River

- Florida's first federally designated "National Wild and Scenic River"
- Interesting model for other ecosystem management



# Caloosahatchee and St. Lucie Rivers and Estuaries

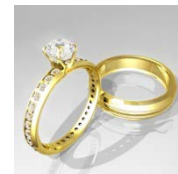
- Tie to LEC is from Lake Okeechobee water
- Too much or too little water
- MFL frequently in violation in Caloosahatchee Estuary
- Large pulses of polluted water can impact health of St. Lucie





# Economic benefits of ecosystem protection and restoration

- Industries dependent on healthy ecosystems: Tourism, Fishing, Boating
- Biscayne Bay example- study showed Biscayne Bay related uses generated \$7.5 billion in income to Florida residents in 2004
- Diamond/water principle of valuation
- Mather Economic Study- for every dollar invested in restoration, \$4 are generated
- Jobs/ Construction- ex. of C-44 construction contract



# How LEC WSP update can help protect these ecosystems

- Update and develop rules and operations to protect water for these ecosystems: MFLs, water reservations, restricted area allocation rules
- Water shortage strategies should be examined and improved to provide a greater balance and equity for environmental uses
- Emphasis on water conservation as a solution

# Updating rules

## Minimum Flows and Levels

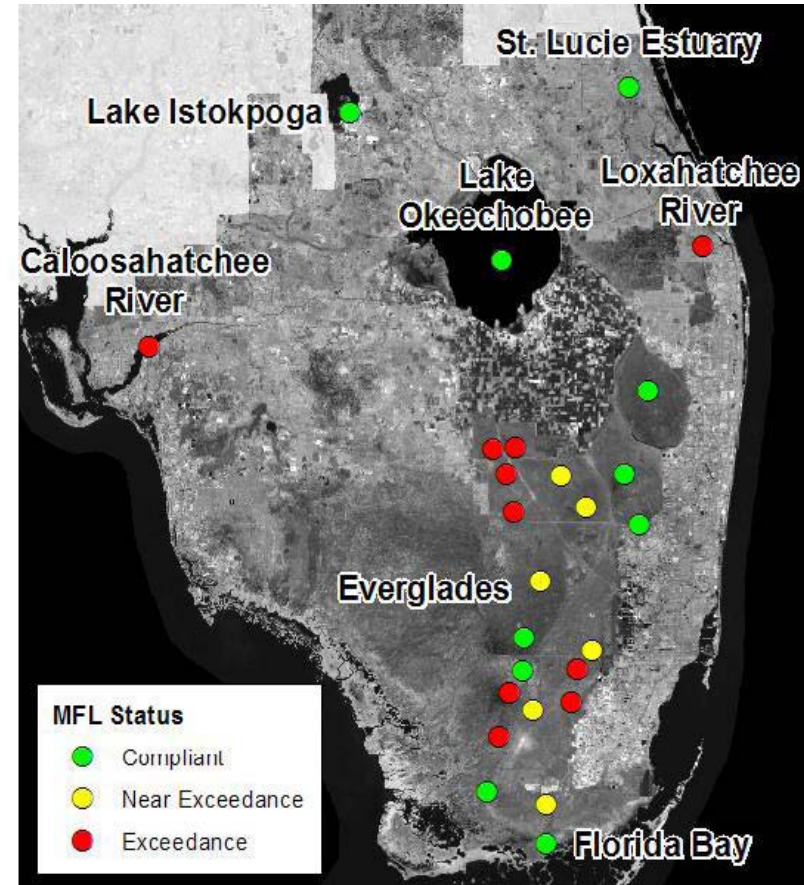
- Refine to have more meaningful protections
- Support for basing current MFLs on strong science and need to collect data and model (i.e. Caloosahatchee MFL update)
- Recovery and Prevention Strategies- Lake Okeechobee, FI Bay

## Water Reservations

- Develop new ones for Caloosahatchee and Biscayne Bay, over and above CERP water reservations- phased approach with timeline for implementation

## Restricted Area Allocation Rules

- Explore possibilities for Biscayne Bay, other areas throughout region to protect water for the environment



*MFL status Spring 2011 in SFWMD*

# Enhancing operations

- Refine South Dade Agricultural Drawdown to heal Biscayne Bay
- Restrict use of temporary forward pumps out of Lake Okeechobee
- Explore similar opportunities to Loxahatchee River Pilot Project for other water bodies
- Enhance Adaptive Protocols to provide more flows to the Caloosahatchee Estuary without impacting water quality to Lake Okeechobee

# Water Shortage Strategies



- Explore ways to sustain more water in the system through the Water Shortage Rule, ex. change water shortage trigger line to 11 ft to save water earlier in the dry season
- Look into supplemental water allocations during low water times to see if they are causing harm to water resources
- Explore water conservation conditions in permits, especially for large permits (some overlap with CUPcon)



# Make Water Conservation a Priority

- Do a progress report on 2008 Water Conservation Plan and update
- Actively coordinate further efforts with counties, cities, municipalities
- Landscape irrigation should be 2 days a week or less throughout LEC planning area
- Incentivize water conservation through conservation rate structures





Thank You!

Questions?