

# Everglades and the Caloosahatchee

Economically and ecologically  
sustainable EcoReservoirs as new lakes

Greater Everglades Ecosystem Restoration Conference 2008  
Forest Michael, Transystems, [fgmichael@transystems.com](mailto:fgmichael@transystems.com)

# Introductory Discussions:

THIS IS NOT CURRENTLY A PUBLIC PROJECT

## STATE OF FLORIDA

- FL Dept. of Environmental Protection, Everglades Restoration
- Office of Greenways and Trails, Director & Land Manager
- SFWMD WRAC July 2008
- SFWMD Various Governing Board Members
- SFWMD Deputy Director, CERP and Acceler8
- SFWMD Assistant Deputy Executive Director, EERR Area
- SFWMD Northern Everglades, Program Manager
- SFWMD Lower West Coast, Director
- SFWMD Everglades Engineering Director
- SFWMD Northern Everglades Engineering Program Director
- SFWMD Okeechobee Service Center, Upper Lakes PM
- FDOT District One / REDI & Community Liaison
- Florida Tourism Community Program, REDI

## SEMINOLE and MICCOSUKEE TRIBES

- Communication will occur soon

## US GOVERNMENT

- US Department of Interior
- USACE, Jacksonville District, C-43 PM
- USACE EAA A-1 Reservoir PM
- USACE Everglades Recreational Plan PM /Comments
- USACE EAA A-1 Pump Station PM

## GLADES COUNTY

- Glades County Commissioner Butch Jones
- Glades County Commissioner Russell Echols
- Glades County Manager

## HENDRY COUNTY

- Hendry County Commission July 2008
- Hendry County Managers and Staff

## LEE COUNTY

- Lee County Chairman Ray Judah
- Lee County Manager's Office and Staff

## REGIONAL

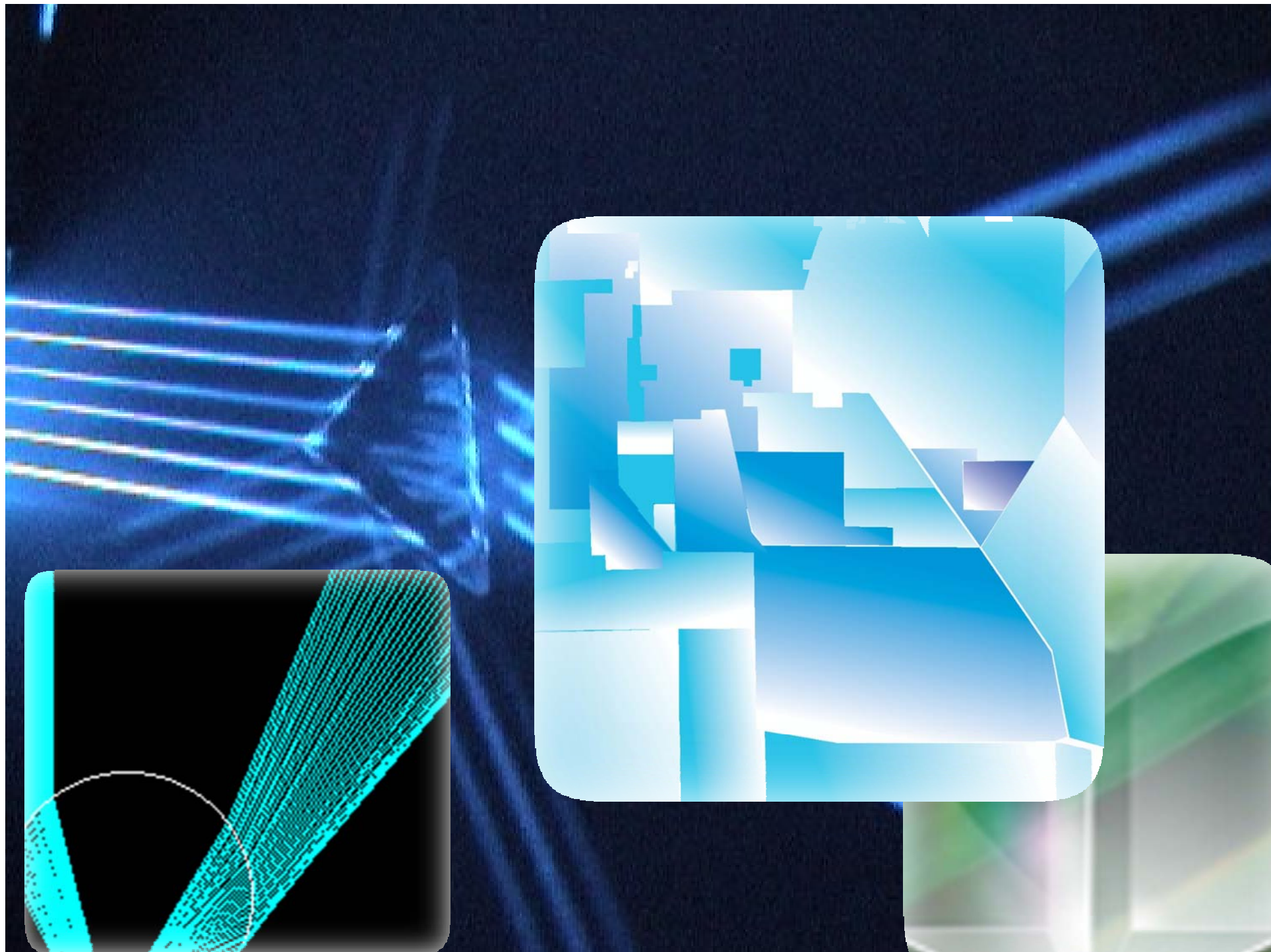
- Florida Heartland Rural Development Initiative FHREDI
- Florida's Freshwater Frontier, FHREDI
- Southwest Florida Regional Planning Council Staff

## NON-GOVERNMENTAL ENTITIES & PRIVATE

- Glades County Economic Development Inc.
- 10 County Coalition Glades Representative
- US Sugar Corporation, Director (Future discussion)
- Lykes Ranches (Landowner) and Chairman, Glades EDC
- Duda Agriculture (Future discussion)
- Kitson Babcock Holdings
- Florida Wildlife Federation SW Office (Re: Panthers)
- The Nature Conservancy (Ag Land Acquisition)
- The Trust for Public Land (River Land Acquisition)
- 1000 Friends of Florida (Rural Land S. Program)
- Caloosahatchee Riverwatch and Sanibel - Captiva
- Southwest Florida Watershed Council
- Audubon of Florida

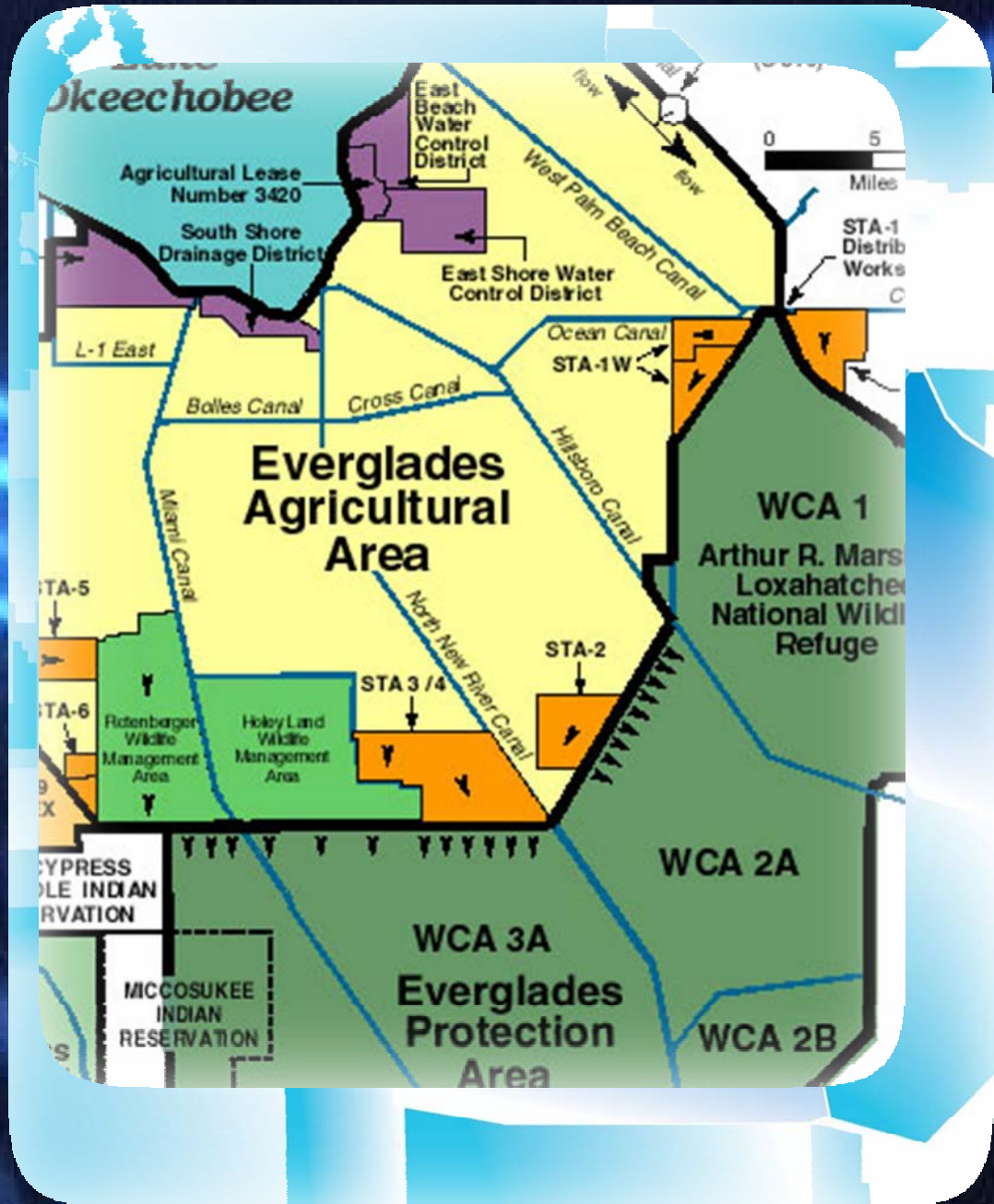
**EVERGLADES and the CALOOSAHATCHEE**

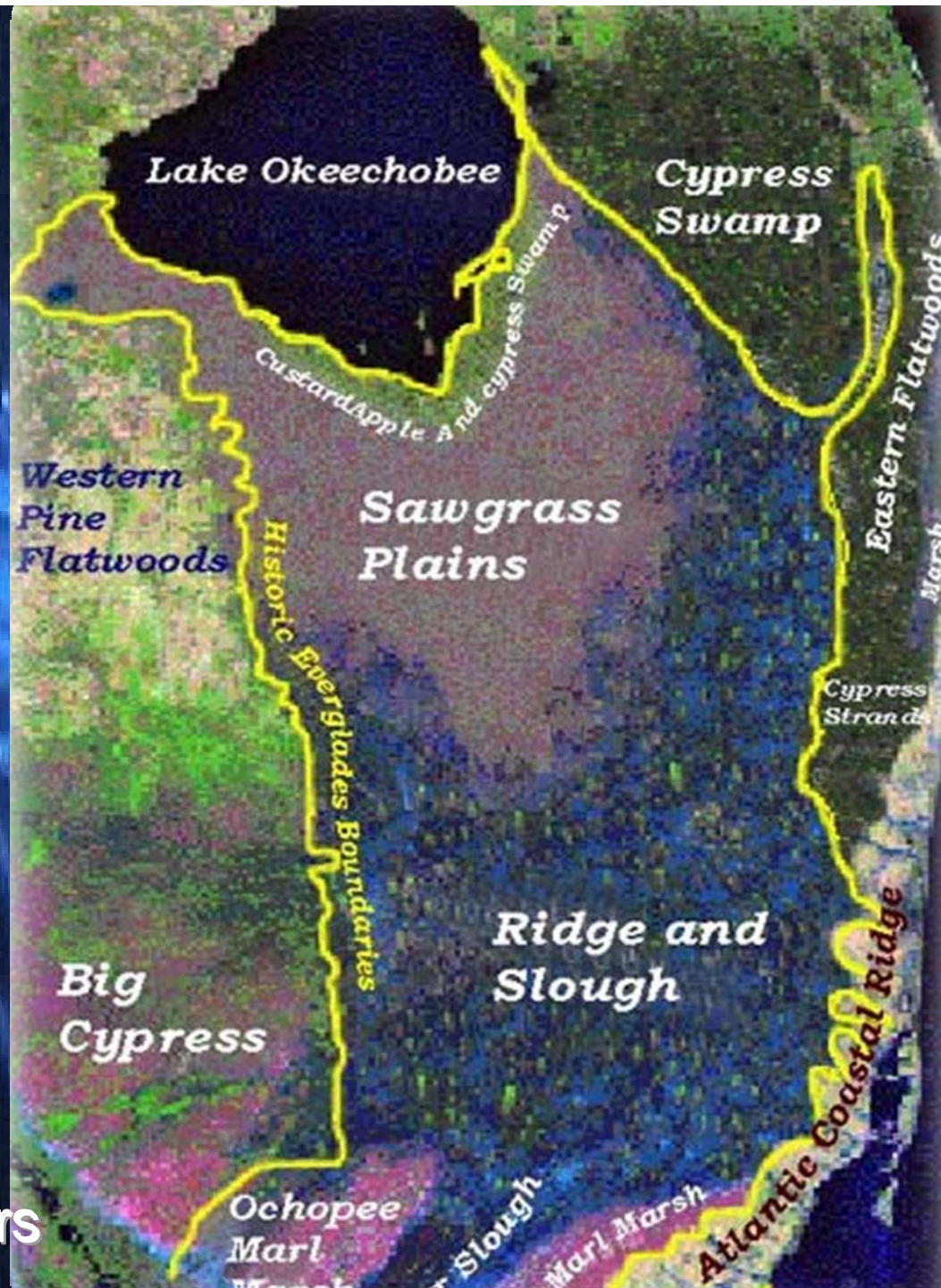
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Map by others









**“Our human ability to understand the world around us, gives us an immense responsibility, as stewards of the planet**

**...which fortunately more and more people are beginning to understand.”**



**Jane Goodall**  
Jane Goodall Institute



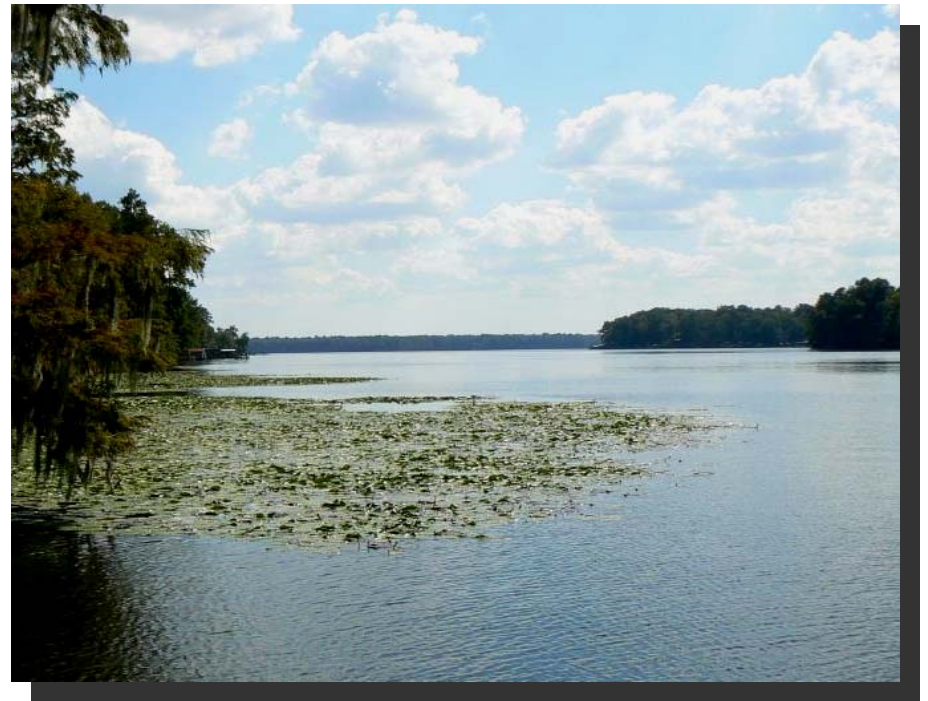
Economically and ecologically  
sustainable EcoReservoirs as new lakes

Lake Talquin Reservoir State Park, Tallahassee

# Everglades: economically and ecologically sustainable reservoirs



or



less cost – increased water quality –  
same storage – commerce – community benefits



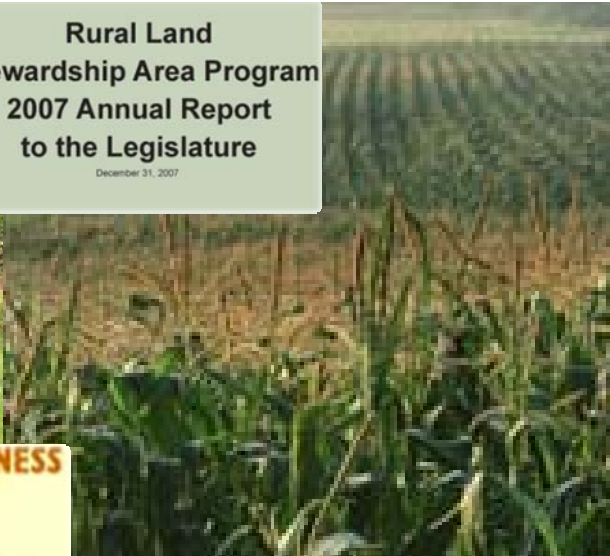


# EVERGLADES and the CALOOSAHCHEE





Rural Land  
Stewardship Area Program  
2007 Annual Report  
to the Legislature  
December 31, 2007



**STATE-OF-THE-ART AGRIBUSINESS**  
U.S. Sugar is one of America's premier, globally competitive agribusiness companies practicing the most efficient and progressive farming techniques.

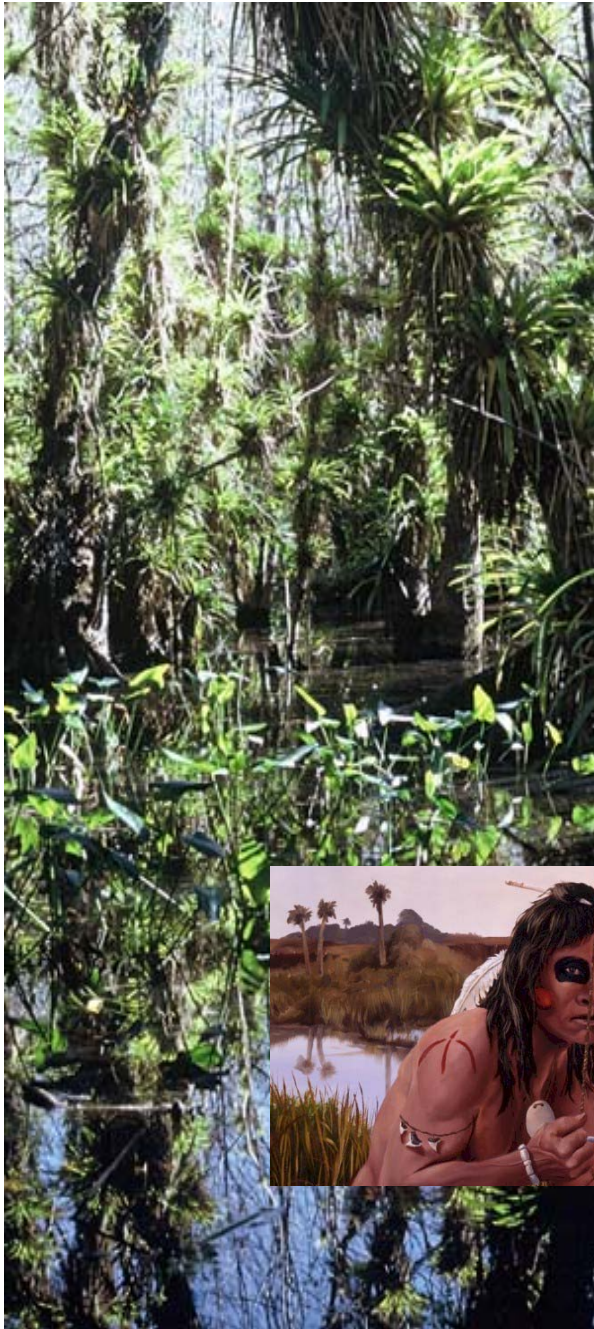
[READ MORE >>](#)



# Florida Agricultural Partnerships



# Potential shared interpretive Center for the Tribe and Communities near Lake Okeechobee and the Caloosahatchee



*Credits and copyrights:*  
Seminole Tribe Museum;  
Theodore Morris, Artist;  
Florida Tribes Artists; and the  
Florida Department of Environmental Protection

SEMINOLE, MICCOSUKEE AND HISTORIC CALOOSA





US Army Corps  
Of Engineers®  
Jacksonville District

## Ortona Lock & Dam

Fact Sheet



The U.S. Army Corps of Engineers welcomes you to Ortona Lock and Dam, located on the Okeechobee Waterway. Stretching out from both directions, the waterway extends to the Gulf of Mexico using the Caloosahatchee River and to the Atlantic Ocean using the St. Lucie Canal. Covering 152 miles, the waterway serves as both a commercial and recreational link with several overnight-docking facilities along the way. The Corps constructed and currently manages five locks along the Waterway. Ortona Lock and Dam were constructed in 1937 for navigation purposes.

### Ortona Facts

- Waterway distances: 15.5 miles east to Moore Haven Lock and 27.9 miles west to W.P. Franklin Lock
- Cost of construction: Approximately \$1.1 million



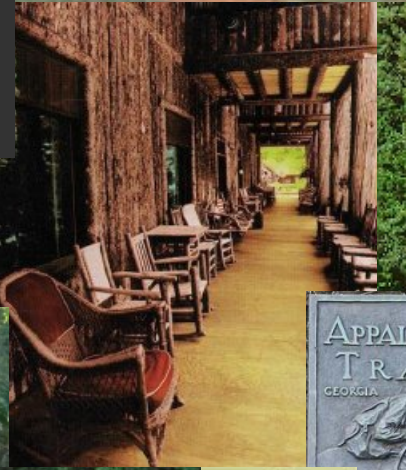
# Increased recreational boat usage for economic prosperity

Enhanced Safety - Okeechobee Waterway 1937

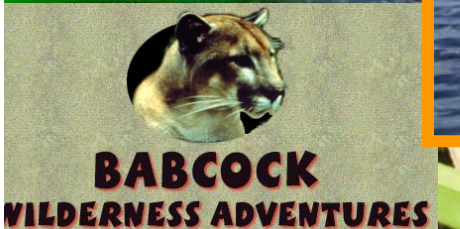




Lake Manatee State Park



Lake Talquin State Park



# Nature-Based Recreation & EcoTourism





# Wildlife and Habitat Restoration



# Current: C-43 Reservoir next to LaBelle



# Economic sustainability



**C-43 Reservoir**



**Riverway Alternative**



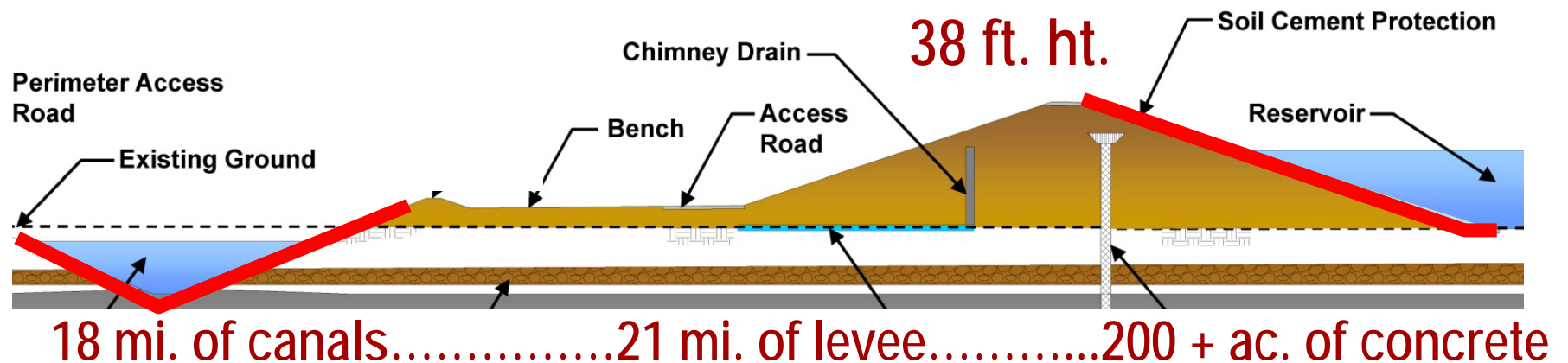
## C-43 Reservoir: expensive untested methods



Riverway: natural, lower cost, tested simple methods

## C-43 Reservoir: large scale levees, canals, pumps...

- ~ \$50 million initial construction savings
- ~ \$200 million in 30-year savings



Riverway: low landforms and smaller structures



**C-43 Reservoir:** high fuel, pumping, O&M, capital costs



**Riverway:** uses sustainable gravity flow with low O&M

## C-43 Reservoir: high fuel, pumping, O&M, capital costs

\$3.5 million annual O&M (C-43 Reservoir)  
= \$105 million 30-year O&M (C-43 Reservoir)  
+ 30-year capital costs? (C-43 Reservoir)

## Riverway: significantly lower costs

\$1 million annual O&M cost  
= \$2.5 million annual O&M savings  
= \$75 million 30-year O&M savings  
and lower capital cost savings

All costs are approximated





# Caloosahatchee Riverway

Native American  
culture, native habitat,  
hydrating lakes,  
commerce,  
waterway,  
agriculture,  
Quality of Life



**MODEL: Great Seal**



# Model: Florida State Parks and Restorations



Florida State Parks 2007 Photo Contest  
[www.FloridaStateParks.org](http://www.FloridaStateParks.org)

Photo By Jasmine Marsden  
De Leon Springs State Park

Contest  
Photo By Lou Garofaltest  
Edward Ball Wakulla Springs State Park

Photo By Paul Strauss  
Savannas Preserve State Park



# Model: SFWMD Kissimmee River Restoration



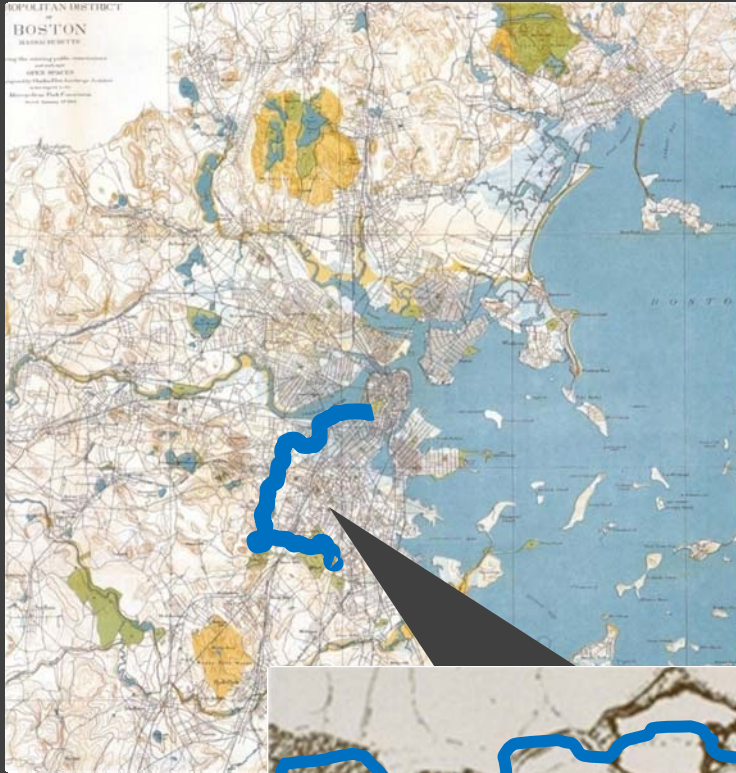


# Model: Traditional Urban

## 1893 Boston's Regional Reservoirs

Olmsted and Eliot, Landscape Architects

## and Emerald Necklace





*“Greatest good for the greatest number,”* Olmsted, Eliot, 1890



Dr. Bruce Stephenson and  
Professor David Schuyler

**Boston's Emerald Necklace**

# EcoReservoir Program © 2007; Everglades



1. EcoReservoirs integrated as the “Caloosahatchee Riverway”
2. Best practices of FDEP, SFWMD, and USACE
3. Sustainable alternative to Florida’s expensive and energy consuming reservoirs
4. Everglades infrastructure benefits the communities with impacted revenues from the US Sugar buy-out

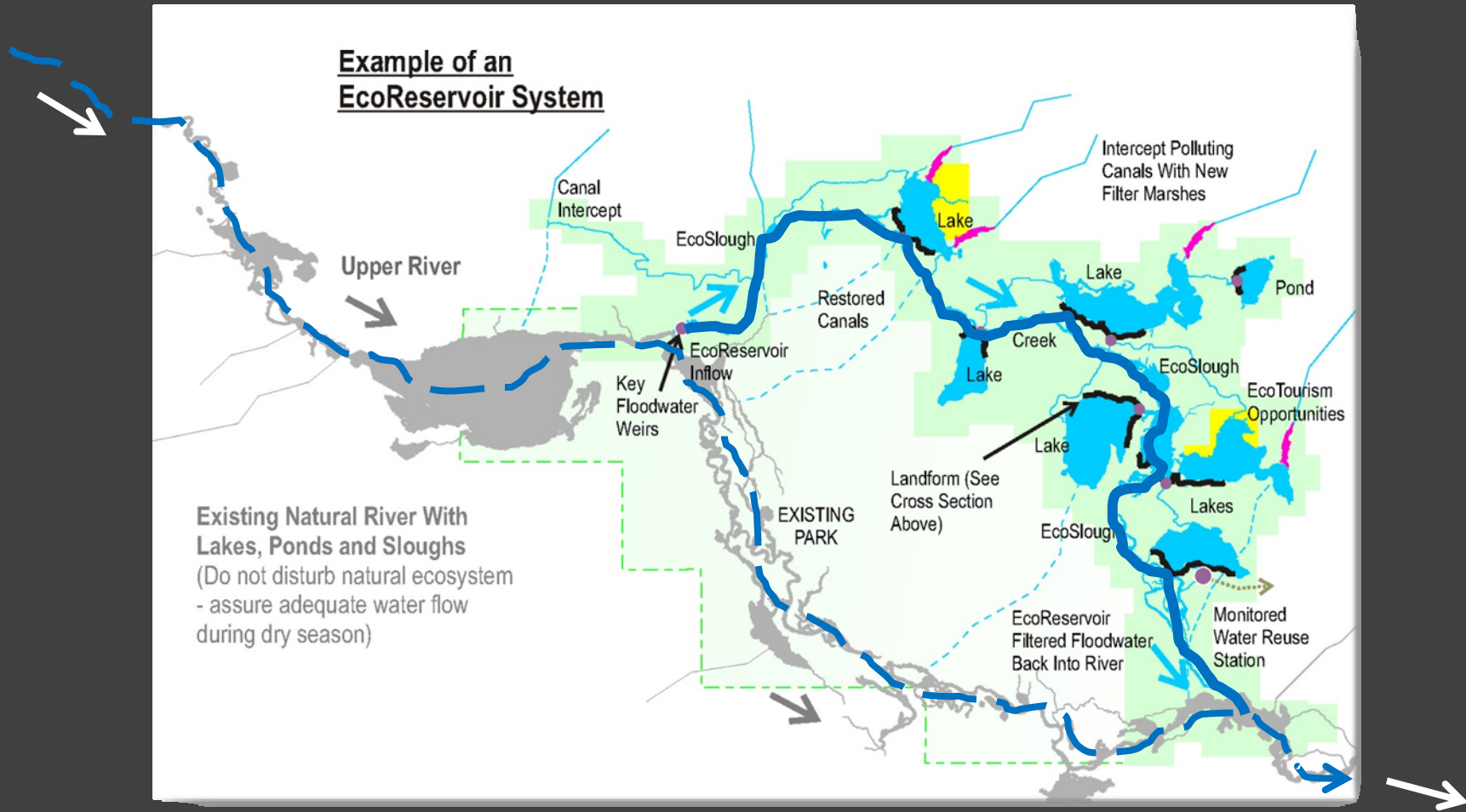
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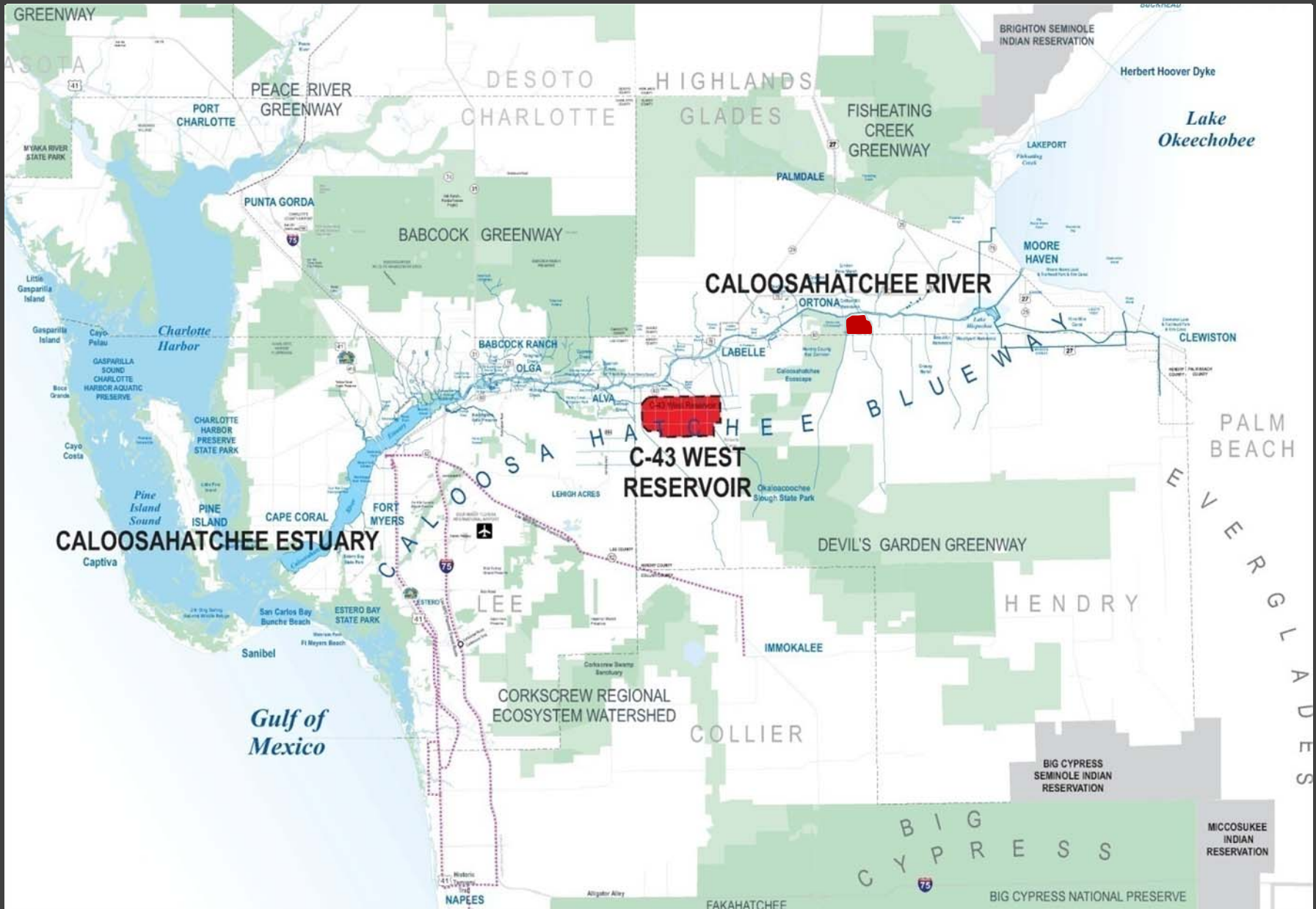


# EcoReservoir Program

Creeks, marshes, prairies, glades, sloughs and lakes for water quantity and quality; additional uplands for greenways management

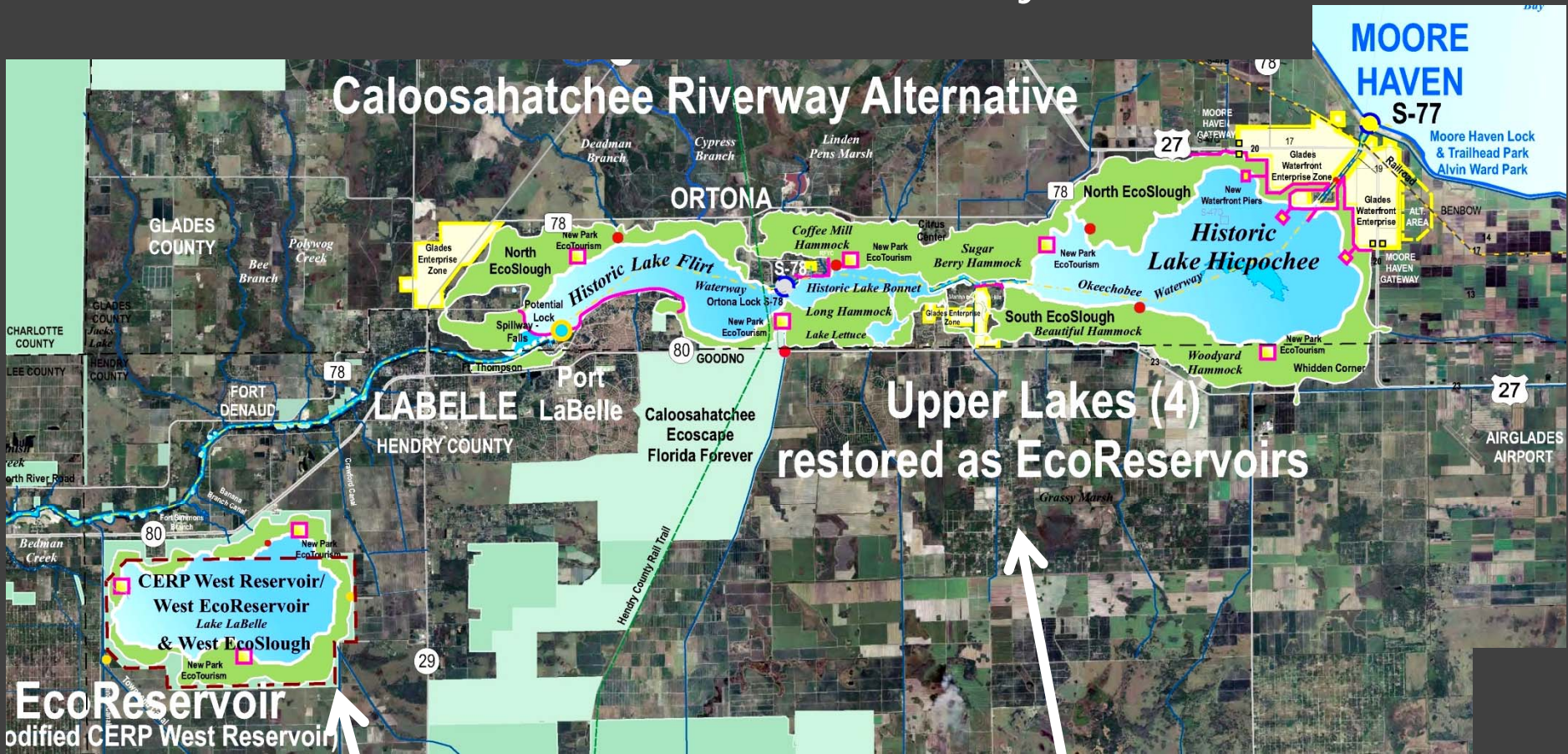


# Current approach





# Riverway Alternative with 5 Lakes for less cost and more community benefits



EcoReservoir  
modified CERP West Reservoir

C-43 Reservoir.....  
as Lake Labelle

Restore 4 Upper Lakes  
(Pre-1880s)

# “Sunday Morning News for Hendry, Glades and western Palm Beach County July 27, 2008

## Glades Commissioner Looks For Growth

County In Dire Economic Situation Say Storter - Gambling, Potential For Growth?

MOORE HAVEN, FL. -- Glades Commissioner Donna Storter Long this week sent the following to Governor Charlie Crist's special assistant Marureen Jaeger:

**6. Lake Hicpochee may have development potential, either for hydrating and restoration for eco-tourism projects or part of the proposed inland port...”**





# Community Waterfronts

NEW LAKES = Greater economic sustainability





# Lake LaBelle alternative to the C-43 West Reservoir





## CERP C-43 West Reservoir Single-use

- Water Storage Reservoir

## Everglades and the Caloosahatchee Multi-use

- Riverway - Naturalistic EcoReservoir System **Restoration**
- Ecosystem Restoration & Panther Habitat **Restoration**
- Historic Upper Lakes Flirt, Bonnet, Lettuce & Hicpochee **Restoration**
- Pre-1880s Waterfalls **Restoration**
- New Lake LaBelle
- Stormwater Quality – Estuary **Restoration**
- Local Parks & Recreation
- EcoTourism & Region-wide Commerce
- Native American Opportunity
- Agricultural Rural Land Stewardship & Water Quality
- Real Estate Land Value & Revenue Increase
- Okeechobee Waterway Safety and Operational Improvement
- Caloosahatchee Regional Mitigation Bank as **Restoration?**
- Caloosahatchee Riverway State Park as **Restoration?**
- Northern Everglades "Big Sawgrass" **Restoration**

**"Greatest good  
for the greatest  
number"**

# Our alternative legacies?



Rod Sterling



5 Lakes





Lake Okeechobee

Cypress Swamp

Historic Cuscard Apple and Cypress Swamp


Western Pine Flatwoods

Sawgrass Plains

Eastern Flatwoods  
Marsh







Everglades  
*and the Caloosahatchee*  
Thank you

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