



# REstoration, COordination, VERification (RECOVER)

## Second Periodic CERP Update (SPCU): Evaluation Methodology

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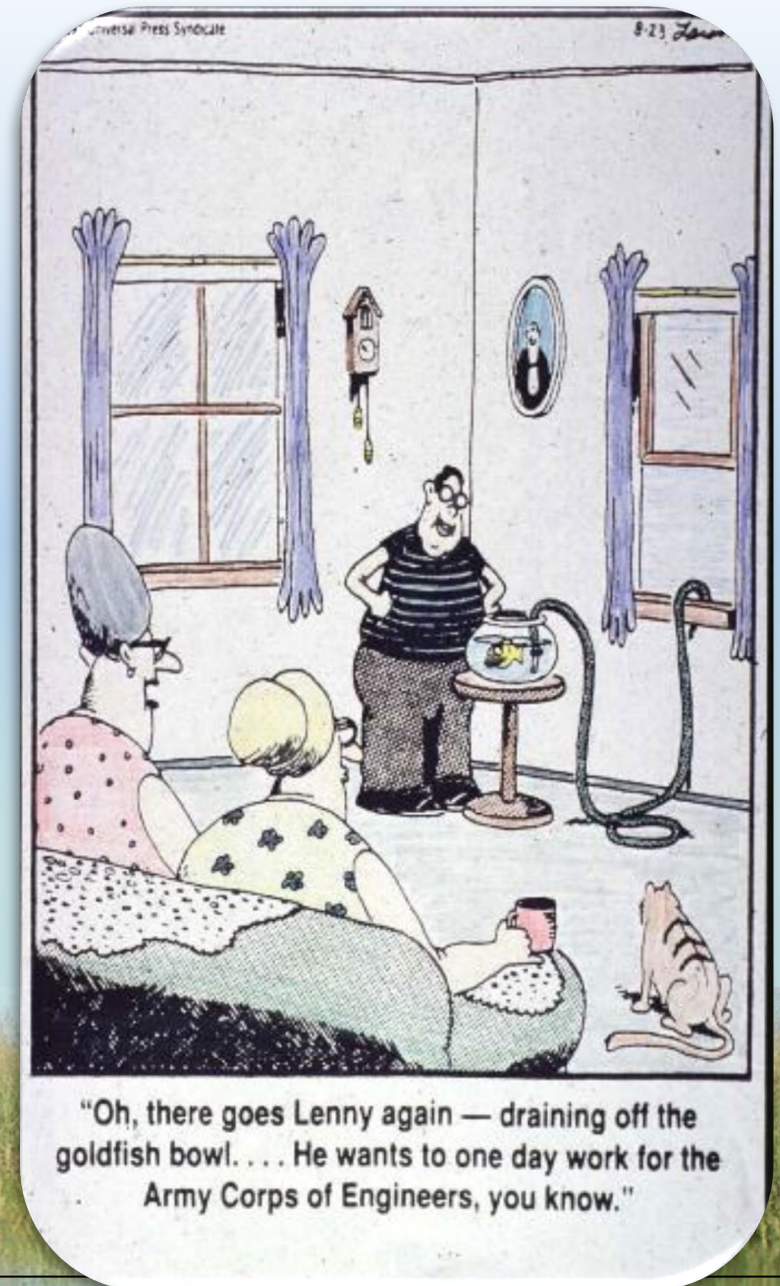
April 24, 2025  
Greater Everglades Ecosystem  
Restoration Conference, Session 48





# PRESENTATION OUTLINE

- RECOVER'S Mission & SPCU Role
- Overarching Questions to Address
- Evaluation Methodology





# RECOVER'S MISSION



- Ensures CERP implementation is guided by the best available science
- Three Major Missions:

- **Assessment**: measuring performance of projects through research and monitoring

- ★ **Evaluation**: forecasting project performance through predictive modeling and performance measures

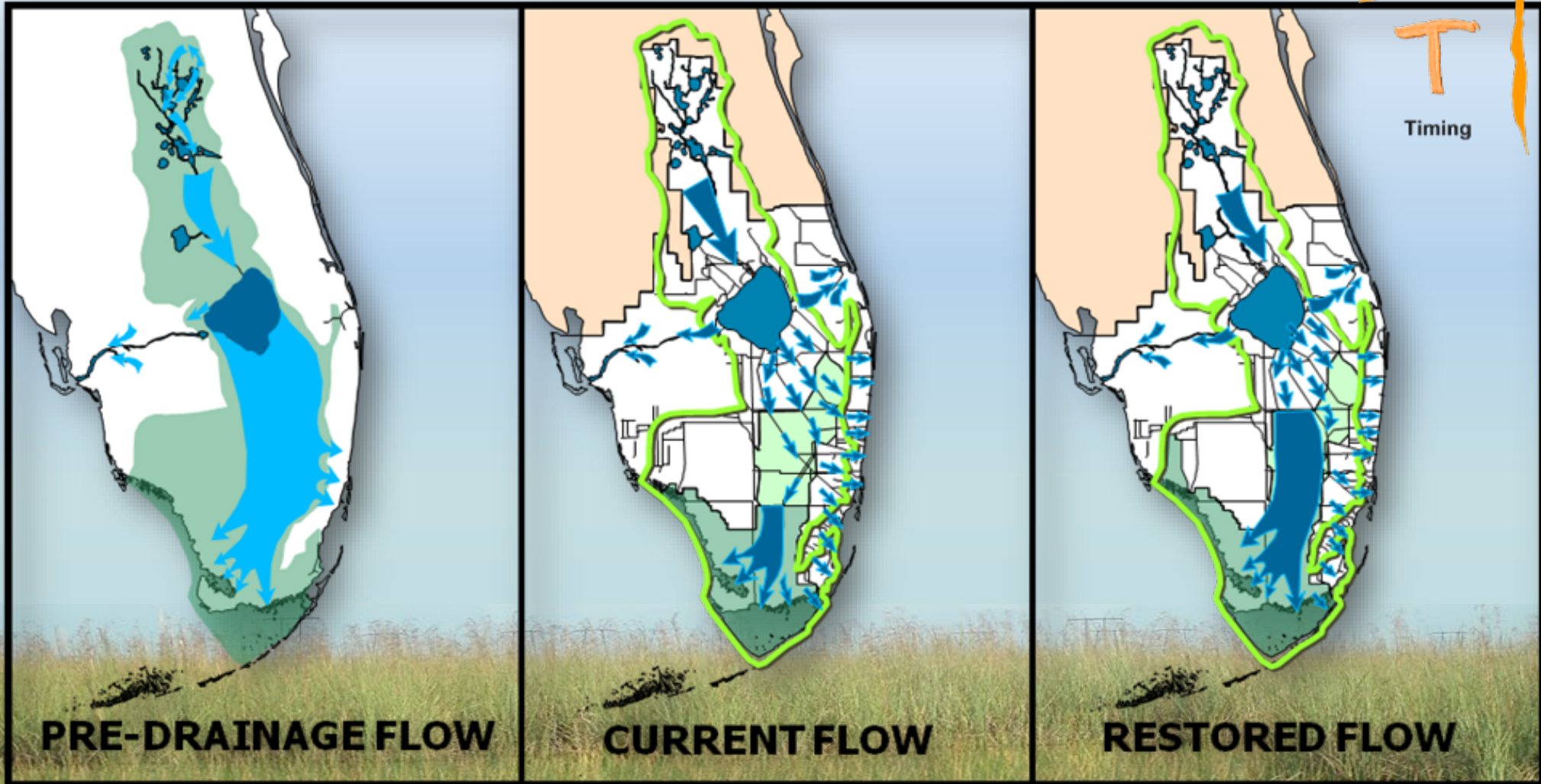
- ★ **Planning**: integrating RECOVER with planning and operation of the system





# RECOVER'S SPCU ROLE

Quantity      Quality  
~~Q/Q~~  
Timing      Distribution  
~~T/D~~



# QUESTIONS TO ADDRESS

***Are the CERP goals and objectives as identified in the Yellow Book achieved in the FWP condition? Regionally? Systemwide?***

**Table 1. CERP Goals and Objectives (USACE 1999)**

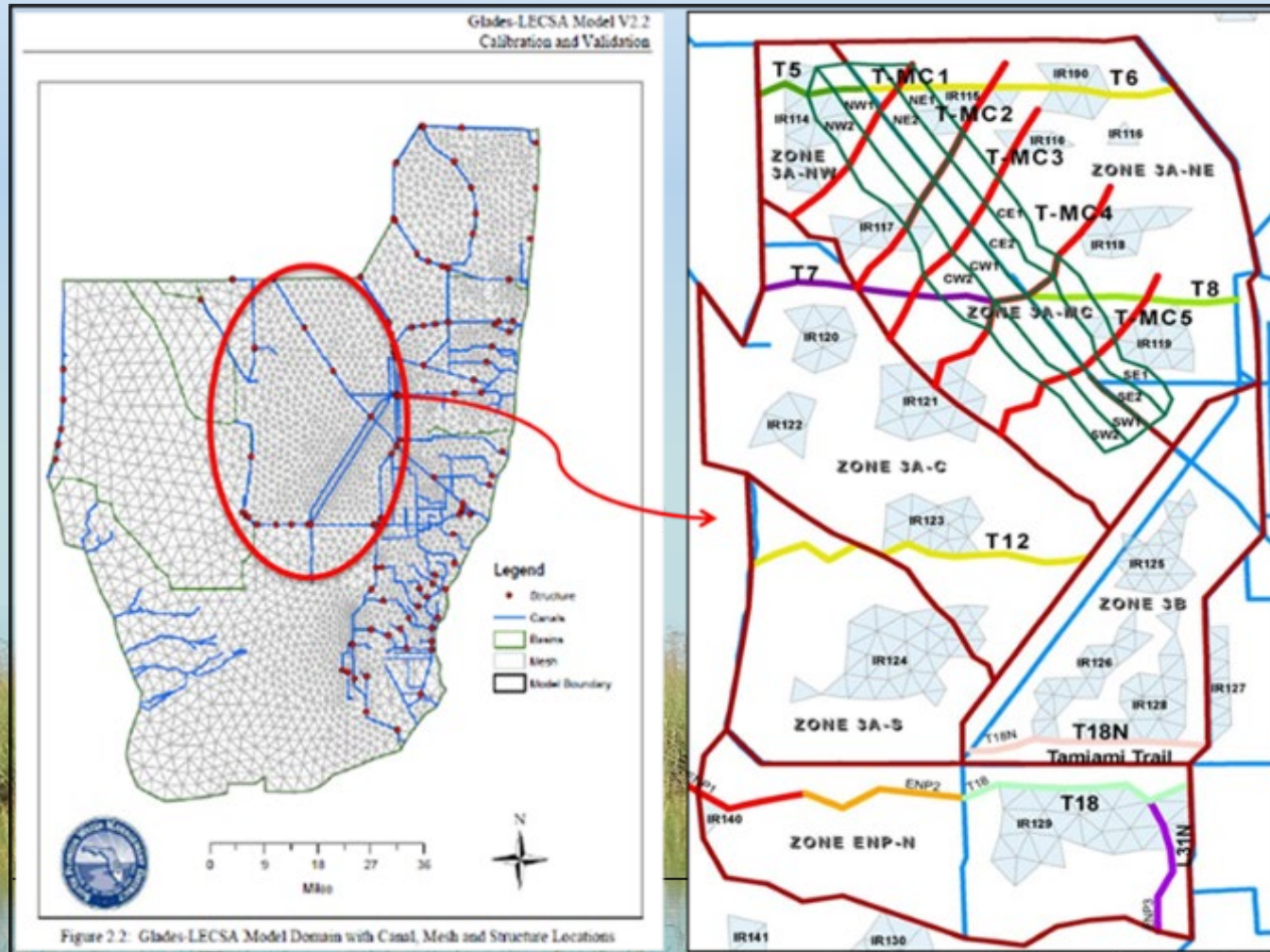
Goals	Objectives
Enhance Ecologic Values	Increase the total spatial extent of natural areas
	Improve habitat and functional quality
	Improve native plant and animal species abundance and diversity
Enhance Economic Values and Social Well Being	Increase availability of fresh water (agricultural/municipal and industrial)
	Reduce flood damages (agricultural/urban)
	Provide recreational and navigation opportunities
	Protect cultural and archeological resources and values





# QUESTIONS TO ADDRESS

*In what area/Indicator Region within the CERP footprint are CERP goals and objectives as envisioned in the Yellow Book achieved/not achieved in the “Future with CERP” condition?*



## Indicator Regions:

- Depth
- Distribution
- Duration

## Transects:

- Timing
- Distribution

Example Indicator Regions and  
Transects within Regional  
Simulation Model- Glades  
LECSA Model Mesh





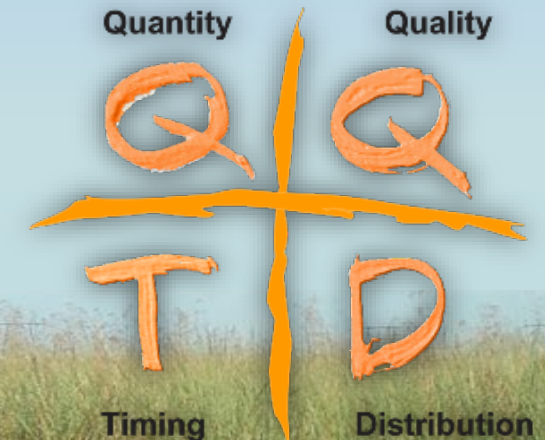
# QUESTIONS TO ADDRESS

***In areas/Indicator Regions within the CERP footprint in which CERP goals and objectives as envisioned in the Yellow Book are not achieved in the “Future with CERP” condition, what is the primary reason?***

Surface Water Storage Reservoir  
Aquifer Storage and Recovery  
Stormwater Treatment Areas  
Seepage Management  
Removing Barriers to Sheetflow  
Wastewater Reuse  
Operational Changes



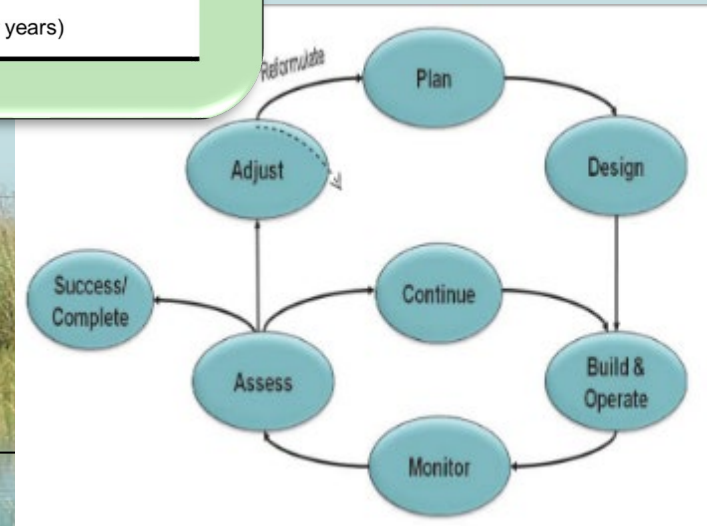
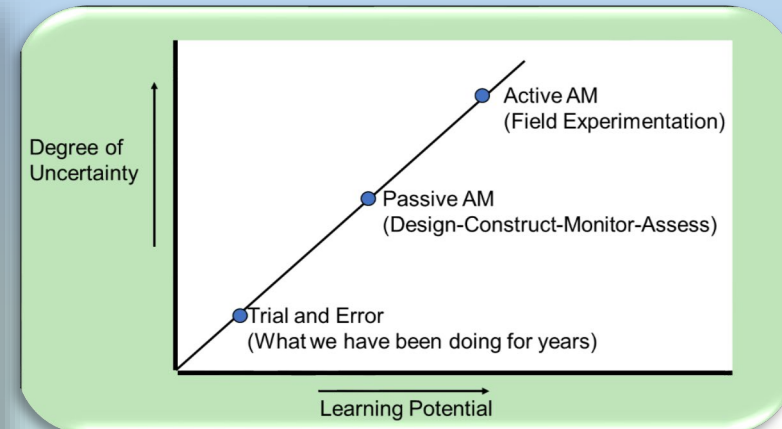
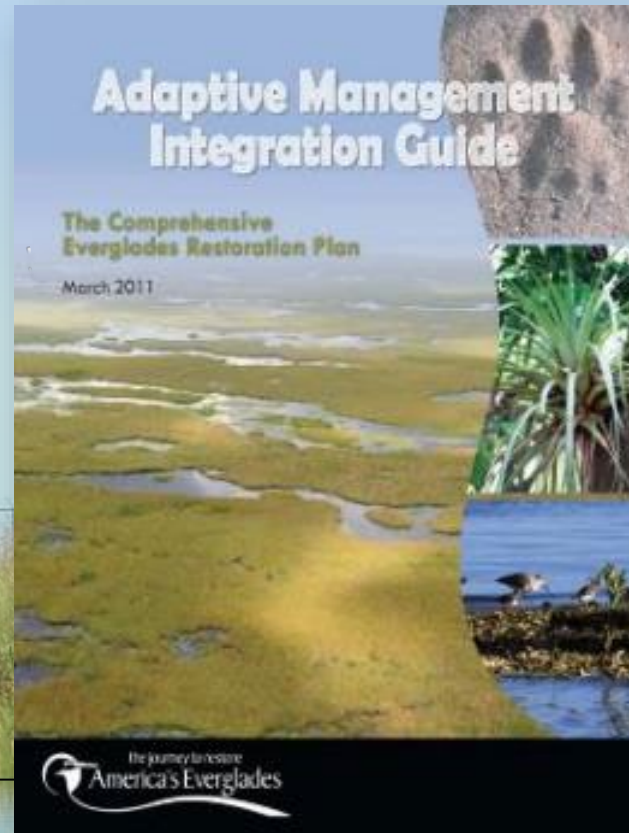
## GETTING THE WATER RIGHT



# QUESTIONS TO ADDRESS



**What parameter(s) need to be considered for potential additional management measures (structural/operational) in areas where CERP goals and objectives are not achieved in the “Future with CERP” condition?**





# CERP GOAL 1: ENHANCE ECOLOGICAL VALUES

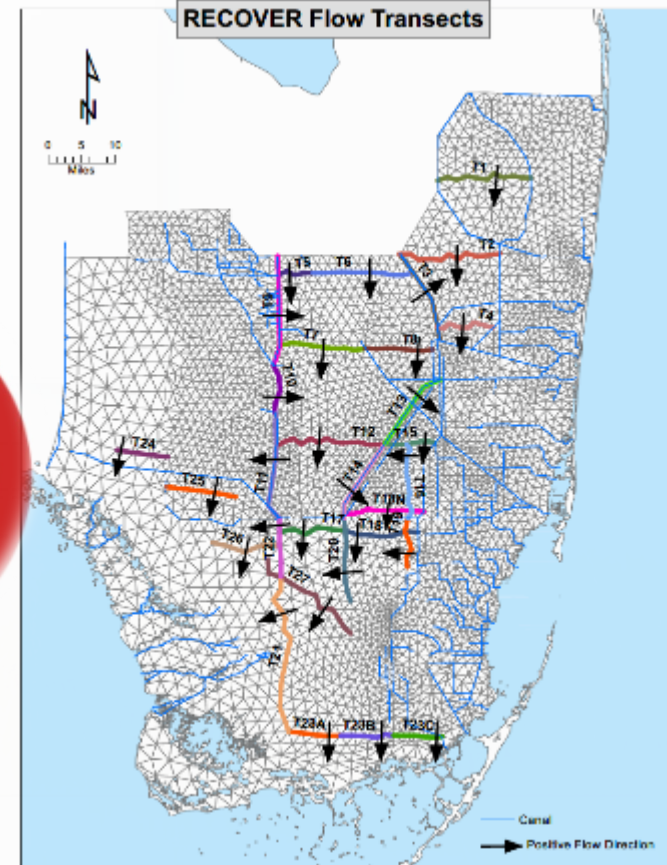
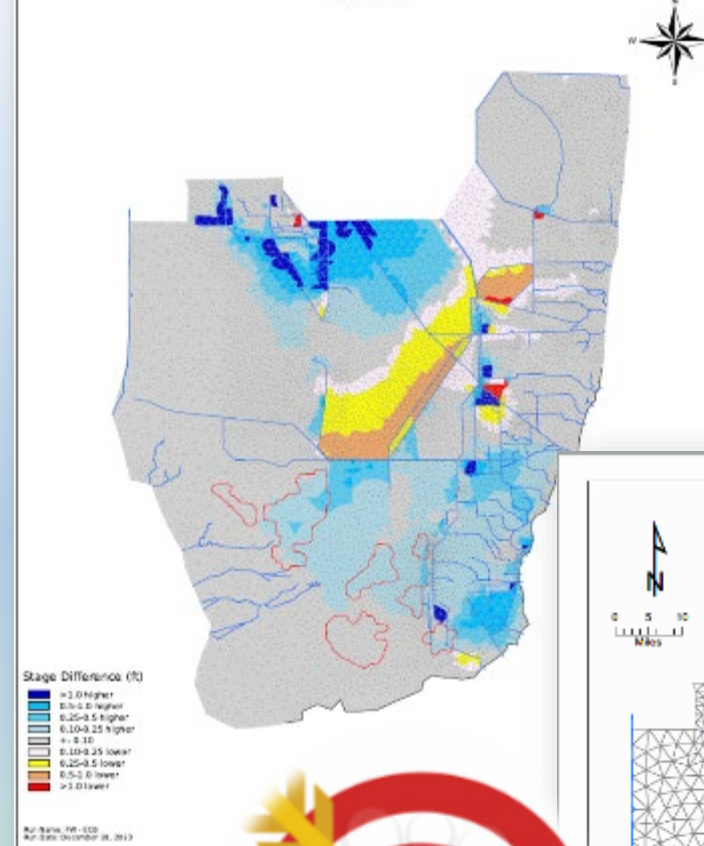




# SYSTEMWIDE

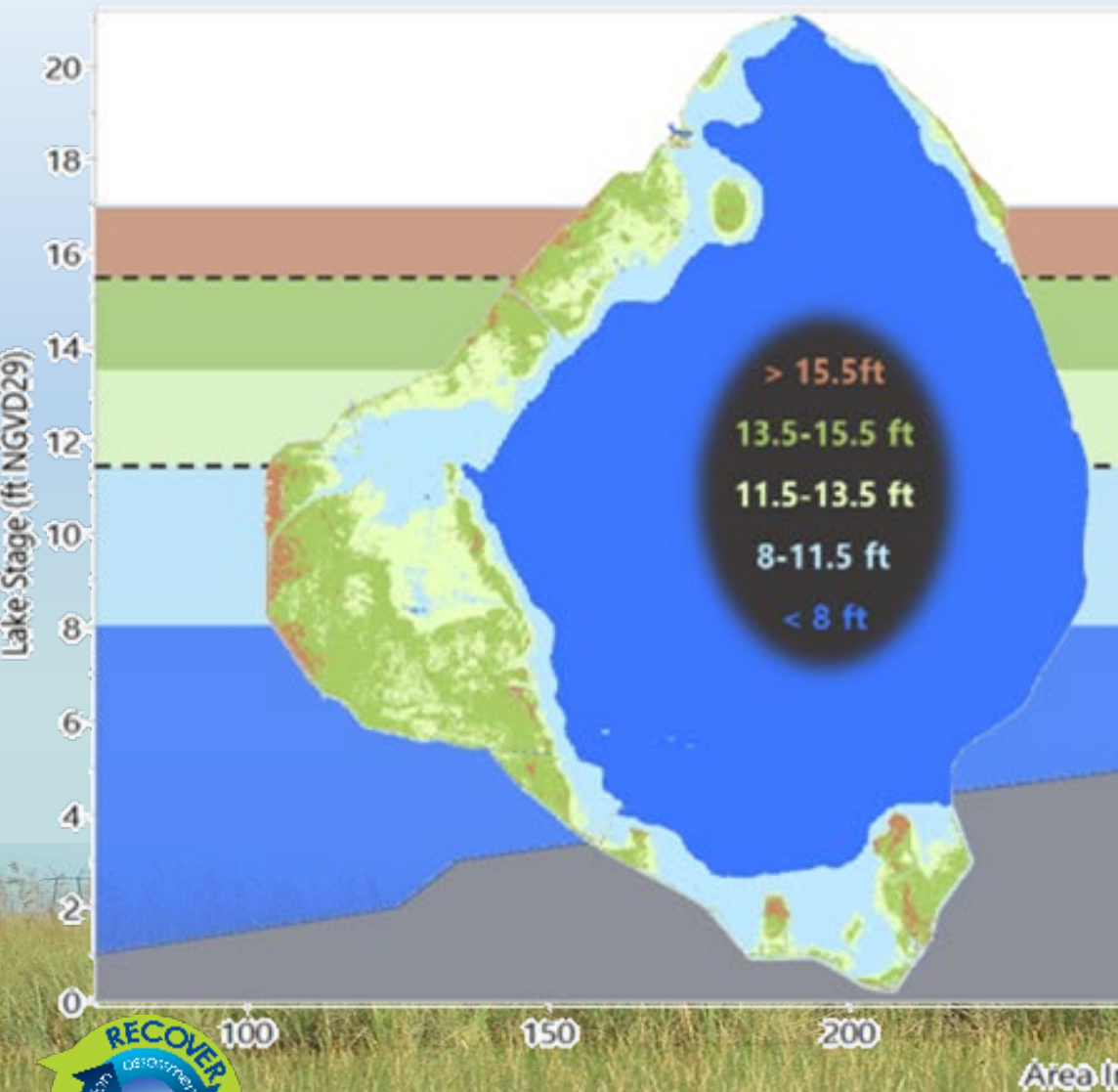


Average Annual Stage Difference in POS  
1965-2016

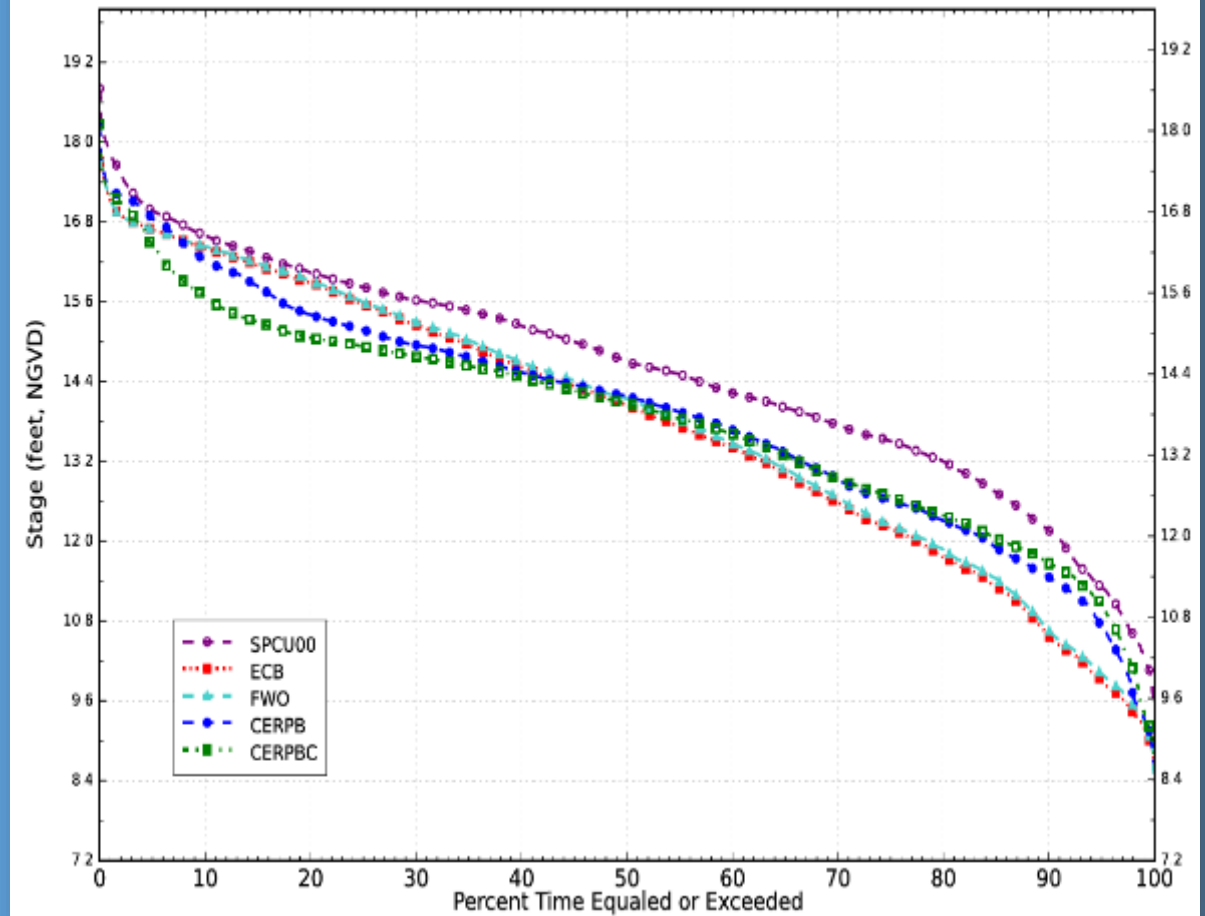




# LAKE OKEECHOBEE



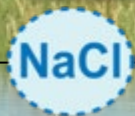
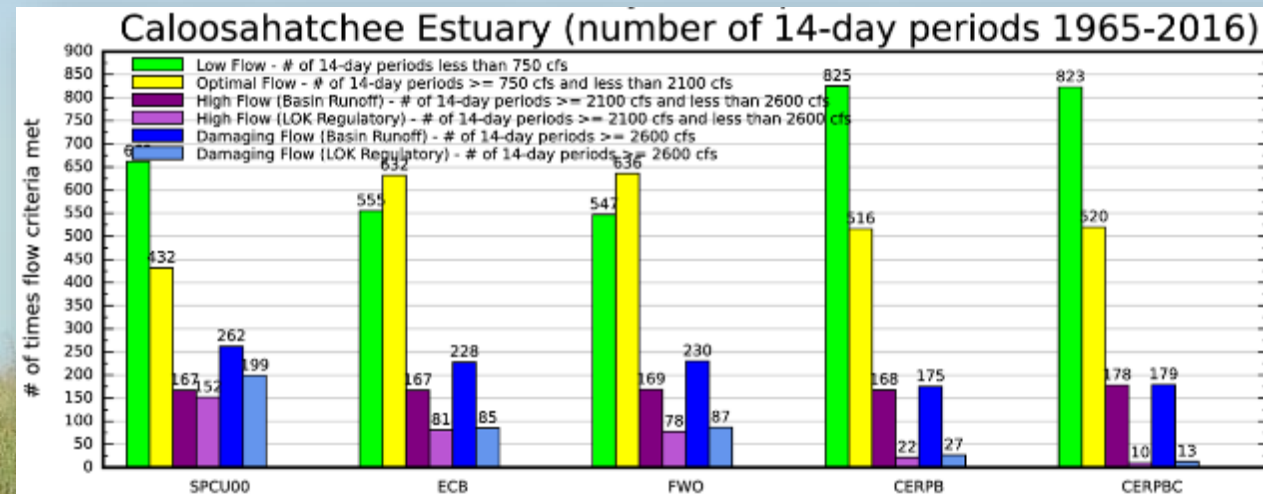
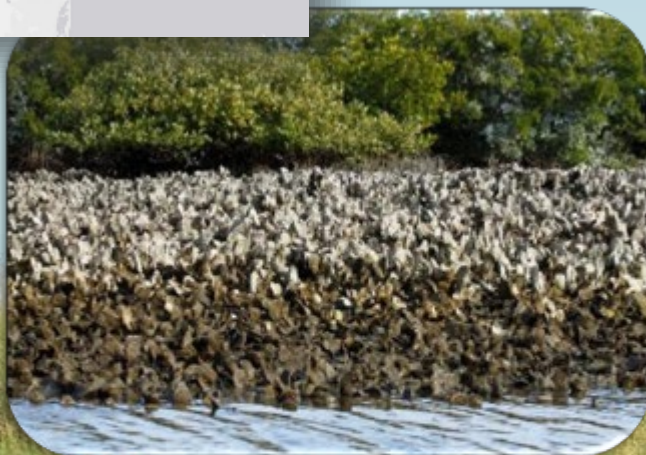
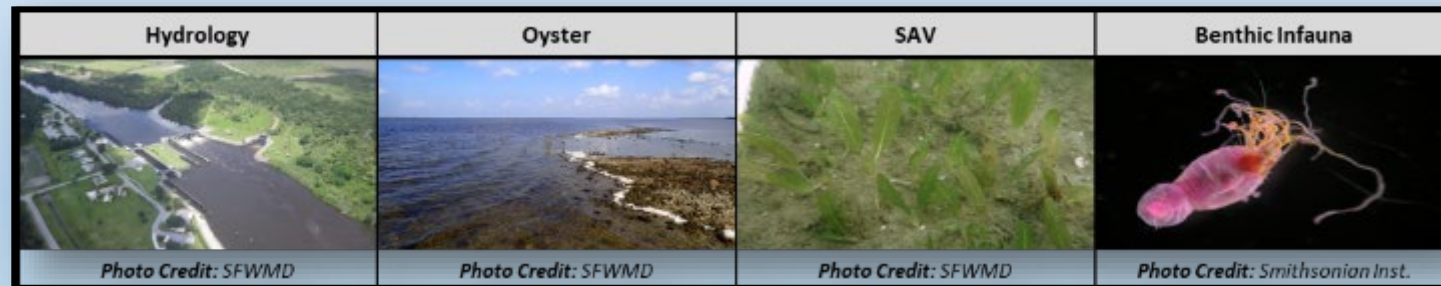
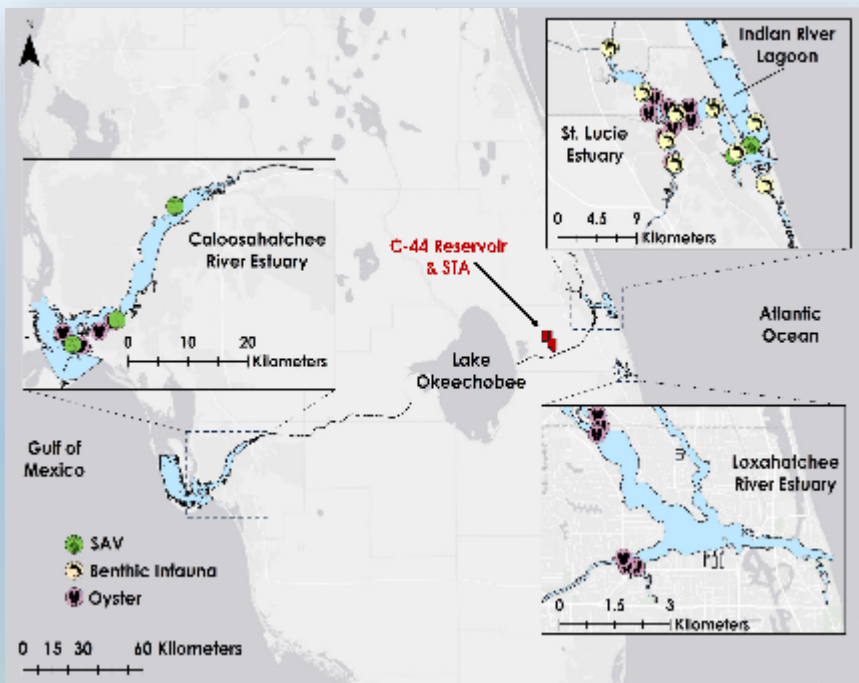
Stage Duration Curves for Lake Okeechobee





# NORTHERN ESTUARIES

- ✓ RECOVER Northern Estuaries Salinity Envelope
- ✓ Oyster Habitat Suitability Index



Salinity



Temperature

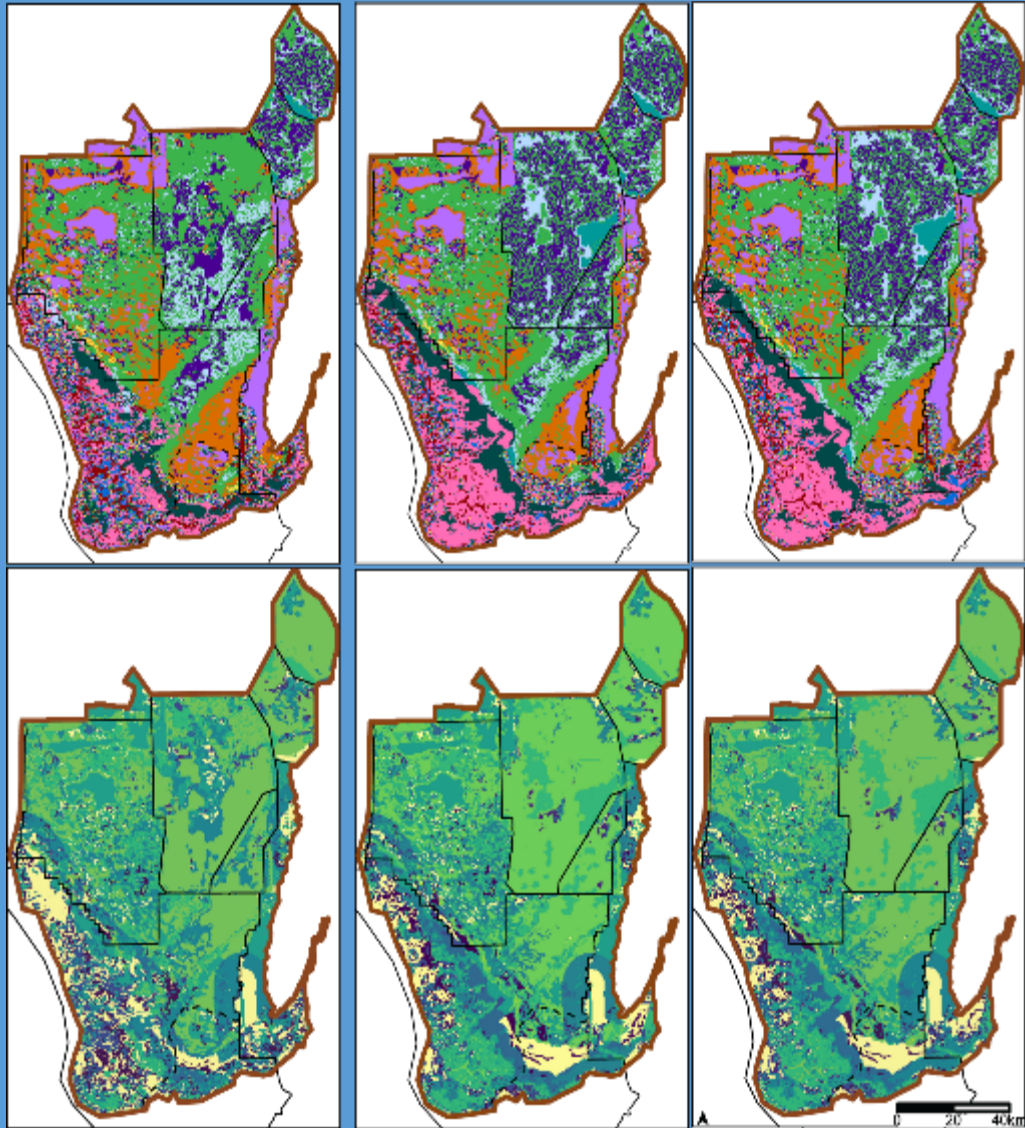


Substrate



# GREATER EVERGLADES & SOUTHWEST FLORIDA

## Everglades Vulnerability Analysis (USGS JEM)



### Vegetation Type

- Cattail
- Cypress
- Freshwater Long Hydroperiod
- Freshwater Prairie
- Freshwater Swamp/Forest
- Mangrove
- Mangrove Shrub
- Marine
- Sawgrass
- Spikerush
- Upland

### Certainty Score

- 0.91 – 1.00
- 0.81 – 0.90
- 0.71 – 0.80
- 0.61 – 0.70
- 0.51 – 0.60
- 0.41 – 0.50
- 0.31 – 0.40
- 0.21 – 0.30
- 0.11 – 0.20
- 0.00 – 0.10





# SOUTHERN COASTAL SYSTEMS

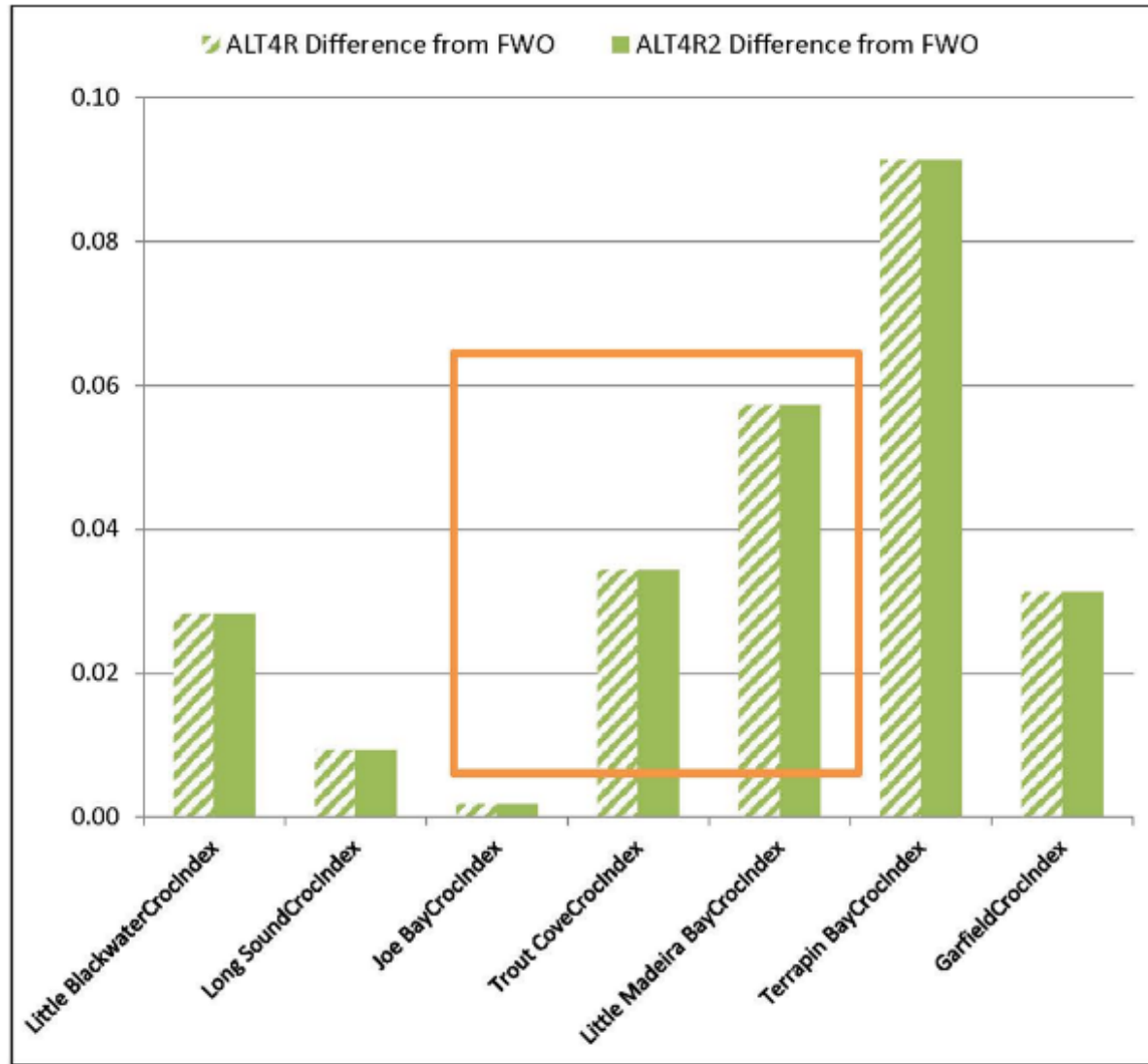


Figure C.2.2-46. Histogram showing the results of the juvenile crocodile HSI for 7 locations of known crocodile nesting areas across all years within Period of Record (1965-2005). Index values show lift provided by Alt 4R as compared with the No Action Alternative and Alt 4R2 as compared to the no action alternative. (Brandt 2013).

## Juvenile Crocodile Habitat Suitability Index



# **CERP GOAL 2: ENHANCE ECONOMIC VALUES AND SOCIAL WELL BEING**





# WATER SUPPLY & FLOOD CONTROL

# CERP GOAL-2

# RECREATION & NAVIGATION

## CULTURAL & ARCHAEOLOGICAL RESOURCES



Photo credit: FWC



Photo credit: FWC



Photo credit: FWC



Photo Credit: USACE



Photo Credit: USGS



Photo credit: SFWMD



Photo credit: SFWMD





# THANK YOU



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