



# REstoration, COordination, VERification (RECOVER)

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**RECOVER PROGRAM MANAGER**

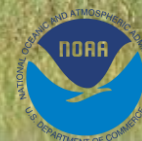


**March 14, 2023**  
**Science Coordination Group**  
**Meeting**



# PRESENTATION OUTLINE:

- What are the Functions and Roles of RECOVER?
- What is Adaptive Assessment & Monitoring (AA&M)?
- How does RECOVER Support CERP?
- What Resources does AA&M Need?
- Task Force & Science Coordination Group Request



# WHAT ARE THE FUNCTIONS AND ROLES OF RECOVER?



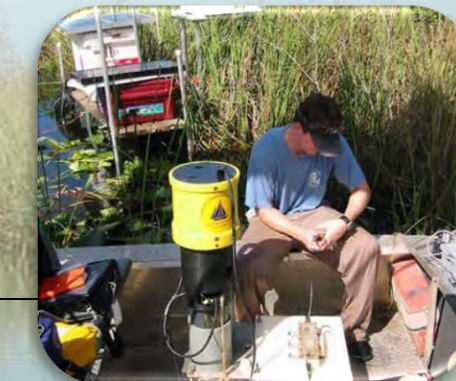
- Ensures CERP implementation is guided by the best available science
- Three Major Missions:
  - **Assessment**: measuring performance of projects through research and monitoring
  - **Evaluation**: forecasting project performance through predictive modeling and performance measures
  - **Planning**: integrating RECOVER with planning and operation of the system





# WHAT IS ADAPTIVE ASSESSMENT AND MONITORING (AA&M)?

- Authorized in Water Resources Development Act of 2000
- CERP Programmatic Regulations instruct that RECOVER:
  - 1) Develop an adaptive assessment program to **assess system responses** to CERP implementation
  - 2) Design and implement a monitoring program to **measure status and trends** towards achieving CERP goals and purposes
  - 3) Use monitoring information as a basis for **conducting assessment** tasks

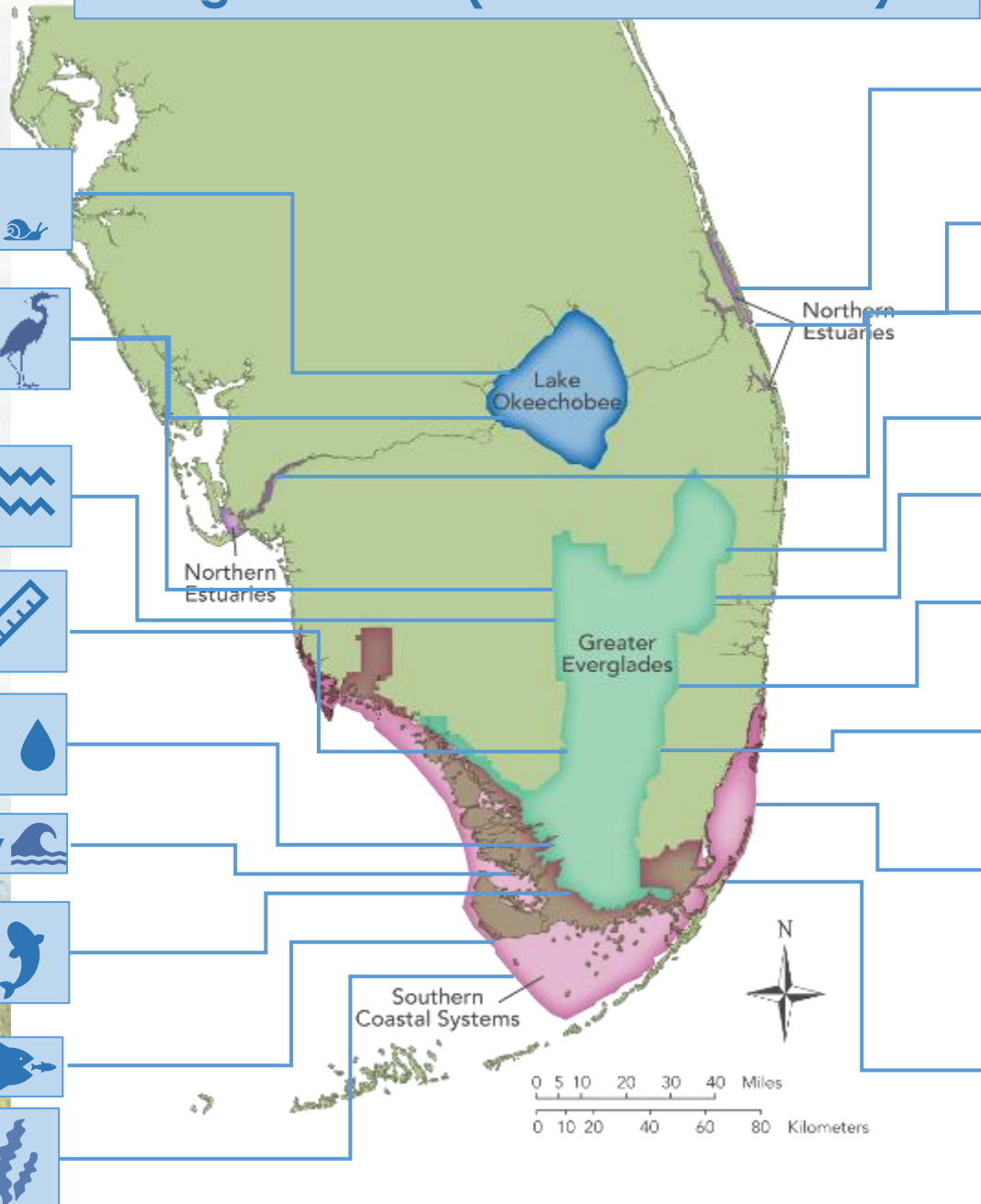


**RECOVER DEVELOPED THE MONITORING AND ASSESSMENT PLAN (MAP) TO ADDRESS THE PRIMARY AAM TASKS**



# CURRENT MAP SCOPE

## Agreements (USACE & SFWMD)



Lake Okeechobee **benthic invertebrates**



**Wading Bird** Colony Size, Location, & Timing



**Landscape Pattern** Ridge, Slough & Tree Island Mosaics



**Everglades Depth Estimator Network (EDEN)**



**Hydrodynamic & Salinity Characteristics** of Rivers & Estuaries



**Coastal Gradients** of Flow & Salinity



Marsh-Mangrove as Aquatic Refuges for **Wetland Fishes**



**Juvenile Sport Fish**



Fish Habitat Assessment Program (**SAV** monitoring)



**Benthic Infauna** Monitoring & DNA barcoding SLE, IRL



**SAV** monitoring & mapping CRE & SLE & Southern IRL



**Adult and Larval Oyster** Monitoring CRE, SLE, LRE



**Aquatic Fauna & Primary Production**



**Dry Season Prey** Trophic Concentrations



**Tree Island** Condition WCA 3A & Southern Everglades



**Alligator** Status as a System-Wide Ecological Indicator



**Integrated Biscayne Bay Ecological Assessment & Monitoring (IBBEAM)**



Ecological Parameters in the Forested Wetlands (**Roseate Spoonbills, prey, and vegetation**)



# MAP PRODUCTS SUPPORT:

## CERP Programmatic Support

- Predictive Evaluation Tools (**RECOVER Performance Measures, Habitat Suitability Index Models, USGS Joint Ecological Modeling**)
  - Interim Goals and Interim Targets (IG/IT)
- Evaluation and Assessment Reports (**IG/IT, Periodic CERP Update, System Status Report, Report to Congress**)

## Project-Specific Support

- Inform Project Justification during Planning Phase
  - Regulatory Support
- Leverage & Supplement Project-Level Monitoring
  - Adaptive Management Guidance
- RECOVER Recommendations to Improve Project Performance Measures,
  - Evaluate Alternatives, Monitoring & Adaptive Management Plans
- RECOVER support during Design & Implementation (Project Operations, Monitoring and Adaptive Management)

## South FL Ecosystem Restoration Support (CERP & non CERP)

- SFWMD annual South Florida Environmental Report
- South Florida Ecosystem Task Force (**System-wide Stoplight Indicator Report & Biennial Report**)
  - South Florida Wading Bird Report
  - Inform Water Control Plan Development
  - Inform Weekly Water Management Decisions



# WHAT RESOURCES DOES AA&M NEED?

- Coordination/leveraging of agency monitoring data to bridge the gap between current MAP and 2009 MAP
- Continuation or reestablishment of agency monitoring identified as critical in the 2009 MAP

## CERP MONITORING AND ASSESSMENT PLAN



Restoration Coordination and VERification  
(RECOVER)



Comprehensive Everglades Restoration Plan

Central and Southern Florida Project

Revised  
December 2009





# HOW CAN THE TASK FORCE ASSIST TO MEET IDENTIFIED NEEDS?

Direct the Science Coordination Group to:

- ✓ Assign members within their agencies to assist with RECOVER teams and products
- ✓ **Provide RECOVER with an inventory of agency monitoring**
- ✓ Host a RECOVER Topic Workshop on Monitoring (Summer 2023)

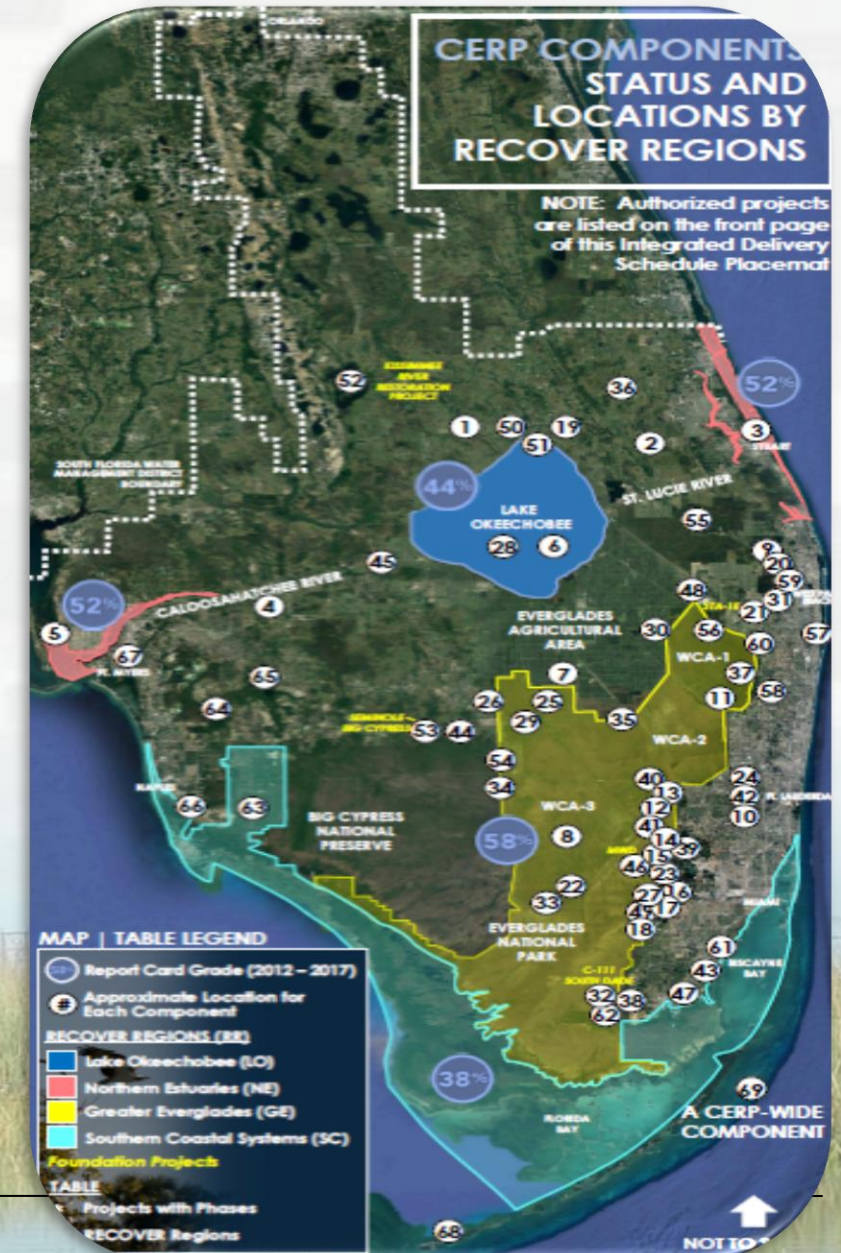
*It is critical that all agencies dedicate resources in areas most relevant to their missions and contribution to system-wide restoration.*





# WHAT IS RECOVER REQUESTING FROM THE SCIENCE COORDINATION GROUP?

- Complete RECOVER Monitoring Survey
  - Excel Spreadsheet/ Refer to “READ ME” Instructions
  - 1 consolidated Survey per Tribe/Agency
- Provide completed survey to Gina Ralph
  - [gina.p.ralph@usace.army.mil](mailto:gina.p.ralph@usace.army.mil)
- **Due Date: 14 April 2023**





# WHAT IS RECOVER REQUESTING FROM THE SCIENCE COORDINATION GROUP?

- **Current** ecological monitoring that addresses **CERP Goal 1**
  - Within CERP **Footprint**
  - Ecological **response to CERP implementation**
- Information Collected:
  - Indicator(s)
  - Metrics
  - RECOVER region
  - Objectives
  - Frequency
  - Dates
  - POCs

## CERP GOALS & OBJECTIVES (USACE 1999)

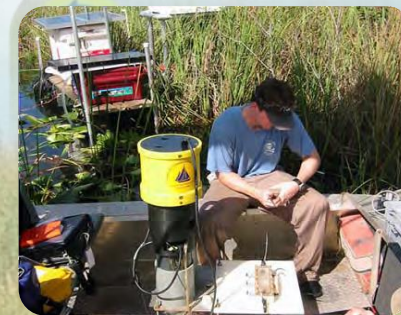
TABLE 5.1: GOALS AND OBJECTIVES FOR THE C&SF RESTUDY

### Goal: 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

### Goal: Enhance Economic Values And Social Well Being

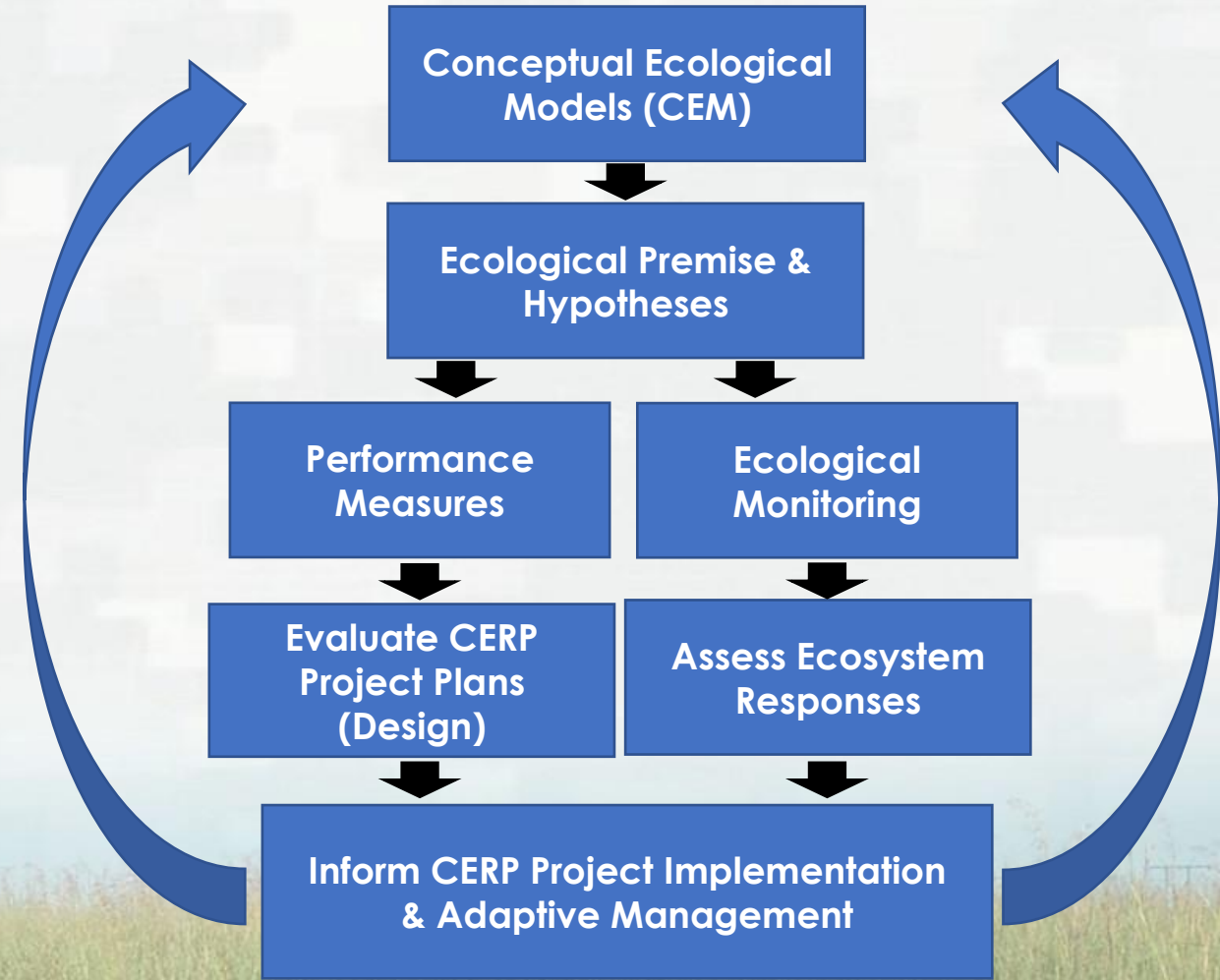
- Increase availability of fresh water (agricultural/municipal & industrial)
- Reduce flood damages (agricultural/urban)
- Provide recreational and navigation opportunities
- Protect cultural and archeological resources and values





# HOW WILL RECOVER USE THE INFORMATION COLLECTED?

- Topic Workshop (~July 2023)
- MAP Evaluation
- MAP Update
- CERP Adaptive Management Plan
- Performance Measure Development
- Ecological Planning Tools







**THANK YOU**

