



REstoration, COordination, VERification (RECOVER)

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South Florida Ecosystem
Restoration Task Force



PRESENTATION OUTLINE:

- Who are RECOVER?
- What are the functions and roles of RECOVER?
- How is RECOVER organized?
- What is Adaptive Assessment & Monitoring (AA&M)?
- How does RECOVER Support CERP?
- What will RECOVER accomplish in Fiscal Year 2023?
- What resources do RECOVER and AA&M need?
- How can the Task Force assist to meet identified needs?



WHO ARE RECOVER?

- Multi-agency team of scientists, modelers, planners, and resource specialists
- Conducts **scientific and technical evaluations**
- Applies a **system-wide perspective** to the planning and implementation of CERP
- **Communicates** and **coordinates science** to ensure that CERP goals and purposes are achieved



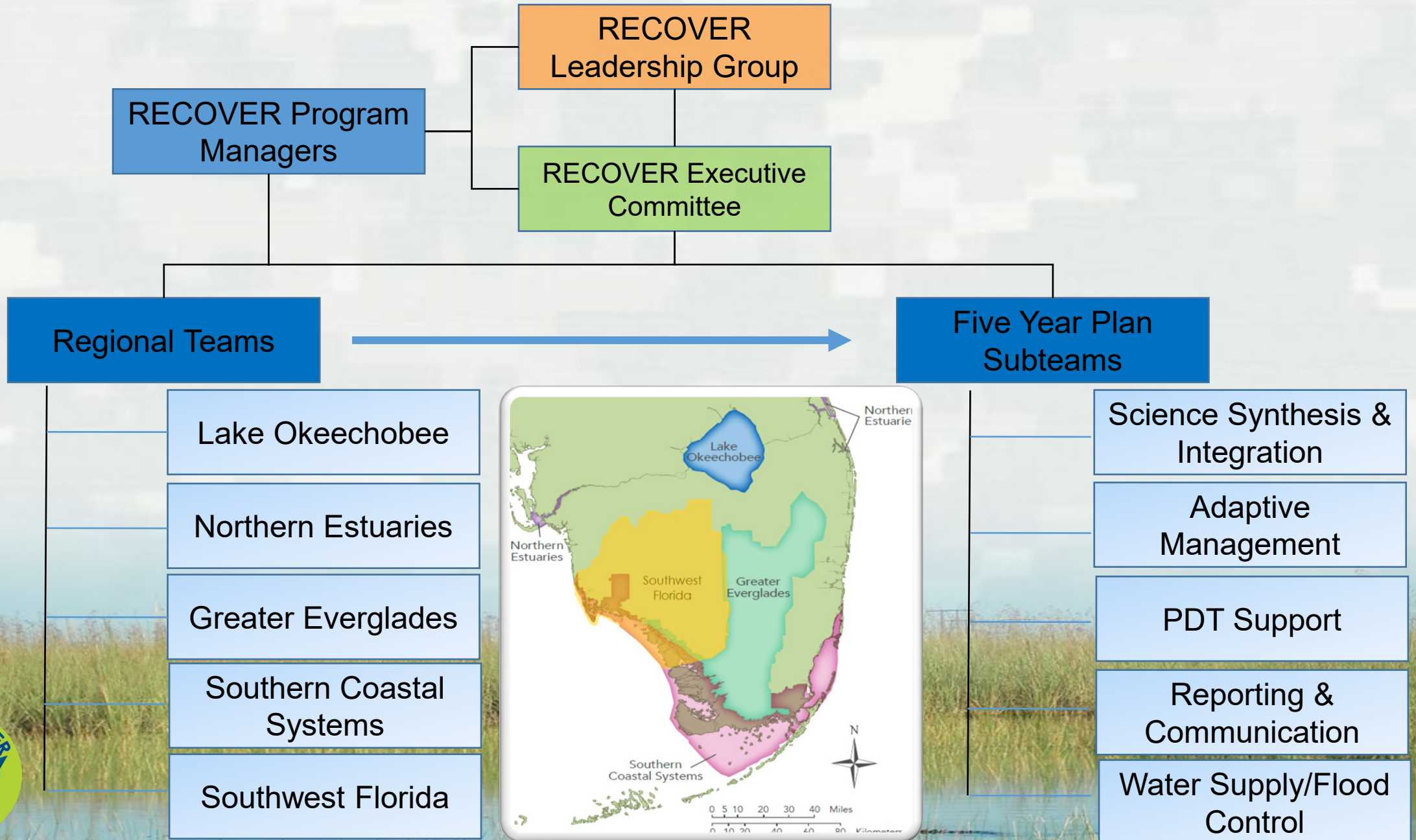
WHAT ARE THE FUNCTIONS AND ROLES OF RECOVER?



- 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

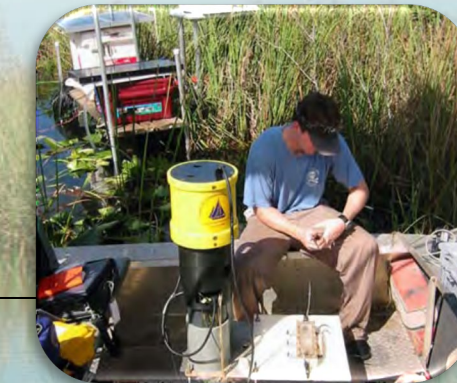


HOW IS RECOVER ORGANIZED?



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

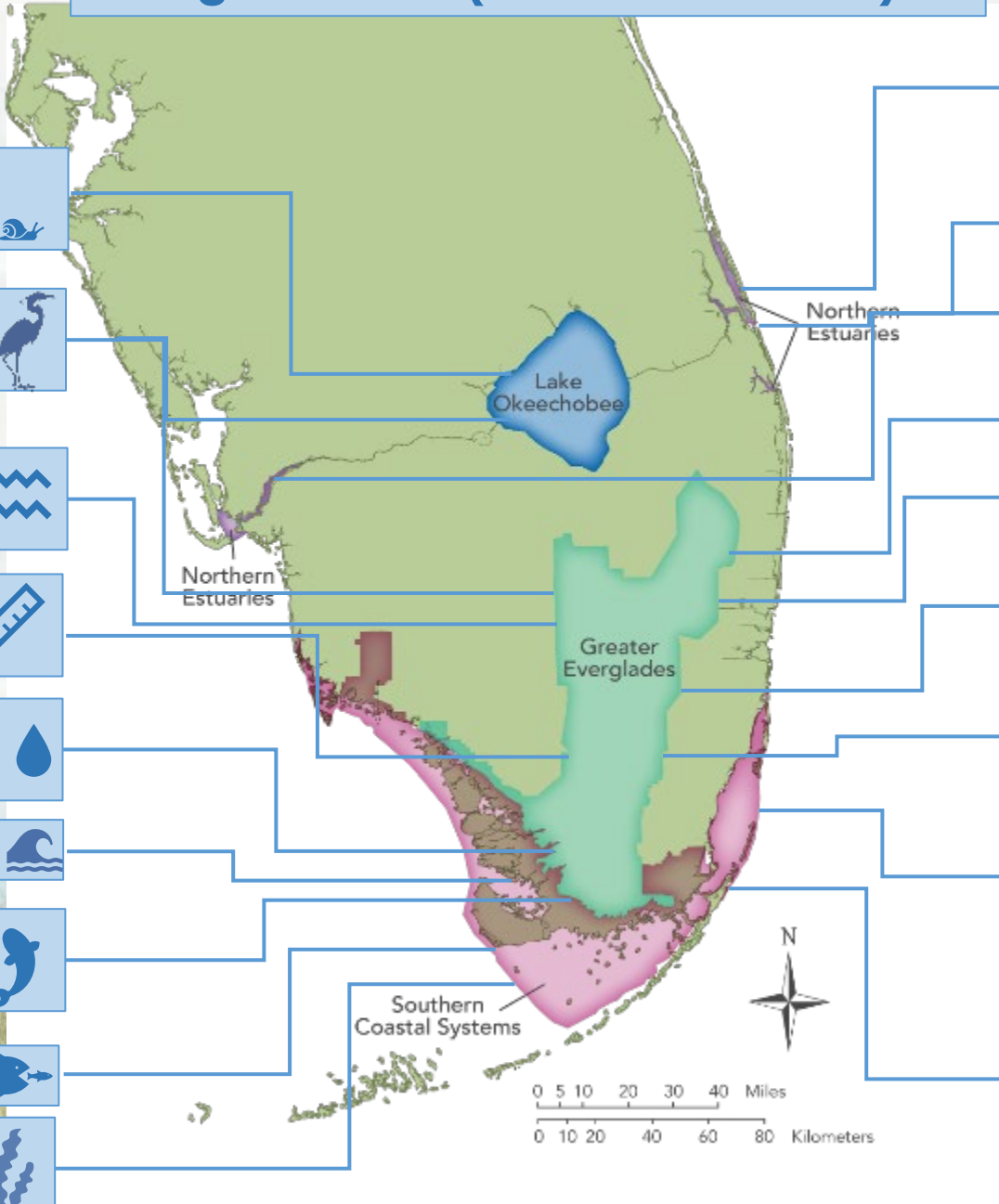


RECOVER DEVELOPED THE MONITORING AND ASSESSMENT PLAN (MAP) TO ADDRESS THE PRIMARY AAM TASKS





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 WILL RECOVER ACCOMPLISH IN FISCAL YEAR 2023?

Systemwide Evaluation & Assessment

- CERP Update
- 2024 Report
- MAP Synthesis

Systemwide Review & Integration

- Conceptual Ecological Model
- Performance Measure & Tool Development/Revisions

Adaptive Management

- Identify & Prioritize Uncertainties

Support to Projects

- Refer to Slide 10

Science Communication

- Communication Strategy
- WG/SCG Coordination
- CISERP Coordination
- Topic Workshop (Monitoring)
- Conferences

Base Operations

- FY23 Synopsis



RECOVER SUPPORT TO PROJECTS: FISCAL YEAR 23

- PSRP
- IRL-S
- C-43
- BCWPA
- BBCW
- C-111 SC
- CEPP-S
- CEPP-N
- CEPP-NW
- LRWRP
- LOWRP
- WERP
- BBSEER
- SOM Volume 3: LO/EAA (C-43 Reservoir POM)
- SOM Volume 4: WCAs-ENP-SDCS-CEPP and EAA Reservoir (TTNS, Phase 2/CEPP-S)
- SOM Volume 5: East Coast Canals



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SCAN THIS CODE FOR QUICK ACCESS TO A DIGITAL COPY OF THE IDS

CERP COMPONENTS STATUS AND LOCATIONS BY RECOVER REGIONS

NOTE: Authorized projects are listed on the front page of this Integrated Delivery Schedule Placemat

| # | RR | YELLOW BOOK NAME AND CODE |
|----|-----|---|
| 10 | SC | Change Coastal Wellfield Operations (L) |
| 11 | GE | Site 1 Impoundment with ASR* (M) |
| 14 | GE | C-4 Structures (T) |
| 19 | LO | Taylor Creek/Nubbin Slough Storage and Treatment Area* (W) |
| 25 | GE | Modified Holy Land Wildlife Management Area Water Management Operations (DD) |
| 26 | GE | Modified Rotenberg Wildlife Management Area Water Management Operations (EE) |
| 38 | SC | C-111 Spreader Canal* (WW) – Phase 2 in Planning |
| 42 | GE | Lower East Coast Water Conservation (AAA) |
| 48 | GE | C-31* and Southern L-8 Reservoir (GGG) |
| 50 | LO | Lake Okeechobee Watershed Water Quality Treatment Facilities (OPE) |
| 56 | GE | Acme Basin B (OPE) |
| 57 | NE | Lake Worth Lagoon Restoration* (OPE) |
| 58 | GE | Wimborg Farms Wetlands Restoration (OPE) |
| 60 | GE | Protect and Enhance Existing Wetlands Systems along Lox (Strazzulla Tract) (OPE) |
| 64 | GE | Southern CREW Project Addition (OPE) |
| 65 | GE | Lake Trafford Restoration (OPE) |
| 66 | GE | Henderson Creek/Belle Meade Restoration (OPE) |
| 67 | GE | Lake Park Restoration (OPE) |
| 68 | SC | Florida Keys Tidal Restoration (OPE) |
| 69 | ALL | Melaleuca Eradication and Other Exotic Plants (OPE) |
| 2 | NE | St. Lucie/C-44 Basin Storage Reservoir (B) |
| 3 | NE | Environmental Water Supply Deliveries to St. Lucie Estuary (C) |
| 4 | NE | Caloosahatchee Basin Storage Reservoir with ASR* (D) |
| 5 | NE | Environmental Water Supply Deliveries to Caloosahatchee Estuary (E) |
| 7 | GE | EAA Storage Reservoir (G) |
| 8 | GE | Everglades Rain-Driven Operations* (H) |
| 9 | GE | L-8 Project (K) |
| 12 | GE | Water Conservation Area 3A and 3B Levee Seepage Management (O) |
| 13 | GE | Western C-11 Diversion Impoundment and Diversion Canal (Q) |
| 14 | GE | C-9 Stormwater Treatment Area/Impoundment (R) |
| 18 | GE | L-31N Improvements for Seepage Management (V) |
| 22 | GE | Additional S-345 Structures* (AA) |
| 27 | GE | Construction of S-366 A and B Structures* (FF) |
| 29 | GE | Pump Station G-404 Modification (II) |
| 32 | SC | Modification to SDCS in southern portion of L-31N and C-111 (OO) |
| 33 | GE | Decommissionalization of Water Conservation Area 3* (OO) |
| 34 | NE | C-23, C-24, C-25 and Northfork and Southfork Basins Storage Reservoirs (UU) |
| 55 | GE | Pal Mar and J.W. Corbett Wildlife Management Area Hydroalteration Restoration (OPE) |
| 61 | SC | Biscayne Bay Coastal Wetlands* (OPE) – Phase 2 in Planning |
| 63 | SC | Southern Golden Gate Estates Hydrologic Restoration (OPE) |
| 1 | LO | North of Lake Okeechobee Storage Reservoir (A) |
| 28 | LO | Lake Okeechobee Aquifer Storage and Recovery* (GG) |
| 34 | GE | Flow to Central Water Conservation Area 3A (RR) |
| 39 | GE | North Lake Bell Storage Area (XX) |
| 43 | GE | South Miami Dade County Reuse (BBB) |
| 44 | GE | Big Cypress/L-28 Interceptor Modification (CCC) |
| 47 | SC | Biscayne Bay Coastal Canals (FFF) |
| 49 | SC | West Miami Dade Reuse (HHH) |
| 6 | LO | Lake Okeechobee Regulation Schedule* (F) |
| 15 | GE | Central Lakebell Storage Area (B) |
| 17 | GE | Bird Drive Recharge Basin (U) |
| 20 | GE | C-17 Backpumping (X) |
| 21 | GE | C-51 Backpumping to West Palm Beach Water Catchment Area (Y) |
| 23 | GE | Dade Broward Levee/Pennsua Wetlands (BB) |
| 24 | GE | Broward County Secondary Canal System (CC) |
| 30 | GE | Loxahatchee National Wildlife Refuge Internal Canal Structures (KK) |
| 37 | GE | Palm Beach County Agricultural Reserve Reservoir (VV) |
| 40 | GE | Divert WCA2 flows to Central Lake Bell Storage (YY) |
| 41 | GE | Divert WCA3 flows to Central Lake Bell Storage Area (ZZ) |
| 45 | NE | Caloosahatchee Backpumping with STA (DDD) |
| 46 | GE | Flows to Eastern Water Conservation Area (EEE) |
| 51 | LO | Lake Okeechobee Tributary Sediment Dredging/Phosphorus Removal (OPE) |
| 52 | LO | Lake Titilopoga Regulation Schedule Modification (OPE) |
| 54 | GE | Miscoukie Water Management Plan (OPE) |
| 62 | SC | Restoration of Pineland & Hardwood Hammocks in C-111 Basin (OPE) |
| 35 | SC | Reserve Miami-Dade Water Supply Deliveries (SS) |
| 53 | GE | Seminole Tribe Big Cypress Water Conservation Plan (East and West) (OPE) |
| 59 | GE | Palm Beach County Wetlands-based Water Reclamation (OPE) |

MAP | TABLE LEGEND

Approximate Location for Each Component

RECOVER REGIONS (RR)

- Lake Okeechobee (LO)
- Northern Estuaries (NE)
- Greater Everglades (GE)
- Southern Coastal Systems (SC)

Foundation Projects

TABLE

- Projects with Phases
- RECOVER Regions

NOT TO SCALE

INTEGRATED DELIVERY SCHEDULE

WHAT RESOURCES DOES RECOVER NEED?

People to **Lead** and **Support** RECOVER Teams

▪ **Team Leads**

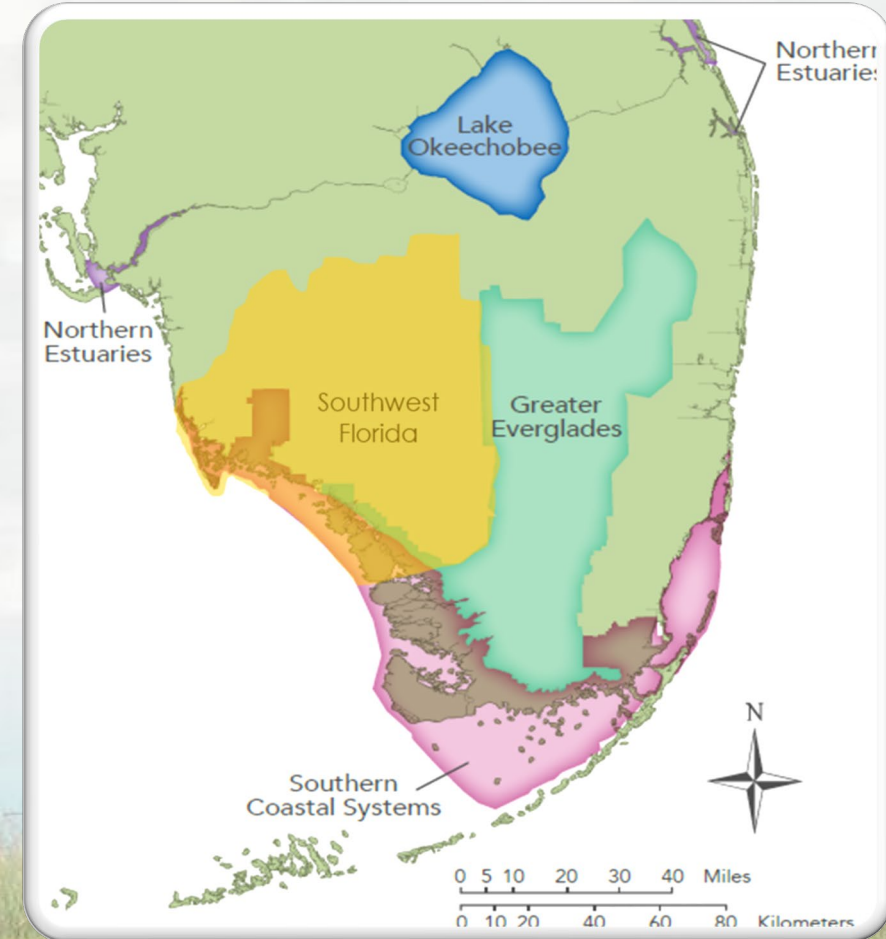
- Adaptive Management
- Regional Coordinators
 - Northern Estuaries
 - Southern Coastal Systems

▪ **Team Members**

- Southwest Florida Module
- Adaptive Management
- Water Supply & Flood Control

▪ **All Teams**

- Active participation in development of RECOVER products



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

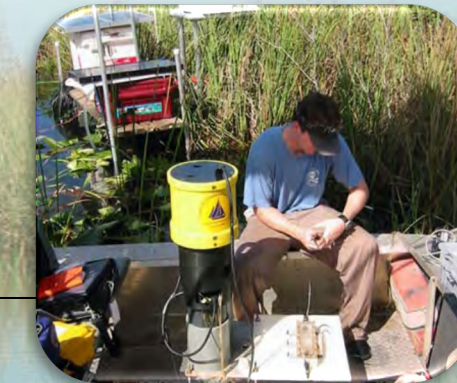


HOW CAN THE TASK FORCE ASSIST TO MEET IDENTIFIED NEEDS?

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.



THANK YOU

