



# REStoration, COordination, VERification (RECOVER)

## RECOVER TOPIC WORKSHOP LEVERAGING RECOVER MONITORING: EXISTING MONITORING NETWORKS, COORDINATION, AND COLLABORATION

Jenna May  
Joint Working Group/Science  
Coordination Group Meeting  
September 6, 2023



# THANK YOU!

*We appreciate and thank the SCG for their support in hosting and participating in the workshop, and completing the monitoring survey*



# RECOVER TOPIC WORKSHOP: PURPOSE

Forum to identify **current** science and monitoring efforts and **future** science and monitoring **needs** across South Florida to address outstanding uncertainties and CERP success



# PRE-WORKSHOP: GOALS & OBJECTIVES

## **GOAL 1: DEVELOP AN INVENTORY OF CURRENT SCIENCE/MONITORING WITHIN THE SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM**

*Objectives:*

- 1. SCG members complete RECOVER Monitoring Inventory Survey*
- 2. RECOVER MAP Contract POCs complete RECOVER Monitoring Survey*
- 3. LTER Program Lead complete RECOVER Monitoring Inventory Survey*

## **GOAL 2: LINK SCIENCE/MONITORING TO CERP PURPOSE, GOALS, AND OBJECTIVES**

*Objective:*

- 1. Identify connections between current science/monitoring with CERP purpose, goals and objectives*



# WORKSHOP: GOALS & OBJECTIVES

## **GOAL 1: CROSSWALK MONITORING INVENTORY WITH RECOVER HYPOTHESIS CLUSTERS (HCS)**

*Objectives:*

- 1. Identify whether the science/monitoring links to HC(s).*
- 2. Identify the metrics monitored for the specific indicator to identify overlap or gaps.*

## **GOAL 2: IDENTIFY OVERLAP AND GAPS IN SCIENCE/MONITORING TO SUPPORT HCS**

*Objectives:*

- 1. Identify where there is overlap in science/monitoring to support HC(s).*
- 2. Identify where there are existing gaps in science/monitoring to support HC(s).*
- 3. Identify leveraging opportunities and promote collaboration among participants.*



# RECOVER TOPIC WORKSHOP: FORMAT

Held July 19-20, 2023 at South Florida Water Management District HQ

**Day 1: Northern Estuaries/Southern Coastal Systems:  
48 in-person participants + virtual participants**

**Day 2: Lake Okeechobee/Greater Everglades:  
43 in-person participants + virtual participants**



**Presentations  
(hybrid)**



**Breakout groups  
(in-person)**



**Out briefs  
(hybrid)**



# RECOVER TOPIC WORKSHOP: PRODUCTS

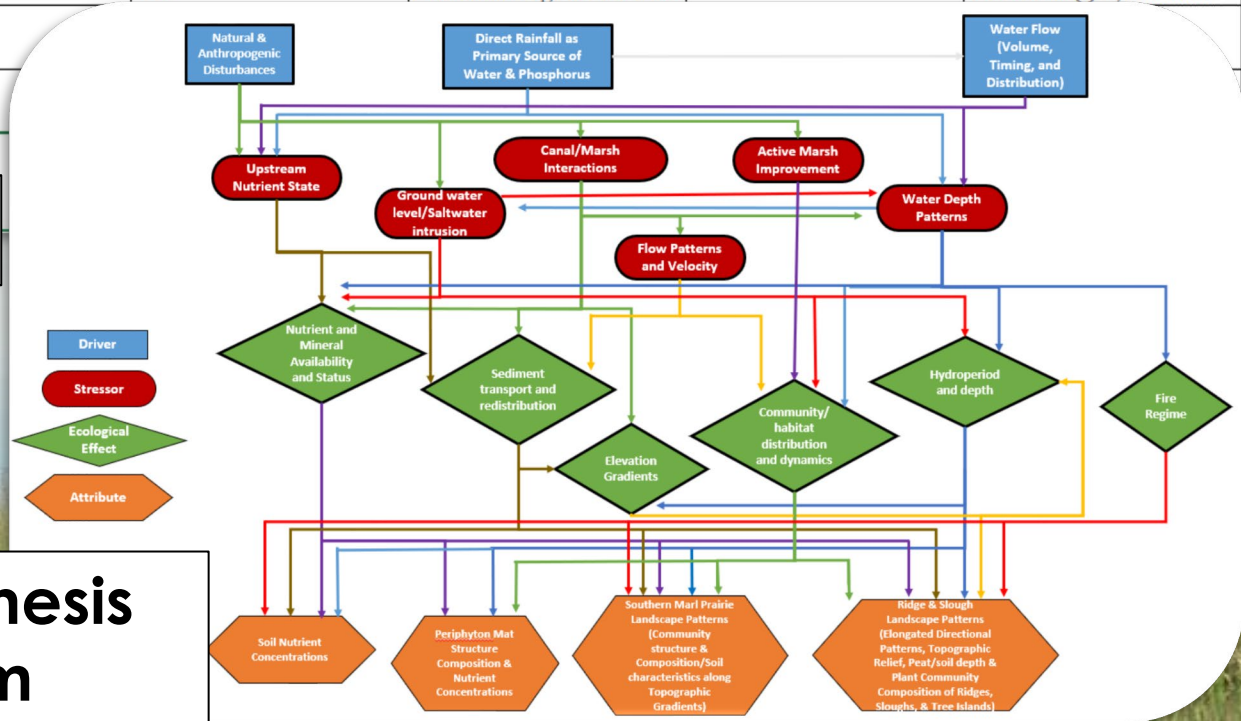
- Monitoring Crosswalk by Hypothesis Cluster
- Map of Monitoring Locations by Region
- List of Overlapping Monitoring Efforts
- List of Gaps on Monitoring Efforts



# RECOVER TOPIC WORKSHOP: PRODUCTS

RECOVER Topic Workshop: Product 1A: Monitoring/HC Crosswalk									
Region/Hypothesis Cluster Name: Greater Everglades Interrelationships of Sheet Flow, Water Depth Patterns, Oligotrophic Nutrient Status, and Landscape Patterns									
CERP Link	Reference	Indicator Monitored (Write name of indicator)	1. Is the indicator monitored reflected in the Hypothesis Cluster? (If Yes- complete 2-6; if No- write No and STOP)	2. Is the indicator monitored a driver, stressor, ecological effect, or attribute as identified in the HC? (If Yes- write which; if No- write No; if not identified in the HC, leave blank)	3. Is there a link between the indicator being monitored and a Driver/Stressor as identified in the HC? (If Yes- write which; if No- write No; if not identified in the HC, leave blank)	4. Is there a link between the indicator being monitored and a working hypothesis? (If Yes- write which; if No- write No)	5. What metrics are monitored for the indicator? (Write metric(s))	6. At what frequency is the indicator monitored? (Write frequency)	7. Who is the Point of Contact for monitoring? (Write POC)
High	301	Flow	Yes	Stressor	Yes	Yes	Flow	15 minute time-series	Eric Carlson, ecarlson@usgs.gov
High	125	Habitat	Yes	Attribute	Yes	Yes	Maps out habitat type and amount throughout the area	every 5 years	Eric Suarez, eric.suarez@myfwc.com
High	127	Habitat	Yes	Attribute	Yes				
High	336	Hydrologic connectivity	Yes	Ecological Effect	Yes				
High	338	Hydrologic connectivity							

## Product 1: Monitoring Crosswalk



## Example of Hypothesis Cluster Diagram



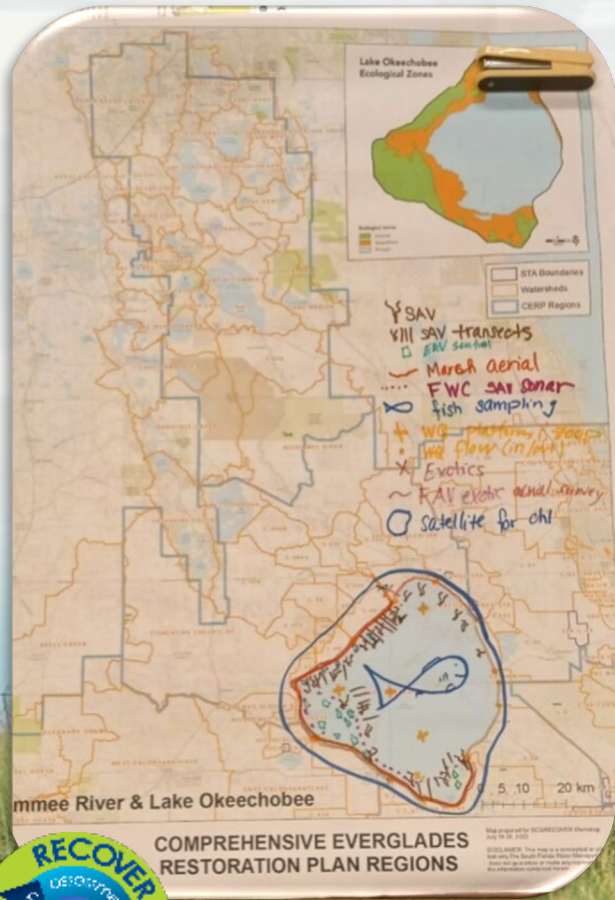


# RECOVER TOPIC WORKSHOP: PRODUCTS

## Product 2: Map of Monitoring

## Product 3: List of Overlaps

## Product 4: List of Gaps



### Monitoring Overlaps

Greater Everglades Interrelationships of Sheet Flow, Water Depth Patterns, Oligotrophic Nutrient Status, and Landscape Patterns

- Water Depth (USGS, SFWMD, NPS)
  - Applicable to all working hypotheses
  - Continuous data collection
  - Potential spatial/temporal overlap – requires further investigation

Gaps LO native veg? Phyto

- linkage of <sup>invasive</sup> exotic fishes & nutrients/phyto/sediment
- ~~Invasive~~ fish foraging preferences on native veg. (? prevent restoration benefit)
- Sediment nutrient tracing
- Phyto link to (larval) fishes in MRE Hypoth
- Nutrient cycling (some work @ UFGG) → water & sediment exchange
- Aquatic plant control: ? nutrients, sediment action (add. detail/knowledge from previous work)

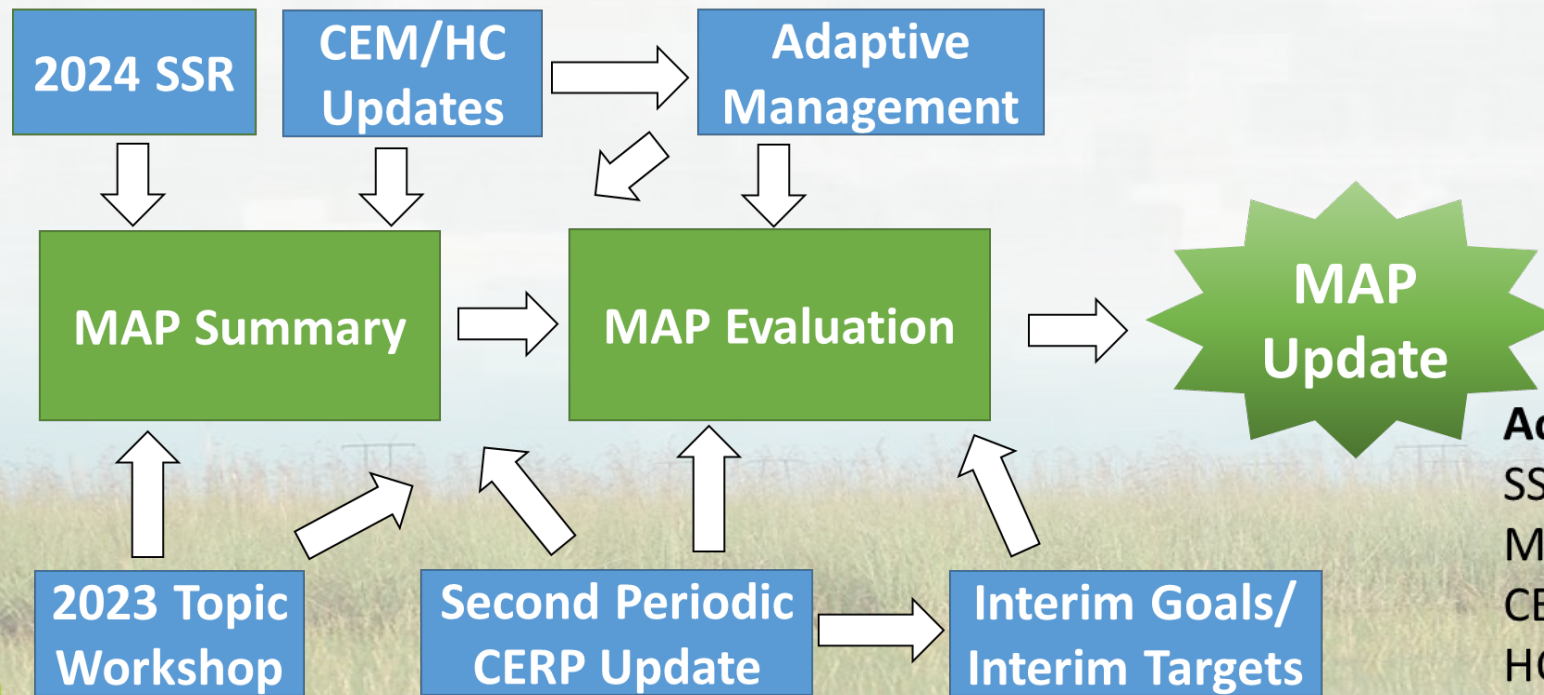
overlap: LO well-established interagency coord

# POST-WORKSHOP: GOALS AND NEXT STEPS

## GOAL 1: LINK MONITORING INVENTORY TO MAP EVALUATION

### OBJECTIVES:

1. DELIVER WORKSHOP PRODUCTS TO SCG AND RECOVER REGIONAL TEAMS IN DECEMBER 2023
2. LINK MONITORING INVENTORY TO CERP INTEGRATED DELIVERY SCHEDULE (IDS) AND SECOND PERIODIC CERP UPDATE



### Acronym Definitions:

SSR: System Status Report  
MAP: Monitoring and Assessment Plan  
CEM: Conceptual Ecological Model  
HC: Hypothesis Cluster



# THANK YOU

