

CERP-wide Monitoring Re-Optimization and Re-Prioritization



Science Coordination Group
September 21, 2011

Phase 1- Optimization

- **Phase 1– CERP-wide Monitoring Optimization**
 - **Completed** multi-agency open and inclusive planning process
 - **Completed** 8 Sub-regional Optimization Workshops
 - Considerations: scientific objectives, links to legal mandates, data objectives, links to CERP hypotheses, relationship to CERP projects, interdependencies among monitoring programs within and outside CERP
 - Develop recommendations of monitoring configurations (tiers) given differing levels of reductions in future budgets

Phase 2 - Prioritization

● Phase 2 – Prioritization of RECOVER system-wide (MAP)

- Three Regional Prioritization Meetings during the end of August
- System-wide Prioritization meeting occurred in the first week of September
- Final recommendations for RECOVER FY12 budget will be completed by mid-September
 - Efficiencies gained in contracting and overhead reduction were key aspects

Prioritization Guidelines

- ◉ Utility and immediacy of the science
- ◉ Length of baseline
- ◉ Link to projects
- ◉ Do a few things well or spread the cuts evenly
- ◉ Link to permit requirements and other regulations
- ◉ Links to tools and uncertainties
- ◉ Interim Goals

Northern Estuaries

FY12



- East Coast Oysters **-10%**

- West Coast Oysters **-20%**

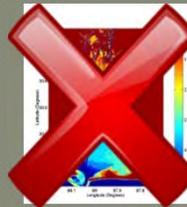


- SAV in ~~IRL, LWS~~ & Caloosahatchee **-83%**



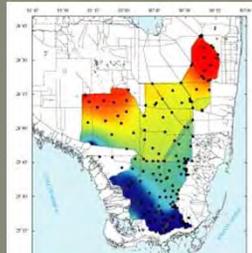
- Benthic Infauna in the SLE and IRL **-42%**

Southern Coastal Systems FY12



- Wading Birds/Aquatic Fauna **-36%**
- Juvenile Sportfish in Florida Bay **-0%**
- Oysters in the Ten Thousand Islands **-0%**
- Biscayne Bay Mangrove Fish **-24%**
- ~~Biscayne Bay Nearshore SAV~~
- ~~Biscayne Bay Epifauna Communities~~
- ~~Fish & Invertebrate Network~~
- South Florida FHAP **-36%**
- Biscayne Bay Salinity Monitoring **-43%**
- Hydrology & Salinity in Ten Thousand Islands **-19%**
- ~~Water Quality, Circulation & Salinity Monitoring~~
- Coastal Gradients **-57%**

Greater Everglades FY12



- Wading Birds (UF – USGS) -10%
- ~~Vegetation Mapping~~
- ~~Aquatic Fauna in Big Cypress~~
- Wet Season Trophic Sampling -43%
- Dry Season Trophic Sampling -40%
- ~~Alligators & Crocodiles~~
- ~~Marsh Mangrove Fishes~~
- Tree Island Condition in S. Everglades -40%
- Tree Island Monitoring -10%
- Marl Prairie/Slough Gradients -20%
- Landscape – Ridge, Slough & Tree Island -56%
- Ridge & Slough Main & Degradation -62%
- ~~Soil accretion monitoring stations/Sediment Elevation Tables~~
- EDEN -30%

Lake Okeechobee

FY11 to FY12



- Wading Birds – **14%**

Stoplight Indicators – FY12



- Oysters (CRE) -20%
- Periphyton-Epiphyton -43%
- Wading Birds (Wood Stork and White Ibis) -24%
- Wading Birds (Roseate Spoonbill) -36%
- Fish and Macroinvertebrates
 - Wet Season Sampling -43%
 - Dry Season Sampling -40%
 - ~~Marsh Mangrove Fishes~~
 - ~~Big Cypress~~
- ~~Crocodilians~~
- FB SAV -36%
- ~~Juvenile Pink Shrimp~~
- ~~Florida Bay Algal Blooms~~

What MAP science remains

Lake Okeechobee

- Wading Birds

Northern Estuaries

- East Coast Oysters
- West Coast Oysters
- SAV in Caloosahatchee & SIRL
- Benthic Infauna in the SLE/SIRL

Southern Coastal Systems

- Wading Birds/Aquatic Fauna
- Juvenile Sportfish in Florida Bay
- Oysters in the Ten Thousand Islands
- Biscayne Bay Mangrove Fish
- South Florida FHAP

Southern Coastal Systems Cont.

- Biscayne Bay Salinity Monitoring
- Hydrology & Salinity in Ten Thousand Islands
- Coastal Gradients

Greater Everglades

- Wading Birds (UF – USGS)
- Wet Season Trophic Sampling
- Dry Season Trophic Sampling
- Tree Island Condition in S. Everglades
- Tree Island Monitoring
- Marl Prairie/Slough Gradients
- Landscape – Ridge, Slough & Tree Island
- Ridge & Slough Main & Degradation
- EDEN

Impacts on Projects

MAP Contracts Cut that Impact Projects

- Crocodiles- BBCW, C-111 SC
- Vegetation Mapping - BBCW, C-111 SC
- BB epifauna - BBCW
- BB nearshore SAV -BBCW
- Florida Bay Invertebrates (pink shrimp)
- C-111 SC

Real outcomes of the cuts

- Much reduced system-wide view
 - Loss of temporal and spatial resolution
- Significant loss of the ability to attribute change to a specific program/project
- Loss or reduction of leveraging non-MAP funding
- Substantial loss of science to support operations and other programs
- No one else has the ability to pick up these monitoring components

QUESTIONS?



Background

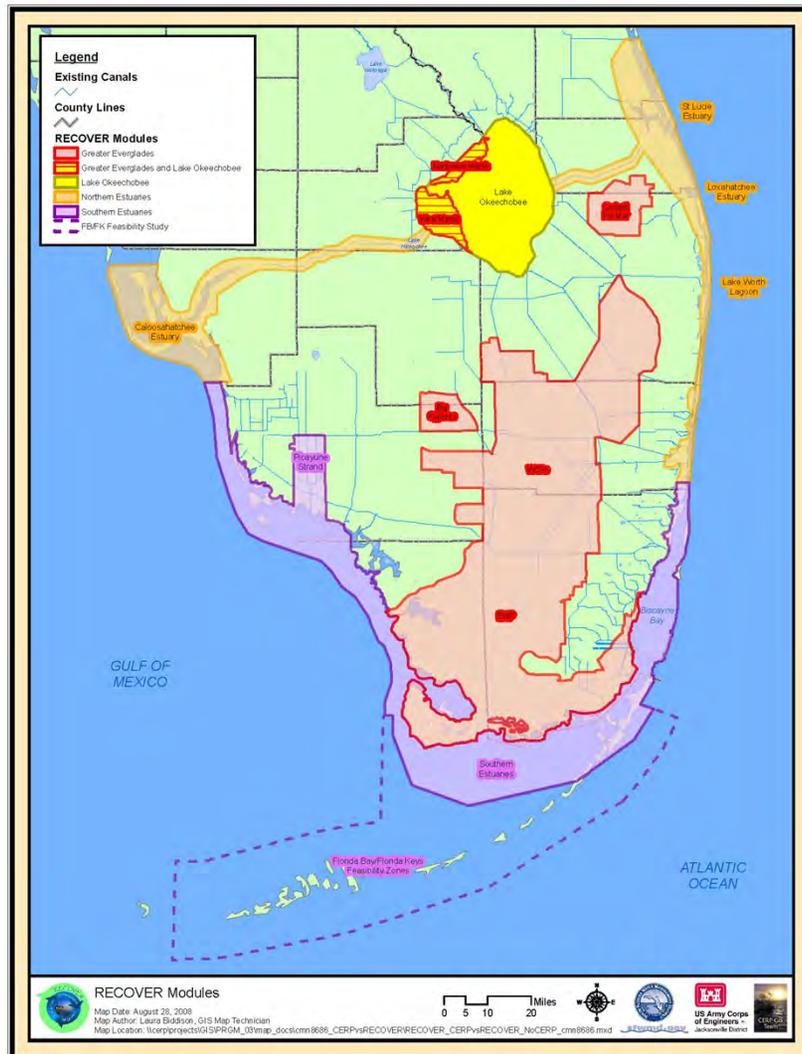
- Tasked by Design Coordination Team (DCT) to optimize CERP-wide monitoring (November 2010)
- 2 scenarios developed for MAP prioritization
 - 50 and 65%
- Effort is in response to budget reductions of ~59% in RECOVER MAP funding in FY12 and beyond
- Task has two phases
 - Optimization (aka “reengineering”)
 - Prioritization

Purpose of the MAP

- **Documents restoration-induced change and status of the system**
 - Measure hydrology, water quality, ecology responses
- **Confirms/develops scientific information**
- **Provides feedback loop integrating science and management for informed decision-making**

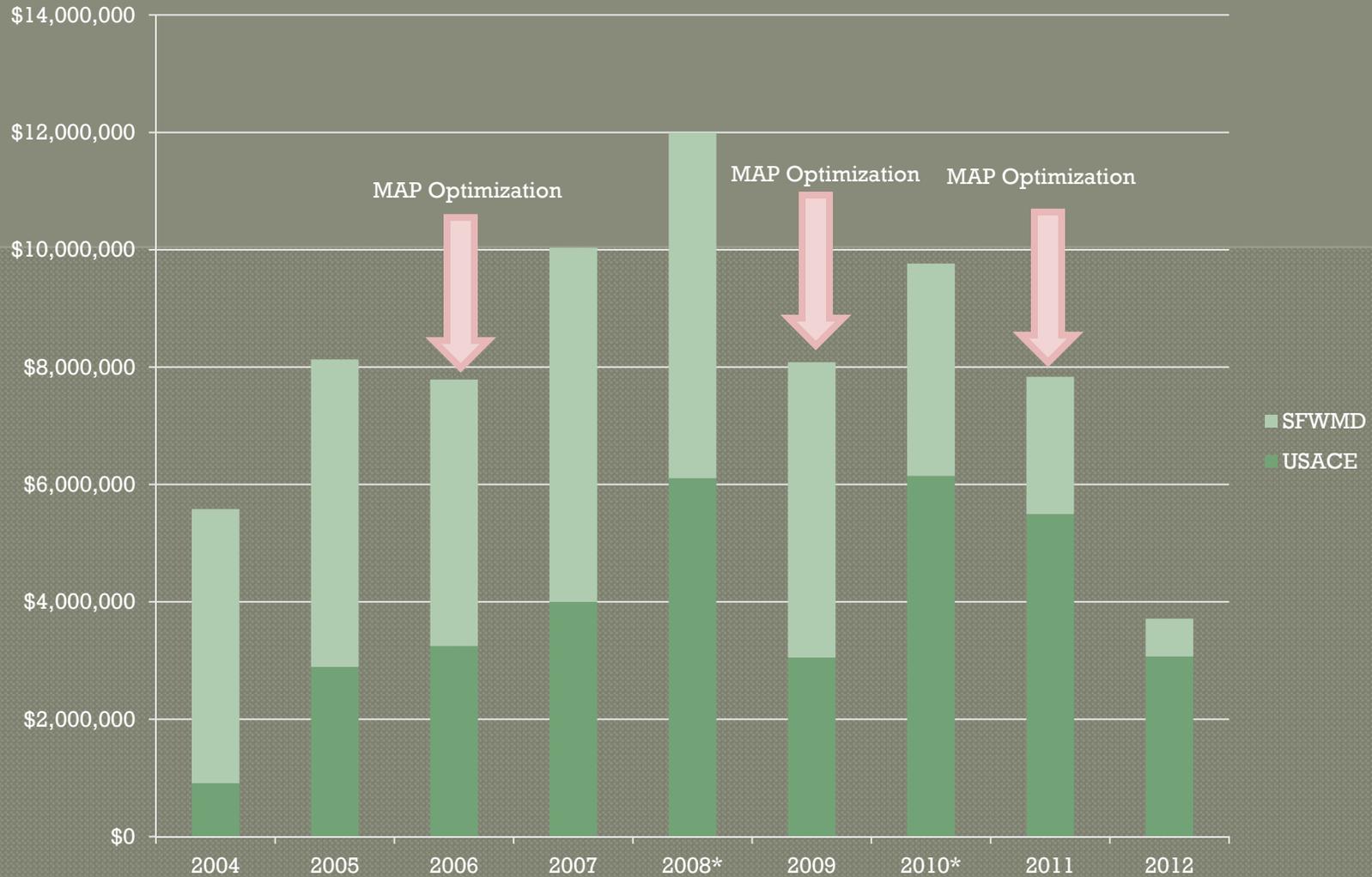


MAP Structure



- Organized by geographic area
 - **Lake Okeechobee, Northern Estuaries, Greater Everglades, Southern Coastal Systems**
- Includes ~35 monitoring components
- Acknowledges incorporation of non-funded supportive monitoring
- Monitoring components are linked to performance measures

MAP Funding since 2004



* Years with an asterisks (2008 and 2010) include funds for subsequent years.

How was the MAP Revised in 2009?

- Assessments expanded to cross module boundaries
- Focused on the “**what**” (*i.e.*, status and trends) and “**why**” (*i.e.*, stressor-response functions) of ecosystem responses to CERP
- Emphasized linkage between science and decision-making
- Optimized MAP monitoring components to ensure scientific efficacy and financial sustainability

Northern Estuaries

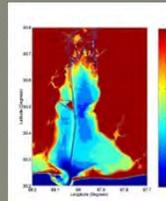
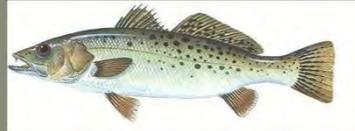
FY11



- East Coast Oysters
- West Coast Oysters
- SAV in IRL, LWL & Caloosahatchee
- Benthic Infauna in the SLE and SIRL

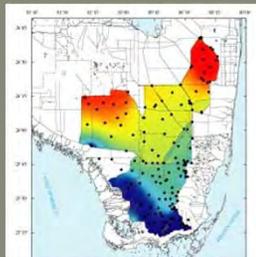
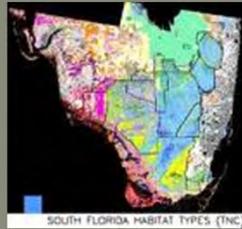
Southern Coastal Systems

FY11



- Wading Birds/Aquatic Fauna
- Juvenile Sportfish in Florida Bay
- Oysters in the Ten Thousand Islands
- Biscayne Bay Mangrove Fish
- Biscayne Bay Nearshore SAV
- Biscayne Bay Epifauna Communities
- Fish & Invertebrate Network
- South Florida FHAP
- Biscayne Bay Salinity Monitoring
- Hydrology & Salinity in Ten Thousand Islands
- Water Quality, Circulation & Salinity Monitoring
- Coastal Gradients

Greater Everglades FY11



- Wading Birds (UF – USGS)
- Vegetation Mapping
- Aquatic Fauna in Big Cypress
- Wet Season Trophic Sampling
- Dry Season Trophic Sampling
- Alligators & Crocodiles
- Marsh Mangrove Fishes
- Tree Island Condition in S. Everglades
- Tree Island Monitoring
- Marl Prairie/Slough Gradients
- Landscape – Ridge, Slough & Tree Island
- Ridge & Slough Maintenance & Degradation
- Sediment Elevation Tables
- EDEN

Stoplight Indicators – FY11



- Oysters
- Periphyton-Epiphyton
- Wading Birds (Wood Stork and White Ibis)
- Wading Birds (Roseate Spoonbill)
- Fish and Macroinvertebrates
- Crocodilians (Alligators and Crocodiles)
- Florida Bay Submerged Aquatic Vegetation
- Juvenile Pink Shrimp
- Florida Bay Algal Blooms