

# ***RECOVER***

## ***THE NEXT FIVE YEARS***

***Joint Working and Science Coordination Group***  
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***sfwmd.gov***



**US Army Corps of Engineers**

# ***RECOVER: The Next Five Years***

- ***Overview***
  - ***Purpose***
  - ***Audience***
  - ***Components***
  - ***Deliverables***
  - ***Timeline***
  - ***SCG Assistance***



# ***RECOVER: Preparing for the Future***

- ***5-year Plan Purpose:***

***Comprehensive and forward-thinking effort which takes into consideration the Integrated Delivery Schedule while reviewing the current state of the science in order to formulate a path forward in prioritizing RECOVER efforts for FY17-21***



# ***Audience***

- ***RECOVER teams - focus of this plan is to guide the work over the next 5 years***
- ***Agency managers and decision makers - communicate this plan in a clear concise manner***
- ***Partners - whose work 'dovetails' with RECOVER's work (e.g., Science Coordination Group (SCG), and partnering agencies)***
- ***CERP science community - includes governmental, non governmental organizations, universities, and opportunity for public comment***

# ***RECOVER: 5-Year Plan Components***

- 1. Science Review and Integration***
- 2. RECOVER's role in CERP implementation***
- 3. Recommendations for refinements of CERP Interim Goals (IG)***
- 4. Recommendations for refinements of CERP Interim Targets (IT)***
- 5. Opportunities for Adaptive Management***
- 6. Communication of RECOVER Science***



# ***Science Integration***

- ***Assess the scientific assumptions of RECOVER's assessment framework, considering new scientific understanding gained over the past decade.***
- ***This will enable RECOVER to address the most critical questions and needs of current and future restoration projects and their adaptive management strategies.***



# Science Integration

<i>Science Review and Integration Tasks</i>	<i>FY2017</i>	<i>FY2018</i>	<i>FY2019</i>	<i>FY2020</i>	<i>FY2021</i>
<i>Task 1 – Update Conceptual Ecological Models (CEMs) and Hypotheses Clusters</i>	Active	Completed	Completed	Completed	Completed
<i>Task 2: Vulnerability Analysis</i>	Active	Active	Active	Completed	Completed
<i>Task 3: Update Performance Measures</i>	Completed	Completed	Completed	Active	Completed
<i>Task 4: Review 2009 MAP</i>	Completed	Completed	Completed	Completed	Active
<i>Task 5: Update MAP components</i>	Completed	Completed	Completed	Completed	Active



# ***CERP Implementation***

- ***Determine value added interactions between CERP project teams and RECOVER for the implementation phases (design, construction, operation and maintenance, and replacement/rehabilitation phases) of CERP projects***
- ***RECOVER assistance to ensure new science is incorporated into project design, construction and operations***
- ***Provides the adaptive management (AM) feedback loop and helps the project teams implement AM strategies***

# CERP Implementation

<b><i>RECOVER's Role in CERP Implementation Tasks</i></b>	<b><i>FY2017</i></b>	<b><i>FY2018</i></b>	<b><i>FY2019</i></b>	<b><i>FY2020</i></b>	<b><i>FY2021</i></b>
<b><i>Task 1: Determine the RECOVER point of contact for each project</i></b>					
<b><i>Task 2: Coordinate with project team to determine project-specific interactions</i></b>					
<b><i>Task 3: Schedule RECOVER Interactions for the next five years</i></b>					
<b><i>Task 4: Develop draft CERP Guidance Memorandum (CGM)</i></b>					
<b><i>Task 5: Implement and track RECOVER interactions with projects</i></b>					

# *Interim Goals*

- ***RECOVER's work in the next 5 years will focus on meeting the terms in the CERP Programmatic Regulations (DOD 2003)***
  - ***RECOVER may recommend revisions to interim goals in these reports (§385.38)***
    - ***Ensure protection of natural system***
    - ***Reflect on the incremental accomplishment of the expected performance level of the Plan***
  - ***Report to the United States Congress (§385.40)***
    - ***Report on Progress toward interim goals (2019 System Status Report and 2020 Report to Congress)***



# Interim Goals

<b>Recommendations for Refinement of CERP Interim Goals Tasks</b>	<b>FY2017</b>	<b>FY2018</b>	<b>FY2019</b>	<b>FY2020</b>	<b>FY2021</b>
<b>Phase 1</b>					
<b>Task 1: Review interim goal indicators by region for continued scientific and social importance to the CERP program</b>					
<b>Task 2: Confirm and/or revise the list of indicators to reflect latest science and project priorities</b>					
<b>Task 3: Review indicator documentation for scientific accuracy, restoration “targets,” Cross-check with the MAP</b>					
<b>Task 4: Adjustment MAP implementation as needed in order to report on progress on IG for the 2020 Report to Congress</b>					
<b>Task 5: Develop the scope for modeling</b>					



# Interim Goals

<b>Recommendations for Refinement of CERP Interim Goals (IG) Tasks</b>	<b>FY2017</b>	<b>FY2018</b>	<b>FY2019</b>	<b>FY2020</b>	<b>FY2021</b>
<b>Phase 2*</b>					
<b>Task 6: Request incremental hydrologic modeling</b>					
<b>Task 7: Run ecological models based on hydrologic modeling</b>					
<b>Task 8: Make new predictions for incremental progress in the 2019 SSR</b>					
<b>Task 9: Report on findings in the 2020 Report to Congress</b>					
<b>Task 10: Revise 2005 RECOVER Recommendations Report on IG/IT</b>					
<b>Task 11: Conduct peer review of RECOVER Recommendations report</b>					



# *Interim Targets*

- *An assessment of water supply and flood protection interim targets is needed to inform the 2020 Report to Congress and explain the progress of CERP to date, update tools, and predict progress anticipated by 2025.*



# Interim Targets

<b>Recommendations for Refinement of CERP Interim Goals Tasks</b>	<b>FY2017</b>	<b>FY2018</b>	<b>FY2019</b>	<b>FY2020</b>	<b>FY2021</b>
	<b>Phase 1</b>				
<b>Task 1 – Review interim targets in light of the Integrated Delivery Schedule (IDS)</b>					
<b>Task 2 – Develop a timeline for measurement of interim targets progress using the (IDS)</b>					
<b>Task 3 – Identify the appropriate models or data needed to inform an update to interim targets</b>					
<b>Task 4 - Perform analysis and/or model runs described in Tasks 1, 2, and 3</b>					
<b>Task 5 – Update the water budget to represent current conditions and provide water budget projections</b>					

# Interim Targets

<b>Recommendations for Refinement of CERP Interim Targets Tasks</b>	<b>FY2017</b>	<b>FY2018</b>	<b>FY2019</b>	<b>FY2020</b>	<b>FY2021</b>
<b>Phase 2*</b>					
<b>Task 6 – Evaluate whether the targets are accurately represented by the models</b>					
<b>Task 7 – Determine if model runs and analysis used for reporting are providing the correct responses to changes in the system as seen in the monitoring data.</b>					
<b>Task 8 – Update status on interim targets for the 2020 Report to Congress</b>					
<b>Task 9 – Identify scope for next five-year interval for 2025 Report to Congress</b>					



# ***Adaptive Management***

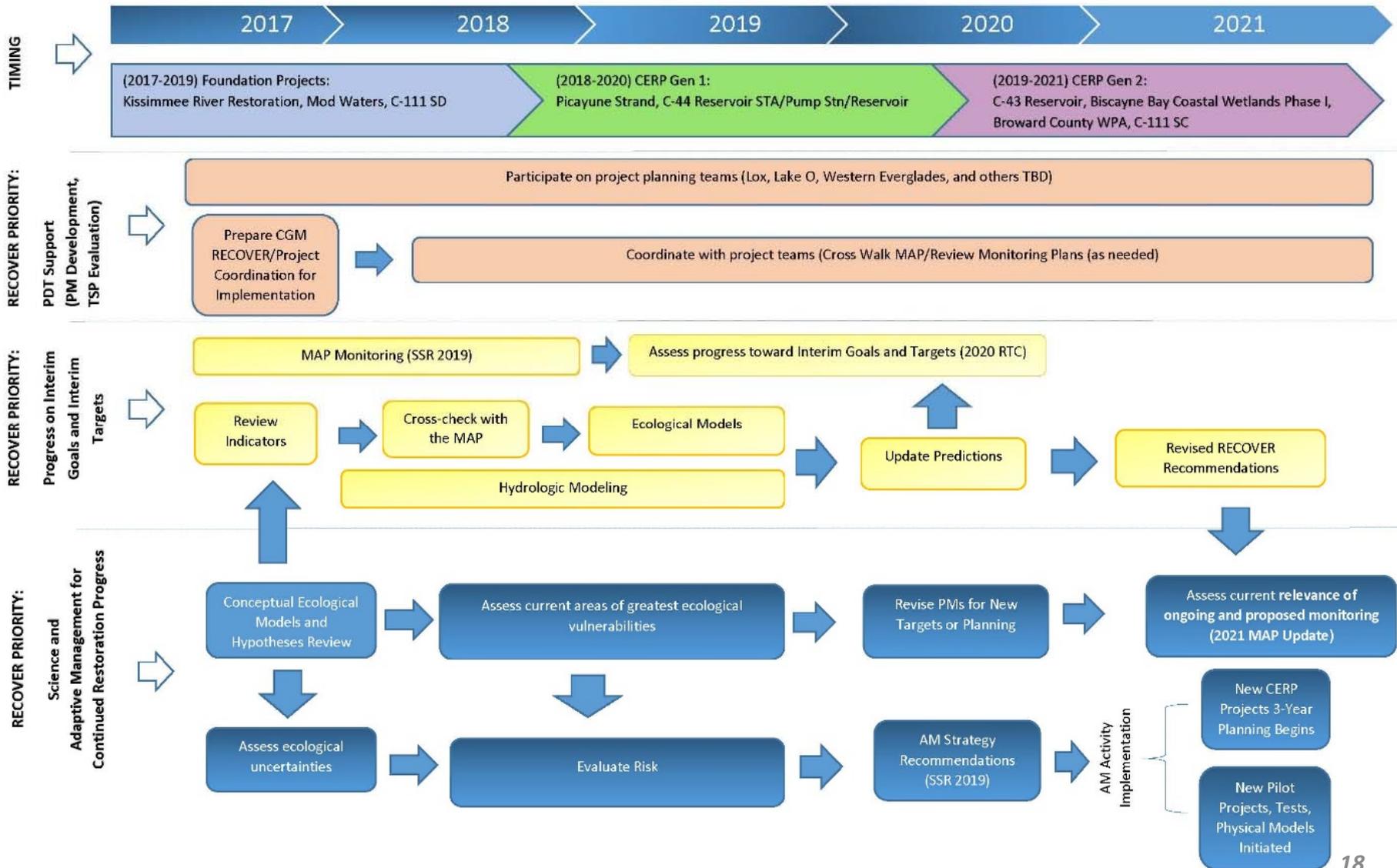
- ***RECOVER will work with scientists, planners, engineers, hydrologists, water managers, and project and program managers to identify and implement priority AM strategies.***
- ***Strategies will inform recommendations for CERP uncertainties***
- ***AM efforts will be prioritized to support immediate CERP implementation needs***

# Adaptive Management

<i>Opportunities for AM Tasks</i>	<i>FY2017</i>	<i>FY2018</i>	<i>FY2019</i>	<i>FY2020</i>	<i>FY2021</i>
<i>Task 1 – Update uncertainties related to achieving both program- and project-level CERP restoration goals and objectives</i>					
<i>Task 2 – Update AM Implementation Guide and CERP Guidance Memorandum</i>					
<i>Task 3 – Categorize and prioritize uncertainties associated with ecosystem vulnerability (risk)</i>					
<i>Task 4 – Develop passive and active AM strategy scopes of work</i>					
<i>Task 5 – Schedule, design, and recommend AM strategies for implementation</i>					

# Five Year Plan Overview

## SUMMARY: RECOVER 2017-2021 STRATEGIC & OPERATIONAL PLAN



# Major Deliverables

	2017	2018	2019	2020	2021
<b>Support to Projects</b>	<i>RECOVER Input to Projects for Incorporation into PIRs and PACRs.</i>				
<b>Interim Goals</b>				<b>2020 Report to Congress</b>	<b>Update 2005 RECOVER Recommendations</b>
<b>Interim Targets</b>					
<b>Science Integration</b>		<b>CEM Updates</b>	<b>Vulnerability Assessment Report</b>	<b>Performance Measures Develop MAP Update</b>	
<b>Adaptive Management</b>	<b>CGM Update</b>	<b>CERP Implementation Guide Update</b>			<b>Active AM Scopes or Planning Studies</b>
<b>Reports</b>			<b>2019 System Status Report</b>		

# ***Timeline***

- ***19 AUG 2016 – SFWMD Management Briefing***
- ***24 AUG 2016 – RECOVER Leadership Group Briefing***
- ***14 SEP 2016 - RLG/Agency Manager Comments Due***
- ***15 SEP 2016 – USACE Manager Briefing***
- ***15-29 SEP 2016 – Comments being Incorporated***
- ***27 SEP 2016 – Design Coordination Team (DCT) Briefing***
- ***29 SEP 2016 – SCG Presentation***
- ***30 SEP 2016 – Five Year Plan Approval***
- ***29 NOV 2016 – Quarterly Agency Team Briefing***

# ***Possible assistance from SCG?***

- ***Annual Science Meeting***
  - ***Workshop Format to include all Principle Investigators***
  - ***Tentatively Planned for January 2017***
  - ***To help with the Science Integration and Vulnerability analysis tasks***
  - ***Would like to include the University of Maryland Center for Environmental Science who will be under contract with RECOVER to assist with the 2019 SSR***

# THANK YOU!



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