

# Everglades Restoration Update



**Sarah Bellmund**

Ecologist

**Kent Loftin**

HydroPlan LLC

**Jim Vearil**

U.S. Army Corps of Engineers



# Presentation Overview

- What makes the CERP AM Program an AM program?  
Sarah Bellmund
- Key AM accomplishments over the last year  
Kent Loftin
- Lessons learned  
Jim Vearil

# Adaptive Management Activities for CERP

Plan Formulation



Design &  
Construction



Operations &  
Maintenance

Activity 1:

Stakeholder Engagement and Interagency Collaboration

Activity 2:

Establish/Refine Goals &  
Objectives

Activity 3:

Identify and Prioritize  
Uncertainties

Activity 4:

Apply Conceptual  
Models; Develop  
Hypotheses and  
Performance Measures

Activity 5:

Integrate AM Principles into Alternative  
Plan Design and Implementation

Activity 6:

Monitor Ecosystem Response

Activity 7:

Assessment

Activity 8:

Decision-Making

Activity 9:

Adjustment

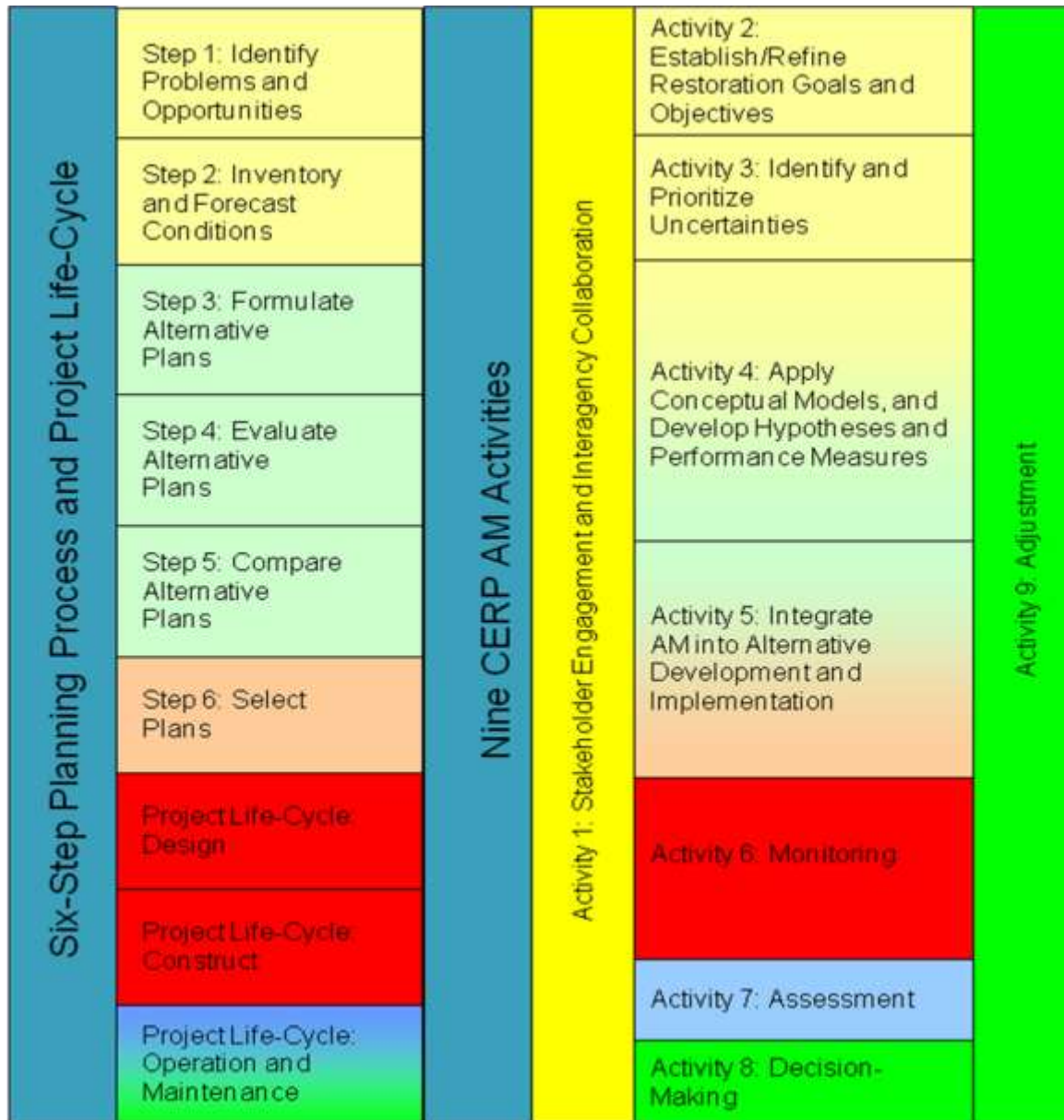
# What Makes CERP a Collaborative Adaptive Management Program?

- Increase opportunities for collective learning, build trust, identify workable solutions to address uncertainties
- Good science-based approaches for technical/ science related issues
- Help clarify what are the key policy/management uncertainties that will require management to make a policy call
- Meaningfully engaging affected and potentially affected stakeholders

# What are the Challenges of Applying Collaborative Adaptive Management in CERP?

- Stakeholder engagement
- Updated policy and management practices with lessons learned and new scientific knowledge
- Integrating monitoring/science into planning, implementation, and operations processes
- Calibrating intended project benefits with actual measured outcomes with stakeholder expectations
- Clarifying role of science in decision making
- Establishing accountability for decision-making and execution

# CERP Nine AM Activities (Integrate AM into CERP Process)



# Adaptive Management Integration Guide

- Describes the scope of Adaptive Management plans and the different categories of uncertainty that can be addressed
- Outlines nine activities for applying the principles of Adaptive Management
- Explains how to implement these nine activities as part of the Corps of Engineers' Six-Step Planning and Project Life-Cycle processes
- Download at  
[ftp://ftp.saj.usace.army.mil/pub/Public\\_Dissemination/AMIG/AMIG\\_web.pdf](ftp://ftp.saj.usace.army.mil/pub/Public_Dissemination/AMIG/AMIG_web.pdf)

# CERP Guidance Memorandum CGM-56

## Integrating Adaptive Management into the Planning Process

- Official guidance on incorporating the principles of AM into CERP Program and Project Management, specifically the Project Implementation Report (PIR) process
- Integrates the Corps' Planning Manual, engineering circulars, regulations, and Headquarters guidance memoranda with CERP's Six-Step Planning Process and the AMIG
- Provides detailed guidance on the development of the AM Plan and how the planning process is supported by it
- Download at  
[http://www.cerpzone.org/documents/cgm/CGM\\_56\\_Adaptive\\_Management.pdf](http://www.cerpzone.org/documents/cgm/CGM_56_Adaptive_Management.pdf)

# Decomp Adaptive Management Plan

- Specifically identifies technical and non-technical uncertainties and unanswered questions that are critical to resolve for project implementation
- Proposes strategies for resolution of each uncertainty and unanswered question
- Will become part of the Project Implementation Report (PIR)
- Will be a “living” document and be updated as necessary through the project’s life-cycle
- Will be integrated with the project management system as items in the work breakdown structure and each item will have a budget, schedule, and be assigned to someone who will be accountable for it.

# Lessons Learned – NRC CISRERP Reports

- Foundation for Adaptive management in CERP has been laid now need to put theory into practice
- Constructive stakeholder engagement and interagency coordination are keys for CERP adaptive management
- Mechanisms are needed for clear communication of science
- Effectiveness of linkages between science and decision making should be examined by CERP Leadership
- Monitoring and Assessment Plan (MAP) and System Status Report (SSR) critical components of adaptive management

# Lessons Learned

- Implementing agencies need to be Learning Organizations
- Results from monitoring and assessment need to be used to adjust management practices
- Use of Robustness and Flexibility to help address uncertainty
- So far passive AM most common approach for CERP
- Organizational (and Cultural) Change

# Questions?

