



**CERP  
PIR Streamlining  
Analysis -  
Recommendations**

Working Group

20 August 2008

restoration  
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# PIR Streamlining Analysis

- Review the PIR process & requirements  
(how did we get here?)
- Describe efforts to date  
(what have we done to improve?)
- Discuss additional opportunities  
(what else can we do?)

# Existing PIR Process

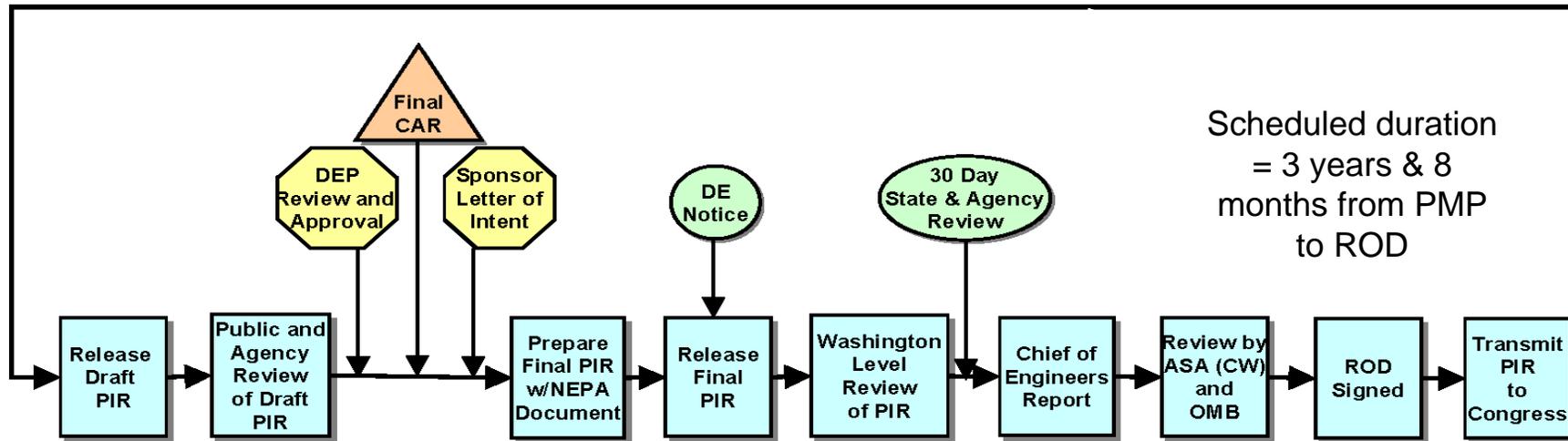
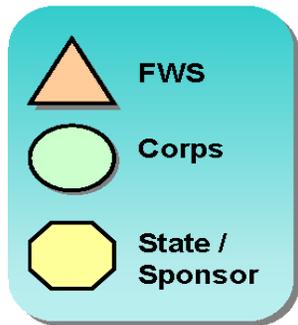
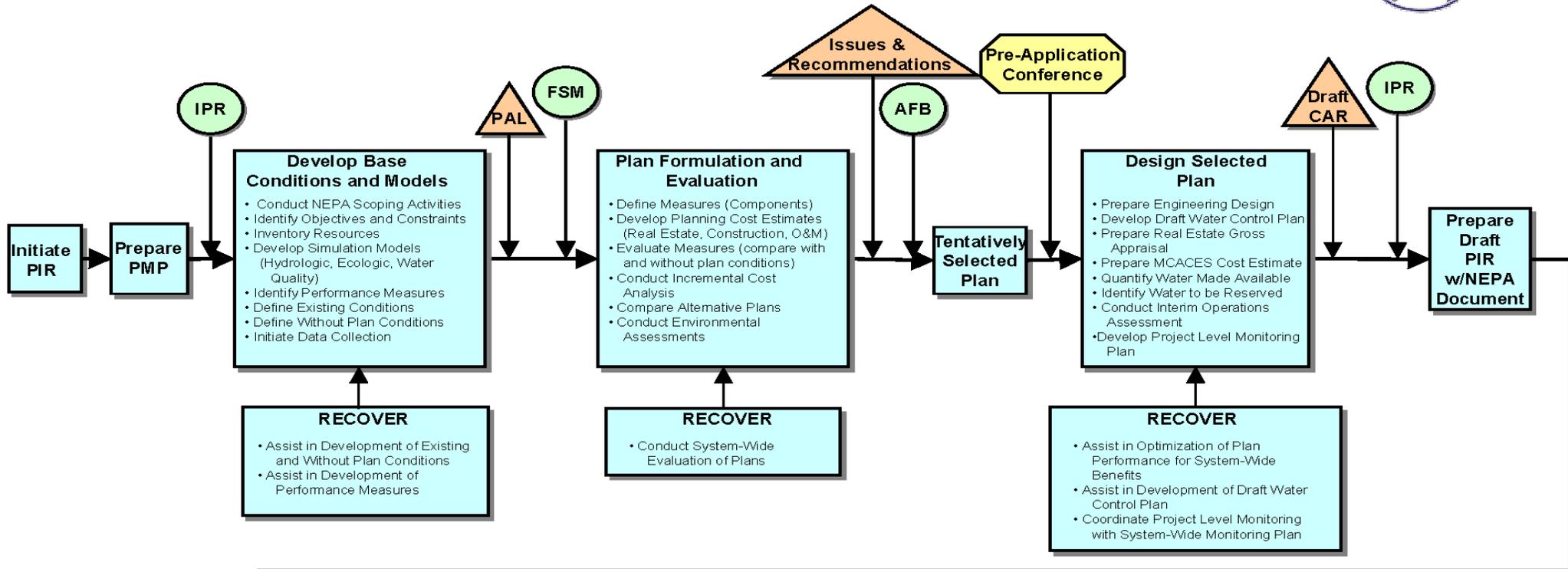
- Is a product of the following requirements:
  - Programmatic Regulations and guidance memoranda
  - National Environmental Policy Act
  - Fish and Wildlife Coordination Act
  - Endangered Species Act
  - Clean Water Act
  - Water Resources Principles and Guidelines
  - Corps of Engineers Planning Regulations
  - Florida Statutes (373.026, .470, .1501, .1502)
  - Evolving Requirements
    - External peer review, Model certification, USACE Civil Works Review Board, Cost Risk Analysis, Acceler8 Program

# Programmatic Regulations and Draft Guidance Memoranda

- Product of a lengthy and detailed negotiation and general agreement among many parties:
  - Public
  - US Department of Interior
  - Army and South Florida Water Management District
  - Governor of Florida
  - Tribes
  - US Environmental Protection Agency
  - Florida Department of Environmental Protection
  - Other Federal / State/ Tribal and local agencies



# TYPICAL PIR PROCESS



Scheduled duration  
= 3 years & 8  
months from PMP  
to ROD

# Programmatic Regulations and the Guidance Memoranda

- Key requirements stemming from ProRegs
  - PIR is tool to ensure goals and purposes of Plan are achieved
  - Next-added Incremental justification required
  - 6 Program-wide Guidance Memoranda to be developed
    - Schedule for development/ finalizing GMs indicates challenges faced by project teams in satisfying all concerned parties (i.e., draft in late 2004 but not yet finalized/concurred upon)
- PIR should be based on the “Best Available Science”
- Detailed procedures for quantifying water made available by CERP projects
  - Protect existing users
  - Identify water to be reserved/allocated for the natural system
  - Identify water for other water-related needs
  - Protect existing levels of service for flood protection

# ProRegs and the Guidance Memoranda

- Pro Regs and GMs set forth complex analyses and comparisons to satisfy all concerned parties
  - Requirements quadruple modeling necessary compared to a standard civil works water resources project
  - 4 Baseline conditions
    - Pre-CERP, Future Without CERP, Existing Conditions, Next Added Increment (NAI)
  - 4 “With Project” Conditions
    - Future with all CERP, Future with CERP + each alternative, NAI, Initial Operating Regime
  - 6 Analyses comparing with and without project conditions
    - Base condition
    - Formulation and Evaluation
    - Savings Clause
    - Project Operating Manual
    - Water Made Available
    - Water to be Reserved or Allocated for the natural system

# What have we done so far to improve the PIR process?

- Training in application of GMs in 2004 & 2005
  - Trained CERP staff from USACE, SFWMD, USFWS, FDEP
- Project Assurances Team
  - Established a Multi-agency team to interpret model results and apply the concepts of the GMs to develop consistent standardized project assurances analyses for multiple PIRs
- Modeling Tiger Team
  - Recommended and implemented improved model selection processes
  - Increased the role and oversight of the Interagency Modeling Center
- Interagency Modeling Center (IMC)
  - Established improved tracking and management of modeling services requests
  - Asserted a greater role in model selection, model evaluation, model certification
  - Ensures consistency of modeling assumptions and setup across PIRs

# What have we done so far to improve the PIR process?

- Phased PIRs
  - Implemented a policy to divide projects into multiple PIRs consistent with National Academy of Sciences recommendations to get moving on projects while remaining uncertainties are addressed through follow-on PIRs
- Increased number and frequency of management-level meetings
  - USACE and SFWMD instituted more frequent inter-agency and vertical communications (Jacksonville, Atlanta and Washington D.C.) on project implementation, policy issue identification and resolution, directions to staff
- Acceler8 Program / Expedited Everglades Restoration Projects
  - Forced a programmatic re-evaluation of the PIR development process to achieve time savings while addressing regulatory requirements
  - Necessitated improved interagency communication and coordination to strive for key milestone dates
- Programmatic Modeling Review (2006)
  - Addressed the question of why CERP modeling seemed to be a recurrent source of PIR delays
  - Results of the modeling review indicated a larger challenge

## Programmatic Modeling Review Finding

All parties must recognize that “problems with modeling” often reflect and magnify systemic problems in the CERP plan formulation, evaluation and selection process.

# Programmatic Modeling Review Findings

- Obstacles to Simplification
  - South Florida is a risk-averse, litigious environment
  - Stakeholder expectations are high for best available information
  - Diminishing trust among key parties is not conducive to application of best professional judgment
- Policy and guidance
  - ProRegs and GMs demand a complex model-based approach to PIR development
- Communications
  - Modelers, planners, ecologists and engineers do not always communicate effectively across fields of expertise, leading to confusion and delay
- Modeling and the IMC
  - Tendency towards selecting the most complex 3-D integrated surface water – groundwater models in existence (or still in development!)
  - Models applied over very large areas, requiring new physical data and operational knowledge not readily available
- Human Resources
  - Staffing, training and retention
  - Too many PIRs underway at same time without a sufficient pool of trained practitioners

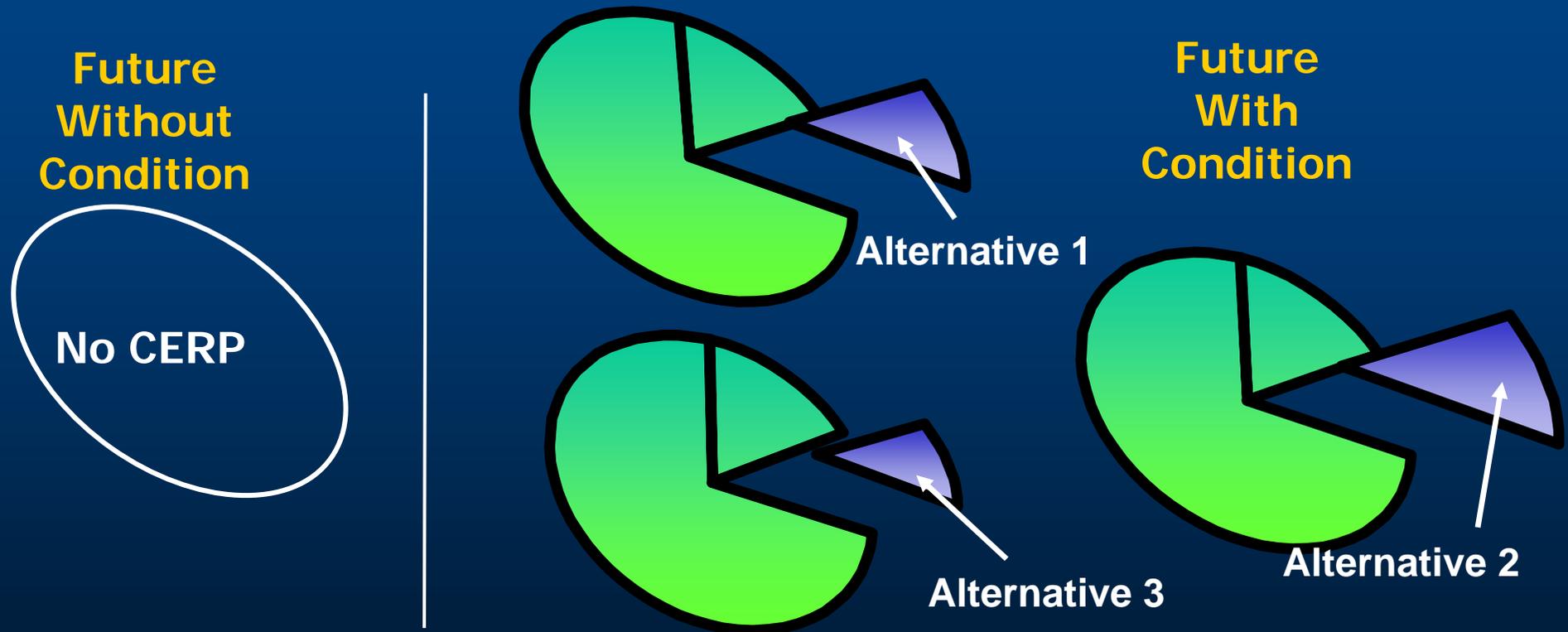
# Top 5 things we can do now to improve the PIR process

- Plan Evaluation, Justification, and Project Implementation
  - System Formulation
  - Next Added Incremental Justification
  - Habitat (benefit) units requirement
  - Level of engineering/design requirement
- Modeling
- Policy / Dispute Resolution process
- Human Resources
- Program Management
  - Integrated Delivery Schedule should establish priorities

# Plan Evaluation & Justification

- WRDA 2000, Section 601(f) Evaluation of Projects:
  - (2) Project Justification – “. . . the Secretary may determine that
    - (i) the activity is justified by the environmental benefits derived by the South Florida ecosystem; and,
    - (ii) no further economic justification for the activity is required, if the Secretary determines that the activity is cost-effective.”

## GM 2: Plan Selection "System Formulation"



- Analysis of individual project contributions confounded by performance of other projects in model (e.g.: Lake Okeechobee ASR)
- Very difficult to meaningfully distinguish between alternatives
- Cost-effectiveness Analysis and Incremental Cost Analysis for plan selection

# GM 2: Justification

## “Next-Added Incremental Analysis”

Future Without Condition  
(2050)



Future With Condition



***What benefits would we get if nothing else in CERP was ever built?***

- Project justification: decision to invest taxpayer funds!
- Extremely difficult to model, evaluate, quantify incremental benefits
- CERP was formulated holistically; it's a program!

# Next-Added Incremental Justification Challenges

- CERP is a system of related projects (components)
  - Not incrementally formulated
- NAI is an evaluation of individual project's effects over 16,000 sq. miles
- Comparison to a future baseline condition
  - Defined in Pro Regs and GMs
  - Better than current conditions
  - Unlikely (Expedited Projects, U.S. Sugar)
- Dependent on acceptable benefits quantification methodology
- Dependent on high-resolution modeling tools
- Results compared to costs to determine relative cost - effectiveness
  - Comparison between projects



# Evaluation & Implementation Recommendations

- Revisit requirement for habitat (benefit) units
- Formulate alternative plans for optimizing individual projects
  - Evaluate Cost-effectiveness/Incremental Costs (WRDA 2000)
- Eliminate System Formulation and Next-Added Increment Justification
  - But evaluate system-wide effects of selected plan
- Revisit requirements for engineering and design
- Simplify assurances analysis
- Revisit ProRegs and Guidance Memoranda

# Modeling

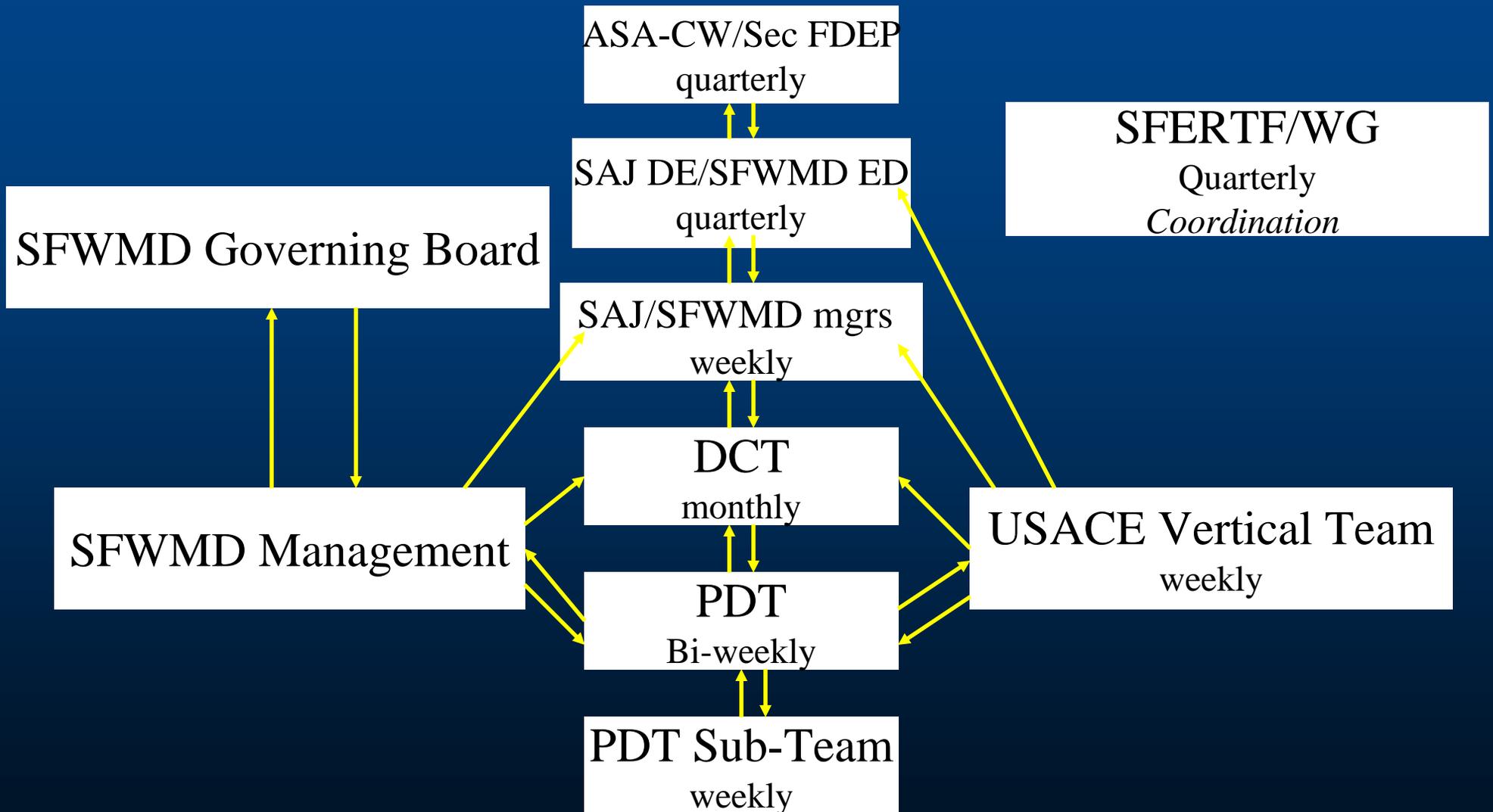
## Key Findings

- Model selection tends towards the very complex
  - Tools are data hungry
  - South Florida hydrology is hard to model with complex variable human operations (now and 2050/future)
  - Some modeling tools not ready to be used
- Using “best available science” creates preference for complex, high-resolution predictive modeling versus the need for timely project implementation
- New national policies for model certification and approval
- Agency/stakeholder expectations for detailed modeling and output

# Modeling Recommendations

- From the top down, establish philosophy that the need to implement restoration projects is more urgent than ever
- Given this, need to balance the appropriate level of modeling and analysis in a PIR with the urgent need to complete PIRs
- Encourage and support innovation, simplified analysis, and scientific judgment at the PDT level
- Use best available tools instead of developing new, complex tools
- Simplify GMs to reduce the modeling burden
  - Fewer modeled comparisons

# CERP Issue Identification and Policy Resolution Process



# Issue Identification and Resolution

- Train Project Managers on how to rapidly identify issues deserving elevation and how to frame them clearly
- Strive for timely, helpful downward guidance to resolve the issue without more iterations
- Need an empowered DCT with key representation able to make difficult decisions
  - Involvement by all responsible agencies

# Human Resources Recommendations

- Improve training methods and materials
  - ProRegs, GMs, Federal planning requirements
  - Team building and trust
    - Co-locate
    - Cross-train
    - CERP LDP
- Attract, develop, and retain talented people
- Focus staff resources on critically important projects
  - Priorities established by Integrated Delivery Schedule

# Program Management

- Project sequencing & implementation based on logic and dependencies
  - Established by Integrated Delivery Schedule
  - Identify related/dependent projects where demonstration of benefits would be easier (better) if they were combined
    - E.g., Decentralization & Seepage Management
  - Address implementation costs and justification issues with USACE/ASA-CW
- Focuses staff talent on fewer simultaneous PIRs
- Management ties to all recommendations

# Next Steps

- September Task Force Meeting
  - Present findings on potential PIR time savings from streamlining recommendations

**Thank You**

