



CERP PIR Streamlining Analysis

Frank Metzler, EPJV

Water Resources Advisory Commission

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PIR Streamlining Analysis

- Why does a PIR take so long?
(PIR process & requirements)
- PIR Case Study – EAA Reservoir PIR
- What are the impediments to completion?
- What have we done to address them and what else can we do?
(Recommendations to SFER Task Force)

The Existing PIR Process

- Is a product of the following requirements:
 - Programmatic Regulations (ProRegs) and the Guidance Memoranda (“GMs”)
 - 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 (Federal and State)
 - External peer review, Model certification, USACE Civil Works Review Board, Cost Risk Analysis, Acceler8 Program

ProRegs and draft GM's

- Product of lengthy and detailed negotiations 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
 - Many other Federal / State / Local Agencies

ProRegs and the draft GM's

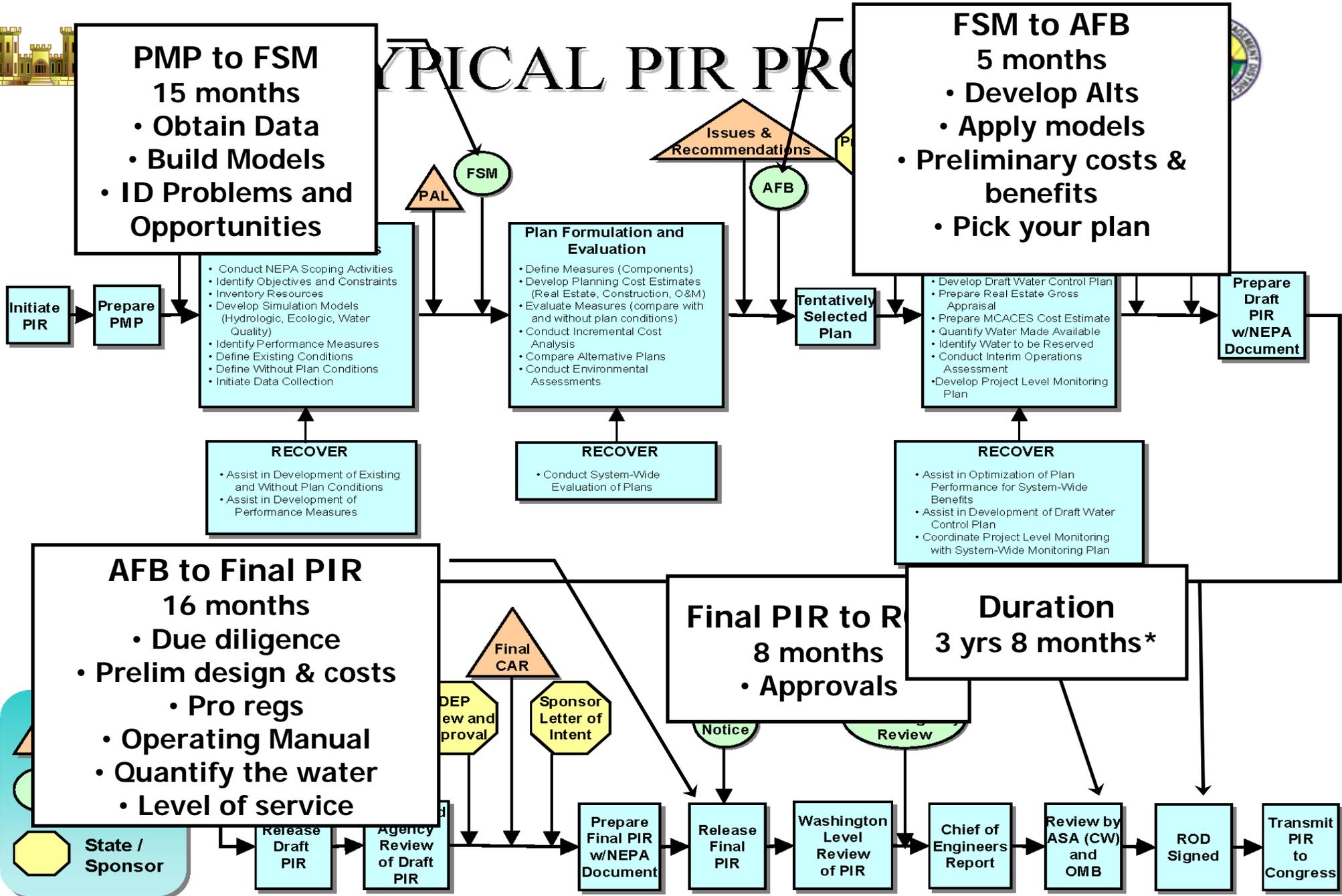
- Key requirements stemming from ProRegs:
 - PIR is the tool to ensure goals and purposes of Plan are achieved
 - Next-Added Incremental justification required
 - 6 program-wide Guidance Memoranda to be developed (still draft!)
- PIR should be based on the “Best Available Science”
- Detailed procedures 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 draft GM's

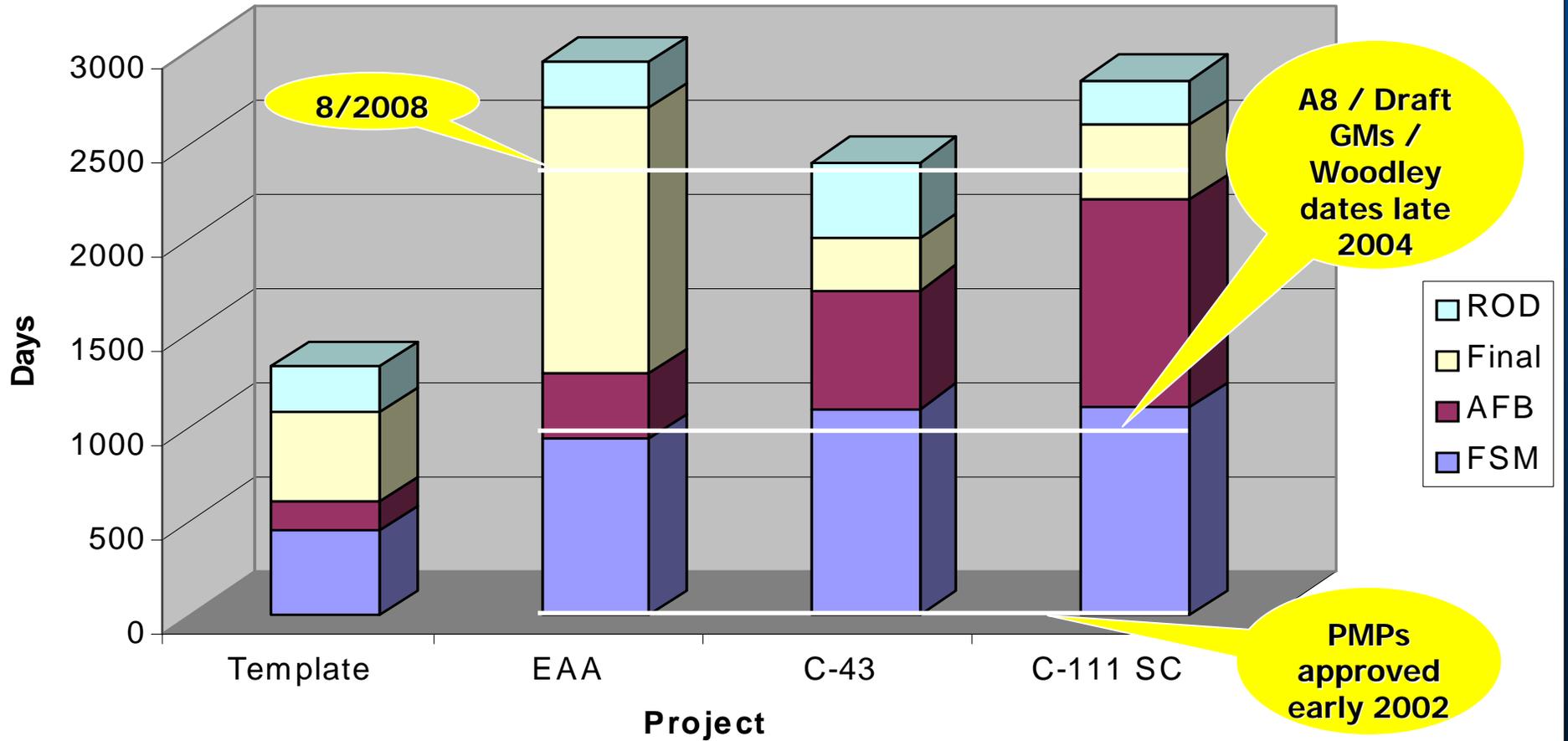
- Pro Regs and GMs set forth complex analyses and comparisons to satisfy all concerned parties
 - Requirements quadruple modeling necessary compared to a standard civil works water resources project
 - 4 Baseline conditions
 - Pre-CERP, Future Without CERP, Existing Conditions, Next Added Increment (NAI)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



TYPICAL PIR PROCESS



PIR Template vs Project Durations



Impediments to PIR Completion

Programmatic Modeling Review – Spring 2006

Key Finding

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

Impediments to PIR Completion

Findings

- Obstacles to Simplification
 - Risk-averse, litigious environment
 - Stakeholder expectations are high for models and detail
 - Diminishing trust runs counter to application of BPJ
- Policy and guidance
 - ProRegs and GMs establish / require a complex model-based approach to plan formulation
- Communications
 - Modelers, planners, ecologists, engineers do not communicate well
- Hydrologic and Ecological Modeling
 - 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 (now and in 2050) not readily available
- Human Resources
 - Staffing, training and retention
 - Too many PIRs, not enough experienced staff

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

- Training in application of GMs in 2004 & 2005
- Project Assurances Team
 - Applies concepts of the GMs consistently across PIRs
- Modeling Tiger Team
 - Improved the model selection processes
 - Increased the role and oversight of Interagency Modeling Center
- Interagency Modeling Center (IMC)
 - Improved tracking and management of modeling services requests
 - Asserted greater role in model selection, evaluation and certification
 - Consistent modeling assumptions and setup across PIRs

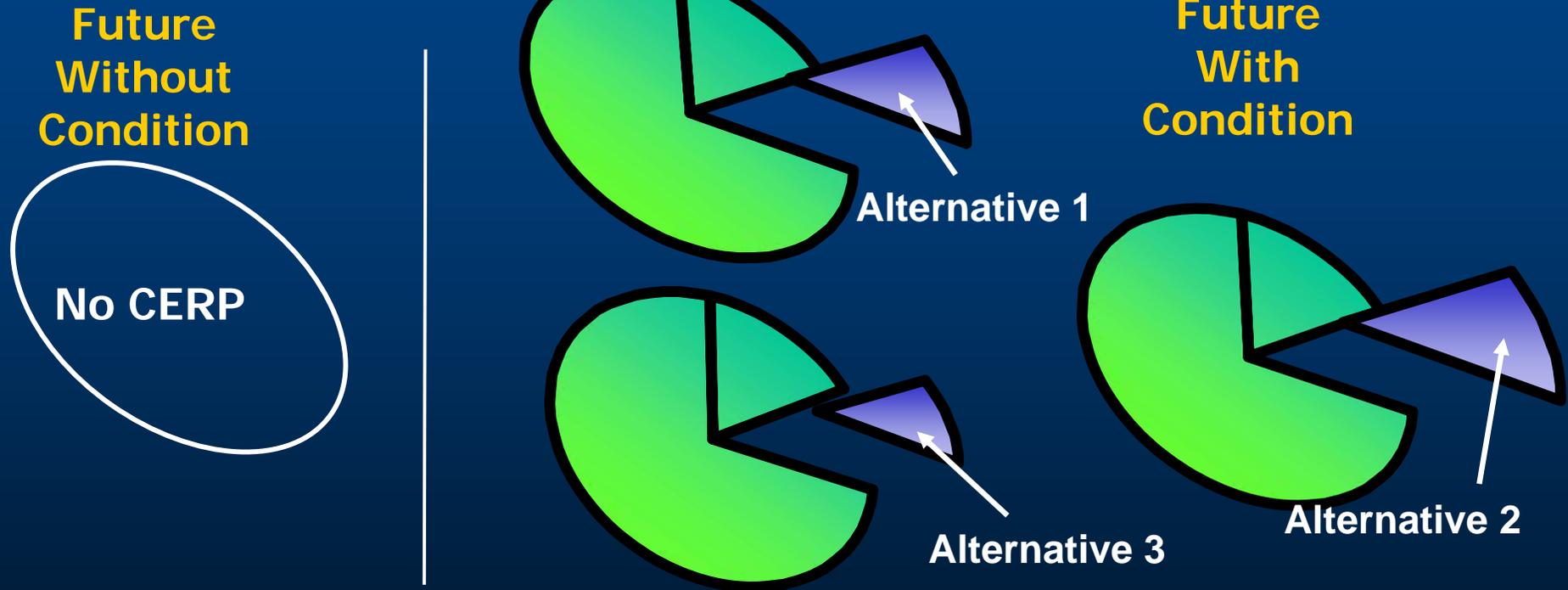
What have we done so far to improve the PIR process?

- Phased PIRs
 - National Academy of Sciences recommendation
 - Move forward on projects while remaining uncertainties are addressed in follow-on PIRs
- Increased frequency of policy level meetings
 - Provides more timely guidance to staff
- Acceler8 Program / Expedited Everglades Restoration Projects
 - Forced us to undertake a programmatic re-evaluation of the PIR development process
 - Improved interagency communication and coordination

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

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

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 as an integrated watershed plan; it's a program rather than stand alone pieces!

Next-Added Incremental Justification Challenges

- CERP is a system of related projects
 - It was not incrementally formulated
- NAI is an evaluation of an 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 an acceptable benefits quantification methodology
- Dependent on high-resolution modeling tools
- Results compared to costs to determine relative cost - effectiveness



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 detail in the PIR
- Simplify assurances analysis
- Revisit ProRegs and Guidance Memoranda

Modeling

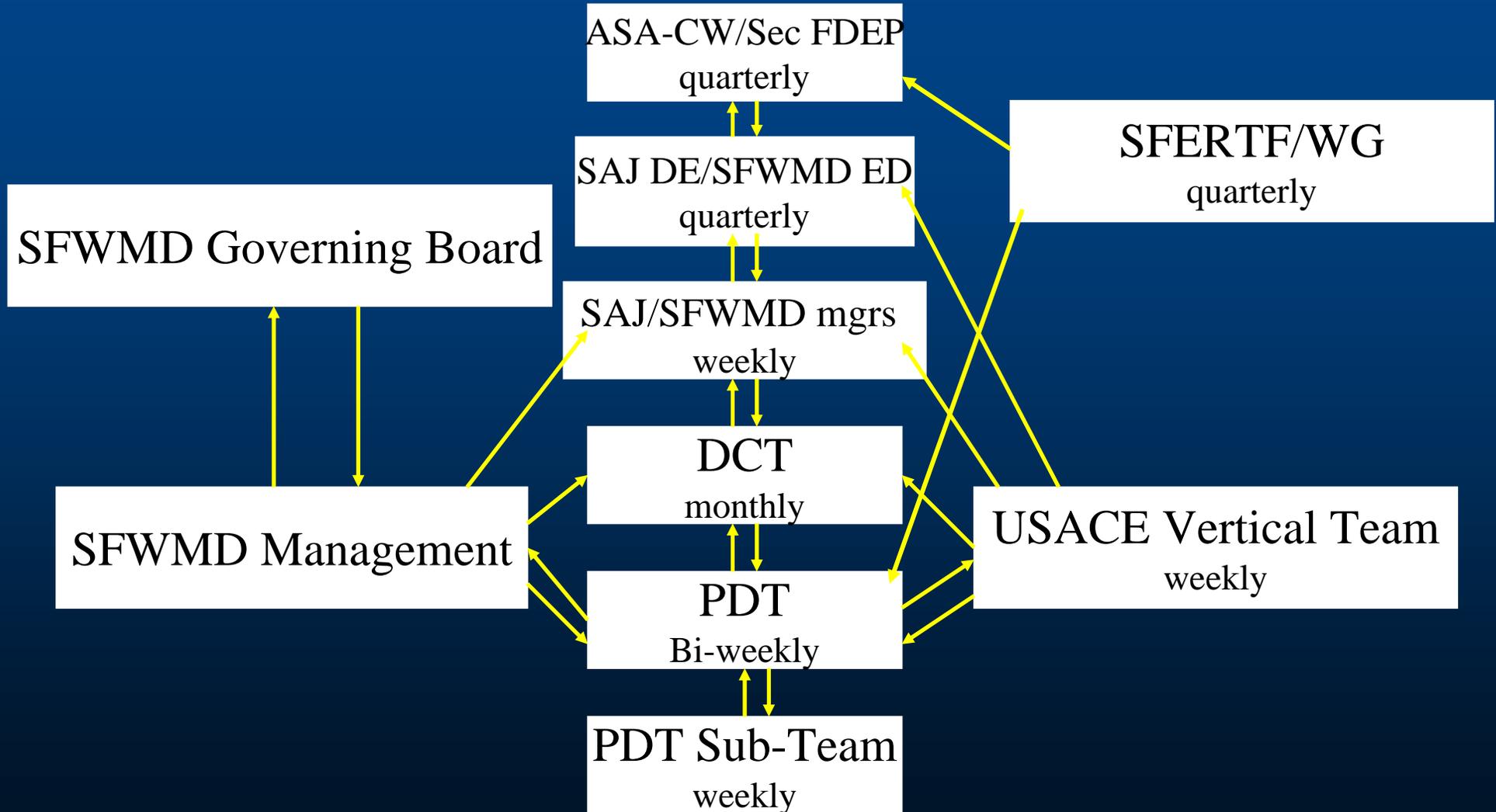
Key Findings

- 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 a preference for complex, high-resolution predictive modeling versus the need for timely project implementation
- New national (federal) policies for model certification and approval
- Stakeholder (agency and public) expectations for detailed high resolution modeling and output

Modeling Recommendations

- From the top down, establish a philosophy that the need to implement restoration projects is more urgent than the need for best possible modeling and analysis in a PIR (“BPJ”)
- Encourage and support innovation, simplified analysis, and scientific judgment at the PDT level
- Use the 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



Policy Issue Identification and Resolution Recommendations

- 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 issues 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 Recommendations

- 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
- Focus staff talent on fewer simultaneous PIRs
- Management ties to all recommendations

Next Step

- September South Florida Everglades Restoration Task Force Meeting
 - Present potential PIR streamlining recommendations for consideration

Questions?

Thank You

