

**Structured Decision Making, Adaptive
Management and Missouri River
Recovery Implementation Committee
(MRRIC): a path forward**

Presented by

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Outline

- Background
- Existing Adaptive Management (AM) and Reviews
- Path Forward
 - ISAP/MRRIC recommendations
 - Structured Decision Making expertise and process

MISSOURI RIVER RECOVERY PROGRAM



Background

- History
 - BiOP and RPA
 - AM
 - Prescriptive
 - Constrained
 - MR System Master Manual



Background

- History continued
 - WRDA Section 5018:
authorized Missouri River Recovery
Implementation Committee
 - Provide guidance on MR study
 - Provide collaborative forum
 - Provide guidance to AM process



Background

- History
 - MRRIC and Independent Science Advisory Panel (ISAP)
 - Within Collaborative MRRIC identified need for Independent Science Advisory Panel
 - To provide interpretations of available science
 - To provide independent scientific advice
 - To provide expert guidance to overall process (MRRIC and Agencies)

Independent Science Advisory Panel Members

- Martin W. Doyle, Ph.D. – River Hydrologist/Geomorphologist
- Adrian H. Farmer, Ph.D. – Least Tern/Piping Plover Specialist
- Christopher S. Guy, Ph.D. – Sturgeon Specialist
- Steven M. Bartell, Ph.D. – Quantitative Ecologist/Statistician
- Dennis D. Murphy, Ph.D. – Conservation Biologist



Existing Adaptive Management

- Existing efforts
 - Emergent Sandbar Habitat
 - Shallow Water Habitat



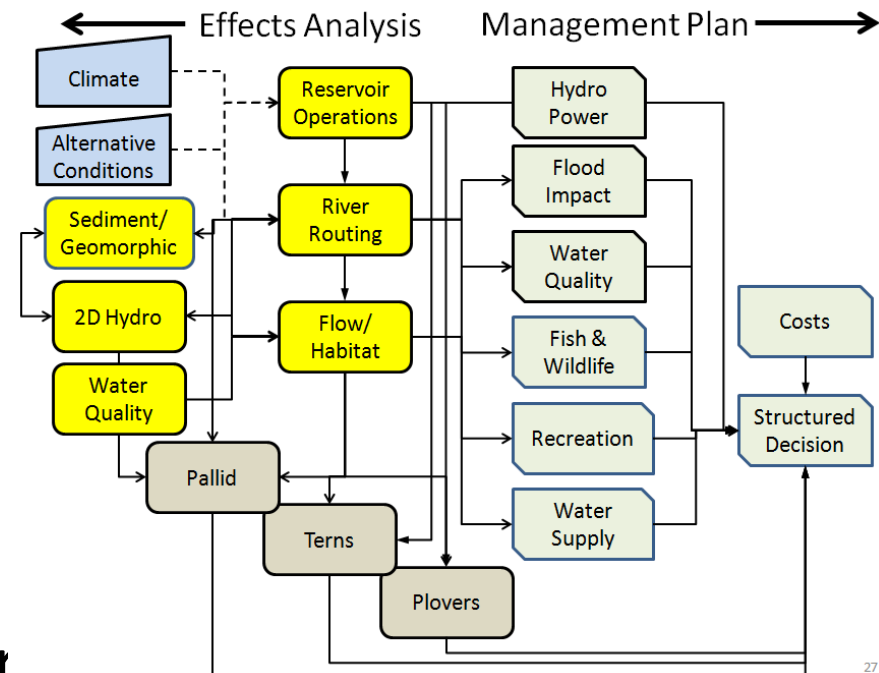


Reviews of Existing AM

- ISAP Recommendations
 - Integrated AM plan (flow and mechanical actions)
 - Preceded by Effects Analysis
 - Develop CEM's
 - Evaluate base flows
 - Redesign monitoring
 - Identify decision criteria
 - Other managed flow programs and adaptive management plans should be evaluated as guiding models for MRRP.
- National Academy of Science Reports
 - The Missouri River Ecosystem: Exploring the Prospects for Recovery, 2002
 - Missouri River Planning: Recognizing and Incorporating Sediment Management, 2011

Path Forward

- Follow ISAP Guidance
 - Effects Analysis
 - CEM's,
 - hypotheses,
 - quantitative models
 - assessments
 - Tools and information for AM and MR Management Plan



Path Forward

- Follow ISAP Guidance
 - SDM Process with stakeholder involvement
 - Problem Definition
 - Objectives
 - Alternatives
 - Consequences
 - Trade offs



Conclusions

- Independent Science Advisory Panel engagement
 - Review of products and process
- Stakeholder engagement
 - values highlighted throughout the process
- Expected outcomes
 - Focused implementation
 - Stakeholder and ISAP engagement

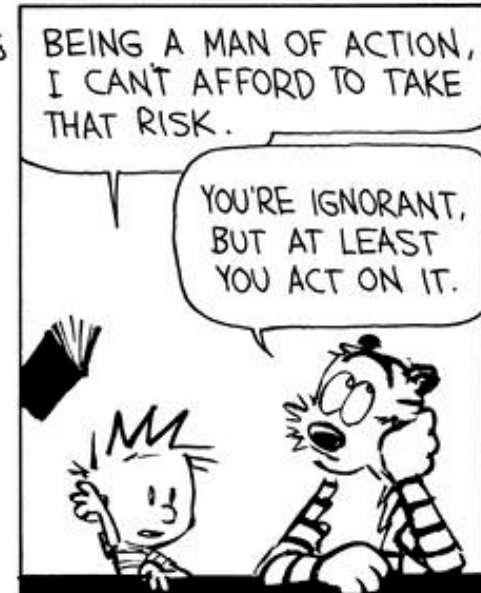


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Questions?



YOU REALIZE THAT NOTHING IS AS CLEAR AND SIMPLE AS IT FIRST APPEARS. ULTIMATELY, KNOWLEDGE IS PARALYZING.





–It is not the critic who counts.... The credit belongs to the man who is actually in the arena, whose face is marred by dust and sweat and blood; who strives valiantly; who errs and comes short again and again, because there is no effort without err and shortcoming.

—-- Theodore Roosevelt