

Adaptive Management and NEPA Integration for the Upper Mississippi River

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Upper Mississippi River – Illinois Waterway



- Navigation Feasibility PEIS 2004
 - 1989 – 2004, \$75 million
 - Lock and dam infrastructure
 - Fish, plants, mussels, bank erosion
- Record of Decision 2008
 - Non-structural measures
 - New locks
 - Ecosystem restoration
 - Monitoring and AM (WRDA 2007)
- Navigation and Ecosystem Sustainability Program (NESP)
- Upper Miss River Restoration - Environmental Management Program (UMRR-EMP)



Restoration Challenges:

Multiple scales

- System-wide
- Geomorphic reaches
- Navigation Pools
- Habitats

Multiple actions (e.g.):

- Water level management
- Levee districts
- Floodplain connectivity
- Island construction
- Fish passage structures

USACE Six-Step Planning Process



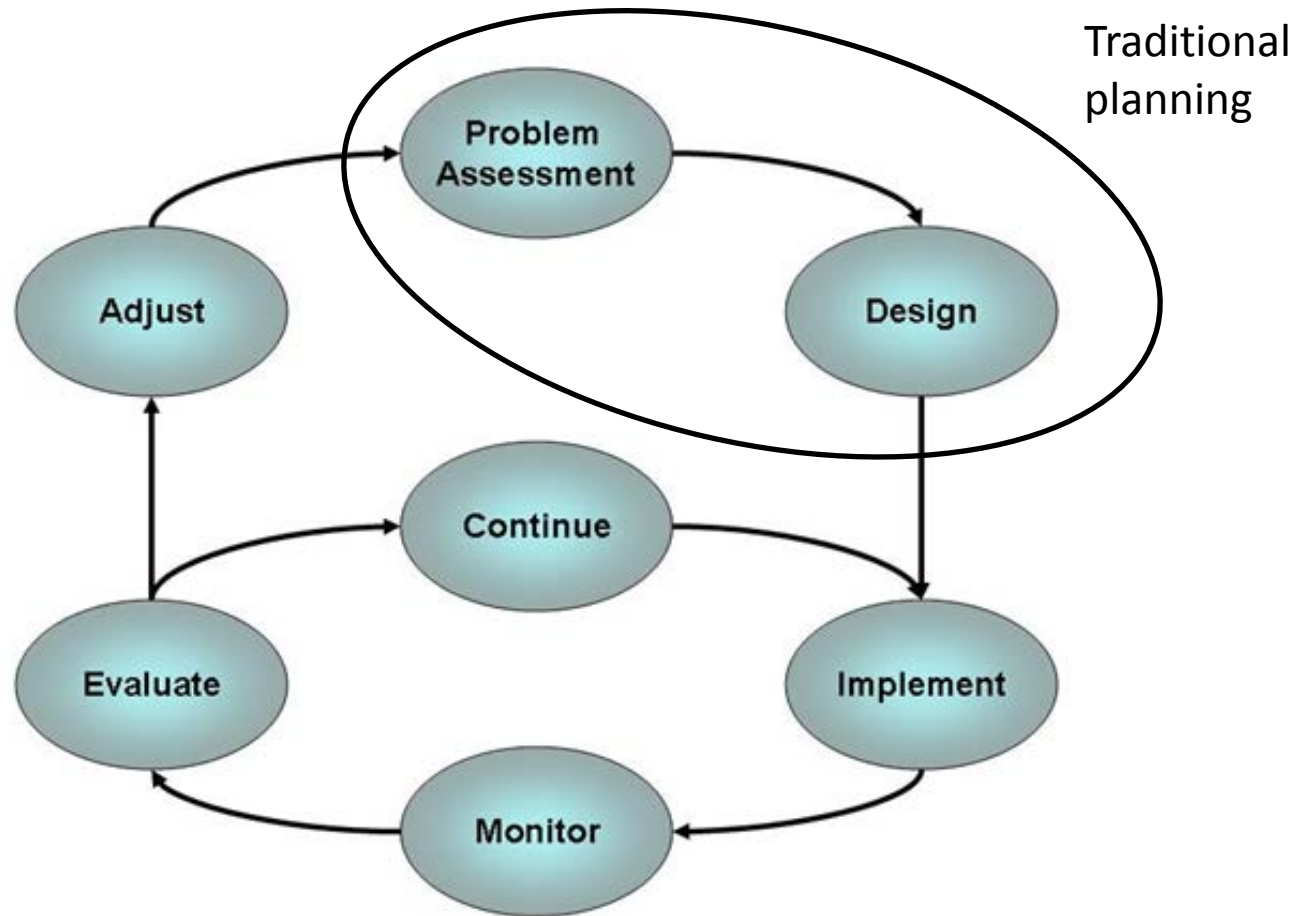
NEPA



(P)EIS

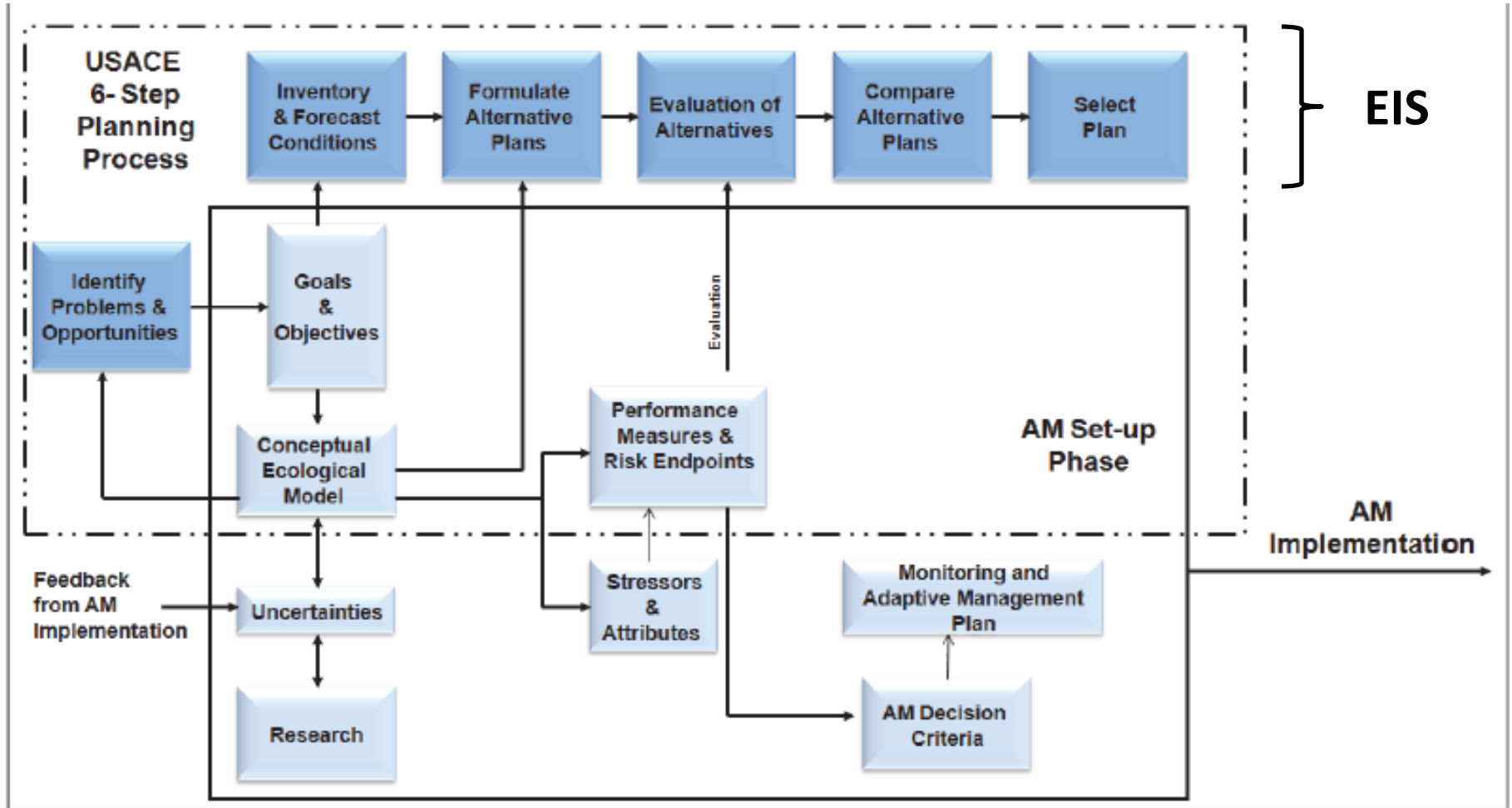
- Principles & Guidelines ER-1105 (2000)
 - preferred alternative
 - post-construction monitoring
- adaptive mitigation (USACE 2004)
- “front-end loaded” (Ruhl 2006)

USACE Adaptive Management Process



- most activity after the design
- “back-end loaded”

USACE Planning Process, Adaptive Management, and NEPA



Fischenich, C., et al. 2012. *The application of Adaptive Management to ecosystem restoration projects*. EBA Technical Notes Collection. ERDC TN-EMRRP-EBA-10. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

