

WATER LEVEL MANAGEMENT – POOL 18 DRAWDOWN

NAVIGATION AND ECOSYSTEM SUSTAINABILITY PROGRAM

**Pool 18
Upper Mississippi River
Miles
410.5 – 437.1**

**Des Moines and Louisa Counties,
Iowa
Henderson and Mercer Counties,
Illinois**

Rock Island District

RESOURCE PROBLEM:

Historically, the Corps of Engineers has regulated the river for the single, Congressionally authorized, project purpose of maintaining a safe and reliable navigation channel. Through the Water Level Management effort, we examined opportunities to modify the current methods of river regulation to improve conditions of the river ecosystem.

PROJECT FEATURES:

Implementation of a pool drawdown would require advanced maintenance dredging to allow for continued, safe navigation conditions for commercial vessels; as well as providing continued recreational access. An extensive public involvement effort will be required to inform recreational and commercial river users of the timing and duration of the drawdown, and the likely impacts to stakeholders in the area.

A two-foot drawdown of Pool 18 is expected to expose approximately 760 acres.

EXPECTED ECOLOGICAL OUTCOMES:

A reduction in the navigation pool level (drawdown) during the summer growing season would result in the exposure of substrate allowing for the compaction and

oxidation of sediments (to increase water clarity and nutrient assimilation, respectively) and the extension of the photic zone through improved water clarity to increase the production, extent, and diversity of aquatic plants. An increase in the abundance of emergent and submersed aquatic plants would improve habitat conditions and provide a valuable source of food for a variety of organisms including young-of-year and small fish, migratory birds, wading birds, furbearers, reptiles, and amphibians. Upon reflooding, the flooded vegetation would provide valuable habitat for small fish and spawning habitat for fish the following spring. Further, an increase in the abundance of emergent and submersed aquatic plants would help to dissipate wind energy, resulting in less sediment resuspension in the near-shore zone and reduced bank erosion.

ADAPTIVE MANAGEMENT OPPORTUNITIES

Pool-scale drawdowns are proposed in 12 pools as part of the Navigation and Ecosystem Sustainability Program. Initially, 3 pools (including Pool 18) will be implemented, with the lessons learned applied to the future sites. A public involvement and ecosystem monitoring plan will be developed for the initial projects and adapted based upon the lessons learned.



FINANCIAL DATA:

The primary cost of conducting a pool drawdown is associated with the quantity of advanced maintenance dredging that would be required to ensure reliable navigation conditions and to provide recreational access during the drawdown. The estimated amount of dredging required to maintain the nine-foot channel is 134,000 cubic yards, at an estimated cost of \$1,050,000. An additional \$175,000 will be required to provide continued recreational access at ramps and

marinas in the affected area. The proposed project would be constructed at 100% federal cost.

STATUS and SCHEDULE:

This project has not yet been initiated. Completion of the detailed feasibility report, NEPA Compliance, and revision of the Pool 18 Water Control Manual (to be approved by the Division Commander) will be completed during FY05-06. Assuming advanced channel dredging could occur in late 2006, the first opportunity for implementation of a drawdown in Pool 18 would be during the summer of 2007.

INFORMATION NEEDS:

One of the first tasks to be completed upon initiation of the project will be the development of a pre- and post-drawdown monitoring plan that will account for recurring drawdowns in future years.

Pre-implementation monitoring will generally consist of sampling to establish baseline conditions for the evaluation of the project benefits and potential negative impacts to competing ecosystem resources, including: larval fish sampling, identifying mussel beds that may be dewatered, and identifying backwaters where fish may become isolated or stranded by the drawdown. In addition, transects may be taken along the lower reaches of tributary streams to evaluate the sediment response during the drawdown.

During the drawdown, photo points will be established to monitor vegetative response, field observations will be used to characterize plant species composition, and aerial photography will be used to refine estimates of acres benefited by the action.

Following initial implementation, continued monitoring will be performed to monitor larval fish densities and the potential establishment of perennial vegetation in low turbidity areas. In addition, the effects of the initial overdredging will be monitored to evaluate the potential reduction in future channel maintenance dredging.