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US Army Corps of Engineers
St. Louis District

Information Paper
F. Navigation Appointment Scheduling

Upper Mississippi River System - Navigation and Ecosystem Sustainability Program

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Location/Description

The program area comprises the Upper Mississippi River System, as defined by Congress in the Water Resources Development Act of 1986 (WRDA 1986), which includes the Upper Mississippi River from Minneapolis, Minnesota, to Cairo, Illinois; the Illinois Waterway from Chicago to Grafton, Illinois; and navigable portions of the Minnesota, St. Croix, Black and Kaskaskia Rivers. This multi-use resource supports an extensive navigation system (made up of 1200 miles of 9 foot channel and 37 lock and dam sites), a diverse ecosystem (2.7 million acres of habitat supporting hundreds of fish and wildlife species), floodplain agriculture, recreation and tourism. Based on the recommendation of the recently completed UMR-IWW System Navigation Feasibility Study that examined system needs over the next 50 years, the Navigation and Ecosystem Sustainability Program (NESP) was implemented to achieve the dual purposes of UMRS ecosystem restoration and navigation improvements. The Navigation Appointment Scheduling project is one of 8 initial NESP navigation efficiency component projects being implemented under this new UMRS program.

Appointment scheduling is a nonstructural navigation measure that is designed to reduce lock congestion that in turn would result in improved overall system efficiency. Lower congestion would be accomplished through a traffic management system that would control, to some degree, the movement of tows through the system.

Problem Statement

The Appointment Scheduling project provides a mechanism to analyze the viability of appointment scheduling as a potential nonstructural navigation efficiency measure. Ultimate implementation of such an efficiency measure has the potential to influence the economic performance of currently proposed navigation efficiency features. To the extent that this nonstructural measure allows the existing system to operate more efficiently, the need for structural improvements could potentially be delay or even eliminated.

Current Status

Activities pursued by the Corps' Institute of Water Resources (IWR) in their research and development program on economic technologies, NETS, are integral to the appointment scheduling project within NESP. Current project activities are focused on coordination with IWR on their NETS work to develop a framework and tool for appointment scheduling evaluation. A tool has been developed through NETS work to evaluate vessel resequencing at locks, a limited form of scheduling. Results of this evaluation are currently under review.

Authority

Pending new authority, our current activities supporting UMRS navigation and ecosystem improvements are performed under authority provided by Section 216 of the Flood Control Act of 1970 (Public Law 91-611).