



US Army Corps
of Engineers
St. Paul District

Information Paper

G. Mooring Cells and Buoys

Upper Mississippi River System - Navigation and Ecosystem Sustainability Program

Contacts

Tim Grundhoffer, Team Leader

(651) 290-5574

timothy.m.grundhoffer@usace.army.mil

Jeff DeZellar, District Project Manager

Ph. (651) 290-5433 (651) 290-5258 (fax)

jeffrey.t.dezellar@usace.army.mil

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 Mooring Cells and Buoys is one of 8 initial NESP navigation efficiency component projects being implemented under this new UMRS program.

Problem Statement

The purpose of the Moorings Cells and Buoys Project is to design and construct mooring points at lock approaches to improve navigation efficiency. These structures provide waiting areas closer to the locks where they can wait clear on an exiting tow. Navigation efficiency is improved by reduced entrance and exit times. Additionally, the mooring structures provide environmental benefits. With the mooring structures in place, it would reduce tows pushing into the riverbank, which causes damage to shore line vegetation and increases near-shore turbidity.

Locks 11 through 25 on the Upper Mississippi and Lagrange Lock on Illinois Waterway were evaluated for potential mooring sites. Marker buoys will be placed at the proposed locations to solicit industry feedback and to gain industry consensus of the final mooring locations.

Mooring buoys located below LD 8 and LD 25 will be tested by industry, to verify the buoy design. Based on feedback from industry, mooring buoys are no longer recommended as a mooring structure. Industry cited safety issues and that the buoys were more time consuming.

Current Status

FY 2005:

- Marker buoys were placed at 8 sites
- P&S for a mooring cell (LD 14) completed
- Draft DDR for Mooring Buoys completed
- Testing on LD 8 and LD 25 mooring buoy, ongoing.

FY 2006:

- Testing on LD 8 and LD 25 mooring buoy, complete
- Placed marker buoys at 2 sites
- Draft DDR Final Mooring Locations (8 sites)
- Initiated Environmental Assessments at Lagrange
- Identified initial sites for construction (LD14, LD24 and Lagrange)

FY2007:

- Complete marker buoy study
- Approval, DDR Mooring Locations
- P&S, Mooring cell design at Lagrange
- P&S, Mooring cell design at LD 24

Mooring cell construction would be accomplished in out years, as authorized.

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).