



**US Army Corps
of Engineers**®
Rock Island District

Information Paper

Upper Mississippi River – Illinois Waterway System Navigation and Ecosystem Sustainability Program (NESP)



UMR Lock and Dam with single 600ft lock chamber.

Contact

Andrew Goodall, P.E., PMP
Regional Program Manager
309-794-5179
cemvr-pm-web@usace.army.mil

Location

Upper Midwest - Iowa, Illinois, Minnesota, Missouri and Wisconsin

Description

NESP is a long-term program of ecosystem restoration and navigation improvements for the Upper Mississippi River System (UMRS). NESP will improve system capacity and reduce commercial traffic delays through construction of seven new 1,200-foot locks, mooring cells, and switchboat implementation.

A USDA September 2016 report states that “Aggregate economic activity related to grain barge transportation reduce \$933 million (or 40 percent decrease) if Lock 25 is closed from September to November. The reduction reaches nearly \$2 billion if the lock is unavailable for the marketing year” and “Decline in economics surplus in the corn and soybean sector due to Lock 25 closure could cause a decrease of more than 7,000 jobs, \$1.3 billion of labor income, and about \$2.4 billion of economic activity (total industry output) annually.” Inland navigation is estimated to save \$26.17/ton compared to overland transportation (2015 costs). The estimated annual

saving on the UMRS is over \$3 billion (based on 2015 traffic). The long-term traffic is expected to increase due to Panama Canal expansion and changes in world markets. Additionally, NESP will restore the ecosystem by implementing projects for island building, floodplain restoration, water level management, backwater restoration, side channel restoration, wing dam restoration / modification, and island / shoreline protection.

The UMRS supports an extensive navigation system (1,200 miles of 9 foot channel and 37 lock and dam sites), a diverse ecosystem (2.7 million acres), floodplain agriculture, recreation and tourism. In WRDA 1986 (Sec. 1103) and WRDA 2014 (Sec. 4002), the UMRS was declared a “nationally significant ecosystem and a nationally significant commercial navigation system.”

The UMRS transports more than 60 percent of America’s corn and soybeans, is home to 25 percent of North America’s fish species, and is a globally important flyway for 40 percent of North America’s migratory waterfowl and shorebirds. The UMRS ecosystem consists of 2.7 million acres of bottomland forest, islands, backwaters, side channels and wetlands, all of which support more than 300 bird species, 57 mammal species, 45 amphibian and reptile species, 150 fish species, and nearly 50 mussel species. The diversity and abundance of native aquatic plants and animals are being impacted by degradation, loss of habitat and the arrival of several exotic species.

The existing locks and dams were constructed in the 1930’s and experience significant delays due to the single 600-foot lock chambers, which require the 1,200 foot tows to “double lock”. On the UMRS, there is only one lock chamber at 35 of 37 sites. The new 1,200-foot locks will increase system reliability and would dramatically decrease lockage times. Additionally, the new 1,200 foot locks will eliminate the single point of failure of having only one lock. If a major lock component breaks, it has the potential to cause a lock closure and stop all inland navigation traffic. The 1,200 foot lock will also eliminate double lockages and provide an additional chamber to ensure navigation traffic can continue to flow even during major repairs.

Each NESP project completed will deliver incremental benefits. For instance, a mooring cell will save between 5 and 15 minutes per lockage, will improve safety, and reduce shoreline erosion because tows will no longer be waiting on the shoreline. If the time savings per lockage is 5 minutes, it is estimated that ‘payback’ could be nearly \$300,000/year through reduced wait times, and improved lockage times. NESP will have phased implementation over 15 - 25+ years using adaptive management to guide future work. The economic analysis and cost estimate need to be updated. The economic analysis will update the project benefit:cost (B:C) ratio and will address the 2008 issues such as including additional sensitivity analysis, and better define the adaptive management processes used to determine the threshold at which increased traffic justifies new locks.

Congressional Support

A Bipartisan coalition of 52 congressionals recently reaffirmed their support in October 2020 for a long awaited construction new start for NESP which has immediate construction readiness that will establish long-term job creation in creating much needed lock modernization and ecological resilience.

Key Takeaways

- NESP is ready for construction on both ecosystem and navigation projects.
- The NESP Infrastructure investment is critical to securing America's Global Competitiveness, National security, and economic growth.
- The Consequence of inaction is a single point of failure cripples the supply chain of America's heartland
- A Bi-Partisan Congressional Coalition endorsed NESP as an efficient, reliable, effective dual purpose program ready for immediate action.

Status

An economic update was completed in FY 2019 and PED activities were advanced with the \$4.5M in FY20 Investigation funds. Work was concentrated on projects that can be ready for a construction contract award in FY21.

Additional Information

Congressional Interest

Senators: Charles Grassley (IA), Joni Ernst (IA), Richard Durbin (IL), Tammy Duckworth (IL), Tina Smith (MN), Amy Klobuchar (MN), Roy Blunt (MO), Joshua Hawley (MO), Tammy Baldwin (WI), Ron Johnson (WI)

Representatives: IA-2 (Mariannette Miller-Meeks), IA-3 (Cynthia Axne), IA-4 (Randy Feenstra), IL-11(Bill Foster), IL-13 (Rodney Davis), IL-16 (Adam Kinzinger), IL-17 (Cheri Bustos), IL-18 (Darin LaHood), IL-3 (Dan

Lipinski), MN-1 (Jim Hagedorn), MO-6 (Sam Graves), WI-3 (Ron Kind)

Authority

GI - General Investigations - Title VIII of WRDA 2007

Summarized Project Costs

Estimated Federal Cost	\$7,509,519,000
Estimated Non-Federal Cost	\$232,288,000
Estimated Total Project Cost	\$7,741,807,000
Allocations Prior to FY 2021	\$65,318,647
FY 2021 Allocation	\$5,150,000
FY 2021 Total Capability	\$12,825,000
FY 2022 President’s Budget	TBD

Major Work Item Current Year:

FY 2021: Continue PED efforts for both the navigation and ecosystem projects. The navigation focus project is at Lock 25, specifically a project that will modify the existing lock wall to prepare the wall for the future 1200’ lock. Additional projects include the Lock 14 mooring cell and Moore’s Towhead systemic mitigation. The ecosystem focus project is Twin Island Shoreline Protection. Additional projects include Pool 2 Wingdam Modifications, Starved Rock Habitat Restoration, Alton Pool Habitat Restoration, and Lock 22 Fish Passage.