

UPPER MISSISSIPPI RIVER LEVEE AND FLOODWALL DESIGN STANDARDS

Problem:

Changing weather conditions have altered Flow Frequency profiles in the Upper Mississippi. The region's current level of protection has not been updated to coordinate with these changes. USACE prepared Design Memorandums for the individual Levee Districts to be maintained by the local sponsors. Each district's level of design was based on the benefits protected. Rural Districts were set at a 50-year frequency design profile, plus freeboard to allow for settlement, wave wash, and other uncertainties. Levee districts with both rural and lower populated urban areas were set at 100-year frequency plus freeboard, and more concentrated urban and industrial areas were set at the 500-year level of protection plus freeboard.

Flood frequency and flood profiles have significantly changed since completion of USACE construction. The WRDA Bill uses improved hydrology and hydraulic information to address this change in weather conditions, allowing the local sponsor of these federal works to maintain their originally designed, or prior USACE-approved, level of protection.

Maintaining Upper Mississippi River levees according to current weather and flow conditions will save significant federal, state, and local dollars. Damages in 1993 and 2008 exceeded 15 billion dollars each. Flood damages over the last 50 years, such as the major floods in 1973, 1993, 2008, and 2019, could have been prevented.

Opportunity:

A levee district is a political subdivision of their respective state, similar to a municipality. Each Upper Mississippi levee district, as the local sponsor of the Federal levee, has similar authorities in each State to assess benefits for both flood protection and drainage. These annual and special assessments provide funds by those protected for operation and maintenance of the levee district.

Operation and Maintenance manuals, provided by USACE for these federal levees, provide guidance for flood fighting and other responsibilities, including alterations and encroachments as approved pursuant to 33 CFR 208.10. However, changes in rainfall conditions have put the Upper Mississippi River levees in serious peril. Current guidance from USACE has not been supportive of the local sponsors' ability to maintain their original level of protection as flow frequencies have changed.

Objectives:

The proposed bill is to require USACE to update the Upper Mississippi River flow frequencies no less than every 20 years. The bill calls for adequate public input during these periodic updates of the Flow Frequencies profiles. The bill covers the federal levees in the Upper Mississippi not covered by the Mississippi Rivers & Tributary Act – basically from Cape Girardeau, Missouri, up to Guttenberg, Iowa. The bill does not change the risk transfer from the original USACE designs or prior approved alterations. USACE restoration work under PL84-99 shall be consistent with current USACE flood frequency profiles. The Bill clarifies maintenance as maintaining the local sponsors' original or prior approved level of protection. Maintaining the level of protection is voluntary and at local expense.

: The Upper Mississippi River Federally Improved levees have various authorities including the Flood Control Act of 1946; Flood Control Act of 1954; Flood Control Act of 1962; and foundational authority under the Mississippi River, Between Coon Rapids Dam and the Mouth of Ohio River, Section 10 of the Flood Control Act of 1928 for the purpose of Navigation and Efficient Development of its Water Power, the Control of Floods and the needs of Irrigation.