



ENVIRONMENTAL LAW & POLICY CENTER

Protecting the Midwest's Environment and Natural Heritage

High Risk Levees along the Upper Mississippi River *As identified by the United States Army Corps of Engineers*

Levees take a hit during heavy floods. This spring, the Midwest was inundated with flooding that affected nearly 14 million people and set new record water levels in several places. While the ground was still frozen, heavy rainstorms followed heavy snow, and the resultant flooding damaged crops, homes, bridges, communities, and more.

Levees are supposed to receive extensive monitoring and maintenance after floods because they serve a vital role in defending riverfront communities and lands from damage. In reviewing the United States Army Corps of Engineers' (USACE) records, the Environmental Law & Policy Center (ELPC) identified the need for much more robust monitoring, reinforcement, and repairs. There are levees at risk of breach all along the Mississippi River in Illinois, Iowa, and Missouri, and several others have not received repairs after breaching during the 2019 floods.

In Illinois, 41 of 54 levees in the St. Louis District have filed damage reports. In Missouri, 30 of 39 levees in the St. Louis District have filed damage reports. The Corps' Rock Island District is currently working on only 22 levee rehabilitation projects. The flooding situation is likely to get worse in the future; scientists anticipate heavy rain events to increase in Midwestern states as global temperatures rise. Prudent decisionmakers should take climate resilience into account for long-term planning, prioritize which levees are repaired given limited federal and state funds, and shift towards green infrastructure.

The list of levees below was drawn from the USACE National Levee Database, which reports the probability of levee failure. The rankings are based on engineering reviews and assessments. The Corps' annual Levee Portfolio Report defines public health and safety risks as follows:

- **High-Risk:** "Likelihood of inundation due to breach and/or system component malfunction in combination with loss of life, economic, or environmental consequences results in high risk."
- **Moderate-Risk:** "Likelihood of inundation due to breach and/or system component malfunction in combination with loss of life, economic, or environmental consequences results in moderate risk."
- **Low-Risk:** "Likelihood of inundation due to breach and/or system component malfunction in combination with loss of life, economic, or environmental consequences results in low risk."
- **No Assessment:** "Not enough information is available to assign an LSAC (Levee Safety Action Classification)."

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Key Takeaways

Illinois Levee Risks:

- Four levees are assessed to be at “high-risk,” putting 154,200 people and \$16.9 billion worth of property in danger.
- Five levees are assessed to be at “moderate-risk,” putting 8,353 people and \$1.9 billion worth of property in danger.
- 27 levees have not been assessed for safety standards, putting 5,161 people and \$1.04 billion worth of property in danger.
- In 2019, local news articles show four levees in Illinois failing (two that were low risk and one that was never assessed), putting 312 people and \$51 million worth of property in danger. This number could be higher; the levee breaches identified in this report cover only those with public information available. Thus far, the Corps has not released a list of 2019 failed levees.

Iowa Levee Risks:

- One levee is assessed to be at “high-risk,” putting 14,083 people and \$1.88 billion worth of property in danger.
- Two levees are assessed to be at “moderate-risk,” putting 6,274 people and \$1.06 billion worth of property in danger.
- 20 levees have not been assessed for safety standards, putting 2,217 people and \$516.7 million worth of property in danger.
- In 2019, local news articles describe two levees in Iowa failing, putting 276 people and \$124.5 million worth of property in danger. This number could be higher; the levee breaches in this report cover only those with public information available. Thus far, the Corps has not released a list of 2019 failed levees.

Missouri Levee Risks:

- One levee is assessed to be at “high-risk,” putting 1,686,435 people and \$12.4 billion worth of property in danger.
- Five levees are assessed to be at “moderate-risk,” putting 16,201 people and \$2.11 billion worth of property in danger.
- 13 levees have not been assessed for safety standards, putting 1,193 people and \$370 million worth of property in danger.
- In 2019, local news articles describe four levees in Missouri failing (all low risk), putting 1,547 people and \$160.4 million worth of property at risk. This number could be higher; the levee breaches in this report cover only those with public information available. Thus far, the Corps has not released a list of 2019 failed levees.

U.S. Army Corps of Engineers' Budget and Work Plan

Many levees in these three states have not been assessed since 2016, including some in the “high-risk” and “moderate-risk” categories. The 2019 floods could have further weakened some of the levees. Moreover, some low-risk levees failed in the 2019 floods, including: Chouteau Island levee in Madison, Illinois; Henderson County Drainage District No. 2 levee in Gulfport, Illinois; Davenport, Iowa Water Treatment Plant Levee; Elsberry/King’s Lake System Levee in Elsberry, Missouri; and Elm Point Levee System in St. Charles, Missouri. This raises potential concerns about the strength of other “low-risk” levees.

Not all levees, however, are operated by the U.S. Army Corps of Engineers; instead, some are operated privately or by a county or local levee program. For example, the “high-risk” Prairie Du Pont levee in Illinois is managed by the Prairie du Pont Sanitary and Levee District. The Corps has agreed, however, to assist in rehabilitating levees when flooding occurs if the levee is enrolled in the Corps’ Rehabilitation and Inspection Program. This program allows non-Corps maintained levees that abide by a standard level of maintenance to receive federal reimbursement for repairs after high-water events.

The U.S. Army Corps of Engineers often uses its annual supplemental budget for these repairs. For example, under its 2018 supplemental budget, the Corps received \$645 million for short-term flood control and coastal emergency program purposes. The specific levees that received funds are detailed in the list below. Some quick overall points:

- \$370 million was allocated for the Mississippi River & Tributaries short-term repairs account, and some of those funds will be used for levees in Illinois and Missouri, although the specific amounts were not published. Iowa levees were not included.
- \$147 million was designated for long-term disaster recovery for levees along the Mississippi River. No further breakdown by state is available.
- None of the short-term construction, short-term operation and maintenance, long-term investigation or long-term Continuing Authorities Program funds are designated for levees along the Mississippi River in Illinois, Iowa, or Missouri.

The Corps’ has not yet released its long-term 2019 supplemental budget. However, as of September 25, the Corps’ short-term 2019 supplemental budget plan allocates:

- \$575 million to the Mississippi River and Tributaries short-term repairs account. Some of those funds will be used for levees in Illinois and Missouri along the Mississippi River, although the specific levees and amounts were not published. Iowa levees were not included.
- \$1 billion to the Flood Control and Coastal Emergencies account. Some of those funds will go to the Union Township Levee District along the Mississippi River in Missouri. Illinois and Iowa levees were not included. 104 levees were listed to receive assistance in total.
- \$908 million to the Operation and Maintenance account. Some of those funds will be used for levees in Illinois and Missouri along the Mississippi River, but the specific levees and amounts were not published. Iowa levees were not included.

The Corps' 2019 work plan allocates: \$1.97 million for inspection of completed works in Illinois, with an emphasis on levee systems; \$1.28 million for inspection of completed works in Iowa, with an emphasis on levee systems; \$1.51 million for inspection of completed works in Missouri, with an emphasis on levee systems; and \$62.29 million for levees along the Mississippi River in AR, IL, KY, LA, MS, MO, and TN. No money is designated for Iowa levees along the Mississippi River. For more information on the 2019 Corps' work plan, see the resources list below.

Conclusion

U.S. Army Corps of Engineers' data on levees along the Mississippi River in Illinois, Iowa, and Missouri identifies high-risk levees in all three states. Many have not even been assessed since 2016, and the flooding of Spring 2019 likely further weakened levee infrastructure across the region. Several levees breached this year, and many have not yet received follow-up repairs. Moreover, several low-risk levees breached during the 2019 floods, thereby raising concerns about the risk of all levees. Scientists anticipate heavier rain events to affect the Midwest as global temperatures rise, which could exacerbate flooding and levee stress. Prudent decisionmakers should take climate resilience into account for long-term planning, prioritize which levees are repaired given limited federal and state funds, and shift towards green infrastructure.

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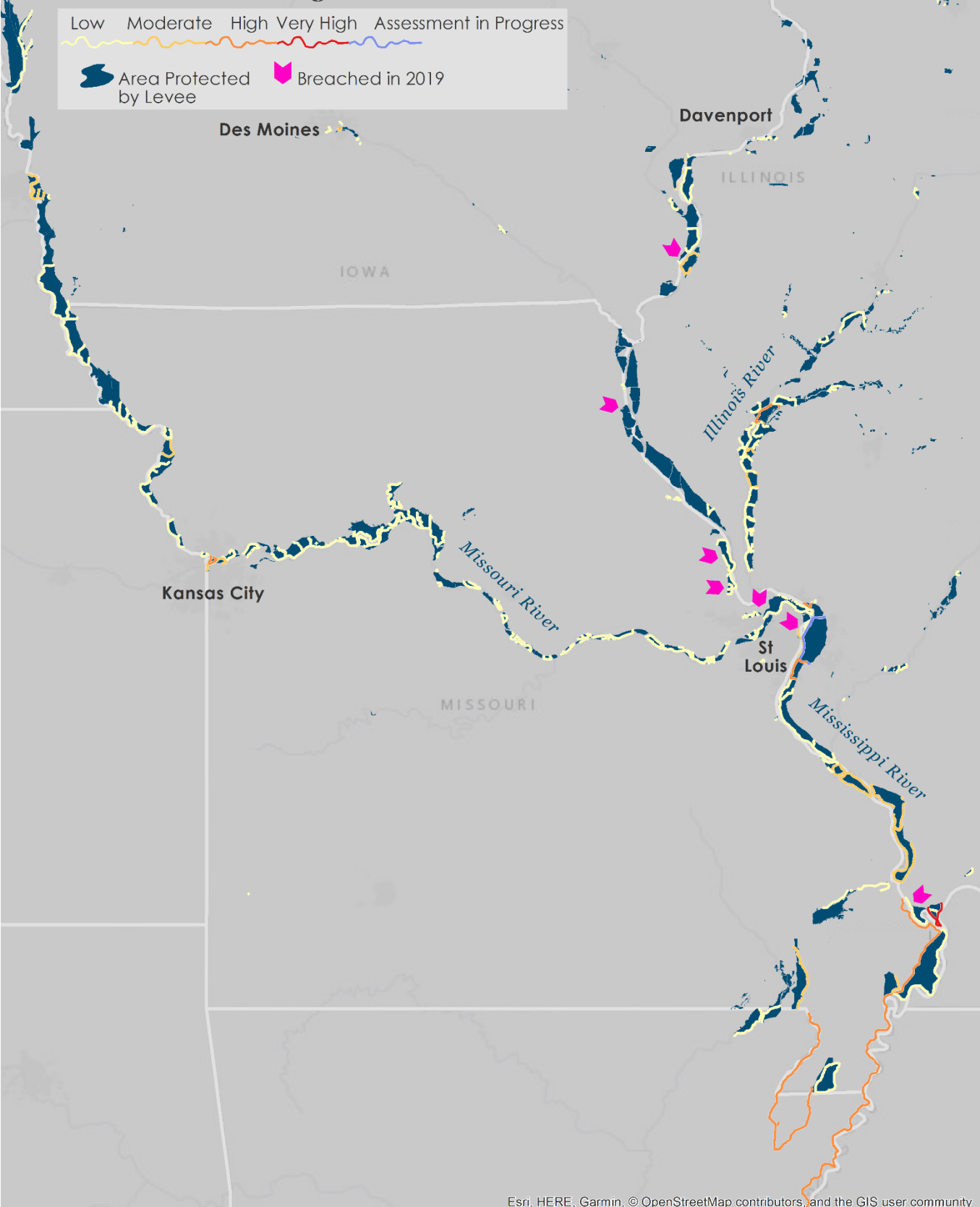
The Environmental Law & Policy Center is the Midwest's leading public interest environmental legal advocacy and eco-business innovation organization. We develop and lead successful strategic advocacy campaigns to improve environmental quality and protect our natural resources. We are public interest environmental entrepreneurs who engage in creative business deal making with diverse interests to put into practice our belief that environmental progress and economic development can be achieved together. ELPC's multidisciplinary staff of talented and experienced public interest attorneys, environmental business specialists, public policy advocates, and communications specialists brings a strong and effective combination of skills to solve environmental problems.

ELPC's vision embraces both smart, persuasive advocacy and sustainable development principles to win the most important environmental cases and create positive solutions to protect the environment. ELPC has achieved a strong track record of successes on both national and regional clean energy development and pollution reduction, transportation and land use reform, and natural resources protection issues. ELPC brings a new form of creative public advocacy, effectively linking environmental progress and economic development that improves the quality of life in our Midwest communities. Please see www.elpc.org.

Upper Mississippi River Levee Risk Ranking

Low Moderate High Very High Assessment in Progress

Area Protected by Levee Breached in 2019



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