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Lower Missouri River

THREAT: Climate change, poor flood management

STATES:

Iowa, Kansas, Missouri, Nebraska

AT RISK:

Public safety, fish and wildlife

SUMMARY

The lower Missouri River is a critical artery of the Great Plains and plays a vital role in our nation's economy. Increasingly frequent and severe flooding, exacerbated by climate change, puts the river's communities and residents at risk. Floods have overtopped and breached levees in hundreds of locations in recent years. To protect public safety and taxpayers, states and local governments need to implement multi-benefit projects that reduce flood risk and restore lost habitat in coordination with impacted stakeholders.

PHOTO: BRANDON KNOBLAUCH

THE RIVER

The Missouri is America's longest river, flowing more than 2,300 miles, with a watershed encompassing one-sixth of the United States. The river is considered the "Center of Life" for the Great Plains and the "Gateway to the West." Historically, the lower Missouri was home to the Osage and Missouri tribes, remnants of which survive today in the Otoe-Missouria Tribe.

The Missouri is also one of the nation's most altered rivers. Once a wide, meandering, dynamic river that spread out over its ecologically rich floodplains, today's Missouri River has been constricted to meet conflicting water resource demands, including flood control, navigation, irrigation, hydropower, water supply, recreation and fish and wildlife habitat. Six massive dams in the upper basin and a navigation channel and extensive levee system in the lower basin dramatically impact the health of the river. The lower Missouri River from Sioux City to St. Louis is artificially confined by hundreds of miles of levees that have destroyed the dynamic features of the river, including side channels, chutes, shallow and slack water areas, sandbars and islands. This loss of diverse habitat resulted in the federal listings of multiple species, including piping plover and pallid sturgeon, and the ongoing federal endangered species review of sicklefin chub and sturgeon chub.

THE THREAT

The lower Missouri River needs much more room to safely accommodate floods and high flows. Historically, floods spread across wide floodplains (the land adjacent to the river). While dams and levees have been constructed to control flooding, even ardent supporters of this antiquated flood control system have come to realize that the Missouri River needs more room to safely accommodate flood waters. The federal legislation authorizing the levee system stipulated that the river should not be constricted narrower than 3,000 feet. Despite this legal requirement, in some areas the river has been pinched to a width of 600 feet. Consequently, major floods and high flows regularly overtop and breach the levee system, particularly at these "pinch points." During recent flood events, more than 850 miles of levees in Iowa, Kansas, Missouri and Nebraska were damaged. The U.S. Army Corps of Engineers (Corps) reports that repair costs exceeded \$2 billion. Flood repairs are not a

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TAKE ACTION:

[AmericanRivers.org/
LowerMissouri2021](https://AmericanRivers.org/LowerMissouri2021)

PHOTO: RACHEL BARTELS

one-time expense. Levees overtop or breach in almost every flood and often in the same locations. As climate change intensifies, major flooding is becoming more frequent and severe in the Midwest. A 2012 Bureau of Reclamation report on climate change in the Missouri River Basin predicted a 10 percent increase in mean annual flow for the years 2040-2069 in the lower river basin.

Management of the Missouri River must change to allow enough room to safely convey this increasing amount of flood water. For decades, federal policy and state efforts have favored maintaining the status quo. Corps' policies continue to deter levee setbacks and state and community officials continue to rebuild existing levees to maintain and even intensify

additional floodplain development — putting more people and investment at risk. These strategies often disproportionately impact low-income and communities of color.

If changes are not made in how the Missouri River is managed, areas along the river will continue to experience flood damage and taxpayer dollars will be used to repeatedly rebuild the same levees. In 2019, the lower Missouri River states and the Corps began a Planning Assistance to States study intended to assess areas of recurring flood damage and determine options that improve protection. This process has the potential to identify projects that will give the river room to hold floodwaters. In 2020, Congress authorized the Corps to continue this lower Missouri River Flood Study, including the consideration of nature-based solutions like levee setbacks. These efforts should be integrated with the Missouri River Recovery Program, which restores the river's natural features and critical habitat for endangered species.

WHAT MUST BE DONE

In order to address the issues associated with outdated floodplain management in the lower Missouri River basin, states and local governments located in areas where catastrophic flooding has occurred must commit to non-structural and nature-based solutions, including setting back levees to give the river room, preventing development in the Missouri River floodplain that contributes to rising flood waters and increased flood risk, and funding relocation and flood mitigation projects for communities already located in flood-prone areas. Funding the Missouri River Recovery Program will help implement these necessary multi-benefit projects. States and the Corps should also fund and continue the lower Missouri Planning Assistance to States study to identify repeatedly damaged levees and frequently flooded areas and subsequently plan multi-benefit projects, including levee setbacks, that will make room to accommodate major floods, reduce flood risk and restore habitat to leverage available funding.

Flood risk planning along the lower Missouri River must be an integrated process that allows all stakeholders, including impacted communities and conservation groups, a seat at the table. A diverse stakeholder group will ensure development of a flood-risk management plan with multi-benefit projects that safely accommodate flood water and improve flood risk management for lower Missouri River communities. This process should include robust transparency and public engagement at every step of the process and allow public comments on any specific projects that result from the lower Missouri River PAS process.