



THE FLOODPLAIN PRIORITIZATION TOOL

*Optimizing restoration, conservation efforts in
the Mississippi River Basin*

OVERVIEW

The Nature Conservancy has developed the new Floodplain Prioritization Tool (FP Tool) to identify critical opportunities for floodplain conservation and restoration in the Mississippi River Basin. Working with data developed by the Conservancy and provided by several partners, the FP Tool is designed to help identify places where these actions would have the greatest impact on the overall health of this iconic river system. This first-of-its-kind tool is interactive, web-based and designed to help decision-makers—like federal, state and local governments, county planners, land trusts, and businesses—optimize their conservation and restoration investments and minimize the impacts of development.

For the portfolio of priority sites identified throughout the basin, the Floodplain Prioritization Tool allows stakeholders to identify priorities and assess tradeoffs related to nutrient removal, wildlife habitat, flooding and other goals.

The FP tool is expected to be most useful when applied in partnership with local planners and decision-makers. For example, the FP Tool is helping inform a collaborative floodplain management plan for Missouri's Lower Meramec River that's being guided by an integrated, multi-disciplinary planning process through the U.S. Army Corps of Engineers' **Silver Jackets** program. Here, the partners have created a pilot, localized version of the FP Tool that demonstrates the potential to adapt the basin-scale version to local partnerships and local floodplain management projects.



Our floodplains are at risk

Tens of millions of acres of floodplains across the Mississippi River Basin have been developed or converted to agriculture. These changes in land use have contributed to degraded water quality, increased flood impacts, and diminished habitat for fish and wildlife, all of which takes a toll on the economy and the quality of life for people. The FP Tool will help guide decisions that can reverse these trends.

The Nature
Conservancy 



The FP Tool's current extent, outlined in red, covers most of the Mississippi River Basin and touches down in 24 states. TNC is working with partners to expand its coverage.

THE VALUE OF FLOODPLAINS

Healthy floodplains can help:

Improve water quality. Excess nutrients—primarily nitrogen and phosphorus—can cause toxic algal blooms that degrade water quality. Restored and reconnected floodplains can remove, on average, 40 percent of the nutrients they intercept.

Reduce flood impacts. Just one acre of wetlands can hold about 1 million gallons of water—more than an Olympic-size swimming pool—reducing impacts on communities during floods. Restoring the 100-year flood zone of the five-state Upper Mississippi River Basin could store 39 million acre-feet of floodwaters—the same volume that caused the Great Flood of 1993—and save over \$16 billion in flood damage costs.

Improve wildlife habitat. Floodplain wetlands and marshes are among the richest habitats for fish, waterfowl and other birds and wildlife. For instance, the Mississippi River Flyway is globally significant, as it provides critical habitat for more than 325 bird species. Combined, these natural attributes greatly enhance tourism and outdoor recreational opportunities.

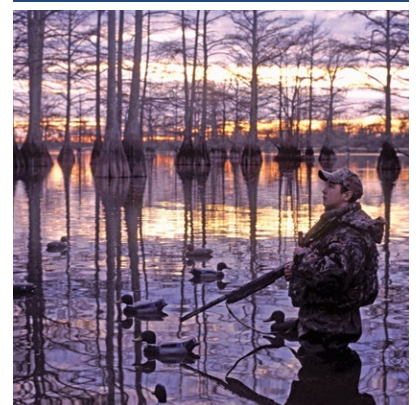
Enhance tourism and outdoor recreation. In the Upper Mississippi River, tourism and outdoor recreation support more than 300,000 jobs, and outdoor recreation generates \$2.1 billion each year. Outdoor recreation along the Lower Mississippi River generates 38 million trips annually, producing \$1.3 billion and employing more than 54,000 people.

Recharge aquifers. Floodplains can help recharge aquifers, which provide critical water for communities and agricultural lands throughout much of the Mississippi River Basin.



Prioritizing investments

The U.S. spends an average of \$3.1 billion on flood insurance premiums each year and \$4 billion in crop insurance subsidies. Identifying and then working with willing landowners to protect or restore regularly inundated areas can reduce the consequences of flooding and repetitive economic losses, while also improving water quality, wildlife habitat and recreational opportunities.



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► **FOR MORE INFORMATION** about the FP Tool and its potential local applicability and use, contact TNC's Kris Johnson (kjohnson@tnc.org; 612-331-0783).

FP Tool Partners. Partners that contributed data that's used in the basin-wide version of the FP Tool include: Univ. of Bristol, UK*; Fathom*; Univ. of Iowa*; US Geological Survey; US Army Corps of Engineers; US Environmental Protection Agency; National Fish Habitat Partnership; US Fish and Wildlife Service; American Bird Conservancy; Natural Resources Conservation Service; and USA National Phenology Network. Asterisks (*) note those partners who provided data that was previously unavailable online.