

Mitigation Matters: Policy Solutions to Reduce Local Flood Risk

This brief is one of 13 that examine state and local policies that have resulted in actions to mitigate flooding.



Mike Dickbernd/The Republic via Associated Press

On June 7, 2008, the Columbus (Indiana) Regional Hospital evacuated patients as floodwaters rose.

Indiana's Flood Control Revolving Fund Makes Resources Available to Communities

Low-interest loans help municipalities mitigate hazards and upgrade infrastructure

Overview

Indiana is subject to frequent riverine and flash floods. From Jan. 1, 2013, to Oct. 31, 2018, the state reported 987 flood events, with damage exceeding \$10 million.¹ Going further back, Indiana has endured a number of major floods, such as one in 2008 that caused over \$1 billion in damage to the state.² Motivated by the frequency of small floods, as well as the devastating impacts of major storms, Indiana officials in the 1950s adopted a Flood Control Revolving Fund to provide loans for projects that can mitigate the effects of flooding, and in 2016 state leaders made important improvements to the program. Indiana's revolving fund is unique in that it operates entirely with state resources.

History of flooding

Indiana has a long history of devastating floods. One event in particular defines the state's battles with rising waters: In 1937, flooding across many Midwestern states expanded a section of the Ohio River into a 25-mile-wide lake, leaving nearly 1 million people homeless, claiming 385 lives, and causing about \$3.3 billion in damage in 2019 dollars.³ And the state's flood problems have persisted into modern times. Torrential downpours in 2008 brought more than 20 inches of rain to parts of Indiana and caused flooding across the Midwest.⁴ The region had already experienced a particularly wet winter and spring that year, leaving the ground saturated and unprepared to handle more rainfall.⁵ In Indiana, the floods destroyed more than 25,000 homes and caused over \$1 billion in damage.⁶ Flooding caused especially severe damage to central and southwestern Indiana, damaging roads, railroads, homes, businesses, and other structures and inundating 9 percent of the farmland, the largest agricultural disaster ever to strike the state.⁷

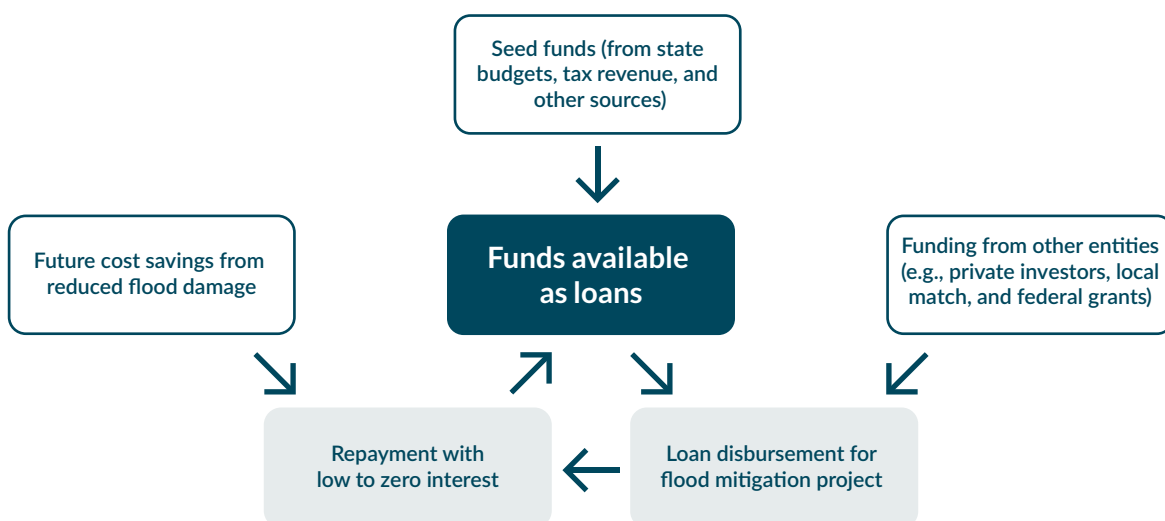
What are government revolving loan funds?

Revolving loan programs provide low- or no-interest loans to state or local entities that can be used for a range of public purposes, such as flood mitigation, land conservation, and drinking water. As the loans are repaid, the fund is replenished, and those dollars are made available for new projects. For example, the Environmental Protection Agency's Clean Water State Revolving Fund, initiated in 1987, has leveraged \$43 billion in federal dollars into \$133 billion in total funding for clean water projects across all 50 states plus Puerto Rico.⁸ In addition, recipients often use these loans in conjunction with other state or federal programs.

Figure 1

Revolving Loan Funds, Such as Indiana's, Create a Renewable Cycle of Mitigation Financing

Money flows under low- or no-interest programs



Note: This figure represents Pew's conceptual understanding of money flows based on a review of multiple state revolving loan fund programs. See, for example, Environmental Protection Agency, "How the Drinking Water State Revolving Fund Works," <https://www.epa.gov/dwsrf/how-drinking-water-state-revolving-fund-works>.

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Indiana's flood control fund

Indiana's General Assembly established the state's Flood Control Revolving Fund in the 1950s—about three decades before Congress established the federal Clean Water Revolving Loan Fund.⁹ Indiana's fund provides low-interest loans to local entities to mitigate flood risk, with the goal of reducing the frequency of flooding and the extent of damage from major events. Indiana's fund is distinct from other states' revolving funds because it is entirely state-funded, receiving no federal contribution.¹⁰ However, Indiana has used the EPA's Clean Water State Revolving Fund program to address other water management issues in the state.

To be eligible for the state's flood control fund, localities must show in their application that the project will benefit its communities and may include removing debris from waterways; clearing, straightening, creating new or enlarging streams; building or repairing flood protective projects, such as levees; and establishing floodways. Applicants can borrow up to \$250,000 and choose between a 2 percent interest rate for one to five years or a 2.5 percent rate for five to 10 years. Individual loans are often small, but they are critical for communities that lack access to other resources.¹¹

Flood projects

For nearly seven decades, the fund was managed by the Department of Natural Resources (DNR), and during that time it received 152 applications and distributed roughly \$10.9 million in flood control project loans to at least 145 of those applicants.¹² In 2016, control of the fund shifted to the Indiana Finance Authority (IFA), which was already managing the state's drinking water projects under the federal-state revolving fund program. The IFA has used the state's fund to finance \$675,000 in loans for four flood mitigation projects across the state, ranging from \$55,000 to \$250,000.

For example, the Town of Mecca, in Parke County, received a \$55,000 loan in 2017 to update a storm sewer. The community of 400 people had suffered frequent flooding because parts of the drainage system were more than 100 years old, in poor condition, and subject to clogs and backups. Severe flooding had frequently damaged homes and restricted roads, cutting residents off from critical facilities and emergency services, and caused health and safety concerns.¹³

In their loan applications, Mecca officials identified a critical flood risk on Wells Street, a primary artery for residents and first responders to access vital facilities. Roughly 300 acres of stormwater drained into a naturally occurring channel that crossed Wells Street, and during rain events, water levels would rise and swamp the roadway. Vehicles were left to drive through the flooded crossing, posing a safety concern and disrupting the natural conditions of the channel.

One component of Mecca's stormwater project was to place a new culvert over the natural drainage, allowing residents to safely pass over the channel and the water to flow undisturbed underneath. In addition, the project plan called for planting and maintaining vegetation to reduce the drainage flow and maintain the health and stability of the channel.

The town established a stormwater utility fee to repay the loan. Once the state has been repaid in full, revenue from the fee will allow the town to make future upgrades to and better maintain its drainage systems.

Conclusion

Low-interest loans, provided through Indiana’s revolving fund, support flood control projects that help protect communities across the state. Without access to this program, Mecca and other localities probably could not have afforded much-needed mitigation projects. The revolving fund is enabling communities to address flooding with solutions that are fiscally sustainable.

“Mitigation Matters: Policy Solutions to Reduce Local Flood Risk” examines policies in 13 locations: Arkansas; Brevard, North Carolina; Fort Collins, Colorado; Indiana; Iowa; Maryland; Milwaukee; Minnesota; Norfolk, Virginia; South Holland, Illinois; Vermont; Washington state; and Wisconsin.

To prepare the briefs, The Pew Charitable Trusts contracted with consulting engineering firm Dewberry, which identified a range of state and local policies across the U.S. that are helping to reduce flood risk. Local officials and disaster resilience experts provided input during the research process. Two external reviewers—Nate Woiwode, project manager of The Nature Conservancy’s North American Risk Reduction and Resilience team, and Elizabeth Albright, assistant professor of the practice of environmental science and policy methods at Duke University’s Nicholas School of the Environment—provided expert insight. Neither they nor their organizations necessarily endorse the conclusions.

Endnotes

- 1 Indiana Department of Homeland Security and The Polis Center, "2019 State of Indiana Standard Multi-Hazard Mitigation Plan" (2019), https://www.in.gov/dhs/files/IndianaStateMitigationPlan2019_v3_reduced.pdf.
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For further information, please visit:
pewtrusts.org/mitigationmatters

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