

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.



A flooded home near the Wisconsin River, north of Wisconsin Dells, in June 1993.

Wisconsin Grant Program Helps People Relocate From Flood-Prone Areas

Buyouts, other measures mitigate Wisconsin communities' risk

Overview

The Great Flood of 1993 is considered one of the worst disasters ever to occur in this country. From June to August of that year, flooding across the Midwest, including Wisconsin, caused 50 deaths and \$15 billion in damage.¹ To make communities more resilient, Wisconsin's legislature created a grant program that helps property owners leave flood-prone properties and converts their land to open space, such as wetlands or recreational areas. From 2002 to 2018, the program funded buyouts of 140 structures, reducing the risk for homeowners and helping to contain future floods.

The Great Flood pummels Wisconsin

Heavy rain in the fall of 1992 saturated soil in Wisconsin through the winter, and an unusually wet spring set the stage that summer for severe floods throughout the state.^{2,3} With farmland under water for weeks, agricultural losses in Wisconsin reached \$800 million, and damage to homes topped \$46 million.⁴ Forty-seven of the state's 72 counties were declared federal disaster areas.

Across the Midwest, the persistent, heavy rainfall stopped barge traffic on the Mississippi and Missouri rivers for almost two months, and multiple levees overflowed.⁵

Prioritizing buyouts

To reduce the impacts of future floods in Wisconsin, Governor Tommy Thompson signed a bill in 1999⁶ that created the Municipal Flood Control (MFC) program. It offers grants through the state's Department of Natural Resources to cities, villages, towns, tribes, and metropolitan sewage districts⁷ every other year for a variety of flood mitigation projects.

Nine categories of projects are eligible for the grants (see Table 1, below). The department places the highest priority on voluntary buyouts of properties at risk of flooding, particularly those in a 100-year flood plain—areas with a 1 percent chance of flooding in any given year—and with more than one flood insurance claim.⁸ The grant recipient's structure is removed to create permanent open space or floodwater storage, such as retention ponds.⁹

Unlike in some other states, where buyout programs give funds directly to property owners, local governments in Wisconsin must apply for the grants on behalf of homeowners and businesses. Officials must include appraisals for the land and the structures to be removed, as well as costs for any open-space development projects. Following acquisition, municipalities own and maintain the properties.¹⁰



Water from the Pecatonica River floods Darlington, Wisconsin, in July 1993.

Figure 1

Nine Categories of Projects Eligible for Municipal Flood Control Grants

Category 1	Acquiring property to remove structures that, due to zoning restrictions, cannot be rebuilt or repaired.
Category 2	Acquiring property to remove structures in the 100-year flood plain.
Category 3	Acquiring property to remove repetitive loss or substantially damaged structures.
Category 4	Acquiring property to remove other flood-damaged structures.
Category 5	Floodproofing vulnerable buildings through renovations, such as reinforcing walls, anchoring structures, and elevating essential utilities above anticipated flood levels.
Category 6	Restoring the natural, beneficial uses of waterbodies, such as by removing dams, restoring fish and native plant habitat, or restoring streambanks.
Category 7	Acquiring vacant land for flood storage.
Category 8	Creating flood control detention ponds.
Category 9	Developing flood maps and preparing flood insurance studies.

Sources: “Municipal Flood Control Grant: Project Selection Help,” accessed Feb. 13, 2019, <https://dnr.wi.gov/Aid/documents/flood/ProjectSelectionHelp.pdf>; Wisconsin “Municipal Flood Control Grant Program” eligibility requirements, <https://dnr.wi.gov/aid/munfloodcontrol.html>.

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Most of the grants have supported buyout projects, and the department has awarded 10 to 15 percent of the funds to floodproofing projects. Lower-priority categories receive considerably less; Category 9—flood mapping projects—has yet to be funded.

The grant funds come from Wisconsin’s general obligation bond revenue. The Department of Natural Resources submits funding requests on a biennial basis to the legislature. The amounts awarded have fluctuated in recent years (see Figure 2), but no single project can receive a grant that equals more than 20 percent of available funds. Grants generally cover half of eligible project costs; applicants must pay the remainder.

Point of Comparison on Buyouts: New Castle County, Delaware

Many other states and local governments have created their own buyout programs. In September 2003, just 15 minutes of heavy rainfall flooded the entire Glenville community in New Castle County, Delaware, causing widespread damage to homes, roads, and buildings. The area had a lengthy flooding history, but Bill Marino, president of the Glenville/Stanton Crest Civic Association, told the Federal Emergency Management Agency (FEMA) that the 2003 flood “brought to light a major public health and safety issue for the entire neighborhood, because there was no time to escape.”

Of the 194 homes in the community, 145 were ruled unsafe. Neighborhood leaders worked with local officials and Delaware’s Department of Transportation to relocate affected residents. The governor at the time, Ruth Ann Minner, combined funds from the federal government and county and state agencies to purchase and demolish 158 homes for \$36 million. State officials left some of the land vacant for recreational use and helped build and restore wetland on 48 acres to absorb water from future storms.

Sources: FEMA, “Glenville Buy-Outs: Back to Nature, Full Mitigation Best Practice Story, New Castle County, Delaware,” <https://www.hsd.org/?view&did=10899>. Federal Highway Administration, “Glenville Wetlands Mitigation Bank Project and Fox Point State Park Expansion,” <https://www.fhwa.dot.gov/ENVIRONMENT/ehei/awards/2009/delaware.cfm>.

Supply and demand

Wisconsin’s Department of Natural Resources funded 103 buyout projects between 2002 and 2018.¹¹ Because some projects included multiple properties, the MFC program led to municipalities purchasing and removing 140 structures during this period.¹² At least eight vacant parcels became floodwater detention ponds.

Despite combining federal money with state support, the program hasn’t met demand: Only about half of local governments’ applications have been funded.¹³ Funding for the grant program was reduced in the 2016 budget, and the Wisconsin legislature has increased the grantee’s share of the project from 30 to 50 percent. Despite this increase, an additional four municipalities applied for grants in 2018, and total funds requested rose by about \$500,000, exceeding the available funding.

Figure 2

Requested and Funded Flood Control Grants, 2002-18

Demand by municipalities has exceeded available funding

Calendar year	Number of applications	Total requested funds	Total available funds	Percentage of demand met
2002	73	\$22,433,882	\$3,000,000	13.4%
2004	15	\$4,265,153	\$1,965,222	46.1%
2006	18	\$6,241,376	\$1,703,000	27.3%
2008	22	\$3,912,337	\$2,900,000	74.1%
2010	16	\$5,586,318	\$3,000,000	53.7%
2012	19	\$4,460,405	\$3,000,000	67.3%
2014	13	\$3,099,350	\$2,500,000	81.6%
2016	13	\$2,061,439	\$1,500,000	72.8%
2018	17	\$2,587,038	\$2,421,408	93.6%
Total	206	\$54,647,298	\$21,989,630	40.2%

Source: Mary Rose Teves, Wisconsin Department of Natural Resources, email to The Pew Charitable Trusts, Feb. 22, 2019.

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Point of Comparison on Buyouts: New Jersey Blue Acres

New Jersey's buyout program has also been successful. The state Department of Environmental Protection runs the Blue Acres program, which acquires eligible properties that were damaged by flooding, properties at risk of flooding, or those that would protect other land from such damage. Blue Acres is a component of New Jersey's Green Acres Program, launched in 1961.

The first funds for the Blue Acres program were authorized and spent in 1995. The program continues to be supported through a combination of federal and state funds. After Superstorm Sandy in 2012, program managers obtained \$375 million for Blue Acres through a grant from the Department of Housing and Urban Development and other sources. Blue Acres gives homeowners the opportunity to sell homes damaged by the hurricane for the value of their homes before the storm. The property is razed, and the land is converted to open space for recreation and conservation.

Although Blue Acres is available to any community, the communities must have willing sellers, local government buy-in, and clustered properties for group buyouts. As of September 2019, the program had offered 967 property acquisitions, closed on 700 acquisitions, and demolished 640 homes.

Sources: New Jersey Department of Environmental Protection, "Green Acres Program," https://www.nj.gov/dep/greenacres/blue_flood_ac.html. Habitat Hotline Atlantic, 2014 Annual Issue, "Updates From Around the Coast," http://www.asmf.org/files/Habitat/HabitatHotlineAtlantic_2014.pdf. New Jersey Department of Environmental Protection, "Department of Environmental Protection's Blue Acres Program Marks Milestone With 700th Purchase" (Sept. 24, 2019) https://www.state.nj.us/dep/newsrel/2019/19_0077.htm.

Conclusion

It will be several years before the Department of Natural Resources knows if the higher percentage of funding required of municipalities places too much of a burden on smaller communities, but the buyouts of properties on flood-prone land through Wisconsin's MFC program should help the state reduce losses from future floods. Based on the number of successful projects to date, the MFC is an example of an effective state-run land acquisition program.

"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 the 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 Brian Lada, “25 Years Later: The Great Flood of 1993 Remains Worst River Flooding U.S. Has Ever Seen,” *AccuWeather* (2018), <https://www.accuweather.com/en/weather-news/25-years-later-the-great-flood-of-1993-remains-worst-river-flooding-us-has-ever-seen/70005654>; National Weather Service, “The Great Flood of 1993,” https://www.weather.gov/dvn/071993_greatflood.
- 2 Wisconsin Department of Natural Resources, “The Floods of 1993: The Wisconsin Experience” (1993), <https://dnr.wi.gov/topic/Floodplains/documents/THEFLOODSOF1993.pdf>.
- 3 Ibid.
- 4 Ibid.
- 5 State of Wisconsin Hazard Mitigation Plan, Appendix B: History of the State’s Federal Disaster Declarations (2016), <https://dma.wi.gov/DMA/wem/mitigation/2016-hazard-mitigation-plan>.
- 6 Lada, “25 Years Later.”
- 7 1999 Wisconsin Act 9 (1999), <https://docs.legis.wisconsin.gov/1999/related/acts/9.pdf>.
- 8 “Municipal Flood Control Grant: Project Selection Help,” accessed Feb. 13, 2019, <https://dnr.wi.gov/Aid/documents/flood/ProjectSelectionHelp.pdf>.
- 9 Ibid.
- 10 Ibid.
- 11 Ibid.
- 12 Mary Rose Teves, director, Bureau of Community Financial Assistance, email to The Pew Charitable Trusts, Oct. 15, 2019.
- 13 Ibid.
- 14 Ibid.

For further information, please visit:
pewtrusts.org/mitigationmatters

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