

National Flood Insurance Program



The future holds great challenges for the nation's water resources. Shifting weather patterns, more damaging floods, and rising water shortages will threaten communities, the economy, and the environment. This chapter is part of a larger report, ***Weathering Change: Policy Reforms That Save Money and Make Communities Safer***, which shows what the federal government must do to help the nation confront these looming challenges.

To see the entire report, visit www.americanrivers.org

Introduction:

The National Flood Insurance Program (NFIP), created by Congress in 1968 and managed by the Federal Emergency Management Administration (FEMA), allows property owners in participating communities to purchase flood insurance from the federal government. It currently covers about 5.5 million properties nationwide with a value of \$1.25 trillion. While the program has helped Americans recover from devastating floods for over four decades, it also has a number of shortcomings that encourage risky behavior, waste taxpayer money, and make communities more vulnerable to floods. By ensuring that flood maps and insurance rates reflect flood risk, we can save lives and money. These reforms make sense today, and they are especially important as climate change brings more severe storms and floods.



I. Today's Policy

The National Flood Insurance Program encourages people to live in flood-prone areas and creates a costly burden on taxpayers.

Artificially low insurance rates: Many properties covered under the National Flood Insurance Program pay below-market rates that hide the true risk of living in vulnerable areas and encourage homeowners to reside in places that will become more prone to flooding in a changing climate. The NFIP was designed to provide flood insurance to people and properties that private insurance was unwilling to cover. It was believed that the number of eligible structures would gradually be reduced as they reached the end of their life. However, this has taken longer than anticipated, and nearly a quarter of property owners currently receive subsidized insurance, primarily covering older structures that were built prior to the creation of NFIP and Flood Insurance Rate Maps (pre-FIRM). These subsidies encourage homeowners to continuously rebuild in hazardous areas, placing a drain on the program's finances and perpetuating a cycle of risk.

Even rates that aren't subsidized understate the risk of flooding in many places.¹ FEMA uses average historical flood data to set rates, but the agency does not factor in damages from catastrophic loss years and ignores potential changes in flood risk due to land use changes or climate change.^{2,3} As a result, even these supposed "full risk" rates encourage development in vulnerable areas. The rates constitute a significant subsidy from taxpayers to those that live in harm's way. NFIP has about \$19 billion of debt, largely due to damages from the 2005 hurricane season, and is unlikely to ever repay the federal government.⁴

Outdated floodplain maps: The Flood Insurance Rate Maps that are used to identify flood risk and establish insurance rate zones are based on the historical 100-year flood. Using this measure, the flood zone is the area where there is greater than a 1 percent chance of flooding in a given year. There are several problems with this measure of risk. First, considerable flood risk exists beyond the line of the 100-year flood. Parts of the Midwest have received

two 500-year floods in less than 15 years.⁵ In reality, floods do not stop at this line, and basing flood maps on this standard can give people a false sense of security that they are safe as long as they are not located in the 100-year floodplain. Second, many maps are outdated and do not incorporate significant changes in flood risk since they were drawn. FEMA is undertaking efforts to digitize these maps and improve their quality, but the updated maps frequently fail to incorporate future development, coastal erosion, or changes to the climate, leaving them outdated shortly after they are revised.⁶

Finally, flood maps do not identify potential inundation zones behind flood control structures and below dams. These structures can and do fail, often to catastrophic effect. The American Society of Civil Engineers gives the nation's dams a grade of 'D' and levees a 'D-'.⁷ There are thousands of miles of aging levees throughout the country, and many states know little to nothing about their condition or even where they are located. Dam safety programs are almost universally underfunded, and the number of high hazard and structurally deficient dams has increased steadily in recent years.⁸

Inadequate risk reduction requirements: One of the primary goals of NFIP is to reduce the long-term vulnerability to floods. To that end, communities are required to implement and enforce floodplain ordinances to restrict development in vulnerable areas as a condition of participating in NFIP. There are also a number of programs such as the Community Rating System and the Flood Mitigation Assistance Program that encourage communities to take proactive steps to reduce their vulnerability. However, throughout the program's history, development of hazardous and environmentally-sensitive areas has continued. In many places floodplain ordinances are inadequate or poorly enforced. Structures that have been repeatedly damaged by floods have been continually rebuilt, contrary to the stated goals of the program. These "repetitive loss properties" (RLP) make up one percent of NFIP policies but are responsible for 25-30 percent of losses.⁹ The number of RLPs increased more than 50 percent between 2000 and 2009.¹⁰ As a result of these multiple failures, vulnerability in many places has continued to grow and will only become worse in a changing climate.

II. Risks and Consequences

As temperatures rise, the atmosphere can hold more moisture. This causes precipitation to fall in more concentrated bursts.¹¹ There has already been a noticeable increase in severe storms in recent years. The amount of rain falling in the heaviest downpours increased 20 percent over the course of the 20th century.¹² This trend is expected to continue in the future. By the end of the century, extreme precipitation events that occur once every 20 years on average at present could occur every six to eight years.¹³

This increase in severe storms is especially troubling in light of the shortcomings of the nation's flood insurance system. By reducing the cost and financial risk of living in flood prone areas, artificially low rates encourage homeowners to move into or continue living in hazardous areas along rivers and coastlines that will only become more vulnerable to floods in an increasingly volatile climate. Masking flood risk also discourages homeowners from taking steps to reduce their vulnerability by elevating struc-

tures or undertaking other mitigation measures. Meanwhile, the flood maps we use to assess and communicate flood risk are becoming increasingly obsolete. Although FEMA is updating maps, they continue to rely on historical precipitation patterns. The historical 100-year floodplain will be an even less accurate measure of vulnerability as precipitation patterns shift, and there will be greater risk of inundation for those behind dams and levees.

Living in flood-prone areas will lead to greater loss of life and property and lock tax-payers into an expensive cycle of subsidizing insurance and rebuilding dams and levees. Continued development of floodplains, wetlands, and coastal areas also degrades the landscape's natural ability to reduce floods. One FEMA study, for example, found that planned development in Harris County, Texas would increase flood risk for existing buildings by more than 1,200 percent.¹⁴ This approach makes little sense today, but it is even more irresponsible in a changing climate.

III. Preparing for the Future

By improving flood insurance rates and maps and moving people out of harm's way, we can trim wasteful spending and better prepare communities for a more volatile climate.

Establish risk-based rates: FEMA must begin moving all NFIP policies toward actuarial or risk-based rates. This will better communicate the true risk of locating structures in vulnerable areas and discourage risky behavior. Implementing risk-based rates will also put NFIP on a sound financial footing and allow it to continue to help Americans recover from floods in the future.

Some methods for achieving risk-based rates include eliminating or phasing out the subsidies for pre-FIRM buildings, especially non-primary residences, non-residential buildings, and repetitive loss structures. FEMA should also stop the practice of grandfathering existing rates when maps are updated. In order to allow FEMA to raise rates in a timely fashion, Congress should lift the 10 percent cap on annual rate increases. Flood insurance should also be encouraged for properties located behind flood control structures and below dams. Finally, creating flood insurance rate maps with more gradation and detail will allow FEMA to create a rate structure that more accurately communicates risk, reflects current and future conditions, and addresses environmentally sensitive areas.

Implementing risk-based rates will require sensitivity to the financial impacts on policy holders, especially low-income communities. FEMA should evaluate options such as a community-based group



Extreme storms and risky development have caused rising flood damages.

insurance rate on a watershed basis and direct grant assistance to qualifying communities and residences to address the affordability issue while also assisting these communities with reducing flood risk.

Improve Flood Insurance Rate Maps: FEMA must move beyond flood maps that rely on the 100-year flood and instead ensure that flood maps communicate actual risk. Maps should not only identify a broader area of risk such as the 500-year floodplain and high hazard areas but should also include more gradation to reflect variations of risk within individual zones. Floods do not obey the lines drawn on flood insurance rate maps, and maps should incorporate as much detail on local conditions as possible to reflect that. In addition, residual risk areas behind levees and dams should be identified on maps.

FEMA should use the best available science including identification of reasonably foreseeable future conditions to guide assessments of flood risk. FEMA should work with communities, states, and the private sector to improve the quality of maps through advanced mapping technologies. Congress should provide FEMA with additional funding to speed the map revision process, as a lack of resources has been one of the major obstacles to updating obsolete maps.¹⁵ This mapping also needs to be shielded from political pressures. There have been frequent objections to flood maps when they expand insurance requirements to new structures located in flood-prone areas. Science, not the political process, should guide flood risk assessments.



When levees fail, they can take people and homes with them.



Risk-based insurance rates encourage people to reduce their vulnerability to floods.

PREPARING FOR THE FUTURE CONTINUED

Strengthen flood mitigation programs: Congress must significantly strengthen flood mitigation measures under NFIP and the Robert T. Stafford Disaster Relief and Emergency Act to ensure that federal grant programs reduce long-term flood vulnerability and restore the environment. Stronger land use regulations, building codes, and building elevation requirements should be included as a condition for participation in NFIP. Flood insurance subsidies should be phased out for all repetitive loss structures to discourage continued rebuilding of at-risk structures. Funding for programs that reduce flood risk such as the Flood Mitigation Assistance Program should be increased to reduce long-term vulnerability to floods. However, these programs need to place a stronger emphasis on reducing flood risk through non-structural approaches such as floodplain and wetland restoration and removal of the most vulnerable structures. The Community Rating System (CRS), which offers discounted insurance rates to communities that voluntarily adopt and implement policies that exceed

FEMA requirements, should similarly be revised to include greater incentives for the implementation of projects that protect or restore natural flood control functions. FEMA should consider providing incentives to municipalities, in addition to individuals, by offering better cost-share ratios for federal infrastructure grants to those communities that implement these policies, particularly the protection and restoration of natural floodplain functions.

IV. Benefits of Being Prepared

For decades, we have subsidized and encouraged development in flood-prone areas. It is time to embrace common sense reforms that make those that live in risky areas take responsibility for their decisions. Especially in a changing climate, the federal government cannot afford to foot the bill for this unsafe behavior. More accurately assessing and communicating risk will save taxpayers money and encourage people to decrease their vulnerability to floods, both now and in an uncertain future. ■



Soldiers Grove, WI was destroyed several times by floods but has avoided major damages since it relocated the downtown to higher ground.

FOOTNOTES

- 1 Brown, O. *National Flood Insurance Program: Continued Actions Needed to Address Financial and Operational Issues*. Testimony before the Committee on Bank, Housing, and Urban Affairs, U.S. Senate (September 22, 2010).
- 2 King, R. *National Flood Insurance Program: Background, Challenges, and Financial Status* (Congressional Research Service, 2010).
- 3 Government Accountability Office. *Climate Change: Financial Risks to Federal and Private Insurers in Coming Decades are Potentially Significant* (GAO, 2007).
- 4 Brown, 2010, *op cit*.
- 5 United States Geological Survey. *Two 500-Year Floods within 15 Years: What are the Odds?* (USGS, June 20, 2008).
- 6 Brown, 2010. *op cit*.
- 7 American Society of Civil Engineers. *Report Card for America's Infrastructure* (ASCE, 2009).
- 8 *Ibid*.
- 9 Brown, 2010. *op cit*.
- 10 Congressional Budget Office. *The National Flood Insurance Program: Factors Affecting Actuarial Soundness* (CBO, 2009).
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- 12 Groisman, P.Y. et al. Contemporary changes of the hydrological cycle over the contiguous United States: trends derived from in situ observations. *Journal of Hydrometeorology* 5, 64-85 (2004).
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