

CRS Report for Congress

Midwest Flooding Disaster: Rethinking Federal Flood Insurance?

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Summary

Historically, floods have caused more economic loss to the nation than any other form of natural disaster. In 1968, Congress created the National Flood Insurance Program (NFIP) in response to rising flood losses and escalating costs resulting from ad-hoc appropriations for disaster relief. Federal flood insurance was designed to provide an alternative to federal disaster relief outlays by reducing the rising federal costs through premium collection and mitigation activities. The purchase of flood insurance was considered to be an economically efficient way to indemnify property owners for flood losses and internalize the risk of locating investments in the floodplains.

Despite massive rainfall-river flooding in several Midwestern states along the upper Mississippi River and its tributaries in June 2008, damages for the most part are not expected to produce significant insured flood losses under the NFIP. This significant but not unprecedented flood event instead will likely cost several billions in uninsured damages that will probably remain uncompensated or be paid through federal emergency supplemental appropriations for disaster relief.

A key lesson learned from the 1993 and 2008 Midwest floods is that many people believe that the government will provide them with economic assistance despite their lack of insurance. What then is the appropriate role of the federal government in dealing with ambiguous risks, where the insurance industry is reluctant to offer coverage and homeowners and businesses demonstrated a reluctance to purchase coverage, even when it is mandatory? This question is important for the long-term solvency of the NFIP and overall future costs to federal taxpayers.

This report examines the impact of the 2008 Midwest floods on the National Flood Insurance Program (NFIP) in the context of congressional efforts to reauthorize and modify the program before its authorization expires on September 30, 2008. The report begins with an assessment of the risk of flooding in the United States and why Congress might move to rethink the current multifaceted approach to federal flood insurance. Members might, for example, opt to assess possible insurance requirements for individuals living behind levees, eliminate premium subsidization of certain “grandfathered” properties, expand the NFIP to offer coverage against both flood and wind damages, and consider undertaking a nationwide flood insurance study (FIS) and remapping of the nation’s floodplains, including areas behind levees and other flood control structures. The report concludes with lessons learned from the 1993 and 2008 Midwest floods, and an analysis of the NFIP’s current financial conditions and major policy issues, as well as a summary of legislative proposals — H.R. 3121 and S. 2284 — pending before the 110th Congress.

The report will be updated as events warrant.

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Introduction

This report examines the impact of the 2008 Midwest floods on the National Flood Insurance Program (NFIP) in the context of congressional efforts to reauthorize and modify the program before its authorization expires on September 30, 2008. The report begins with an assessment of the risk of flooding in the United States and why Congress might move to rethink the current approach to federal flood insurance. Members might, for example, opt to assess possible insurance requirements for individuals living behind levees, eliminate premium subsidization of certain “grandfathered” properties, expand the NFIP to offer coverage against both flood and wind damages, and consider undertaking a nationwide flood insurance study (FIS) and remapping the nation’s floodplains, including areas behind levees and other flood control structures. The report concludes with lessons learned from the 1993 and 2008 Midwest floods and 2005 hurricanes, and an analysis of the NFIP’s current financial conditions and major policy issues, as well as a summary of legislative proposals — H.R. 3121 and S. 2284 — pending before the 110th Congress.

Despite massive rainfall-river flooding in several Midwestern states along the upper Mississippi River and its tributaries in June 2008, damages for the most part are not expected to produce significant insured flood losses under the National Flood Insurance Program (NFIP). This extensive but not unprecedented flood event instead will likely cost several billions in uninsured damages that will probably remain uncompensated or be paid through federal emergency supplemental appropriations for disaster relief.

Relatively few NFIP claims (6,338) had been filed as of June 30, 2008. Insurance policies sold by private insurers generally do not insure for the flood peril. Without federal flood insurance or private insurance, flood victims typically finance flood damage repair costs on their own (self-insure), claim a tax credit for property loss on their individual returns and, in the event of a presidentially declared major disaster, pay a portion of the uninsured losses with federal disaster relief assistance.

Federal assistance is usually provided to eligible individuals and businesses under section 408 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended by the Disaster Mitigation Act of 2000.¹ Flood-prone

¹ Following a presidentially declared disaster, individuals and households who have no insurance or are under-insured have recently been provided a variety of federal assistance, including grants for temporary housing and home repairs, low-cost loans to cover uninsured (continued...)

residents might also be eligible for voluntary buyouts under the Hazard Mitigation Grant Program (HMGP) that funds property acquisitions to mitigate future flood disaster losses.² After the 1993 Midwest floods, approximately 12,000 properties in nine Midwestern states were bought out by the government and about 500 other structures were relocated or elevated. Buyouts are again being considered in five state affected by the 2008 floods: Missouri, Iowa, Wisconsin, Indiana and Illinois.³

Occurring less than three years after the widespread devastation — floods, storm surge and breached levees — caused by Hurricanes Katrina and Rita, the 2008 Midwest flood has once again brought to the forefront of public awareness weaknesses in the nation's flood management system. The 2008 floods have also focused public attention on the lack of understanding of the national flood risk, uncoordinated federal flood risk programs, diminished capabilities in flood risk management, outdated floodplain information (flood hazard maps), and the flood damage destruction that can occur when levees are breached or overtopped.⁴

The next two sections of the report provide an assessment of the U.S. risk of flooding and why Congress might decide to evaluate the current approach to federal flood insurance. This is followed by an analysis of lessons learned from the 1993 Midwest floods, the financial status of the program after the first catastrophic floods in the program's history, and the policy issues that emerged from apparent weaknesses highlighted by the 2005 hurricanes.

¹ (...continued)

property losses, and other programs to help recover from the effects of the disaster. With respect to assistance to communities, the federal government usually provides 75% reimbursement for disaster-related costs incurred by local and state governments. The remaining 25% in expenses is covered by state and local entities. The intent of federal disaster assistance is to return a damaged region to a functional state, not to pre-disaster conditions. The disaster relief funds distributed by FEMA are from general revenue of the U.S. government. Emergency benefits funded by the federal government are designed to supplement, not to replace, private insurance. Thus, FEMA benefits are intended to be coordinated with insurance coverage.

² U.S. Department of Homeland Security, Federal Emergency Management Agency, *Fact Sheet: Hazard Mitigation Grant Program* (Washington: June 2007), p. 1, available online at [<http://www.fema.gov/government/grant/hmgrp/index>].

³ The acquisition of property after a flood is coordinated at the state and local levels of government. The local community usually identifies potential homes that could be acquired. Federal Emergency Management Agency (FEMA) then provides HMGP monies to the state and local governments to buy the property. Once the property is purchased by the city or jurisdiction, the building is demolished and the land turned into open space in perpetuity. The federal government pays 75% of the acquisition cost, the state 10% and the local community 15%. States receive either 15% or 20% of the total federal disaster assistance given to the state in HMGP funds, depending on whether the state has published an Enhancement Mitigation Plan.

⁴ The centerpiece of the nation's floodplain management system has been the National Flood Insurance Program's flood hazard identification and risk mapping, federally based flood insurance, and floodplain management strategies designed to minimize future flood loss and guide development away from flood-prone areas.

The U.S. Risk of Flooding

Historically, flooding has caused more economic loss to the nation than any other natural hazard. Flooding in the United States has been a recurring event, and the severity of flooding varies from year to year and from location to location. Almost 90% of all declared disasters include a flooding component. Flooding is not confined to just a few geographic areas.⁵ The Midwestern floods in June 2008 that occurred along the upper Mississippi River and its tributaries demonstrate that flood affects can be local, impairing a neighborhood or community, or very large, affecting entire river basins or multiple states. Despite the billions of dollars that have been spent for structural flood control and FEMA's multifaceted approach to mitigating property losses, flood-related damages continue to rise.⁶

The magnitude of flood events has traditionally been measured by recurrence intervals, or the likelihood that a flood of a particular size will recur during any 10-, 50-, 100-, or 500-year period. These events have a 10-, 2-, 1-, and 0.2-percent chance, respectively, of being equaled or exceeded during any year. (Rare floods sometimes occur at short intervals or even within the same year.)

The sources of the nation's rising flood risks are many. Increased urbanization and coastal development have reportedly led to both heightened exposure of people and property along rivers and greater chances of flood losses. The Government Accountability Office has recently reported that weather-related events have cost the NFIP billions in damages, and suggested that climate change may increase losses due to increased frequency or severity of weather-related events.⁷ Climate scientists with the U.S. Climate Change Science Program of the National Oceanic and Atmospheric Administration (NOAA) predict that, due to global warming, severe precipitation events that once occurred every 20 years in many parts of the country could happen once every 4 to 6 years by the end of the 21st century.⁸

⁵ Roger A. Pielke, Jr., "Flood Impacts on Society," *Floods*, 2000, vol. 1, p. 133-155.

⁶ Roger A. Pielke, Jr. and Mary W. Downton, "Precipitation and Damaging Floods: Trends in the United States, 1932-1997," *2000 American Meteorological Society*, v. 13, p. 3625-3637; located at: http://sciencepolicy.colorado.edu/admin/publication_files/resource-60-2000.11.pdf; and, Charles A. Perry, "Significant Floods in the United States During the 20th Century," 2000, *U.S. Geological Survey Fact Sheet 024-00*, p. 4, located at <http://ks.water.usgs.gov/Kansas/pubs/fact-sheets/fs.024-00.html>].

⁷ U.S. Government Accountability Office, *Climate Change: Financial Risks to Federal and Private Insurers in Coming Decades are Potentially Significant*, GAO Report GAO-07-285 (Washington: March 16, 2007), p 5.

⁸ See *Scientific Assessment Captures Effects of a Changing Climate on Extreme Weather Events in North America*, Department of Commerce, National Oceanic and Atmospheric Administration, June 19, 2008, located at http://www.noaa.gov/stories2008/20080619_climatereport.html]. Also, see National Wildlife Federation, *Heavy Rainfall and Increased Flooding Risk: Global Warming's Wake-Up Call for the Central United States*, located at http://www.nwf.org/nwfwebadmin/binaryVault/Heavy_Rainfall_and_Increased_Flooding-Wake-Up_Call_for_Central_US2.pdf].

Congressional interest in flooding and flood control policy originated in the late 19th century, following massive flooding along the Mississippi River basin during the 1850s through 1870s when policymakers began to consider strategies to mitigate the escalating costs of repairing damage to buildings and their contents caused by floods. The federal policy response to widespread flood damages in communities and rising taxpayer-funded disaster relief cost was initially a so-called “levee-only” policy approach — i.e., relying on levees to protect population and property in flood-prone areas. In 1879, Congress created the Mississippi River Commission (1879-1928) to oversee the development of a levee system that would confine the river’s natural flow.⁹ Since the enactment of the Flood Control Act of 1917, the U.S. Army Corps of Engineers (USACE) has played a significant role in flood damage reduction.¹⁰

Over the 40-year period between the historic Mississippi Floods of 1927 and the early 1960s, it became generally apparent that the “levee-only” flood control policy approach was not achieving the intended objectives.¹¹ This strategy of modifying nature’s flood hazard areas would prove costly. Largely because of Hurricane Betsy (1965) and other hurricanes in 1963 and 1964, as well as heavy flooding on the upper Mississippi River basin in 1965, Congress undertook a study of the feasibility of alternative methods of providing assistance to those suffering property losses in floods and other natural disasters.¹² The recommendations of this study and private insurers’ unwillingness or inability to underwrite flood insurance led to the enactment of the National Flood Insurance Act of 1968¹³ and creation of the NFIP.

Flood damage is excluded under homeowner’s policies because insurers consider flood risk to be an uninsurable peril. Insurers reportedly cannot accurately estimate losses and most lack the ability to pool and spread flood risks over a large and diverse group of (uncorrelated) insureds in order to minimize the possibility of multiple claims for the same event. Federally backed flood insurance fills this void and is available for residential and commercial properties in participating NFIP communities.

⁹ Mississippi River Commission Act of 1879, 46th Cong., 1st sess., June 28, 1879, ch. 43, 21 Stat. 37 (codified as amended at 33 U.S.C §§ 641-653a (2000)).

¹⁰ P.L. 64-367, 39 Stat. 948.

¹¹ John M. Barry, *Rising Tide: The Great Mississippi Flood of 1927 and How it Changed America*, (New York: Simon and Schuster, 1997).

¹² U.S. Senate, Committee on Banking and Currency, *Insurance and Other Programs for Financial Assistance to Flood Victims: A Report from the Secretary of the Department of Housing and Urban Development to the President, as Required by the Southeast Hurricane Disaster Relief Act of 1965 (Public Law 89-339, 89th Congress, H.R. 11539, November 8, 1965)*, 89th Congress, 2nd sess., September 1966 (Washington: GPO, 1966).

¹³ P.L. 90-448, 82 Stat. 573.

Is It Appropriate to Rethink Federal Flood Insurance?

Midwestern flooding in 2008 caused dozens of levees to be breached, destroying thousands of homes and businesses, and inundated many thousands of acres of cropland. The flooding has once again focused public attention on the economics of government risk-bearing (federal flood insurance) when private insurers do not offer affordable coverage, on the exposure of federal taxpayer to losses when program revenues do not cover costs, and on the efficacy of the nation's floodplain management strategy in reducing federal disaster relief expenditures.

The Midwest floods also raised several broad issues and concerns that could lead policymakers to rethink federal flood insurance in the context of reauthorizing the NFIP. Broadly speaking, these issues and concerns include:

- What responsibilities should property owners bear to understand and prepare for flood hazards, especially given the confluence of greater property exposure and a projected likelihood of more frequent severe storms? How do we provide assistance to victims of floods? Is the NFIP the appropriate structure for insuring flood losses? Should Congress consider a comprehensive natural disaster program?
- Effectiveness of structural (levees and dams) and non-structural (land-use ordinances and building codes) floodplain management systems that annually prevent billions of dollars in flood-related property damages, but also arguably can encourage individuals and businesses to build in flood prone areas.
- The persistently low take-up rate of flood insurance in high-risk areas despite federal mandatory purchase requirements (lender compliance) for properties in a federally mapped flood zone.
- Whether households are relying on federal disaster relief for compensation, rather than federal flood insurance that Congress established 40 years ago to reduce such relief?

Background on the NFIP

In 1968, Congress created the NFIP in response to rising flood losses and escalating costs to the general taxpayers for disaster relief. Federal flood insurance was designed to provide an alternative to federal disaster relief outlays.¹⁴ The purchase of flood insurance was considered to be an economically efficient way to indemnify property owners for flood losses and have them internalize some of the risk of locating investments in the floodplains.¹⁵

¹⁴ Norbert Schwartz, "FEMA and Mitigation: Ten Years After the 1993 Midwest Flood," *Journal of Contemporary Water Resource & Education*, Issue 130, March 2005, p. 36.

¹⁵ *White House Floodplain Management Task Force*, "Sharing the Challenge: Floodplain (continued...)"

The NFIP is administered by the Federal Emergency Management Agency (FEMA) and provides subsidized and actuarially priced flood insurance policies for individuals, businesses, and renters located within and outside designated floodplains. The NFIP is a quid pro quo program in that FEMA agrees to make federally backed flood insurance available only in communities that agree to adopt and enforce floodplain management ordinances designed to reduce the future vulnerability of the built environment. The federal government retains responsibility for all underwriting losses, but it also has advantages over private insurers — namely, its greater ability to avoid adverse selection and moral hazard through mandatory purchase requirements (compulsory membership) and its access to greater information (risk assessment and flood hazard mapping).

Recognizing the low market penetration of flood insurance in the early 1970s, Congress enacted the Flood Disaster Protection Act of 1973¹⁶ to establish a mandatory flood insurance purchase requirement for structures located in identified special flood hazard areas (SFHA).¹⁷ The idea was to shift more of the cost of floods to those who build in flood-prone areas. After the 1993 Midwest floods, it became apparent that homeowners were still not adequately complying with the mandatory purchase requirement. The National Flood Insurance Reform Act of 1994 was enacted to strengthen the purchase requirement.¹⁸ In 2004, Congress enacted the Flood Insurance Reform Act of 2004 to address, among other things, the repetitive loss property (RLP) problem.¹⁹

Challenges Facing the NFIP

In the wake of the 2005 hurricanes and the 2008 Midwest floods, critics of the status quo have pointed to several recurring problems that they believe affect the NFIP. They include:²⁰

- The lack of accounting by the NFIP for residual risk behind levees has contributed property owners dismissing their exposure to risk of levee failure and overtopping. The 1993, 2005, and 2008 events illustrate how ignoring residual risk could contribute to greater demand for disaster relief.

¹⁵ (...continued)

Management Into the 21st Century: Report of the Interagency Floodplain Management Review Committee to the Administration Floodplain Management Task Force,” June 1994, located at [http://www.floods.org/PDF/Sharing_the_Challenge.pdf], p. 131.

¹⁶ P.L. 93-234; 87 Stat. 975.

¹⁷ P.L. 93-234; 87 Stat. 975.

¹⁸ P.L. 103-325; 108 Stat. 2255.

¹⁹ P.L. 108-264; 118 Stat. 712.

²⁰ For a more detailed list of challenges facing the NFIP, see, U.S. General Accounting Office, *Challenges Facing the National Flood Insurance Program*, GAO Report GAO-03-606T (Washington: April 1, 2003).

- Inaccurate flood maps that need updating to reflect not only recent development in flood-prone areas but residual flood risk behind levees, dams and other structural flood control systems.
- Providing disaster relief to uninsured individuals tends to discourage steps to reduce loss exposure and results in higher societal and federal costs.
- The low flood insurance market penetration in river flood-prone areas that results in billions of dollars in uninsured losses.
- Substantial cross-subsidies among classes of policyholders with the use of “historical average loss year” premium setting approach.
- The performance of FEMA floodplain management standards in achieving flood damage reduction.
- The desirability of establishing a catastrophe reserve fund to pay claims during the rare catastrophic loss year. A reserve fund would mean higher premium rates.

Midwest Floods of 2008

Early rough estimates of flood damages from the 2008 Midwest floods indicated that the cost to the NFIP would likely be small because of the relatively low number of policies and claims filed in Midwestern states. Most experts appear to agree the program will be able to cover 2008 flood claims without having to borrow from the Department of the Treasury. The NFIP might still have to borrow to pay scheduled interest payments on the debt, however.

Table 1 shows the number of federal flood insurance policies and the number of total claims submitted in 12 Midwestern states, as a result of the March and June 2008 floods. The table also shows total claims filed and total payments over the 20 year period from 1988 to 2007. NFIP had reportedly received only about 6,338 insurance claims, as of June 30, 2008. Iowa has experienced the majority of damages based on the number of counties affected (83 of 99 counties), policies in force, coverage in force, severity of damage to residential and commercial structures, characteristics of the flooding, and the *estimated* or average amount of the claim payment.

Table 2 provides a list of the top fifteen significant flood events in the United States in terms of NFIP payouts. The 2008 Midwest flood does not rank among these. Although the 1993 Midwest flood was the most devastating in the region, with total economic damages approximately \$20 billion, it ranks only 12th in terms of the NFIP, with only \$273 million in NFIP claims. In contrast, the devastating flooding caused by Hurricanes Katrina, Rita and Wilma resulted in more than \$200 billion in economic losses of which \$21.9 billion were covered under the NFIP.

The key lesson from the 2008 Midwest floods is not the magnitude of payouts under the NFIP but, rather, the eventual cost of federal disaster relief for individual, business and communities. Congress might therefore opt to reassess federal flood insurance that was intended to work in tandem with risk identification /mapping and floodplain management regulation to reduce flood losses.

Table 1. Federal Flood Insurance Policies Issued and Claims Paid to Midwestern States: 1988-2007 and June 2008

State	NFIP Policies Issued and Claims Reported		Total Claims Payments: 1988-2007 (Constant Dollars, As of 1/31/08)		
	# of Policies (As of 4/30/08)	Claims Reported ^a (As of 6/30/08)	Total Claims	Total Payments	Rank
Illinois	48,404	691	11,422	\$151,794,472	3
Indiana	29,091	1,418	5,577	72,696,096	6
Iowa	10,930	2,584	4,382	62,762,314	7
Kansas	11,995	0	2,916	60,050,079	8
Michigan	25,838	23	1,496	17,636,680	10
Minnesota	8,624	0	5,378	94,988,744	5
Missouri	24,223	364	15,560	327,648,567	1
Nebraska	11,821	0	1,102	12,239,363	12
North Dakota	4,431	0	5,482	124,358,171	4
Ohio	40,745	3	10,330	192,508,059	2
South Dakota	3,130	0	1,123	15,160,056	11
Wisconsin	13,958	1,281	2,615	29,507,952	9
Total	233,190	6,338	67,383	\$1,161,350.553	NA

Source: U.S. Department of Homeland Security, Federal Emergency Management Agency.

a. Includes claims filed March-June 2008. In addition to these 12 Midwestern states, three states experienced flood losses in March that resulted in NFIP claims: Arkansas (439), Kentucky (195), and Texas (106).

Table 2. Top Fifteen Significant Flood Events Covered in the National Flood Insurance Program

(1978- April 30, 2008)

Rank	Event	Date	Number of Paid Losses	Amount Paid (\$ Constant)	Average Paid Loss
1	Hurricane Katrina	Aug. 2005	164,917	\$15,920,395,412	\$95,077
2	Hurricane Ivan	Sep. 2004	27,304	1,566,138,612	55,518
3	Tropical Storm Allison	Jun. 2001	30,627	1,103,696,091	35,944
4	Louisiana Flood	May 1995	31,343	585,067,886	18,667
5	Hurricane Isabel	Sep. 2003	19,685	490,643,154	24,076
6	Hurricane Floyd	Sep. 1999	20,438	462,270,253	22,614
7	Hurricane Rita	Sep. 2005	9,328	458,251,687	47,428
8	Hurricane Opal	Oct. 1995	10,343	405,528,543	39,208
9	Hurricane Hugo	Sep. 1989	12,843	376,494,566	29,315
10	Hurricane Wilma	Oct. 2005	9,530	361,259,895	37,340
11	Nor'easter	Dec. 1992	25,141	346,151,231	13,768
12	Midwest Flood	Jun. 1993	10,472	272,827,070	26,053
13	PA, NJ, NY Floods	Jun. 2006	6,386	224,237,061	35,114
14	Nor'Easter	Apr. 2007	8,603	222,735,529	25,890
15	March Storms	Mar. 1993	9,841	212,616,751	21,605

Source: U.S. Department of Homeland Security, Federal Emergency Management Agency.

Table 3 illustrates that none of the 12 Midwestern states made the list of the top 10 states ranked by flood insurance claims payments made under the NFIP over the 20 year period from 1988 to 2007.

Tables 2 and 3 indicate that hurricanes — not river flooding — have been the major natural hazard contributing to NFIP claims payments and the most significant flood events.

Table 3. Ten States with the Highest Federal Flood Insurance Claims Payments: 1988-2007

State	Number of Policies Issued (As of 4/30/08)	Total Claims	Total Payments (Nominal \$)
Louisiana	501,555	241,807	\$14,985,570,820
Florida	2,184,568	122,340	3,311,749,199
Mississippi	78,163	31,738	2,680,787,295
Texas	670,050	91,197	2,423,449,920
Alabama	54,763	21,477	837,190,270
North Carolina	134,509	41,310	736,848,516
New Jersey	226,843	45,838	730,629,078
Pennsylvania	67,311	31,369	673,297,134
New York	148,462	29,993	482,461,366
South Carolina	198,963	15,478	416,677,961

Source: U.S. Department of Homeland Security, Federal Emergency Management Agency.

Lessons Learned from Previous Floods

Several flood insurance, risk assessment/mapping and floodplain management regulatory issues were illustrated by the Midwestern floods of 1993 and 2008, and the 2005 hurricanes.

The 1993 Midwest Floods

After the 1993 Midwest floods, the Clinton Administration commissioned a White House study, led by Army Brigadier General Gerald E. Galloway, to determine what could be done to reduce future flood damage. Central to the findings was the labeling of the flood protection system in the upper Mississippi Basin as:

... a loose aggregation of federal, local, and individual levees and reservoirs ... [that] does not ensure the desired reduction in the vulnerability of floodplain activities to damages.²¹

²¹ White House Floodplain Management Task Force, *Sharing the Challenge: Floodplain Management Into the 21st Century: Report of the Interagency Floodplain Management* (continued...)

The “Galloway Report” concluded that the 1993 flood was a significant but not unprecedented rainfall-river event, and that such floods would probably occur again. Further, the study noted that although the goals of floodplain management are clear and the means to carry it out existed, improvement and refocusing were needed.²²

The responsibilities for flood management are largely within state and local governments. Some 15 years later, the nation’s levee system remains as an uncoordinated assortment of levees that are owned and maintained by local governments, agencies, and even individuals. Some disaster experts have called for a more uniform approach to managing the levees.

The 2005 Hurricanes

An important lesson learned from the 2005 hurricanes is the importance of identifying levees and assessing the level of protection they offer citizens. Following the floodwall failures in New Orleans and levee overtopping in many parts of coastal Louisiana in 2005, President Bush signed into law the *Emergency Supplemental Appropriations Act of 2006 for Defense, the Global War on Terror, and Hurricane Recovery*, that included \$30 million to develop and implement a national levee inventory and assessment program.²³ In June 2006, the USACE completed the initial inventory survey of federal levees and created a national database that includes the location, number, and condition of these levees.²⁴ The next step is to include state, local or privately-owned levees in this inventory to improve understanding of the role of levees as a component of the national flood risk.

The 2008 Midwest Floods

The first lesson that can be learned (or relearned) from the 2008 Midwest flood is that the NFIP might not completely internalize the risk of living and investing in the floodplain nor achieve the level of individual participation or reconstruction of older homes originally envisioned. Critics of the NFIP say the program along with levees encourage too many people to locate in areas susceptible to flood damage, and flood victims reliance on federal disaster assistance for uninsured losses. These tendencies, in many ways, negate the original intent of the NFIP, which was to minimize future flood damages and the corresponding need for federal disaster relief.

Second, many property owners affected by the 2008 Midwest floods might have made location and insurance decisions based on inaccurate or incomplete flood maps. This lesson was also learned in the aftermath of Hurricane Katrina. FEMA has consistently sought to communicate to the public the fact that levees do not eliminate the risk of inundation. The residual flood risk generally has not been priced into

²¹ (...continued)

Review Committee to the Administration Floodplain Management Task Force, June 1994, located at [http://www.floods.org/PDF/Sharing_the_Challenge.pdf], p. 131.

²² Ibid.

²³ P.L. 109-234, 120 Stat. 455.

²⁴ See, U.S. Army Corps of Engineers, *Fact Sheet: National Levee Safety Program*, located at [<http://www.hq.usace.army.mil/cepa/releases/leveesafetyfactsheet.pdf>].

federal flood insurance policies, funds have not been set aside for catastrophe losses, nor do the premium rates reflect the affect of coastal erosion and climate change on flood risks. These factors were not contemplated or built into the program at inception. Moreover, the NFIP is providing subsidized flood insurance to homeowners who choose not to take advantage of this financial protection. A Rand Corporation study of the NFIP's mandatory purchase requirement nationwide indicated that only about 49% of single family homes in SFHA are covered by flood insurance.²⁵

Based on the certification of levees as providing at least protection from the 100-year flood, property owners may not purchase flood insurance, yet they may face significant uninsured losses if the levee fails or is overwhelmed. Many homeowners were told or wrongly concluded they were not at risk because they resided behind a certified levee and, therefore, were outside the federal requirement to purchase flood insurance.

An illustration of the national consequences of not pricing or reserving for residual risk (due to infrastructure failure) might be helpful. The most costly flood in the 40-year history of the NFIP were caused not by rainfall-river flooding but by breached or overtopped levees protecting the City of New Orleans from coastal storm surges. According to FEMA, some 75-80% of the area behind the levees were designated SFHA (high risk zone) due to rainfall. There was an explicit flood insurance purchase requirement in effect in the affected areas. Still, the NFIP assumed the levees were going to hold back storm surge floods and therefore did not price the policies to reflect the failure or overtopping of levees. The lack of understanding of the national flood risk, the inadequate communication of that risk, and diminished capabilities in flood risk management due to inaccurate or out-of-date flood hazard maps are weaknesses in the program.

Third, the price charged for federal flood insurance could understate the risk because flood hazard data might not be accurately reflected on flood maps and in the underwriting process. In practical terms, the 2008 Midwest floods have exposed the public safety risks associated with levee systems and an over-reliance on levees and other structural flood control measures designed to mitigate future flood losses across the nation. Given the vulnerability of the large number of levees that are not adequately inspected and maintained, there is an increased risk that the NFIP will continue to experience unexpected losses and fiscal deficits, potentially requiring future NFIP borrowing from the U.S. Treasury.

The high degree of uninsured flood losses during the 2008 floods could raise the policy question of who should appropriately bear the cost of the decision to live in potentially high-risk areas, including areas behind levees, dams and other flood control structures. In the absence of flood insurance, the cost of repairing the flood damage will be borne either by the property owner from their own financial resources or through federal disaster assistance — not flood insurance payments.

²⁵ Rand Institute for Civil Justice, *The National Flood Insurance Program's Market Penetration Rate: Estimates and Policy Implications*
[http://www.rand.org/pubs/technical_reports/2006/RAND_TR300.pdf]

Financial Status of NFIP

The NFIP experienced only one catastrophic loss year in its 40 year history, impairing the program's ability to pay current obligations, administrative expenses, as well as interest on the debt to the Treasury. **Table 4** shows the NFIP has a current fiscal deficit of \$17.4 billion as a result of claims from Hurricanes Katrina and Rita and having to borrow from the Treasury. The 2005 hurricane-related flood claims exceeded the cumulative claims payments since the program's inception.

In an attempt to both protect the NFIP's integrity after the 2005 hurricanes and ensure FEMA has the financial resources to cover its existing commitments, Congress passed, and the President signed into law, legislation to increase the NFIP's borrowing authority to allow the agency to continue to pay flood insurance claims: first to \$3.5 billion on September 20, 2005;²⁶ to \$18.5 billion on November 21, 2005;²⁷ and finally to \$20.8 billion on March 23, 2006.²⁸ FEMA paid \$176 million in interest to the Treasury in 2006, \$718 million in 2007, and expects to pay \$734 million in 2008.

The 2005 floods exposed significant vulnerability in the administration and oversight of the program. It is unlikely that the \$17.4 billion treasury debt will be repaid within the next 10 years given annual interest payments of about \$1 billion and annual premium income of approximately \$2.3 billion.²⁹ Experts agree that even if FEMA increased flood insurance rates up to the maximum amount allowed by law (10% per year), the program would still not have sufficient funds to cover future obligations for policyholder claims, operating expenses, and interest on debt stemming from the 2005 hurricane season.³⁰

By law, the NFIP does not operate under the traditional definition of insurance solvency; rather, the program operates under a congressional mandate of annual limits on premium increases, premium discounts (subsidies) for certain structures in flood-prone areas, and actuarial premium on other structures. Also, unlike private insurers, the NFIP rates are set at levels that make the program self-supporting for the historic average loss year. The program does not generate sufficient premium income to cover flood insurance claims and expenses and build a reserve fund for future catastrophic loss years.

²⁶ P.L. 109-65; 119 Stat. 1998.

²⁷ P.L. 109-106; 119 Stat. 2288.

²⁸ P.L. 109-208; 120 Stat. 317.

²⁹ See Letter from Donald B. Maroon, Acting Director of Congressional Budget Office, to Honorable Judd Gregg, Chairman, Committee on the Budget, March 31, 2006, located at [<http://www.cbo.gov/ftpdocs/72xx/doc7233/05-31-NFIPLetterGregg.pdf>].

³⁰ Ibid.

Table 4. History of U.S. Treasury Borrowing Under the National Flood Insurance Program
(As of July 31, 2008, \$ Constant)

Fiscal year	Amount borrowed	Amount repaid	Cumulative debt
Prior to FY1981 ^a	\$ 917,406,008	\$ 0	\$ 917,406,088
1981	164,614,526	624,970,099	457,050,435
1982	13,915,000	470,965,435	0
1983	50,000,000	0	50,000,000
1984 ^b	200,000,000	36,879,123	213,120,877
1985	0	213,120,877	0
1994 ^c	100,000,000	100,000,000	0
1995	265,000,000	0	265,000,000
1996	423,600,000	62,000,000	626,600,000
1997	530,000,000	239,600,000	917,000,000
1998	0	395,000,000	522,000,000
1999	400,000,000	381,000,000	541,000,000
2000	345,000,000	541,000,000	345,000,000
2001	600,000,000	345,000,000	600,000,000
2002	50,000,000	650,000,000	0
2005 ^d	300,000,000	75,000,000	225,000,000
2006	16,660,000,000	0	16,885,000,000
2007	650,000,000	0	17,535,000,000
2008 to date	50,000,000	225,000,000	17,360,000,000
Total	\$21,719,535,534	\$4,359,535,534	\$17,360,000,000

Source: U.S. Department of Homeland Security, Federal Emergency Management Agency's Office of Legislative Affairs.

Note: Borrowings through 1985 were repaid from congressional appropriations. Borrowings since 1994 have been repaid from premium and other income.

a. Balance forward from U.S. Department of Housing and Urban Development.

b. Figure for the \$213.1 million in cumulative debt in 1984 were provided by FEMA. It reflects additional cost outside of the insurance program.

c. Of the \$100 million borrowed, only \$11 million was needed to cover obligations.

d. The NFIP borrowed \$300 million in 2005 to pay claims from the 2004 hurricane season. Note: Hurricanes Katrina, Rita and Wilma struck in the fall of 2005, after the 2006 fiscal year began.

Policy Issues

Recognizing the unprecedented financial and regulatory challenges facing the NFIP, some insurance market analysts and policymakers would maintain that the program's purpose and framework of "carrots and sticks" be re-examined. Changes could occur in several areas: long-term financial solvency, premium structure reform, mandatory purchase requirements, risk assessment and flood hazard mapping, accounting for "write-your-own" companies, and multi-peril coverage.

Long-Term Financial Solvency

A key policy issue for Congress is whether the NFIP should be self-sustaining and how best to pay claims in years with catastrophic losses. According to disaster experts, options for improving the NFIP's financial solvency might include steps to:

- Dramatically reduce the financial cost of multiple flood insurance payments (i.e., repetitive loss properties) that account for a disproportionate share of the NFIP's total claims payouts. This would require eliminating the premium subsidies available to repetitive loss properties.
- Strengthen floodplain management regulations designed to restrict development in high risk areas and require new construction to be elevated three feet above the base flood elevation (BFE).
- Improve flood risk assessment and mapping of the nation's floodplains and include 500-year floodplains and areas behind levees.
- Strengthen and enforce mandatory purchase requirements.
- Forgive the full debt owed by the NFIP to the Treasury.
- Require actuarially-based premiums in the NFIP.

There is no consensus on any of these options. Some aspects of all of them, however, are now being considered in bills — H.R. 3121 and S. 2284 — pending in the 110th Congress.³¹

Premium Subsidies. Federally subsidized flood insurance is offered to encourage participation in the NFIP by communities and the purchase of flood insurance by individuals. Subsidized flood insurance premiums are possible because the government is positioned through loans to the NFIP and otherwise, to spread losses over time in the event of catastrophic flood losses. Owners of properties built prior to the issuance of a community's flood hazard map typically pay rates that are

³¹ H.R. 3121, Flood Insurance Reform and Modernization Act of 2007, was introduced by Rep. Waters. S. 2284, with the same title as H.R. 3121, was introduced by Sen. Dodd. See CRS Report RL34367, *Side-by-Side Comparison of Flood Insurance Reform Legislation in the 110th Congress*, by Rawle O. King.

less than full actuarial rates and are exempted from the NFIP's floodplain management standards. The NFIP, however, requires all new and substantially improved buildings to be constructed to or above the elevation of the 1%-annual-chance flood. Buildings constructed after December 31, 1974 or after the publication of a flood insurance rate map (FIRM) are charged an actuarial premium that reflects the property's risk of flooding.

Premium subsidies were considered necessary because occupants often did not understand the flood risk when they built in these areas (flood maps were not available); there were no public safeguards prohibiting the occupancy of this land; and subsidies of pre-FIRM structures could provide an incentive to local communities to participate in the program and discourage unwise future floodplains construction.³² NFIP's premium subsidies were intended to be phased out over time, as the number of pre-FIRM properties (and accompanying subsidies) would gradually diminish as they were damaged and rebuilt/relocated under stronger floodplain management and building codes.

Congress is considering legislative initiatives (H.R. 3121 and S. 2284) that would: (1) eliminate premium subsidies for non-primary residences, commercial properties and repetitive loss properties; (2) increase the allowable annual rate increase in NFIP policies; and (3) create new strata of flood insurance rates to accurately reflect the variations in risk within individual zones.

Solvency and Actuarial Soundness. Congress did not set up the NFIP on an actuarially sound basis when it authorized subsidized rates for pre-FIRM structures without providing annual appropriations to fund the subsidy. In order to make up the subsidized premium shortfall, FEMA established a rating methodology that consisted of a requirement to earn a target level of premium income for the program as a whole that is at least sufficient to cover administrative expenses and losses relative to what FEMA calls the "historical average loss year." The premium level generated to cover the historical average loss year must accommodate the combined effect of the portion of NFIP business paying less than full risk premiums and the portion of the business paying full risk premiums.

Several additional options might be considered to strengthen the financial solvency and actuarial soundness of the NFIP: address the repetitive loss properties (RLPs) problem, create a catastrophe reserve fund for catastrophic loss years, create incentives for private sector participation, and forgive the debt.

Repetitive Flood Loss Properties. Approximately 1% of insured properties, so-called repetitive loss properties, are responsible for approximately 30% of all program claim costs.³³ Efforts are underway to phase out premium subsidies on RLPs through voluntary buyouts or the imposition of full actuarially based rates for RLP owners who refuse to accept FEMA's offer to purchase or mitigate the effect

³² PriceWaterhouseCoopers, *Study of the Economic Effects of Charging Actuarially Based Premium Rates for Pre-FIRM Structures*, Washington, May 14, 1999, p. 1-2.

³³ U.S. Government Accountability Office, *National Flood Insurance Program: Actions to Address Repetitive Loss Properties*, GAO Report GAO—04-401T (Washington: March 25, 2004), p. 6.

of flood damage. FEMA's Pilot Severe Repetitive Loss Program (SRLP) calls for voluntary buyouts of SRLP and conversion of the land in perpetuity to open space uses.

Encourage Private Sector Participation. One option to address the NFIP's long-term solvency is to undertake efforts to shift flood insurance back to the private insurance markets and open the federal program to competitive bid contractors under the Write-Your-Own program.³⁴ It might be possible to plan for a higher degree of private sector involvement by requiring private insurers to "make available" private flood insurance policies at actuarially determined prices in flood-prone areas with the federal government providing federal reinsurance that would be self-supporting in the long run. Some economists have suggested that floods and other catastrophic risks may now be insurable because of insurer's ability to transfer risk to the capital markets through securitization, and assess catastrophe modeling and other analytical techniques that permit more accurate pricing of policies.³⁵

FEMA has a responsibility to examine the NFIP's contingent liabilities and recommend ways to provide financial stability to the federal flood insurance program. This activity is performed in conjunction with the program's annual rate-setting process. In 2000, FEMA undertook a study with the assistance of accounting firm Deloitte & Touche to explore alternative financing arrangements to reduce the need for U.S. Treasury borrowing. FEMA was concerned about the NFIP's erratic cash flow and the potential for catastrophic losses within a short period of time. The option that received the most attention was to create a special financial reinsurance vehicle to finance catastrophic loss years.³⁶ After review by the Office of Management and Budget (OMB), this option was not adopted because it was determined that the cost to borrow from the U.S. Treasury was cheaper. A similar option has been suggested to require private insurers to sell flood insurance coverage with a federal reinsurance backstop.

Mandatory Purchase Requirements. Federal flood insurance is mandated for all structures with federally backed loans or mortgages located in SFHA identified in FEMA flood insurance rate maps. To increase the level of total NFIP insurance coverage, some experts have suggested: (1) updating the floodplain maps, especially of areas protected by levees of questionable reliability; (2) increasing the awareness of flood risk, especially where there is a substantial residual risk of catastrophic flooding; (3) requiring mandatory flood insurance in areas where there is a substantial risk of flood; (4) requiring escrow of flood insurance premiums; and (5) requiring additional property owners in residual risk areas to purchase flood insurance, particularly those in the 500-year floodplain behind levees or dams.

³⁴ The idea is to outsource the marketing, underwriting, and policy administration of the NFIP through a single or a few private insurers under a contractual arrangement. Currently, any insurer wishing to participate in the NFIP's Write-Your-Own program can do so.

³⁵ Dwight M. Jaffee and Thomas Russell, "Can Securities Markets Save the Private Catastrophe Insurance Market?" paper delivered at the Asian-Pacific Risk and Insurance Association Conference, July 19, 1998, p. 11.

³⁶ Federal Emergency Management Agency, *National Flood Insurance Program: Discussion of Financial Stabilization Possibilities*, FEMA Unpublished Internal Document, November 20, 2000.

Debt Forgiveness. The total expected cost to the Treasury to forgive the NFIP's debt was \$17.4 billion, as of May 1, 2008. This amount includes \$50 million borrowed in early April to meet semi-annual interest payments. The NFIP's outstanding borrowing is the combined result of paying insurance claims and servicing the debt on the borrowing.

Risk Assessment and Flood Hazard Maps. Risk assessment and floodplain mapping are important components of the NFIP's ability to allocate the cost of the program across all policyholders. Flood maps show specific flood zones that correspond to the level of risk and premium rates. In addition to establishing flood insurance rates, flood maps are used to: (1) establish minimum elevation levels for new construction and guide development in floodplains; (2) determine whether a property is located in a SFHA, and, therefore, whether the owner is required to purchase flood insurance in order to secure a federally regulated or insured mortgage; (3) facilitate lender enforcement of mandatory flood insurance purchase requirements; and (4) provide risk information for underwriting and rating applications for flood insurance under the NFIP.

The 2008 Midwest floods has once again raised awareness concerning the accuracy of FEMA's flood hazard maps. A threefold set of problems was revealed. First, the actual insurance cost of living in a floodplain has not been reflected in the cost of ownership. The government generally finds it difficult to assess risk because of political pressure not to differentiate one person or firm from another in the way the private sector would. This difficulty might lead to large and hidden cross-subsidies. Moreover, governments are susceptible to pressures not to enforce certain regulations, particularly after a catastrophic flood event. Second, according to FEMA, approximately 25% of all flood claims have been on properties located outside of currently designated 100-year floodplains. Inaccurate flood maps typically result in unexpected flood damages, uninsured properties and larger than expected federal emergency disaster assistance expenditures. Third, many people continue to underestimate their vulnerability to floods.

Flood Map Modernization. FEMA is currently engaged in a multi-year nationwide Flood Insurance Study (FIS) to revise and update previous FIS/FIRMS into more reliable easy-to-use digital flood insurance rate maps (DFIRMs). FEMA intends to consolidate separately published FIS and FIRMs into one seamless continual FIS report and FIRM that depicts flood hazards nationally. The DFIRMs call for updating FIRMS to a GIS database format that allows ease of modification, electronic access and transmission, and the ability to incorporate more detailed topographic information and use of information across various platforms.

Advisory Flood Recovery Maps. Following the 2005 hurricane season, FEMA issued new advisory base flood elevations (ABFE) for new construction and the rebuilding of structures that were more than 50% destroyed by Hurricanes Katrina and Rita. FEMA indicates that if communities are to be rebuilt after a major flooding event, such as the 2005 hurricanes or the 2008 Midwest flooding, they must be elevated at or above the 1% annual chance flood elevation. According to FEMA, structures built to this standard, as a class, sustain 70% less damage than older buildings. In the case of New Orleans and the surrounding communities, the ABFE requires new construction to be three feet higher than base flood elevation (BFE) for

the community's old FIRMs. Some areas that previously were not in a SFHA are now delineated as flood zones. Homeowners in these newly-designated SFHAs would be obligated under federal law to purchase flood insurance.

Residual Risks Behind Levees. The importance of levees in flood risk reduction received much public attention after the levees that protected New Orleans breached and caused massive flooding. In the process of FEMA's development of a countrywide DFIRM, the agency, in coordination with the USACE, must certify levees as providing protection to the 1% annual chance flood elevation. FEMA must have documentation (e.g., maintenance records and engineering reports) from the levee owner that stipulates the levee meets certain standards before it could be shown on a DFIRM as protecting against the 1% annual chance flood. If levees are not certified, FEMA could designate the area behind the levee to be a SFHA which would effectively require homeowners in these areas to purchase flood insurance.

On September 25, 2006, FEMA issued *Revised Procedure Memorandum No. 43 — Guidelines for Identifying Provisional Accredited Levees* to give updated guidance to community officials or other parties seeking accreditation of a levee and the required data and documents to accomplish this task.³⁷ The memorandum established procedures for provisionally certifying levees in preparation for DFIRMS and the FEMA's map modernization program (MapMod).

FEMA's provisional accredited levee (PAL) procedures were designed to give levee owners more time to gather necessary data and documents needed to prove a levee should be certified. Once FEMA issues an agreement letter that outlines the deficiencies that the levee owner must resolve in order to receive FEMA's levee certification, the community has 90 days to sign and 24 months after signing to submit final documentation. FEMA requires a professional engineer to certify and seal the levee certification. During the 24 month period, the area protected by the levee will be mapped as a shaded zone X (zone outside the Special Flood Hazard Area).

The intent is to regulate flood risk behind levees. The problem is that, although the USACE had successfully inventoried some levees, identified deficiencies in some levees, and communicated information to some levee owners and FEMA, thousands more state, local government, and privately-owned levees have not been similarly identified, evaluated and inventoried. Therefore, FEMA is presumably not prepared for new DFIRM issuance in the MapMod program.

Accountability for Write-Your-Own Companies

Another issue facing the NFIP is the uncertainty about claims adjustment practices when a single event causes both flood damages (NFIP insured) and wind damages (privately insured). As some observed after the 2005 hurricanes, WYO (private) insurers might have an inherent conflict of interest in adjusting NFIP

³⁷ See, U.S. Department of Homeland Security, Federal Emergency Management Agency, *Revised Procedure Memorandum No. 43 — Guidelines for Identifying Provisional Accredited Levees*, located at [<http://www.fema.gov/library/viewRecord.do?id=2511>].

insurance claims and determining whether a loss was attributable to wind (privately covered) or flooding (insured under the NFIP).

The issue in contention is whether FEMA has adequate procedures and collects accurate information on damages to ensure claims paid by the NFIP cover only those damages caused by flooding. Insurers typically adjust flood claims along with their own, creating this internal conflict of interest.³⁸ To address this issue, Congress is considering whether to: (1) prohibit WYO insurers from including anti-concurrent causation language in their homeowners' policies;³⁹ (2) establish a Flood Insurance Advocate Office to strengthen the oversight of the WYO program; (3) require FEMA to review and conduct rulemaking on WYO insurer reimbursements so that reimbursements and actual administrative expenses are aligned; and (4) fully implement the 2004 Flood Insurance Reform Act, which some analysts believe would improve communications and assure the proper education and training standards for insurance agents.

Multiple-Peril Coverage for Wind and Flood Damages

As noted earlier, Congress is considering legislation — H.R. 3121 — that would create a combined federal insurance program with coverage for both wind and flood damage. Proponents of adding the wind peril say it is necessary to eliminate coverage disputes when wind and flood both contribute to a loss. Optional wind coverage is also said to be needed because of the difficulty that property owners have in obtaining affordable wind coverage in states along the Gulf and Atlantic coasts. Private insurers have dramatically increased premiums and deductibles, reduced coverage or withdrawn altogether from these areas out of concern about catastrophic risk exposure. In those areas, homeowners must instead purchase their wind coverage from state pools, where the premiums can be prohibitively expensive.

Opponents of adding optional wind coverage to the NFIP believe that there is adequate wind coverage capacity in every state through either the traditional private market or state-sponsored wind pools. They express concern over the NFIP's ability to properly price an all-perils policy and avoid wide-scale financial deficits in the program following a natural catastrophe.

In addition, the Government Accountability Office (GAO) has cited several concerns about expanding the NFIP to offer wind coverage. They involve: (1) wind hazard prevention standards that communities would have to adopt in order to receive coverage; (2) uncertainty about the adoption of programs to accommodate wind

³⁸ U.S. Government Accountability Office, *National Flood Insurance Program: Greater Transparency and Oversight of Wind and Flood Damage Determinations are Needed*, GAO Report GAO-08-28 (Washington: December 28, 2007), p. 21.

³⁹ Concurrent causation holds that if two causes (e.g., water and wind) combine to produce a loss or damage, and one of the two causes is excluded, the loss will be covered absent policy wording to the contrary. The "anti-concurrent causation" doctrine was designed to prevent the theory of "concurrent causation" from broadening coverage under standard property insurance policies.

coverage; (3) establishing a new rate-setting process; (4) enforcement of new building codes; and (5) administration and oversight of the program.⁴⁰

Rather than adding an optional wind coverage to the NFIP, the Senate version of H.R. 3121 (S. 2284) takes a different approach to the insurance availability and conflict of interest concerns. S. 2284 would create a bipartisan Commission on National Catastrophe Risk Management and Insurance to study the issue and a National Flood Insurance Advocate, and authorize FEMA to obtain information from WYO insurers about their handling of wind/flood claims.

Legislative Response

In response to the 2008 Midwest floods, Congress has enacted emergency supplemental appropriations legislation to compensate flood victims and is now considering legislative measures — H.R. 3121 and S. 2284 — that would reauthorize and reform the NFIP. On June 30, 2008, President Bush signed into law Public Law 110-252 to, among other things, appropriate \$8.48 billion for natural disaster relief and recovery, including \$5.64 billion for construction of flood prevention and protection structures in Louisiana and \$2.84 billion for flood assistance in Midwestern states. On September 27, 2007, the House passed the Flood Insurance Reform and Modernization Act of 2007, H.R. 3121. On May 13, 2008, the full Senate approved S. 2284, another flood insurance reform bill. The House and Senate have so far not convened a conference committee to reconcile the differences between H.R. 3121 and S. 2284.

Specifically, both H.R. 3121 and S. 2284 would: (1) allow the NFIP to increase premiums by 15% per year, up from 10%; (2) phase out the premium subsidies for second homes, commercial properties, and repetitive-loss properties; (3) increase market penetration by expanding the properties subject to the mandatory flood insurance purchase requirement after areas behind levees are remapped; (4) increase penalties for a lender's non-compliance; and (5) enhance communication to individuals and insurance agents about flood risk.⁴¹

The bills have some fundamental differences. H.R. 3121 would expand the program to cover damage caused by wind; S. 2284 lacks this provision. S. 2284, but not H.R. 3121, would forgive \$17.5 billion debt to the Treasury that the program incurred after the 2005 hurricane season. S. 2284 would create a new Office of Flood Advocate to provide oversight of WYO insurers, as well as a new bipartisan Commission on Natural Catastrophe Risk management and Insurance to study and report to Congress on ways to address the availability of catastrophe insurance coverage in high-risk areas.

⁴⁰ U.S. Government Accountability Office, *Natural Catastrophe Insurance: Analysis of a Proposed Combined Federal Flood and Wind Insurance Program*, GAO Report GAO-08-504 (Washington: April 25, 2008), p. 2.

⁴¹ CRS Report RL34367, *Side-by-Side Comparison of Flood Insurance Reform Legislation in the 110th Congress*, by Rawle O. King.