

# Addressing Affordability and Long-Term Resiliency Through the National Flood Insurance Program

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## Summary

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Given projections of sea-level rise and extreme precipitation from climate change, the United States will experience more frequent and more severe flood events in coming years. National Flood Insurance Program (NFIP) policies, therefore, should be geared toward making relocation the easiest and most attractive option for property owners to pursue. The authors propose that property owners should agree in advance not to rebuild following floods that cause substantial damage and, instead, to accept a government buyout of their property and relocate. In exchange, they would receive a discount on their federal flood insurance coverage, a guarantee that their property would be purchased at its pre-disaster market value, and a faster buyout process. This model could be implemented as part of the NFIP, or alternatively by states, local governments, and conservation organizations through the purchase of conservation easements on flood-prone properties.

## I. Introduction

During the 20th century, floods accounted for the largest number of lives lost and the most property damage in the United States when compared with other natural disasters.<sup>1</sup> Given the projections of sea-level rise and increased extreme precipitation events from climate change, the country will experience more frequent and more severe flood events in the coming years. According to a September 2013 report from the American Meteorological Society, global warming-induced sea-level rise is significantly reducing the time between major coastal flood events.<sup>2</sup> For example, a flood of the magnitude resulting from 2012's Hurricane (Superstorm) Sandy would have been considered a once-in-435-years event in 1950, but given the projected effects of climate change, by 2100, Sandy-scale flooding could occur every 20 years.<sup>3</sup> Urban and riverine flooding is likewise expected to increase in frequency and severity as precipitation patterns change.

To make matters worse, the rising human and economic costs of flooding are exacerbated by the National Flood Insurance Program (NFIP),<sup>4</sup> which provides subsidized flood insurance rates to property owners living in vulnerable areas, thereby perpetuating development and redevelopment in flood-prone areas. Ultimately, the nation needs to encourage property owners to move away from flood-prone areas and areas vulnerable to the future impacts of sea-level rise. NFIP policies, therefore, should increasingly be geared toward making relocation to higher and safer grounds the easiest and most attractive option for property owners to pursue, both before and after a flood occurs.

This Article proposes different ways in which the federal government, as well as state and local governments and nongovernmental organizations, can secure agreements from property owners to move away from areas that are already at high risk of flooding and will be at even greater risk as the climate warms, sea levels rise, and precipitation patterns change. Currently, efforts to purchase flood-prone properties largely occur after a flood has already damaged a person's home. Given the nation's increasing exposure to flooding, we should invest more in efforts to relocate

1. U.S. GEOLOGICAL SURVEY (USGS), SIGNIFICANT FLOODS IN THE UNITED STATES DURING THE 20TH CENTURY: USGS MEASURES A CENTURY OF FLOODS (2000), available at <http://ks.water.usgs.gov/pubs/fact-sheets/fs.024-00.pdf>.
2. Thomas C. Peterson et al., *Explaining Extreme Events of 2012 From a Climate Perspective*, 94 AM. METEOROLOGICAL SOC'Y BULL. (Sept. 2013), available at <http://www.ametsoc.org/2012extremeeventsclimate.pdf>.
3. Tom Johnson, *Mapping Out Areas in New Jersey at Risk of Flooding as Sea Levels Rise*, N.J. SPOTLIGHT (Oct. 28, 2013), available at <http://www.njspotlight.com/stories/13/10/27/analysis-maps-out-flood-risks-in-nj-as-ocean-levels-rise/>.
4. The NFIP is administered by the Federal Emergency Management Agency (FEMA). The U.S. Congress established the NFIP in 1968 through the National Flood Insurance Act of 1968, Pub. L. No. 90-448, Title XIII, §§1301 et seq., 82 Stat. 476, 576 (1968).

property owners *before* the next flood, thus potentially reducing future damage or loss. In the meantime, however, this Article proposes an intermediate step that could help reduce the nation's long-term flood risk by at least ensuring that a significant number of flood victims will relocate after the next disaster.

The recent debate in the U.S. Congress over flood insurance reforms has highlighted two major problems that must be addressed in order to better manage the nation's flood risk. First, there is an urgent need to move people out of increasingly vulnerable areas, given the rising risk of flooding due to the impacts of climate change. Second, there is a competing need to provide affordable flood insurance to the lower income homeowners who may need special financial assistance.

To address these two problems, we propose that property owners, in advance of a flood disaster, agree not to rebuild following floods that cause substantial damage to their property (that is, damage exceeding 50% or more of the property's fair market value) and, instead, to accept a government buyout of their property and relocate. In exchange for this commitment, property owners would receive a discount on their federal flood insurance coverage, a guarantee that their property would be purchased at its pre-disaster market value, and a much faster process for being bought out.<sup>5</sup>

Ideally, this is a model that would be implemented by the Federal Emergency Management Agency (FEMA) as part of the NFIP. The agency would offer lower flood insurance rates to policyholders who agree to relocate when the next flood disaster destroys or substantially damages their home. FEMA already offers flood insurance discounts to property owners who undertake certain flood-risk mitigation measures, such as elevating structures above the Base Flood Elevation<sup>6</sup> or installing flood vents in foundations. Agreeing to be bought out after the next flood is, in many ways, the ultimate mitigation measure, and FEMA should use its existing authority to encourage this action. A similar approach could also be pursued by states, local governments, and conservation organizations. These entities could develop a program to purchase conservation easements on flood-prone properties, thereby preventing the owners from rebuilding in the same location after a flood disaster. Congress and state legislators could also make it easier for parties to implement these ideas by making more funding available for floodplain buyouts.

5. Floodplain buyouts using federal disaster mitigation funds typically take three to four years to complete, an excruciatingly long period of time for any property owner.

6. Base Flood Elevation is the elevation of surface water resulting from a flood that has a 1% chance of equaling or exceeding that level in any given year. See FEMA, NATIONAL FLOOD INSURANCE PROGRAM, DEFINITIONS, <https://www.fema.gov/national-flood-insurance-program/definitions>.

We developed these proposals in response to the debate over flood insurance that has played out in Congress over the past two years. Passage of the Biggert-Waters Flood Insurance Reform Act of 2012 (Biggert-Waters)<sup>7</sup> required increases in flood insurance prices toward actuarial or risk-based rates for many classes of properties. The increases were intended to address the long-term fiscal insolvency of the NFIP, ensure that insurance rates reflected the actual risk of flooding, and provide a financial disincentive for property owners to remain in areas susceptible to flooding. However, public backlash over the rate increases caused Congress to repeal some of the reforms in 2014 as a way of addressing the issues of affordability and the impact of higher insurance prices on property values. These actions by Congress are discussed in further detail below.

Our solution attempts to address both the affordability concerns with risk-based flood insurance pricing and the impacts of climate change on the nation's flood risk by continuing to make flood insurance affordable through the provision of rate discounts, but only for those property owners who commit to relocating following the next major flood event. Low- and middle-income families would not be forced to give up their flood insurance or leave their homes due to unaffordable risk-based premiums, nor would they see their properties devalued by increasing insurance rates. The ideas presented here are intended to provide a new option to property owners, as well as to FEMA and state authorities, that will help people understand the long-term flood risks they face and facilitate the permanent migration of residents away from coastlines and low-lying areas that are increasingly at risk due to the impacts of climate change.

## II. The Nation's Increasing Flood Risk

According to a 2013 study commissioned by FEMA that analyzed the effects of climate change on the nation's flood risk and on the future of the NFIP, coastal communities, mainly along the eastern seaboard, are expected to see on average a 55% increase in high-risk flood areas by the year 2100.<sup>8</sup> High-risk flood areas (areas with a 1% annual chance or greater of a flood) along the nation's rivers are also projected to increase by 45% by the year 2100, with increases as high as 100% in some riverine areas of the Northwest and along tributaries near the Great Lakes.<sup>9</sup> At the same

7. Biggert-Waters Flood Insurance Reform Act of 2012 (Biggert-Waters), Pub. L. No. 112-141, 126 Stat. 405.

8. FEMA, THE IMPACT OF CLIMATE CHANGE AND POPULATION GROWTH ON THE NATIONAL FLOOD INSURANCE PROGRAM THROUGH 2100 6-1 (2013), available at [http://www.aecom.com/deployedfiles/Internet/News/Sustainability/FEMA%20Climate%20Change%20Report/Climate\\_Change\\_Report\\_AECOM\\_2013-06-11.pdf](http://www.aecom.com/deployedfiles/Internet/News/Sustainability/FEMA%20Climate%20Change%20Report/Climate_Change_Report_AECOM_2013-06-11.pdf).

9. *Id.*

time that climate change is increasing our nation's flood risk, population growth and development along rivers and coasts continue to expand, thereby putting more people and property in harm's way. As a result, FEMA's study projects that the number of policyholders along rivers will likely increase by 80% by 2100, and the number of coastal policies may increase by as much as 130%.<sup>10</sup> Further, the average loss cost per policy may increase by approximately 90% by 2100.<sup>11</sup>

The NFIP, as currently implemented, is ill-prepared to deal with the reality that flood risk is increasing in response to climate change and that billions of dollars' worth of properties will become uninhabitable by the end of the century.<sup>12</sup> The longer we encourage people to live in these areas, the greater the political pressure will be to build elaborate and expensive structural defenses. Moreover, the ultimate cost to the nation will be higher when it finally becomes untenable for people to continue living in areas inundated by rising sea levels or areas subject to far more frequent and severe flooding due to climate change.

### III. Failures of the NFIP

The NFIP was established in 1968 to provide federally subsidized flood insurance for property owners who could not get flood insurance from private insurance companies and to promote a unified floodplain management effort. Private insurance rates that reflected actual flood risks were prohibitively expensive, and thus communities along rivers and coasts were left exposed to storm and flood risks because property owners were not insured. The goal of providing federally subsidized insurance was to make it easier and more affordable for property owners in high-risk areas to purchase flood insurance. The NFIP was also intended to assist and encourage communities to better prepare for and avoid damage from flooding. In order for a community to participate in the NFIP, and thereby enable property owners to purchase flood insurance through the program, the community must adopt and enforce floodplain management regulations that meet or exceed the minimum NFIP standards. As of December 2014, the NFIP had more than 5.26 million policyholders in about 22,000 communities and provided insurance coverage for approximately \$1.27 trillion worth of property.<sup>13</sup>

Unfortunately, the program has had a poor track record for managing the nation's flood risk. Subsidized insurance rates, out-of-date flood maps, and policies that fail to discourage repetitive risk-taking have arguably *increased* the nation's overall flood hazards and losses. Take coastal communities as an example: the effects of global warming—sea-level rise, increases in hurricane intensity, storm surge,

and heavy precipitation—will undoubtedly worsen the flooding risks along the U.S. coastline. Yet, expansion of communities into coastal areas has increased significantly during the last several decades. According to the National Oceanic and Atmospheric Administration (NOAA), U.S. coastal shoreline county populations increased by 34.8 million (a 39% increase) between 1970 and 2010.<sup>14</sup> As of 2010, 39% of the nation's total population lived in coastal areas, which represent less than 10% of the total land area in the United States excluding Alaska.<sup>15</sup> From 2010 to 2020, U.S. coastal shoreline county population density is expected to increase by 37 persons per square mile, compared to an expected increase of 11 persons per square mile for the entire country.<sup>16</sup>

These numbers illustrate how the NFIP has failed to steer development away from flood-prone areas and mitigate the country's flood risk. The NFIP's three major deficiencies are as follows:

#### A. Subsidized Flood Insurance Rates

For years, a substantial number of property owners covered by the NFIP have not paid risk-based prices for their insurance policies. This includes owners of properties that predate the NFIP and the first Flood Insurance Rate Maps (FIRMs), as well as owners of properties for which updated FIRMs reveal to be at greater risk of flooding than previously expected. In the case of "pre-FIRM" property owners, it was thought unfair to charge full risk-based premiums given that these property owners were previously unaware of their flood risks. Unfortunately, many pre-FIRM property owners continue to receive large discounts on premiums decades after their flood risks became known.<sup>17</sup>

Other property owners pay reduced premiums, known as "grandfathered" rates. These owners possess post-FIRM properties that were once deemed to be located in a low-to moderate-risk flood zone, but were subsequently re-mapped into a higher risk flood zone after a FIRM update; nevertheless, the owners continue to pay the previous premium rates. The grandfathered rates are also passed along to new owners when the properties are sold. In 2012, about 1.1 million NFIP policyholders (approximately 20% of total NFIP policyholders) received subsidized rates of some kind.<sup>18</sup>

10. *Id.* at 6-2.

11. *Id.*

12. Kate Gordon, *Risky Business: The Economic Risks of Climate Change in the United States*, RISKY BUS., June 2014, [http://riskybusiness.org/uploads/files/RiskyBusiness\\_Report\\_WEB\\_7\\_22\\_14.pdf](http://riskybusiness.org/uploads/files/RiskyBusiness_Report_WEB_7_22_14.pdf).

13. FEMA, FLOOD INSURANCE STATISTICS FOR THE CURRENT MONTH, [available at http://www.fema.gov/flood-insurance-statistics-current-month](http://www.fema.gov/flood-insurance-statistics-current-month).

14. NATIONAL OCEANIC & ATMOSPHERIC ADMIN. (NOAA), NATIONAL COASTAL POPULATION REPORT: POPULATION TRENDS FROM 1970 TO 2020 4 (2013), [available at http://stateofthecoast.noaa.gov/features/coastal-population-report.pdf](http://stateofthecoast.noaa.gov/features/coastal-population-report.pdf).

15. *Id.* at 3.

16. *Id.* at 5; *see also* NOAA, COMMUNITIES: THE U.S. POPULATION LIVING AT THE COAST (2013), [available at http://stateofthecoast.noaa.gov/population/welcome.html](http://stateofthecoast.noaa.gov/population/welcome.html).

17. According to FEMA, owners of subsidized properties pay only about 40-45% of their actuarial rates. *See* U.S. GAO, FLOOD INSURANCE: MORE INFORMATION NEEDED ON SUBSIDIZED PROPERTIES 6 (2013), [available at http://www.gao.gov/assets/660/655734.pdf](http://www.gao.gov/assets/660/655734.pdf).

18. *Id.* at 1. This percentage of subsidized policies does not include grandfathered properties. FEMA does not treat grandfathered rates as subsidized because they are not subsidized for the class as a whole, but rather are being cross-subsidized by other policyholders in the same flood zone who are paying higher rates. *See* Letter From Daniel Garcia-Diaz, Director, Fi-

## B. Out-of-Date Flood Maps

FEMA develops and issues flood maps for NFIP-participating communities. The primary purposes of these flood maps are to set flood insurance rates and to provide property owners the latest assessment of their flood risks. Unfortunately, many of FEMA's flood maps are woefully outdated. For example, at the time Hurricane Sandy hit, the data used to generate flood maps for New York City had not been updated since they were first issued in 1983.<sup>19</sup> As a result, the areas inundated far exceeded what the flood maps showed to be at risk of flooding.<sup>20</sup> Without updated flood maps that accurately represent a community's true risk of flooding, decisionmakers and property owners are misled about their exposure to both current and future risk, and consequently make ill-advised decisions about where to build and how to build. Out-of-date flood maps are among one of the many NFIP deficiencies that have contributed to the continual development and redevelopment in risky flood-prone areas.

## C. The Repetitive Loss Issue

As properties have been damaged by a flood, they have been repaired or rebuilt in the same location. These properties are known as either repetitive loss properties (RLPs) or severe repetitive loss properties (SRLPs).<sup>21</sup> Owners of RLPs and SRLPs are required to undertake certain mitigation measures, such as elevating their structures or demolishing and removing them from the Special Flood Hazard Area,<sup>22</sup> or otherwise face full actuarial rates.<sup>23</sup> However, the enforcement of these standards is questionable given the rising number of RLP claims since 1978. Between 2004 and 2011, the total number of RLPs increased from 112,540 to 166,368, and the respective number of RLP claims grew

from 314,640 to 496,178.<sup>24</sup> During this same time period, the overall cost to the NFIP increased by 130%, from \$5.2 billion in 2004 to \$12.1 billion in 2011.<sup>25</sup> Instead of witnessing a decrease in the number of properties vulnerable to repeated floods, we have actually seen the number of RLP claims and damages increase. According to a report by the Congressional Research Service, the annual increase in new RLPs is outpacing FEMA mitigation efforts by a factor of 10 to 1.<sup>26</sup>

Even when properties are elevated, they are elevated only above the flood elevation indicated on the most recent flood maps, which, as mentioned above, are often extremely outdated and do not take into consideration climate change impacts. Consequently, elevating properties only delays the risk of future flood damage; it does not eliminate that risk.

One could argue that the combination of subsidies, outdated flood maps, and rebuilding in flood-prone areas has actually provided an incentive for NFIP policyholders to live in high-risk areas. At best, these policies have failed to provide a *disincentive*. This also means that the program is spending more money than it recovers through premiums, all at the expense of U.S. taxpayers. As of July 23, 2014, the NFIP is \$24 billion in debt.<sup>27</sup> Unfortunately, as coastal and riverine populations continue to expand, so will the public's liability for future flood damages.

## IV. Biggert-Waters Reforms and Backlash

In 2012, reforms were made to address the financial insolvency of the NFIP. On July 6, 2012, President Barack Obama signed Biggert-Waters into law. In addition to reauthorizing the NFIP for another five years, the 2012 law also enacted a number of reforms intended to make the NFIP a more effective tool for managing the nation's flood risk. One of the most important reforms was the phasing out of subsidies for second homes, business properties, and SRLPs. Owners of these properties now face an annual 25% increase to their existing rates until actuarial rates are reached. Further, Biggert-Waters required termination of subsidies when pre-FIRM properties were sold to new owners, and when pre-FIRM property owners purchased new insurance policies or allowed their policies to lapse. In other words, upon the occurrence of any of these three events, property owners would be required to pay full risk-based rates *immediately* without the benefit of any phase-out period. Lastly, a section of Biggert-Waters phased out

nancial Markets and Community Investment, U.S. GAO, to Rep. Randy Neugebauer, Chair, Subcomm. on Housing and Insurance, House Comm. on Financial Services 19 (Apr. 9, 2014), *available at* <http://www.gao.gov/products/GAO-14-297R>.

19. David Seifman, *Getting Soaked*, N.Y. POST, Jan. 13, 2013, *available at* <http://nypost.com/2013/01/13/getting-oaked/>.

20. An inundation map for Superstorm Sandy is available from ArcGIS' website at <http://www.arcgis.com/home/webmap/viewer.html?webmap=82a2fa929168434dabb6a3970e1d38e0>. A New York City preliminary Flood Insurance Rate Map (FIRM) is available from FEMA at <http://apps.femadata.com/PreliminaryViewer/?appid=687703427dd347018b8fa2bb0adee979>.

21. An RLP is defined as any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any 10-year period. An SRLP is defined as an NFIP-insured residential property that has at least four NFIP claim payments over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000, or for which at least two separate claim payments have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. See FEMA, NATIONAL FLOOD INSURANCE PROGRAM FAQs (2005), [http://www.fema.gov/txt/rebuild/repetitive\\_loss\\_faqs.txt](http://www.fema.gov/txt/rebuild/repetitive_loss_faqs.txt).

22. A Special Flood Hazard Area is defined as an area having a 1% chance or greater of being inundated by flood waters in any given year (also referred to as a 100-year flood). See FEMA, FLOOD ZONES, <http://www.fema.gov/floodplain-management/flood-zones>.

23. U.S. GAO, NATIONAL FLOOD INSURANCE PROGRAM: ACTIONS TO ADDRESS REPETITIVE LOSS PROPERTIES 7 (2004), *available at* <http://www.gao.gov/assets/120/110626.pdf>.

24. RAWLE O. KING, CONG. RESEARCH SERV., FEDERAL FLOOD INSURANCE: THE REPETITIVE LOSS PROBLEM 37, (2005), *available at* <http://www.fas.org/sgp/crs/misc/RL32972.pdf> [hereinafter 2005 CRS REPORT]; RAWLE O. KING, CONG. RESEARCH SERV., THE NATIONAL FLOOD INSURANCE PROGRAM: STATUS AND REMAINING ISSUES FOR CONGRESS 20 (2013), *available at* <https://www.fas.org/sgp/crs/misc/R42850.pdf> [hereinafter 2013 CRS REPORT].

25. 2005 CRS REPORT, *supra* note 24; 2013 CRS REPORT, *supra* note 24.

26. 2005 CRS REPORT, *supra* note 24; 2013 CRS REPORT, *supra* note 24.

27. FEMA, STATEMENT OF ADMINISTRATOR CRAIG FUGATE BEFORE THE U.S. SENATE COMMITTEE ON APPROPRIATIONS, SUBCOMMITTEE ON HOMELAND SECURITY, July 23, 2014, *available at* [http://www.fema.gov/media-library-data/1408038596021-3354eb12e21447bc19f59d80a75a82fa/7-23-14%20-%20HFIAA%20Hearing\\_508.pdf](http://www.fema.gov/media-library-data/1408038596021-3354eb12e21447bc19f59d80a75a82fa/7-23-14%20-%20HFIAA%20Hearing_508.pdf), at 5.

grandfathered rates over a five-year period if a community revised or updated its flood map.

Not surprisingly, these reforms were met with substantial backlash as property owners discovered that they had to pay significantly higher premiums than before. Low- and middle-income property owners faced a real dilemma because they could not afford to pay the steep increases in their insurance premiums. As a result, less than two years after putting into place major reforms, Congress passed, and President Obama signed into law, the Homeowner Flood Insurance Affordability Act of 2014.<sup>28</sup> Among other things, the Act reinstated subsidies for owners of grandfathered properties, and repealed the provisions in Biggert-Waters that required new owners of pre-FIRM properties to pay actuarial rates, and existing pre-FIRM property owners to pay actuarial rates when they purchase a new policy. Owners of second homes, businesses, and SRLPs, along with owners who allow their policies to lapse, are still subject to increased insurance premiums until full risk-based prices are achieved.

While the Act will certainly help alleviate some of the affordability concerns posed by Biggert-Waters, it does nothing to address our nation's growing exposure to floods. Reducing rates does not reduce risk; instead, it continues to incentivize property owners to live in risky, flood-prone areas and leaves taxpayers bearing the escalating costs of future damage. What the country needs are solutions that not only will help low- and middle-income property owners afford flood insurance, but also will ultimately move these policyholders out of harm's way and onto higher grounds.

## V. Policy Options to Reduce the Nation's Flood Risks in the Face of Climate Change

### A. NFIP Initiatives Have Seen Limited Success

Since its creation, the NFIP has not reduced our nation's exposure to flood losses in many of the country's most flood-prone areas because it has failed to discourage residents from remaining in floodplains and vulnerable coastal areas. Moreover, the recent congressional action to roll back some of the Biggert-Waters reforms will only result in the continual encouragement of coastal and riverine development and thereby make future flood disasters more costly and hazardous.<sup>29</sup> The goal of the NFIP should be to build and improve community resilience to increasing flood risks, not to enable and perhaps even encourage repetitive risk-taking.

To illustrate the enormity of the problem we face, we used Climate Central's web-based Surging Seas<sup>30</sup> tool to estimate the number of homes, property value, and population at risk from sea-level rise in Florida, as well as in coastal areas of New York and New Jersey that were affected by Superstorm Sandy. Tables 1 and 2 below summarize this data.

**Table 1: Estimated Number of Homes, Property Values, and Population at Risk of 3 Feet of Sea-Level Rise**

	Number of Homes	Property Value	Population
New York	41,956	\$25.9 billion	92,575
New Jersey	89,227	\$47.3 billion	123,467
Florida	300,041	\$145.4 billion	489,925

**Table 2: Estimated Number of Homes, Property Values, and Population at Risk of 6 Feet of Sea-Level Rise**

	Number of Homes	Property Value	Population
New York	209,800	\$101.3 billion	480,807
New Jersey	261,769	\$138.6 billion	375,593
Florida	1,444,827	\$2,656 billion	2,655,967

According to Climate Central, even small amounts of sea-level rise increase the odds of damaging floods from storms and hurricanes. Based on the U.S. Global Change Research Program's Third National Climate Assessment, and applying an intermediate high sea-level rise scenario,<sup>31</sup> Climate Central projects that, by 2100, New York and New Jersey will face 3.9 feet of rise,<sup>32</sup> and Florida will face 3.4 feet of rise,<sup>33</sup> all from a 2012 baseline. For New York and New Jersey, this analysis translates to a 21% cumulative risk of at least one flood exceeding six feet<sup>34</sup> by 2030, a 51% risk by midcentury, and a 100% risk by 2100.<sup>35</sup> For Florida, this analysis translates to a 17% cumulative risk of at least one flood exceeding three feet<sup>36</sup> by 2030, a 49% risk by midcentury, and a 100% risk by 2100.<sup>37</sup>

30. Climate Central, *Surging Seas*, <http://sealevel.climatecentral.org/>.

31. U.S. GLOBAL CHANGE RESEARCH PROGRAM, THIRD NATIONAL CLIMATE ASSESSMENT (2014), available at <http://nca2014.globalchange.gov/>.

32. Climate Central, *Sea Level Rise and Coastal Flood Risk: Summary for New York, NY 1*, [http://ssrf.climatecentral.org.s3-website-us-east-1.amazonaws.com/Buffer2/states/NY/downloads/pdf\\_reports/Town/NY\\_New\\_York-report.pdf](http://ssrf.climatecentral.org.s3-website-us-east-1.amazonaws.com/Buffer2/states/NY/downloads/pdf_reports/Town/NY_New_York-report.pdf) [hereinafter New York Report]; Climate Central, *Sea Level Rise and Coastal Flood Risk: Summary for Newark, NJ*, [http://ssrf.climatecentral.org.s3-website-us-east-1.amazonaws.com/Buffer2/states/NJ/downloads/pdf\\_reports/Town/NJ\\_Newark-report.pdf](http://ssrf.climatecentral.org.s3-website-us-east-1.amazonaws.com/Buffer2/states/NJ/downloads/pdf_reports/Town/NJ_Newark-report.pdf) [hereinafter New Jersey Report].

33. Climate Central, *Sea Level Rise and Coastal Flood Risk: Summary for Miami, FL*, [http://ssrf.climatecentral.org.s3-website-us-east-1.amazonaws.com/Buffer2/states/FL/downloads/pdf\\_reports/Town/FL\\_Miami-report.pdf](http://ssrf.climatecentral.org.s3-website-us-east-1.amazonaws.com/Buffer2/states/FL/downloads/pdf_reports/Town/FL_Miami-report.pdf) [hereinafter Florida Report].

34. Climate Central's analysis suggests that floods above six feet likely pose significant concerns for New York and New Jersey.

35. New York Report, *supra* note 32, at 1; New Jersey Report, *supra* note 32, at 1.

36. Climate Central's analysis suggests that floods above three feet likely pose significant concerns for Florida.

37. Florida Report, *supra* note 33, at 1.

28. Homeowner Flood Insurance Affordability Act of 2014, H.R. 3370, 113th Cong. (2014) (enacted), available at <https://www.govtrack.us/congress/bills/113/hr3370/text>.

29. Ari Phillips, *How The New Flood Insurance Reforms Make Costly Future Climate Disasters More Likely*, CLIMATE PROGRESS, Mar. 25, 2014, <http://thinkprogress.org/climate/2014/03/25/3418323/flood-insurance-program-reforms/>.

These projections, along with the numbers in the tables above, illustrate the magnitude of our nation's growing vulnerability to flooding due to climate change. We need to recognize the reality that some places will no longer be habitable in the future and that residents will eventually have to move away from these areas. Instead of waiting until that action is unavoidable, or until we are forced to choose where we will and will not build flood defenses, we should implement policies that encourage migration before it becomes absolutely necessary. We should also put into place policies that prevent property owners from repeatedly rebuilding in areas known to be susceptible to future flooding.

Voluntary buyout programs—in which local governments purchase flood-damaged homes located in high-risk areas and then subsidize the residents' relocation to safer grounds—have been conducted across the country, but these efforts are relatively piecemeal and small-scale. One of the most ambitious buyout efforts is currently underway in New York and New Jersey. The U.S. Department of Housing and Urban Development (HUD) has dedicated \$471 million in federal disaster recovery funds to those states (\$171 million to New York and \$300 million to New Jersey) to buy out property owners in the aftermath of Superstorm Sandy.<sup>38</sup>

To date, this ambitious buyout effort has resulted in commitments from fewer than 400 property owners of the 11,300 Sandy victims who are eligible for a federal buyout.<sup>39</sup> As of November 2014, the buyout program in New York has purchased 505 homes on Staten Island and in Nassau and Suffolk Counties.<sup>40</sup> As of November 2014, 342 families in New Jersey have accepted buyout offers and there have been 219 closings completed.<sup>41</sup> For New York, it is estimated that only 10-15% of the 11,300 qualifying homeowners will ultimately accept a buyout offer.<sup>42</sup> Contrast these numbers with the approximately 161,000 NFIP claims filed as a result of Superstorm Sandy in 2012 and Hurricane Irene and Tropical Storm Lee in 2011,<sup>43</sup> and

one can see just how few residents relocate in the wake of a flood. Lastly, contrast the number of properties being bought out with the numbers in Tables 1 and 2, and it is quite apparent how inadequate our nation's buyout efforts are when compared to the challenges ahead.

The experience in New York and New Jersey is somewhat typical, even though the buyout efforts in these two states are among the most ambitious and best-funded buyout programs ever. Participation rates in buyout programs have historically been very low. Between 1993 and 2011, FEMA spent more than \$2 billion to fund buyouts for 36,707 properties nationwide,<sup>44</sup> but during that same time period, the agency has paid out approximately \$35.7 billion on 943,670 claims.<sup>45</sup> It should be noted that total payouts through June 30, 2014, are \$50.9 billion on 2,074,664 claims, which accounts for a number of flood events since 2011, including not only Sandy, but also major flooding on the Mississippi River and elsewhere in the country.<sup>46</sup>

One major impediment for voluntary buyout programs is the amount of funding made available from FEMA and other federal agencies to buy out homes in flood-prone areas. According to a recent study by the National Academy of Sciences, the amount of federal funding dedicated to strategies for reducing the consequences of flooding (which include both structural and nonstructural defenses) was about 5% of total disaster relief funds between 2004 and 2012.<sup>47</sup> Another reason for the low participation rates in buyout programs is that the process of completing a buyout transaction is agonizingly slow. Once a flood victim agrees to participate in a buyout program, the time that lapses between a flood event and acquisition/relocation is usually three to four years.<sup>48</sup>

Currently, voluntary home buyout programs are typically supported through either one of FEMA's three Hazard Mitigation Assistance programs or HUD's Community Development Block Grant Disaster Recovery Program.<sup>49</sup> For any of the FEMA-funded buyout programs, the process begins with the state and local governments working together to identify properties eligible for buyouts. The community prepares grant applications on behalf of willing homeowners and submits them to the state, and

38. Press Release, Gov. Andrew M. Cuomo, Governor Cuomo Seeks Federal Approval of NY State Plans for Housing and Business Storm Recovery Programs (Mar. 12, 2013), available at <https://www.governor.ny.gov/press/03122013cuomo-seeks-federal-nys-housing-bus-storm-recovery>; Center for Climate & Energy Solutions, New Jersey Administration Plans to Buy Out Sandy-Affected Homes, <http://www.c2es.org/us-states-regions/news/2013/new-jersey-administration-plans-buy-out-sandy-affected-homes>.

39. NEW JERSEY DEPT OF ENVTL. PROT., FAQS, SUPERSTORM SANDY BLUE ACRES ACQUISITION PROGRAM, <http://www.nj.gov/dep/greenacres/pdf/faqs-blueacres.pdf>; Thomas Kaplan, *Homeowners in Flood Zones Opt to Rebuild, Not Move*, N.Y. TIMES, Apr. 26, 2013, available at [http://www.nytimes.com/2013/04/27/nyregion/new-yorks-storm-recovery-plan-gets-federal-approval.html?\\_r=1&](http://www.nytimes.com/2013/04/27/nyregion/new-yorks-storm-recovery-plan-gets-federal-approval.html?_r=1&).

40. NEW YORK OFFICE OF STORM RECOVERY, NEW YORK RISING 2012-2014: HOUSING, SMALL BUSINESS, COMMUNITY RECONSTRUCTION PLANS, INFRASTRUCTURE 38, tbl. D, [http://stormrecovery.ny.gov/sites/default/files/uploads/gosr\\_report\\_letter\\_full\\_high.pdf](http://stormrecovery.ny.gov/sites/default/files/uploads/gosr_report_letter_full_high.pdf).

41. Press Release, New Jersey Dept of Env'tl. Prot., Christie Administration Marks 100th Demolition in Sandy Residential Buyout Program (Nov. 20, 2014), available at [http://www.nj.gov/dep/newsrel/2014/14\\_0124.htm](http://www.nj.gov/dep/newsrel/2014/14_0124.htm).

42. Kaplan, *supra* note 39.

43. FEMA, THE FLOOD INSURANCE CLAIMS PROCESS IN COMMUNITIES AFTER SANDY: LESSONS LEARNED AND POTENTIAL IMPROVEMENTS (2014), <http://www.fema.gov/media-library-data/1408038637948-3354eb12e21447b-c19f59d80a75a82fa/7-30-14%20FEMA%20Fugate%20-%20NFIP%20>

[-%20FINAL\\_508.pdf](#); Press Release, Senator Charles E. Schumer, Flood Insurance Companies Delay FEMA Aid by Failing to Promptly Process Irene & Lee Claims; [Senator] Demands Full Report on Work So Far and Calls on Insurance Companies to Speed Up Claim Processing (Dec. 1, 2011), available at [http://www.schumer.senate.gov/Newsroom/record\\_print.cfm?id=335018](http://www.schumer.senate.gov/Newsroom/record_print.cfm?id=335018).

44. David A. Lieb & Jim Salter, *APNewsBreak: FEMA Flood Buyouts Top \$2B Since 1993*, YAHOO! NEWS, July 12, 2011, <http://news.yahoo.com/apnews-break-fema-flood-buyouts-top-2b-since-1993-185604826.html>.

45. 2013 CRS REPORT, *supra* note 24, at 16.

46. FEMA, Loss Statistics From Jan 1, 1978 Through Report "AS OF" Date Below, July 31, 2014, <http://bsa.nfipstat.fema.gov/reports/1040.htm>.

47. NATIONAL ACAD. OF SCI., REDUCING COASTAL RISKS ON THE EAST AND GULF COASTS 5 (2014), available at [http://www.nap.edu/catalog.php?record\\_id=18811](http://www.nap.edu/catalog.php?record_id=18811).

48. SNOHOMISH CNTY. PUB. WORKS SURFACE WATER MGMT., WASHINGTON STATE EMERGENCY MANAGEMENT DIVISION, VOLUNTARY FLOODPLAIN HOME BUYOUT PROGRAM (2013), available at <http://snohomishcountywa.gov/DocumentCenter/View/6345>.

49. See HUD Exchange, Community Development Block Grant Disaster Recovery Program, at <https://www.hudexchange.info/cdbdg-dr/>.

the state then applies to FEMA for funding on behalf of the local community. If FEMA approves, it can provide up to 75% of the funding needed by the state or local government to purchase the damaged property, and the state or municipal government must fund the remaining 25%. The damaged property will be purchased at its pre-disaster fair market value. After purchase, the local government takes title to the land, demolishes any remaining structures, and then must maintain the land for public use, either for recreational purposes such as a public park or beach, or for wetland restoration.<sup>50</sup>

There are many time-consuming elements to the buyout application process, including contacting flood victims and developing the required Benefit-Cost Analysis (BCA) to determine eligibility, collecting nonbinding Letters of Interest from eligible homeowners, applying for federal funding and obtaining a grant approval, appraising the value of properties, presenting a purchase offer to homeowners, obtaining Statements of Voluntary Acquisition, developing a conservation plan, demolishing the damaged structure, relocating owners to safer areas, and preserving/managing the open space.<sup>51</sup> Thus, only the most motivated property owners are likely to endure the cumbersome administrative steps that must be completed to take advantage of buyout opportunities.

Finally, an even smaller percentage of motivated property owners have the financial capability to complete a transaction that can take so long. Where will they live in the meantime? And can they afford two house payments while waiting out bureaucratic delays? In the case of Hurricane Irene, residents who were interested in a buyout program from the town of Jay, New Jersey, signed their contracts with FEMA 18 months after Irene had wiped out their homes.<sup>52</sup>

Despite the flaws that hamper a voluntary home buyout program, buyouts are nevertheless the most effective tool for long-term flood risk mitigation as they permanently reduce the loss of life and property from any future significant flood event. The NFIP should therefore shift its focus to incentivizing more property owners to participate in buyout programs, and streamline the process to make it more attractive to a larger number of property owners. Such action is especially crucial in light of the escalating flood risks facing communities as a result of climate change. Unfortunately, most buyout programs that are administered today are executed only *after* a disastrous event. More emphasis should be placed on increasing participation in buyout programs *pre-disaster*, as that may result in the complete avoidance of any future damage.

It is important to note that our proposals are not intended to fix the existing impediments to buyout programs that we have identified above. Rather, our ideas, if implemented, will help increase the number of buyouts executed across the country, but only if increased funds are made available and if the inefficiencies of the country's current floodplain buyout process are addressed.

## B. Recommended New Initiatives

### I. Offer Reduced Flood Insurance Rates in Exchange for Commitment to Relocate

The NFIP can make relocation an attractive option for flood victims by offering reduced flood insurance rates for property owners who, in advance of a disastrous flood, agree to relocate when a future flood event destroys or substantially damages their property. In other words, property owners can agree to participate in a buyout program *pre-disaster*, and in exchange, they can receive a discount on their flood insurance premiums. This may help to accomplish the twin goals of reducing the nation's long-term flood risk and addressing the public's concern about the transition to risk-based flood insurance pricing. Further, if the property owner decided he or she did not want to wait until a flood to be bought out, we believe that is an option that should also be made available.

#### a. Details

Under existing law, FEMA has the authority and discretion to award discounts on flood insurance rates when policyholders undertake certain actions that may help to reduce their exposure to future flood events.<sup>53</sup> Although FEMA does not have an official rate schedule for premium reductions associated with different mitigation measures, the agency has consistently identified certain mitigation measures—such as elevation, floodproofing, and installation of flood vents in crawlspaces—as triggers for premium reductions. States and municipalities should work with FEMA to establish a formal flood insurance rate table that identifies, among other things, the commitment to relocate as a type of mitigation measure that will qualify an owner to receive a rate discount. This information should be widely disseminated to insurance agents and the public so that property owners are aware of all the actions they may take in order to receive reduced flood insurance rates. The amount and extent of the reduction in a flood insurance rate will depend on

50. 44 C.F.R. §206.434(e)(1).

51. HARRIS CNTY. FLOOD CONTROL DIST., VOLUNTARY HOME BUYOUT, <http://www.hcfcd.org/buyout.asp?flash=yes>.

52. David Howard King, *Hurricane Sandy Buyouts Cause Storm of Confusion, Worry From Politicians*, GOTHAM GAZETTE, May 1, 2013, available at <http://www.gothamgazette.com/index.php/housing/4233-hurricane-sandy-buyouts-cause-storm-of-confusion-worry-from-politicians>.

53. For example, if a home's crawlspace has no vents, it is at greater risk of being damaged by flooding than a home with vents that allow floodwaters to pass through and not push a house off its foundation. The owner of the former house may decide to incur the costs of installing vents in the property's crawlspace; as a result, the NFIP's underwriters will recognize this action as a type of flood-risk mitigation measure and reduce the premium rate accordingly. E-mail from Dorothy Martinez, Senior Territory Training Mgr., NFIP Training, H<sub>2</sub>O Partners, Inc., to Dream Choi, Moran Environmental Fellow, Yale University (July 15, 2014, 11:43 CST) (on file with author).

the type of flood hazard zone where the property owner is located, as discussed below.

### b. Eligibility

Eligibility for entering into the agreement under our proposal should be limited to those property owners who: (1) live in the most at-risk areas; (2) own properties valued at less than the maximum insurable value under the NFIP; (3) own properties that meet FEMA's criteria for being a cost-effective buyout project; and (4) are low- or middle-income residents. Table 3 summarizes a list of potential criteria that would help define where our proposal might be most applicable.

**Table 3: Potential Criteria for Eligibility**

<p><b>Threshold Criteria for Property Owner Eligibility</b></p> <ul style="list-style-type: none"> <li>• Low- and middle-income residents</li> <li>• Buyout of the property has a benefit-cost ratio &gt; 1.0</li> <li>• Properties whose value (structure plus contents) does not exceed the maximum NFIP coverage of \$250,000 for the structure and \$100,000 for the contents</li> </ul>
<p><b>Criteria for Selection of Geographic Areas Where Eligible Property Owners Could Participate</b></p> <ul style="list-style-type: none"> <li>• Areas where sea-level rise projections indicate large numbers of properties at risk within the next several decades</li> <li>• Properties in a V or VE zone (coastal areas susceptible to wave action as identified on FEMA flood maps)</li> <li>• Areas with high numbers of RLPs and SRLPs, or the property itself is an RLP or SRLP</li> </ul>

Once a particular area or community has been identified, a BCA<sup>54</sup> on individual properties should be conducted. Using FEMA's existing methodology for a BCA, only owners of properties with a benefit-cost ratio of 1.0 or greater (meaning that total net benefits equal or exceed total project costs) should be eligible to participate in our proposal.

Further, our proposal should be limited to low- and middle-income property owners, as these are the people who are likely facing real affordability challenges as a result of the recent changes in insurance pricing. According to NOAA, in 2010, approximately 16.4 million people (5% of the U.S. population) resided in the coastal 100-year floodplain. Of those, 1.8 million people lived below the poverty level.<sup>55</sup> While we recognize that many, if not most, of the people living in poverty are probably neither property owners nor NFIP policyholders, nevertheless, the NOAA numbers show that our proposal could apply to a significant number of people.

54. BCA is a FEMA-approved method for determining the potential positive effects of a mitigation measure and comparing them to the cost of the measure. Currently, FEMA requires a BCA in order to evaluate the cost-effectiveness of any individual buyout or other proposed hazard mitigation projects prior to funding. See FEMA, FINAL BCA REFERENCE GUIDE (2009), available at [http://www.fema.gov/media-library-data/20130726-1736-25045-7076/bca\\_reference\\_guide.pdf](http://www.fema.gov/media-library-data/20130726-1736-25045-7076/bca_reference_guide.pdf).

55. NOAA, SPATIAL TRENDS IN COASTAL SOCIOECONOMICS DEMOGRAPHIC TRENDS DATABASE: 1970-2010 (2013), <http://stateofthecoast.noaa.gov/pop100yr/welcome.html>.

### c. Procedures

FEMA and/or the state and local governments should proactively approach eligible property owners and present them with the proposal outlined here. Damaged properties would be purchased at their pre-disaster fair market value. If an owner is interested, FEMA and/or the state and local governments would conduct an appraisal of the property value, although this would by no means commit the owner to selling his or her home. The owner should understand, however, that the appraisal is only meant to give a ballpark estimate of the potential purchase price at the time immediately before the property is flooded by the next disaster, and that the value may either increase or decrease depending on how much time passes between the entering of the agreement and the next catastrophic flood event.

After the owner is presented with the potential purchase offer, he or she could then make a decision whether to enter into a binding agreement with FEMA and the state and local governments to accept a buyout offer and relocate upon the occurrence of the next major flood disaster. The agreement would identify the state or local government as the entity that would ultimately take title to the land and maintain the space for public use. In addition, the state or local government would also be responsible for monitoring and ensuring enforcement of the buyout and relocation agreement.

If a landowner did not want to wait for the next flood, but instead wanted to be bought out sooner, that is an option FEMA should allow and encourage. Allowing property owners the option of initiating a buyout prior to a flood gives them an additional element of control, which could make this option even more attractive. Moreover, buying out a flood-prone property in advance of a disaster means flood risks are reduced that much sooner and any future flood damage may be completely avoided.

The agreement to accept a buyout offer and relocate in exchange for reduced premiums should be binding on all subsequent owners of the property.<sup>56</sup> Thus, if a property is sold before a flood event triggers a buyout, the next owner would be subject to the same agreement as a condition of the property transaction. Lastly, if the property owner reneges on the agreement, or if subsequent to a transfer of ownership the new property owner does not want to continue the agreement, they should be held liable for repayment of all benefits received—the difference between the actuarial rates of flood insurance and the discounted rates paid since the agreement was contracted.

### d. Advantages

The first and foremost advantage of offering rate discounts is that FEMA may be able to do so under its existing

56. There are various legal tools available that would make the initial agreement between FEMA and the original owner binding on all subsequent owners; however, proposing the exact legal instrument is not the essence of this Article.

authority. If viewed as a mitigation measure, FEMA could lower a property owner's insurance premium in exchange for an agreement to accept a buyout and vacate after the next flood. Relocation is already a FEMA-recognized form of mitigation, given that the agency has repeatedly allowed state and local governments to use hazard mitigation funds for these purposes.<sup>57</sup>

Local governments may benefit by knowing exactly which properties will be bought out well in advance of the next flood. Currently, when buyouts are done post-flood, communities can find that entire neighborhoods of people are relocating. This means lost property tax revenue and disruption of previous assumptions about community infrastructure investments. By securing agreements to accept a buyout offer and relocate before the next major flood event, at least the local community can assess well in advance how many properties are going to be taken off the property tax rolls and the resulting level of demand for municipal services that it will need to provide post-disaster. Ultimately, the same loss of revenue may result, but at least a community can plan for that eventuality.

Further, the increasing public cost of post-disaster recovery could be curtailed if flood victims were better incentivized to relocate rather than to rebuild. It is estimated that RLPs comprise only 1% of all policies under the NFIP, but have accounted for approximately 33% of all claims paid.<sup>58</sup> Moreover, approximately 10% of RLPs have cumulative flood insurance claims that exceed the value of the property.<sup>59</sup> Proactively signing property owners for buyouts in advance of a flood puts upward pressure on Congress to make sure funds are available to honor the obligation. If this option proved to be popular, it could help increase federal investments for property buyouts of all types and increase the interest in disaster mitigation across the board.

Affordability is also a benefit of our proposal. Many property owners likely cannot afford the higher risk-based premiums, although more information is needed from FEMA to determine exactly how many people are in this situation. At the very least, this proposal would be a more attractive option than paying higher insurance premiums. The owner would receive a discounted insurance rate plus a guarantee of being bought out should he or she incur substantial damage in the next flood.

Additionally, most types of mitigation measures, such as elevating a structure, are quite expensive. Various estimates range from \$10,000 to well over \$100,000, depending on the size, configuration, and design of a home. For the individual homeowner, some of the costs can be picked up by FEMA,<sup>60</sup> but unfortunately for U.S. taxpayers, it leaves them having to foot the bill for the

increased federal spending. In addition to FEMA, other federal agencies, such as HUD, may also make hazard mitigation grants available that further assist in the elevation of properties.

To make matters worse, the current approach of elevation and building modifications is predicated on wrong or soon-to-be-wrong information. First, if a flood map has not been updated in 20 or more years, the home will be raised to the wrong elevation standard and therefore still will be susceptible to the next 100-year flood. Secondly, FEMA's flood maps do not take into consideration the impacts of climate change on future flood risks; as such, properties are being elevated above the 100-year floodplain based on how it is currently mapped, rather than on how the 100-year floodplain will look in 15, 25, or 50 years from now. Hence, the current elevation standards are insufficient to adequately protect owners from future flood events, which will only result in more taxpayer money being wasted when the next disaster strikes. The best solution to this problem is to permanently move at-risk communities out of harm's way as it will help save taxpayer dollars and strengthen the future financial solvency of the NFIP. According to a multistate study conducted by the National Wildlife Federation on buyouts following the catastrophic 1993 Midwest floods, every \$1 invested in buyouts of RLPs returns over \$2, generally within five years.<sup>61</sup>

In conclusion, implementing a policy that increases voluntary buyouts of flood-prone properties may be the most effective way to improve our nation's long-term resilience to flooding and reduce the future public costs associated with escalating flood risks.<sup>62</sup> Because climate change will likely increase both the degree and geographic extent of flood risks along our nation's coasts and inland waterways, it no longer makes sense to rebuild under any circumstances. By steering development toward safer locations, all future flood hazard and damage may be permanently avoided. Another critical advantage provided by a buyout program is the opportunity to create a natural buffer on the acquired land, such as a restored wetland or park space. These types of spaces can absorb and hold storm and floodwaters, essentially buffering the surrounding communities from inundation, and thereby helping to reduce or even prevent flooding further inland.<sup>63</sup>

COVERAGE 1-3 (2003), available at <http://www.fema.gov/pdf/plan/floodplain/fema301.pdf>.

57. FEMA, HAZARD MITIGATION ASSISTANCE: PROPERTY ACQUISITION (BUYOUTS), available at <http://www.fema.gov/application-development-process/hazard-mitigation-assistance-property-acquisition-buyouts>.

58. 2013 CRS REPORT, *supra* note 24, at 20.

59. *Id.*

60. If a property is declared to be either substantially or repetitively damaged, the owner may purchase Increased Cost of Compliance coverage under the NFIP, which gives them up to \$30,000 toward elevating a home. See FEMA, NATIONAL FLOOD INSURANCE PROGRAM: INCREASED COST OF COMPLIANCE

61. The conclusion of a 200% return on investment was actually conservative because NWF did not take into consideration a multitude of additional costs that are potentially permanently avoided because of buyouts, such as local flood fighting, evacuation, rescue and recovery expenses, and the social costs of human suffering and loss of life. See NWF, Higher Ground: A Report on Voluntary Property Buyouts in the Nation's Floodplains (1998), available at [https://www.nwf.org/-/media/PDFs/Water/199807\\_Higher-Ground\\_Report.ashx](https://www.nwf.org/-/media/PDFs/Water/199807_Higher-Ground_Report.ashx).

62. Shiva Polefka, *Moving Out of Harm's Way*, CENTER FOR AM. PROGRESS, Dec. 12, 2013, available at <http://www.americanprogress.org/wp-content/uploads/2013/12/FloodBuyouts-2.pdf>.

63. Annie Siders, *Managed Coastal Retreat: A Legal Handbook on Shifting Development Away From Vulnerable Areas*, Columbia Law School Ctr. for Climate Change 110 (2013), available at [https://web.law.columbia.edu/sites/default/files/microsites/climate-change/files/Publications/Fellows/Managed-CoastalRetreat\\_FINAL\\_Oct%2030.pdf](https://web.law.columbia.edu/sites/default/files/microsites/climate-change/files/Publications/Fellows/Managed-CoastalRetreat_FINAL_Oct%2030.pdf).

### e. Potential Criticisms

Critics might argue that due to the passage of the Homeowner Flood Insurance Affordability Act, which permanently reinstated subsidies for some property owners, there will be minimal-to-zero incentive for NFIP policyholders to engage in behavior that would entitle them to receive reduced flood insurance rates. As discussed above, owners of pre-FIRM second homes, businesses, and SRLPs, as well as owners whose policies lapse, are still subject to premium increases until actuarial rates are reached even after the passage of the Act. Hence, there are at least 438,000<sup>64</sup> property owners who currently face an annual 25% increase in their flood insurance rates or face full risk-based rates immediately, and many of them are looking for recourses to help alleviate their financial burdens. Moreover, for most other subsidized policies, namely pre-FIRM primary residences, rates will increase annually by at least 5%, but no more than 15% within a single risk class and no more than 18% for any individual policy, unless the property is newly purchased or the owner buys a new policy.<sup>65</sup> Lastly, insurance costs will likely need to rise for all policyholders, regardless of relative risk of flooding, in order to address the NFIP's financial insolvency.

The NFIP is reauthorized every five years and will be up for reauthorization in 2017; therefore, there certainly will be further debate about the price that needs to be paid for flood insurance. It is possible that by 2017 members of Congress will be willing to entertain a range of new proposals to address the many problems of the NFIP. Our proposal may make it much easier to enact risk-based rates for all types of policyholders by providing a viable alternative that directly addresses the problem of affordability while also providing a mechanism for decreasing our nation's long-term exposure to flooding.

Another potential criticism of this proposal is that enforcement of the buyout agreement can be difficult. Not only would the state or local agency have to monitor the property in order to detect any noncompliance, but the agency also would need to impose penalties against any violators. For example, what remedy would the state or local government have if, years after a homeowner obtained a reduced flood insurance rate from FEMA in exchange for a promise to relocate, the owner reneges and refuses to leave when a flood event destroys his home? While enforcement will certainly be a challenge under our proposal, it is a challenge that is inherent to all types of contractual agreements, conservation easements, or any other instrument of a similar nature.

64. As of June 2012, the most recent data available, there were about 438,000 policies for businesses, non-primary residences, and SRLPs. See U.S. GAO, FLOOD INSURANCE: MORE INFORMATION NEEDED ON SUBSIDIZED PROPERTIES 13 (2013), available at <http://www.gao.gov/assets/660/655734.pdf>.

65. FEMA, CHANGES TO THE NATIONAL FLOOD INSURANCE PROGRAM—WHAT TO EXPECT: IMPACT OF CHANGES TO THE NFIP UNDER HOMEOWNER FLOOD INSURANCE AFFORDABILITY ACT OF 2014 5 (2014), available at [http://www.fema.gov/media-library-data/1403633987258-7a504b5ba12674c0f36adb-67fe103ee7/Changes\\_to\\_the\\_NFIP\\_What\\_to\\_Expect.pdf](http://www.fema.gov/media-library-data/1403633987258-7a504b5ba12674c0f36adb-67fe103ee7/Changes_to_the_NFIP_What_to_Expect.pdf).

One type of corrective action that the state or local agency can undertake is to bring the property owner to court, which may result in a judge ordering specific performance to require the owner to accept a buyout offer and relocate. Another enforcement tool could be making repayment of the received benefits a condition of the contract should the property owner renege on his commitment to relocate. In that instance, the defaulter-property owner would be liable for the cost differential between the reduced rate and the full rate that the owner would have had to pay prior to committing to relocate. Finally, the property owner should not be entitled to any post-disaster assistance from FEMA, including claims payments, if he or she defaults on the agreement to accept a buyout offer, which should keep most property owners motivated to follow through. These same property owners would also be ineligible to receive any federal disaster aid in subsequent floods.

### 2. State or Local Alternative: Acquire Conservation Easements on Flood-Prone Properties

While making voluntary buyouts an institutionalized option under the NFIP would likely be the most effective method of getting property owners to move away from flood-prone areas, there are other tools that can work hand-in-hand with the program, which could also promote a migration away from vulnerable areas. For example, there may be a role for easements in encouraging property owners who live in flood-prone areas to relocate after a catastrophic flood. A "floodplain development easement" could be created that prohibits reconstruction of a building in the wake of a flood, perhaps tied to some threshold level of damage or flood magnitude.

#### a. Details

Rather than offering discounts on flood insurance, a state or local government could do something similar through the offer of an easement<sup>66</sup> that would prohibit rebuilding in the wake of a flood. The Vermont Department of Environmental Conservation (DEC) uses a similar strategy for reducing flood hazards under its River Management Program (RMP) by which the agency establishes easements on flood-prone lands, thereby prohibiting future development.<sup>67</sup>

66. Easements are a popular tool that are employed for all kinds of land use purposes, such as limiting development in order to preserve natural resources (e.g., conservation easements), granting the public access for transportation purposes (for example, a public right-of-way), or allowing residents to access a public beach or lake by crossing adjacent private property.

67. Under the RMP, the Vermont DEC provides grants to qualified conservation organizations to purchase easements in river corridor areas (floodplains adjacent to rivers). Restricting land use and channel management on land along rivers and streams is a primary strategy to reduce flood risks. Landowners living in river corridors and who have suffered repetitive losses may be approached about selling an easement on their properties. The river corridor easement would prevent any future channel management activities,

A floodplain development easement program, a term we have coined for purposes of this Article, would prohibit reconstruction on flood-prone lands following a disastrous flood event. First, a municipality or local land trust, also known as the easement holder, should approach property owners living in flood-prone areas and present them with the option of selling a conservation easement on their property. If an easement purchase and sale agreement is made between the property owner and the easement holder, the property owner would receive an upfront payment for the sale of the easement. As soon as the property owner sells a conservation easement on his property, any further development on the land should be restricted. Moreover, if and when a future flood results in the destruction or substantial damage of the property owner's home, the conditions of the easement would continue to be in effect and thus prohibit the owner from rebuilding; as a result, the owner would have no other choice but to relocate. Not only would this arrangement promote a retreat away from risky areas and thereby enhance our nation's flood resilience, it would also reduce future flood damage because there presumably would be fewer structures on the land as a result of the easement restrictions.

Moreover, completed conservation easements exist in perpetuity, so even if title of the property switches hands before the occurrence of the next catastrophic flood event, the agreement would be binding on any and all future owners. The easement agreement should be recorded in the local land records so that it becomes a part of the chain of title for the property. In addition, enforcement power should rest with the local or state agency that develops this floodplain development easement program.

Generally speaking, a conservation easement allows the landowner to retain ownership of the property while restricting land use. Under our proposed easement program, however, we recommend that title to the property be transferred to the easement holder once the owner is forced to relocate after a flood event, and that some equitable payment be made to the property owner by the easement holder to purchase the property. Property owners should be incentivized to relinquish ownership once they relocate, as it would no longer make sense to own a piece of land that they can no longer live on or develop further. Moreover, owners would likely welcome the additional compensation from the sale of the property as it would help toward the costs of relocation. Properties should be purchased at their pre-disaster market value, and the transference of title would need to be completed as a separate purchase and sale transaction at the time of relocation. After title is

transferred to the easement holder, the new owner could convert the piece of land into a buffer zone that would soak up storm and floodwaters, thereby further reducing future flooding risks and damages.

Finally, in order to promote the use of conservation easements as an effective flood-risk mitigation strategy, states should conduct a targeted educational campaign to inform communities about their increased vulnerabilities to flooding due to the impacts of climate change. In an era of rising sea levels and changing climate, the public needs to understand that rebuilding in the same flood-prone areas would only result in wasting more taxpayer money and putting more lives and properties at risk. Having this knowledge would provide further incentives, in addition to the financial incentives, for owners of flood-prone properties to participate in the proposed easement program.

## b. Advantages

If implemented, our proposed easement program would help reduce our nation's long-term flood risk as communities are encouraged and incentivized to relocate to safer, drier lands after a flood disaster. In addition, converting the acquired lands into natural buffer zones would further reduce a community's future flooding risks and damages.

Additionally, there are financial incentives for property owners to participate in this program because of the upfront payment they would receive from the sale of the easement. For one, the upfront payment may help address any hardships for lower income property owners who are facing unaffordable premium increases pursuant to the recent Biggert-Waters reforms. Secondly, even for property owners who are not affected by the phase-in of actuarial rates, the upfront payment would be attractive nevertheless because it could help cover some of the relocation expenses. Relocation comes at a high cost, but if property owners have already received some amount of money for simply committing to the decision to relocate (that is, the money they received from selling the conservation easement), they theoretically would find it easier to take this money, on top of their flood insurance payouts and any additional amount from the subsequent sale of the property, to move to a lower risk area.

Lastly, under this proposed floodplain development easement program, property owners would know that they eventually would have to relocate upon the next flood event that destroys or substantially damages their home and thereby could plan accordingly. Having the opportunity to develop a plan for relocation in advance of a disaster, coupled with an educational campaign informing the public about their escalating flooding risk, would significantly increase the chances of a property owner agreeing to participate in a voluntary buyout program.

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but would provide for a buffer zone along the river itself where vegetation may be propagated, maintained, or controlled. Vermont's RMP thus creates a win-win situation for all who are involved. For landowners near dynamic rivers, it minimizes their future flood risk and damage; at the same time, key floodplains and wetlands are restored, which is not only critical to maintaining the ecological health of the rivers, but also may help minimize fluvial erosion hazards to downstream users. See VERMONT AGENCY OF NATURAL RES., DEP'T OF ENVTL. CONSERVATION, *A GUIDE TO RIVER CORRIDOR EASEMENTS* (2010), available at [http://www.vtwaterquality.org/rivers/docs/rv\\_RiverCorridorEasementGuide.pdf](http://www.vtwaterquality.org/rivers/docs/rv_RiverCorridorEasementGuide.pdf).

### c. Potential Criticisms

One potential criticism of this idea might be the impact of this arrangement on homeowners with mortgages. If a mortgage precedes an easement, there is no guarantee that an easement will survive a foreclosure sale unless the mortgage holder signs a “mortgage subordination” document, which essentially has the mortgage holder agree that its rights are subordinate to the rights of the easement holder.<sup>68</sup> Obtaining a mortgage subordination document can be difficult because many lenders view an easement as a type of servitude that might reduce their ability to recoup the loan in the event of a foreclosure or voluntary sale. However, this reluctance by mortgage holders to sign a subordination document is largely due to the lack of guidance on how to handle requests for subordination to a conservation easement.<sup>69</sup> States and local land trusts should work to provide guidance to mortgage service companies on how to handle requests for subordination in order to assure lenders that subordinating their rights to those of easement holders will not affect their ability to recover a loan.

On the other hand, if the original easement grantor sells his or her (mortgage-free) property before the next flood event, and the subsequent owner would like to take out a mortgage loan, the new owner does not need to obtain a subordination document from the lender, because pursuant to the “first in time, first in right” rule,<sup>70</sup> the rights of the easement holder will come before the rights of the mortgage holder. Lastly, under our proposed easement program, if an owner of a mortgaged property decides to sell his or her damaged home after relocation, the owner would be responsible for any outstanding balance on the mortgage, just like any other real estate sale.

Critics of this proposed program might also raise the issue of enforcement. Not only may there be challenges with enforcement against the original easement grantor who reneges on his or her promise to relocate, but also there may be problems with enforcement against any future third parties who may violate the easement conditions. Unfortunately, enforcement can be the downfall of every executed conservation easement; therefore, the agency or organization in charge of enforcement should do everything that

it can to ensure compliance with the easement terms over multi-generational time scales. We propose that enforcement power should vest with the state agency that develops and funds the floodplain development easement program. Hence, if the state discovers a violation by either the property owner bound by the original easement agreement or any third party, it should undertake actions to require the owner or third-party violator to correct the infraction, and in some cases, be prepared to defend the easement terms in a courtroom.

## VI. Conclusion

Climate change is increasing our nation’s vulnerability to flooding, especially for communities along the coasts and inland waterways. Promoting a transition away from vulnerable areas that are likely to experience repeated flooding may be the most effective way to adapt our coastal and riverine communities to the reality of a changing climate. The ideas presented here could help achieve this goal. The first idea may be accomplished through administrative changes made by FEMA. However, absent such action taken by the federal government, state and local governments can step in and help achieve the same result.

In the case of our first and main idea, we may sacrifice some short-term fiscal benefit to the country in the form of lower insurance premiums for interested policyholders; however, communities nationwide would gain a long-term reduction in flood risk as lives and properties would be permanently removed from harm’s way. In contrast with the current situation, which involves both short- and long-term fiscal problems combined with increasing flood risks, our proposal stands out as the more attractive option. Nationwide, billions of tax dollars may be saved by taxpayers not having to continuously subsidize the repeated rebuilding of homes in vulnerable areas. On top of all this, our nation would become more resilient to future flood events. It is time for our federal, state, and local governments to start addressing the nation’s increasing flood risk with greater urgency and develop policies that guide development and redevelopment to safer locations.

68. See Pennsylvania Land Trust Ass’n, Mortgage Subordination, <http://conservationtools.org/guides/show/55-Mortgage-Subordination>.

69. *Id.*

70. In property law, there is a general rule that an entity whose interest in a property is first established prevails over a party who subsequently acquires an interest in that same property.