



NATURAL RESOURCES DEFENSE COUNCIL

January 27, 2022

The Honorable Deanne Criswell
Administrator
Federal Emergency Management Agency
500 C St., SW
Washington, DC 20472

Submitted via Federal eRulemaking Portal

Re: Comments in response to the Request for Information on the National Flood Insurance Program's Floodplain Management Standards for Land Management and Use, and an Assessment of the Program's Impact on Threatened and Endangered Species and their Habitats; Docket ID: FEMA-2021-0024

Dear Administrator Criswell:

The Natural Resources Defense Council (NRDC) is pleased to respond to the Federal Emergency Management Agency's (FEMA) Request for Information ("FEMA RFI") related to revising the National Flood Insurance Program's (NFIP) floodplain management standards.

NRDC is an international, non-profit environmental and public health membership organization with more than three million members and online activists. NRDC advocates to reduce greenhouse gas emissions that cause climate change, increase the resilience of communities to the unavoidable impacts of climate change, safeguard human health, and ensure safe drinking water for all. NRDC, in partnership with the Association of State Floodplain Managers, formally petitioned FEMA in January 2021, requesting the agency amend the NFIP's implementing regulations to adequately account for increased flood risk due to climate change and increased knowledge and experience managing flood risk in the country.

Flooding poses a significant threat to life and property and is one of the most common natural hazards in the United States. Ongoing and future changes to the climate, combined with growing population density in coastal and other flood-prone areas, are increasing flood risk, and thus the likelihood of displacement, injury and illness, loss of life, damage to homes, and the failure of critical infrastructure and the essential community services provided by such infrastructure. Meanwhile, our nation's history of redlining, segregation, and other forms of structural racism and discrimination has left communities of color and other marginalized communities at higher risk of being exposed to flood risks and/or with less public investment in measures to protect against flooding.

Congress intended the NFIP to be a key mechanism for protecting people and communities and reducing flood damages nationwide.¹ However, too many aspects of the NFIP rely upon historical analysis of flood risk or past experience to guide decisions. With each passing day, multiple aspects of the NFIP are less and less relevant to the actual risks facing communities due to the impacts of climate change.

As a result, people are increasingly vulnerable to flooding if they reside in homes, utilize structures, or are reliant on critical infrastructure or community lifelines that are:

- sited using NFIP-approved flood maps,
- designed in accordance with the current minimum NFIP land use criteria for construction and land use in high-risk flood areas, or
- in a community that is failing to meet the minimum standards for floodplain management required of an NFIP participating community and avoiding FEMA enforcement, or
- susceptible to repeated flooding today or threatened by repeated flooding or inundation in the future.

FEMA recognizes the multiple shortcomings of the NFIP and the need to update a wide array of implementing regulations, which is the reason it has published this Request for Information (RFI). Many of the questions posed in the RFI recognize that multiple aspects of the NFIP fail to account for the growing and unavoidable impacts of climate change and how that omission leads to poor floodplain management decisions, inadequate development standards, and incorrect information being communicated to the public and decision makers about the likelihood and consequences of future flooding.

NRDC is pleased to see FEMA initiate this RFI. NRDC expects FEMA to move quickly to propose new regulations, ideally in the next six months, for those issues raised in the RFI.

Response to Questions

Floodplain Management Questions Addressed in ASFPM's and NRDC's 2021 Petition

Question 2

Under the National Flood Insurance Act, as amended, FEMA has a legal duty to: (a) ensure the NFIP's building and land-use criteria assist in reducing future flood risk to the maximum extent feasible, and (b) develop NFIP floodplain maps that incorporate future conditions.²

Congress tasked FEMA with a mandatory duty to promulgate comprehensive criteria which, to the maximum extent feasible, will limit development of flood-prone land and assist in reducing flood damages. From "time to time," FEMA must, on the basis of studies and investigations authorized by the Administrator, develop "comprehensive criteria," which, "to the maximum extent feasible, will: (1) constrict the development of land which is exposed to flood damage

¹ See, 42 U.S.C. § 4001(e) (establishing a primary purpose of the NFIP is to encourage state and local governments to constrict development in and guide development away from flood prone areas).

² 42 USC § 4102(a)-(c); 42 USC § 4101a(d)(2); 42 USC § 4101b(b)(3)(D)-(E).

where appropriate; (2) guide the development of proposed construction away from locations which are threatened by flood hazards; (3) assist in reducing damage caused by floods; and (4) otherwise improve the long-range land management and use of flood-prone areas.”³ State and local governments are prohibited from participating in the NFIP, unless those entities have adopted adequate land use and control measures that equal or exceed the comprehensive criteria.⁴

The plain meaning rule dictates that statutory terms are to be interpreted using the ordinary meaning of the language of the statute. The plain meaning of “maximum extent feasible” implies FEMA is required to adopt building and land-use criteria that to the greatest degree possible (maximum extent) are reasonably capable (feasible) of achieving the following results: “(1) constrict the development of land which is exposed to flood damage where appropriate; (2) guide the development of proposed construction away from locations which are threatened by flood hazards; (3) assist in reducing damage caused by floods; and (4) otherwise improve the long-range land management and use of flood-prone areas.”⁵

Multiple jurisdictions already have stronger building and land-use standards than the NFIP’s standards. As such, stronger standards are feasible. Additionally, multiple studies and investigations, including ones conducted by FEMA, demonstrate that such building and land-use standards limit risky floodplain development and assist in reducing floodplain damages to a greater extent than the NFIP’s existing standards. FEMA has repeatedly recommended adoption of stronger standards. As such, the NFIP’s existing building and land-use standards do not meet the “maximum extent feasible” requirement.

FEMA is and will continue to, as flood risk worsens due to climate change and growing development in high-risk flood areas, breach its mandatory legal duty to periodically update the comprehensive criteria to ensure that flood damages are being reduced to the maximum extent feasible.

Both the law and FEMA’s own policy positions obligate the agency to adopt higher freeboard levels to reduce flood damages. Therefore, FEMA must update flood elevation requirements for Special Flood Hazard Areas (SFHAs) by setting higher freeboard levels (i.e., elevation above the height of the 1 percent annual chance flood) to satisfy its mandatory duty. Currently, FEMA only requires structures built in the SFHA to be elevated or floodproofed to the height of the 1 percent annual chance flood.⁶

However, numerous FEMA-authorized studies and investigations related to floodplain management have found that stronger floodplain management standards, like freeboard, are effective and necessary to address growing flood risk (see Appendix A). FEMA has explicitly acknowledged that freeboard is better than the agency’s current building and land-use criteria for

³ 42 USC § 4102(a)-(c).

⁴ 42 USC § 4022 (a)(1).

⁵ 42 USC § 4102(a)-(c).

⁶ 44 CFR §60.3

reducing flood risk.⁷ In addition, FEMA has often encouraged states and communities to adopt freeboard as it is more protective than the NFIP minimum requirements.⁸

Further, multiple states and local communities have adopted stronger building and land-use standards than the NFIP's minimum criteria – demonstrating that stronger standards are feasible. (See Appendix B.) For example, a minimum of 42 NFIP-participating communities mandate 3 feet of freeboard for all construction in the 1 percent chance annual floodplain.⁹ An additional 192 NFIP-participating communities mandate 2 feet of freeboard for all construction in the 1 percent chance annual floodplain.¹⁰ Further, Indiana, Montana, New York, and Wisconsin require a minimum of 2 feet of freeboard statewide for construction in the 1 percent chance annual floodplain.¹¹

Given multiple jurisdictions already have stronger building and land-use standards than the NFIP's standards, stronger standards are feasible. Additionally, multiple studies and investigations, including ones developed by FEMA, demonstrate such building and land-use standards limit risky floodplain development and assist in reducing floodplain damages to a greater extent than the NFIP's existing standards. FEMA has repeatedly recommended adoption of stronger standards. As such, the NFIP's existing building and land-use standards do not meet the “maximum extent feasible” requirement as required by law.

Smart policy also dictates FEMA should set higher freeboard levels to reduce flood damages. Since 2015, the I-Codes have required at least 1 foot of freeboard above the height of the 1 percent annual chance flood. This aspect of the I-Codes saves \$550 million over the long-term for every year of new buildings built to the code.¹² Eighty-seven percent (\$470 million) of the benefit is in the form of avoided property damage.¹³

Projects exceeding the 2015 I-Codes' elevation requirement for riverine and coastal flooding enjoy a benefit-cost ratio of 5:1 and 7:1, respectively.¹⁴ The costs reflect only the added cost relative to the 2015 I-Codes, which provide a higher elevation standard than the NFIP minimum requirements. For riverine flooding, every \$1 spent to build new homes higher out of the floodplain – up to 5 feet above the height of the 1 percent chance annual flood – saves \$5 in avoided damages and other costs.¹⁵

⁷ See generally, Federal Emergency Management Agency, *Building Codes Save: A Nationwide Study Losses Avoided as a Result of Adopting Hazard-Resistant Building Codes* (Nov. 2020), https://www.fema.gov/sites/default/files/2020-11/fema_building-codes-save_study.pdf

⁸ *Id.*

⁹ Association of State Floodplain Managers, *States and Other Communities in FEMA CRS with Building Freeboard Requirements 2* (2015).

¹⁰ *Id.* at 6.

¹¹ *Id.* at 1.

¹² National Institute of Building Sciences, *Natural Hazard Mitigation Saves: 2019 Report 70 - 71* (2019)

¹³ *Id.*

¹⁴ *Id.* at 37.

¹⁵ *Id.* at 41.

Benefits and Costs for Additional Elevation above I-Code Minimum in Sample of Communities that Represent Common Floodplain Conditions and Residential Structures Found in Riverine Flooding

Height	Cost	Benefit	BCR	ΔCost	ΔBenefit	DB/DC
Allen County, IN						
BFE + 2	\$793,972	\$3,275,548	4.13	\$793,972	\$3,275,548	4.13
BFE + 3	\$1,191,106	\$5,665,808	4.76	\$397,134	\$2,390,260	6.02
BFE + 4	\$1,588,023	\$7,614,300	4.79	\$396,917	\$1,948,493	4.91
BFE + 5	\$2,022,687	\$8,418,696	4.16	\$434,663	\$804,396	1.85
Elkhart County, IN						
BFE + 2	\$2,537,343	\$9,534,636	3.76	\$2,537,343	\$9,534,636	3.76
BFE + 3	\$3,806,507	\$15,925,500	4.18	\$1,269,164	\$6,390,864	5.04
BFE + 4	\$5,074,995	\$19,968,948	3.93	\$1,268,488	\$4,043,448	3.19
BFE + 5	\$6,464,192	\$22,607,799	3.50	\$1,389,197	\$2,638,850	1.90
Fulton County, GA						
BFE + 2	\$3,516,281	\$14,810,326	4.21	\$3,516,281	\$14,810,326	4.21
BFE + 3	\$5,275,131	\$28,508,125	5.40	\$1,758,849	\$13,697,800	7.79
BFE + 4	\$7,033,070	\$39,734,000	5.65	\$1,757,940	\$11,225,874	6.39
BFE + 5	\$8,958,412	\$48,776,327	5.44	\$1,925,342	\$9,042,327	4.70
Monroe County, GA						
BFE + 2	\$185,855	\$1,619,143	8.71	\$185,855	\$1,619,143	8.71
BFE + 3	\$270,575	\$2,868,257	10.60	\$84,720	\$1,249,113	14.74
BFE + 4	\$359,165	\$3,450,872	9.61	\$88,591	\$582,615	6.58
BFE + 5	\$452,175	\$3,826,023	8.46	\$93,010	\$375,151	4.03

Source: National Institute of Building Sciences, *Natural Hazard Mitigation Saves: 2019 Report*, Table 2-2, p. 42.

For coastal flooding, greater elevation above the height of the 1 percent chance annual flood for new coastal homes in V zones is widely cost effective. When the incrementally efficient maximum (IEMax) of the increase in building height is assessed on a state level, the aggregate benefit-cost ratio (summing benefits and costs over all states) is approximately 7:1, which means \$7 is saved for every \$1 spent to build new coastal buildings in V and VE zones above the base flood elevation (BFE).¹⁶ While the IEMax height of additional freeboard varies by state, all states have an IEMax building height above the 2015 I-Codes of at least 5 feet, with some states having an IEMax of up to 10 feet.¹⁷

¹⁶ *Id.* at 45

¹⁷ *Id.* at 47 - 48.

Benefit-Cost Ratios (BCR) for New Homes Built between 2 feet and the Incrementally Efficient Maximum above the 1 Percent Chance Annual Flood in the Coastal V Zone

State	First Floor Height above BFE up to IEMAX	BCR
Texas	+2 to 8	20.2 to 9.1
Louisiana	+2 to 10	11.3 to 4.8
Mississippi	+2 to 10	27.6 to 10.1
Alabama	+2 to 10	31.1 to 11.7
Florida	+2 to 10	21.1 to 8.4
Georgia	+2 to 6	6.7 to 3.8
South Carolina	+2 to 10	11.8 to 5.0
North Carolina	+2 to 10	12.6 to 5.2
Virginia	+2 to 6	6.7 to 3.8
Delaware	+2 to 6	6.7 to 3.8
Maryland	+2 to 6	6.7 to 3.8
New Jersey	+2 to 6	6.7 to 3.8
New York	+2 to 6	6.7 to 3.8
Connecticut	+2 to 6	6.7 to 3.8
Rhode Island	+2 to 6	6.7 to 3.8
Massachusetts	+2 to 6	6.9 to 7
Total		16.9 to 7

Source: National Institute of Building Sciences, *Natural Hazard Mitigation Saves: 2019 Report Flood/Surge Fact Sheets*, Table 2, pg. 4

Further, the reduction in property loss (about 69%) and the avoided administrative insurance costs (12%) account for more than 80 percent of the benefits of building above the height of the 1 percent annual chance flood height in V zones.

Benefits and Costs of Building New Houses in V Zones above 2015 I-Code Requirements for 1 Year

Height	Property loss	Additional living expenses & Indirect business interruption	Insurance fees	Death, injury	Benefit (B)	Cost (C)	BCR
BFE + 2	\$10.67	\$2.80	\$1.81	\$0.05	\$15.33	\$0.90	16.9
BFE + 3	\$17.60	\$4.67	\$2.99	\$0.09	\$25.36	\$1.80	14.1
BFE + 4	\$24.66	\$6.76	\$4.19	\$0.12	\$35.73	\$2.71	13.2
BFE + 5	\$27.96	\$7.70	\$4.75	\$0.14	\$40.55	\$3.60	11.2

BFE + 6	\$31.11	\$8.74	\$5.29	\$0.15	\$45.28	\$4.50	10.1
BFE + 7	\$32.66	\$9.12	\$5.55	\$0.16	\$47.50	\$5.41	8.8
BFE + 8	\$34.21	\$9.61	\$5.82	\$0.17	\$49.80	\$6.30	7.9
BFE + 9	\$34.93	\$9.80	\$5.94	\$0.17	\$50.84	\$7.20	7.1
BFE +10	\$35.64	\$10.07	\$6.06	\$0.17	\$51.94	\$8.11	6.4
BFE + 11	\$35.88	\$10.12	\$6.10	\$0.17	\$52.27	\$9.01	5.8

Source: National Institute of Building Sciences, *Natural Hazard Mitigation Saves: 2019 Report*, Table 2-3, p. 46.

Clearly, states and communities throughout the country successfully implement freeboard requirements above the base flood elevation. However, the NFIP’s elevation standard has not changed since its inception 45 years ago, despite the current shortcomings with the NFIP’s mapping program (see our response to Question 12 below) and the well-documented impacts on flooding due to climate change and watershed development. The NFIP’s elevation standard now lags widely adopted minimum industry standards for flood safety, clearly falling far short of the “maximum extent feasible” requirement.¹⁸

To satisfy the Congressional mandates for the NFIP, FEMA must adopt a higher freeboard standard that accounts for the uncertainty of future flood conditions. FEMA itself has long urged communities and states to adopt higher freeboard standards and many communities and states have done so, demonstrating the practicality and feasibility of such standards. To date, FEMA has not included a higher freeboard standard in its own regulations implementing the NFIP. Nor has the agency significantly revised such standards since their adoption decades ago.

For non-critical structures in A zones, FEMA should adopt a higher freeboard standard requiring, at minimum, 2 feet of freeboard above the BFE for new construction and for substantial damage or improvements to existing structures. Multiple states and NFIP-participating communities have already adopted a freeboard standard requiring structures be elevated 2 feet above the height of the 1 percent chance annual flood, which demonstrates feasibility. In addition, benefit-cost analysis conducted by the National Institute of Building Sciences and FEMA has shown such a standard in riverine areas provides significant cost savings in avoided flood damages.

For non-critical structures in V zones, FEMA should require a higher freeboard standard of 4 feet above the non-sea level rise adjusted BFE for new construction and for substantial damage or improvements to existing structures. Per FEMA’s study, *2008 Supplement to the 2006 Evaluation of the National Flood Insurance Program’s Building Standards*, 4 feet of freeboard was found to be highly cost effective. The additional cost to elevate to 4 feet above the 1 percent chance annual flood was significantly outweighed by the amount saved in reduced flood

¹⁸ Since 2015, the I-Codes have required higher freeboard for all structures built in 1 percent annual chance floodplain

damages. Further, FEMA has acknowledged some local jurisdictions have already adopted up to 4 feet of freeboard and FEMA has recommended it for maximum insurance savings.¹⁹

Alternatively, FEMA should require communities with V zones to adopt an estimate of the anticipated sea level rise that is at least as high as NOAA’s “intermediate–high” projection for 2100 to establish the BFE on their Flood Insurance Rate Map (FIRM). Non-critical structures must be elevated to the height of that sea level rise-adjusted BFE. As noted above, FEMA already provides credit through the Community Rating System to communities that adopt such a practice.

Recommended Changes to FEMA Regulations

<p>44 CFR § 60.3</p>	<p>Amend §60.3(c)(2) to require that all non-critical new construction and substantial improvements of residential structures have the lowest floor (including basement) elevated 2 feet above the base flood level.</p> <p>Amend § 60.3(c)(3) to require that all non-critical new construction and substantial improvements of non-residential structures have the lowest floor (including basement) elevated 2 feet above the base flood level or be designed so that below that level (2 feet above the base flood) the structure is watertight.</p> <p>Amend § 60.3(e)(4) and 60.3(e)(4)(I) to require that all non-critical new construction and substantial improvements are elevated so that the bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated 4 feet above the base flood level.</p>
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Question 3

FEMA should develop higher flood protection standards for structures and facilities that perform critical actions. Unlike other FEMA programs, such as the Hazard Mitigation Assistance

¹⁹ Federal Emergency Management Agency, *Building Higher in Flood Zone: Freeboard-Reduce Your Risk, Reduce Your Premium* (2020); see also, Federal Emergency Management Agency, *Designing for Flood Levels Above BFE* 8 (2006).

programs, the NFIP does not require a higher level of flood protection for such infrastructure.²⁰ Under the NFIP, the 1 percent chance annual flood standard is universally applied to all infrastructure types. A hospital that provides emergency care or a facility that produces toxic chemicals are built to the same, outdated flood risk elevation standard that FEMA requires of a single-family residential structure or a department store.

Under the National Flood Insurance Act, as amended, FEMA has a legal duty to ensure the NFIP's building and land-use criteria, to the maximum extent feasible, guide the development of proposed construction away from locations which are threatened by flood hazards and assist in reducing damage caused by floods.²¹

Common practice by state and local actors, demonstrating feasibility, and FEMA's own policy position concerning structures and facilities that perform critical actions provide strong justification for developing higher standards. The American Society of Civil Engineers (ASCE) has adopted far more rigorous standards for construction, demonstrating the feasibility of FEMA adopting standards that are at least as protective. According to FEMA's fact sheet *Highlights of ASCE 24-14 Flood Resistant Design and Construction*, "essential facilities (Flood Design Class 4) must be elevated or protected to the BFE + 2 ft or 0.2 percent chance annual flood elevation, whichever is higher."²² ASCE's standard applies to all flood hazard areas. FEMA's lack of a standard for critical infrastructure and its ongoing failure to adopt one since the 1970s, while other code-setting bodies have, demonstrates that the agency has not even attempted to develop building and land-use criteria that meet the "maximum extent feasible" standard established in statute.

In contrast, the Federal government, including FEMA, has required higher flood protection for federally funded critical infrastructure for decades. Executive Order 11988, signed by President Carter in 1978, requires all executive agencies to take special care when funding infrastructure projects that may affect floodplains by avoiding those areas whenever there is a practicable alternative. If avoidance of the floodplain is not practicable, agencies are required to protect federally funded infrastructure against flood damages. The implementing guidance (prepared by the Water Resources Council) established the 0.2 percent annual chance flood as the minimum level of protection for critical infrastructure projects undertaken by the Federal government in floodplains.

Implementation of Executive Order 11988 does not alleviate FEMA of its responsibilities under the NFIP statutes. While the standards promulgated by FEMA to implement Executive Order 11988 cover projects that receive federal funding, critical infrastructure built without federal funding escapes application of the executive order. This would include any privately held facility that meets the definition of a "critical action" and public infrastructure that is financed exclusively by local or state governments.

²⁰ Request for Information on the National Flood Insurance Program's Floodplain Management Standards for Land Management and Use, and an Assessment of the Program's Impact on Threatened and Endangered Species and Their Habitats, 86 FR 56713, 56716 (Oct. 12, 2021).

²¹ 42 USC § 4102(a)-(c).

²² FEMA, *Highlights of ASCE 24-14 Flood Resistant Design and Construction*, https://www.fema.gov/sites/default/files/2020-07/asce24-14_highlights_jan2015.pdf

FEMA’s regulations for implementation of Executive Order 11988 (44 C.F.R. Part 9) define a critical action as an action for which even a slight chance of flooding is too great. Critical actions include, but are not limited to, those which create or extend the useful life of structures or facilities:

- (a) Such as those which produce, use or store highly volatile, flammable, explosive, toxic or water-reactive materials;
- (b) Such as hospitals and nursing homes, and housing for the elderly, which are likely to contain occupants who may not be sufficiently mobile to avoid the loss of life or injury during flood and storm events;
- (c) Such as emergency operation centers, or data storage centers which contain records or services that may become lost or inoperative during flood and storm events; and
- (d) Such as generating plants, and other principal points of utility lines.²³

The 2006 American Institutes for Research report *Assessing the Adequacy of the National Flood Insurance Program’s 1 Percent Standard* explicitly states that a critical facility standard in the NFIP is warranted, recommending the NFIP prohibit critical facilities from the 0.2 percent floodplain or, if that is not practicable, to require facilities to be protected to that elevation.²⁴ Further, FEMA already encourages NFIP communities to adopt a critical facilities standard by providing CRS credit to communities that prohibit construction of critical facilities in the 0.2 percent annual chance floodplain, and partial credit to communities that protect critical facilities to the height of the 0.2 percent chance flood.

For critical infrastructure, FEMA should:

- 1) Prohibit new critical infrastructure, where feasible, from the 0.2 percent annual chance floodplain.
- 2) Require redeveloped, substantially improved, or new critical infrastructure (when location outside of the 0.2 percent annual chance floodplain is not feasible) to be elevated (floodproofed) to the 0.2 percent chance flood elevation, plus freeboard to account for future conditions, or the historical flood of record, whichever is greater.
- 3) Ensure access to and operability of the critical infrastructure during the 0.2 percent annual chance flood event, and where that is not feasible, require a viable continuity of operations plan (COOP).

Recommended Changes to FEMA Regulations

44 CFR § 59.1	Add a definition for “Critical Action.” The definition, at minimum, should mirror the 44 CFR § 9.4 definition of “Critical Action.”
44 CFR § 60.3	Add a new regulatory requirement for critical facilities, as defined under “Critical Action,” prohibiting new critical infrastructure from A, V, and X (0.2 percent chance flood) zones, where feasible.

²³ 44 C.F.R. § 9.4

²⁴ Gerald E. Galloway et al., American Institutes for Research, *Assessing the Adequacy of the National Flood Insurance Program’s 1 Percent Flood Standard* 106 (2006).

	<p>Require substantially damaged/improved or new critical facilities (when location outside of the 0.2 percent annual chance floodplain is not feasible) to be elevated (floodproofed) at a minimum to the 0.2 percent chance flood elevation, plus freeboard to account for future conditions, or the historical flood of record, whichever is greater.</p>
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Question 5

Floods are occurring with greater frequency and severity due to climate change. Heavier precipitation events and rising seas are increasing the occurrence of 1 percent annual chance or greater flood events, which may increase the likelihood NFIP-insured homes are substantially damaged during flood events. Substantially flood-damaged homes must be brought into compliance with current floodplain management regulations.

FEMA’s efforts to reduce repeated flooding are not keeping pace with current risk—let alone the increasing risk posed by sea level rise, increased severe weather, and other climate change impacts. Between the creation of the NFIP in 1968 and 2018, nearly 37,000 properties met the criteria to become what the program refers to as Severe Repetitive Loss Properties, or SRLPs.²⁵ (See Appendix C.) These properties, the most flood-prone structures insured under the NFIP, have flooded about five times each, on average. The number of Repetitive Loss Properties is estimated to be well over 200,000 structures.²⁶

FEMA must provide more flexible and substantial assistance to help owners of repeatedly flooded homes to either mitigate their risk or, if desired, relocate. Breaking the cycle of flood damage, especially repeated flood damage, is an important objective of the NFIP. As such, the NFIP requires pre-FIRM buildings that are improved beyond a certain threshold or that incur a certain level of damage to be brought into compliance with current floodplain management regulations. The NFIP’s Increased Cost of Compliance (ICC) coverage provides funds – up to \$30,000 – to assist NFIP policyholders whose homes are repetitively or substantially damaged by a flood satisfy that requirement.

ICC coverage is a mandatory part of most NFIP policies. For residential structures, ICC provides funds for mitigation measures, which include elevation, relocation, demolition, and floodproofing of certain residential structures with basements.²⁷ The majority of ICC payments are used to elevate a structure.²⁸

²⁵ NRDC, *Losing Ground: Severe Repetitive Flooding in the United States*, <https://www.nrdc.org/resources/losing-ground-severe-repetitive-flooding-united-states>

²⁶ *Id.*

²⁷ 44 CFR Pt. 61, App. A(1).

²⁸ Carolyn Kousky and Brett Lingle, *Post-Flood Mitigation: The NFIP’s Increased Cost of Compliance (ICC) Coverage*, 5 (2017).

Unfortunately, ICC coverage often does not provide enough funds to cover the required flood mitigation expenses. The maximum payout of \$30,000 is insufficient to cover the cost of measures to elevate flood-damaged structures, which can easily be 3 to 5 times that amount.²⁹

While disasters do not themselves discriminate, a history of discriminatory policies like redlining and segregation as well as economic and social disparities have located low-income communities and communities of color in highly vulnerable floodplains in certain states.³⁰ Socially vulnerable communities were some of those most heavily impacted by flooding after Hurricane Harvey.³¹ These vulnerable communities include the elderly, disabled, poor, and those who don't own a car or cannot speak English.

For several reasons, lower-value homes are more likely to become Repetitive Loss Properties. NRDC analyzed damage claims from SRLPs and found that lower-value homes were more likely to suffer cumulative losses that exceeded a property's value. The disproportionate effect of flooding on vulnerable communities coupled with financing challenges is a crucial concern to address in any proposed reform to the NFIP. As noted above, existing ICC funds are unlikely to provide sufficient support for households with fewer financial resources.

Per 42 U.S.C § 4011, FEMA must provide NFIP-policyholders the ability to purchase insurance to cover the cost of implementing measures that are consistent with the NFIP's land use and control measures. FEMA has the authority to establish the mechanism, including the premium rate up to \$75, and coverage amount of that insurance. As such, FEMA should increase the cap on primary ICC coverage and provide an optional ICC coverage option that exceeds the primary coverage cap.

Recommended Changes to FEMA Regulations

44 C.F.R. § Pt. 61, App. A(1)	Amend subsection D(2) by striking “\$30,000” and inserting “\$60,000”.
44 CFR § Pt. 61	<p>Add a new optional ICC coverage option above \$60,000, with a maximum cap of \$100,000.</p> <p>Expand eligible activities to include acquisition costs associated with voluntary home buyouts and specify that ICC dollars can be used to meet non-federal cost-share requirements for other federal grants.</p>

²⁹ *Id.* at 4.

³⁰ See e.g., Tanvi Misra, *The Ugly Story of South Dallas*, City Lab (May 11, 2016), available at <https://perma.cc/D2LE-323H>; Marilyn C Montgomery and Jayajit Chakraborty, *Assessing the Environmental Justice Consequences of Flood Risk: a Case Study in Miami, Florida* 2015 ENVIRON. RES. LETT. 10, <https://perma.cc/F3VG-P3N9>. For some of the difficulties in analyzing these trends at the national level, see NYU Furman Center, *Population in the U.S. Floodplains: Data Brief* (Dec. 2017), <https://perma.cc/289C-NHQ6>.

³¹ Jeremy Deaton, *Hurricane Harvey Hit Low-Income Communities Hardest*, THINKPROGRESS (Sept. 1, 2017), <https://perma.cc/CM6B-ATAR>.

Question 7

Improving and strengthening the NFIP’s minimum land-use requirements would not only benefit threatened and endangered species and their habits, but further the NFIP’s goal of improving resilience to flooding.

As noted previously, Congress tasked FEMA with promulgating criteria to “guide the development of proposed construction away from locations which are threatened by flood hazards” and “otherwise improve the long-range land management and use of flood-prone areas.”³² FEMA, as a federal agency, also has an obligation to ensure implementation of the NFIP neither jeopardizes threatened and endangered species nor destroys or adversely modifies their designated critical habitats. Specific changes to the NFIP criteria, such as limiting construction in identified riparian buffer zones, requiring a more restrictive regulatory floodway standard, and imposing stronger subdivision requirements, would assist FEMA in satisfying its legal obligations.

FEMA should adopt regulations limiting construction in riparian buffer zones, which provides multiple co-benefits to participating communities, including improved flood protection. Among other characteristics, riparian zones are well known hot spots of biodiversity.³³ As explained by Naiman et al., “[n]atural riparian corridors are the most diverse, dynamic, and complex biophysical habitats on the terrestrial portion of the earth” and “many of the ecological issues related to land use and environmental quality could be ameliorated with effective riparian corridor management.”³⁴ However, streamside ecosystems around the United States have been severely degraded. For example, recent studies estimate that California has lost around 95 percent of the Central Valley’s riparian woodlands, along with the conditions they evolved in.³⁵ Remaining riparian zones should be preserved, both for biodiversity protection as well as flood risk reduction benefits.

Additionally, FEMA’s regulatory floodway standard undercuts the objectives of the NFIP to reduce future flood damage and to improve long-range land management. FEMA’s regulatory floodway standard is meant to address the combined, incremental effects of human activity, known as cumulative impacts, in the floodplain by limiting the increase in flood elevations caused by these impacts to one foot above the BFE.³⁶ In practice, however, the regulatory floodway standard “perpetuates an upward trend of increased flood damages” because the standard:

- permits new development within the Special Flood Hazard Area that will increase flooding on existing development;
- avoids amending BFEs to avoid new development also being placed at risk; and

³² *Ecological Rts. Found. v. Fed. Emergency Mgmt. Agency*, 384 F. Supp. 3d 1111, 1116 (N.D. Cal. 2019)

³³ See, e.g., Naiman, R.J., Decamps, H. and Pollock, M. (1993), *The Role of Riparian Corridors in Maintaining Regional Biodiversity*. *Ecological Applications*, 3: 209-212. <https://doi.org/10.2307/1941822>

³⁴ *Id.* at 209-10.

³⁵ Liza Gross, *Forests of the Living Dead*, Inside Climate News (July 6, 2021)

<https://insideclimatenews.org/news/06072021/forests-of-the-living-dead/>

³⁶ See, Alan R. Lulloff, *The Floodway Encroachment Standard: Minimizing Cumulative Adverse Impacts*, 1 (June 2013).

- allows encroachments that can be detrimental to the natural and beneficial functions of the floodplain.³⁷

As noted above, multiple states already require a near-zero regulatory floodway requirement, which demonstrates feasibility.

Recommended Changes to FEMA Regulations

44 CFR § 59.1	Amend the definition of Regulatory Floodway to “the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation (0.00 feet).”
44 CFR § 60.3	Amend § 60.3(10) by striking “more than one foot at any point within the community” and insert “(0.00 feet)” after “without increasing the water surface elevation.” Amend § 60.3(d)(2) by striking “more than one foot at any point” and insert “(0.00 feet)” after “without increasing the water surface elevation.”

Lastly, subdivision requirements that are incorporated into the NFIP minimum standards neither steer development away from SFHAs nor provide a significant level of protection to some of the physical infrastructure and buildings within them. However, better performing states and communities have shown ways to develop subdivisions and other large-scale developments in a way that minimizes future flood damages and preserves the floodplain. For example, some communities require that any feature that conveys water on a tract of land have the 1 percent chance floodplain identified; some also require that the entire building envelope be outside of the floodplain. This helps resolve the current issue that FEMA flood maps do not identify the SFHAs of all lands that have the potential to be developed. Additionally, in the Commonwealth of Virginia, all new subdivisions must account for any potential downstream dam failure hazards and dam failure inundation maps must be publicly available in county planning offices.

Recommended Changes to FEMA Regulations

44 CFR § 59.1	Add definition of “major subdivision” to be inclusive of anything considered a major subdivision under state law. This usually means platted subdivisions of more than five lots that are otherwise not lot splits, or major development on a tract of land that would
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³⁷ *Id.* at 13-14.

	include the need for a new road, easement, etc.
44 CFR § 60.3	Add a new subsection that consolidates all of the existing use and development standards for “subdivision and large-scale developments” into a new section pertaining to major subdivisions. Add a requirement that all features that convey water on a tract of land in a major subdivision have the SFHA, 0.2 percent chance annual floodplain and floodway (where applicable) identified; prohibit the creation of new lots entirely within the floodplain unless adequate natural ground exists above the flood protection level; add a requirement that all major subdivision proposals must evaluate any dam and levee failure mapping and ensure that the development does not increase the dam’s hazard classification; add a requirement that reserve studies for all owners associations that will be responsible for maintaining flood control or stormwater infrastructure include the maintenance costs including should the infrastructure be damaged by floods; add a requirement that all final plats have appropriate flood hazards identified on them; add a requirement that ensures adequate ingress and egress at the flood protection elevation; add a use restriction prohibiting critical facilities where possible in major subdivisions.

Question 12

FEMA correctly acknowledges climate change is increasing flooding and flood risk in the United States.³⁸ However, FEMA has not, despite a mandatory duty, developed flood maps that depict future flood risks due to climate change.

As required by law, FEMA must include (i) “relevant information or data from the National Oceanic and Atmospheric Administration [(NOAA)] and the United States Geological Survey [(USGS)] relating to the best available science regarding future changes in sea levels, precipitation, and hurricane intensity” and (ii) “any future risk assessment” issued by the

³⁸ Request for Information on the National Flood Insurance Program's Floodplain Management Standards for Land Management and Use, and an Assessment of the Program's Impact on Threatened and Endangered Species and Their Habitats, 86 FR 56713 (Oct. 12, 2021).

Technical Mapping Advisory Council [(TMAC)] whenever FEMA revises and updates an NFIP floodplain map.³⁹ Per law, FEMA must update NFIP floodplain maps every 5 years.⁴⁰

Since the enactment of the Biggert-Waters Flood Insurance Reform Act of 2012 (BW-2012), extensive NOAA-produced data and information regarding future changes in sea level rise, precipitation, and hurricane intensity have been available to FEMA. For example, NOAA Technical Report CO-OPS 083, *Global and Regional Sea Level Rise Scenarios for the United States* provides regional sea level rise scenarios for the entire United States. In addition, NOAA's "Sea Level Rise Viewer" provides projections on sea level rise and potential coastal flooding impacts areas and relative flood depth.⁴¹

FEMA has issued and/or updated more than 8,000 NFIP floodplain maps between the enactment of the BW-2012 and November 2020.⁴² As far as can be determined by NRDC, FEMA has not included "any relevant information or data from [NOAA] and [USGS] relating to the best available science regarding future changes in sea levels, precipitation, and hurricane intensity." Given that FEMA is required to incorporate such information into all revised and updated NFIP floodplain maps, FEMA is not satisfying its legal duty.

In addition, TMAC published the Future Conditions Risk Assessment and Modeling report in December 2015. The report asserts "[t]he identification and broad availability of future conditions hazard and risk information is of utmost importance to our Nation's citizens and economy as development and population growth occur in areas that are at risk now or will be in the future."⁴³ As such, the report makes seven primary recommendations, and multiple sub-recommendations to FEMA about how to provide such information. The seven primary recommendations as are follows:

- (1) Provide future conditions flood risk products, tools, and information for coastal, Great Lakes, and riverine areas. The projected future conditions should use standardized timeframes and methodologies wherever possible to encourage consistency and should be adapted as actionable science evolves.
- (2) Identify and quantify accuracy and uncertainty of data and analyses used to produce future conditions flood risk products, tools, and information.
- (3) Provide flood hazard products and information for coastal and Great Lakes areas that include the future effects of long-term erosion and sea/lake level rise. Major elements are:
 - a. Provide guidance and standards for the development of future conditions coastal flood risk products.
 - b. Incorporate local relative sea/lake level rise scenarios and long-term coastal erosion into coastal flood hazard analyses.
 - c. Consider the range of potential future natural and man-made coastal changes, such as inundation and coastal erosion.

³⁹ 42 USC § 4101a(d)(2); 42 USC § 4101b(b)(3)(D)-(E).

⁴⁰ 42 USC § 4101(e).

⁴¹ National Oceanic and Atmospheric Administration, *Sea Level Rise Viewer*, <https://coast.noaa.gov/slr/> (last visited Dec. 30, 2020).

⁴² Federal Emergency Management Agency, *NFIP Community Status Report*, <https://www.fema.gov/cis/nation.html> (last visited November 30, 2020).

⁴³ Technical Mapping Advisory Council, *Future Conditions Risk Assessment and Modeling* 3 (2015).

- (4) Provide future conditions flood risk products and information for riverine areas that include the impacts of future development, land use change, erosion, and climate change, as actionable science becomes available. Major elements are:
 - a. Provide guidance and standards for the development of future conditions riverine flood risk products.
 - b. Future land use change impacts on hydrology and hydraulics can and should be modeled with land use plans and projections, using current science and build upon existing model study methods where data are available and possible.
 - c. Future land use should assume built-out floodplain fringe and take into account the decrease of storage and increase in discharge.
 - d. No actionable science exists at the current time to address climate change impacts to watershed hydrology and hydraulics. If undertaken, interim efforts to incorporate climate change impacts in flood risk products and information should be based on existing methods, informed by historical trends, and incorporate uncertainty based upon sensitivity analyses.
 - e. Where sufficient data and knowledge exist, incorporate future riverine erosion (channel migration) into flood risk products and information.
- (5) Generate future conditions data and information such that it may frame and communicate flood risk messages to more accurately reflect the future hazard in ways that are meaningful to and understandable by stakeholders. This should enable users to make better-informed decisions about reducing future flood-related losses.
- (6) Perform demonstration projects to develop future conditions data for representative coastal and riverine areas across the Nation to evaluate the costs and benefits of different methodologies or identify/address methodological gaps that affect the creation of future conditions data.
- (7) Data and analysis used for future conditions flood risk information and products should be consistent with standardized data and analysis used to determine existing conditions flood risk, but also should include additional future conditions data, such as climate data, sea level rise information, long-term erosion data; and develop scenarios that consider land use plans, planned restoration projects, and planned civil works projects, as appropriate, that would impact future flood risk.

Further, the TMAC report recommended the following sub-recommendations, which explicitly address future climate and development impacts:

- FEMA should incorporate Local Relative Sea Level Rise scenarios into the existing FEMA coastal flood insurance study process in one of the following ways:
 - Direct Analysis – Incorporate sea level rise directly into process modeling (i.e., surge, wave setup, wave runup, overtopping, and erosion) for regions where additional sea level is determined to impact the Base Flood Elevation non-linearly (for example, where a 1-foot sea level rise equals a two-foot or more increase in the base flood).
 - Linear Superposition – Add sea level to the final calculated total water level and redefine the Base Flood Elevation for regions where additional sea level is determined to impact the base flood linearly (for example, 1 foot of sea level rise equals a 1-foot increase in the base flood).

- FEMA should take into account future development (excluding proposed flood control structures for the base condition/scenario) for future conditions mapping.
- FEMA should use a scenario approach for future conditions flood hazards calculation and mapping that will allow users to evaluate the robustness of proposed solutions to a range of plausible future conditions, including uncertain land use and climate change impacts.
- FEMA should take the impacts of future development and land use change on future conditions hydrology into account when computing future conditions for riverine areas.
- FEMA should use observed riverine trends to help estimate what future conditions might look like. In watersheds where floods of interest may decrease in magnitude and frequency, then use existing riverine study results as the basis for flood hazard mapping. In watersheds where floods exhibit increase in magnitude or frequency, then use best available science to determine future hydrology and flood hazards.

TMAC stated most of the above-listed sub-recommendations should occur in the “short-term” Per the report, “short-term” means up to 2 years to accomplish.⁴⁴ In 2016, TMAC reiterated that FEMA implement all of the recommendations in the Future Conditions report to assist FEMA to provide credible flood hazard data.⁴⁵

To date, FEMA has not included such required information in revising and updating the NFIP flood maps. Subsequent annual reports from TMAC imply that FEMA has failed to incorporate the recommendations of the 2015 Future Conditions report. For example, TMAC’s 2017 Annual Report states “TMAC assumed (based on preliminary statements from FEMA) that FEMA intended to complete future conditions analyses as an add-on to the existing FIS engineering workflow and then issue the results as an additional, non-regulatory layer onto the existing FIRM product. FEMA has since indicated this is not a foregone conclusion; the agency is currently taking a broad view in evaluating options for developing future conditions products, including those that could be done separately from the FIS/FIRM production process.”⁴⁶

In addition, TMAC’s 2018 Annual Report states “expedited efforts to create datasets and products recommended previously by TMAC should be considered” by FEMA. The statement is in reference to FEMA’s minimal progress on addressing the recommendations of the 2015 Future Conditions report. Further, TMAC’s 2019 report to FEMA states “with the recent increased intensity of storm events, the general public has increased interest on the risk of future flood conditions. It is important that FEMA generates future conditions data in a format that communicates the increased risk flood risk in an understandable way. FEMA has not finalized the future conditions data to be generated...”⁴⁷ This statement was in reference to primary recommendation 5 of the Future Conditions report and how FEMA not developing the future conditions data, as required by the other recommendations, hindered TMAC from suggesting a communications format.⁴⁸

⁴⁴ Technical Mapping Advisory Council, *Future Conditions Risk Assessment and Modeling* 7-2 (2015).

⁴⁵ Technical Mapping Advisory Council, *2018 Annual Report* 8 (2019)

⁴⁶ Technical Mapping Advisory Council, *2017 Annual Report* 43 (2018).

⁴⁷ Technical Mapping Advisory Council, *FEMA 2019 TMAC Subcommittee Report* c-5 (2020).

⁴⁸ *Id.*

FEMA has and continues to breach its legal duty by neither including the relevant NOAA and USGS information data nor including the recommendations from the 2015 TMAC Future Conditions Risk Assessment and Modeling report in any of its updates to NFIP floodplain maps.

Most of the flood hazard maps that are used nationwide to determine minimum building design and other floodplain development standards are, at best, a reflection of the current flood risk. The issue with using historical risk alone to predict current risk is that these risks will change in the future due to foreseeable factors such as rising sea levels, heavier precipitation events, and population growth. In many places these factors will cause floods to increase in both frequency and severity, putting an increasing number of Americans at risk.

To meet its non-discretionary duty concerning floodplain mapping, FEMA must incorporate relevant information from NOAA and USGS relating to the best available science regarding sea levels, precipitation, and intensity of hurricanes, as well as incorporate TMAC's future risk assessment in any revision or update of NFIP flood maps. As such, FEMA must incorporate multiple future conditions flood elevations as advisory layers onto FIRMs.

For coastal areas, FEMA should use NOAA's most recent global mean sea level rise scenarios and regional variations to determine future coastal flood hazard estimates out to the year 2100. As noted above, NOAA has produced extensive data on sea level rise projections. FEMA should incorporate sea level rise directly into process modeling (i.e., surge wave setup, wave runup, overtopping, and erosion) for regions where additional sea level is determined to impact the BFE non-linearly. For regions with linear impacts to the BFE, FEMA should add sea level to the final calculated total water level and redefine the BFE.

For riverine areas, FEMA should take the impacts of future development and land use change on future conditions hydrology into account when computing future conditions for riverine areas. Future development and land use should assume built-out floodplain fringe, taking into account the decrease of storage and increase in discharge.

Mecklenburg County, North Carolina was the first jurisdiction in the nation to delineate floodplains and floodways based on potential future development.⁴⁹ Community SFHAs, Community Encroachment Areas, and other features were delineated by Charlotte-Mecklenburg Stormwater Services based on ultimate buildout of areas that would influence flooding. These supplement the FEMA-delineated SFHA and floodways, respectively. The Community SFHA and Encroachment Areas establish higher standards that are "used to regulate development activities so they are at less risk to future flooding."⁵⁰

The Community SFHA and Community Encroachment Areas have been explicitly incorporated into the official FIRMs published by FEMA and adopted by Mecklenburg County. According to the FEMA-produced Flood Insurance Study, "Floodplains resulting from runoff based on future land use conditions are shown on the FIRM in addition to the floodplains that reflect existing

⁴⁹ Charlotte-Mecklenburg Stormwater Services, *Floodplain Regulations Technical Guidance Document*, 6 (March 2008).

⁵⁰ *Id.*

land use conditions,” and “the future conditions floodplain and elevations are used locally to regulate new development.”⁵¹

In addition, FEMA should use observed riverine trends to estimate what conditions might look like in the future. In watersheds where floods of interest may decrease in magnitude and frequency, FEMA should use existing riverine study results as the basis for flood hazard mapping. In watersheds where floods exhibit increase in magnitude or frequency, FEMA should use best available science to determine future hydrology and flood hazards.

Recommended Changes to FEMA Regulations

44 CFR § 59.1	Amend the definition of “future-conditions hydrology” to include flood discharges associated with climate change impacts, such as sea level rise and changing precipitation patterns, and projected land-use conditions.
44 CFR § 64.3(a)(1)	Strike the following “The FIRM also may indicate, at the request of the community, zones to identify areas of future-conditions flood hazards” and insert “The FIRM must indicate future-conditions flood hazards as an advisory layer.”
44 CFR Parts 64 and 65	Amend Parts 64 and 65 to clearly reflect the mandatory mapping requirements of BW-2012 concerning flood control structures.

Other Floodplain Management Related Questions

Question 1

FEMA’s current Substantial Improvement/Substantial Damage (SI/SD) standard requires property owners making improvements or repairs to structures in excess of 50 percent of their market value in the FEMA-designated 1 percent chance annual flood to take certain measures to bring their structure into compliance with the community’s current floodplain management requirements, such as elevating the home above the BFE, to reduce their exposure to future flood damages.⁵² However, the current SI/SD standard has several limitations and multiple NFIP-participating communities have enacted stronger SI/SD standards, namely a cumulative standard, whereby ongoing improvements and damages are tracked and, when the threshold of improvements or repairs is reached, requires the structure to be brought into compliance with local codes. The current SI/SD standard provides a lever that is intended to enhance resilience to future flood damages, in practice, however, there is an inherent inequity in such a standard.

⁵¹ Federal Emergency Management Agency and State of North Carolina, *Flood Insurance Study: A Report of Flood Hazards in Mecklenburg County, North Carolina and Incorporated Areas*, 79 (2015).

⁵² See, 44 C.F.R. § 60.3(a-c)(providing requirements for new construction and substantial improvement under the NFIP program).

For several reasons, lower value homes are more likely to be assessed as substantially damaged.⁵³ NRDC analyzed damage claims from SRLPs and found that less valuable homes were more likely to suffer cumulative losses that exceeded a property’s value. In fact, using FEMA data on SRLPs through 2015, we found that there was a sharp distinction between single family homes worth more or less than \$250,000 (the maximum amount of coverage available for a structure under the NFIP). On average, for single family homes worth less than \$250,000, those SRLPs suffered, on average, cumulative losses totaling \$133,923 with an average property value of \$109,882 (average damages of 122 percent of average property value). Conversely, the average single family home worth more than \$250,000 suffered cumulative losses of \$234,953 with an average property value of \$442,035 (53 percent of property value).

Further, lower-value homes may be more likely to be more significantly damaged due to location in vulnerable areas, poor construction, or construction under outdated building codes.⁵⁴ At least one study found that officials were more likely to subjectively assess homes in low-income neighborhoods to be substantially damaged than in high-income neighborhoods.⁵⁵

Proposed changes to the SI/SD standards, such as making it cumulative, would likely increase the number of homes assessed as substantially damaged. Elimination of a SI/SD standard also reinforces inequitable outcomes by allowing lower value homes to repeatedly flood without corrective action. As such, it is important to bundle any SI/SD standard with other reforms (see NRDC’s response to Question 5) to financially assist low-income and vulnerable communities in bringing their homes into compliance with local floodplain regulations.

Many NFIP-participating communities have gone beyond FEMA’s minimum SI/SD standard. Among the 1,444 communities participating in the CRS program, roughly 1/3 receive points for taking some action toward instituting a more rigorous cumulative or lower threshold SI or SD standard. One option is a “cumulative substantial improvement” (CSI) standard, under which all improvements or repairs during a certain period of time are counted cumulatively toward the substantial improvement requirement. The second option is a “lower substantial improvement” (LSI) standard which uses a threshold lower than 50% of the building’s value to determine when the substantial improvement requirement takes effect (e.g., damage or repair greater than 25% instead of 50%).

CRS Communities with a Cumulative SD and/or SI Standard (2007 and 2013 Data)⁵⁶		
Standard	Number of Communities Receiving CRS Credit for Standard	Percent of CRS Communities Receiving CRS Credit for Standard

⁵³ A.R. Siders, *Social Justice Implications of U.S. Managed Retreat Buyout Programs*, 2018 CLIMATIC CHANGE 1-19, <https://perma.cc/X3LL-MG9W>.

⁵⁴ Substance Abuse and Mental Health Support Administration, *Greater Impact: How Disasters Affect People of Low Socioeconomic Status* (July 2017), <https://perma.cc/2KP2-74VK>.

⁵⁵ D. H. de Vries, J. C. Fraser, *Citizenship Rights and Voluntary Decision Making in Post-Disaster U.S. Floodplain Buyout Mitigation Programs*, 30 INTERNATIONAL J. MASS EMERGENCIES DISASTERS 1–33 (2012), <https://perma.cc/PD98-DPGG>.

⁵⁶ ISO CRS SI/SD Standards Data, Emails received from David Arkens, ISO/CRS Technical Coordinator at ISO Community Hazard Mitigation, to Joel Scata, Attorney, Natural Res. Def. Council (between June 2018-October 2018)(on file with author)

10-Year Tracking Requirement	309	21.4%
5-Year Tracking Requirement	90	6.2%
Total	399	27.6%

It is unclear how these communities are enforcing and implementing a cumulative SI/SD standard or the minimum requirement for a one-time event SI/SD standard, but there is evidence that it may create an incentive for local communities to lowball damage estimates to help residents to avoid the high costs of bringing structures into compliance with flood ordinances.⁵⁷ An investigation by the Houston Chronicle indicates the intentional lowballing of damage estimates is pervasive nationwide.⁵⁸ Lax enforcement of the substantial damage standard has been recognized for more than twenty years as a major shortcoming of the NFIP.⁵⁹

FEMA should assess SI/SD standard implementation and enforcement among states, participating communities, and properties that are both covered by the NFIP and not covered by the NFIP, but still subject to the local SI/SD ordinance. That assessment should strive to answer the following questions:

1. How rigorously and consistently are communities and states implementing and enforcing a SI/SD standard (both a one-time event and cumulative standard)? How do communities document improvements and damages, how are property owners notified of the need to comply, and how many properties is an SI/SD standard applied to?
2. Based solely on FEMA's data on NFIP claims and losses, how many properties meet a SI/SD standard, both cumulative and one-time event? How does this compare to information collected under (1) above?
3. How often does ICC coverage cover the entire cost of bringing a structure into compliance with local codes and what is the typical shortfall?
4. What other forms of hazard mitigation assistance reach owners of properties that have triggered a SI/SD standard? How does this mitigation assistance get distributed to both structures with and without NFIP coverage?
5. How often do communities apply for HMA grants to mitigate properties that have triggered a SI/SD standard?
6. Among the properties that communities report as triggering any SI/SD standard, how many of them are not covered by a flood insurance policy and therefore cannot benefit from ICC coverage?

⁵⁷ *Id.*

⁵⁸ Mark Collette, *Flood Games: Manipulation of Flood Insurance Leads to Repeat Disasters*, Houston Chronicle (July 5, 2018) available at <https://perma.cc/84YV-CETU>

⁵⁹ David Conrad, Ben McNitt, and Martha Stout, *Higher Ground: A Report on Voluntary Property Buyouts in the Nation's Floodplains, A Common Ground Solution Serving People at Risk, Taxpayers and the Environment*, National Wildlife Federation (July 1998) available at <https://perma.cc/3AMV-EO35>

7. How could increasing ICC coverage better address non-compliant structures and either bring them into compliance with local codes or provide other forms of hazard mitigation assistance, like a buyout?
8. How could improving NFIP affordability for lower-income people support more equitable implementation of an SI/SD standard?

In addition, FEMA should also recognize that a cumulative substantial damage standard needs to work in tandem with a disclosure requirement (Question 11). FEMA should introduce disclosure requirements that track expenditures for repairs and damages over time so that new owners are aware of their property's history. Without such disclosure laws, homeowners could unknowingly purchase a property that is close to the threshold, and then due to a small improvement or repair may cross that threshold and be obligated to bring the entire structure into compliance with the community's floodplain management requirements. Further, FEMA must provide increased funding under the ICC program (Question 5). ICC coverage should be increased so that it will cover more costs that occur when the SI/SD threshold is triggered.

Lastly, the disproportionate effect of flooding on vulnerable and low-income communities must be acknowledged and addressed. A history of discriminatory policies like redlining and segregation as well as economic and social disparities have located low-income communities and communities of color in highly vulnerable floodplains in certain states. Any adoption of more stringent SI/SD standards should include financial and other assistance for vulnerable communities and low-income residents.

Question 9

Congress intended the NFIP to be a key mechanism for reducing flood damages nationwide. A primary goal of the program is to encourage States and local governments to constrict development in and guide development away from flood-prone areas by enacting land use regulations.⁶⁰ Toward this goal, the NFIP requires communities to adopt and enforce adequate land use/control measures, based on the minimum criteria in 44 CFR § 60.3, before flood insurance can be sold in the community.⁶¹

However, development has continued to occur in high-risk flood areas. A variety of factors have contributed to this dilemma, including inadequate compliance with and/or deliberate ignoring of NFIP-based land use regulations at the local level,⁶² and FEMA's reluctance to take enforcement actions against these non-compliant communities.⁶³

⁶⁰ See 42 U.S.C. § 4001(e) (stating a primary purpose of the NFIP is to encourage State and local government to "constrict development" in flood prone areas).

⁶¹ See *id.* § 4022(a)(1) (stating that no new flood insurance coverage shall be provided under this title in any area unless an appropriate public body shall have adopted adequate land use and control measures (with effective enforcement provisions)).

⁶² See e.g., Jennifer Wriggins, *Flood Money: The Challenge of U.S. Flood Insurance Reform in a Warming World*, 119 Penn St. L. Rev. 361, 396 (2014).

⁶³ See Jacquelyn Monday et al., *An Evaluation of Compliance with the National Flood Insurance Program Part A: Achieving Community Compliance* xii (2006)(noting that there is "a widespread perception among FEMA and state staff (and perhaps among communities) that FEMA is highly unlikely to apply sanctions in most cases).

FEMA must strengthen NFIP participation and increase enforcement of NFIP minimum floodplain management standards to build community resilience. Even the most protective local floodplain regulations are only as good as their implementation.

Academic research, FEMA-commissioned reports, independent investigations, and surveys of state and local floodplain managers have all found compliance and enforcement challenges that undermine the NFIP's effectiveness.⁶⁴ When communities fail to adequately adopt and enforce NFIP building and land use standards, people and property are put at risk.⁶⁵ As climate change continues to exacerbate flooding nationwide, ensuring adequate compliance with and enforcement of the NFIP will become increasingly important to minimize unnecessary flood damage.

There are two key parts to this issue. The first concerns compliance—whether local communities adopt and enforce the building, zoning, and other floodplain development regulations to meet the requirements of participating in the NFIP.⁶⁶ The second involves FEMA's willingness to take enforcement action by putting noncompliant communities on probation or suspending them from the NFIP if they fail to correct violations. FEMA has taken limited probation or suspension enforcement action against noncompliant communities,⁶⁷ even when recommended to do so by state coordinating agencies.⁶⁸

Even while reserving probation and suspension as tools of last resort, FEMA can provide more financial and training resources for states and local communities and improve monitoring, tracking, and transparency of information regarding community compliance.

To increase enforcement, FEMA first must improve monitoring, tracking, and public disclosure of data related to community compliance with NFIP requirements; second, must provide greater resources to address the reasons that communities are not in compliance with floodplain regulations; and third, should consider delegating limited enforcement powers to State NFIP Coordinating Agencies that have demonstrated the capacity to perform those duties.

First, better tracking and transparency of compliance issues can help identify the extent and nature of the most common program violations, allowing FEMA to determine how best to prioritize training and financial resources to help communities achieve compliance. Greater transparency could also discourage violations through community pressure, especially if residents in noncompliant communities knew there was a likelihood that their flood insurance rates could be raised, or worse, that they could be ineligible for certain types of disaster aid if their community came to be suspended.

FEMA should consider making compliance information collected by FEMA and State Coordinating Agencies publicly available and readily accessible. The available information

⁶⁴ Dena Adler, Michael Burger, Rob Moore, Joel Scata, Changing the National Flood Insurance Program for A Changing Climate, 49 *Envtl. L. Rep. News & Analysis* 10320, 10329–31 (2019)

⁶⁵ *Id.* at 10331

⁶⁶ *Id.*

⁶⁷ *Id.*

⁶⁸ *Id.* at 10332

should include, but not be limited to, a report of all community violations and deficiencies, the number of post-FIRM properties that have been permitted in the SFHA, the number of substantially damaged properties in a community and whether mitigation measures were required, and the number of Repetitive Loss Properties in the community

Second, more human and financial resources would also benefit community compliance. According to FEMA, most program deficiencies and many violations are due to a lack of awareness and full understanding of the NFIP's floodplain management criteria, a lack of technical skills, and a failure to understand the rationale behind NFIP building and land use requirements. At the local level, floodplain managers often wear "multiple hats," have a high turnover rate, and may lack appropriate training. Providing local and state managers with greater access to training and improved recordkeeping and data-sharing could help head off noncompliance issues before they rise to a level requiring FEMA enforcement.

Third, enforcement actions against a non-compliant NFIP community are currently a federal responsibility that cannot be delegated to the states. This power dynamic should be altered to give states, which choose to assume the responsibility and have demonstrated a capacity to uphold those responsibilities, the right to place a community on probation and to deny flood insurance to individuals that are in clear violation of local building codes and land use regulations.

States play a vital role in the administration of the NFIP. States, through their NFIP Coordinating Agencies, can help communities to develop and adopt the requisite floodplain management measures to participate in the NFIP. Also, states are responsible for conducting audits of communities to ensure that the communities comply the requirements of the NFIP. Enforcement actions must be based on clear and convincing documentation. The audits conducted by State NFIP Coordinating Agencies, known as Community Assistance Visits, can be used to fulfill this requirement.

Thus, states already are in a unique position to assist with enforcement actions as they are often the entities responsible for developing the information on which an initial enforcement action, probation, is based. In addition, states can also recommend that a community be placed on probation, but only FEMA can put a community on probation.

However, as noted above, FEMA often fails to act based on these recommendations, which results in the non-compliant communities experiencing no consequences, and the deficiencies and violations remaining uncorrected. Providing states the right to place a community on probation would be a logical solution for rectifying this problem. In addition, if states could place a community on probation, they should also have the ability to recommend a community be suspended for failure to rectify problems during the probationary period. States are better positioned to have knowledge of non-compliance and the likelihood of the community's willingness and capacity to correct those problems, and therefore, could carry out enforcement actions more effectively and efficiently.

Question 11

Prospective home buyers and renters deserve to know a property's history of flood damage and flood risk. Hundreds of thousands of Americans live in homes that have flooded. And a home that has flooded once is likely to flood again. Unfortunately, learning whether a home has previously flooded is not always prospective home buyers or renters. Many are completely unaware of a property's history of flooding. Too many only learned of their new home's propensity to flood after suffering through multiple flood disasters.

Information on a property's flood history and risk allows for informed decision-making about purchasing flood insurance, mitigating flood risk, and deciding whether to purchase or rent a property. Unfortunately, the provision of such information is not universal. Two-thirds of the states have either inadequate or no statutory or regulatory flood risk disclosure requirements.⁶⁹ FEMA should require disclosure of flood risk by sellers and lessors as a condition of NFIP participation.

NRDC and Columbia University's Sabin Center for Climate Change Law reviewed all 50 states' real estate disclosure laws and found that in many places, home buyers are not given the information that they need to make informed decisions about whether they should buy a house, which is a major financial investment.⁷⁰

Twenty-two states have no statutory or regulatory requirements that mandate a seller disclose to a potential buyer any flood risks or past flood damages associated with the property. The other twenty-eight have varying degrees of disclosure, creating a hodgepodge of state and local policies that hinder transparency of flood risk. (See Appendix D.)

States like Florida and Missouri have no statutory or regulatory requirement that a seller disclose past flood damages to a potential buyer. New York has a loophole that allows sellers to pay \$500 to the buyer to not disclose previous flooding. Contrastingly, Texas, Oklahoma, Louisiana, Mississippi, and Tennessee have strong flood-risk disclosure laws, requiring sellers tell potential buyers, at a minimum, whether the property is in a designated floodplain, whether there have been any flood damages to structures on the property, and whether there is any requirement to carry flood insurance.⁷¹

FEMA has the authority to require states and communities, as a condition of NFIP participation, to establish an "affirmative obligation on the part of sellers and lessors of residential properties to disclose information about flood risk to prospective buyers and lessees."⁷² Congress authorized FEMA to develop criteria designed to encourage the adoption of State and local measures which, to the maximum extent feasible, will reduce flood damages and improve the "use of flood-prone areas."⁷³ States and local governments are required to adopt regulations and

⁶⁹ Natural Resources Defense Council, *How States Stack Up on Flood Disclosure*, (last visited Jan. 22, 2022), <https://www.nrdc.org/flood-disclosure-map>

⁷⁰ NRDC, *How States Stack Up on Flood Disclosure* (last visited Jan. 20, 2022) <https://www.nrdc.org/flood-disclosure-map>

⁷¹ *Id.*

⁷² Request for Information on the National Flood Insurance Program's Floodplain Management Standards for Land Management and Use, and an Assessment of the Program's Impact on Threatened and Endangered Species and Their Habitats, 86 FR 56713, 56717-18 (Oct. 12, 2021).

⁷³ 42 U.S.C. § 4102(c)

ordinances that satisfy the minimum criteria developed by FEMA to participate in the NFIP.⁷⁴ Flood-related disclosures would provide prospective home buyers and renters with the information necessary to make an informed decision concerning the home's flood-risk, which could assist in reducing flood damages.

States and/or local governments should be required to establish minimum flood risk reporting requirements for sellers or lessors as a condition for participation in the NFIP. The reporting requirements should establish an affirmative obligation on the part of sellers and/or lessors of residential properties to disclose information about flood risk to prospective buyers or renters. The disclosure should be required as part of the real estate transaction to purchase or rent a home and must be delivered by, or on behalf of, the seller or lessor to the buyer or lessee before they become obligated under contract to buy or rent the property.

Sellers of residential properties should be required to disclose, in writing, any actual knowledge of the following:

- prior physical damage caused by flood to any building located on the property;
- a prior insurance claim for loss covered under the national flood insurance program or private flood insurance with respect to the property;
- whether the home is in a FEMA-designated flood zone and, if so, flood zone classification (100-year or 500-year) of the property and the source and date of this information;
- any previous notification regarding the designation of the property as a repetitive-loss structure or a severe repetitive-loss structure, (as defined in 42 USC 4104c); and
- any obligation under Federal law to obtain and maintain flood insurance running with the property, such as any obligation because of a previous form of disaster assistance received by any owner of the property under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5121 et seq.).

Lessors of residential properties should be required to disclose, in writing, any actual knowledge of the following:

- any prior physical damage caused by flood with respect to the building and, if applicable, the unit being leased;
- whether the home is in a FEMA-designated flood-zone and, if so, flood-zone classification (100-year or 500-year) of the property and the source and date of this information; and
- the availability of coverage under this title for contents located in a structure on the property.

However, such disclosure and transparency provisions should not be limited to disclosure requirements imposed on sellers and lessors – the NFIP should improve its own transparency when it comes to sharing flood history and risk information. Current property owners should have a right to know what FEMA *already* knows about their own property's flood risk. This is information that FEMA has in its possession if a property was ever covered by the NFIP, yet fails to share with property owners until such time as they purchase flood insurance. FEMA

⁷⁴ 42 U.S.C. § 4022

should provide current homeowners their property’s past history of flood insurance coverage, damage claims paid, and whether there is a legal requirement to purchase flood insurance because of past owners’ receipt of federal disaster aid regardless whether the homeowner holds an NFIP policy.

Lastly, FEMA should create a public, open-data system to share information related to a community or region’s flood risk, such as current and historical policy information, the total number of multiple-loss properties in a community, and whether a community was in compliance with the NFIP. A major shortcoming of the NFIP is the lack of transparency. This hinders academics, the public, and even members of Congress from truly understanding how the program operates, the issues that arise, and where the program needs improvement. Making this information publicly available will help with future reform efforts.

Endangered Species Act Specific Questions

Questions 6 and 16

As a federal agency, FEMA has two statutory obligations concerning threatened and endangered species. First, FEMA has an obligation to “utilize [its] authorities in furtherance of the purposes of [the Endangered Species Act] by carrying out programs for the conservation of endangered species and threatened species listed” under the Endangered Species Act (ESA).⁷⁵ This “conservation” obligation extends beyond simply avoiding jeopardizing the continued existence of imperiled species, but requires affirmatively seeking to “use ... all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary.”⁷⁶ In other words, FEMA must use its authority, including its authority to establish NFIP minimum floodplain management standards, to improve the condition of threatened and endangered species until those species are no longer threatened or endangered. This fundamental requirement should be incorporated into the establishment of NFIP standards as a primary consideration from the start, rather than as an afterthought following ESA Section 7 consultation, and with a focus on conservation rather than avoidance of jeopardy or adverse modification of critical habitat.

Floodplains, riparian corridors, and wetlands are all critically important habitats for a wide variety of species but have also been widely degraded. In California, for example, habitat loss has altered over 90% of California’s wetlands, and riparian zones now occupy a small fraction of their historic range.⁷⁷ And while much of California’s Central Valley was once a vast floodplain, most of the low-lying areas along the Sacramento and San Joaquin Rivers and their tributaries have now been cut off from their rivers by levees. Restoring vast acreages of floodplains and setting back levees to restore riparian function reduces flood risk while providing habitat for fish and wildlife, recharging depleted groundwater aquifers, sequestering carbon, and enhancing open space and recreation opportunities.⁷⁸ NFIP floodplain management standards should be amended

⁷⁵ 16 U.S.C. §1536(a)(1).

⁷⁶ *Id.* at §1532(3) (definition of “conserve”).

⁷⁷ CA Natural Resources Agency, Draft Pathways to 30x30, at 12 (Dec. 15, 2021).

⁷⁸ *See, e.g.*, Opperman et al., “Floodplains: Processes and Management for Ecosystem Services,” 2017.

to authorize, incentivize, and require floodplain restoration and levee setbacks to the maximum extent possible.

Second, FEMA has a mandatory duty to ensure its actions “are not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of [their designated critical] habitat.”⁷⁹ While FEMA has long maintained ESA Section 7(a)(2) does not apply to its administration of the NFIP, federal courts in Florida, Washington, and California have ruled otherwise.⁸⁰ As such, FEMA must ensure its implementation of the NFIP neither jeopardizes threatened and endangered species nor destroys or adversely modifies their designated critical habitats.

Academic research,⁸¹ case history,⁸² National Marine Fisheries Service (NMFS)- and U.S. Fish and Wildlife Service-issued Biological Opinions,⁸³ and FEMA-commissioned research studies⁸⁴ have all found that the implementation of the NFIP influences floodplain development and may actually encourage such development to occur.

For example, the NMFS’ extensive Biological Opinion for the NFIP in the State of Oregon concluded that the NFIP both facilitates floodplain development and establishes the land-use and construction standards pursuant to which such development may occur.⁸⁵ This conclusion affirmed a previous NMFS’ Biological Opinion for the NFIP in the State of Washington. NMFS held that the inducement of floodplain development due to NFIP implementation affects endangered species. A biological opinion assesses whether the federal action, such as FEMA’s implementation of the NFIP, is likely to negatively impact endangered species.

Courts have also recognized FEMA’s implementation of the NFIP likely enables floodplain development. The Eleventh Circuit Federal Court of Appeals found that “development is

⁷⁹ *Id.* at §1536(a)(2).

⁸⁰ *Ecological Rts. Found. v. Fed. Emergency Mgmt. Agency*, 384 F. Supp. 3d 1111, 1116 (N.D. Cal. 2019) (referencing *Coal. for a Sustainable Delta v. Fed. Emergency Mgmt. Agency*, 812 F.Supp.2d 1089 (E.D. Cal. 2011); *Florida Key Deer v. Paulison*, 522 F.3d 1133 (11th Cir. 2008); *Nat’l Wildlife Fed’n (NWF) v. Fed. Emergency Mgmt. Agency*, 345 F. Supp. 2d 1151 (W.D. Wash. 2004)).

⁸¹ See e.g., Jennifer Wriggins, *Flood Money: The Challenge of U.S. Flood Insurance Reform in a Warming World*, 119 Penn St. L. Rev. 361, 393 (2014); French Wetmore et al., American Institutes For Research, *An Evaluation of The National Flood Insurance Program: Final Report* x, 9, 12-14 (2006) available at http://www.fema.gov/media-library-data/20130726-1602-20490-1463/nfip_eval_final_report.pdf. Beth Davidson, *How Quickly We Forget: The National Flood Insurance Program and Floodplain Development in Missouri*, 19 Wash. U. J.L. & Pol’y 365 (2005).

⁸² See generally, *Coal. for Sustainable Delta v. Fed. Emergency Mgmt. Agency*, 812 F.Supp.2d 1089 (E.D. Cal. 2011); *Florida Key Deer v Paulison*, 522 F.3d 1133 (11th Cir., 2008); *Nat’l Wildlife Fed’n v. Fed. Emergency Mgmt. Agency*, 345 F.Supp.2d 1151 (W.D. Wash. 2004).

⁸³ National Marine Fisheries Service, “Endangered Species Act Section 7(a)(2) Jeopardy and Adverse Modification of Critical Habitat Biological Opinion, ESA Section 7(a)(2) “Not Likely to Adversely Affect” Determination, and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Implementation of the National Flood Insurance Program in the State of Oregon.” (April, 14 2016) (hereinafter “NMFS Oregon Biological Opinion”); U.S. Fish and Wildlife Service. 2003. Biological Opinion. Amendment to the June 16, 1997, biological opinion on the effects of the FEMA’s continued administration of the NFIP in Monroe County, Florida. Atlanta, Georgia.

⁸⁴ See, Walter A. Rosenbaum & Gary Boulware, American Institutes for Research, *The Developmental and Environmental Impact of the National Flood Insurance Program: A Summary Research Report* 8 (2006).

⁸⁵ NMFS Oregon Biological Opinion, *supra* note 83 at 138.

encouraged and in effect authorized by FEMA’s issuance of flood insurance.”⁸⁶ Additionally, Courts have recognized that “if a community chooses not to participate in the [NFIP], economic development in the flood hazard area may be severely restricted,” and that “[g]enerally, the withdrawal of any form of Federal financial assistance for the acquisition or construction of buildings in the flood hazard area will eliminate sources of money and thereby have a strong tendency to decrease economic growth.”⁸⁷

In addition, a FEMA-commissioned study found the provision of federally subsidized flood insurance creates an incentive for development in floodplains by reducing barriers to such development.⁸⁸ The study found the availability of flood insurance is one of the two most significant factors driving decisions to develop, buy, or build in flood risk areas. For example, the study found “[a]lmost eighty percent of the respondents with potential investments in community property development stated that they would not finance or develop floodplain property if federal flood insurance were unavailable.”⁸⁹

Further, Congress and the Department of Interior have found the availability of federal flood insurance is often the determining factor in development of flood-prone areas.⁹⁰ Congress enacted the Coastal Barriers Resources Act (CBRA) to preserve coastal barriers by removing incentives to develop them. In enacting the CBRA, Congress found that certain Federal assistance and programs, like the provision of federally subsidized flood insurance, have encouraged development in these areas. Section 5(a) of the CBRA contains a broad prohibition on new Federal assistance or expenditures for any use that would encourage development within a specifically designated coastal barrier. As such, the CBRA explicitly states that the term “financial assistance” includes federally subsidized flood insurance and new federal flood insurance has not been available within CRBA protected coastal barriers since October 1, 1983. The CBRA clearly considers the provision of federally subsidized flood insurance as an action that could encouragement development.

Strong evidence exists for one to conclude that the implementation of the NFIP encourages floodplain development and other related land use changes.

Question 17

FEMA must reexamine the extent to which NFIP actions may have adverse effects on threatened and endangered species and their habitats and issue a new biological assessment. Given FEMA’s November 2016 biological evaluation concluding the “NFIP will have no effect on species listed as threatened or endangered under the ESA or on the designated critical habitats of such species” was held to be arbitrary and capricious,⁹¹ including a history of prior ESA Section 7(2)(a) litigation against FEMA, it must properly consult with the Fish and Wildlife Service or the NMFS about possible jeopardy to listed species and habitats as part of that process.

⁸⁶ *Key Deer v. Paulison*, 522 F.3d 1133, 1144 (11th Cir. 2008).

⁸⁷ *National Wildlife Federation v. FEMA*, 345 F. Supp. 2d 1151, 1157 (W.D. Wash. 2004).

⁸⁸ *See Rosenbaum*, *supra* note 8 at 65.

⁸⁹ *Id.* at 18.

⁹⁰ *See* 42 U.S.C. § 4002; *see also* Dept. of Interior, *Report to Congress: Coastal Barrier Resources System*, 80 (1988).

⁹¹ *Ecological Rts. Found. v. Fed. Emergency Mgmt. Agency*, 384 F. Supp. 3d 1111, 1124 (N.D. Cal. 2019).

FEMA has inaccurately stated the agency lacks land use authority to direct the type of development which may occur in the floodplain.⁹² While FEMA may lack direct land use authority (i.e. the ability to issue and deny individual permits), FEMA retains the authority to establish minimum land use standards, which States and local governments must adopt to participate in the NFIP.⁹³ FEMA is also responsible for publishing flood maps that depict areas at a high risk of flooding. Communities must adopt these maps to participate in the NFIP; the maps determine where the minimum land use standards apply. As stated above, the NFIP's minimum land use standards and flood maps are falling far short of what is required by statute and what is necessary to ensure responsible management of the nation's floodplains.

Concerning mapping, FEMA implements the NFIP in part through the development and implementation of flood maps.⁹⁴ These maps are used an estimated 30 million times annually for enforcing State and community floodplain management regulations and planning requirements, calculating flood insurance premiums, and determining whether property owners are required by law to obtain flood insurance.⁹⁵ FEMA uses its discretion to map the floodplain and to revise flood maps to account for changing circumstances.⁹⁶ The act of designating an area within the floodplain or out of the floodplain is an affirmative action which has serious impacts on the health of a floodplain. FEMA's affirmative determination that an area is within a SFHA will then signal to third parties seeking to develop in that area, that they must take mitigation actions to reduce flood risk to structures.

A common mitigation technique is to place earthen fill in the area in order to elevate the structure above the base flood elevation and therefore remove it from the SFHA – a practice often referred to as “fill and build.” Per FEMA, “Earthen fill is sometimes placed in a Special Flood Hazard Area (SFHA) to reduce flood risk to the filled area. The placement of fill is considered development and will require a permit under applicable Federal, state and local laws, ordinances, and regulations.”⁹⁷ Placing earthen fill in floodplains can severely impact floodplain ecosystems that are critical habitat for endangered species,⁹⁸ and increase flood risk for neighboring properties.

As such, FEMA should reconsider its mapping practices, including the issuance of Letters of Map Revision based on Fill (LOMR-Fs). In particular, FEMA should prohibit the placement of fill material in the NFIP minimum floodplain management standards. FEMA already prohibits fill within the floodway unless it has been demonstrated that it will not result in any increase in flood levels. However, some communities limit the use of fill beyond the floodway to the flood

⁹² See generally, FEMA, *National Flood Insurance Program Final Nationwide Programmatic Environmental Impact Statement* (Sept. 2017)

⁹³ 42 USC § 4022 (flood insurance in exchange for adopting land use controls).

⁹⁴ 42 U.S.C. § 4101.

⁹⁵ FEMA, “Mapping Flood Risks: An Overview to Floodplain Management & Flood Insurance.” FEMA L-257, August 2013 (<https://www.fema.gov/media-library-data/b9bb674b6b69957399bef7ac6d6fee08/FEMA+L257.pdf>) (Accessed Jun. 5, 2017).

⁹⁶ 42 U.S.C. § 4101(e)-(f)(1).

⁹⁷ Federal Emergency Management Agency, “Fill”. (<https://www.fema.gov/fill>). (Last accessed Jan. 24, 2022).

⁹⁸ See, NMFS Oregon Biological Opinion, *supra* note 18.

fringe to protect storage capacity or require compensatory storage. FEMA should enact similar requirements with the following exception: floodplain and wetlands restoration.

Restoring streams and rivers often requires movement and placement of natural material like boulders and large woody material in order to create habitat and geomorphic diversity. While these projects should be designed in a manner that ensures they will not have adverse flood impacts on property and infrastructure, FEMA's regulations and procedures should be revised to specifically address river, wetland, and floodplain restoration activities as separate from development.

Flood risk is increasing nationwide. FEMA must assert its authority to prohibit development in floodplains and other existing flood mitigation habitats (wetlands, riparian corridors) to help reduce these risks, as well as preserve these critical habitats. Limiting development in existing floodplains, riparian corridors, and wetlands will enhance both the protection of ESA-listed species as well as enhancing flood risk reduction in participating communities. FEMA should also examine ways to promote rapid restoration of these critical habitats to further reduce rising flood risks and promote biodiversity protection.

Question 8

In the past, FEMA has attempted to shift its own ESA responsibilities on to local communities and states. This approach is impermissible and should be rejected by FEMA.⁹⁹ Put simply, numerous:

Courts, BiOps, and settlement agreements [have] found that FEMA's implementation of the NFIP does contribute to floodplain development. Accordingly, FEMA's Section 7 obligations were triggered because three particular components of FEMA's federal agency action of administering and implementing the NFIP were found by the aforementioned authorities to be discretionary actions that had jeopardized ESA-listed species. Section 7 responsibilities are imposed on federal agencies for their discretionary agency actions, not on state and local governments. Therefore, FEMA, not state and local governments, is responsible for carrying out its Section 7 obligations in regards to the implementation of the NFIP.¹⁰⁰

FEMA should cease this unlawful approach, acknowledge that its standards have a significant impact on floodplain and wetland development, and comply with its independent ESA obligations by reforming its standards to prohibit such development.

However, demonstrating the flood protection benefits of restored wetlands and floodplain habitats can be challenging and costly for participating communities. FEMA should prioritize providing technical assistance, training, financial resources, and other incentives to communities that seek to protect and restore these habitats as part of their flood protection planning efforts.

⁹⁹ See, e.g., Esenyan, "The Clash of the Acts: FEMA's Implementation of the National Flood Insurance Program and its Collision with the Endangered Species Act and the National Environmental Policy Act," Penn State Law Review, Winter 2019, 123 Penn St. L. Rev. 499.

¹⁰⁰ *Id.*, 123 Penn St. L. Rev. at 521.

Move Promptly Forward with Rulemaking

Much has been learned since the enactment of the NFIP over 50 years ago. FEMA, states, and communities have learned the strengths and weaknesses of different land use and building standards to reduce flood damage over this time. Additionally, technological advancements to identify and map flood hazard areas have evolved tremendously. The body of science connecting climate change to an increased risk of flooding is clear. Numerous studies, including federal agency reports, prove a substantial connection between climate change and the growing frequency and severity of flood events, which greatly challenge our nation's cities, towns, and neighborhoods.

Congress created the NFIP to reduce flood damages nationwide and to ease the federal government's financial burden for providing disaster recovery. However, flood damages and federal spending on flood recovery are rising, meaning that the NFIP is failing to achieve its primary goal. To reduce future flood damage, strengthen minimum standards and improve flood mapping, the NFIP must adequately account for the impact of climate change and increasing development on flood hazards.

Therefore, NRDC requests FEMA use the information collected from the RFI process to initiate rulemaking as soon as possible given the quickly growing threat to lives and property from flooding and climate change.

Sincerely,

A handwritten signature in black ink, appearing to read 'Joel Scata', with a stylized, cursive flourish extending to the right.

Joel Scata
Senior Attorney for Natural Resources Defense Council

Appendix A: Selected Bibliography of Studies and Reports Relevant to Floodplain Management Standards

- *Building Codes Save: A Nationwide Study: Losses Avoided as a Result of Adopting Hazard-Resistant Building Codes* (2020)

Through this study, FEMA estimated the losses avoided when communities adopt a freeboard standard for building in the 1 percent chance annual floodplain. Roughly 15,000 NFIP participating communities have adopted a freeboard standard that exceeds the NFIP's minimum elevation standard.¹⁰¹ FEMA analyzed roughly 786,000 structures in the floodplain of those communities and found about 400,000 had freeboard. The Average Annual Losses Avoided (AALA) for freeboard structures was approximately \$484 million.¹⁰²

- *Reducing Flood Losses Through the International Codes: Coordinating Building Codes and Floodplain Management Regulations* (2019)

Per the report, many requirements in the I-Codes are more restrictive than the NFIP requirements. In addition, the report specifies that "FEMA supports the adoption and use of the latest published editions of the I-Codes as a minimum standard for hazard resistance, including food hazards."¹⁰³

- Mitigation Assessment Team Report, FEMA P-2022, *Hurricane Harvey in Texas: Building Performance Observations, Recommendations, and Technical Guidance* (2019)

Through FEMA's Mitigation Assessment Teams (MAT), FEMA develops recommendations to make building codes more hazard resistant. Multiple MAT investigations have shown that strengthening buildings reduces losses. Per the FEMA P-2022 investigation, building elevation was a universal indicator of the level of flood damage. The investigation found many older buildings built before communities joined the NFIP and began regulating SFHA development were inundated 3 to 6 feet, while newer elevated residential buildings performed much better.¹⁰⁴ FEMA's Mitigation Assessment Team recommended Harvey-impacted communities require new and substantially improved/damaged buildings to be elevated beyond the minimum NFIP elevation standard to reduce future flood damage.¹⁰⁵ In addition, the Team recommended future conditions be considered in zoning, building code, and floodplain management requirements.¹⁰⁶

- Mitigation Assessment Team Report, FEMA P-2023, *Hurricane Irma in Florida: Building Performance Observations, Recommendations, and Technical Guidance* (2018)

¹⁰¹ Federal Emergency Management Agency, *Building Codes Save: A Nationwide Study: Losses Avoided as a Result of Adopting Hazard-Resistant Building Codes Appendices D-25* (2020).

¹⁰² Federal Emergency Management Agency, *Building Codes Save: A Nationwide Study: Losses Avoided as a Result of Adopting Hazard-Resistant Building Codes* 4-24 (2020).

¹⁰³ Federal Emergency Management Agency, *Reducing Flood Losses Through the International Codes: Coordinating Building Codes and Floodplain Management Regulations* 1-2 (2019).

¹⁰⁴ Federal Emergency Management Agency, FEMA P-2022, *Hurricane Harvey in Texas: Building Performance Observations, Recommendations, and Technical Guidance* 3-5 (2018)

¹⁰⁵ *Id.* at 5-6.

¹⁰⁶ *Id.*

FEMA’s Mitigation Assessment Team found more than 30 communities have adopted freeboard of 2 or 3 feet above the BFE, more than 10 have adopted 1.5 feet above the BFE, and many have adopted a minimum elevation above the crown of the road (typically 12 to 18 inches).¹⁰⁷ Given buildings with freeboard suffered less flood damage, the Team recommended freeboard be incorporated into the design flood elevation based on the building use.¹⁰⁸

- *Elevating Floodprone Buildings Above Minimum NFIP Requirements, Iowa Floods of 2016 Recovery Advisory (2017)*

Per FEMA, elevating to the BFE does not provide complete protection against flooding. Storms more severe than the base flood can and do occur as was seen in 2008 and 2016 in Iowa.¹⁰⁹ FEMA recommended the addition of at least 1 or 2 feet of freeboard to account for uncertainties, future development, and floods higher than the base flood.¹¹⁰

- *Flood Protection for Critical and Essential Facilities, Iowa Floods of 2016 Recovery Advisory (2017)*

“As a best practice, FEMA recommends protection from flood hazards that exceeds code minimums.” For example, FEMA recommends protecting critical facilities to withstand at least a 0.2 percent annual chance flood event.¹¹¹

- *2016 Evaluation of the Benefits of Freeboard for Public and Nonresidential Buildings in Coastal Areas (2016)*

Per FEMA’s 2016 study, freeboard provides owners an increased level of protection against potential errors, oversights, or changes in flood conditions.¹¹² The study states “the data in this analysis clearly indicates that it is often cost effective to incorporate increased freeboard into new construction for several public building type uses as well as for large commercial buildings.”¹¹³

- *Loss Avoidance Study: Reducing Losses through Higher Regulatory Standards, 2013 Colorado Floods (2015)*

¹⁰⁷ Federal Emergency Management Agency, FEMA P-2023, *Hurricane Irma in Florida: Building Performance Observations, Recommendations, and Technical Guidance 2-9* (2018).

¹⁰⁸ *Id.* at 5-6.

¹⁰⁹ Federal Emergency Management Agency, *Elevating Floodprone Buildings Above Minimum NFIP Requirements, Iowa Floods of 2016 Recovery Advisory 1* (2017).

¹¹⁰ *Id.* at 4.

¹¹¹ Federal Emergency Management Agency, *Flood Protection for Critical and Essential Facilities, Iowa Floods of 2016 Recovery Advisory 6* (2017).

¹¹² Federal Emergency Management Agency, *2016 Evaluation of the Benefits of Freeboard for Public and Nonresidential Buildings in Coastal Areas 22* (2016).

¹¹³ *Id.* at 22.

The results of this study demonstrate that higher floodplain regulations result in a reduction in flood-related losses¹¹⁴ For example, per FEMA, if freeboard had never been adopted, there would have been a 331 percent increase in estimated losses for Boulder (2 feet), 68 percent increase in losses in Larmier (1 foot), and 148 percent increase in losses for Weld (1 foot) for the 1 percent chance annual flood.¹¹⁵

- *Designing for Flood Levels Above the BFE After Hurricane Sandy*, Hurricane Sandy Recovery Advisory (2013)

FEMA's advisory states "design and construction practices can minimize damage to buildings, particularly by elevating the building higher than the minimum required elevation."¹¹⁶

- Mitigation Assessment Team Report, FEMA P-942, *Hurricane Sandy in New Jersey and New York: Building Performance Observations, Recommendations, and Technical Guidance* (2013)

FEMA's Mitigation Assessment Team recommended that new structures and structures undergoing Substantial Improvement or that have sustained Substantial Damage be elevated at least 2 feet above the height of the 1 percent chance annual flood. For critical facilities, such as hospitals, police stations, fire stations, and emergency communication centers, the Team recommended they be elevated above the height of the 0.2 percent chance annual flood.¹¹⁷

- *Including Building Codes in the National Flood Insurance Program: Fiscal Year 2013 Report to Congress: Impact Study for Biggert-Waters Flood Insurance Reform Act of 2012* (2013)

Per the report, the most significant benefits from incorporating I-Code provisions into the NFIP would likely arise from the required added elevation above flood levels (freeboard) for dwellings in certain locations. In addition, insurance losses would be reduced for the properties required to comply with building codes because those properties would sustain less damage. The reduction of losses would lower actuarially rated insurance premiums for those structures, which in turn would make insurance more affordable and attract a broader participant pool, further enhancing soundness and reducing subsidy needs of the NFIP.¹¹⁸

¹¹⁴ Federal Emergency Management Agency, FEMA-DR-4145-CO, *Loss Avoidance Study: Reducing Losses through Higher Regulatory Standards, 2013 Colorado Floods Case Study* 7-2 (2015)

¹¹⁵ *Id.* at 7-1.

¹¹⁶ Federal Emergency Management Agency, *Designing for Flood Levels Above the BFE After Hurricane Sandy* (April 2013)

¹¹⁷ Federal Emergency Management Agency, FEMA P-942, *Mitigation Team Assessment Report: Hurricane Sandy in New Jersey and New York: Building Performance Observations, Recommendations, and Technical Guidance* iii-iv (2013).

¹¹⁸ Federal Emergency Management Agency, *Including Building Codes in the National Flood Insurance Program: Fiscal Year 2013 Report to Congress: Impact Study for Biggert-Waters Flood Insurance Reform Act of 2012* v (2013).

- Mitigation Assessment Team, FEMA P-765, *Midwest Floods of 2008 in Iowa and Wisconsin: Building Performance Observations, Recommendations, and Technical Guidance* (2009)

FEMA's Mitigation Assessment Team recommended that elevation, as it relates to new construction, should be considered and freeboard requirements should be adopted for additional protection. In addition, the Team recommended critical facilities be located outside the 0.2-percent-annual-chance flood hazard area. If this is not possible, the Team recommended equipment and utilities in exposed facilities should be protected to the 0.2-percent-annual-chance flood level.¹¹⁹

- Mitigation Assessment Team Report, FEMA P-757, *Hurricane Ike in Texas and Louisiana: Building Performance Observations, Recommendations, and Technical Guidance* (2009)

FEMA's Mitigation Assessment Team recommended Ike-impacted communities require the freeboard specified by the ASCE 24-05, *Flood Resistant Design and Construction*, plus 3 feet. for new construction, substantial improvements, and repair of substantial damage until new maps were adopted. Once new flood maps were adopted, the Team recommended all new construction, substantial improvements, and repair of substantial damage to be elevated to or above the freeboard elevation specified by ASCE 24-05.

In addition, the Team recommended all new and replacement critical facilities be sited outside the 0.2 percent chance annual floodplain, where possible. And, where not possible, the critical facilities should be, At a minimum, elevated above the 0.2 percent chance annual flood or the freeboard requirements of ASCE 24-05, whichever offers more protection to the facility.¹²⁰

- *2008 Supplement to the 2006 Evaluation of the National Flood Insurance Program's Building Standards* (2008)

Per the report, freeboard, in almost all situations studied, proved cost-effective for both 1 and 2 feet above the minimum NFIP requirements. In V-Zones, 3 and 4 feet of freeboard were deemed cost-effective.¹²¹

- Mitigation Assessment Team Report, FEMA 489, *Hurricane Ivan in Alabama and Florida: Observations, Recommendations, and Technical Guidance* (2005)

FEMA's Mitigation Assessment Team recommended Ivan-impacted communities elevate all new construction (including substantially improved structures and replacement of substantially

¹¹⁹ Federal Emergency Management Agency, FEMA P-765, *Mitigation Assessment Team Report: Midwest Floods of 2008 in Iowa and Wisconsin: Building Performance Observations, Recommendations, and Technical Guidance* (2009).

¹²⁰ Federal Emergency Management Agency, FEMA P-757, *Mitigation Team Assessment Report: Hurricane Ike in Texas and Louisiana: Building Performance Observations, Recommendations, and Technical Guidance* (2009).

¹²¹ Federal Emergency Management Agency, *2008 Supplemental to the 2006 Evaluation of the National Flood Insurance Program's Building Standards* 3 (2008).

damaged structures) in coastal A Zones with the bottom of the lowest horizontal supporting member above the base flood level, require freeboard for all structures in all flood hazard zones with the amount varying with building importance (see ASCE 7-05 and ASCE 24-05 for building importance classification and freeboard requirements) and anticipated exposure to wave effects; and require V-Zone design and construction for new construction in coastal A Zones subject to erosion, scour, velocity flow, and/or wave heights greater than 1.5 feet.¹²²

- *Federal Emergency Management Agency's National Flood Insurance Program Call for Issues Status Report (2000)*

Per the report, FEMA stated that “requiring freeboard or incorporating the floodway surcharge into the BFE are worthwhile ideas that deserve further investigation.” FEMA stated it will “consider it for future incorporation into the NFIP floodplain management regulations.”¹²³

In addition, FEMA stated that “the location of critical facilities is a concern to the NFIP. For example, it is critical that emergency facilities, such as fire and police stations, need to be operable during flood disasters. Nursing homes are a concern due to short warning times and rapidly rising floodwaters that would prevent evacuation in a safe and orderly manner. These facilities should be located outside the special flood hazard area or well above the base flood elevation, such as to the 500-year level of protection. The NFIP floodplain management regulations currently do not require such protection.”¹²⁴

¹²² Federal Emergency Management Agency, FEMA 489, *Mitigation Assessment Team Report: FEMA 489, Hurricane Ivan in Alabama and Florida: Observations, Recommendations, and Technical Guidance* vi (2005).

¹²³ Federal Emergency Management Agency, *National Flood Insurance Program Call for Issues Status Report* II-3-4 (2000).

¹²⁴ *Id.* at II-3-3.

Appendix B: Freeboard Requirements in NFIP-Participating Communities

Number of NFIP Communities with and without Freeboard					
State	NFIP Participating Communities	Total without Freeboard	Total with Freeboard	Percent with Freeboard	Average Community Freeboard 2000-2018 (feet)
Alabama	435	401	34	8%	0.7
Alaska	33	24	9	27%	0.3
Arizona	107	0	107	100%	1.0
Arkansas	435	416	19	4%	1.1
California	528	0	528	100%	0.2
Colorado	254	0	254	100%	0.4
Connecticut	177	163	14	8%	0.7
Delaware	51	9	42	82%	0.4
Dist. of Columbia	1	0	1	100%	1.5
Florida	467	0	467	100%	0.5
Georgia	568	514	54	10%	1.8
Hawaii	4	2	2	50%	0.3
Idaho	179	156	23	13%	1.3
Illinois	900	0	900	100%	1.0
Indiana	454	0	454	100%	2.0
Iowa	692	0	692	100%	1.0
Kansas	469	0	469	100%	1.0
Kentucky	357	323	34	10%	1.1
Louisiana	318	273	45	14%	0.4
Maine	1,004	0	1,004	100%	1.0
Maryland	145	0	145	100%	1.5
Massachusetts	342	0	342	100%	0.1
Michigan	1,046	0	1,046	100%	1.0
Minnesota	611	0	611	100%	1.5
Mississippi	332	300	32	10%	1.3
Missouri	683	653	30	4%	0.6
Montana	138	0	138	100%	2.0
Nebraska	414	0	414	100%	1.0
Nevada	35	25	10	29%	1.2
New Hampshire	221	215	6	3%	0.3
New Jersey	554	0	554	100%	0.7
New Mexico	105	0	105	100%	0.1
New York	1,511	0	1,511	100%	1.4
North Carolina	594	505	89	15%	1.4
North Dakota	335	0	335	100%	1.0
Ohio	762	748	14	2%	0.9
Oklahoma	416	377	39	9%	0.5
Oregon	261	0	261	100%	0.9

Pennsylvania	2,486	0	2,486	100%	1.5
Rhode Island	40	0	40	100%	0.5
South Carolina	236	0	236	100%	0.3
South Dakota	230	220	10	4%	0.6
Tennessee	400	384	16	4%	1.1
Texas	1,259	930	329	26%	1.3
Utah	222	0	222	100%	0.1
Vermont	255	248	7	3%	0.8
Virginia	292	267	25	9%	1.1
Washington	296	0	296	100%	0.2
West Virginia	278	259	19	7%	0.8
Wisconsin	569	0	569	100%	2.0
Wyoming	86	77	9	10%	0.2

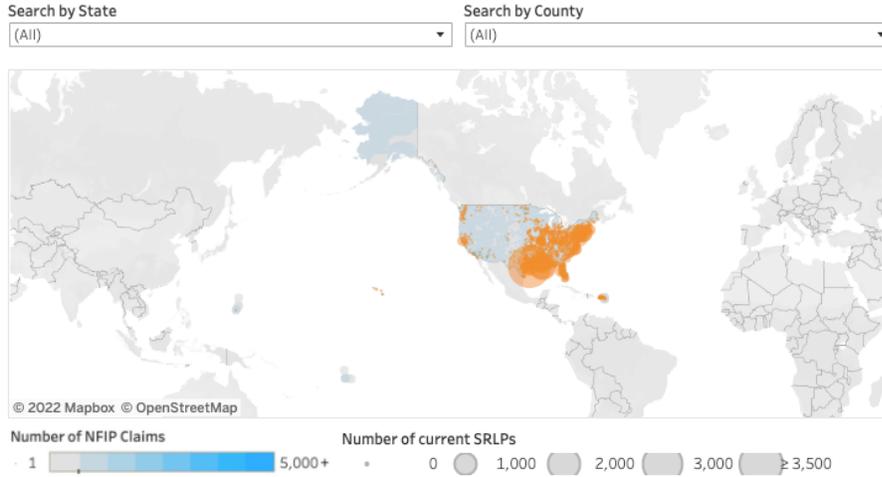
Source: FEMA, *Building Codes Save: A Nationwide Study: Losses Avoided as a Result of Adopting Hazard-Resistant Building Codes Appendices D-25* (2020).

Appendix C: NRDC Analysis of Severe Repetitive Loss Property Data

Losing Ground: Severe Repetitive Flooding in the United States

Severe repetitive loss properties, or "SRLPs," are the most flood-prone structures covered by the National Flood Insurance Program (NFIP). Efforts to address flood risk (referred to as "mitigation") are not keeping pace with climate change and new development—so the number of SRLPs keeps increasing.

SRLP data as of May 31, 2018. NFIP claims data as of September 30, 2019.



Total Number of SRLPs

36,774

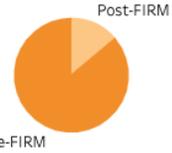
Current Number of SRLPs

Not including mitigated SRLPs

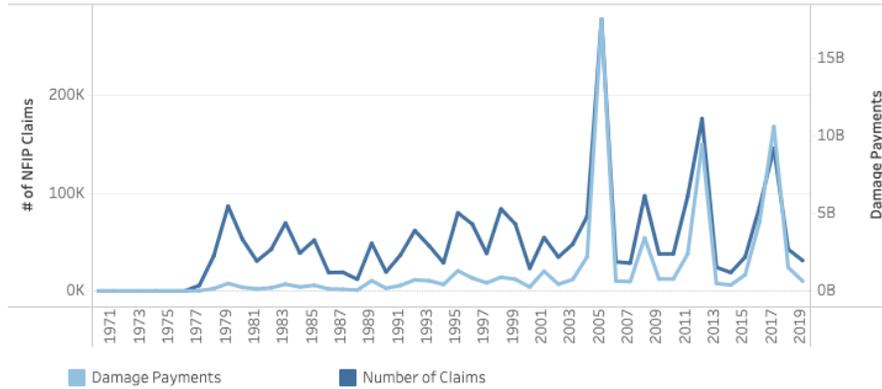
26,803

Nationally, 14% of SRLPs post-date FEMA flood maps

These "post-FIRM" properties were built after the first Flood Insurance Rate Map (FIRM) was adopted in the community.

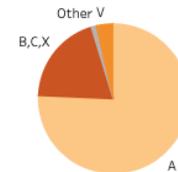


NFIP Claims Timeline

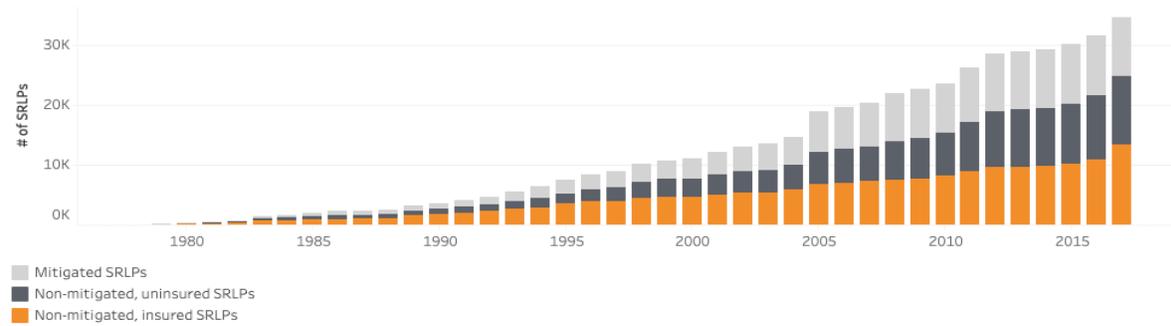


Nationally, 19% of SRLPs are outside FEMA-designated flood zones

FEMA considers A and V zones to be higher risk. Flood zones not provided for all SRLPs.



SRLP Timeline



+ a b l e a u

Navigation icons: back, forward, search, refresh, print, share

Appendix D: Summary of State Real Estate Disclosure Requirements

State	Real Estate Disclosure Summary (Last updated Mar. 2020)	Disclosure Grade
Alabama	<p>Alabama has no statutory or regulatory requirements for a seller to disclose a property’s flood risks or past flood damages to a potential buyer. As such, Alabama home buyers are greatly disadvantaged when it comes to learning of a home’s past flood history or potential for future flooding.</p> <p>However, the Alabama Association of Realtors created a standard voluntary disclosure form for sellers to use. Per the association’s database, the voluntary form asks if the property is located in a floodplain zone. As the form is voluntary, the seller is not required to provide this information.</p>	F (None)
Alaska	<p>Per Alaska’s disclosure law, the Real Estate Commission developed a mandatory form that requires sellers to disclose whether they are aware of any floods on the property and, if so, of any damage to the property or any structures from flooding. Sellers must also provide the flood zone designation.</p> <p>There is no specific requirement to disclose whether a property is mandated to be covered by flood insurance.</p>	C (Adequate)
Arizona	<p>Arizona has no statutory or regulatory requirements for a seller to disclose a property’s flood risks or past flood damages to a potential buyer. As such, Arizona home buyers are greatly disadvantaged when it comes to learning of a home’s past flood history or potential for future flooding.</p> <p>However, Arizona has a statutory requirement that provides for voluntary disclosure of whether a property is located in a FEMA-designated special flood hazard area. In addition, the Arizona Association of Realtors created a standard voluntary disclosure form for sellers to use. Per the association’s database, the voluntary form asks if the property is located in a floodplain, and, whether any portion of the property has flooded, and whether there is damage to a structure from a flood.</p>	F (None)
Arkansas	<p>Arkansas has no statutory or regulatory requirements for a seller to disclose a property’s flood risks or past flood damages to a potential buyer. As such, Arkansas home buyers are greatly disadvantaged when it comes to learning of a home’s past flood history or potential for future flooding.</p> <p>However, the Arkansas Realtors Association created a voluntary disclosure form. The form asks the seller to disclose whether there has been flood damage on the property that required repair, whether the property is in a designated floodplain, and whether any lender has</p>	F (None)

State	Real Estate Disclosure Summary (Last updated Mar. 2020)	Disclosure Grade
	required the purchase of flood insurance for the property. As the form is voluntary, the seller is not required to provide this information.	
California	<p>California’s disclosure law requires a seller to divulge on a mandatory form whether there are any flooding problems with a property and whether there has been any major damage to the property or any of its structures from floods.</p> <p>California law also requires sellers to complete an additional form called the Natural Hazard Disclosure Report/Statement. On it, the seller must disclose whether the property lies within a special flood hazard area (for example, the 100-year floodplain) designated by FEMA by selecting “Yes,” “No,” or “Do not know and information not available from local jurisdiction.” The form further requires the seller to disclose whether the property lies within an area of potential flooding due to dam inundation.</p> <p>There is no specific requirement to disclose whether a property is mandated to be covered by flood insurance.</p>	C (Adequate)
Colorado	<p>Colorado has no statutory or regulatory requirements for a seller to disclose a property’s flood risks or past flood damages to a potential buyer. As such, Colorado home buyers are greatly disadvantaged when it comes to learning of a home’s past flood history or potential for future flooding.</p> <p>However, real estate brokers are required to use Colorado Real Estate Commission-approved forms as appropriate to a transaction or circumstance to which a relevant form is applicable. The Commission's disclosure form asks the seller to state whether there have been past or there are present flood problems on the property and whether the property is located in a designated floodplain or wetland. As the form is voluntary, the seller is not required to provide this information.</p> <p>Seller's use of the form is not mandated by statute.</p>	F (None)
Connecticut	Per Connecticut’s disclosure law, the Commissioner of Consumer Protection developed a mandatory seller disclosure form that requires the seller to indicate whether the property is in a flood hazard area or an inland wetlands area. However, the form does not require the seller to disclose past flood damages, nor does the seller need to disclose whether a property is mandated to be covered by flood insurance.	D (Inadequate)
Delaware	Under Delaware’s disclosure law, the Delaware Real Estate Commission developed a mandatory seller disclosure form that requires the seller to indicate whether the property or improvements on the property have been damaged by a flood, whether any part of the property is located in a flood zone, and whether there are any drainage or flood problems affecting the property.	C (Adequate)

State	Real Estate Disclosure Summary (Last updated Mar. 2020)	Disclosure Grade
	While Delaware law also requires sellers to disclose whether they have flood insurance, the law does not require the seller to disclose whether a property is mandated to be covered by flood insurance, for example, due to the receipt of federal disaster aid.	
Washington, D.C.	<p>Per Washington, D.C.'s disclosure law, the mayor's office developed a mandatory residential real property disclosure statement, which requires the seller to indicate whether he/she has actual knowledge of the property having ever been damaged by flooding.</p> <p>There is neither a specific requirement to disclose whether the property is located in a floodplain nor a specific requirement to disclose whether it is mandated to be covered by flood insurance. However, the District does require disclosure of flood damages, which is more informative for a potential home buyer than a simple indication of whether a property is located in a floodplain.</p>	C (Adequate)
Florida	<p>Florida has no statutory or regulatory requirements for a seller to disclose a property's flood risks or past flood damages to a potential buyer. As such, Florida home buyers are greatly disadvantaged when it comes to learning of a home's past flood history or potential for future flooding.</p> <p>However, Florida courts have held that, with some exceptions, a home seller must disclose any facts or conditions about the property that could have a substantial impact on its value or desirability and that others cannot easily see for themselves (see <i>Johnson v. Davis</i>, 480 So.2d 625 (Fla. 1985)). Whether such a ruling would be applicable to all flood risks is unclear (see <i>Nelson v. Wiggs</i>, 699 So. 2d 258 (Fla. Dist. Ct. App. 1997)).</p> <p>While the Florida Realtors have created a disclosure form for sellers to use, the form is voluntary and, as such, sellers do not have to provide it to a buyer. The form asks a seller whether:</p> <ul style="list-style-type: none"> • they are aware of any past or present drainage or flood problems affecting the property or adjacent properties; • they are aware of any portion of the property being in a special flood hazard area, • the property requires flood insurance; • any improvements, including additions, are located below the base flood elevation; • such improvements have been constructed in violation of local flood guidelines. 	F (None)
Georgia	Georgia has no statutory or regulatory requirements for a seller to disclose a property's flood risks or past flood damages to a potential buyer. As such, Georgia home buyers are greatly disadvantaged when it comes to learning of a home's past flood history or potential for future	F (None)

State	Real Estate Disclosure Summary (Last updated Mar. 2020)	Disclosure Grade
	<p>flooding.</p> <p>While the Georgia Association of Realtors has created a disclosure form for sellers to use, the form is voluntary and, as such, sellers do not have to provide it to a buyer. The form asks the seller to answer whether:</p> <ul style="list-style-type: none"> • any part of the property or any improvements thereon are presently located in a 100-year special flood hazard area (where there is at least a one percent chance of a flood in any given year); • there has ever been any flooding; • there are underground streams or streams that do not flow year-round; <p>and</p> <ul style="list-style-type: none"> • there are any dams, retention ponds, stormwater detention basins, or other similar facilities on the property. 	
Hawaii	<p>Hawaii’s disclosure law requires the seller to state whether the residential real property is in a designated special flood hazard area. There is neither a specific requirement to disclose whether there have been any flood damages to structures on the property nor a specific requirement to disclose whether a property is mandated to be covered by flood insurance.</p> <p>However, Hawaii’s disclosure law also requires the seller to provide a written statement that divulges material facts relating to the residential real property being offered that are within the seller’s knowledge or control; can be observed from visible and accessible areas, which could be argued to include flood risks; or must be disclosed by statute.</p>	D (Inadequate)
Idaho	<p>Idaho has no statutory or regulatory requirements for a seller to disclose a property’s flood risks or past flood damages to a potential buyer. As such, Idaho home buyers are greatly disadvantaged when it comes to learning of a home’s past flood history or potential for future flooding.</p> <p>While the Idaho Realtors have created a disclosure form for sellers to use, the form is voluntary and, as such, sellers do not have to provide it to a buyer. The form asks the seller to answer whether:</p> <ul style="list-style-type: none"> • the property is located in floodplain; • there has been water intrusion to any portion of the property; • any water-intrusion repairs have been made to the property; and • there has been any flood damage. 	F (None)
Illinois	<p>Illinois law requires sellers to indicate on a mandatory residential real property disclosure report whether:</p> <ul style="list-style-type: none"> • they are aware of flooding, or recurring leakage problems in the crawl space or basement; • the property is located in a floodplain; and 	C (Adequate)

State	Real Estate Disclosure Summary (Last updated Mar. 2020)	Disclosure Grade
	<ul style="list-style-type: none"> • they currently have flood insurance on the property. <p>While Illinois law requires sellers to disclose whether they have flood insurance, the law does not require the seller to disclose whether a property is mandated to be covered by flood insurance, for example, due to the receipt of federal disaster aid.</p>	
Indiana	<p>Per Indiana’s disclosure law, the Real Estate Commission developed a mandatory form requiring the seller to indicate whether:</p> <ul style="list-style-type: none"> • there is any damage due to flooding; • the property is located in a floodplain; and • the seller currently pays for flood insurance. <p>While Indiana law requires sellers to disclose whether they have flood insurance, the law does not require the seller to disclose whether a property is mandated to be covered by flood insurance, for example, due to the receipt of federal disaster aid.</p>	C (Adequate)
Iowa	<p>Iowa law requires the seller to provide a disclosure statement that must, at minimum, report whether the property is located in a floodplain and, if so, what is the floodplain designation. The seller must also disclose whether they know of any flooding problems at the property.</p> <p>There is no specific requirement to disclose whether a property is mandated to be covered by flood insurance.</p>	C (Adequate)
Kansas	<p>Kansas has no statutory or regulatory requirements for a seller to disclose a property’s flood risks or past flood damages to a potential buyer. As such, Kansas home buyers are greatly disadvantaged when it comes to learning of a home’s past flood history or potential for future flooding.</p> <p>While the Kansas Association of Realtors has created a disclosure form for sellers to use, the form is voluntary and, as such, sellers do not have to provide it to a buyer. The form asks the seller to answer whether:</p> <ul style="list-style-type: none"> • they are aware of any portion of the property being located in a flood zone or wetlands area, or is proposed to be located in an area designated by FEMA to require flood insurance; • there are any drainage or flood problems on the property or adjacent properties; • the seller pays flood insurance premiums; and • there is any need for flood insurance on the property. 	F (None)
Kentucky	<p>Per Kentucky’s disclosure law, the Real Estate Commission developed a mandatory disclosure form on which sellers must state whether:</p> <ul style="list-style-type: none"> • the property has ever had a flooding problem; and • the residence is located within a special flood hazard area, and if so, 	C (Adequate)

State	Real Estate Disclosure Summary (Last updated Mar. 2020)	Disclosure Grade
	<p>what the flood zone designation is.</p> <p>There is no specific requirement to disclose whether a property is mandated to be covered by flood insurance due to the receipt of federal disaster aid.</p>	
Louisiana	<p>Per Louisiana’s disclosure law, the Real Estate Commission developed mandatory property disclosure requirements. The seller must divulge whether:</p> <ul style="list-style-type: none"> • any flooding, water intrusion, accumulation, or drainage problem has been experienced with respect to the land and, if so, the nature and frequency of the defect; • the property is in a flood zone, and if yes, the flood zone classification(s) of the property and the source and date of this information, • the seller has an elevation certificate; • any structure on the property has ever taken water on by flooding and, if so, the nature and frequency of the defect; • there is flood insurance on the property; and • the seller and/or previous owner was a recipient of federal disaster aid that would require an owner to obtain and maintain flood insurance on the property, and, if yes, the type of aid and amount received. 	A (Best)
Maine	<p>Maine has no statutory or regulatory requirements for a seller to disclose a property’s flood risks or past flood damages to a potential buyer. As such, Maine home buyers are greatly disadvantaged when it comes to learning of a home’s past flood history or potential for future flooding.</p>	F (None)
Maryland	<p>Maryland law required the Real Estate Commission to develop a mandatory seller disclosure form. The commission’s form does not require a seller to disclose whether there have been any flood damages to structures on the property, nor is there a specific requirement to disclose whether a property is mandated to be covered by flood insurance. The form only requires the seller to state whether the property is located in a flood zone, conservation area, wetland area, or Chesapeake Bay critical area.</p>	D (Inadequate)
Massachusetts	<p>Massachusetts has no statutory or regulatory requirements for a seller to disclose a property’s flood risks or past flood damages to a potential buyer. As such, Massachusetts home buyers are greatly disadvantaged when it comes to learning of a home’s past flood history or potential for future flooding.</p> <p>While the Massachusetts Association of Realtors has created a disclosure form for sellers to use, the form is voluntary and, as such, sellers do not have to provide it to a buyer. The form asks the seller to answer whether any part of the property is in a designated flood zone or wetland.</p>	F (None)

State	Real Estate Disclosure Summary (Last updated Mar. 2020)	Disclosure Grade
Michigan	<p>Michigan’s disclosure law requires the seller to divulge whether they:</p> <ul style="list-style-type: none"> • have flood insurance on the property; • are aware of any flooding problems; and • are aware of any major damage to the property from floods. <p>While Michigan law requires sellers to disclose whether they have flood insurance, the law does not require the seller to disclose whether a property is mandated to be covered by flood insurance, for example, due to the receipt of federal disaster aid.</p>	C (Adequate)
Minnesota	<p>Minnesota state law requires sellers to disclose in writing all material facts of which they are aware that could “adversely and significantly affect” an ordinary buyer’s use and enjoyment of the property, or any intended use of the property of which the seller is aware.</p> <p>The law does not require sellers to disclose specific conditions such as flooding, even though flooding could adversely affect use and enjoyment of the property. Although Minnesota’s “material facts” disclosure law is superior to no law at all, it fails to expressly require disclosure of floodplain location, past flood damages, and the requirement to be covered by flood insurance.</p>	D (Inadequate)
Mississippi	<p>Per Mississippi law, the Real Estate Commission developed a mandatory seller disclosure form. The form requires the seller:</p> <ul style="list-style-type: none"> • to divulge whether any portion of the residence has suffered water damage for any reason and, if so, to provide a description of damage and the dates of loss; • to indicate whether, for any reason, past or present, any portion of the property has suffered water or moisture-related to damage from flooding and, if so, to disclose what steps were taken to remedy the problem; • to not whether any portion of the structure has been damaged by a natural disaster during the seller's ownership; • to indicate whether the residence is currently located in a FEMA-designated flood hazard zone and, if so, to provide the source of data and the FEMA Map number; • to disclose whether flood insurance is required and, if so, to state the premium currently being paid and when the premium was last adjusted; and • to state whether any portion of the property is designated as a wetlands area. 	A (Best)
Missouri	<p>Missouri has no statutory or regulatory requirements for a seller to disclose a property’s flood risks or past flood damages to a potential buyer. As such, Missouri home buyers are greatly disadvantaged when it comes to learning of a home’s past flood history or potential for future flooding.</p>	F (None)

State	Real Estate Disclosure Summary (Last updated Mar. 2020)	Disclosure Grade
	<p>While the Missouri Association of Realtors has created a disclosure form for sellers to use, the form is voluntary and, as such, sellers do not have to provide it to a buyer. The form asks the seller to answer whether any part of the property is the 100-year flood hazard and whether there any flood problems.</p>	
Montana	<p>Montana has no statutory or regulatory requirements for a seller to disclose a property’s flood risks or past flood damages to a potential buyer. As such, Montana home buyers are greatly disadvantaged when it comes to learning of a home’s past flood history or potential for future flooding.</p> <p>While the Montana Association of Realtors has created a disclosure form for sellers to use, the form is voluntary and, as such, sellers do not have to provide it to a buyer. The form asks the seller to answer whether any part of the property is in a floodplain or wetland, whether there are any flooding problems, and whether there major damage to the property or structures due to floods.</p>	F (None)
Nebraska	<p>Per Nebraska’s disclosure law, a seller must divulge in a written statement whether:</p> <ul style="list-style-type: none"> • there has been any damage to the property or any of the structures thereon due to flooding; • the property is in a floodplain or floodway; and • there are any flooding problems in connection with the property. <p>There is no specific requirement to disclose whether a property is mandated to be covered by flood insurance.</p>	C (Adequate)
Nevada	<p>The Nevada Real Estate Division of the Department of Business and Industry developed a seller disclosure form that requires the seller to disclose whether:</p> <ul style="list-style-type: none"> • the structure has suffered any previous water damage; • they are aware of any flooding on the property; and • the property is located in a designated floodplain. <p>However, there is no specific requirement to disclose whether a property is mandated to be covered by flood insurance.</p>	C (Adequate)
New Hampshire	<p>New Hampshire has no statutory or regulatory requirements for a seller to disclose a property’s flood risks or past flood damages to a potential buyer. As such, New Hampshire home buyers are greatly disadvantaged when it comes to learning of a home’s past flood history or potential for future flooding.</p> <p>While the New Hampshire Association of Realtors has created a disclosure form for sellers to use, the form is voluntary and, as such,</p>	F (None)

State	Real Estate Disclosure Summary (Last updated Mar. 2020)	Disclosure Grade
	sellers do not have to provide it to a buyer. The form asks the seller to answer whether they are aware of any flooding on the property and whether the property is located in a federal designated flood zone.	
New Jersey	<p>New Jersey has no statutory or regulatory requirements for a seller to disclose a property’s flood risks or past flood damages to a potential buyer. As such, New Jersey home buyers are greatly disadvantaged when it comes to learning of a home’s past flood history or potential for future flooding.</p> <p>However, New Jersey courts have held that sellers must disclose any known material defects in the property that others cannot easily observe. (see <i>Weintraub v. Krobatsch</i>, 64 N.J. 445 (1974)). Whether such a ruling would be applicable to flood hazards, such as a property being located in a flood zone, is unclear.</p>	F (None)
New Mexico	<p>New Mexico has no statutory or regulatory requirements for a seller to disclose a property’s flood risks or past flood damages to a potential buyer. As such, New Mexico home buyers are greatly disadvantaged when it comes to learning of a home’s past flood history or potential for future flooding.</p> <p>While the Realtors Association of New Mexico has created a disclosure form for sellers to use, the form is voluntary and, as such, sellers do not have to provide it to a buyer. The form asks the seller to answer whether: he/she is aware of any part of the property being located in a designated special flood hazard zone (for example, the 100-year floodplain) and whether he/she is aware of any portion of the property having ever flooded.</p>	F (None)
New York	<p>New York’s disclosure law requires the seller to disclose whether any or all of the property is located in a designated floodplain and, if so, whether there have been any flooding problems that resulted in standing water on any portion of the property.</p> <p>However, under New York law, if a seller fails to provide a disclosure statement, the seller owes the buyer a \$500 credit toward the purchase price at the closing. (see N.Y. Real Prop. Law §465(1)). In practice, many New York sellers view this incredibly low penalty as an opportunity to opt out of having to disclose issues concerning the property. As such, New York's disclosure law stacks the deck against buyers when it come to learning about a property’s flood risks or past flood damages much like a "buyer beware" jurisdiction.</p>	F (None)
North Carolina	North Carolina’s disclosure law required the Real Estate Commission to develop a standard disclosure statement. The commission’s mandatory form requires the seller to disclose whether he/she has actual knowledge of the property being “subject to a flood hazard” or being located in a federally designated flood hazard area.	D (Inadequate)

State	Real Estate Disclosure Summary (Last updated Mar. 2020)	Disclosure Grade
	While one could argue “actual knowledge or notice of flood hazards” includes past flood damages, the requirement lacks specificity. As such, North Carolina’s disclosure law is lacking in comparison to other states concerning disclosure of past flood damages. Further, there is no specific requirement to disclose whether a property is mandated to be covered by flood insurance.	
North Dakota	<p>Per North Dakota statute, State Real Estate Commission must establish and make available a mandatory written disclosure form. The commission’s mandatory form requires the seller to disclose whether:</p> <ul style="list-style-type: none"> • the property has ever been damaged by floods; • there are drainage or flood issues on the property; • whether there has been flooding on the property; and • whether the property is in a flood zone. <p>There is no specific requirement to disclose whether a property is mandated to be covered by flood insurance.</p>	C (Adequate)
Ohio	<p>Per Ohio’s disclosure law, the Department of Commerce developed a mandatory seller disclosure form. It requires the seller to disclose:</p> <ul style="list-style-type: none"> • whether the seller knows of any water- or moisture-related damages to floors, walls, or ceilings as a result of flooding; • whether the property is located in a designated floodplain or the Lake Erie Coastal Erosion Zone; and • whether the seller knows of any previous or current flooding problems affecting the property. <p>There is no specific requirement to disclose whether a property is mandated to be covered by flood insurance.</p>	C (Adequate)
Oklahoma	<p>Per Oklahoma’s disclosure law, the Real Estate Commission developed a mandatory residential property condition disclosure statement. The form requires the seller to disclose:</p> <ul style="list-style-type: none"> • whether they are aware of the property being damaged or affected by flood problems; • whether they are aware of any flood insurance requirements concerning the property; • whether he/she is aware of flood insurance on the property; • the flood zone status of the property; and • the floodway status of the property. 	A (Best)
Oregon	<p>Oregon’s disclosure law requires the seller to disclose whether there is any material damage to the property or any of its structures from floods and whether the property is in a designated floodplain.</p> <p>There is no specific requirement to disclose whether a property is mandated to be covered by flood insurance.</p>	C (Adequate)

State	Real Estate Disclosure Summary (Last updated Mar. 2020)	Disclosure Grade
Pennsylvania	<p>Pennsylvania’s disclosure law requires a seller to disclose whether the seller is aware of any past or present flooding problems affecting the property and whether any part of the property is located in a flood zone or wetlands area.</p> <p>There is no specific requirement to disclose whether a property is mandated to be covered by flood insurance.</p>	C (Adequate)
Rhode Island	<p>Rhode Island’s disclosure law only requires the disclosure statement to include information about “floodplains.” This vague provision could be detrimental to buyers, as there is neither a specific requirement to disclose whether there have been any flood damages to structures on the property, nor a specific requirement to disclose whether a property is mandated to be covered by flood insurance.</p>	D (Inadequate)
South Carolina	<p>Per South Carolina law, the Real Estate Commission developed a mandatory disclosure form. It requires a seller to disclose whether:</p> <ul style="list-style-type: none"> • there were any flood problems to the property during ownership; • flood hazards or flood hazard designations affect the property; • any Federal Emergency Management Agency (FEMA) claims have been filed on the property, and if so, the dates of all claims; and • any flood insurance covers the property. <p>While South Carolina law requires sellers to disclose whether they have flood insurance, the law does not require the seller to disclose whether a property is mandated to be covered by flood insurance, for example, due to the receipt of federal disaster aid.</p>	C (Adequate)
South Dakota	<p>South Dakota’s disclosure law requires the seller to disclose whether the property is located in or near a floodplain and whether the seller is aware of any past or present damage to the property from a flood, and if so, whether any insurance claims have been made and the damage been repaired.</p> <p>There is no specific requirement to disclose whether a property is mandated to be covered by flood insurance.</p>	C (Adequate)
Tennessee	<p>Tennessee’s disclosure law requires the seller to disclose whether:</p> <ul style="list-style-type: none"> • there has been any property or structural damage from floods. • they are aware of any flooding problems; and • flood insurance is required for the property. 	B (Better)
Texas	<p>Texas’s disclosure law requires the seller to disclose whether:</p> <ul style="list-style-type: none"> • previous water damage to a structure due to a natural flood event; • previous flooding due to a natural a failure or breach of a reservoir or a controlled emergency release of water from a reservoir; • the property is located wholly or partly in a 100-year floodplain, a 	A (Best)

State	Real Estate Disclosure Summary (Last updated Mar. 2020)	Disclosure Grade
	500-year floodplain, or a reservoir; <ul style="list-style-type: none"> • the seller has ever filed a claim for flood damage to property with any insurance provider, including the National Flood Insurance Program; • flood insurance covers the property; and • the seller ever received assistance from FEMA or the US Small Business Administration (SBA) for flood damage to the property. 	
Utah	Utah has no statutory or regulatory requirements for a seller to disclose a property’s flood risks or past flood damages to a potential buyer. As such, Utah home buyers are greatly disadvantaged when it comes to learning of a home’s past flood history or potential for future flooding.	F (None)
Vermont	Vermont has no statutory or regulatory requirements for a seller to disclose a property’s flood risks or past flood damages to a potential buyer. As such, Vermont home buyers are greatly disadvantaged when it comes to learning of a home’s past flood history or potential for future flooding. While the Vermont Association of Realtors has created a disclosure statement for sellers to use, the form is voluntary and, as such, sellers do not have to provide it to a buyer. The association’s form asks the seller to disclose whether: <ul style="list-style-type: none"> • the property is located in a flood hazard zone designated by federal, state, or local statute, regulation or ordinance; • there are any past or present flood problems affecting the property; and • there has been significant damage to the property or any of its structures from floods. 	F (None)
Virginia	Virginia’s disclosure law concerning flooding and flood hazards is the opposite of “buyer friendly.” Under the law, a seller is permitted to assert that he/she “makes no representations with respect to whether the property is located in one or more special flood hazard areas, and purchasers are advised to exercise whatever due diligence they deem necessary, including (i) obtaining a flood certificate or mortgage lender determination of whether the property is located in one or more special flood hazard areas, (ii) review of any map depicting special flood hazard areas, and (iii) whether flood insurance is required, in accordance with terms and conditions as may be contained in the real estate purchase contract, but in any event, prior to settlement pursuant to such contract.” In other words, sellers are not obligated to disclose to a homebuyer any flood hazards associated with the property.	F (None)
Washington	Washington’s disclosure law requires the seller of improved residential real estate (i.e., property with a structure or structures) to disclose whether he/she has actual knowledge of:	C (Adequate)

State	Real Estate Disclosure Summary (Last updated Mar. 2020)	Disclosure Grade
	<ul style="list-style-type: none"> • any basement flooding; • any flooding problems on the property that affect the property or access to the property; • any material damage to the property from floods; and • whether the property is located in a floodplain. <p>There is no specific requirement to disclose whether a property is mandated to be covered by flood insurance.</p>	
West Virginia	West Virginia has no statutory or regulatory requirements for a seller to disclose a property’s flood risks or past flood damages to a potential buyer. As such, West Virginia home buyers are greatly disadvantaged when it comes to learning of a home’s past flood history or potential for future flooding.	F (None)
Wisconsin	Wisconsin law requires the seller to disclose whether they are aware that the property is located in a floodplain. However, there is neither a specific requirement to disclose whether there have been any flood damages to structures on the property nor a specific requirement to disclose whether a property is mandated to be covered by flood insurance.	D (Inadequate)
Wyoming	Wyoming has no statutory or regulatory requirements for a seller to disclose a property’s flood risks or past flood damages to a potential buyer. As such, Wyoming home buyers are greatly disadvantaged when it comes to learning of a home’s past flood history or potential for future flooding.	F (None)