

7.0 REPETITIVE LOSS STRATEGY



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44 CFR 201.4(c)(3)(v): A State may request the reduced cost share authorized under §79.4(c)(2) of this chapter for the FMA and SRL programs, if it has an approved State Mitigation Plan ... that also identifies specific actions the State has taken to reduce the number of repetitive loss properties, which must include properties identified as severe repetitive loss, and specifies how the State intends to reduce the number of such repetitive loss properties.

7.0-1 OVERVIEW

Floods are among the most frequent natural hazards in New Jersey and among the most devastating in terms of human hardship and economic loss (New Jersey Office of Emergency Management 2023). The greatest risks occur in known floodplains when there is:

- Intense rainfall over a short period of time,
- Prolonged rain over several days,
- Coastal storms causing storm surge, and/or
- Ice or debris jams causing river or streams to overflow (New Jersey Office of Emergency Management 2023).

With over 76,500 properties in the 1-percent annual chance flood hazard area, New Jersey will continue to face disruption of life, destruction of homes and infrastructure, and increased cost of rebuilding. In this chapter, it discusses the State's approach in reducing the number of flood losses, with a focus on repetitive and severe repetitive loss properties. The chapter reviews the roles of the various agencies involved in reducing flooding impacts, summary of the repetitive and severe repetitive loss properties in the State, capabilities in place to mitigate repetitive and severe repetitive loss properties, mitigation strategies the State has identified in the 2024 update specific to these properties, and the State's successes in making its residents more resilient to frequent flood-related damages.

In New Jersey, flood risks can occur any time of the year: melting snow combined with rain in the winter and early spring; severe thunderstorms that bring heavy rain in the spring and summer; heavy rain and storm surge from hurricanes and tropical storms in the summer and fall; and Nor'easters during the colder months bringing snow, rain, and storm surge (New Jersey Office of Emergency Management 2023) (New Jersey Office of Emergency Management 2023). This has led to repetitive flooding across the state, putting a strain on those who live and work in New Jersey and on state and local resources.

For the 2024 State Hazard Mitigation Plan (SHMP), the State of New Jersey updated its Repetitive Loss (RL) Strategy. The strategy identifies actions the State of New Jersey has taken to reduce the number of RL properties. In addition, it describes the State of New Jersey's strategy to ensure that counties with RL properties take actions to reduce the number of these properties, including the development of local HMPs.

The ultimate goal of the updated RL Strategy is to identify actions to reduce damage to RL and severe repetitive loss (SRL) properties throughout the State of New Jersey. New Jersey Office of Emergency Management (NJOEM) continues to focus efforts on mitigation of RL and SRL properties as a priority. By identifying these properties as a

FEMA emphasizes the importance of mitigating repetitive flooded structures.

Studies have found that many RL properties are outside any mapped 1% annual chance floodplain. FEMA encourages communities to identify and mitigate the causes of repetitive losses. FEMA-sponsored programs such as the Community Rating System require participating communities to identify repetitive loss areas. A repetitive loss area is the portion of a floodplain holding structures that FEMA has identified as meeting the definition of repetitive loss. Identifying repetitive loss areas helps to identify structures that are at risk but are not on FEMA's list of repetitive loss structures because no flood insurance policy was in force at the time of loss.

priority and including this strategy in the SHMP, New Jersey will be eligible for an increased federal cost share in FEMA's Hazard Mitigation Assistance (HMA) program.

7.0-2 ADMINISTRATION

Since 2018, administering the hazard mitigation grant funding programs to mitigate flood prone properties throughout New Jersey has been a collaborative effort between numerous agencies involving the NJOEM, Governor's Disaster Recovery Office (GDRO), New Jersey Department of Environmental Protection (NJDEP), and New Jersey Department of Community Affairs (NJCA). The roles and responsibilities often evolve to meet changing needs, emerging threats, and new opportunities. The State of New Jersey strives to be efficient and to balance any competing goals of state and federal agencies, leveraging complimentary efforts where possible. The State of New Jersey's interagency coordination allows projects to receive funding in a shorter timeframe and minimize local cost share.

New Jersey Office of Emergency Management (NJOEM)

The Office of the Attorney General has the overall responsibility for emergency management activities in the state and exists in the Department of Law and Public Safety. Emergency management functions at the state level are coordinated by the Emergency Management Section (NJOEM) of the New Jersey State Police.

The Emergency Management Section Supervisor holds the rank of Major and serves as Assistant Deputy State Director, Office of Emergency Management (New Jersey State Police 2023). The following five bureaus make up Emergency Management Section:

- Communications Bureau
- Emergency Response Bureau
- Incident Support Bureau
- Recovery Bureau
- Preparedness Bureau (New Jersey State Police 2023)

New Jersey State Hazard Mitigation Officer

As of November 2023, Lt. Dinan Amin is the current State of New Jersey State Hazard Mitigation Officer (SHMO) and serves as the official designated point of contact for New Jersey's mitigation program requirements. The SHMO serves within the NJOEM Mitigation Unit that administers the State's hazard mitigation program.

Linking Hazard Mitigation to Effective Repetitive Loss Strategies

NJOEM focuses on linking hazard mitigation to an effective repetitive loss strategy. They are a member of the State Hazard Mitigation Team and serves as the State's grantor for grants. They provide community technical assistance and grant support to New Jersey's counties and local municipalities.

Hazard mitigation programs and efforts in the state are largely coordinated through the Recovery Bureau and Preparedness Bureau. The Emergency Management Section organizes, directs, staffs, coordinates, and reports the activities of the Emergency Response Bureau, Recovery Bureau, and Preparedness Bureau. The Emergency Management Section is under the command of the Deputy Superintendent of Homeland Security, who is the Deputy State Director, NJOEM. The Emergency Management Section is also responsible for planning, directing, and coordinating emergency operations within the state that are beyond local control (New Jersey State Police 2023).

The NJOEM Mitigation Unit focuses on acquisition, elevation, local infrastructure, retail fuel resiliency, and energy allocation programs funded through FEMA's grant programs: Building Resilient Infrastructure and Communities (BRIC), Flood Mitigation Assistance (FMA), Hazard Mitigation Grant Program (HMGP), Legislative Pre-Disaster Mitigation (LPDM), and Safeguarding Tomorrow Revolving Loan Fund Program (STORM RLF) (New Jersey State Police 2023).

Counties and municipalities are made aware of the various mitigation programs and efforts through communication announcing upcoming grants for which eligible communities in their jurisdiction may apply. Additional workshops are held to further explain available programs, and municipalities are encouraged to apply for grant funds. Upon receiving completed applications, NJOEM will then narrow down the list of prospective applicants based on existing plans and potential project needs (New Jersey State Police 2023).

Mitigation Programs and Efforts for County and Local Officials

NJOEM offers training courses for county and municipal officials throughout the year. Training schedules are available on NJOEM's website (<https://nj.gov/njoem/training/schedule.shtml>) and include courses focusing on hazard planning and mitigation.

New Jersey Governor's Disaster Recovery Office (GDRO)

The GDRO's mission is to coordinate the multi-agency response to large-scale disaster events such as COVID-19, Tropical Storm Ida, Superstorm Sandy, and other disasters to ensure that every possible avenue of relief is pursued to assist in the recovery and rebuilding of the state. The GDRO also focuses on disaster resilience activities and sources of funding to mitigate damages from future events. The GDRO serves in a vital compliance role to ensure that federal disaster funds are expended in accordance with federal rules and are reported to the public in a transparent manner.

The GDRO officially assumed the role of the Governor's Office of Recovery and Rebuilding (GORR) in 2020 through the issuance of Governor Murphy's Executive Order (EO) No. 166. EO 166 formalized the GDRO's role for the Superstorm Sandy response and recovery, along with appointing the GDRO as the central point for oversight and coordination of COVID-19 federal funds and funding for all future disaster events. The GDRO works with other state agencies, including NJOEM (FEMA funding), NJDCA's Disaster Recovery and Mitigation Division (HUD funding), and NJDEP (USACE and FEMA/HUD funding) to ensure that the funding received from Congress is put toward the most effective uses, including those related to hazard mitigation.

The GDRO works closely with NJOEM, NJDEP, NJDCA, and other areas of the Governor's Office in developing long-term hazard mitigation strategies. Important focus areas include updating the Flood Hazard Area Control Act, deploying pre-disaster programs, and weighing in on state legislation that might fund hazard mitigation activities or change flood hazard understanding.

State Hazard Mitigation Team (SHMT)

The State Hazard Mitigation Team (SHMT) is an advisory committee that serves as a coordination point for all FEMA-funded natural hazard risk reduction and mitigation activities and projects that will be evaluated in conjunction with other federal- and state-funded recovery and resilience activities. The SHMT is responsible for periodically updating the SHMP and has the authority to call upon any other state, county, or local government agency; academic institutions; as well as nongovernmental entities to provide input to the SHMP. The SHMT meets following Presidentially declared disaster event that results in FEMA funding for hazard mitigation or resilience being made available to the State of New Jersey to coordinate recovery activities.

Executive Order No. 344 was signed in 2023 and updated the membership, roles, and responsibilities of the SHMT members. The SHMT is co-chaired by the Executive Director of the GDRO and the State Hazard Mitigation Officer (SHMO). In addition to the co-chairs, the SHMT consists of the Commissioners or other agency heads of the following Executive Branch departments and agencies or their designees:

- The Executive Director of the Governor's Disaster Recovery Office;
- The State Hazard Mitigation Officer;
- The Chief Resilience Officer, or designee;
- The State Director of Emergency Management, who is the Superintendent of State Police, or designee;
- The Commissioner of Community Affairs, or designee;
- The Commissioner of Transportation, or designee; and
- The Attorney General, or designee.

In addition to those listed above, the Governor can appoint additional members to the SHMT.

Through the coordination of the SHMO and the Executive Director of the GDRO, the SHMT will continue to meet at least once annually, as per Executive Order 344, throughout the 2024 SHMP update performance period to support implementation of and discuss amendments to the 2024 SHMP Update. In addition to these meetings, the SHMO and SHMT Chair will set up a meeting of the SHMT within one month following any Presidentially declared disaster events to ensure that procedures and resources are appropriate for plan maintenance and implementation. The SHMO may continue to invite additional stakeholders to SHMT meetings to ensure continuity of involvement and subject matter expertise. The continuous review and evaluation of the SHMP will help determine its overall effectiveness and ensure its ongoing relevance to the State of New Jersey's mitigation needs.

At a minimum of one SHMT meeting per year, the SHMO will lead the SHMP update discussion to evaluate the content of the plan. The framework and questions listed below will be asked. At the conclusion of these SHMT meetings, NJOEM will capture the changes and progress discussed and combine them into an annual review report. The annual review report will be structured to align with the main sections of the 2024 SHMP Update and be included in Appendix H – Mitigation Strategy Supplement. This will facilitate the incorporation of changes and progress made in to the 2029 SHMP Update. The SHMO will continue to host the current version of the 2024 SHMP Update on the NJOEM website and ensure the annual review reports are included in Appendix H – Mitigation Strategy Supplement and uploaded to the site.

New Jersey Department of Environmental Protection (NJDEP)

NJDEP is responsible for protecting environmental quality and public health. Priorities include reducing and responding to climate change; protecting New Jersey's water; revitalizing environmentally sensitive communities and protecting public health; and managing and promoting thriving natural and historic resources (NJDEP 2023). NJDEP participates, as a member, in the Regional Catastrophic Planning Team. NJDEP coordinates with FEMA, USEPA, NJOEM, NJDSS, the New Jersey Department of Military and Veterans Affairs, and the NJSP to participate in state, county, and local planning initiatives. NJDEP has a wide array of bureaus, divisions, and offices that contribute to the State of New Jersey's pre- and post-disaster capabilities. There are several bureaus and divisions within NJDEP that support flood mitigation.

- The Bureau of Climate Resilience Planning (BCRP) provides planning and technical support to New Jersey's communities to help them make informed decisions about climate resilience. BCRP is responsible for coordinating with DEP policies, programs, and activities to plan for the impacts and the associated hazards of climate change and promote public awareness of climate change science (NJDEP 2022).
- Blue Acres helps New Jersey residents whose homes have been damaged in flooding events. Blue Acres actively contributes to the strengthening New Jersey's defenses against climate impacts by acquiring vulnerable properties damaged, or at risk from, rising sea levels, severe storms, hurricanes, and flooding. The overall intent of the program is to increase resilience in neighboring communities and provide a protective buffer to surrounding areas against future natural hazard events (NJDEP 2022). The recent re-alignment of the Blue Acres Program into the Office of Climate Resilience has allowed for the integration of greater climate and vulnerability-focused buyout planning and messaging. Under the current iteration of the program, Blue Acres will advance proactive, preparedness-focused buyout planning that has a climate resilience and social equity emphasis and which embraces community planning principles while at the same time, Blue Acres will also be poised to pivot and respond to buyouts needed as a result of a storm or flood event. This philosophical change was driven by the growing threat of flooding that comes with increasing precipitation and the more intense storms that are regularly impacting many New Jersey communities. Blue Acres has broadened its communication, outreach efforts, and transparency through both passive and active means through the Blue Acres website (<https://dep.nj.gov/blueacres/> and <https://dep.nj.gov/blueacres/homeowners/>).
- The Green Acres Program was created to meet New Jersey's growing recreation and conservation needs. Together with public and private partners, Green Acres has protected well over a million and a half acres of open space around the

state (NJDEP 2023). Local/nonprofit funding for land acquisition and park development prioritizes ranking and provides higher grant percentages and total awards to projects in Adversely Stressed Overburdened Communities and Urban Aid municipalities.

- The Division of Resilience Engineering & Construction (DREC) oversees large-scale coastal and fluvial flood protection projects, beach renourishment, flood risk analysis, dam safety, and the National Flood Insurance Program. DREC aims to assist communities across New Jersey in becoming more resilient to storms, flooding, and other climate change impacts (NJDEP 2022).

New Jersey Department of Community Affairs (NJCA)

NJCA provides administrative guidance, financial support, and technical assistance to local governments, community development organizations, businesses, and individuals to improve the quality of life in New Jersey. NJCA offers a wide range of programs and services that respond to issues of public concern, including fire and building safety, housing production, community planning and development, and local government management and finance.

The Division of Disaster Recovery and Mitigation (DRM) promotes the long-term resilience of New Jersey's communities by supporting initiatives to fortify housing, businesses, and infrastructure against severe weather events and flooding. In the housing elevation programs, both those funded by CDBG-DR funds and those funded by FEMA, DRM is now requiring the structure to be raised at least 3 feet above base flood elevation or more if required by the local standard. DRM is focusing CDBG-DR funds to require elevation for substantially damaged properties. DRM will require all new construction and substantial rehabilitation to meet the ICC-700 design standard, which incorporates resiliency as well as energy efficiency and includes building techniques like impact-resistant doors, attachment of shingles, and flash and seal roof penetrations. This allows DRM to focus on resource efficiency, indoor environmental quality, and homeowner operation and maintenance. DRM is now requiring homeowners to carry flood insurance post elevation grant.

DRM has also designed housing recovery programs to allow for mitigation activities to make homes more resilient to future storm events. These activities include structural and utility retrofits, grading and slope stabilization, and other drainage practices. DRM is also financing infrastructure projects that will help impacted communities become more resilient to current and future natural hazards. The scoring is aligned with FEMA's Building Resilient Infrastructure and Communities (BRIC) program and takes into account climate change, risk reduction/resilience effectiveness, and risk to critical infrastructures. DRM is incorporating climate resilience into the policies of all the CDBG-DR programs. This ensures that disaster response funding is not wasted on homes and infrastructure that will not be able to withstand the next natural weather event.

7.0-3 BACKGROUND

The State of New Jersey has placed a high priority on the mitigation of RL and SRL properties, as evidenced by the successful mitigation of 3,119 properties (elevations and acquisitions) across the state as of January 2023. As part of updating the SHMP and this section, NJOEM obtained RL and SRL details from the National Flood Insurance Program (NFIP) PIVOT System. As of June 15, 2023, there are 17,522 NFIP flood policies in the state, of which, 17,228 are RL (NFIP-defined) and 3,820 are SRL (NFIP-defined).

There are 14,561 properties identified as not mitigated. Bergen (13.3%), Cape May (15.6%), and Passaic (9.5%) Counties have the largest percentage of unmitigated RL properties and will continue to remain flood prone until mitigation measures are implemented (as of June 15, 2023).

This strategy presented in this section will provide an important resource for prioritizing future mitigation projects. It will also allow available federal and state funding sources to implement mitigation projects. Understanding the properties and the funding sources available will benefit the State of New Jersey and its counties to implement a successful RL Strategy.

Utilizing a variety of federal and state funding sources, the State of New Jersey actively coordinates and prioritizes planning and project grant funding and continues to use SRL and RL as prioritized mitigation actions. The State of New Jersey has several prioritization methods for reviewing and submitting grant applications for funding. While each method focuses on adapting to current and future conditions, the specific prioritization method used is dependent on funding opportunity. This is further discussed in Section 7.0-6: New Jersey Repetitive Loss Strategy.

7.0-4 DATA SUMMARY

FEMA maintains a database of NFIP- and FMA-defined RL and SRL properties and provides the list to states and local municipalities (as requested) to help them understand and mitigate their flood prone properties. The RL and SRL lists, as well as the previous SHMP, provide a detailed outlook on the status of repetitively flooded properties in New Jersey. As part of this RL Strategy update, RLs, SRLs, total claims, average claim amounts, and mitigated properties were mapped to show the impact of flood losses across the state.

Section 4.7: Flood discusses the flood hazard in New Jersey. Flooding will continue to impact New Jersey. More frequent and severe flooding events are likely as a result of sea level rise and more severe rainfall events. The average statewide losses, based on claims made by RL properties, is \$24,279.93. As of June 2023, there are 17,228 RL properties and 3,820 SRL properties in the state. provides a breakdown of these properties by county.

Table 7.0-1 NFIP Statistics for RL/SRL Properties in the State of New Jersey

County	Number of Properties				# of Losses*	Loss Value*	
	NFIP RL*	NFIP SRL*	Mitigated	NFIP-Insured*		Cumulative	Average
Atlantic	1,038	162	230	458	3,963	\$93,604,501	\$24,510,350
Bergen	1,964	432	55	1,081	6,440	\$235,510,282	\$69,770,563
Burlington	215	42	11	93	635	\$16,139,121	\$5,389,069
Camden	112	11	9	33	315	\$3,316,706	\$1,173,597
Cape May	2,804	514	558	1,250	10,173	\$193,966,766	\$54,255,632
Cumberland	75	5	12	25	184	\$5,145,437	\$2,081,365
Essex	566	138	11	272	1,980	\$70,759,066	\$20,713,115
Gloucester	73	1	8	16	186	\$2,671,309	\$1,020,687
Hudson	612	55	10	377	1,682	\$55,833,131	\$19,066,203
Hunterdon	235	57	8	124	738	\$23,631,545	\$7,345,324
Mercer	314	35	116	132	978	\$26,161,973	\$7,250,258
Middlesex	689	164	410	280	2,206	\$84,973,827	\$27,287,865
Monmouth	1,648	211	188	1,027	5,007	\$236,143,969	\$77,987,755
Morris	1,071	403	727	475	4,848	\$127,088,235	\$27,488,879
Ocean	1,882	221	416	1,049	5,717	\$228,361,400	\$85,435,043
Passaic	1,790	817	5	615	8,821	\$246,485,683	\$49,871,418
Salem	54	10	124	25	175	\$5,400,013	\$1,309,287
Somerset	1,051	293	36	298	3,616	\$155,640,202	\$45,065,305
Sussex	16	1	27	2	38	\$721,676	\$292,185
Union	748	174	230	427	2,522	\$81,494,000	\$22,170,479
Warren	271	74	55	84	789	\$27,894,382	\$9,172,071
Statewide Total	17,228	3,820	2,961	8,143	61,013	\$1,920,943,220	\$558,656,450

Source: NFIP PIVOT Database 2023

Note: Data presented in table above includes information as of June 15, 2023

*This number includes properties that have been mitigated.

Table 7.0-1 helps demonstrate the distribution of RL properties across the state. All 21 counties have at least one RL property. The largest concentration of RL properties is in Cape May County (2,804 properties), Bergen County (1,964 properties), Ocean County (1,882 properties), and Passaic County (1,790 properties).

Figure 7.0-1 depicts the distribution of SRL properties across the State. All 21 counties have at least one SRL property. The largest concentration of SRL properties is in Passaic County (817 properties), Cape May County (514 properties), Bergen County (432 properties), and Morris County (403 properties).

Figure 7.0-1 RL Properties in New Jersey (as of June 15, 2023)

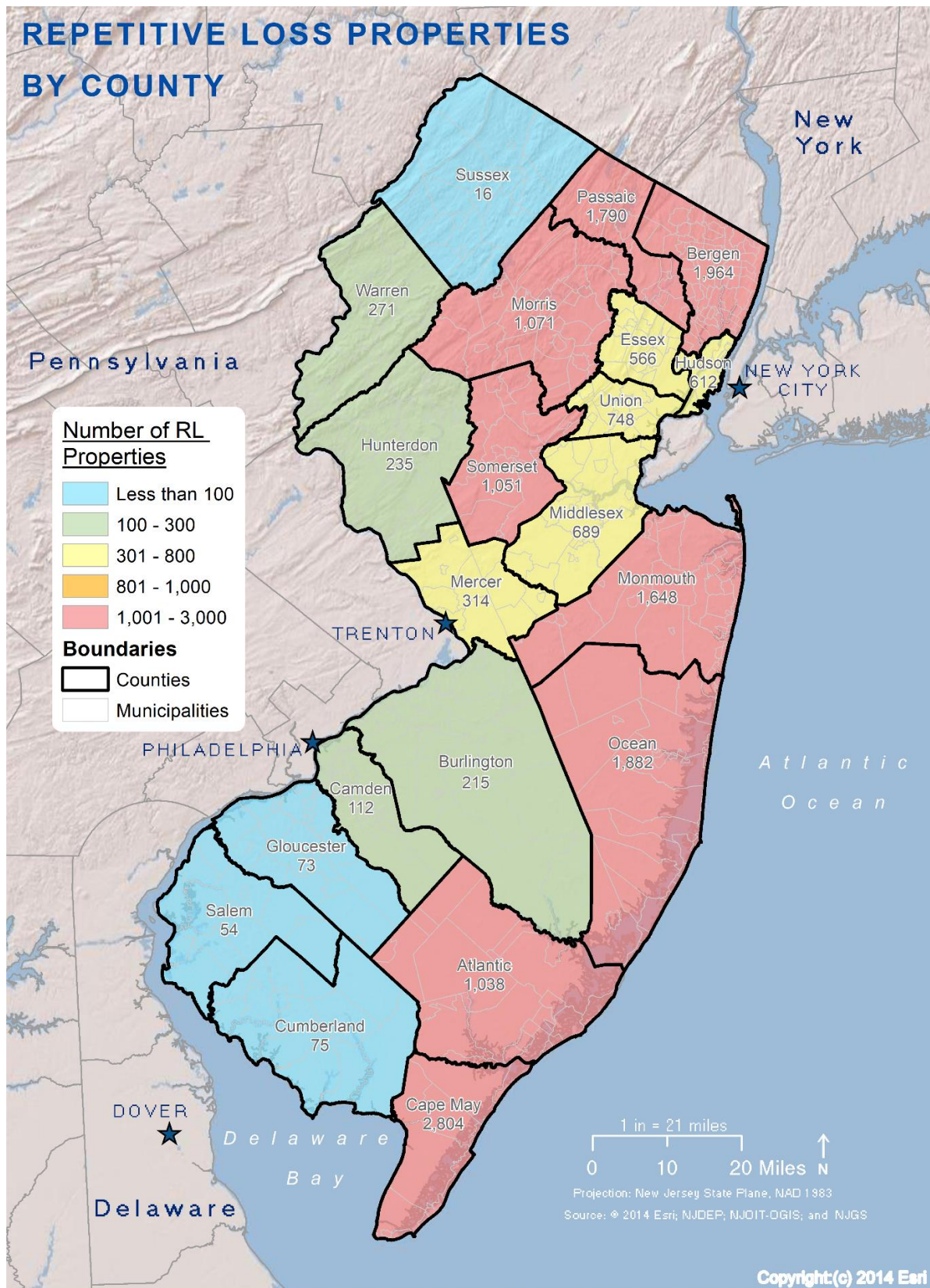


Figure 7.0-2 SRL Properties in New Jersey (as of June 15, 2023)

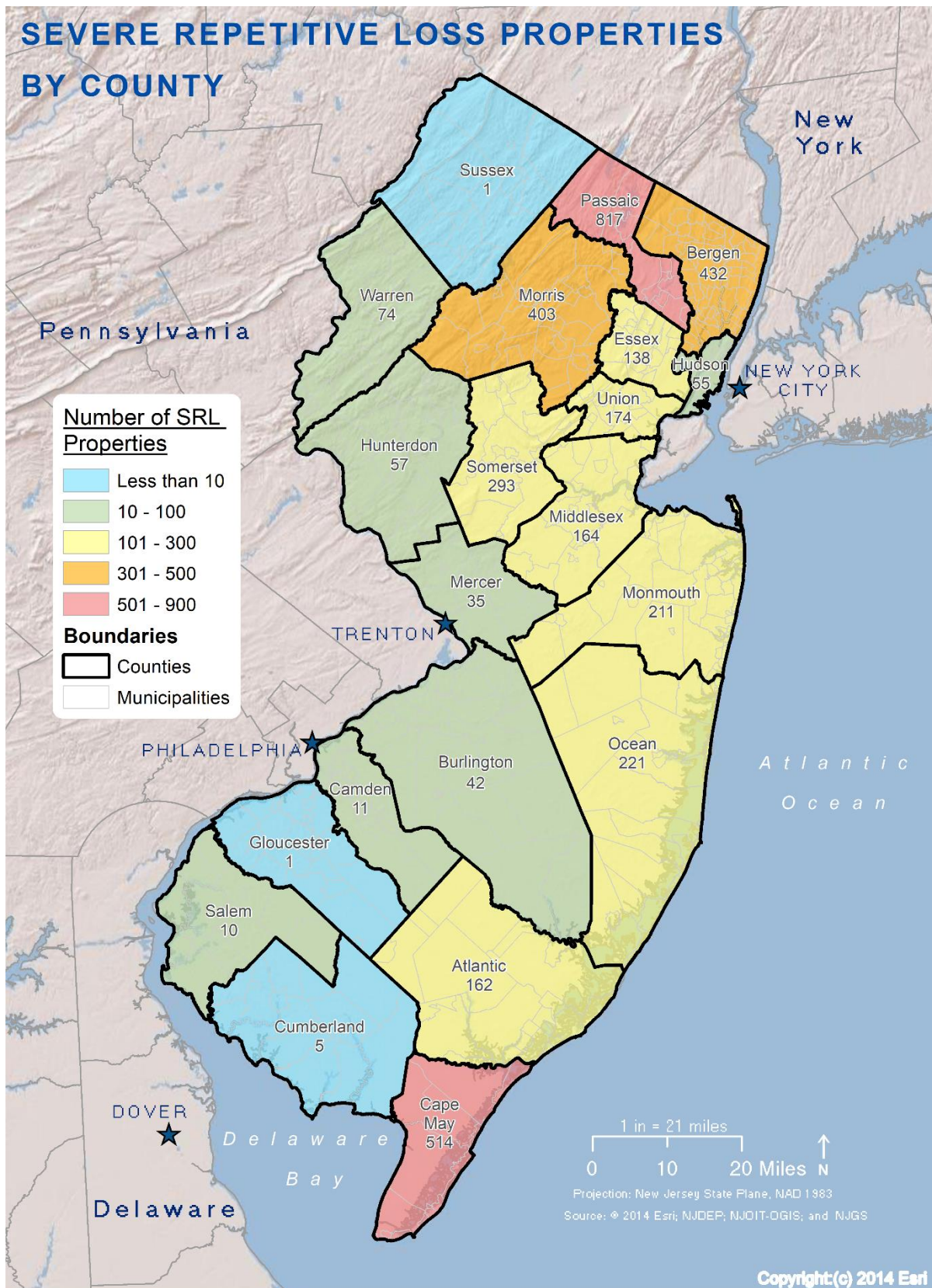


Figure 7.0-3 details the total flood claims made by RL and SRL properties in each county. As in the RL and SRL maps, the claims are concentrated in Passaic, Monmouth, Bergen, and Ocean Counties. The highest number of claims in a county exceeds \$246,485,683.04 (Passaic County).

Figure 7.0-3 Total Flood Claims in New Jersey (as of June 15, 2023)

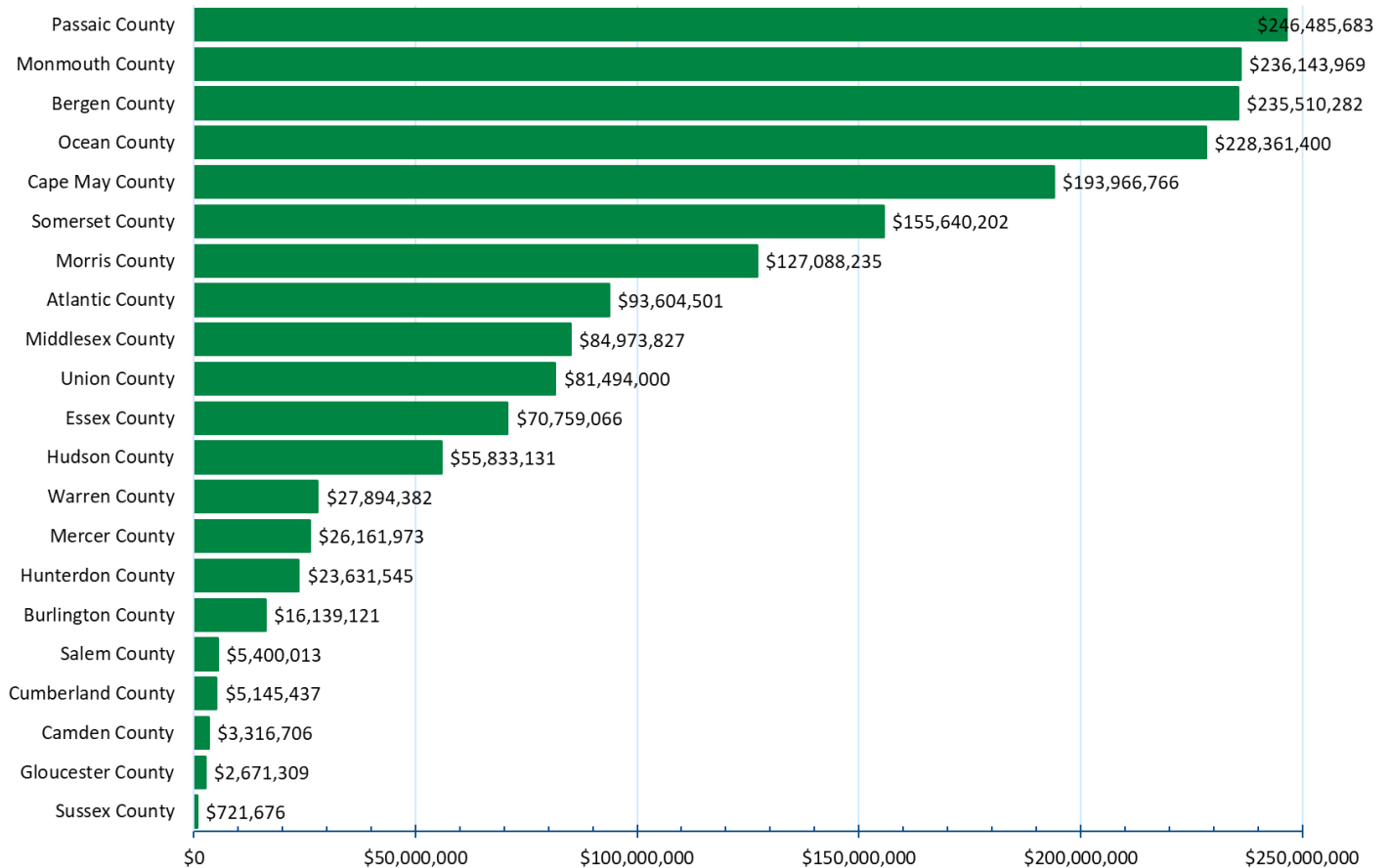
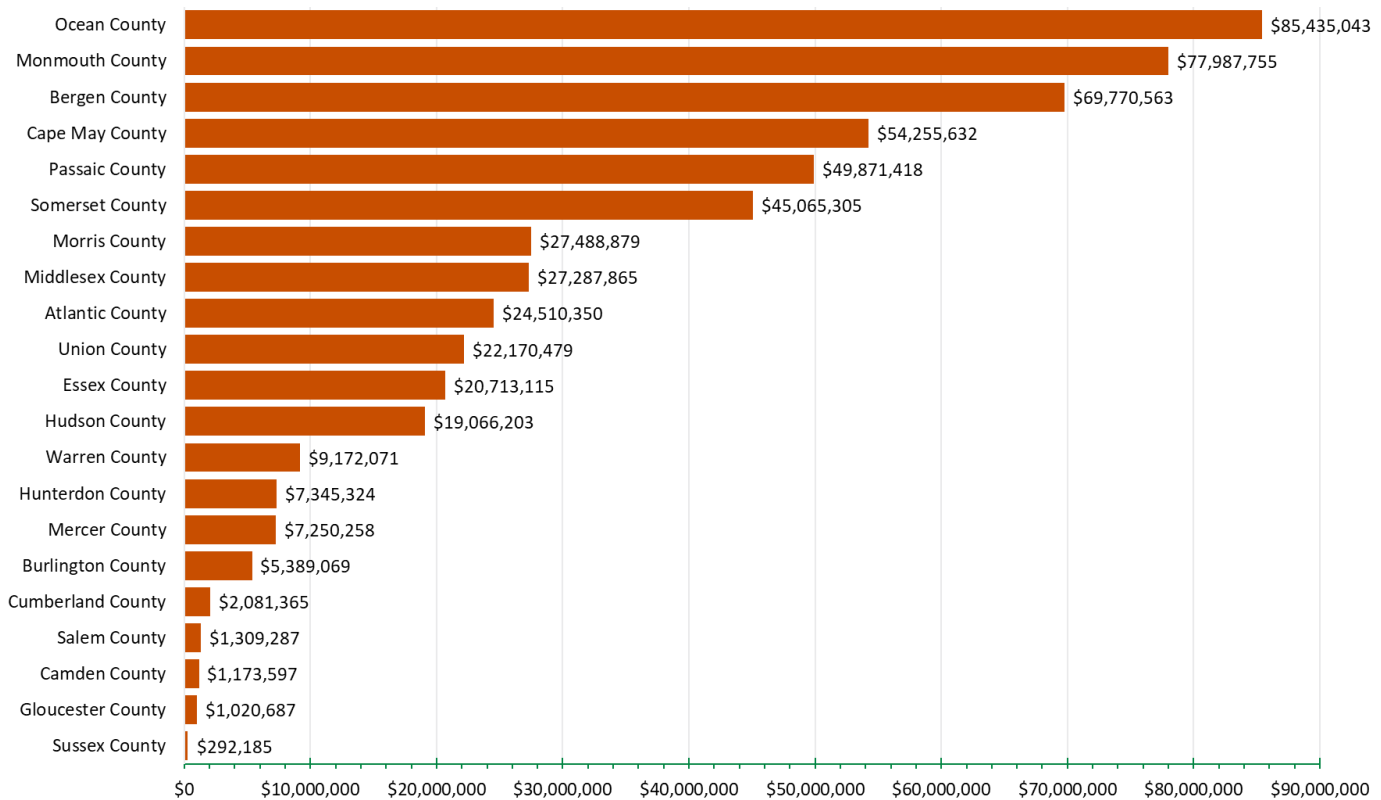


Figure 7.0-4 below breaks down the average payment amount, for RL and SRL properties, by county. This map showcases the average cost of flooding throughout the state. Ocean, Monmouth, and Bergen Counties have the highest average of paid flood claims, with Ocean County having the highest (\$85,435,042.63).

Figure 7.0-4 Average Claim Payment in New Jersey (as of June 15, 2023)



Impact of Repetitive Flooding on New Jersey's Population

It is important to understand the financial impacts that RL and SRL properties have on property owners as well as state and local governments. Owners of RL properties are often confronted with the stresses of associated repetitive flooding, including worries about how high the water may rise, potential loss of life, loss of personal belongings, possibility of mold, and uncertainty of return following an evacuation. Repeatedly damaged properties put a financial strain on individuals, families, businesses, and local and state governments. To assess this cost, NJOEM further examined the number of claims, average claim payments, and hazard impact of RLs and SRLs in the State.

RL properties put a strain on individual, local, and state resources, resulting in multiple flood claims that cost thousands of dollars. Although there are multiple hazards that are multiple sources of repetitive flooding, the impacts are the same, damaging property and impacting resources across the state. Therefore, mitigating repeatedly flooded properties would benefit the entire state.

7.0-5 STATE AND LOCAL CAPABILITIES

State and local capabilities for funding and implementing mitigation actions for SRL and RL properties provide a basis for effectiveness of the RL Strategy. NJOEM is responsible for oversight and management of state and local hazard mitigation plan preparation process; identification and evaluation of mitigation planning programs and opportunities; coordination of mitigation planning with preparedness, response, and recovery planning; and event management mitigation. The effectiveness of the programs administered and supported by NJOEM is provided below.

Programs, Policies, and Funding Sources

This section provides the various programs and policies available to the State of New Jersey for mitigating flood prone properties.

Federal Programs, Policies, and Funding Sources

Table 7.0-2 provides an overview of the federal capabilities, programs, policies, practices, funding, or regulations that are integral to the mitigation of RL and SRL properties.

Table 7.0-2 Federal Capabilities, Programs, and Policies for Initiating Flood Mitigation Activities

Program	Effect on Repetitive Loss Impact
National Flood Insurance Program (NFIP)	<p>Established in 1968 by the National Flood Insurance Act, is a federal program in which local jurisdictions may voluntarily participate. It is intended to provide affordable flood insurance to residents and encourage floodplain management.</p> <p>In New Jersey, 559 municipalities (99%) participate in the NFIP. Only 6 communities out of 564 do not currently participate in the NFIP as of May 18, 2023.</p>
Community Rating System (CRS)	<p>The CRS is a voluntary incentive program that recognizes and encourages community floodplain management practices that exceed the minimum requirements of the NFIP. Participation in the CRS program provides NFIP-policy holders a reduction in flood premiums. Over 1,500 communities participate nationwide.</p> <p>As of April 2023, 93 municipalities in New Jersey participate in the CRS Program, saving NFIP-policy holders over \$24 million in flood premiums. CRS communities by class are summarized as follows:</p> <ul style="list-style-type: none"> • Class 9 – 3 communities • Class 8 – 17 communities • Class 7 – 34 communities • Class 6 – 18 communities • Class 5 – 18 communities • Class 4 – 2 communities • Class 3 – 1 community (Verisk 2023)
Flood Mitigation Assistance (FMA) Program	<p>The goal of FEMA’s FMA Program is to reduce or eliminate claims under the NFIP. FMA funding is also available for management costs. FMA provides funding to states, territories, federally recognized tribes, and local communities for projects and planning that reduce or eliminate the long-term risk of flood damage to structures insured under the NFIP. Funding is appropriated by Congress annually. Since 2015, New Jersey received FMA funding for 81 projects, totaling over \$172 million (\$158 million federal share) as of June 2023. Projects include various planning efforts, property elevations and acquisitions, floodproofing, and drainage projects (NJOEM 2023).</p>
Hazard Mitigation Grant Program (HMGP)	<p>This program, available after a Presidential disaster declaration, funds hazard mitigation plans and cost-effective projects that reduce or eliminate the effects of hazards and/or vulnerability to future disaster damage. Typically, the State of New Jersey provides a portion of the required non-federal match. Since 2013, New Jersey received HMGP funding for 586 projects, totaling over \$576 million in federal funding as of June 2023 (NJOEM 2023). Projects include generators, property acquisitions and elevations, floodproofing, stormwater management, and utility protective measures (FEMA 2023).</p>
Safeguarding Tomorrow (STORM) Revolving Loan Fund (RFL) Program	<p>The Safeguarding Tomorrow Revolving Loan Fund (RLF) program is authorized under Section 205 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act to provide capitalization grants to states, eligible federally recognized tribes, territories and the District of Columbia to establish revolving loan funds that provide hazard mitigation assistance for local governments to reduce risks from natural hazards and disasters. New Jersey received over \$6.4 million in 2023 through this program (FEMA 2023).</p>
Public Assistance (PA) 404 and 406 Program	<p>The FEMA PA program provides grants to state, territorial, tribal, and local governments and certain types of private nonprofit (PNP) organizations so that communities can quickly respond to and recover from major disasters or emergencies declared by the President. Through the program, FEMA provides supplemental federal disaster grant assistance for debris removal; life-saving emergency protective measures; and the repair, replacement, or restoration of disaster-damaged publicly owned facilities, and the facilities of certain PNP organizations. The PA program also encourages protection of these damaged facilities from future events by providing assistance for cost-effective hazard mitigation measures during the recovery process. PA grants have been awarded to multiple jurisdictions throughout the state following every disaster declaration.</p>
Legislative Pre-Disaster Mitigation Program (LPDM)	<p>The LPDM grant program makes federal funds available to state, local, tribal, and territorial governments to plan for and implement sustainable, cost-effective measures designed to reduce the risk to individuals and property from future natural hazards while also reducing reliance on federal funding from future disasters. The program is authorized by Section 203 of the Stafford Act. While previously an annual program, the LPDM program is currently dependent on annual congressional authorization. For additional information regarding the LPDM program, please refer to: https://www.fema.gov/grants/mitigation/pre-disaster</p>

Program	Effect on Repetitive Loss Impact
Building Resilient Infrastructure and Communities (BRIC)	<p>Since 2014, New Jersey received LPDM funding for 37 projects, totaling over \$87 million in funding (\$35 million federal share) (NJOEM 2023). Projects include planning, management costs, generators, drainage improvements, and flood control (FEMA 2023).</p> <p>The BRIC program supports states, local communities, tribes, and territories as they undertake hazard mitigation projects, reducing the risks they face from disasters and natural hazards. BRIC is a new FEMA pre-disaster hazard mitigation program that replaces the existing PDM program.</p> <p>The BRIC program guiding principles are supporting communities through capability and capacity building; encouraging and enabling innovation; promoting partnerships; enabling large projects; maintaining flexibility; and providing consistency.</p> <p>Since 2020, New Jersey received BRIC funding for 16 projects, totaling over \$347 million (\$93 million federal). Projects include drainage improvements, structural elevations, technical assistance, and management costs (NJOEM 2023).</p> <p>For additional information regarding the BRIC program, please refer to: https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities</p>
BRIC Direct Technical Assistance	<p>Building Resilient Infrastructure and Communities Direct Technical Assistance (BRIC DTA) provides tailored support to communities and tribal nations that may not have the resources to begin climate resilience planning and project solution design on their own. Through process-oriented, hand-in-hand assistance, BRIC DTA will partner with communities interested in enhancing their capability and capacity to design holistic, equitable hazard mitigation solutions that advance numerous community-driven objectives (FEMA 2023).</p>
Community Disaster Resilience Zones	<p>The Community Disaster Resilience Zones Act was signed into law by President Joe Biden on December 20, 2022. The Act amends the Robert T. Stafford Disaster Relief and Emergency Assistance Act and requires FEMA to utilize a natural hazard risk assessment index to identify census tracts which are most at risk from the effects of natural hazards and climate change. It will aim to build and strengthen community resilience across the nation by driving federal, public, and private resources to the most at-risk and in-need communities (FEMA 2023).</p>
U.S. Army Corps of Engineers – Silver Jackets	<p>The New Jersey Silver Jackets Team focuses on developing intergovernmental partnerships in the state that result in comprehensive and sustainable solutions to the flood hazard. A collaborative process to mitigate New Jersey's flood risk will:</p> <ul style="list-style-type: none"> • Enable the effective and efficient sharing of information; • Foster the leveraging of available agency resources; • Increase and improve flood risk communication and outreach; • Provide improved service to our mutual customers; and • Promote wise stewardship of the taxpayers' investment. <p>The New Jersey Silver Jackets Team has conducted various projects in the state, including: Passaic River Basin Flood Inundation Mapping (4 sites); Passaic River Basin Unsteady Modeling for Forecast Improvements; Flood Inundation Mapping for Rahway River & Assunpink Creek; and Non-Structural Flood Proofing Workshops in Cumberland County (U.S. Army Corps of Engineers 2023).</p>
Community Development Block Grant – Mitigation (CDBG-MIT)	<p>The Community Development Block Grant- Mitigation Program (CDBG-MIT) is designed to provide assistance to areas affected by recent disasters through funding high-impact activities aimed at reducing future losses from natural hazards. CDBG-MIT defines mitigation as activities that increase resilience to disasters and reduce or eliminate the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship by lessening the impact of future disasters. Goals of CDBG-MIT funds:</p> <ul style="list-style-type: none"> • Support data-informed investments, focusing on repetitive loss of property and critical infrastructure. • Build capacity to comprehensively analyze disaster risks and update hazard mitigation plans. • Support the adoption of policies that reflect local and regional priorities that will have long-lasting effects on community risk reduction, including risk reduction to community lifelines and decreasing future disaster costs. • Maximize the impact of funds by encouraging leverage, private/public partnerships, and coordination with other Federal dollars. <p>CDBG-MIT provides opportunities for eligible grantees to use assistance in areas impacted by recent disasters to mitigate disaster risks and reduce future losses. Several New Jersey agencies and departments have utilized CDBG-MIT for mitigation projects.</p>

Program	Effect on Repetitive Loss Impact
Community Development Block Grant – Disaster Recovery (CDBG-DR)	HUD provides flexible grants to help cities, counties, and states recover from Presidentially declared disasters, especially in low-income areas, subject to availability of supplemental appropriations. In response to Presidentially declared disasters, Congress may appropriate additional funding for the CDBG Program as Disaster Recovery grants, to rebuild the affected areas and provide crucial seed money to start the recovery process. Since this Disaster Recovery assistance may fund a broad range of recovery activities, HUD can help communities and neighborhoods that otherwise might not recover due to limited resources. Since 1998, New Jersey received over \$4.5 billion to assist with disaster recovery.
Rehabilitation Of High Hazard Potential Dam (HHPD) Grant Program	The Rehabilitation of HHPD awards provide technical, planning, design, and construction assistance in the form of grants for rehabilitation of eligible HHPDs. A state or territory with an enacted dam safety program, the State Administrative Agency, or an equivalent state agency, is eligible for the grant (FEMA 2022). Since 2019, New Jersey received over \$400,000 for rehabilitation of HHPDs (FEMA 2023)
National Dam Safety Program (NDSP)	The NDSP, which is led by FEMA, is a partnership of the states, federal agencies, and other stakeholders to encourage individual and community responsibility for dam safety. Grant assistance is provided to states, providing vital support for the improvement of state dam safety programs that regulate most of the dams in the United States.
Small Business Administration Loan	<p>The Small Business Administration (SBA) provides low-interest disaster loans to homeowners, renters, business of all sizes, and most private nonprofit organizations. SBA disaster loans can be used to repair or replace the following items damaged or destroyed in a declared disaster: real estate, personal property, machinery and equipment, and inventory and business assets.</p> <p>Homeowners could apply for up to \$200,000 to replace or repair their primary residence. Renters and homeowners could borrow up to \$40,000 to replace or repair personal property-such as clothing, furniture, cars, and appliances that were damaged or destroyed in a disaster. Physical disaster loans of up to \$2 million are available to qualified businesses or most private nonprofit organizations.</p> <p>SBA loans are provided to homeowners, renters, businesses, and nonprofits in New Jersey. Additional information regarding SBA loans is available on the SBA website: https://www.sba.gov/managing-business/running-business/emergency-preparedness/disaster-assistance.</p>
HOME Investment Partnerships Program	Grants to local and state government and consortia for permanent and transitional housing (including financial support for property acquisition and rehabilitation for low -income persons). Participating counties and jurisdictions in New Jersey have been allocated funds through the HOME program. As of June 30, 2023, 31,177 housing units received assistance, totaling over \$827 million (HUD Exchange 2023). Information on this program is available on the website: https://www.hud.gov/program_offices/comm_planning/affordablehousing/programs/home/

Tables 7.0-3 and 7.0-4 provide the cost share for several of the HMA programs and eligible activities under each program. With the inclusion of the RL Strategy in the 2024 SHMP, cost shares of up to 90%/10% and 100%/0% are available for eligible projects.

Table 7.0-3 FEMA HMA Grant Program Cost Share

Programs	Mitigation Activity (Percent of Federal/Non-Federal Share)	Recipient Management Costs (Percent of Federal/Non-Federal Share)	Subrecipient Management Costs (Percent of Federal/Non-Federal Share)
HMGP	75/25	100/0	—/— ^(a)
BRIC	75/25	75/25	75/25
BRIC – subrecipient is small and impoverished community	90/10	100/0	90/10
FMA – insured properties and planning grants	75/25	75/25	75/25
FMA – RL property	90/10	90/10	90/10
FMA – SRL property ^b	100/0	100/0	100/0
HHPD	65/35	65/35	65/35

Source: FEMA 2023; FEMA 2022

Subapplicants should consult their SHMO for the amount or percentage of HMGP subrecipient management cost funding their state has determined to be passed through to subrecipients.

To be eligible for an increased Federal cost share, a FEMA-approved state or tribal (Standard or Enhanced) Mitigation Plan that addresses RL properties must be in effect at the time of award, and the property that is being submitted for consideration must be a RL property.

Table 7.0-4 FEMA HMGP Eligible Activities

Eligible Activities	BRIC	FMA	HMGP	HHPD
Mitigation Projects				
Property Acquisition	✓	✓	✓	
Structural Elevation	✓	✓	✓	
Mitigation Reconstruction	✓	✓	✓	✓
Flood Risk Reduction Measures	✓	✓	✓	✓
Stabilization	✓	✓	✓	✓
Dry Floodproofing Non-Residential Buildings	✓	✓	✓	
Tsunami Vertical Evacuation	✓		✓	
Safe Rooms	✓		✓	
Wildfire Mitigation	✓		✓	
Retrofitting	✓	✓	✓	✓
Generators	✓		✓	
Earthquake Early Warning Systems	✓		✓	
Innovative Mitigation Projects	✓	✓	✓	
5% Initiative Projects*			✓	
Post -Disaster Code Enforcement			✓	
Advance Assistance			✓	
Aquifer and Storage Recovery**	✓	✓	✓	
Flood Diversion and Storage**	✓	✓	✓	✓
Floodplain and Stream Restoration**	✓	✓	✓	✓
Green Infrastructure**	✓	✓	✓	
Capability and Capacity Building				
New Plan Creation and Updates	✓	✓	✓	
Planning-Related Activities	✓	✓	✓	
Project Scoping/Advance Assistance	✓	✓	✓	
Building Code Activities	✓			
Financial Technical Assistance		✓		✓
Management Costs	✓	✓	✓	
Risk Identification Analysis and Risk Prioritization				✓

Note: Eligible activities may vary based on Notice of Funding Opportunities (NOFO) released each fiscal year and/or criteria set forth for the disaster declaration.

* FEMA allows increasing the 5% Initiative amount up to 10% for a Presidential major disaster declaration under HMGP. The additional 5% Initiative funding can be used for activities that promote disaster-resistant codes for all hazards. As a condition of the award, either a disaster-resistant building code must be adopted or an improved Building Code Effectiveness Grading Schedule is required.

**Indicates that any proposed action will be evaluated on its own merit against program requirements. Eligible projects will be approved provided funding is available.

State and Local Programs, Policies, and Funding Sources

Table 7.0-5 provides an overview of the state and local capabilities, programs, policies, practices, funding, or regulations that are integral to the mitigation of RL and SRL properties.

Table 7.0-5 State and Local Capabilities, Programs, and Policies for Initiating Flood Mitigation Activities

Category	Effect on Repetitive Loss Impact
NJOEM – Mitigation Unit	The OEM Mitigation Unit focuses on acquisition, elevation, local infrastructure, retail fuel resiliency, and energy allocation programs funded through FEMA's grant programs: HMGP, BRIC, STORM RLF, LPDM, and FMA. The Mitigation Unit has been working to offer workshops and provide technical expertise, either by them or with an expert agency. It would be most effective to have more expertise on staff, or to procure expert support, however it not feasible due to budget cuts at the state level.
Governor's Disaster Recovery Office (GDRO)	GDRO is directly involved in individual disaster response/recovery and utilizing funding across federal funding streams working with NJOEM (FEMA funding), NJDCA's Disaster Recovery & Mitigation Division (HUD funding), NJDEP (USACE and FEMA/HUD funding) to ensure that the funding received from Congress is put toward effective uses, including those related to hazard mitigation. In addition, GDRO works closely with NJOEM, NJDEP, and NJDCA and other areas of the GDRO in developing long-term hazard mitigation strategies such as updating

Category	Effect on Repetitive Loss Impact
NJDEP Bureau of Climate Resilience Planning (BCRP)	the Flood Hazard Area Control Act, deploying pre-disaster programs, weighing in on state legislation that might fund hazard mitigation activities or change flood hazard understanding. BCRP provides planning and technical support to New Jersey's communities to help them make informed decisions about climate resilience. BCRP is responsible for coordinating with DEP policies, programs, and activities to plan for the impacts and the associated hazards of climate change and promote public awareness of climate change science.
NJDEP Blue Acres	Blue Acres actively contributes to the strengthening New Jersey's defenses against climate impacts by acquiring vulnerable properties damaged, or at risk from, rising sea levels, severe storms, hurricanes, and flooding. The overall intent of the program is to increase resilience in neighboring communities and provide a protective buffer to surrounding areas against future natural hazard events (NJDEP 2022).
NJDEP Green Acres	Together with public and private partners, Green Acres has protected well over a million and a half acres of open space around the state. Local/nonprofit funding for land acquisition and park development prioritizes ranking and provides higher grant percentages and total awards to projects in Adversely Stressed Overburdened Communities and Urban Aid municipalities.
NJDEP Division of Resilience Engineering & Construction (DREC)	DREC oversees large-scale coastal and fluvial flood protection projects, beach renourishment, flood risk analysis, dam safety, and the NFIP. DREC aims to assist communities across New Jersey in becoming more resilient to storms, flooding, and other climate change impacts.
NJDEP Division of Disaster Recovery and Mitigation (DRM)	DRM promotes the long-term resilience of New Jersey's communities by supporting initiatives to fortify housing, businesses, and infrastructure against severe weather events and flooding. In the housing elevation programs, both those funded by CDBG-DR funds and those funded by FEMA, DRM is now requiring the structure to be raised at least three feet above base flood elevation or more if required by the local standard. DRM is focusing CDBG-DR funds to require elevation for substantially damaged properties. DRM will require all new construction and substantial rehabilitation to meet the ICC-700 design standard, which incorporates resiliency as well as energy efficiency and includes building techniques like impact-resistant doors, attachment of shingles, and flash and seal roof penetrations.
NJDEP Dam Restoration and Inland Water Projects Loan Program	The New Jersey Dam Restoration and Inland Water Projects Loan Program was established by the "Green Acres, Clean Water, Farmland and Historic Preservation Bond Act of 1992", P.L. 1992, c. 88. The purpose is to provide loans to dam owners for dam restoration or inland waters projects.
New Jersey Small Cities Community Development Block Grants	The Small Cities CDBG awards funding to community development, economic development, and housing projects for the benefit of low- to moderate-income people or communities when no other funding is available. CDBG funding for the Small Cities Program is allocated into the following four funds: Public Facilities Fund ("to construct or improve essential public facilities"), Housing Rehabilitation Fund ("to rehabilitate single-family owner-occupied housing"), Innovative Development Fund – Economic and Property Buyouts ("to fund new, innovative, and/or timely community development projects"), and Emergency Housing Repair Fund ("to correct emergency conditions in owner-occupied housing").
Dam Restoration Loan Program	The New Jersey Dam Restoration Loan Program was established by the "Dam, Lake, Stream, Flood Control, Water Resources and Wastewater Treatment Project Bond Act of 2003", P.L. 2003, c. 162. The purpose is to provide loans to dam owners for dam restoration projects.

Changes to Programs, Policies, and Funding Sources

Numerous changes to federal programs, policies, and funding sources have recently changed the landscape for RL mitigation, including the addition of CDRZ and STORM RLF.

A major funding change has been the establishment of a new HMA funding source, the BRIC program. The BRIC program is a competitive annual grant program. The BRIC program aims to categorically shift the federal focus away from reactive disaster spending and toward proactive investment in community resilience. The PDM program was active during the performance of the 2019 SHMP but was replaced with BRIC under the Disaster Recovery Reform Act of 2018. However, PDM awards are still funded through direct congressional appropriations (FEMA 2023).

Since the 2019 SHMP, FEMA introduced Risk Rating 2.0: Equity in Action to consider specific characteristics of a building to provide a more modern, individualized, and equitable flood insurance rates. The new rating methodology considers frequency of flooding, multiple flood types, proximity to flood sources, and building characteristics such as first floor heights and costs to rebuild. The update was rolled out in Fall 2021 through Spring 2022 (FEMA 2022). New Jersey has seen approximately 12,000

policyholders drop their flood insurance policies since FEMA implemented Risk Ranking 2.0 premium increases. The number of NFIP policyholders declined 6-percent from September 2021 (219,173 policies) to June 2022 (193,173 policies) (Salant 2022). Homeowners that elect to drop NFIP insurance policies will no longer have access to FMA funding for future mitigation efforts. At the time of this SHMP update, it is difficult to determine what the aggregate cost increase through Risk Rating 2.0 will be on post-mitigation properties.

The State of New Jersey NFIP Coordinator's Office is finding it to be increasingly difficult to communicate the benefits of mitigation to some property owners where insurance rates are likely to stay high even after mitigation due to factors such as proximity to flood sources and frequency of flooding. Continued shifts in flood insurance costs, coverage, impacts to mitigation of flood prone properties, and potential updates to Risk Rating 2.0 will be monitored by the State of New Jersey throughout the period of performance of the 2024 SHMP.

The Community Disaster Resilience Zones (CDRZ) Act was signed into law by President Joe Biden on December 20, 2022. The Act amends the Robert T. Stafford Disaster Relief and Emergency Assistance Act and requires FEMA to utilize a natural hazard risk assessment index to identify census tracts which are most at risk from the effects of natural hazards and climate change. CDRZ will build disaster resilience across the nation by driving federal, public and private resources to the most at-risk and in-need jurisdictions. In September 2023, FEMA designated 438 census tracts nationwide as CDRZs, including eight zones in New Jersey in Little Ferry, Moonachie, Kearny, Atlantic City, Pleasantville, Wildwood, North Wildwood and Commercial Township.

The Safeguarding Tomorrow (STORM) Revolving Loan Fund (RLF) program is authorized under Section 205 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act to provide capitalization grants to states, eligible federally recognized tribes, territories, and the District of Columbia to establish revolving loan funds that provide hazard mitigation assistance for local governments to reduce risks from natural hazards and disasters. On September 12, 2023, FEMA selected eight applications for the first year of the STORM RLF program, including the State of New Jersey (\$6,462,963).

Support of Local Hazard Mitigation Plans

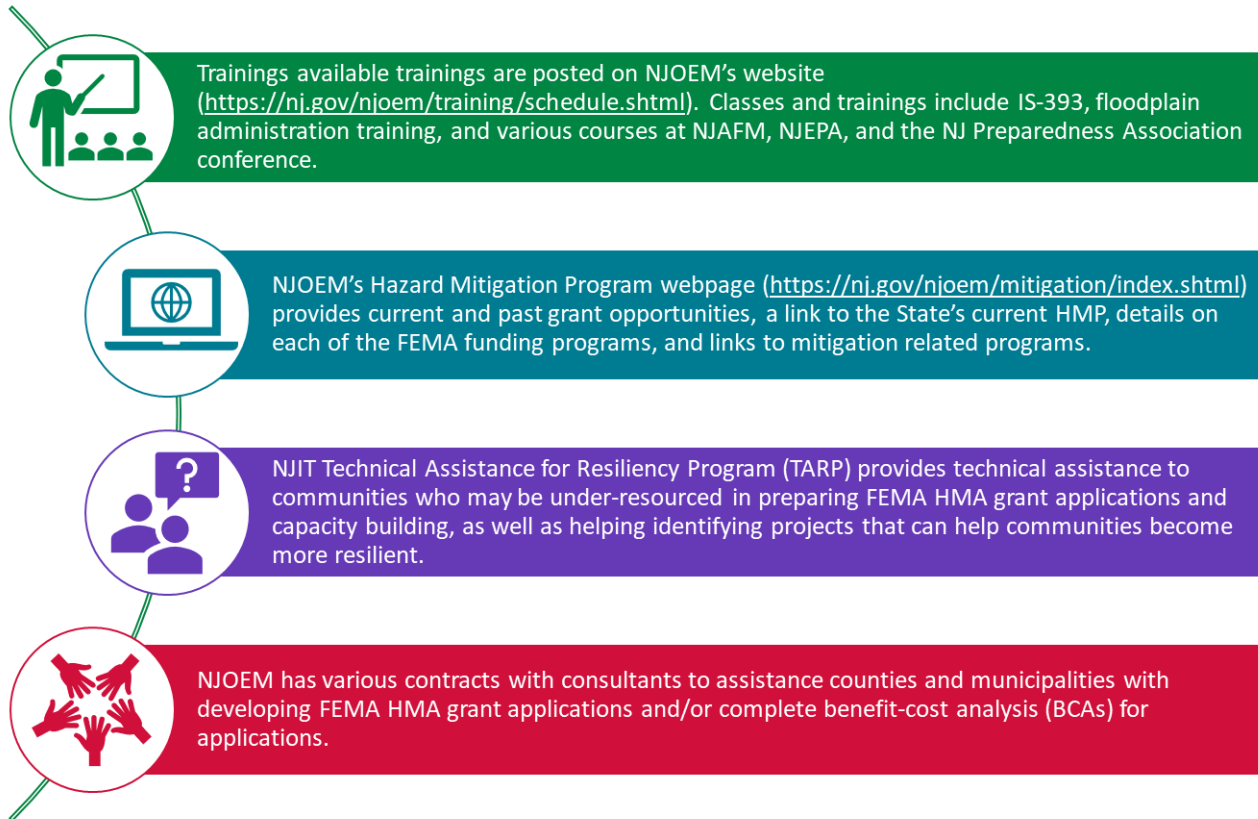
Element S14 and 44 CFR § 201.3(c)(5) and 201.4(c)(4)(i): The State plan must include a discussion of the process to support the development of approvable local government mitigation plans. This includes providing technical assistance, training, and funding. The plan must provide a summary of barriers to developing or updating, adopting, and implementing FEMA-approved local government mitigation plans and steps to remove barriers to help local governments advance mitigation planning.

Local hazard mitigation plans play an important role in the identification of potential projects to address repetitive flood losses. All local jurisdictions that participate in FEMA approved hazard mitigation plans are required to have mitigation actions to address any identified repetitive loss properties. This is usually accomplished through development of elevation or acquisition type projects. FEMA and the State encourage the inclusion of mitigation strategies that identify detailed information that can support grant applications to secure funding for implementation of actions, including those addressing repetitive losses.

As discussed in Section 5.0: Capability Assessment, NJOEM, GDRO, NJDEP, NJDCA, and other state agencies are committed to educating its counties on grant availability, grant applications, and managing mitigation funds. Over the performance period of the 2019 SHMP, when funding opportunities became available, these agencies notified counties and municipalities of grant funding through their websites and through the NJOEM hotline. Additionally, NJOEM provides the following services to counties and municipalities throughout the year. Over the performance period of the 2024 SHMP update, NJOEM will work to expand discussion and outreach for these and other programs that provide funds for mitigation activities, including those that address repetitive losses. Additional information on trainings is provided Section 5.0: Capability Assessment.

As each county's expiration date on their current hazard mitigation plan approaches, the SHMO will continue to notify each county regarding their status and advise to prepare and submit grant applications (e.g., HMGP, BRIC) to FEMA. In addition, NJOEM will identify other funding sources, as they become available, to assist counties with updating hazard mitigation plans.

Figure 7.0-5 Support for Local Hazard Mitigation Plans



National Flood Insurance Program (NFIP)

NJDEP is designated as the State Coordinating Agency responsible for assisting the coordination of the NFIP between the federal and county agencies in the State of New Jersey. Refer to Section 5.0 Capability Assessment for a summary of the State of New Jersey's capabilities including for the flood-related hazards of concern (climate change and sea level rise, flood, hurricane storm surge, and dam failure).

Out of New Jersey's 564 municipalities, 559 municipalities (99%) participate and are in good standing with the NFIP. Only six communities do not currently participate in the NFIP as of November 11, 2023. Each community participating in the NFIP has a municipal floodplain manager. In terms of local capabilities, the local hazard mitigation plans (HMPs) were reviewed to examine the following (summarized further in Section 5.0-9: Summary of Effectiveness of Local Mitigation Capabilities [Section 5: Capability Assessment]):

- Alignment of goals and/or objectives with the SHMP;
- Examination and incorporation of RL/SRL properties;
- Identifying RL-specific mitigation actions;

- Discussion of socially vulnerable populations/underserved communities;
- Identifying challenges in implementing hazard mitigation into existing and future local capabilities; and
- Discussion of climate change and its potential impacts on hazards.

RL and SRL Mitigation

In order to understand county-specific mitigation goals for repetitive losses, what has been accomplished, and what counties plan to accomplish in the future, NJOEM reviewed the HMPs for each county in the state. The following summarizes the work counties have done to reduce flooding impacts to RL and SRL properties.

Plans and Regulations

Most of the counties in New Jersey reference repetitive losses in their HMPs. A total of 20 of the 21 counties include references to RL properties. All but Cumberland County includes RL properties in their plan's goals/objectives, mitigation actions, and detailed discussions in the appropriate sections. While referencing RL properties, the counties identify mitigation methods, funding sources, responsible parties, hazards, and project status for each goal, objective, or action.

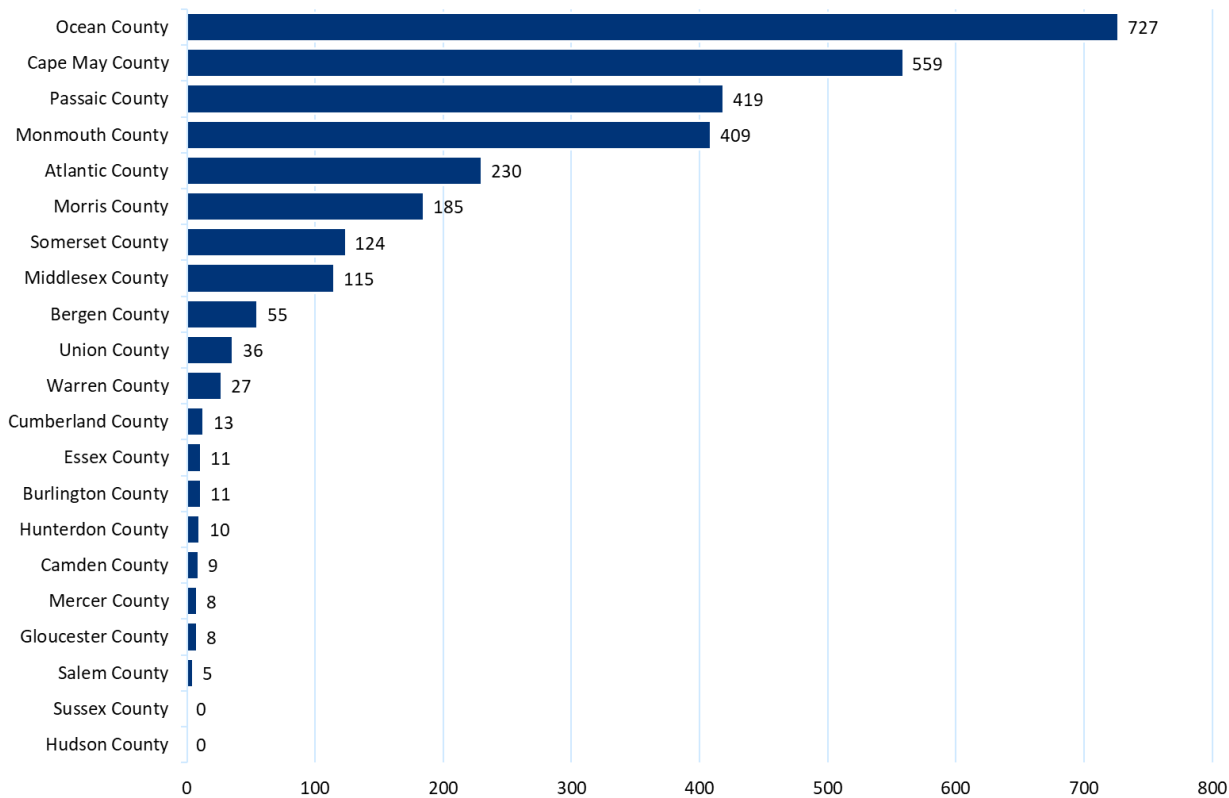
The counties further identify mitigation methods used to mitigate these properties, including property owner outreach, structural elevations, property acquisitions, floodplain management improvements, and flood control measures. In addition to mitigation methods identified, counties included potential funding sources for mitigation. This includes FEMA's FMA, BRIC, and HMGP grant programs, and county/local budgets.

A review of the county HMPs reveals that there is limited discussion of the effectiveness of mitigation actions and specifically regarding RL and SRL properties. A summary of the results of the review are provided below. In addition, the local HMPs were reviewed to examine the local mitigation actions identified to reduce the number of RL and SRL properties in the state. The following summarizes these findings by county; note, this is not considered an exhaustive list of all flood-related hazard mitigation actions identified in each plan.

Structure and Infrastructure Projects

With regards to mitigating RL and SRL properties in New Jersey, a majority of properties have either elevated structures above the BFE or acquired and demolished structures located in the floodplain. With support from the State of New Jersey, the municipalities in New Jersey are working to mitigate their repetitive flood losses. A total of 2,827 (16.4 percent) of the RL properties in New Jersey have been mitigated. Figure 7.0-6 illustrates the number of mitigated properties, by county. The counties with the highest number of mitigated properties are Ocean County (727 properties), Cape May County (559 properties), and Passaic County (419 properties).

Figure 7.0-6 Mitigated RL/SRL Properties in New Jersey (as of June 15, 2023)



Natural Systems Protection and Enhancement

New Jersey is considered the most developed and densely populated shoreline in the country, but out of a 130-mile distance between Sandy Hook and Cape May Point, there are 31.2 miles (24 percent) of shoreline with no human development between the salt marshes and the Atlantic Ocean. Protection along the 130 miles of shoreline includes various structural solutions. This includes construction of berms and dunes, sediment deposition, vegetation planting, and sand fencing.

Education and Awareness Programs

The federal government, State of New Jersey, county governments, local municipal governments, and a wide variety of non-governmental organizations and academia conduct extensive outreach on flood risk. General flood outreach is readily available and targeted outreach to at risk flood owners is a common practice in most municipalities. Refer to Section 7.0-6: New Jersey Repetitive Loss Strategy for examples of education and awareness programs currently in place across New Jersey.

Technical Assistance for Mitigation

The State of New Jersey delivers training and technical assistance to counties and municipalities to develop scopes of work prior to initiating planning efforts and implementing mitigation actions. This is done through workshops, outreach programs, and online programs. The following provides technical assistance measures provided throughout the state that focus on flood mitigation.

NJOEM

NJOEM focuses on linking hazard mitigation to an effective RL Strategy. They are a member of the SHMT and serve as the State of New Jersey's grantor. They provide community technical assistance and grant support to New Jersey's counties and local municipalities. NJOEM offers training courses for county and municipal officials throughout the year. Training schedules are

available on NJOEM's website (<https://nj.gov/njoem/training/schedule.shtml>) and include courses focusing on hazard planning and mitigation.

Counties and municipalities are made aware of grant opportunities and other programs through email correspondence announcing upcoming grants for which eligible communities in their jurisdiction may apply. Additional workshops are held to further explain available programs, and municipalities are encouraged to apply for grant funds. Upon receiving completed applications, NJOEM will then narrow down the list of prospective applicants based on existing plans and potential project needs (New Jersey State Police 2023).

NJIT

NJIT's Technical Assistance for Resiliency Program (TARP) provides technical assistance to communities in the state that require support in the preparation of applications for FEMA mitigation funds as well as identifying projects that can help communities be more resilient. NJIT TARP can assist those communities with application development and capacity building to provide New Jersey's under-resourced communities with those needed resources (NJIT n.d.).

Stockton University Coastal Research Center

Stockton University Coastal Research Center (CRC) originated in 1981 to assist local municipalities with coastal environmental issues related to recurring storm damage and shoreline retreat. Since it originated, the CRC has been working on shoreline monitoring and assessment programs with the State of New Jersey and several municipalities. CRC will be providing technical assistance to the southern counties in New Jersey.

Rutgers University

NJADAPT is a suite of data visualization and mapping tools developed by Rutgers University. The NJADAPT tools are designed to assist planners, community leaders, businesses, and residents to understand and adapt to the impacts of climate change on people, assets, and communities in New Jersey (Rutgers n.d.). Tools include the following:

- *Climate Dashboard*: The Climate Dashboard visualizes climate change trends and statistics for the whole of New Jersey. It compares today's conditions to future projections and can be displayed as maps or interactive charts.
- *NJ FloodMapper*: NJ FloodMapper is an interactive mapping tool that allows users to conduct flood exposure analysis based on the best available science for sea level rise and numerous other parameters, including total water levels, hurricane surge, FEMA flood zones, and Hurricane Sandy surge. Additional map layers depict infrastructure, environmental hazards, marsh and open space, social vulnerability, flood insurance payments for property loss, and land use.
- *Climate Snapshots*: Climate Snapshots provide easy access reports on built infrastructure, critical assets, natural and working lands, public health, vulnerable populations, and forestry at risk from climate impacts in each of New Jersey's municipalities, counties, and the state as a whole.
- *NJ HazAdapt*: NJ HazAdapt is a hazard mitigation planning tool developed in collaboration with the NJOEM. It is intended to provide municipal and county hazard planners with easy access to data and other resources that can assist with development of HMPs consistent with guidance issued by FEMA. Additionally, this tool is designed to help state and local end users assess impacts of flooding on key lifeline sectors, socially vulnerable populations, and individual land parcels. It also includes data on heat hazards to assist end users with understanding impacts of heatwaves and urban heat island. Currently, this tool includes datasets on the following topics:
 - Flooding and heat hazards
 - Social vulnerability to hazards to assist hazard planners in preparing communities for natural hazards
 - Potential flood analysis for each tax parcel in New Jersey using the Parcels and MOD-IV Composite of New Jersey (Rutgers n.d.)
- *Climate Planning Tool*: This tool assists state and local officials, communities, hazard planners, and others to understand the impacts of climate change on coastal flooding in New Jersey. Backed by data on sea level rise, hurricanes, and tidal

floods, the tool explains how to use data to analyze different flooding scenarios. The tool is presented in two story maps: the first is a primer on flooding; the second is a step-by-step outline of a coastal flood vulnerability analysis (Rutgers n.d.).

NJDEP

Resilient NJ Program: Resilient NJ is an assistance program to support local and regional climate resilience planning using the best available science on precipitation, temperature, and sea level rise (NJDEP 2023).

Mitigation Monitoring

NJOEM communicates with local HMP coordinators and municipalities on a regular schedule and as needed basis. Staff conduct outreach to local HMP coordinators on a quarterly basis to foster better relationships and to discuss the various aspects of monitoring involved, including overcoming challenges and following up on mitigation actions/projects. NJOEM plans to increase this frequency to monthly contacts in the near future. NJOEM contacts local HMP coordinators to encourage grant applications for funding support of HMP updates three to four years prior to the date of expiration. NJOEM also conducts outreach to coordinators and municipal points of contact when revolving HMA programs and congressional appropriation funding opportunities for mitigation are announced. County outreach is also conducted following county staff changes.

BAToolSM

Tracking progress on state-level mitigation activities shall continue to be led by NJOEM. To standardize and facilitate collection of progress data and information on the specific mitigation actions in the SHMP, NJOEM will utilize the BAToolSM plan review module, an online plan review service that will allow SHMT members and other state agencies and stakeholders to login to a secure site and provide a status update to the mitigation actions where they are listed as the lead agency. The service has been established and populated with SHMP mitigation actions prior to FEMA-approval of this plan. The link, instructions, and login credentials will be distributed prior to the next scheduled SHMT meeting, and a training session on the BAToolSM will be provided once the plan receives FEMA APA. NJOEM will collect progress on an annual basis and reporting progress in the annual review report appended to this plan to facilitate integration into the 2029 SHMP Update. While tracking progress on documented actions, this will be an opportunity for NJOEM, the SHMT, and stakeholders to identify modifications to existing actions and add new mitigation actions to the State of New Jersey Mitigation Strategy, all of which can be accomplished in the BAToolSM.

NJOEM is also working to develop or secure access to a tool that will allow all mitigation actions from local plans to be hosted, reviewed, and updated in one centralized location. This tool would provide NJOEM with a new capability to review statewide mitigation progress and allow for the rapid identification of appropriate mitigation actions for available funding opportunities.

Sandy Integrated Recovery Operations and Management System (SIROMS)

NJDCA uses SIROMS grant management system to track State of New Jersey entity expenditures and obligations, administer approved grant funds, and track compliance with applicable laws, regulations, guidance, and project requirements.

New Jersey Emergency Management Grants (NJEMGrants)

Local mitigation projects funded by FEMA are administered through NJOEM and are tracked from initiation. Counties that receive project grant awards are required to submit progress reports on the status of their project(s). Currently, NJOEM uses a grant-tracking program (NJEM.grants) for this purpose. NJEMGrants is an online application that tracks emergency management grants in New Jersey, including HMGP, LPDM, FMA, BRIC, and PA. This system manages the grant process from application through closeout. It also provides tools and guidance documents counties and municipalities can refer to throughout the grant process.

7.0-6 NEW JERSEY REPETITIVE LOSS STRATEGY

Goals and Objectives

The State of New Jersey is committed to reducing the number of RL and SRL properties by increased education, outreach, and successfully maximizing grant opportunities. This strategy aligns with the State of New Jersey's overall 2024 goals as outlined in Section 6.0: Mitigation Strategy. More specifically, the following goals in the 2024 SHMP support efforts to address RL properties in the state.

Figure 7.0-7 Repetitive Loss Goals



The local HMPs were reviewed to identify goals or objectives that also address the reduction of RL and SRL properties. Table 7.0-6 summarizes the local HMPs that identify mitigating RL and SRL properties in their plan's goals and/or objectives.

Table 7.0-6 Local HMP Goals and Objectives That Address RL and SRL Properties

	Atlantic County	Bergen County	Burlington County	Camden County	Cape May County	Cumberland County	Essex County	Gloucester County	Hudson County	Hunterdon County	Mercer County	Middlesex County	Monmouth County	Morris County	Ocean County	Passaic County	Salem County	Somerset County	Sussex County	Union County	Warren County
Goals	X											X		X						X	
Objectives				X	X		X	X	X	X	X			X		X			X		X

Prioritization Framework

Element S15 and 44 CFR § 201.4(c)(4)(iii): The State plan must describe criteria for prioritizing jurisdictions to receive planning and project grants under available federal and non-federal programs. A principal criterion for prioritizing grants will be the degree to which benefits are maximized.

For the 2024 SHMP, mitigation strategies were evaluated and prioritized using the modified social, technical, administrative, political, legal, economic, and environmental (STAPLEE) criteria. The STAPLEE method provides a systematic approach that considers the opportunities and constraints of implementing a particular mitigation action. The same approach was used when prioritizing strategies focusing on RL and SRL properties.

Table 7.0-7 SHMP Mitigation Strategy Prioritization

Criteria	Description
Life Safety	How effective will the action be at protecting lives and preventing injuries? Will the proposed action adversely affect one segment of the population?
Property Protection	How significant will the action be at eliminating or reducing damage to structures and infrastructure? Developing in the floodplain or high-risk areas?
Cost-Effectiveness	Are the costs to implement the project or initiative commensurate with the benefits achieved?
Political	Is there overall public support for the mitigation action? Is there the political will to support it? Is the action at odds with development pressures?
Legal	Does the State of New Jersey have the authority to implement the action?
Fiscal	Can the project be funded under existing program budgets (i.e., is this initiative currently budgeted for)? Or would it require a new budget authorization or funding from another source, such as grants?
Environmental	What are the potential environmental impacts of the action? Will it comply with environmental regulations? Are there co-benefits of this project?
Social Vulnerability	Does the action benefit or negatively impact (ex: disrupt established neighborhoods, relocation of lower income people, etc.) socially vulnerable populations and underserved communities? Additional considerations can include the Social Vulnerability Index (SVI) and the Justice40 initiative requirements.
Administrative	Does the State of New Jersey have the personnel and administrative capabilities to implement the action and maintain it, or will outside help be necessary? Does the scale and scope of the project align with the State of New Jersey's capabilities?
Hazards of Concern	Does the action address one or more of the State of New Jersey's high-ranked hazards?
Climate Change	Does the action incorporate climate change projections for the State of New Jersey? Is the action designed to withstand/address long-term conditions? Is the action consistent with the State of New Jersey's climate resilience goals?
Timeline	Can the action be completed in less than 5 years (within the planning horizon of the SHMP)?
Community Lifelines	Does this project benefit community lifelines?

Criteria	Description
Recovery	How does this action align with current disaster recovery funding sources (HMGP, etc.) and disaster recovery needs?
Other State and Local Objectives	Does the action advance other state and local objectives, such as capital improvements, economic development, environmental quality, or open space preservation? Does it support the policies of other plans and programs?

Prioritization of projects within individual funding programs is described in the following sections.

Hazard Mitigation Grant Program (HMGP)

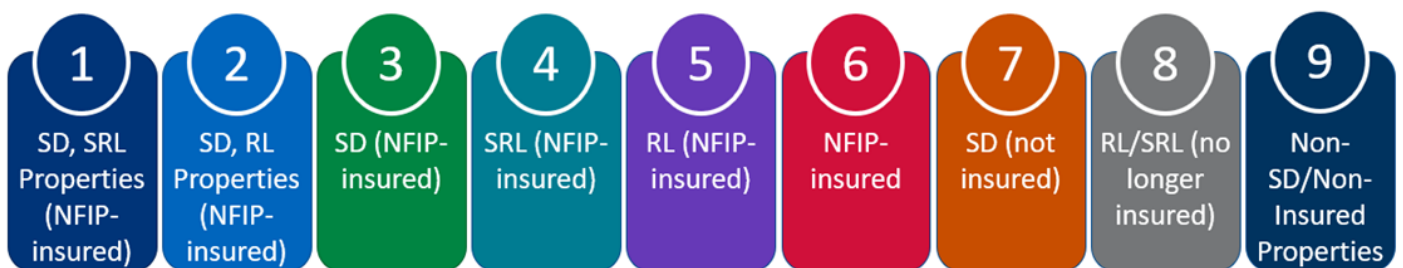
The HMGP provides grants to state and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the program is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster. HMGP funding is only available in states following a Presidential disaster declaration and administered through NJOEM (NJOEM 2023). It funds projects in accordance with priorities outlined in the state and local HMPs. As counties and municipalities submit HMGP applications, NJOEM reviews projects using nine priorities, with funding NFIP-insured substantially damaged SRL properties as the highest priority.

Safeguarding Tomorrow Revolving Loan Fund Program (STORM RLF)

STORM RLF provides capitalization grants to states, eligible federally recognized tribes, territories, and the District of Columbia to establish revolving loan funds that provide hazard mitigation assistance for local governments to reduce risks from natural hazards and disasters. Through this program, FEMA authorizes entities to make funding decisions and award loans directly. The revolving loan fund they create will help local governments carry out hazard mitigation programs and reduce disaster risks for homeowners, businesses, nonprofits, and communities. The priorities of STORM RLF are to:

- *Empower entities:* FEMA will collaborate with eligible entities to help them increase their capacity and capability, through focused engagement activities leading up to the application period and providing increased technical assistance during the Year 1 application period.
- *Create innovative funding solutions:* Applicants can leverage loans for non-federal cost share with other FEMA HMA programs, helping underserved communities access additional funding resources.
- *Deliver equitable investments and increased access:* A goal of the STORM RLF program is that 40-percent of the overall benefits generated by the entity loan funds flow to underserved communities.
- *Reduce grant application complexity:* The goal of launching this effort is to reduce program complexity by breaking down barriers and increasing access to mitigation funding.
- *Maximize administrative flexibility:* Throughout the process, identify administrative burdens and reduce them to the greatest extent possible (FEMA 2023).

Figure 7.0-8 NJOEM HMGP Priorities



Additionally, NJOEM will determine if the project is more suitable for FMA, and if so, an FMA application will be developed for those identified projects. Reviewing and prioritizing projects in this way allows the State of New Jersey to ensure an effective flood mitigation program is implemented across the state.

Flood Mitigation Assistance (FMA) and Building Resilient Infrastructure and Communities (BRIC)

FMA and BRIC are competitive grant programs that provide funding to states, local communities, federally recognized tribes, and territories. FMA helps communities reduce risk to NFIP-insured structures, while BRIC helps communities by reducing risks from future disasters and natural hazards. Unlike HMGP, FMA and BRIC applications are prioritized differently each year. As NJOEM reviews the applications, they use the priorities established by FEMA for the current grant year.

Flood Mitigation Assistance (FMA)

FEMA's FMA is a pre-disaster grant program that provides funding to help states and communities in reducing or eliminating the long-term risk of flood damage to buildings, manufactured homes, and other structures insurable under the NFIP. Funding is appropriated by Congress annually, and cost shares are based on the guidance given each year with the application. In addition to having to be insured under the NFIP, a property must achieve the following to be considered a project eligible for funding under the FMA Program:

- Conform with the approved state and local mitigation plan.
- Conform with environmental regulations.
- Solve a problem and be technically feasible.
- Meet all applicable state and local codes and standards.
- Demonstrate cost-effectiveness.
- Consider a range of alternatives.

The FMA program also includes funding through the Swift Current Initiative. The goal of Swift Current is to obligate FMA dollars for NFIP-insured Severe Repetitive Loss, Repetitive Loss, and substantially damaged properties as quickly and equitably as possible after a flooding disaster.

Building Resilient Infrastructure and Communities (BRIC)

FEMA's BRIC supports states, local communities, tribes, and territories as they undertake hazard mitigation projects, reducing the risks they face from disasters and natural hazards. Examples of BRIC-eligible projects are those that demonstrate innovative approaches to partnerships, such as shared funding mechanisms and/or project design.

Other Funding Opportunities

In addition to funding opportunities provided by FEMA through HMGP, STORM RLF, LPDM, FMA, and BRIC, the following section describes other funding sources available to mitigate RL and SRL properties in New Jersey.

FEMA HHPD

NJDEP and NJOEM prioritize funding for actions that address potential dam failures using a risk-based eligibility matrix. Dams that are ranked as high hazard dams that have received poor/unsatisfactory safety inspections are considered HHPD-eligible dams. Mitigation actions for poor/unsatisfactory dams are also prioritized using the STAPLEE criteria. Prioritization for mitigation of HHPD-eligible dams is also re-evaluated based on annual updates to the HHPD program's annual requirements and eligible activities.

FEMA PDM

The PDM grant program makes federal funds available to state, local, tribal, and territorial governments to plan for and implement sustainable, cost-effective measures designed to reduce the risk to individuals and property from future natural hazards while also reducing reliance on federal funding from future disasters. The program is authorized by Section 203 of the

Stafford Act. While previously an annual program, the PDM program is currently dependent on annual congressional authorization.

NJDEP Blue Acres

NJDEP Blue Acres acquires flood prone land in New Jersey, focusing on storm-impacted and flood prone communities. This includes coastal neighborhoods and areas along bay shores, rivers, and tributaries. To determine focus areas, NJDEP evaluates communities based on the following criteria:

- Communities with high risk and vulnerability to climate change.
- Environmental justice or overburdened communities that are disproportionately impacted by flooding and other adverse environmental conditions.
- A high concentration of homes that experienced the most severe damage from a recent storm, especially when several homes resulted in an official declaration of substantial damage.
- Communities with homes that have submitted repeated flood insurance claims under the NFIP.
- Resilience interest and buyout support from the local government.
- Cost-effectiveness of the buyout according to FEMA requirements under federal law.
- Opportunity for significant environmental impact and/or improvement to public health, safety, and welfare.

NJDEP Blue Acres Acquisition Process

NJDEP Blue Acres uses state and federal funds to acquire and demolish flood prone properties, requiring coordination between the property owners, municipalities, and State. In addition to NJDEP's criteria for acquisitions, potential acquisition projects will be prioritized using criteria set forth by the funding source (e.g., HMGP, FMA, BRIC).

Mitigation Strategies and Successes

Mitigating RL and SRL properties in the State of New Jersey has been successful as a result of the collaborative efforts made by the numerous state and local departments and agencies. Not only has the State of New Jersey mitigated 2,859 RL and SRL properties, but NJOEM, along with GDRO, NJDEP, NJDCA, and many other partners, has made great progress in implementing various strategies focusing on reducing repetitive flood damages across New Jersey. These strategies include education and outreach, flood control measures, acquisition, retrofitting, utility protection, emergency measures, green infrastructure, higher building requirements, and, perhaps most importantly, flood insurance.

In the 2024 SHMP, multiple mitigation strategies were identified that will help reduce flooding impacts across the state. This section summarizes the mitigation actions and successes by FEMA mitigation category as well as highlights key projects completed since 2019.

Plans and Regulations



Plans and Regulations

Plans and regulation actions include government authorities, policies, or codes that influence the way land and buildings are developed and built.

Codes

- *Building codes and requirements:* The use of building codes and development standards can ensure structures are able to withstand flooding events without significant damages. Codes can provide requirements or guidance and how repairs should be carried out.
- *Building Code Effectiveness Grading Schedule (BCEGS®):* BCEGS assesses community building codes and their enforcement, with special emphasis on mitigation of losses from natural hazards. It is administered by ISO and evaluates building departments pertaining to their building code adoption and enforcement. They are graded on a scale of 1 to 10. Many New Jersey communities have a BCEGS grade.

- *International Building Code 2021*: On September 6, 2022, New Jersey adopted the 2021 version of the International Code Council (ICC) codes along with updated versions of the National Electric Code, the National Standard Plumbing Code, and other related standards.
- *Inland Flood Protection Rule*: As a result of increasing flooding from extreme rainfall events, NJDEP has developed the Inland Flood Protection Rule, effective July 2023. This rule ensures that areas at most significant risk are better defined and that new and reconstructed assets in these areas are designed and constructed using the best available climate-informed precipitation data. Using the best available data is critical to protecting New Jersey's assets, economy and, above all, our people from the catastrophic effects of worsening floods (NJDEP 2023). The Rule accomplishes the following:
 - Establishes the new Design Flood Elevation (DFE), which raises fluvial (non-tidal) flood elevation mapped by NJDEP by 2 feet.
 - Requires use of future projected precipitation when calculating flood elevations.
 - Ensures that NJDEP's Flood Hazard Area permits conform to NJ Uniform Construction Code standards and meet or exceed minimum FEMA NFIP requirements.
 - Requires stormwater Best Management Practices (BMPs) to be designed to manage runoff for both today's storms and future storms.
 - Removes use of Rational and Modified Rational methods for stormwater calculations (NJDEP 2023).
- *New Jersey Stormwater Management Rules*: Stormwater causes flooding and pollutes the streams, lakes, and rivers. New Jersey's Stormwater Management rules (N. J. A. C. 7:8) are implemented by NJDEP and establishes a comprehensive framework for addressing water quality impacts associated with current and future stormwater discharges. These rules are also implemented by local authorities through the Municipal Land Use Law (MLUL) and the Residential Site Improvement Standards (RSIS). In March 2020, NJDEP made revisions to N. J. A. C. 7:8 that requires the use of green infrastructure for stormwater management.

Planning

Comprehensive/master plans and floodplain management plans can provide long-term goals and guidance for how RL properties can be managed.

Master Plans: The MLUL requires municipalities in New Jersey to adopt and conduct periodic 10-year reexamination or amendment of master plans. In February 2021, the MLUL was amended and requires municipalities to incorporate a climate change-related hazard vulnerability assessment into land use elements of the master plan adopted after signing. Municipalities need to consider environmental effects associated with climate change, including extreme weather, temperature, drought, fire, flooding, and sea level rise, and contain measures to mitigate reasonably anticipated natural hazards, such as coastal storms, shoreline erosion, flooding, storm surge, and wind (New Jersey Office of Planning Advocacy 2022).

Floodplain Management Plans: A floodplain management plan (FMP) is a written description of the flood risks and actions a community has taken and will take to address how to mitigate those flood hazards. Many communities in New Jersey developed and adopted FMPs to identify known flood prone areas, establish goals and objectives to reduce flooding, and identify natural and beneficial functions of floodplains. Municipalities can submit the FMPs for CRS credits that can support reduction in flood insurance premiums for residents with NFIP flood policies.

RL Area Analysis: A repetitive loss area analysis (RLAA) is similar to the FMP but provides more detailed, site-specific guidance in how a municipality will reduce flood losses in repetitively flooded areas. Municipalities can submit the RLAA for CRS credits that can support reduction in flood insurance premiums for residents with NFIP flood policies.

Substantial Damage Management Plans (SDMP) are management plans for substantial damage within a municipality. They are a detailed community plan, developed before a flood or other hazardous event, that describes the municipality's process for evaluating damage to buildings and addressing those that have been substantially damaged, as required by the NFIP. SDMPs outline municipal responsibilities, identify available data about buildings in the SFHA, describe the municipality's approach to damage estimation, and list the steps the municipality will take if buildings are determined to be substantially damaged. A municipality can receive CRS credit for SDMPs, and that credit can support reducing flood insurance premiums for residents with NFIP flood policies.

Using the local HMP as baseline for all hazard risk-related

NJOEM is advocating for local HMP risk assessments to be the standard and baseline for all other documents discussing risk.

Hazard Mitigation Plans (HMPs) reduce loss of life and property by minimizing the impact of disasters. They form the foundation of a long-term strategy to reduce losses and break the cycle of disaster damages. By developing, maintaining, and adopting HMPs, state and local jurisdictions remain eligible for FEMA grant programs, including HMGP, LPDM, STORM RLF, BRIC, and FMA. In New Jersey, all counties maintain HMPs, and all counties incorporate RL and SRL discussions in those plans. Counties and municipalities in the state can leverage the HMPs to apply for funding to mitigate RL and SRL properties.

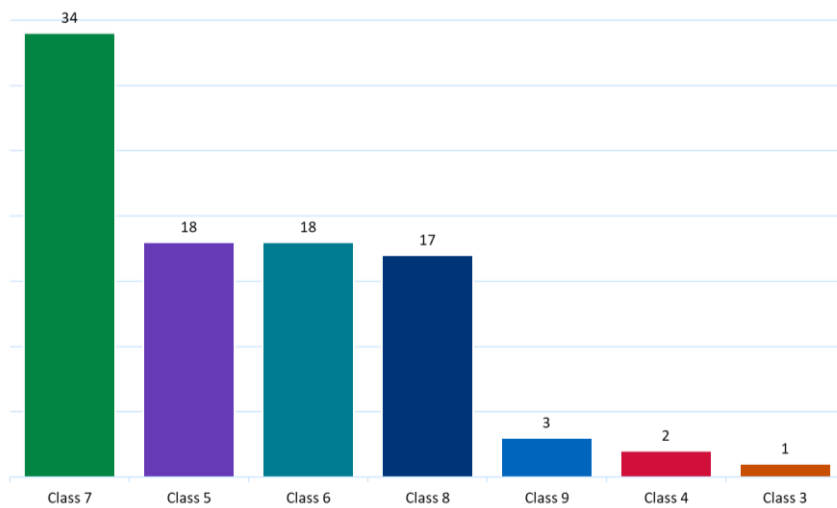
Stormwater Management Plans document how a municipality will address stormwater management and is required by N.J.A.C. 7:8 (Stormwater Management). These plans are designed to reduce flood damage, minimize any increase in stormwater runoff, reduce soil erosion, ensure the adequacy of existing and proposed infrastructure (e.g., culverts, bridges), maintain groundwater recharge, minimize pollutants, and protect public safety.

Climate change projections – NJDEP's BCRP is responsible for coordinating NJDEP policies, programs, and activities to plan for the impacts and the associated hazards of climate change and promote public awareness of climate change science. Work includes development of the New Jersey Scientific Report on Climate Change, the New Jersey Climate Change Resilience Strategy, and efforts to develop Resilience Action Plans.

- New Jersey's Rising Seas and Changing Coastal Storms: Report of the 2019 Science and Technical Advisory Panel (STAP): A 2016 New Jersey STAP was convened by Rutgers University, culminating in a report that identified planning options for practitioners to enhance the resilience of New Jersey's people, places, and assets to sea level rise, coastal storms, and the resulting flood risk. The same team at Rutgers University was engaged by the NJDEP to update the 2016 report based on the most current scientific information. Similar to the inaugural work, the 2019 STAP was charged with identifying and evaluating the most current science on sea level rise projections and changing coastal storms, considering the implications for the practices and policies of local and regional stakeholders, and providing practical options for stakeholders to incorporate science into risk-based decision processes (Kopp, et al. 2019). The 2019 STAP is used by multiple state agencies, including NJDEP and NJOEM for sea level rise and coastal flooding planning and project design purposes.
- 2020 New Jersey Scientific Report on Climate Change: NJDEP's first scientific report on climate change summarizes the effects of climate change on New Jersey's environment to inform state and local decision-makers as they seek to understand and respond to the impacts of climate change. This report identifies and presents the best available science and existing data regarding the current and anticipated environmental effects of climate change globally, nationally, and regionally (NJDEP 2023).
- 2021 New Jersey Climate Change Resilience Strategy: New Jersey's first Statewide Climate Change Resilience Strategy provides a suite of forward-looking policy options to promote the long-term resilience of New Jersey to climate change. As a framework for policy, regulatory, and operational changes, the Resilience Strategy presents actions that New Jersey's Executive Branch can take to support the resilience of the state's communities, economy, and infrastructure. The Resilience Strategy includes 125 recommended actions across six priority areas:
 - Build resilient and healthy communities

- Strengthen the resilience of New Jersey's ecosystems
- Promote coordinated governance
- Invest in information and increase public understanding
- Promote climate-informed investments and innovative financing
- Coastal resilience plan (NJDEP 2021)
- Draft Strategic Climate Action Plan: NJDEP wrote the Strategic Climate Action Plan in response to Executive Order No. 100 and Administrative Order No. 2020-01, which directed the Department to identify specific rules, guidance documents, and other regulatory mechanisms that will better integrate climate change considerations into the Department’s regulatory and permitting programs. This report sets the course for the Department’s next phase of climate action by looking across all its programs to identify additional opportunities to meaningfully prepare the State for the impacts of climate change. The draft plan’s public comment period closed on October 19, 2023 (NJDEP 2023).
- Resilience Action Plans: The Resilience Action Plans will build on the New Jersey Climate Change Resilience Strategy. The Resilience Action Plans will provide more detail on how the recommendations of the Resilience Strategy are being implemented. The Resilience Action Plans will identify new, existing, and expanded policy, programmatic, and regulatory actions that address climate impacts. Each of the Resilience Action Plans will focus on a specific climate

Figure 7.0-9 Number of CRS Communities in New Jersey by Class



participate in the CRS program in New Jersey, saving over \$24 million in flood insurance premiums. The majority of CRS communities are Class 7 (36.6%), followed by Class 5 (19.4%), and Class 6 (19.4%). The Borough of Avalon (Cape May County) has the lowest class in the state, Class 3, providing a 35% discount in flood insurance premiums.

Emergency Services

- Substantial Damage Response Planning: A substantial damage response plan evaluates potential damage to buildings, examines what can be done to mitigate the potential for damage to those buildings, and lays out the strategy to identify and address substantial damage after any hazardous event.
- New Jersey Flood Warning Systems: NJOEM and several of the counties in the central and northern tier of the state above the coastal plain have live rain, stream, and flood gauges. In the back bays and along tidal waters in 14 coastal counties, the U.S. Geological Survey (USGS) manages the New Jersey Tide Telemetry System. All systems transmit telemetry continuously to the NWS, USGS, State Climatologist, NJDEP, NJOEM, and all affected counties and many municipalities. The Davidson Laboratory at the Stevens Institute also provides accurate flood forecasts for the New York-New Jersey region 108 hours in advance of approaching storms through the Stevens Flood Advisory System. Flood forecasts are used to inform emergency management actions (Stevens Institute of Technology 2023). NJ Transit also

threat to New Jersey, the first being extreme heat (NJDEP 2023).

Programs

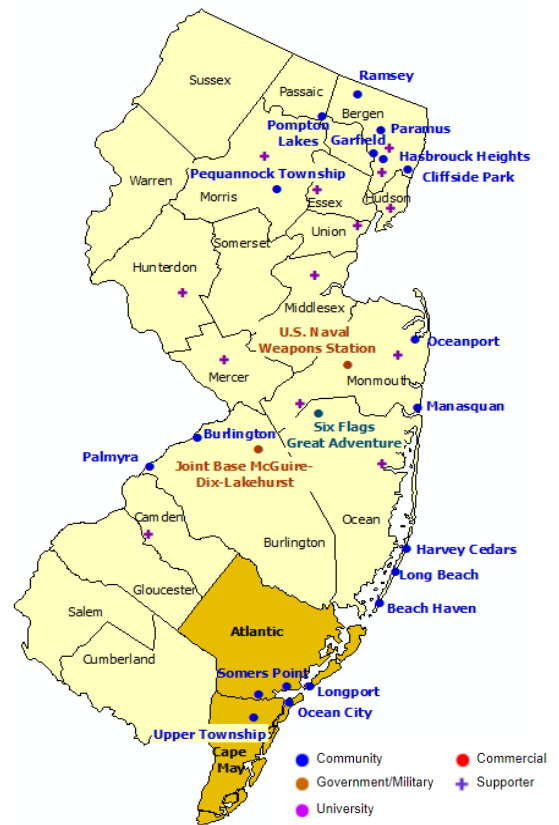
Floodplain management programs are overall programs of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works, and floodplain management regulations (FEMA 2020).

CRS: As an additional component of the NFIP, CRS is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. As of April 2023, there are 93 municipalities that

has a flood warning system. These forecasts allow county and municipal agencies in planning and executing efficient flood preparation and emergency evacuation procedures.

- Early Warning and Mass Notification: Mass notification systems are important tools designed to alert state and local officials and residents of impending storms and potential flooding events. There are numerous ways to get these warnings and alerts, including agency websites and social media pages, mobile alerts through NIXLE (state and local alerts) and the National Weather Service, NOAA Weather Radio, and traditional media (e.g., television, newspapers, and radios). These systems allow for:
 - Critical facility/community lifeline owners/operators to be better prepared for flood events. For example, operators located at dams, etc., to monitor throughout storm events.
 - Provides time to deploy mitigation measures (e.g., portable flood walls, sandbags, etc.) to potentially reduce flood impacts during and after a storm.
 - Provide residents that live in flood prone and repetitively flooded areas time to prepare for flood events (e.g., evacuate, remove critical items from basements and first floors).
- NWS StormReady® Program helps communities develop plans to handle all types of weather events. The program encourages communities to take a new, proactive approach to improving local severe weather events by providing emergency managers with guidelines on how to improve their operations before, during, and after weather events. In New Jersey, there are a total of 23 StormyReady® sites, including 2 counties, 18 municipalities, 2 government sites, 1 commercial site, and 13 supporters.
- Esri dashboards for emergency response: Esri has created the Operations Dashboard for ArcGIS, which is a configurable web app that enables the creation of dashboards. A dashboard is typically a single display that visualizes data with charts and gauges (showing key performance indicators – KPIs), enabling the monitoring of assets and resources in real-time to support emergency response personnel in disaster events (Esri 2020).

Figure 7.0-10 StormReady® Communities in New Jersey



Accomplishments

- Code Coordinated Flood Damage Prevention Ordinances: Roll out of code coordinated flood damage prevention ordinances began in 2021 to form a stronger connection between floodplain requirements and the building code. Work to move all flood damage prevention ordinances in the state to code coordinated ordinances is ongoing.
- Community Rating System: The State has continued to promote the CRS. Participation and class ratings have gradually increased. As of April 2023, 93 municipalities in New Jersey participate in the CRS program – 34 Class 7 communities, 18 Class 5 communities, 18 Class 6 communities, 17 Class 8 communities, 3 Class 9 communities, 2 Class 4 communities, and 1 Class 3 community (FEMA 2023).
- Inland Flood Protection Rule: As a result of increasing flooding from extreme rainfall events, NJDEP has developed the Inland Flood Protection Rule, effective July 2023. This rule ensures that areas at most significant risk are better defined and that new and reconstructed assets in these areas are designed and constructed using the best available climate-informed precipitation data.

Structure and Infrastructure Projects



Structure and Infrastructure Projects

Structure and infrastructure actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type also involves projects to construct man-made structures to reduce the impact of hazards.

- The State of New Jersey has focused on retrofitting structures to reduce flood damages to homes, businesses, critical facilities, and community lifelines. The following summarizes retrofitting methods in New Jersey.
 - Elevation - Structures can be elevated so that the lowest floor is raised above the base flood elevation. In New Jersey, elevations meeting building code requirements include one foot of freeboard. Many municipalities have added additional freeboard above the State of New Jersey's 1 foot of freeboard standard. Nearly half of the counties in New Jersey are mitigating structures through elevation.
 - Combined Sewer Overflow (CSOs) are shared underground piping networks that direct both sewage and stormwater to a central treatment system before being discharged into a waterway. In New Jersey, there are 21 communities with CSOs that experience system overflows and flooding. Many of the communities that have CSOs are making improvements to their systems. These improvements are improving water quality and reducing CSOs.
- Stormwater infrastructure: Installation of stormwater infrastructure or upsizing of stormwater components can reduce the occurrence and severity of stormwater flooding.
- Acquisition/Demolition - Structures can be bought, demolished, and replaced with open space. Almost all of the counties in New Jersey are acquiring flood prone properties as a form of mitigation. Once acquired, the structures are demolished, and the land is returned to and maintained as open space. As of December 2022, 2,515 parcels in New Jersey have been acquired for floodplain management purposes.
- Levees – Installing levees or floodwalls can increase protection of areas from flooding. In New Jersey, there are 101 levee systems made up of 95 miles of levees. These systems protect over 37,000 people and over 10,000 buildings (USACE 2023).
- Tide gates/dams: Tide gates, dams, and similar flood control structures can be used to manage flood levels of certain bodies of water.
- Flood control
- Drainage improvements

Accomplishments

- As of December 2022, 2,515 parcels have been acquired and restored to open space. Many of these acquisitions were completed through HMA grants (e.g., FMA and HMGP) and NJDEP Blue Acres program.
- Rebuild by Design Hudson River – The State of New Jersey was awarded \$230 million by HUD to implement a project in Hoboken, Weehawken, and Jersey City that will address flooding from storm surge, high tides, and heavy rainfall events. This will be done through bulkheads, floodwalls, seawalls, soft landscaping, infrastructure improvements, stormwater upgrades, and policy changes. This project will be built throughout the City of Hoboken, and will extend into Weehawken and Jersey City, with the following approximate boundaries: the Hudson River to the east; Baldwin Avenue (in Weehawken) to the north; the Palisades to the west; and 18th Street, Washington Boulevard and 14th Street (in Jersey City) to the south.
- Northwest Resiliency Park is the City of Hoboken’s largest park that will provide recreation and public space. It integrates green infrastructure and stormwater management measures to mitigate flooding from heavy rain events.
- Two Rivers Water Reclamation Authority's (TRWRA) water treatment and collection systems serves 90,000 people in Monmouth County. It is made up of 200 miles of sanitary sewer mains, 18 pump stations, and nine meter chambers. TRWRA has infrastructure located in the flood hazard area and has sustained damages from flooding and storms. Flood risk is expected to increase due to climate change, rising sea levels, and storm surge (FEMA 2022). To prepare for these changes, TRWRA applied for and received federal funding to replace over 3,000 feet of sewer line and replace and relocate a critical main pump station. This project will increase the resilience of wastewater and stormwater infrastructure and protect the station and surrounding municipalities from future storms (State of New Jersey 2023).

Natural Systems ProtectionNatural Systems
Protection

Natural systems protection actions are those that minimize damage and losses and also preserve or restore the functions of natural systems. Restoring these functions can provide natural flood protection through soil and vegetation improvements.

- Wetland restorations or establishments can increase absorption of runoff and provide a buffer from flooding and wave energy. Wetland restoration projects have occurred across the state, restoring natural habitats, improving water quality, and providing flood protection.
- Beach nourishment and dune restoration: Coastal areas can benefit from beach nourishment and dune restoration projects to increase buffers and protections from wave-generated erosion and overwash. In New Jersey, beach nourishment and dune restoration are the main forms of shoreline protection.
- Green infrastructure refers to an interconnected network of green space that conserves natural systems and provides benefits to the environment and human population. It helps manage stormwater by infiltrating it in the ground, where it is generated using vegetation or porous surfaces or by capturing it for later reuse. Several counties and local municipalities in New Jersey are using green infrastructure practices to manage stormwater and reduce stormwater flooding. This includes small-scale bioretention, vegetative filter strips, bioswales, permeable surfaces, rain gardens, and dry wells.
- Living shorelines are protected, stabilized coastal edges made up of natural elements to stabilize estuarine coasts, bays, and tributaries. Unlike a concrete seawall or other hard structure, which impede the growth of plants and animals, living shorelines grow over time. They provide protection from floods, reduce erosion, purify water, and attract wildlife. It has been shown that living shorelines perform better during major storms than a hardened shoreline.
- Sustainable Jersey is a network of municipalities, schools, and school districts that are working together to create a more sustainable New Jersey. It provides tools, training, and financial incentives to support communities as they implement sustainability programs. Since the launch of the Sustainable Jersey municipal program in 2009 and the Sustainable Jersey for Schools program in 2013, participants have successfully implemented and documented over 9,000 actions. Over \$5 million in grants have been awarded to Sustainable Jersey participants. As of July 2023, there are 466 registered and 199 certified communities.

Accomplishments

- Beach nourishment: The NJDEP Division of Coastal Engineering, in cooperation with the U.S. Army Corps of Engineers, provides beach nourishment and re-nourishment projects for the purpose of restoring New Jersey's beaches and dune systems.
- Neptune Township (Monmouth County) is building a 2,050-foot long living shoreline along South Riverside Drive. This project will help protect this part of the neighborhood from future storms and waves and will reduce flood impacts. It will also create marshland and habitat for wildlife (American Littoral Society 2022).

Education and Awareness Programs



Education and Awareness Programs

Education and awareness programs are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Although this type of mitigation reduces risk less directly than structural projects or regulations, it is an important foundation. A greater understanding and awareness of hazards and risk among local officials, stakeholders, and the public is more likely to lead to direct actions.

- NJ Flood Alert is a high-resolution online flood map (<https://nifloodalert.com/>) for New Jersey municipalities and residents to use to understand flood hazards, lifeline infrastructures, vulnerability assessments, and resiliency measures.
- NJ HazAdapt is a hazard mitigation planning tool to provide municipal and county hazard planners with access to data and other resources that can assist with development of HMPs consistent with guidance issued by FEMA. Additionally, this tool is designed to help state and local end users assess impacts of flooding on key lifeline sectors, socially vulnerable populations, and individual land parcels.
- NJOEM is working to coordinate the management of acquired and demolished flood prone between other State agencies (NJDEP, NJDCA, etc.). Part of the coordinated strategy will be the development of consistent signage on the properties to serve as an education and outreach tool to neighbors and potential buyers in flood prone neighborhoods. NJOEM aims to have signs in place that note the following:
 - The property has been purchased in order to prevent future flood damages.
 - The property was selected for mitigation due to repeated damages from previous flood events.
 - The removal of the structure from the property does not protect other nearby properties from flooding.
 - Where appropriate, historical flood heights will be posted.

Accomplishments

- In 2020, NJOEM developed an elevation guidebook for local communities and property owners to help them determine whether elevation is the best mitigation option to reduce flood risk. The guidebook serves as a resource to effectively apply for, manage, and implement a successful elevation program. It provides more specific guidance, broken down into understandable steps to supplement the high-level guidance currently available from FEMA and to address the issues, concerns, and questions that have arisen during implementation of elevating homes in the State of New Jersey since Superstorm Sandy. The guidebook is available online (<https://nj.gov/njoem/mitigation/index.shtml>).
- As of April 2023, 93 of the 559 New Jersey communities participating in the NFIP are in the CRS program. By participating in CRS, these communities are working towards reducing and avoiding flood damage, supporting the NFIP, and integrating floodplain management. There are four CRS user groups across the State with members from county, municipal, regional, and state agencies that collaborate together to meet flood mitigation goals and support each other in the CRS program.
- On July 3, 2023, New Jersey passed the Flood Risk Notification Law, requiring landlords and sellers of commercial and residential property to disclose knowledge of a property's history of flooding, flood risk, and location in a flood zone or area to prospective tenants and purchasers. Additionally, this law requires every residential lease to contain a notice to tenants that flood insurance may be available to renters through the NFIP. This law is one of the country's strongest flood risk disclosure laws.