



POLICIES FOR ADVANCING FLOODPLAIN MANAGEMENT IN NEW JERSEY

October 2019

NJAFM MISSION STATEMENT

The New Jersey Association for Floodplain Management (NJAFM) is dedicated to reducing loss of life and property damage resulting from floods and promoting sound floodplain management at all levels of government.

DEDICATION

This document is dedicated to victims and survivors of flooding in New Jersey. It is the sincere hope and professional commitment of NJAFM that we will continue to reduce the loss of life and property damage from floods through the efforts of New Jersey's floodplain management professionals.

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INTRODUCTION

The importance of floodplain management in New Jersey lies in the State's vulnerability to flooding. Flood hazards are widespread and multifaceted, affecting all corners of the State. Risks arise from both riverine and coastal flooding, potential dam failures, and erosion. The State's extensive development and impervious cover, particularly in urban areas and in flood-prone areas, exacerbates flood vulnerability. Despite ongoing administration of floodplain management regulations and building codes, and implementation of mitigation projects designed to address site-specific problems, the effects of climate change and continued floodplain development contribute to increasing risks over time.

The New Jersey State Hazard Mitigation Plan (2019) estimates 18% of the State's land area is in mapped flood hazard areas and 12% of the population resides in those areas. Five counties have more than 20% of their populations in flood zones: Cape May (49%), Atlantic (41%), Hudson (26%), Ocean (22%), and Salem (20%). Hunterdon and Warren counties have the lowest percentage of their populations at risk of flooding, at just over 2%. The Mitigation Plan also estimates buildings valued at nearly \$242 billion are in flood zones (\$238 billion in Zones A/AE and \$4 billion in Zone V), representing nearly 11% of the value of all buildings in the State.

As of April 2019, the National Flood Insurance Program (NFIP) reports 221,521 NFIP policies are in force in New Jersey (4.4% of the national total number of policies), representing more than \$56 billion in coverage. More than \$6.05 billion in claims have been paid since 1978. Although the number of buildings covered by private flood insurance coverage is unknown, the evidence suggest many buildings in New Jersey's floodplains are not covered by insurance.

Hurricane Sandy struck New Jersey in October 2012, exposing hundreds of thousands of residents to significant flooding and its secondary effects. Sandy was a costly storm in terms of lives, property and infrastructure damage, long-term damage to local economies, and trauma for those affected and displaced. While every significant flood leaves damage in its wake, extraordinary events like Hurricane Sandy also present opportunities to apply lessons learned as communities, citizens, and businesses recover and rebuild.

Hurricane Sandy in New Jersey and New York

FEMA produced a Mitigation Assessment Team (MAT) report ([FEMA P-942](#)) and [recovery advisories](#) after Hurricane Sandy. The report documents the observations of expert teams deployed to investigate wind and flood damage. The MAT report includes recommendations for affected states and communities related to building codes and standards, residential construction, critical facilities and other key assets important for recovery, historic structures, and historic structures.

The New Jersey Association for Floodplain Management (NJAFM) formulated the policies in this document to advance floodplain management. It will be the basis for the organization's leadership and members as they formulate, communicate, and advocate for or against policies affecting floodplain management in the State. NJAFM intends to update and amend the policies as the association's priorities and goals change over time.

Acronyms

ASFPM	Association of State Floodplain Managers
BFE	Base Flood Elevation
CFM	Certified Floodplain Manager
CFR	Code of Federal Regulations
CRS	Community Rating System
CTP	Cooperating Technical Partner
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
MAT	FEMA Mitigation Assessment Team
NFIP	National Flood Insurance Program
NJAFM	New Jersey Association for Floodplain Management
NJDCA	NJ Department of Community Affairs
NJDEP	NJ Department of Environmental Protection
NJOEM	NJ Office of Emergency Management
NRCS	Natural Resources Conservation Service, U.S. Department of Agriculture
SFHA	Special Flood Hazard Area (shown on FIRMs as Zone A/AE and Zone VE)
UCC	NJ Uniform Construction Code

ACQUISITIONS

Preserving undeveloped floodplains as open space is the most effective and permanent method to avoid property damage. Where buildings have already encroached into floodplains, mitigation of future damage is achieved by acquisition of property and demolition or relocation of buildings. Acquisition projects support local recreational objectives and provide floodplain functions, including flood storage, wetlands creation and enhancement, habitat restoration, and groundwater infiltration.

In New Jersey, the State has led the acquisition and protection of more than half a million acres of open space and provided hundreds of outdoor recreational facilities around the State through the [Green Acres Program](#), which is administered by New Jersey Department of Environmental Protection (NJDEP). While the primary focus of the Green Acres Program is acquisition of undeveloped land, after Hurricane Sandy the program also supported the purchase of properties with buildings. Through dedicated funding from the Garden State Preservation Trust and other bonds, funds have also been disbursed to municipalities, counties, and non-profits for land acquisition and recreational development. The State established the [Blue Acres Program](#), administered by NJDEP, to acquire developed and undeveloped lands in the floodways of the Passaic, Delaware, and Raritan Rivers and their tributaries, as well as locations along the Atlantic oceanfront. Following Hurricane Sandy in 2012, additional acquisition funds were directed to affected communities.

The draft [2018-2022 New Jersey Statewide Comprehensive Outdoor Recreation Plan](#) (draft dated April 2018) identifies eleven factors in the State Land Acquisition Priority System. The system is used to evaluate and prioritize each property under consideration for acquisition by the Green Acres Program using a number of evaluation factors. Location in flood hazard areas (Zone A and Zone V) yields more points than location outside of mapped flood hazard areas.

The New Jersey Office of Emergency Management administers [hazard mitigation assistance programs](#) when funding is provided by FEMA (see Hazard Mitigation). Property acquisition is a recognized method of mitigating flood hazards when the benefit to cost ratio is favorable. The New Jersey Department of Community Affairs (NJCA) administers assistance when disaster and mitigation funds are provided by the U.S. Department of Housing and Urban Development.

NJAFM recognizes several logistical and financial challenges of acquisition as a mechanism to address future flood damage. The amount of property in the State's special flood hazard area is simply too large and too expensive to be acquired and preserved as open space, especially in areas with large numbers of buildings. Floodplain acquisition should be used discretely where it has high public benefit and contributes to multiple objectives, such as passive recreational use. Acquisition may be the most effective approach in very high risk areas, such as floodways, where redevelopment may be difficult and where emergency access and evacuation activities are threatened. The Blue Acres Program focuses on the most-damaged residential properties and those properties that, when purchased, would result in contiguous areas of protected open space that are most useful for conservation and recreation purposes.

Policy Positions - Acquisitions

Encourage Communities to Consider Costs of Services Avoided and Benefits of Public Use of Acquired Floodplain Lands. NJAFM recognizes that some flood-impacted communities are resistant to floodplain buyouts for several reasons, including the potential for the loss of property tax income when private land is purchased by a public or nonprofit entity. NJAFM believes communities should carefully evaluate the costs of servicing repetitively flooded properties and infrastructure (utilities, roads) and the costs of providing emergency services and contributing to costs for temporary housing, and compare those costs to anticipated tax income. Over a period of many years, the costs associated with those flood-prone properties may far exceed the taxes paid by those property owners. In addition, communities should consider alternative public uses for acquisition sites that provide other economic benefits, including public access to the waterfront, public parking, and passive recreational opportunities.

Communities Should Evaluate Mitigation Options Other than Acquisition. NJAFM acknowledges the merits of acquisition, but it is not the solution for every community and every floodplain. NJAFM encourages communities and property owners to learn about mitigation options other than acquisition (see Hazard Mitigation), to identify high risk areas and areas subject to repetitive flooding, and to evaluate a range of options. The hazard mitigation planning process is an excellent mechanism to initiate and coordinate this evaluation.

Examine Aspects of Floodplain Acquisition Programs. NJAFM supports the re-examination of several aspects of the floodplain acquisition programs available to communities with an eye towards safeguarding public safety and welfare:

- The SCORP State Land Acquisition Priority System should expand Factor III for flood-prone areas to include location in areas with documented history of flooding, even if not in a mapped flood hazard area on the New Jersey Flood Hazard Maps or FIRMs. FEMA reports that more than 20% of flood insurance claims are paid on buildings outside of mapped flood zones.
- Historically, the focus on acquisition of residential properties meant vulnerable non-residential properties that experience repetitive flood damage were not prioritized. The agencies that administer grant programs should work with communities to identify eligible residential and non-residential properties, and encourage consideration of multiple benefits associated with the vacated land.
- The use of pre-damage market value to establish buyout offers should be reexamined. Pre-damage market value typically does not adequately account for flood risk, resulting in higher valuations and higher purchase costs which then reduces available funds. Increasingly, homebuyers are becoming more aware of flood risk and factoring it into buying decisions. One alternative to examine is use of replacement cost (not depreciated for age) to determine buyout offers for buildings and structures.
- State programs should promote acquisition combined with such practices as transfer of development rights and land swaps to reduce the total cost of acquisitions.

- Acquisition programs should allow the purchase of life rights/right of first refusal as a way to defer some economic impact of buy-outs. The right to purchase could be exercised when the current owner is ready to sell or after the next damaging flood occurs.
- Acquisition programs can monitor property foreclosure notices on pre-identified flood-prone properties.
- Rather than being used primarily as a reactionary response to flood events, acquisition programs should be used proactively, especially factoring in future conditions, including continued watershed development, erosion and sea level rise. Undeveloped properties in vulnerable areas (particularly those already providing natural and beneficial functions) should remain a priority for acquisition to limit future at-risk development).

COMMUNITY RATING SYSTEM

The Community Rating System (CRS) is a voluntary incentive program for NFIP-participating communities to recognize and encourage local floodplain management activities that exceed the minimum NFIP requirements. CRS provides credits to communities that undertake various programs and activities that help fulfill the three goals of the CRS: (1) reduce flood damage to insurable property; (2) strengthen and support the insurance aspects of the NFIP; and (3) encourage a comprehensive approach to floodplain management. The number of credits achieved by communities determines the amount of discount on NFIP flood insurance premiums, ranging from 5 to 45 percent.

CRS credits are awarded for enhanced public education and outreach, preservation of floodplains and other open space, enforcement of higher regulatory standards, flood-oriented emergency management plans and operations, and other activities outlined in the *CRS Coordinators Manual*. The manual is periodically updated to reflect new priorities and clarifications.

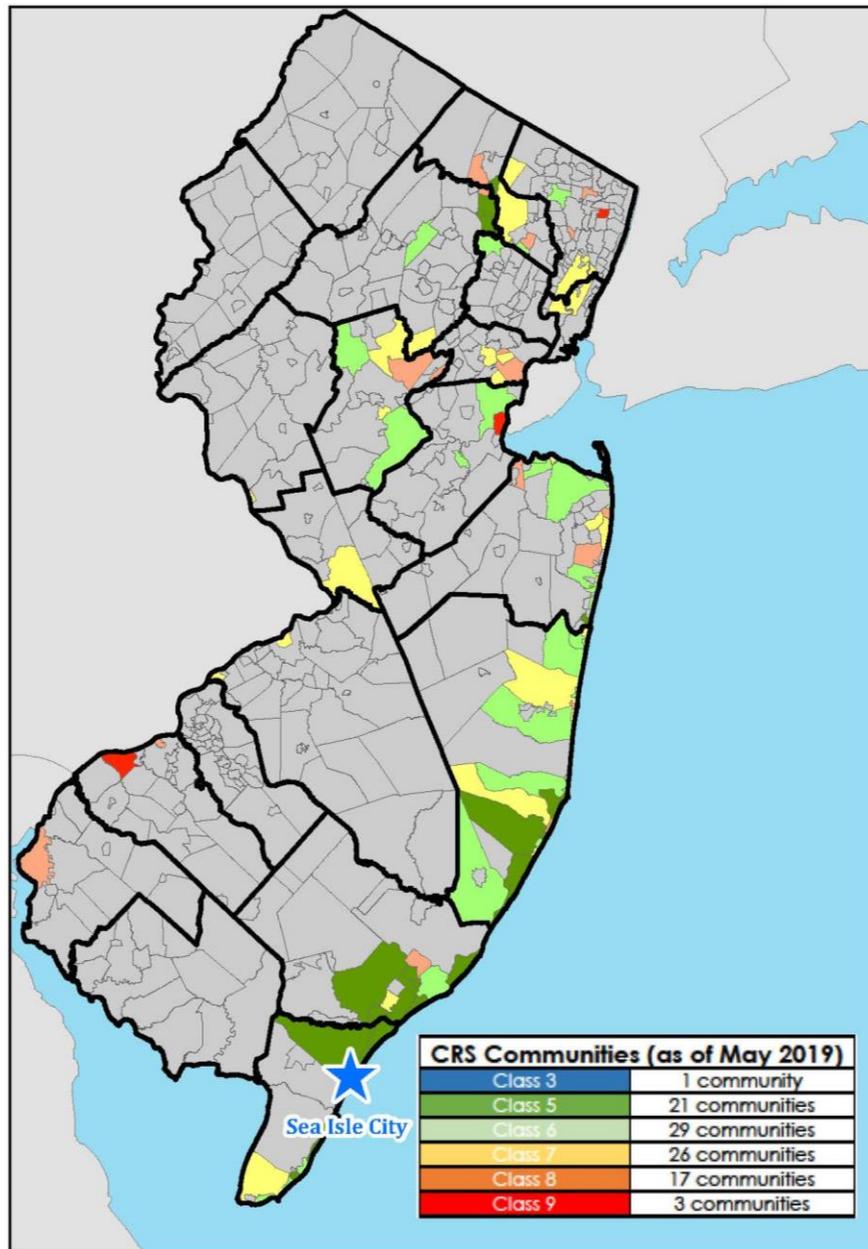
The CRS establishes program prerequisites that communities must meet to achieve different classes. A basic prerequisite to become and stay a CRS community is a determination by FEMA Region II that a community is in full compliance with the minimum requirements of the NFIP. This requirement typically is satisfied when the Region or NJDEP conducts a Community Assistance Visit. During Community Assistance Visits, local floodplain management regulations and program administration are reviewed, SFHAs are inspected to identify recent development, and compliance evaluated.

NFIP State Coordinating Agency

The New Jersey Department of Environmental Protection, Bureau of Flood Control, is designated the NFIP State Coordinating Agency by the governor. This office is a liaison between FEMA and communities that participate in the NFIP, providing general technical assistance, supporting flood map study efforts, reviewing local regulations, and conducting Community Assistance Visits and Community Assistance Contacts in accordance with FEMA guidelines.

Applications for CRS must identify a community official designated to coordinate the community's participation and include documentation to support the activities for which the community seeks CRS credits. Annual recertification of activities is required, and on-site verification visits are conducted approximately every five years. While participation in the CRS program requires considerable staff time, resources, and commitment, the benefits of enhanced flood resiliency and reductions in flood insurance premiums can outweigh the administrative hurdles.

As of April 2019, 97 New Jersey communities participate in the CRS, representing approximately 18% of the State's NFIP participating communities and nearly 70% of NFIP flood insurance policyholders. CRS participation saves New Jersey flood insurance policyholders more than \$34.6 million per year, with an average savings of \$223 per policy.



Policy Positions – Community Rating System

NJAFM broadly supports the CRS program as a tool for furthering the Association’s goals, while recognizing that there are opportunities to enhance the CRS program to increase its effectiveness, importance, and reach in New Jersey.

Technical Support for CRS. NJDEP should take a more active role working with communities to evaluate their potential for CRS eligibility, prepare applications, and evaluate additional activities that may qualify for CRS credits. NJAFM acknowledges NJDEP’s current staff level may be inadequate and supports the agency seeking additional staff to effectively perform this function. Communities interested in the CRS should contact the CRS Users Groups, including groups in Monmouth, Morris, Middlesex, Ocean and Atlantic/Cape May counties. NJAFM will continue to offer CRS training and encourage communities to attend to learn more about reducing vulnerability to flood risks.

Community Eligibility. NJAFM recognizes the importance of communities being in full compliance with the minimum requirements of the NFIP as a prerequisite for the CRS. However, some communities may not pursue CRS because of evidence of inadequate enforcement that occurred many years ago. FEMA should give these communities the opportunity to initiate applications to CRS based on evaluation of recent performance and evidence of current commitments to enforcing their floodplain management regulations.

Increase Rewards for CFM Staffing. NJAFM endorses increasing the number of CRS credit points available when communities have one or more Certified Floodplain Managers (CFMs) on staff or hired as consultants. CFMs can be the floodplain administrator, building official, engineer, planner, or any other position directly involved with floodplain management activities, including coordinating CRS. NJAFM encourages communities to identify specific positions for which the credential is required, and modify position descriptions to require employees in those positions to obtain CFM status within 6 months of the date of employment.



Certified Floodplain Manager®

The national Certified Floodplain Manager (CFM®) program is developed and administered by the Association of State Floodplain Managers (www.floods.org). As of mid-2019, more than 370 professionals in New Jersey achieved CFM status.

The 2017 *CRS Coordinator’s Manual* indicates only 5 credit points are available for each trained regulatory staff member with CFM certification or who graduated from an approved class delivered at FEMA’s Emergency Management Institute, for a maximum of 25 points (Activity 432.q Regulations administration). Alternatively, up to 25 points is available if all proposed development projects in the SFHA and all project approvals are reviewed and approved by a CFM and if final inspections are approved by a CFM.

Expand State-Based Credit for New Jersey. NJAFM advocates for the NJDEP to examine New Jersey state agency requirements that should qualify for state-based credit available to every CRS community (described in Activity 231.d) and work with FEMA and ISO (FEMA's CRS contractor) to gain acceptance of those credits. State-based credits are assigned for verifiable activities implemented or imposed by a state or regional agency. At a minimum, NJAFM considers the state-required minimum freeboard in NJDEP regulations and the NJ Uniform Construction Codes (UCC), and requirements for erosion and sediment control and stormwater management. As of January 1, 2017, FEMA identifies only one New Jersey state-based credit activity: hazard disclosure (15 points).

Multi-Jurisdictional Coordination of CRS Activities. NJAFM encourages communities to coordinate certain CRS activities to achieve efficiencies and consistency. Notable opportunities for collaboration include Program for Public Information (PPI) and outreach activities, hazard mitigation and repetitive loss planning, warning and response activities, and watershed-based stormwater planning.

NJAFM supports formation of CRS User's Groups as a mechanism for collaboration. As of mid-2019, four CRS User's Groups are organized at the county level in Middlesex, Monmouth, Morris, and Ocean counties. Representatives from the CRS communities in those counties meet periodically for presentations and to share experiences, support new activities, and encourage other communities to participate in the CRS. An example of coordination is the assistance the Monmouth County Office of Emergency Management and Division of Planning provide to help several municipalities with the CRS application process.

Incorporate CRS Planning in Multi-Hazard Mitigation Plans. Local CRS coordinators should participate in development of multi-jurisdictional mitigation plans required to satisfy federal requirements for multi-hazard mitigation plans (44 CFR § 201.6) to ensure the plans also satisfy the CRS requirements of Activity 510 (Floodplain Management Planning). One planning process can and should be undertaken to produce a single plan that satisfies all elements of both requirements. Also see recommendation in Hazard Mitigation.

DAM AND LEVEE FAILURE

Dams and levees are structures used to control floodwater. Dams designed for flood control impound water during times when upstream rainfall-runoff volumes are high and release the stored water over time. Levees and floodwalls are designed to keep floodwater away from specific areas. All structural flood control works are designed to provide protection for specific magnitudes of flooding. When larger floods occur, or if the works are not well maintained, dams and levees may fail, resulting in inundation of areas intended to be protected. Sometimes failure causes catastrophic flooding.

Dams. New Jersey has experienced a number of dam failures since the State Water Policy Commission began keeping records in the early 1900's. Dam failures can occur suddenly without warning, and may occur during times of high water, such as the failures of Tomahawk Lake Dam

in Byram Township and Seneca Lake Dam in Sparta in 2000 (both in Sussex County), or during normal operating conditions, called a "sunny-day" failure (e.g., the 1927 failure of Sarubbi Dam in Morris County).

The NJDEP Bureau of Dam Safety has responsibility for overseeing dam safety. The Bureau reviews plans and specifications for the construction of new dams and for the alteration, repair, or removal of existing dams. The bureau periodically inspects dams to check adequacy of maintenance. NJDEP must grant approval before owners can proceed with construction. Dam owners are responsible for having dams inspected by qualified professional engineers to assure that the dams are in good condition and adequately maintained. The Bureau has authority to direct owners to correct identified deficiencies.

Classification of Dams

NJDEP uses standard classifications to rank dams by risk should a dam fail. Classification is not a statement of safety or condition of a dam. The classifications are:

- High Hazard (Class I) dams are those for which failure “may result in probably loss of life and/or extensive property damage.” Eleven percent of New Jersey’s dams are High Hazard dams; most are located in Sussex, Passaic, and Morris counties.
- Significant Hazard (Class II) dams are those for which failure “may result in significant property damage; however, loss of life is not envisioned.” Seventeen percent of New Jersey’s dams are Significant Hazard dams.
- Low Hazard (Class III) dams are those for which failure is not expected to result in loss of life and/or significant property damage.
- Small Dams (Class IV) are those for which failure is not expected to result in loss of life or significant property damage.

The Bureau of Dam Safety also coordinates with the New Jersey Division of State Police, local and county emergency management officials, and private dam owners, to prepare and approve Emergency Action Plans that are required for High Hazard and Significant Hazard dams. Because dam failures can occur rapidly, detailed emergency action plans are necessary for rapid response to protect downstream lives and infrastructure as much as possible. Key components of these plans are analyses evaluating and mapping the downstream inundation and risk under various failure scenarios.

Because of terrorism and security concerns, dam failure inundation analyses and maps are not available to the public, including downstream communities, property owners and those planning new developments in downstream areas. These high risk flood hazard areas are not shown on FEMA’s Flood Insurance Rate Maps.

Importantly, there are no federal or state requirements to regulate dam failure inundation areas. Lack of land use regulations applicable in these inundation areas, or even formal recognition of the risk, can lead to intensified development over time. Consequently, through no action of dam owners, Significant Hazard dams can be reclassified to High Hazard, triggering costly upgrades.

The NJDEP Bureau of Dam Safety maintains a list of 1,998 dams in the State that meet the agency's regulatory criteria (2019 NJ Hazard Mitigation Plan). Most dams are for recreational purposes, others are for water supply and flood control. About 42% of all dams are located in Burlington, Morris, Passaic, and Sussex counties, and approximately 17% are located in the five coastal counties (Atlantic, Cape May, Cumberland, Monmouth, and Ocean).

Flood Control Structures and FIRMs

FEMA has specific criteria to determine whether a dam, levee, or floodwall provides a level of protection that allows protected areas to be removed from SFHAs shown on FIRMs. The criteria include whether a structure is designed for at least the base flood with specific factors of safety, has a maintenance and operations plan, and is accredited (a form of certification).

For most dams and levees FEMA does not identify those protected areas or indicate the risk associated with overtopping or failure of the structures.

Levees and Floodwalls. A comprehensive list of levees and floodwalls in New Jersey has not been compiled, in part because there is no State authority for oversight and inspection of levees.

The U.S. Army Corps of Engineers maintains the National Levee Database which identifies levees designed and constructed with some degree of assistance or oversight provided by the Corps (2019 State Hazard Mitigation Plan). These levees are located in:

- Essex County (South Orange) – 2 segments
- Gloucester County (Greenwich, Gloucester, Logan) – 4 segments
- Monmouth County (Hazlet, Keansburg, Middletown, Union Beach) – 1 segment
- Union County (Rahway, Hillside, Elizabeth) – 6 segments

In 2006, the Natural Resources Conservation Service (part of the U.S. Department of Agriculture) published the South Jersey Levee Inventory¹. Prepared under an agreement with the U.S. Army Corps of Engineers, the inventory identified 70 levees located in Gloucester, Salem, Cumberland, and Cape May Counties. Many of these levees are owned privately, while others are owned by communities.

While there have been no major levee failures in New Jersey history, based on the South Jersey Levee Inventory the potential for failures appears to be significant:

¹ NRCS has not prepared similar inventories for other parts of New Jersey.

- Half of the levees in the inventory are rated “unacceptable” and the others are “minimally acceptable.”
- The inventory noted considerable difficulties for maintenance and rehabilitation, including the persistence of “orphaned” levees, uncertain legal standing, lack of funding for operations and maintenance, and a lack of policy and coordination between governments. In addition, many levees showed signs of cracking, significant settlement, significant depressions, and signs of burrowing animals.

Policy Positions – Dam and Levee Failure

Broaden Access to Dam Failure Inundation Mapping. NJAFM supports broader access to dam failure inundation mapping to increase awareness of dam failure risk. One option, recommended by the Association of State Floodplain Managers (ASFPM), is to add include dam failure inundation limits as informational layers with FIRMs. Alternatively, the information should be shared with community officials who should factor the risks into land use planning, perhaps through low density zoning and conservation designations. Communities should also be encouraged to factor the risks in decisions to allow new development in these high risk areas that will increase risks to public safety. At a minimum, property owners with land in dam failure inundation areas should have access to hazard information so they can make informed decisions about mitigation options and evacuations.

State Support for Maintenance and Repair of Dams. NJAFM supports the State of New Jersey promoting maintenance and repair (or removal) of regulated High and Significant Hazard dams, and providing appropriate funding assistance, to help ensure that maintenance occurs in a timely and appropriate manner. This would be an important step toward protecting public safety and general welfare of those who live and work in inundation failure areas, especially when dam owners do not have the financial capacity to perform necessary work. Mechanisms to fund work on dams should include options to limit the State’s liability and responsibility. NJAFM takes no position on projects for construction, repair, or removal of specific dams.

Support Land Use Controls to Minimize Demand for Dams and Levees. Although levees and dams are effective flood control measures in some locations where people and property are already at risk, the need for such measures is more effectively minimized by controlling land use in a way that minimizes floodplain development. NJAFM advocates for communities to adopt and implement land use controls and floodplain management practices that ameliorate the need for additional dams and levees.

Policy and Legislative Efforts to Address Inadequate Levees and Improve Public Safety. NJAFM concurs with the recommendations of the NRCS South Jersey Levee Inventory to improve the safety of levees statewide. NJAFM recognizes that poorly maintained levees and levees not designed for a specific level of protection pose threats to public safety. The NRCS recommendations include:

1. Develop local and county capacity for providing shared equipment for vegetation control on existing levees.
2. Develop an overarching entity which acts as a clearinghouse through which coordination, communication and cooperation could take place for potential projects funded by federal, State and county agencies and other partners which have funding for levee rehabilitation and maintenance.
3. Provide on-going technical and cost share assistance for existing levee operation and maintenance to private landowners, meadow bank companies, county and local units of government.
4. Provide training and information to county and local emergency management coordinators for the purpose of effective and efficient evacuation of people from vulnerable areas behind existing levees.
5. Provide information, on an on-going basis, to the general public on eligibility or ineligibility of existing levees for PL-84-99 U.S. Corps of Engineers emergency assistance and the status of certification of existing levees as providing protection under the NFIP.
6. Upgrade and rehabilitate levees to meet the necessary FEMA accreditation requirements for FIRMs and the U.S. Army Corps of Engineers' PL-84-99 emergency assistance requirements in the event of levee failure.

FLOOD HAZARD MAPPING

Floodplain managers throughout New Jersey rely primarily on Flood Insurance Rate Maps (FIRMs) produced by FEMA to identify and regulate flood hazard areas. The maps help communities communicate with citizens about flood risk and to prepare for and respond to flood hazards. FIRMs show the extent and boundaries of special flood hazard areas (areas subject to flooding by the base or 1% annual chance) flood. Where FEMA uses detailed study methods, FIRMs identify base flood elevations, the height above a datum to which floodwater is expected to rise during the base flood.

FIRMs and the Flood Insurance Studies (FIS) upon which the maps are based are critical tools for floodplain management, although there are some limitations to their use:

- FIRMs provide a two-dimensional, graphic depiction of a three-dimensional elevation concept: flood-prone areas are shown, but the depth of floodwater is unknown without knowing the elevation of the ground surface. FIRMs are only as accurate as the topographical base data.
- The quality of the studies and data used to develop base flood information and delineate flood-prone areas is important. In some areas of New Jersey, flood conditions may change over time due to subsidence, erosion, sea level rise, watershed development, or as storm events change in frequency or intensity. Given the cost and length of time it takes

FEMA to revise studies and maps, changing conditions are not reflected on the effective maps that communities must use.

- FEMA generally does not show local drainage flooding on FIRMs, and typically does not study waterways where the watershed is less than 1 square mile. In many communities, these limitations mean known flood-prone areas are not identified on FIRMs and not regulated to minimize damage to buildings constructed in those areas.

After Hurricane Sandy in 2012, FEMA produced advisory base flood elevation maps for coastal communities in New Jersey and New York. Normally, FEMA completes conversion of those advisory products to effective FIRMs within a few years. Even seven years later, the modeling used to produce the effective maps in many of these communities still dates to the 1980s. Where the advisory maps show higher BFEs and more extensive SFHAs, some communities use them as the best available data for regulatory purposes.

How are flood maps used?

- **Community officials** use flood maps to understand and communicate local flood risk, manage floodplains and require new and substantially improved buildings to be built in ways that mitigate losses from future floods.
- **Emergency management officials** use flood maps to plan evacuations and access for search and rescue.
- **Mortgage lenders** use them to help determine flood risk and decide whether to require flood insurance as a requirement for loans on buildings in floodplains.
- **Insurance professionals** use the maps to determine the flood risk and insurance costs for buildings in floodplains.
- **Developers and builders** use them as part of location siting and design and construction decisions.
- **Residents and business owners** use flood maps to learn about flood risk as they purchase property and investigate how best to protect their property from physical damage and financial costs of flooding.

Policy Positions – Flood Hazard Mapping

Use Best Available Data. NJAFM advocates for use of the best available data by communities for administration of the building code and land use decisions. Until FEMA revises FIRMs, communities should use or continue to use preliminary and advisory flood maps issued by FEMA when those maps show higher BFEs and larger SFHAs than shown on effective FIRMs. This approach is conservative and will better protect people and people from the adverse impacts of floods.

Incorporate Future Conditions Hydrology. NJAFM supports the development of FIRM data layers capturing expected future conditions flooding (for example, sea level rise, likely flow increases due to changes in watershed land use, or increased frequency and intensity precipitation

events). ASFPM and others have examined this issue and recommend development of national standards to allow inclusion of such data layers when requested by a state or local mapping partner. Given the length of time between restudies and map revisions prepared by FEMA (often running decades), including future conditions as part of subsequent revisions will, over time, reduce the need for map revisions every 10-15 years while allowing communities to evaluate how risk will change and whether to incorporate anticipated changes (higher BFEs and larger SFHAs) into current development and design decisions.

Include Erosion Hazard Areas on FIRMs. NJAFM supports the inclusion of available erosion hazard area data as a non-regulatory product on Flood Insurance Rate Maps. NJDEP maintains erosion hazard area data for the Atlantic oceanfront, as well as portions of Delaware Bay and Raritan Bay, based on historical shoreline mapping dating back to the mid-1800s. These data are readily available to FEMA for the purpose of including as a data layer on the FIRMs. Short- and long-term public interests are best served if erosion hazard areas are readily identifiable on FIRMs.

NJDEP as FEMA Cooperating Technical Partner (CTP). The CTP program facilitates partnerships between FEMA and participating NFIP communities, regional agencies, state agencies, tribes and universities that have the interest and capability to become more active participants in the FEMA flood hazard mapping program. NJAFM supports NJDEP as a Cooperating Technical Partner for the development of new and revised studies and maps.

NJAFM supports ASFPM's positions on flood mapping described in its [2015 National Flood Programs and Policies in Review](#). These recommendations include:

- Fully fund the National Flood Mapping Program
- Continuously capture unmet mapping needs
- Include flood-hazard related data when applicable, such as erosion, subsidence, sea level rise, and ice-jam potential
- Incorporate future conditions hydrology

HAZARD MITIGATION

Hazard mitigation also refers to actions taken to address risks to which existing development is exposed, such as buildings and public infrastructure that were constructed before floodplain management regulations were adopted, or those that were constructed to a less protective regulatory standard. The most common types of hazard mitigation projects undertaken to address flood risks are acquisition, elevation of existing buildings on higher and stronger foundations, moving buildings to higher ground, retrofit dry floodproofing (nonresidential only), and drainage improvements. Mitigation actions may be identified in local municipal annexes to County-level multi-jurisdictional hazard mitigation plans (a requirement to qualify for FEMA mitigation funds) or be consistent with those plans and identified as part of short- and long-term recovery

planning after damaging events. Especially after major flooding and hurricanes, demand for mitigation projects far exceeds available federal, state, and local funds.

New Jersey's State Hazard Mitigation Officer is located in the Hazard Mitigation Unit, Recovery Bureau, New Jersey Office of Emergency Management (NJOEM). The State Hazard Mitigation Officer is charged with maintaining awareness of long-term mitigation planning requirements and grant programs available from FEMA and other federal agencies, and helping communities access resources that support those efforts. As of late 2019, the primary FEMA mitigation programs include the Hazard Mitigation Grant Program (available post-disaster), the Flood Mitigation Assistance program (annual funding), and the Pre-Disaster Mitigation program (annual funding). Other federal agencies that may have funding to support hazard mitigation projects undertaken by communities include the Department of Housing and Urban Development, Department of the Interior, Economic Development Administration and the Department of Agriculture. State agencies such as the Department of Community Affairs, Housing and Mortgage Finance Agency, and Department of Transportation may also receive federal disaster aid and disburse it to applicants.

Each federal grant program, administered with a state agency partner, has specific criteria for applicant eligibility and qualifying projects. Developing qualifying grant applications requires significant resources, including resolutions of support, staff time, research and extensive data. Funds accepted from the federal government often come with strings attached. In addition to meeting minimum criteria set forth by the State and Congress, projects must align with specific priorities determined by political administrations, and acceptance of federal funds may require applicants to accept those conditions, including providing specified percentage of non-federal funds. Even communities that have the capability to apply for mitigation project funds may have difficulty finding appropriate guidance, technical expertise, and financial resources to cover their share of the project cost.

One source of post-disaster funding that supports mitigation has could be used more effectively is FEMA's [Public Assistance Program](#), also called Section 406. The Public Assistance Unit, Recovery Bureau, NJOEM administers the Public Assistance Program. The program provides funds to state agencies and communities for response and recovery, including debris removal, life-saving emergency protective measures, and the repair, replacement or restoration of disaster-damaged publicly-owned facilities and the facilities of certain private non-profit organizations. In the wake of Hurricane Sandy NJOEM distributed approximately \$1.1 billion in FEMA Public Assistance grants, primarily for infrastructure repair. In recent years FEMA has focused increased attention on identifying mitigation measures and including such measures in funds for repair and replacement of public facilities.

NJAFM shares concerns expressed by floodplain managers, elected officials and other interest groups that disaster aid and reinvestment in areas affected by flooding may not adequately take into account the need to rebuild in a manner that reduces future risk. Quite often, the rush to "return to normal" may short circuit long-term mitigation planning for high risk areas, leaving

these areas vulnerable to future storm and flood impacts. Direct aid and grants from the federal government can have the effect of deferring and absorbing the costs of disaster response, recovery, reconstruction, and mitigation, even though communities are primarily responsible for factors contributing to the cost and scale of disasters, such as local land use decisions and flood warning and response actions. For decades the standard approach to recovery using taxpayer-funded disaster aid did not look at long-term benefit of factoring in mitigation to minimize future damage and loss of function.

Policy Positions – Hazard Mitigation

Incorporate Mitigation of Public Buildings and Infrastructure into Community Recovery.

NJAFM maintains that expenditures for mitigation actions and adaptation that reduce storm and flood damage are sound investments of public and private dollars. Post-flood recovery that returns public buildings and infrastructure to pre-disaster conditions without consideration of even low-cost mitigation measures should be discouraged. NJOEM includes evaluation of mitigation eligibility when public infrastructure is damaged. NJ Department of Transportation and local public works departments and local floodplain managers should become familiar with the opportunity to incorporate mitigation into recovery when projects qualify for federal post-disaster Public Assistance (Section 406) and U.S. Department of Transportation funding. Ideally, at-risk public buildings and infrastructure will be identified as part of local municipal annexes to County-level multi-jurisdictional hazard mitigation plans and concept-level mitigation measures pre-identified for consideration after subsequent flood events.

Partnerships Necessary to Foster Mitigation.

NJAFM concurs with ASFPM that communities will need to increasingly rely on partnerships between levels of governments and private entities to prevent incentivizing reinvestment without mitigation, while ensuring that communities accept some level of responsibility for their decisions affecting flood risk. Communities should identify potential private sector partners that can both benefit from reducing vulnerability to future floods while supporting mitigation. An example is [Jersey Water Works](#), a collaboration of organizations that embrace the common purpose of transforming New Jersey's inadequate water infrastructure by investing in sustainable, cost-effective solutions that yield multiple objectives: provide communities with clean water and waterways; healthier, safer neighborhoods; local jobs; flood and climate resilience; and economic growth.

Expand Grant Opportunities and Continue Cost Share Arrangements.

NJAFM echoes ASFPM's calls for the expansion of federal flood mitigation grant opportunities and increased funding amounts while continuing to require local cost sharing to encourage "skin in the game" on the part of applicants and grant recipients.

Factor CRS Participation in Mitigation Grant Awards.

NJAFM recommends that community participation in CRS be given more weight as a metric for ranking of applications for FEMA's hazard mitigation assistance programs. Achieving and maintaining CRS standing is tangible evidence of community commitment to floodplain management and reducing future losses caused by flooding.

Prepare CRS Creditable Hazard Mitigation Plans. NJAFM encourages municipalities, County emergency management offices, and those involved with community planning to develop hazard mitigation plans and plan updates to adhere fully to both the federal requirements for multi-hazard mitigation plans (44 CFR § 201.6) and the CRS requirements of Activity 510 (Floodplain Management Planning). One coordinated planning process can and should be undertaken to produce a single plan that satisfies all elements of both requirements. To accomplish this end result, prior to initiating the planning process or a plan update, community officials and planning consultants should review the requirements for both programs summarized in FEMA’s [Mitigation Planning and the Community Rating System Key Topics Bulletin](#) (October 2018). NJOEM should complete development of planning guidance for accomplishing both objectives and encourage all communities to use it during their next plan updates, even if communities are not participating in CRS.

Smaller Communities Need Help with Hazard Mitigation Grant Applications and Project Management. Experience suggests that high-capability communities with engineering and grant-writing expertise are more successful at obtaining hazard mitigation grants than are smaller communities, even those with high-risk flooding problems. The NJOEM, NJDEP, and county level administrations (e.g., planning/engineering departments, offices of emergency management) should enhance existing outreach and technical assistance to provide smaller communities with the tools and expertise needed to recognize, characterize, and study mitigation opportunities, create partnerships, and eventually apply for, obtain and administer state and federal hazard mitigation grants.

ASFPM Recommendations for Hazard Mitigation. NJAFM supports ASFPM’s policy recommendations with regard to Mitigation & Risk Reduction described in [2015 National Flood Programs and Policies in Review](#), including:

- Develop more holistic mitigation plans with valuable historical information, and elements that include assessments of future risk and funding capability assessments
- Develop a FEMA/state partnership program for state hazard mitigation initiatives
- Reverse FEMA policy that allows HMA funds for major flood control projects that diverts funding from nonstructural projects
- Give mitigation grant preference to property owners who use their flood insurance claim payment for mitigation (NJOEM factors in whether structures are covered by insurance when prioritizing grant applications)

NATIONAL FLOOD INSURANCE PROGRAM

The National Flood Insurance Program is a voluntary federal program that enables property owners in participating communities to purchase insurance against flood losses in exchange for those communities adopting and enforcing regulations that reduce future flood damage. The regulations establish requirements and limitations on development in mapped flood hazard areas. The NFIP provides the maps and regulatory basis for local floodplain management programs.

The State of New Jersey and its communities and citizens benefit from the NFIP. Perhaps the most significant benefit is how the NFIP, combined with the State's Flood Hazard Control Act regulations and the Coastal Area Facility Review Act, have influenced development and redevelopment in SFHAs. While it may be possible to identify how many buildings have been built in New Jersey's floodplains over the past 50 years, it is not possible to count how many decisions were made to avoid flood-prone areas or to incorporate mitigation measures that exceed minimum requirements into development proposals. It is evident that the effect of these regulatory programs has been positive – building owners and developers have built structures higher than the minimum elevation requirements, have preserved portions of floodplains as open space, set development back farther from areas with deep floodwater, and have made other siting and construction choices that result in less hazard-prone development.

New Jersey and the NFIP

- **Community Participation:** As of November 2019, 551 municipalities and the New Jersey Sports and Exposition Authority participate in the NFIP. Three municipalities are identified as prone to flooding, but elect to not participate, and two communities are suspended from the NFIP.
 - Oakland (Bergen County) was New Jersey's first community to join the NFIP "regular" program on June 30, 1970.
 - Also in 1970, Pompton Lakes (Passaic County) joined in September and Ocean City (Cape May) in October, followed closely by several other Cape May County municipalities in December.
 - The most recent community to join is South Harrison (Gloucester), on October 9, 2014.
- **NFIP Policies in Force:** New Jersey ranks fifth among states in terms of the number of NFIP insurance policies in force, with more than 221,500 policies (April 2019).
- **NFIP Claims Paid since 1978:** With more than \$6 billion in claims paid, New Jersey ranks third, behind Louisiana and Texas.

<https://www.fema.gov/policy-claim-statistics-flood-insurance>

<https://www.fema.gov/national-flood-insurance-program-community-status-book>

From time to time the U.S. Congress considers substantive reforms of various aspects of the NFIP. Since 1994, statutory changes have been made to mapping, insurance, and NFIP-funded mitigation grants, but have not prompted any changes to the land use and control requirements, which are set forth in regulation (44 CFR Parts 59 and 60). FEMA last made substantive change to those regulations in the late 1980s. The absence of land use control standards and requirements represents an ongoing deficiency of the NFIP.

Policy Positions – National Flood Insurance Program

The New Jersey Association for Floodplain Management is a recognized state chapter of the Association of State Floodplain Managers. ASFPM has a national leadership role in evaluating, proposing, and advocating for statutory and regulatory changes to the NFIP. In most cases, NJAFM policy positions align closely with those of ASFPM.

ASFPM periodically reviews the NFIP and other federal programs that bear on floodplain management and risk reduction. Published by ASFPM in 2015, [*National Flood Programs and Policies in Review*](#), is a comprehensive summary of recommendations to improve national flood policies and programs that informs ASFPM's advocacy and legislative work. ASFPM actively informs member of Congress about the NFIP, flood hazard study needs, and hazard mitigation.

NJAFM broadly supports ASFPM's advocacy and legislative work. To prepare for congressional action in 2019, ASFPM produced [*Detailed Priorities for 2019 NFIP Reauthorization and Reform*](#). NJAFM concurs with the ASFPM priorities for 2019 and will monitor federal legislative efforts alongside ASFPM. Should new priorities or issues be raised by membership, NJAFM will provide comment and communicate with ASFPM accordingly. ASFPM presented the 2019 priorities under six categories:

- 1. Reauthorize, fund and enhance the National Flood Mapping Program.** FEMA should have increased funding each year to allow the agency and its mapping partners to make more progress in areas where studies and maps are still decades old. FEMA must use high-quality topographic mapping, eliminate unmodernized paper maps, and apply more engineering methods to mapped SFHAs without BFEs to provide communities and property owners with usable data.
- 2. Ensure ongoing expansion of private-sector flood insurance does not erode comprehensive flood-risk management.** Congress should provide sufficient direction that the NFIP does not become the insurer of "last resort," forced to insure only those properties that the private sector declined to cover. There are likely unintended consequences when private-sector flood insurance is significantly different than federal insurance, given differences in coverage limits and deductibles. The federal government has a significant on-going role in providing flood mapping and establishing minimum requirements for development in SFHAs.
- 3. Address the affordability of flood insurance.** The NFIP should continue to examine ways to address affordability, but care must be taken to avoid creating a new subsidy or cross-subsidy. Encouraging more mitigation of existing, nonconforming buildings not

only reduces the cost of policies on mitigated buildings, but reduces the drain caused by payment of multiple claims for repetitively-flooded properties.

4. **Support and enhance Increased Cost of Compliance (ICC).** Increased Cost of Compliance is coverage included in NFIP policies on buildings in SFHA that provides up to \$30,000 towards the cost of bringing substantially damaged buildings into compliance with the floodplain management requirements for new construction. The NFIP must fully implement ICC as currently authorized. While increasing the total amount available through ICC would be helpful, even more effective will be expansion of costs eligible to be paid by ICC claims to be substantially similar to items eligible to be covered under the FEMA HMA grant programs.
5. **Support pre-disaster mitigation of at-risk structures, especially repetitive loss buildings.** Congress should authorize increased funding to allow FEMA, states and communities to undertake more mitigation prior to the next flood event. The focus should be on insured structures that have received multiple insurance claim payments and structures that are identified as high-risk, even without a history of paid claims.
6. **Additional priorities.**
 - Congress should recognize there are multiple benefits of the NFIP, including the long-term benefits that accrue when communities adopt and enforce floodplain management regulations and building codes. This recognition should, at least in part, take the form of forgiving some of the NFIP's debt to the U.S. Treasury when payment of claims exceeds income to the program.
 - FEMA must recognize the importance of building and maintaining capability and capacity in NFIP State Coordinating Agencies by providing sufficient funds (cost-share required).
 - FEMA must improve training opportunities for insurance agents and claims adjusters, and work with states to establish minimum requirements and continuing education requirements.
 - Congress should consider modifying the mandatory purchase of flood insurance to apply to all areas, not just those mapped as SFHA. Not only would this broaden the pool and spread the financial risk borne by the NFIP, but it would provide more property owners with some financial resources as areas outside of mapped SFHAs are inundated due to changing weather patterns and sea level rise.

PLANNING TOOLS AND LAND USE

Land use planning, zoning, building codes, and subdivision regulations are primary tools to minimize exposure of future development to flood damage, especially when plans and implementing regulations are in place before development or redevelopment begins. These tools are especially effective when flood risks are quantifiable (shown on up-to-date flood hazard maps) and accessible (online geographic information system mapping tools). Advance planning that makes appropriate accommodations for the certainty of high-risk flooding is more cost-effective in the long-run than allowing flooding to repetitively damage buildings and

infrastructure that require costly response and repair.

Many New Jersey communities developed along waterways and the Jersey Shore for many reasons, ranging from the practical (water supply, transport) to the sentimental (historic beach communities). Many of today's flood-prone developments and residences are in communities whose built environment was established long before flood hazard areas were recognized and mapped and before protective construction requirements were adopted.

New Jersey's floodplains are regulated by communities and by various jurisdictional bodies with multiple planning functions and varying degrees of regulatory control, including the NJDEP, Delaware River Basin Commission, Pinelands Commission, Highlands Council, Meadowlands Commission/Sports and Exposition Authority, and the Delaware and Raritan Canal Commission. New Jersey's Coastal Zone Management Rules, which are established to implement the Coastal Area Facility Review Act (CAFRA), the Waterfront Development Law and the Wetlands Act of 1970 govern the protection, use, and development of the State's coastal resources.

Hurricane Sandy Prompted Investment in Planning.

After Hurricane Sandy, NJDCA distributed approximately \$13.7 million to affected counties and municipalities to support:

1. Development of Strategic Recovery Planning Reports
2. Creation or update of other community plans, such as Community Vulnerability Assessments, Resiliency Plans, Redevelopment/Neighborhood Plans, design standards, capital improvement plans, GIS development, and Community Rating System elements

Municipal master plans inform local zoning, a powerful tool under the Municipal Land Use Law. Despite the adoption and implementation of municipal master plans and land use regulations that may effectively address flood hazards for newer development, master plans of some flood-prone communities continue to advocate for protecting the existing built form. Even in some high-risk communities, and despite the development of hazard mitigation plans, master plans and regulations have not been updated or modernized to incorporate mitigation concepts.

After Hurricane Sandy and other damaging floods in the 21st century, some communities amended municipal plans to specifically address the extent and severity of flood hazards. Using funds from the U.S. Department of Housing and Urban Development Community Development Block Grant Disaster Recovery Program, the New Jersey Department of Community Affairs created a Post-Sandy Planning Assistance Grant for municipalities and counties. While these funds were a boon for communities that had out-of-date master plans, local incorporation of actionable floodplain management goals, objectives, and recommendations lacked consistency. Whether the floodplain management goals of those communities will be realized – including the reduction of flood risk to people and property – will not be evident for years to come.

Policy Positions – Planning and Land Use

Mandate Coordination of Municipal Master Plans with Hazard Mitigation Plans. NJAFM supports changing requirements for municipal master plans to be developed and revised in concert with local multi-jurisdiction hazard mitigation plans prepared at the County level and completed in accordance with 44 CFR § 201.6 and FEMA’s mitigation planning guidance documents (and CRS planning specifications). Rather than spend staff time and resources procuring new hazard data and background information, municipal master plans should rely on data in existing hazard mitigation plans, although community-specific data should be included where readily available. This will enable communities to select suitable hazard mitigation actions while promoting understanding of existing hazards and vulnerabilities on the municipal level.

High-risk communities should update municipal master plans to incorporate concepts related to:

- Retreat, accommodation, or adjustment in recognition of future flood hazards like sea level rise and greater runoff from developed watersheds
- Sustainability of resources and resilience of infrastructure in a post-flood scenario
- Post-disaster response planning that prescribes how damaged areas are to be rebuilt (or *not* rebuilt) to reduce future damage

Analyze and Incorporate Protection of Natural and Beneficial Floodplain Functions into Land Use Plans. NJAFM encourages communities to examine ASFPM’s No Adverse Impact initiative for incorporation of pertinent elements into municipal planning processes and documents, especially as NAI relates to protecting the natural and beneficial functions of floodplains:

- Flood storage and erosion control – offering a broad area for streams and rivers to spread out and accommodate temporary storage of floodwater, reducing flood peaks and erosion potential
- Wetlands protection and water quality improvements – reducing sediment loads, filtering nutrients and impurities, and moderating water temperature
- Promoting groundwater recharge and natural infiltration functions



No Adverse Impact (NAI)

ASFPM developed NAI as a managing principle that provides communities ways to avoid the worsening of flooding and other negative impacts to public health, safety and welfare. Program doctrines address communicating and promoting responsible floodplain development through community-based decision making. NAI floodplain management empowers elected officials and citizens to become better-informed stakeholders and promote "wise development."

NAI publications are available at www.floods.org, including a toolkit and how-to guides for regulations and development standards, hazard identification and mapping, education and outreach, planning, infrastructure, and mitigation.

- Biological productivity – providing fertile soils with high rate of plant growth and diversity, richer agricultural harvests, and healthier forests
- Protecting and enhancing habitat for a variety of fish and wildlife, including rare and endangered species
- Recreational opportunities – providing areas for active and passive recreational activities, supporting the economic base
- Preserving natural, undisturbed conservation areas and open space

Encourage Communities to Use Non-Traditional Planning Tools. NJAFM encourages communities to consider non-traditional land use controls, such as transfer of development rights, to guide development away from high-risk flood hazard areas such as floodways. NJAFM further supports the efforts of land use development boards and municipal governing bodies to implement planning elements, zoning and other ordinances, and other projects that limit the risk to public safety from flooding.

Address Future Flood Conditions in Local Planning Processes. NJAFM recognizes sensitivities in public discussions surrounding climate change and its effects on sea level and precipitation patterns. However, based on the current body of sound science and consensus of a broad range of climate scientists, NJAFM endorses using the best available data and predictions to address future conditions in local planning processes, including municipal master plans, zoning ordinances, stormwater requirements, infrastructure and capital improvement plans, building codes, and floodplain management regulations. Also see recommendation in Flood Hazard Mapping.

Focus on Land Use Planning and Tools, Not Structural Flood Control Projects. NJAFM acknowledges the role of structural flood control projects such as floodwalls and levees, but affirms that controlling land use (particularly in floodplains) and implementing sound land use and planning practices is more effective overall for reducing future flood damage. These options are also often more cost-effective and sustainable over the long term. Planning and zoning elements of local land use regulations can play larger roles through education, risk reduction techniques (avoidance, setbacks, open space preservation), and building regulations specifically crafted to reduce exposure of new development to flooding.

Establish a Coastal Commission to Plan for Climate Change. NJAFM encourages the State legislature to establish a coastal commission specifically charged with presenting the science and data on climate change, sea level rise, and extreme storms, and helping coastal communities plan for and act to reduce the impacts of those changes on storm and flood risk.

NJAFM recommends the coastal climate commission:

- Include representatives from affected communities, including elected officials, as well environmental and design professionals in order to balance the needs and realities of coastal communities and economies against flood risks and vulnerabilities.
- Should not have responsibilities that are redundant with those of other state agencies, nor should it have solely advisory duties; instead, it should have powers and a directive to mitigate flood risk, among other functions.
- Should be funded based on a shared revenue system that prevents “ratable chasing”² between affected communities, which can jeopardize regional planning efforts.
- Should facilitate the use of transfer of development rights within and between communities to address future inundation of developed, low-lying areas.
- Should serve as a regional planning body that performs deliberative and consensus-based planning and advocacy functions that state agencies such as the NJDEP may not have the power or ability to execute.

PROFESSIONAL DEVELOPMENT

Each of New Jersey’s 551 communities and the New Jersey Sports and Exposition Authority that participate in the NFIP has an official designated as the Floodplain Administrator. In many communities, the designated official may not do much of the technical work, instead delegating those tasks to other professional staff. Now that requirements for the design and construction of buildings in SFHAs are included in the Uniform Construction Code, staff in buildings departments likely perform plan reviews and inspections, while engineering or planning staff are responsible for reviewing, approving, and inspecting development other than buildings.

NJAFM has been an active and vocal organization since its founding in 2005, with members drawn from the many professionals involved in floodplain management. NJAFM members represent the organization at symposia, conduct floodplain management training, provide testimony to legislative bodies, send letters to legislative and public officials, host informative annual conferences, advocate for flood protection and regulations, and conduct many other beneficial activities. Two of the Association’s most significant accomplishments have been hosting professional development trainings with NJDEP that have greatly increased the number of local officials gaining national Certified Floodplain Manager (CFM) status,, and hosting an annual conference that provides comprehensive technical content, networking opportunities and information sharing.

² “Ratable chasing” refers to the practice of towns chasing after high-value taxable properties (e.g., non-residential projects, shopping malls, hotels) and discouraging residential development in order to keep property taxes down. Presumably, tax revenues generated by residential development do not cover costs of extending infrastructure and government services, while commercial properties generate property tax revenue without a high level of demand for services ([New Jersey Future](#)).

ASFPM reports there are approximately 7,000 Certified Floodplain Managers (CFMs) nationwide (June 2019). With more than 370 CFMs, New Jersey continues to be one of the states with the largest number of certified professionals.

Policy Positions – Professional Development

Develop Training on the Flood Provisions of the NJDEP Rules and the UCC. The NJDCA and NJDEP, in cooperation with FEMA, should develop a course specifically addressing the flood provisions of the NJDEP rules and the UCC. The training should include inspection of floodplain development and administering, by prior approval, the substantial improvement and substantial damage provisions in local floodplain management regulations. The course should be designed to qualify for continuing education credits for building code professionals and floodplain managers. As with other floodplain management training, NJAFM can partner with the State agencies to deliver the course. The Sandy Mitigation Assessment Team (MAT) Report includes this recommendation (Recommendation 4).

Expand the Number of CFMs in Government and the Private Sector. As a national accreditation, the CFM has significant value for demonstrating technical proficiency in floodplain management. Certification is one of the most effective ways for a professional working in the field to gain and maintain understanding of the various aspects of the multi-faceted field. NJAFM promotes floodplain management training for an array of personnel and community leaders, including planners, building officials, engineers, architects, surveyors, elected officials, municipal administrators and clerks, public works employees, and members of the public.

Require CFM Status as a Prerequisite for Community Floodplain Management Work. The importance of training and appropriate job experience for floodplain administrators is critical in the day-to-day administration of floodplain management programs, especially for plan review, inspection, and post-flood responsibilities. NJAFM encourages communities to identify specific positions for which the credential is required, and modify position descriptions to require employees in those positions to obtain CFM status within 6 months of the date of employment. NJAFM recommends study of the feasibility of NJDCA recognizing the national CFM and establishing a professional certification program for floodplain administrators, similar to programs for Construction Code Officials and Special Inspectors.

Elevation Certificate Training and Approval by CFM. NJAFM supports development of a training module specifically designed for local officials who review Elevation Certificates. NJAFM recommends that communities ensure trained floodplain management personnel with CFM status review Elevation Certificates submitted to document compliance with building elevation requirements.

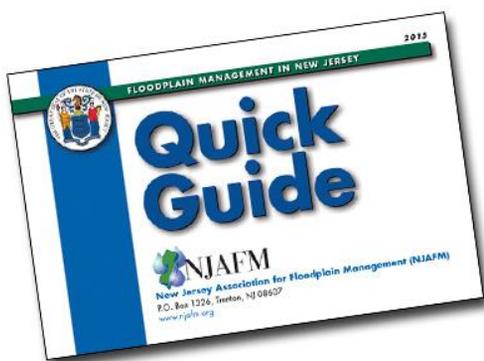
PUBLIC INFORMATION AND OUTREACH

Most floodplain management professionals know that when it comes to flooding, “it’s not **if** it’ll flood, but **when**.” Yet it is common to hear some variation of “I’ve lived here for 20 years and it’s never flooded.” The concept of “1 percent annual-chance,” and the colloquial term “100-year flood,” are not readily understood by most citizens. It is also common for many property owners to believe there is little or nothing they can do about flooding, even when they acknowledge it is likely to occur.

Many communities formalize strategies to inform the public about flood risk, requirements to get permits for floodplain development, the value of flood insurance, and options property owners can take to reduce risk. Online tools that allow users to access flood hazard maps by property address make it easy for property owners and tenants to learn about flood risk, when they are prompted to use those tools. Less readily available is information about regulatory requirements, evidence of past flooding, and options for reducing risks for existing buildings.

Well-informed citizens make smarter decisions and support sound floodplain management practices.

Education and outreach tools can strengthen local floodplain management efforts. If everyone knew their flood risk, how to avoid problem areas, how to build wisely and how to protect themselves and their properties, flood losses would be greatly reduced. Reaching out and educating people has an impact. ASFPM [No Adverse Impact How-To Guide for Education and Outreach](#).



In 2015, NJAFM published the [Quick Guide: Floodplain Management in New Jersey](#). The Quick Guide illustrates floodplain management concepts and the requirements for new construction and work on existing buildings. It is designed to be useful for informing citizens, community officials not directly involved in floodplain management, plan reviewers, inspectors, appointed planning commissions, and elected officials.

In 2010 and 2013, FEMA conducted [nationwide surveys](#) of flood risk awareness among U.S. households. Data from the surveys informed FEMA’s understanding of flood risk perceptions, community engagement strategies, and the Risk Mapping Assessment Planning (Risk MAP) program. The survey confirmed what floodplain management professionals already know: public awareness of flooding has significant gaps:

- Only three out of 10 individuals believe their community is at risk of flooding.
- The majority of respondents who did not reduce their hazard risk decided not to act because they did not believe their homes were at risk.
- Only 10% of respondents believe their homes are at risk of flooding.
- Only one in four survey respondents reported looking for flood risk information, typically as a result of a move to a new residence.

In January 2019, the Risk Management and Decision Processes Center of the Wharton School, University of Pennsylvania, convened a “[digital discussion](#)” to answer the question “how can flood risk disclosure be improved?” The initial premise was that buyers and sellers in the real estate market need “full information” to participate efficiently. A participant representing the Natural Resources Defense Council reported that 21 states have “no [statutory or regulatory requirements](#) that a seller disclose a property’s flood vulnerability to a buyer. The other 29 states have varying degrees of disclosure requirements.”

New Jersey has no real estate disclosure regulation that requires sellers to inform potential buyers of whether properties are in SFHAs or whether buildings have sustained flood damage in the past. In addition, loss history based on whether NFIP flood insurance claims have been filed or paid is not available to the public because FEMA is constrained by the Privacy Act of 1974. Most buyers learn about location in SFHAs shortly before closing when mortgage lenders inform them of the requirement to secure flood insurance coverage.

Policy Positions – Public Information and Outreach

Public Information and Media Initiatives. From the perspective of floodplain managers, it is important to continually communicate with citizens: before, during and after flooding. NJAFM encourages communities to research available flood information and to develop initiatives to inform the public at various opportunities, including online, presentations before elected bodies and planning commissions, visits to neighborhood associations, training for citizen-based aid groups like Community Emergency Response Teams (CERT) and other organizations. The Association specifically advocates outreach targeted to residents who rent flood-prone properties, who might generally have little information regarding flood exposure and risk. Where appropriate, communities should develop materials in languages other than English.

Outreach initiatives must use a variety of media, including print, television, radio and social media to transmit messages. Partnerships with media groups, utilities, non-profits, and educational institutions can expand the reach of messaging and may result in significant cost savings. The NFIP/CRS Update newsletter (December 2018/January 2019) and CRS materials provide many communication options and messages (go to <https://crsresources.org/300-3/> and look for “330: Outreach Projects”). Also see Community Rating System for NJAFM’s position on multi-jurisdictional coordination of CRS activities, including public information and outreach. Even though written for CRS communities, the CRS materials are useful for non-CRS communities searching for ideas to improve their outreach programs.

The New Jersey Quick Guide can be Used to Inform the Public, Community Officials, Appointed Citizen Boards, and Elected Officials. NJAFM encourages communities to link to the Quick Guide on their webpages and keep a hardcopy at permit intake counters. Communities with extensive SFHAs may want to provide hardcopies to inspectors, to help explain relevant points when inspectors identify unpermitted development or work that does not comply with

permits. Copies of the Quick Guide should be provided to appointed citizen boards and commissions and to elected officials.

Disclosure of Flood Hazards in Real Estate Transactions. NJAFM encourages the New Jersey Legislature to provide authority and requirements for disclosure of known flood hazards, location in mapped SFHAs, and past damage as part of real property transactions and rental agreements.

Disclosure of NFIP Flood Insurance Claims Information. In the interest of satisfying the public's growing concern about flood hazards, NJAFM encourages FEMA to reexamine its position regarding the Federal Privacy Act of 1974, and allow disclosure of Federal flood loss data to potential buyers and renters, including whether a property is identified by FEMA as a repetitive or severe repetitive loss. Personally identifying data could be masked, while releasing property-specific data. If release of property-specific loss data is not feasible, communities should consider using the NFIP repetitive loss and severe repetitive loss designations to map areas that appear to have experienced repetitive flooding and make those maps available to the public.

REGULATIONS (State and Local)

Adoption of statutes, adoption of rules, and administration of rules that govern development and redevelopment in New Jersey's flood hazard areas occurs both the state and local levels. Without careful attention to proposals for changes to statutes and rules, changes may conflict with the minimum requirements of the NFIP. Such conflicts can result in development that does not conform to the minimum requirements, putting people and property at risk and resulting in extremely high cost NFIP flood insurance policies. In the extreme, those conflicts may lead to communities being suspended from the NFIP.

The New Jersey Legislature passes bills to create and amend the New Jersey Statutes Annotated. Administrative departments and agencies of the State promulgate rules to implement statutes adopted and amended by the Legislature. Adopted rules are published as the New Jersey Administrative Code. Development and adoption of rules and changes to rules must comply with a prescribed process required pursuant to the Administrative Procedures Act (NJ Statute Title 52, Chapter 14B). Sometimes agencies organize stakeholder workgroups to solicit input prior to formulating draft proposals. The statutes and rules that affect floodplain management, and the responsible agencies, are listed in the table below.

To participate in the NFIP, New Jersey communities commit to regulating development in flood hazard areas. At present, communities adopt regulations patterned after model ordinances developed and maintained by the NJDEP. The regulations establish administrative procedures, define terms, and set for specific criteria for development, including buildings.

Statute and Administrative Code Citations	Scope	Agency and Webpage
<p>Flood Hazard Area Control Act (N.J.S.A. 58:16A-50)</p> <p>Flood Hazard Area Control Act Rules (N.J.A.C. 7:13)</p>	<p>Governs development in flood hazard areas and adjacent to surface waters.</p>	<p>NJ Department of Environmental Protection http://www.nj.gov/dep/landuse/</p>
<p>New Jersey Construction Control Act</p> <p>Uniform Construction Code (N.J.A.C. 5:23)</p>	<p>Governs the construction, alteration, addition, repair, removal, demolition, use, location and occupancy of all buildings and structures. The Uniform Construction Code consists of several subcodes, including the building, residential, and rehabilitation subcodes.</p>	<p>NJ Department of Community Affairs, Division of Codes and Standards https://www.nj.gov/dca/divisions/codes/</p>
<p>Coastal Area Facility Review Act (CAFRA; N.J.S.A. 13:19-1)</p> <p>Coastal Zone Management Rules (N.J.A.C. 7:7)</p>	<p>Governs construction and other land disturbances within New Jersey's designated Coastal Zone.</p>	<p>NJ Department of Environmental Protection https://www.nj.gov/dep/landuse/</p>
<p>Waterfront Development Act (N.J.S.A.12:5-3)</p> <p>Coastal Zone Management Rules (N.J.A.C.7:7)</p>	<p>Governs construction, dredging and filling in tidal waters, as well as construction and other land disturbances in tidal areas and upland areas immediately adjacent to tidal waters outside of the CAFRA area.</p>	<p>NJ Department of Environmental Protection http://www.nj.gov/dep/landuse/</p>
<p>Wetlands Act of 1970 (N.J.S.A. 13:9A)</p> <p>Coastal Zone Management Rules (N.J.A.C 7:7.A)</p>	<p>Governs construction and other coastal disturbances within mapped coastal wetlands.</p>	<p>NJ Department of Environmental Protection http://www.nj.gov/dep/landuse/ https://www.nj.gov/dep/landuse/coastal/cp_main.html</p>
<p>Freshwater Wetlands Protection Act (N.J.S.A. 13:9B)</p> <p>Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A)</p>	<p>Governs construction and other land disturbances and activities within freshwater wetlands and associated transition (buffer) areas.</p>	<p>NJ Department of Environmental Protection http://www.nj.gov/dep/landuse/</p>

New Jersey community officials, property owners, builders, and design professionals must comply with three sets of rules affecting floodplain development that contain a number of differences (see table). Resolving those differences falls largely on community officials who must know about the differences, realize which is more restrictive or by statute prevails, and render interpretations. This inevitably leads to varying interpretations by community to community. The long-standing characterization by NJDCA that local floodplain management ordinances are “zoning” or “land use,” and thus are administered separate from the UCC does little to ease the burden.

THREE SETS OF RULES AFFECTING FLOODPLAIN DEVELOPMENT: SOME KEY DIFFERENCES		
NFIP: Local Ordinances Enforced by Communities	Uniform Construction Code: Enforced by Communities	Flood Hazard Area Control Act: Enforced by NJDEP
Base flood elevation (BFE) is the elevation of the 1% annual chance flood (100-year).	Design flood elevation (DFE) is the higher of the BFE or the elevation of: <ul style="list-style-type: none"> • A greater flood if a different flood maps is adopted • NJDEP’s Flood Hazard Area Design Flood Elevation 	Flood Hazard Area Design Flood Elevation is: <ul style="list-style-type: none"> • In tidal areas, the elevation of the 1% annual chance flood • In non-tidal areas, elevation of the 1% annual chance flood plus 25% additional discharge
Zone A: lowest floor at or above the BFE Zone V: bottom of the lowest horizontal structural member of the lowest floor at or above the BFE	Zone A: lowest floor at or above BFE + 1 ft or DFE, whichever is higher Zone V and Coastal A Zone: bottom of the lowest horizontal structural member of the lowest floor at or above the BFE + 1 ft or DFE, whichever is higher	Zone A: lowest floor at or above DFE + 1 ft or as required by UCC, whichever is higher Zone V and Coastal A Zone: bottom of the lowest horizontal structural member of the lowest floor at or above the DFE + 1 ft or as required by UCC, whichever is higher
Permits dry floodproofing of nonresidential buildings in Zone A only. Permits wet floodproofing only for enclosures below elevated buildings, detached garages, storage buildings, functionally dependent uses, and certain agricultural structures.	Permits dry floodproofing of nonresidential buildings and nonresidential portions of mixed use buildings within the scope of the UCC building subcode. Permits only for enclosures below elevated buildings, temporary buildings, accessory storage buildings, small parking structures, functionally dependent uses, and certain agricultural structures.	Permits dry floodproofing of nonresidential buildings and nonresidential portions of mixed use buildings. Permits wet floodproofing only for enclosures below elevated buildings, temporary buildings, accessory storage buildings, small parking structures, functionally dependent uses, and certain agricultural structures.

Does not require buildings outside of Coastal High Hazard Areas (Zone V) to have certified designs (except for dry floodproofed nonresidential buildings in Zone A only).	Requires all homes on pilings to be designed by registered design professional. Requires homes in Coastal High Hazard Areas (Zone V) and Coastal A Zones to be designed in accordance with ASCE 24.	In all flood zones, plans submitted for review must be designed by a NJ licensed professional engineer or architect
Does not limit flood storage displacement by fill. Requires encroachment analyses for development in floodways.	Requires encroachment analyses for buildings and fill in floodways.	Limits flood storage displacement by fill in non-tidal areas.

Policy Positions – Regulations (State and Local)

Statutory and Regulatory Proposals to Change State Floodplain Management Requirements. NJAFM should monitor proposals for statutory changes and regulatory changes, with particular attention provisions that would weaken State requirements below the minimum requirements of the NFIP and the UCC. NJAFM should monitor NJDEP rule development and NJDCA’s periodic development of the UCC, engage in stakeholder work groups, and submit comments and recommendations to further the policy positions in this policy document.

Identify and Resolve Differences Between NJDEP Rules and the Flood Provisions of the UCC. NJDEP and NJDCA should analyze and identify the most significant differences between the requirements for Flood Hazard Area Control Act permits that apply to the design and construction of buildings and the flood provisions of the UCC. NJDEP should use this analysis to compare with the provisions in the NJDEP model ordinance on which many local floodplain management regulations are based. The results of both analyses should be provided to communities along with guidance on how best to resolve the differences. NJDEP should be open to modifying the agency’s regulations to minimize the differences except where the rules are intentionally more restrictive than the NFIP and the UCC. The Sandy MAT Report includes these recommendations (Recommendation 2 and Recommendation 3).

Explore Ways to Allow Communities to Enforce Higher Standards for Buildings. Communities are not permitted to modify the UCC and local floodplain regulations that specify the design of buildings may be deemed to “modify” the UCC. NJDCA considers it acceptable for communities to adopt freeboard (additional building height above the minimum required elevation). NJAFM recommends that NJDCA, NJDEP, and the Association explore options to allow communities to adopt other higher standards that address community-specific needs and result in more flood-resistant construction. ASFPM and others describe common higher standards that affect the design of buildings in flood hazard areas, including (a) prohibiting enclosures below elevated buildings, or limiting the size of enclosures; (b) allow only screening and lattice (no breakaway walls) below elevated buildings in Zone V; and (c) apply full Zone V requirements in Coastal A Zones (eliminate stemwall option).

STORMWATER UTILITIES

In March 2019, Governor Murphy signed into law the [Clean Stormwater and Flood Reduction Act](#), authorizing municipalities and counties to create stormwater utilities and establish fees. The law allows, but does not require, local governments to establish stormwater utilities to collect fees. Fees charged to property owners must be based on the amount of stormwater from each property.

The purposes for which the collected fees can be used are specified, including administrative and capital expenditures; planning, engineering, acquisition, and construction; monitoring, inspection, and enforcement; and public education and outreach. The statute specifically requires utilities to provide for a partial fee reduction in the form of a credit for operation of stormwater management systems that effectively reduce, retain, or treat runoff onsite. Additional credits may be available for green infrastructure that achieves the same objectives. Lands actively devoted to agricultural or horticultural are exempt.

Traditionally, the costs of managing storm-related runoff and flooding are supported by property tax income or water or sewer fees. This leads to under-investment in managing stormwater, which can create inequities in who pays, since some property owners don't pay property taxes, and some properties, while generating runoff, don't pay a water or sewer bill. A stormwater utility is an equitable mechanism by which to raise sufficient funds for stormwater management, allocate its costs more fairly, and help ensure that less polluted runoff reaches streams and rivers.

Policy Positions – Stormwater Utilities

Implementation of Stormwater Utilities. NJAFM encourages municipalities and counties to implement stormwater utilities in accordance with the Clean Stormwater and Flood Reduction Act to create both a funding stream and structured mechanism to identify and address stormwater flooding and polluted runoff, including maintenance and improvement of existing stormwater infrastructure.

Public Education and Outreach for Stormwater Management Utilities. NJAFM supports tighter control surrounding the messaging regarding stormwater utilities and discourages language such as “rain tax” that ultimately obfuscates the purpose for stormwater utilities and misleads the public. Stormwater management actions that can alleviate local drainage problems and flooding, and that promote sound floodplain management practices should be discussed clearly, accessibly, and be de-politicized to broaden public support for these practices and to educate the public on the causes of (and solutions to mitigate) stormwater-related flooding.