

The N.J. Coastal Resilience Collaborative:

*Building Partnerships and Networks
to Advance Coastal Community Resilience*



TECHNICAL ASSISTANCE COFFEE CHAT FOR NJ COASTAL COMMUNITIES

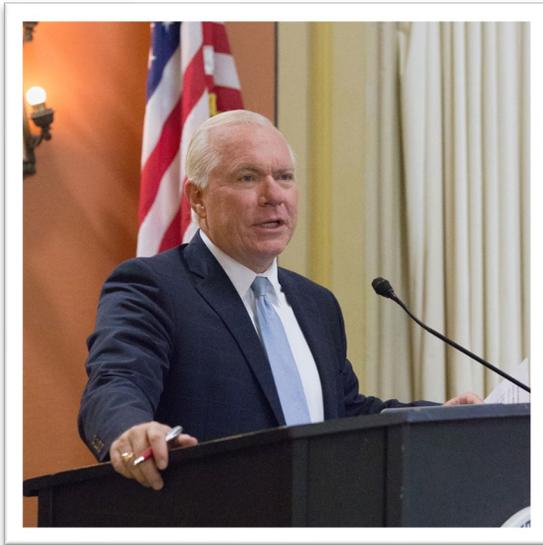
The views expressed during this Technical Assistance Coffee Chat are the presenter's own and do not reflect the official policies or positions of the New Jersey Coastal Resilience Collaborative or any of its organizational partners.

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NJ PACT REAL Panel Speakers

Coastal Protection & Natural Enhancements



Tony MacDonald,
Urban Coast Institute,
Monmouth University



Tim Dillingham,
American Littoral Society



Matt von der Hayden,
Stafford Township

Resilient Environments and Landscapes (REAL)



“NJDEP is modernizing land resource protection rules to better support New Jersey communities, residents, and businesses in building their resilience to sea-level rise, extreme weather, chronic flooding, and other impacts of our changing climate.”

- NJDEP REAL Website (<https://dep.nj.gov/njpact/>)

Proposes amendments to several environmental regulations, including the Flood Hazard Area Control Act Rules, Freshwater Wetland Protection Act Rules, Coastal Zone Management Rules, and Stormwater Management Rules

The Science Behind the Rule

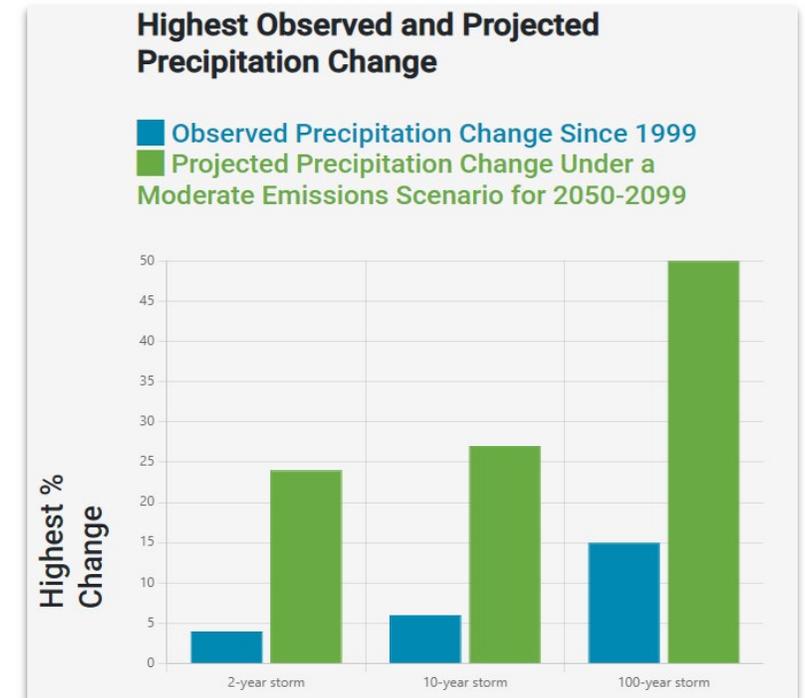
References the 2020 New Jersey Scientific Report on Climate Change

Inland Flood Protection Rule Justification
NOAA Precipitation Study (2021)

Ida case studies show average flood elevations of 3.1 feet above FEMA's 100-year flood elevation

Higher temperatures increase the energy in storms and allow the atmosphere to hold more water, which increases the potential for more intense precipitation and flooding

Existing flood standards are based on outdated historical trends that do not account for sea-level rise and storm surge



CLIMATE CHANGE IN NJ

New Jersey Sea-Level Rise above the year 2000 (1991-2009 average) baseline (ft)*

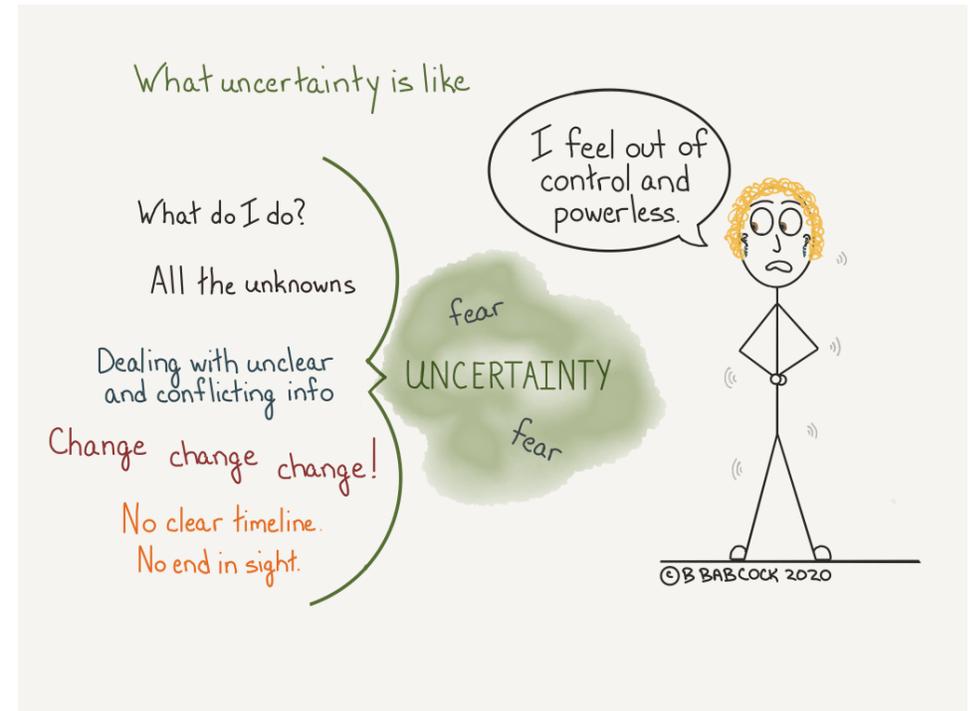
	Chance SLR Exceeds	2030	2050	2070		2100			2150			
		Emissions										
		Low	Mod.	High	Low	Mod.	High	Low	Mod.	High		
Low End	< 95% chance	0.3	0.7	0.9	1.0	1.1	1.0	1.3	1.5	1.3	2.1	2.9
Likely Range	< 83% chance	0.5	0.9	1.3	1.4	1.5	1.7	2.0	2.3	2.4	3.1	3.8
	< 50% chance	0.8	1.4	1.9	2.2	2.4	2.8	3.3	3.9	4.2	5.2	6.2
	< 17% chance	1.1	2.1	2.7	3.1	3.5	3.9	5.1	6.3	6.3	8.3	10.3
High End	< 5% chance	1.3	2.6	3.2	3.8	4.4	5.0	6.9	8.8	8.0	13.8	19.6

*2010 (2001-2019 average) Observed = 0.2 ft

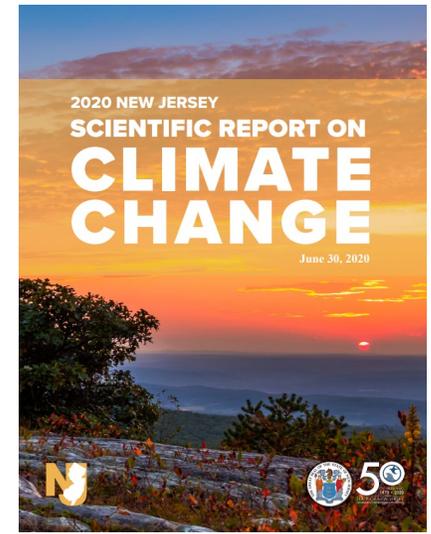
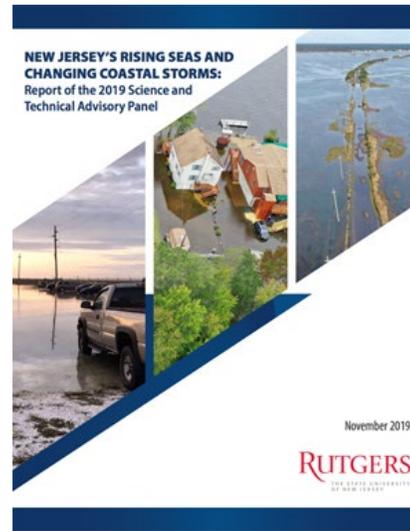
From Rutgers' STAP Report (2019)
 NJDEP Using 2100, moderate emissions,
 <17% likely range

Uncertainty is inherent to science!

- The Intergovernmental Panel on Climate Change (IPCC) has addressed the issues of the uncertainty that accompanies evolving science and projections.
- ‘Low confidence’ does not indicate lower quality than a ‘high confidence’ estimate of sea level rise: rather, confidence is used to qualify the degree of agreement and level of evidence around the processes that are used as inputs into the sea level rise estimates.
- The 2019 STAP report addresses uncertainty by accounting for a number of possible factors and **the result is an effective and usable range of projections.**



How We Got Here



SUPERSTORM SANDY HITS NJ
Changed the way many New Jerseyans think about climate change and resiliency

Rutgers University re-convened the Panel on behalf of NJDEP to update the 2016 report

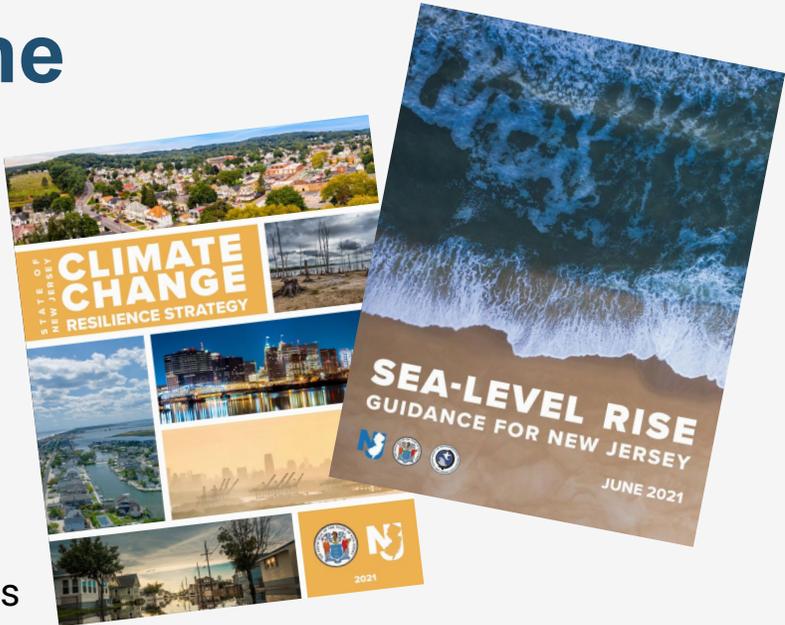
NJDEP releases their first scientific report on the current state of knowledge regarding the effects of climate change on NJ



Rutgers University convened a **New Jersey Science and Technical Advisory Panel (STAP)** on Sea Level Rise and Changing Coastal Storms

EXECUTIVE ORDER 89 ISSUED
Directed the creation of a Climate Change Resiliency Strategy and Climate Flood Resilience Program

NJ PACT Timeline



Series of webinars & engagement hosted by NJDEP throughout the timeline



WE ARE HERE AND TIME IS NOW

NJDEP STRATEGIES & GUIDANCE RELEASED

Recommendations on actions for mitigating and adapting to climate change impacts across communities, sectors, and agencies

IFP RULE EFFECTIVE
Effective July 17, 2023

2020

2021

2022

2023

2024

EXECUTIVE ORDER 100 ISSUED

Required NJDEP to adopt “Protecting Against Climate Threats” regulations within 2 years AKA NJ PACT

INLAND FLOOD PROTECTION (IFP) RULE ISSUED

Formalized requirements for raising homes and roadways in inland areas and revised stormwater management requirements

RESILIENT ENVIRONMENTS AND LANDSCAPES (REAL) ISSUED

Courtesy copy issued May 2024
Comment period opened August 5, 2024
Comments due November 3, 2024
Estimated to be effective July 2025



NJCRC Coffee Chat
Proposed NJ REAL Rule
Coastal Protection & Natural Enhancements

October 16, 2024

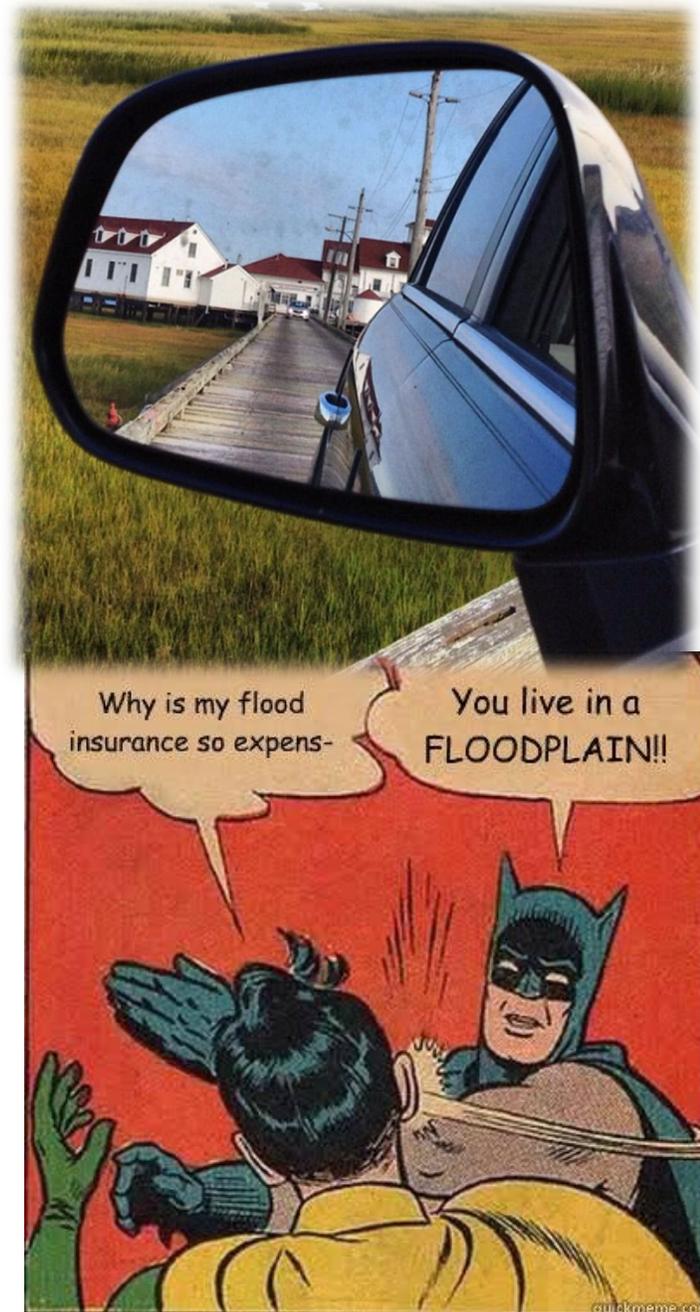
Tony MacDonald

Director, Monmouth University



Summary

- UCI – Coastal Community Resilience Initiative
- NJ REAL Planning Principles – Reducing Risk and Planning for the Future
- NJCRC – Best Practices, Reducing Risk and Supporting Communities
- Ready-NJ and Project Pipeline



UCI Coastal Community Resilience

- Active in New Jersey Coastal Resilience Collaborative (NJCRC) – Co-lead ad hoc REAL Comment Working Group
- UCI Associate Director Dr. Tom Herrington is NJSGC Resilient Communities and Economies Specialist and Co-Managing Director of NJCRC
- UCI partners I collaborate with government, academic and nonprofit entities on coastal resilience projects in Newark, Ventnor, Long Beach Twp., and salt marsh areas around New Jersey with NFWF grant support.
- With support from state funding, the UCI has established a team of universities called the New Jersey Coastal Consortium for Resilient Communities (NJCCRC) to identify research needs and fill knowledge gaps
- Meredith Comi, UCI's Coastal Resilience and Restoration Practitioner an expert in designing, implementing and directing aquaculture, oyster restoration and living shoreline projects, and Chair of NJCRC Ecological Restoration and Science Workgroup
- For more information see: <https://www.monmouth.edu/uci/coastal-sustainability-resiliency/>

Past Is Prologue But The Future is Now

• The Future in Now

- **The is not new** - Hurricanes Sandy and Ida dramatically highlighted New Jersey's vulnerability to flooding, but even regular, "sunny day" high tide flooding is putting people and property at risk.
- According to the Union of Concerned Scientists, more than 62,000 New Jersey homes—valued at \$26.8 billion—could be underwater, displacing nearly 80,000 people, by 2045.
- Recent events in NC and FLA expose clearly to increased risk of in action / relying on the status quo
- This compounding risk is reflected in surging homeowners insurance rates. For example, Allstate has asked state regulators for a 36.9% increase this year

• Delay or Denial?

The principles set out in the proposed rule reflect common sense approach:

- Planning for increased protection against future coastal flood inundation and damage;
- Protecting critical facilities and infrastructure from the effects of climate change;
- Facilitating nature-based solutions; and
- Improved stormwater management based in improved science.

Finding the Right Balance - Investing Now in Reducing Risk Can Benefit Home Owners, Municipalities and Reduce Future Disaster Response

- While it is important to consider the concerns and, where possible reduce the reduce the administrative and potential burden on municipalities and home owners, the proposed amendments will result in a positive economic impact by reducing long-term costs related to disaster assistance, infrastructure repair, and insurance claims from flooding.
- The avoided costs of flooding to homeowners, businesses, and local/state government entities are well documented. In response to Governor Murphy's Executive Order 100 for NJPACT, Moody's Investors Service determined that New Jersey's adoption of stronger building codes, especially along the 130-mile coastline, is "credit positive" and indicated that "New Jersey's economic vulnerability to increased flooding is substantive"
- Reducing development in the riskiest areas, and requiring stronger building practices to improve the durability, and therefore the insurability, of homes.
- It is likely that less federal disaster assistance will be available state and local governments have not adopted disaster-resistant building practices. federal flood insurance premiums adjusted to reflect the actual risk of flooding.
- In addition, investments in natural infrastructure, such as wetlands and trees, can reduce harm from storm surges and heat at a lower cost than more carbon-intensive "gray" solutions, such as concrete sea walls.

Ecological Restoration & Science Workgroup

Multi-sector Workgroup that represents the variable coastal geographies and scientific expertise in NJ with the following charges:



1. Connect planning and restoration activities with the best available science
2. Provide scientific review when appropriate
3. Promote a greater understanding of how to align restoration tactics with site-specific conditions

Beneficial Use Learning Network (BULN) Workgroup

- Multiple agency / interdisciplinary **Community of Practice** *focused on **knowledge transfer** and advancing the **innovative practice of beneficial use of dredge material** for tidal marsh restoration.*
- **BULN Activities:**
 - **Convening Webinars** to facilitate knowledge transfer between practitioners, regulators, and navigation managers.
 - **Developing a Guidance Document** on the state of the science and best practices

Webinar recordings can be found on NJCRC website:

- <https://www.njcoastalresilience.org/news-and-videos/?workgroups=buln-workgroup>



Coastal Habitat & Aquatic Resource Research and Monitoring (CHARRM)

Facilitates collaboration & communication among Mid-Atlantic regulatory/resource agencies, restoration practitioners, research scientists on current coastal habitat restoration, coastal resources, & data collection.

CHARRM Workflow



[For more information / webinars - https://nj-crc.org/charrm-work-group](https://nj-crc.org/charrm-work-group)

Building a Climate Ready NJ - Design Pipeline

Building a Climate Ready NJ: Funded by the Climate Resilience Regional Challenge, a \$575 million grant to NJ administered by NOAA will support collaborative projects that increase the resilience of coastal communities to extreme weather and other climate change impacts, including sea-level rise and drought. See: <https://dep.nj.gov/climateready/>

Design Pipeline

Coordinator – Tom Herrington, Assoc. Dir. UCI

Guide and oversee the work of:

NJ Sea Grant Design Pipeline Coordinator

NJ Sea Grant Coastal Restoration Specialist

UCI DOBC* Engagement Specialist (Rachel Forbes, MSW)

Track progress and support Design Pipeline Elements

Co-development of NNBS with DOBC (UCI)

Nature-Based Solution Technical Advisory Service (Stevens)

Coastal Restoration and Adaptation Planning Tool (CERAP) Enhancements (Rutgers)

Coastal Restoration Extension and Credentialing Program Development (NJ Sea Grant)

Integrate NJCRC resources and expertise into Design Pipeline

Engage NJ Sea Grant Design Pipeline Coordinator in NJCRC Management

*DOBC = Disadvantaged and Overburdened Communities



Coastal Climate Protections

- Prioritizes nature-based solutions for resiliency practices
- Healthy, absorbent marsh systems that soak up storm surge and offer habitat for wildlife like the saltmarsh sparrow, whose numbers are declining
- Dynamic, deep beaches that move with the tides, creating a buffer for coastal communities and giving shorebirds like the piping plover places to nest
- Offshore oyster reefs or living shorelines that dampen wave energy and buffer beaches from erosion while providing habitat for not only oysters but mussels, crabs and young fish

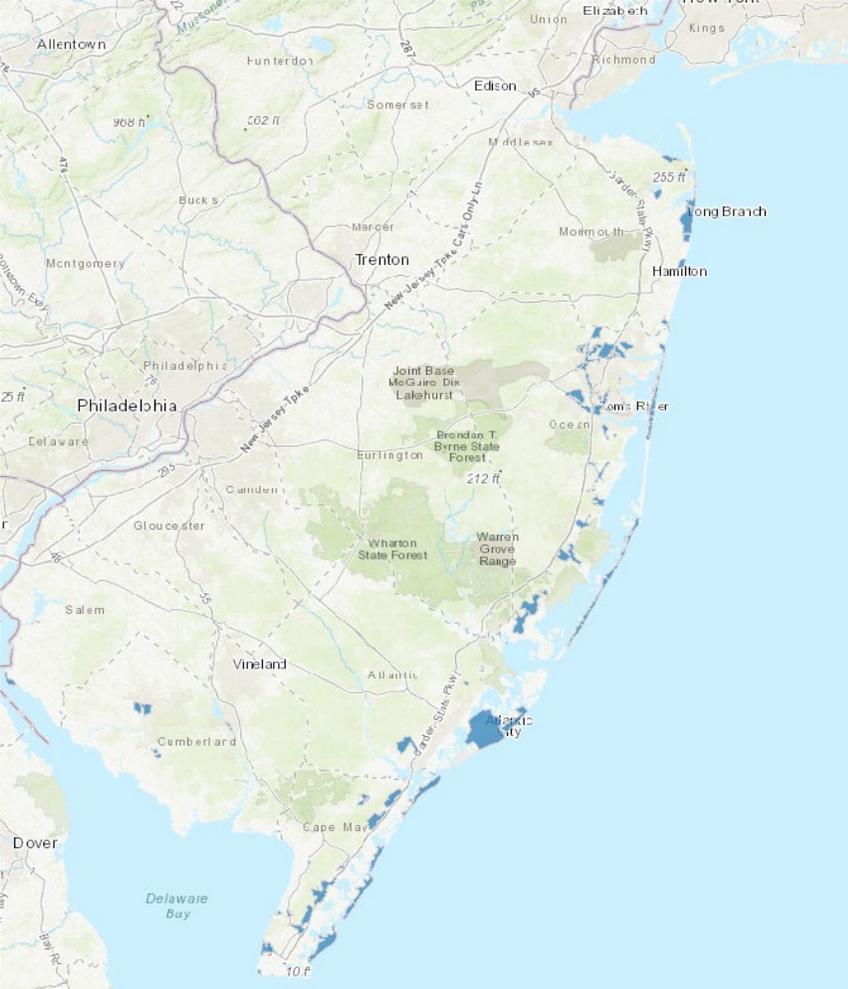
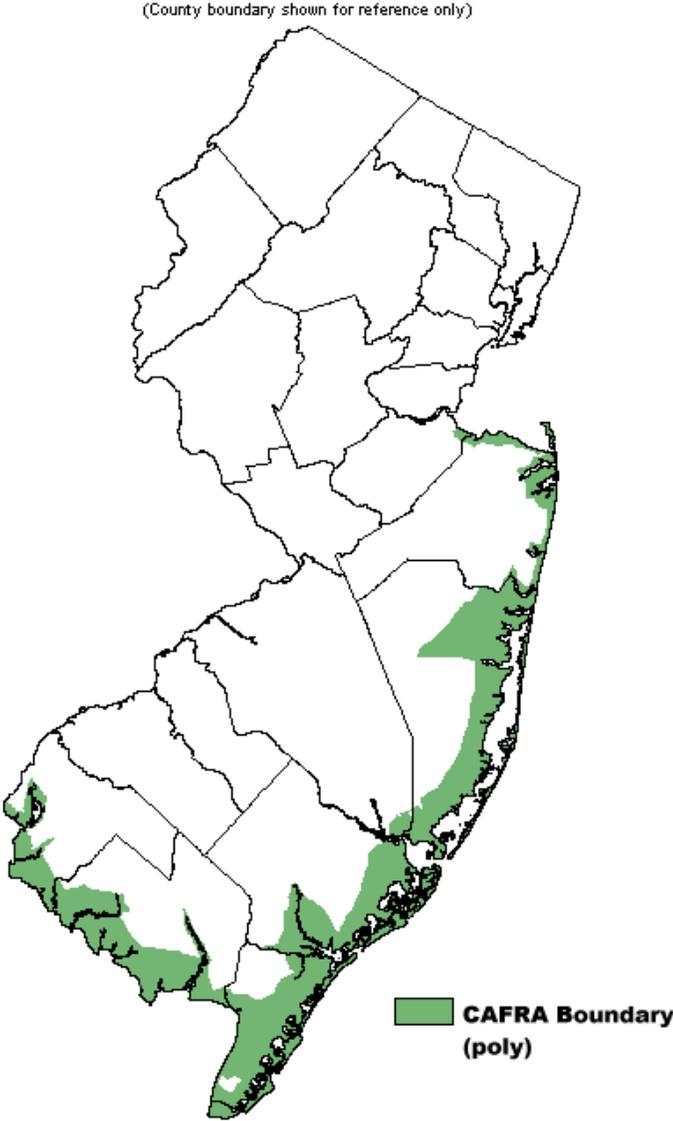


Prioritizing NBS

- Updates permitting language from "living shorelines" to "nature-based solutions" to include a wider variety of practices
- Reduces barriers to NBS implementation by making projects eligible through general permitting, waiving application fees, and eliminating monitoring requirements
- Removed requirement that project may not exceed or change shoreline footprint shown on tidelands maps
- Clarifies that engineered systems do not reduce the importance of natural dunes
- Requires projects that do not use NBS to justify why the preferred practices are impracticable and include analysis of consequences to shoreline ecosystem

Amendments to Coastal Zone Management Rules

- Adding DEP review to State Planning Commission boundaries for consistency with CZM rules
- Proposes deletion of barrier island coastal centers due to inundation risk
- Proposed deletion of expired coastal centers are NOT "no build zones", and revert to original planning designations





STAFFORD TOWNSHIP

New Jersey

Sustainable Community Building



The Basics – REAL RULES

- The proposed Resilient Environments and Landscape (REAL) rules is part of EO 100.
- The proposed rule changes would effect:
 - Coastal Zone Management Rules
 - Freshwater Wetlands Protection Act Rules
 - Flood Hazard Area Control Act Rules
 - Stormwater Management Rules
 - Affordable Housing?

The Basics

- Expected to be adopted – July, 2025
- Based on:
 - Increased precipitation
 - Sea level rise predictions – Specific to NJ
- Adjusts the Coastal Flood Hazard Areas for projected sea levels and storm surge
- Extends the Flood Hazard area inland
- Would require higher first floor elevations and roadways

The Basics

- Encourages natural based solutions
- Adds stormwater management practices to improve water quality
- Goal is to improve compliance with the NFIP
- Goal to improve the NJDEP permitting process

How can you do it?

- Plans
- Government process
- Grants
- Education



Community

- Education
- Outreach
- Programs and workshops



Home Elevations

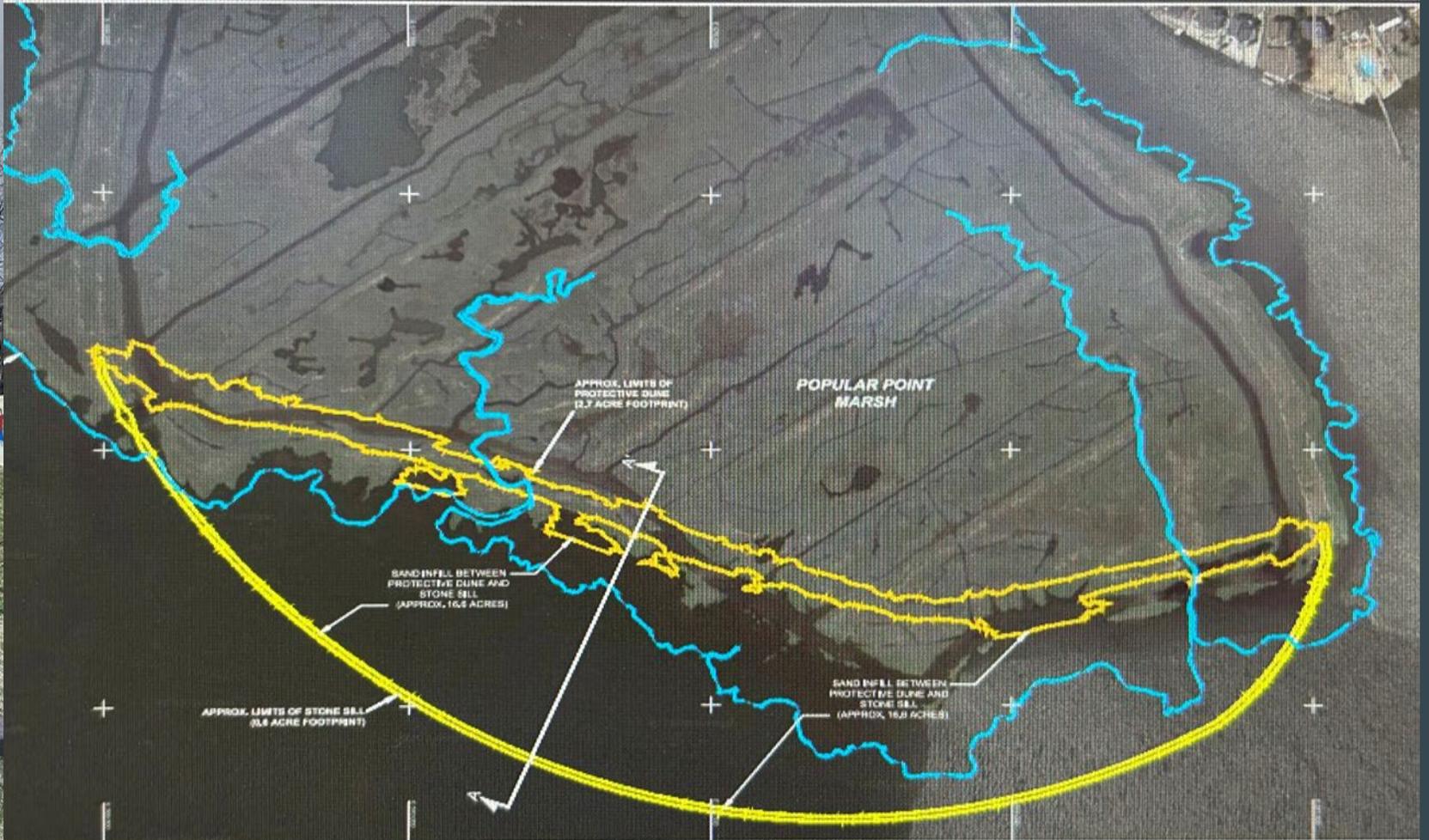
- 2018 – FEMA grant - \$1M
- 2019 to Present – Outreach with the Public
- 2022 – Flood Mitigation Assistance (FMA) Grant
- 2023 – FMA Application Submitted – Pending Approval
- 2024 – Application Being drafted



Lagoon Study



Grants



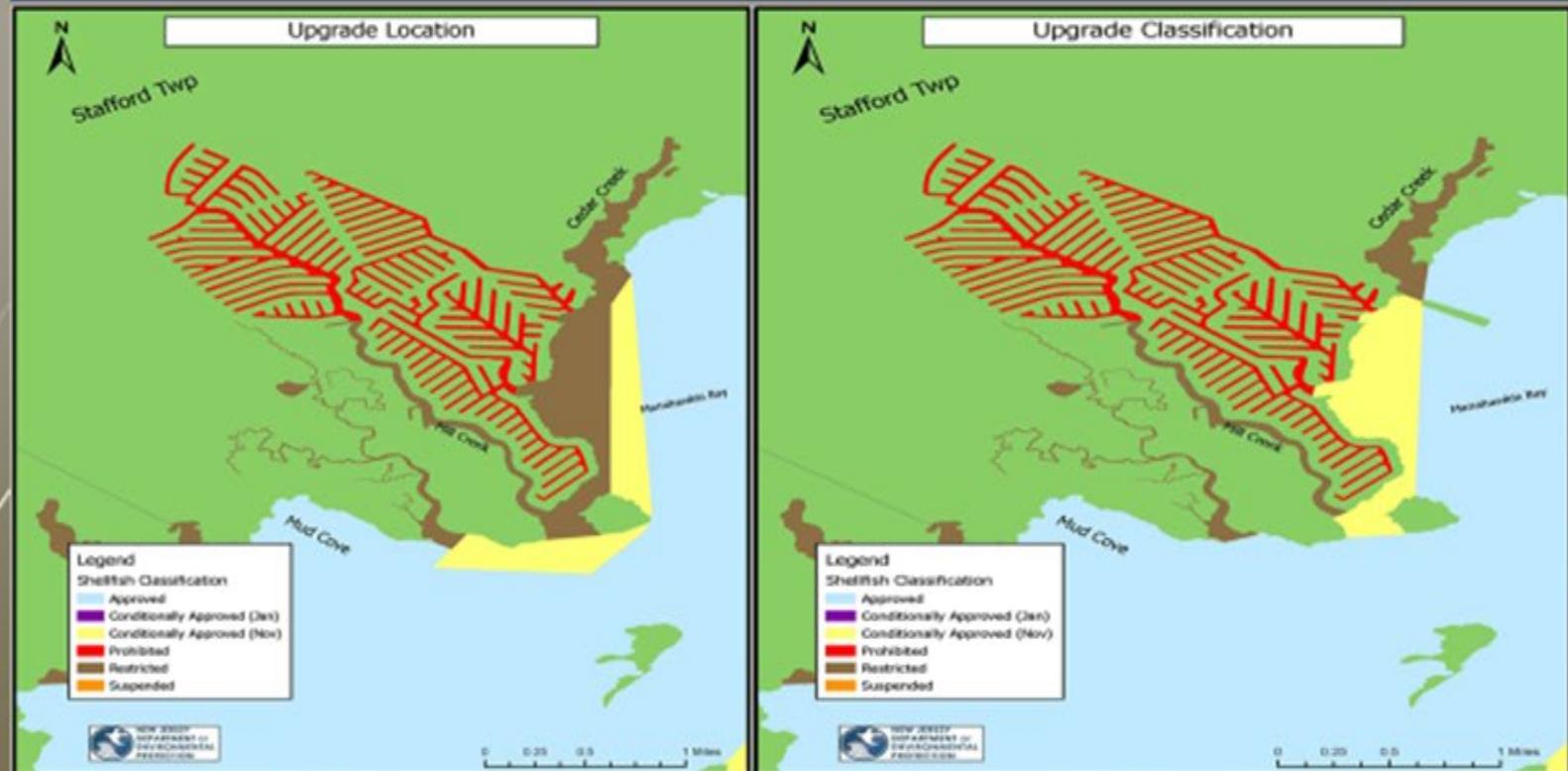
Sewer Rehab



Sewer Rehab

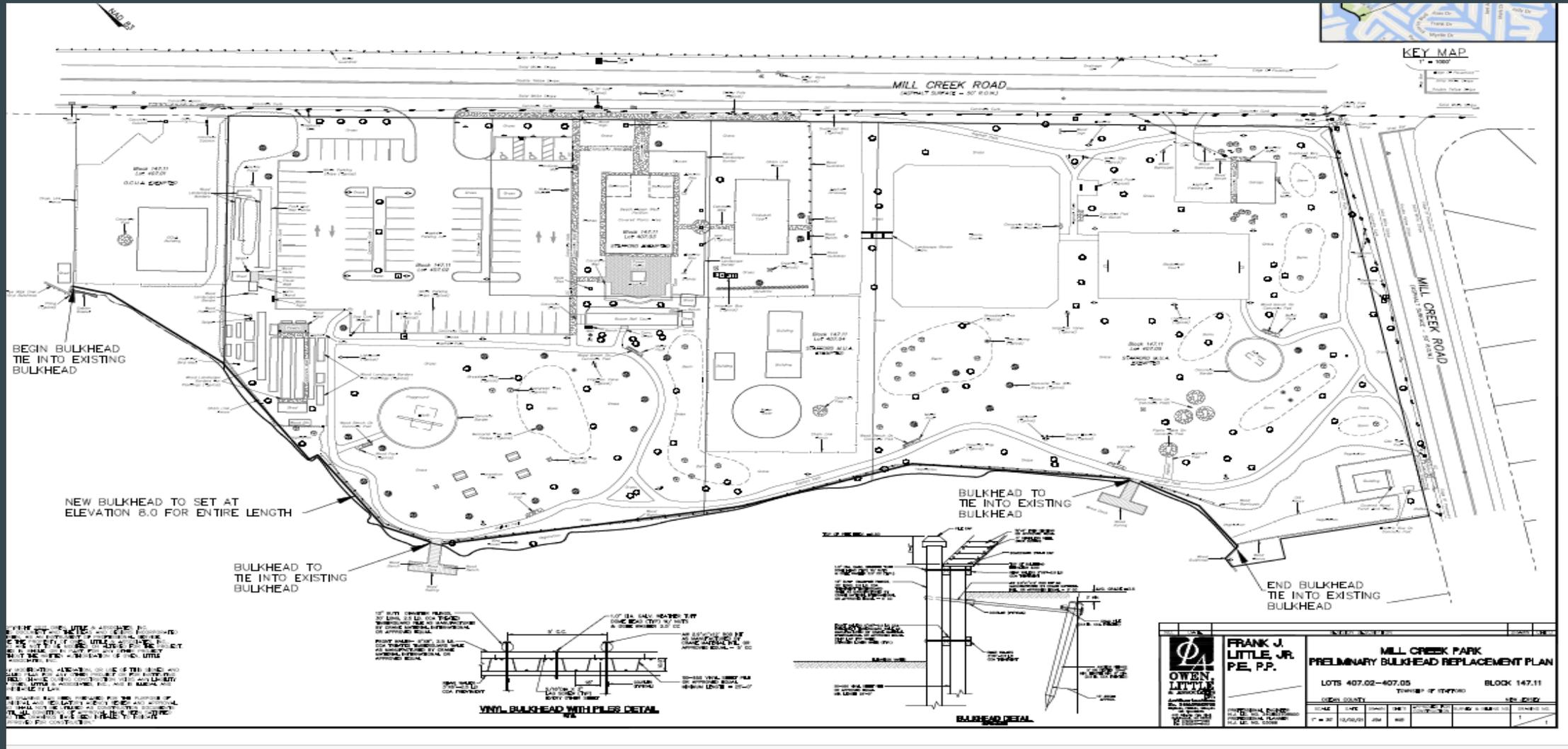
Cleaning of the Bay

Upgrade Location



180.6 acres will be upgraded from *Restricted (no harvest)* to *Conditional (Nov. – April harvest)* and 186.2 acres will be upgraded from *Conditional (Nov. – April harvest)* to *Approved (year-round Harvest)*.

Mill Creek Park Stabilization



Stormwater – Ocean Acres

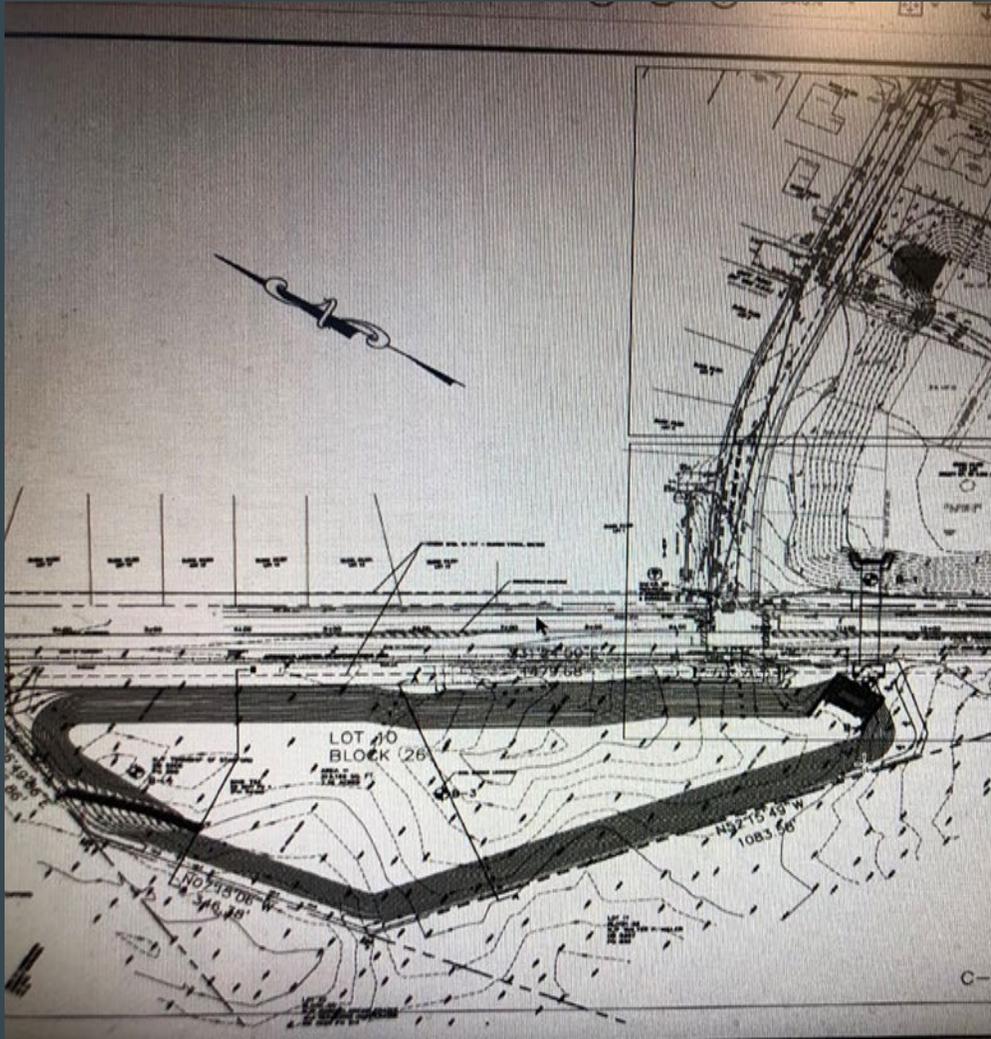


Figure 3-2 Project Area Plantings

How can you do it?

- Develop Plans
- Network – Develop Good Partners
- Develop and Find Funding Sources
- One Day At a Time



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New Jersey

THANK YOU!

Some Identified Funding Sources

Specific to Nature-Based Solutions:

- Tapping the Potential of (and Funding for) Nature-Based Solutions - National League of Cities (nlc.org)

FEMA:

- FEMA Hazard Mitigation Assistance (HMA) Programs | FEMA.gov
- FEMA Hazard Mitigation Assistance Program and Policy Guide

Summary guide across many federal sources:

- REPI Resilience Guide

https://www.repi.mil/Portals/44/2024_REPI_Resilience_Guide_052024.pdf

Opportunities for CRS Credit

- The current floodplain will have 4 feet of additional freeboard and we will go from 16% of the state's land area being in the floodplain to 17.5%.
- It remains to be seen how CRS will reward the extension of the floodplain, but the freeboard requirement would be in play for freeboard credit
- This could result in increases in points under Activity 420 (Higher Regulatory Standards) Element FRM (Freeboard) for CRS communities. These points would likely be realized under the CRS Uniform Minimum Credit for state requirements.
- The CRS manual states that if more than 3 feet of freeboard is used, then the regulations will be reviewed for potential additional credit.

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