Good morning & Welcome!

Enjoy Coffee & Breakfast

We will begin at 10:00 am

Long Island Sound Coastal Erosion Forum Nassau County

Long Island Sound Study

A Partnership to Restore and Protect the Sound

Sea Grant New York

NASSAU COUNTY SOIL & WATER CONSERVATION DISTRICT

Welcome & Opening Remarks

The goal of today's event is to share information on coastal erosion and shoreline protection best practices, discuss challenges, identify opportunities to increase resilience, and enhance coordination across communities.

Agenda

10:00 AM
Welcome & Opening Remarks

10:10 AM
Strategies to Address Coastal Erosion

11:30 AM
Coastal Erosion Hazard Areas & Local Codes

12:30 PM
Networking Lunch

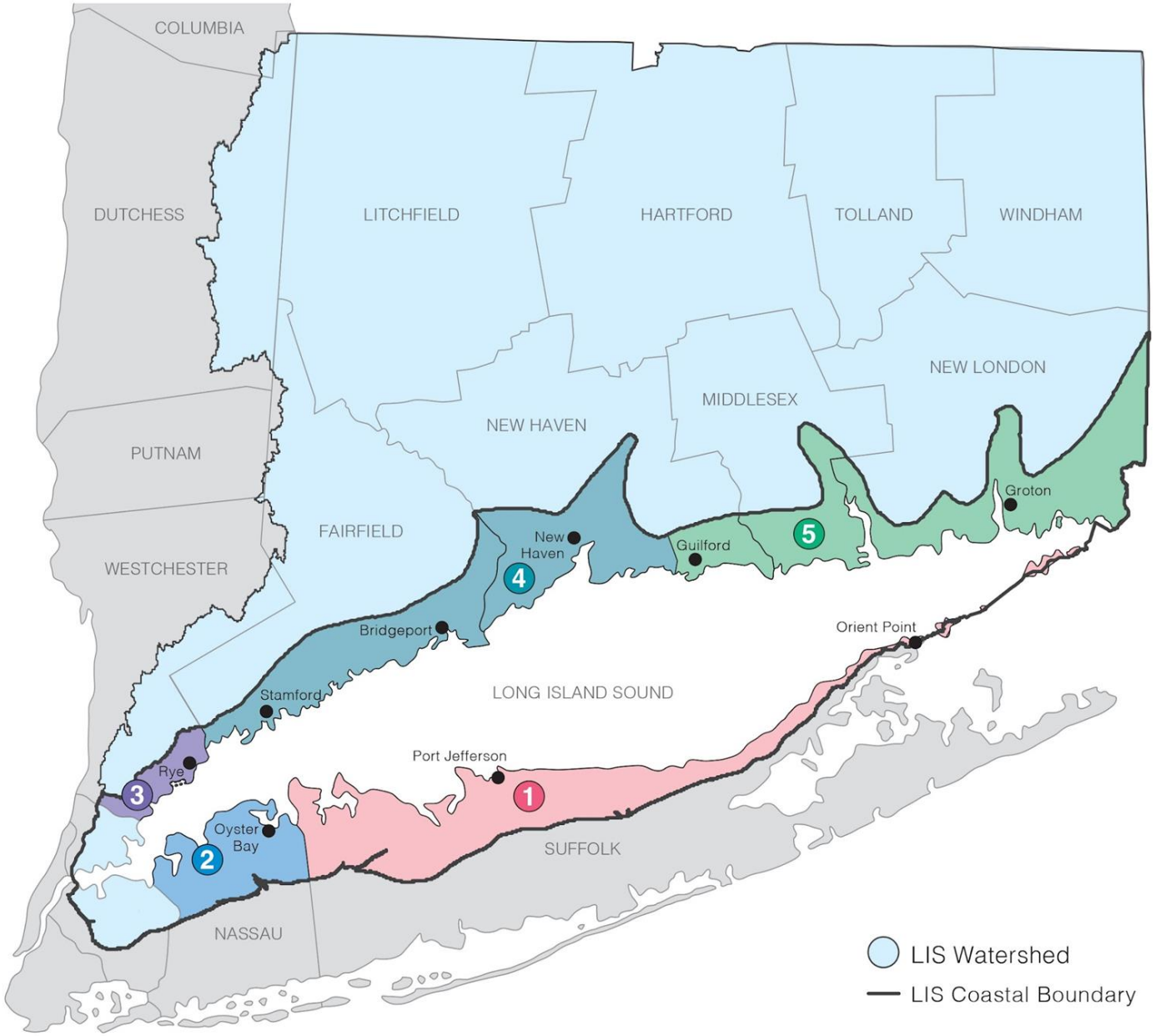
1:15 PM
Small Group Discussions & Report Out

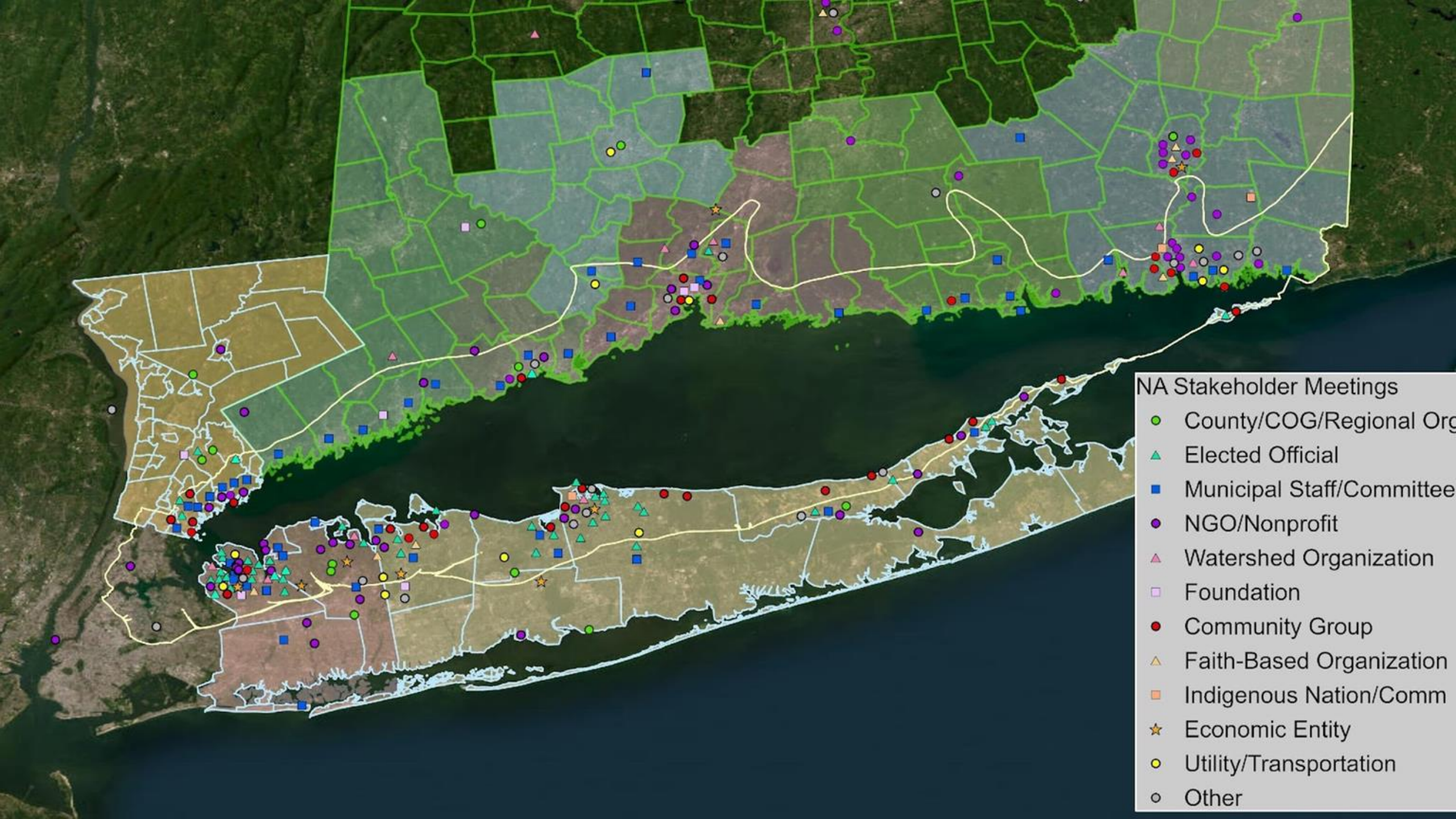
2:30 PM
Wrap Up & Next Steps

Long Island Sound Study

A Partnership to Restore and Protect the Sound

Sustainable and Resilient LIS Communities




NA Stakeholder Meetings
County/COG/Regional Org
Elected Official
Municipal Staff/Committee
NGO/Nonprofit
Watershed Organization
Foundation
Community Group
Faith-Based Organization
Indigenous Nation/Comm
Economic Entity
Utility/Transportation
Other

Long Island Sound Study
A Partnership to Restore and Protect the Sound

Sea Grant New York | Sea Grant Connecticut

A Regional Needs Assessment to Help Build a Sustainable & Resilient Long Island Sound

In 2022, a team of CT and NY Sea Grant Sustainable and Resilient Communities (SRC) Extension Professionals conducted an informal needs assessment of coastal Long Island Sound (LIS) communities to better understand the environmental threats and hazards that they are most concerned about, what communities may already be doing to address these issues, and what barriers they are facing when it comes to implementing projects and taking action.

The goal of the SRC team's work is to help LIS communities anticipate and overcome disturbances caused by a changing climate while achieving well being for all. Their work is guided by a Long Island Sound Study SRC Work Group and a five-year work plan. **For more information, visit LISStudy.net/SRC.**

This factsheet presents a brief overview of the SRC team's findings from their informal needs assessment.

The SRC team had over 300 conversations with stakeholders during 2022. This figure shows the breakdown of stakeholder entities reached for the needs assessment.

A team of five SRC Extension Professionals based in Suffolk County, NY, Nassau County, NY, Westchester County, NY, Western CT, and Eastern CT are working to advance sustainability and resilience in Long Island Sound coastal communities.

Top Environmental Threats

The SRC team identified **stormwater and associated flooding as the primary environmental threat** faced by communities region-wide.

The following were also identified as issues for a number of communities:

- Sea level rise/coastal flooding
- Extreme weather and storms
- Water quality
- Coastal erosion
- Habitat loss and/or degradation
- Invasive species
- Tree loss
- Impacts from development

The Long Island Sound Study, an EPA National Estuary Program, brings together local, state, and federal governments with communities, NGOs, universities, industry, and user and environmental groups to improve the health of Long Island Sound.

Challenges and Barriers to Implementing Sustainability & Resilience Initiatives

Four main categories of challenges/barriers were identified through the SRC team's informal needs assessment. Generalized quotes below represent common challenges the team heard.

Limited Capacity

- Lack of staff, technical expertise
- Limited and/or ineffective coordination across levels of government, stakeholder groups

"We are a small municipality with very few employees - there is no bandwidth to move projects along, or apply for grants."

Governance Challenges

- Lack of political will, leadership, action
- Frequent leadership changes can hinder sustained momentum
- Codes and ordinances can be difficult to update and enforce

"Different interests can lead to nothing getting done."

Funding

- Grant requirements can be burdensome and hard to navigate
- Limited opportunities for long-term funding, capacity-building, maintenance, private landowners

"We've applied to XYZ grant multiple times with no success, it's not worth the effort."

Institutional Inequities

- Lack of inclusion from all communities
- Disconnect and/or lack of trust between communities and government/institutions

"Opportunities for public involvement generally do not enable participation by communities with environmental justice and equity concerns."

Next Steps from the SRC Team

Ultimately, the SRC team aims to promote the implementation of high-impact projects in communities and to educate and train community decision-makers to enable a better regionally-coordinated response to climate change and other environmental challenges.

Needs assessment findings are now being used by the SRC Extension Professionals to inform their work, including:

Training & education programs to help build capacity and provide technical guidance.

Breaking Down Barriers to implementation, including programs to reduce capacity barriers that communities may face when applying for competitive funding opportunities and implementing projects.

An online **LIS Resilience Resource Hub** that identifies the most relevant tools and funding opportunities for implementing projects.

An **annual bi-state workshop** to bring together government and decision-makers across both New York and Connecticut to promote collaboration and knowledge-sharing.

April 2023

LISResilience@gmail.com
To learn more, visit LISStudy.net/SRC

Save the Date
Long Island Sound Coastal Erosion Forums

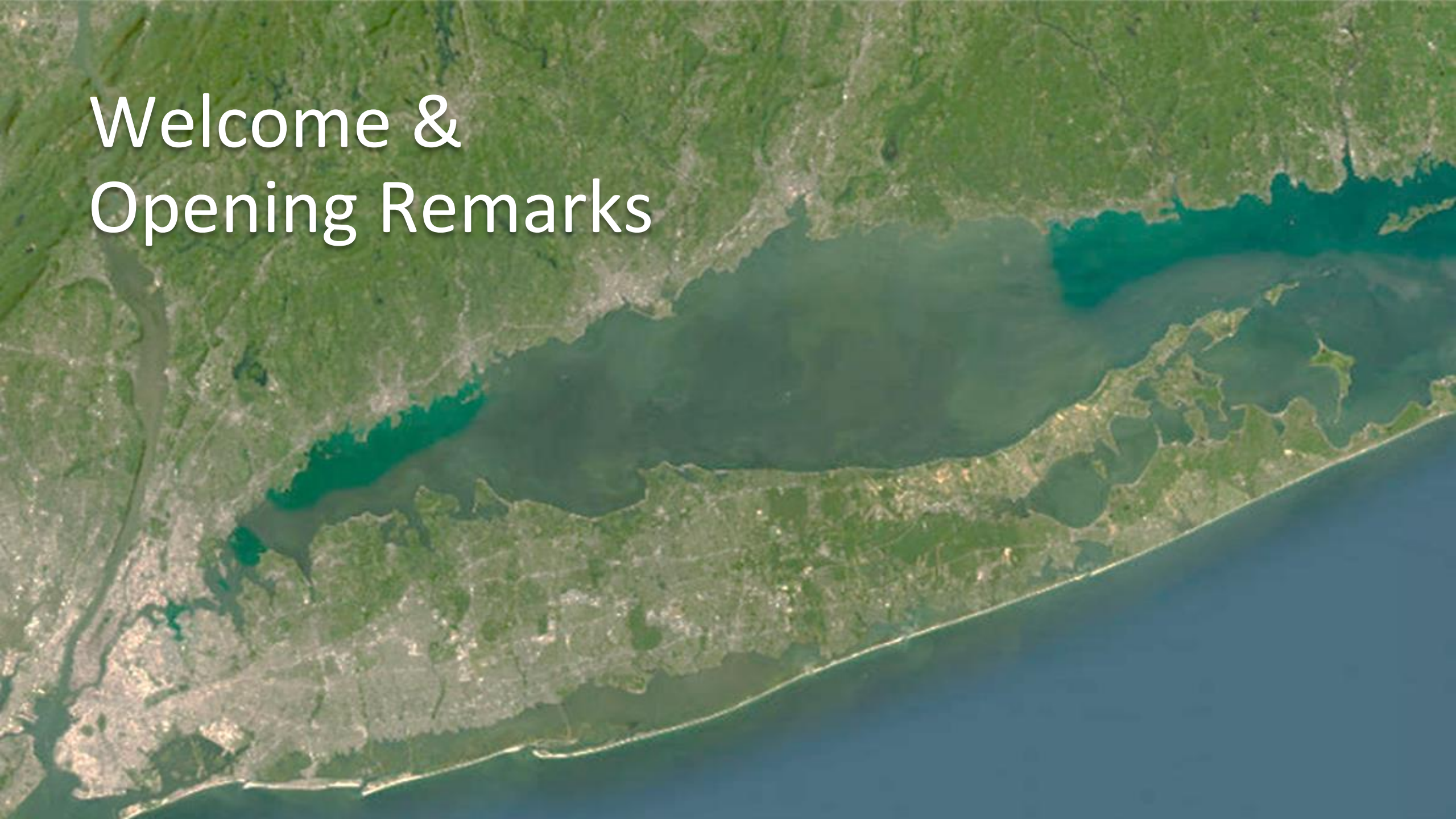
Nassau County Forum: Thursday May 4, 2023, Locust Valley Library. Register here.

Suffolk County Forum: Wednesday May 10, 2023, Port Jefferson Village Center. Register here.

These forums will bring together state and local decision makers, municipal staff, and other stakeholders working to address coastal erosion. The goal of these forums is to share information on best practices, discuss challenges, identify opportunities to increase resilience, and enhance coordination across communities.

Hosted by New York Sea Grant and Long Island Sound Study in partnership with Nassau and Suffolk Soil and Water Conservation Districts and Suffolk County Legislators Sarah Anker, Stephanie Bontempi, Kara Hahn, and Al Krupski.

Welcome & Opening Remarks



Kathleen Fallon
Coastal Hazards and Processes Specialist, New York Sea Grant (NYSG)

Alexa Fournier
Restoration Planning and Policy Manager, Bureau of Marine Habitat, New York State Department of Environmental Conservation (NYSDEC)

Derek Betts
District Manager, Nassau County Soil and Water Conservation District (NCSWCD)

Strategies to Address Coastal Erosion

Strategies to Address Coastal Erosion

Long Island Coastal Erosion Forum - Nassau County

May 4, 2023

Locust Valley Library

Kathleen M. Fallon, Ph.D.
Coastal Processes and Hazards Specialist
New York Sea Grant

Sea Grant New York

Sediment Movement

- Wave action
  - Responsible for movement of sediment and changes in beach profile
  - Sand on shorelines is constantly being rearranged
    - Moving on- or off-shore (cross shore sediment transport)
    - Moving along the shoreline (longshore sediment transport)

- However, when an amount is permanently removed from the system considered to be an erosion deficit
  - More sediment removed than replaced

- **Coastal erosion:** the removal of beach, dune, and/or bluff sediments by the physical forces of wave action, tides, currents, high winds, or a combination of these
- Can be very complex
- Choice of treatment depends on
  - An understanding of the cause(s) of erosion
  - Determination of what asset needs protection

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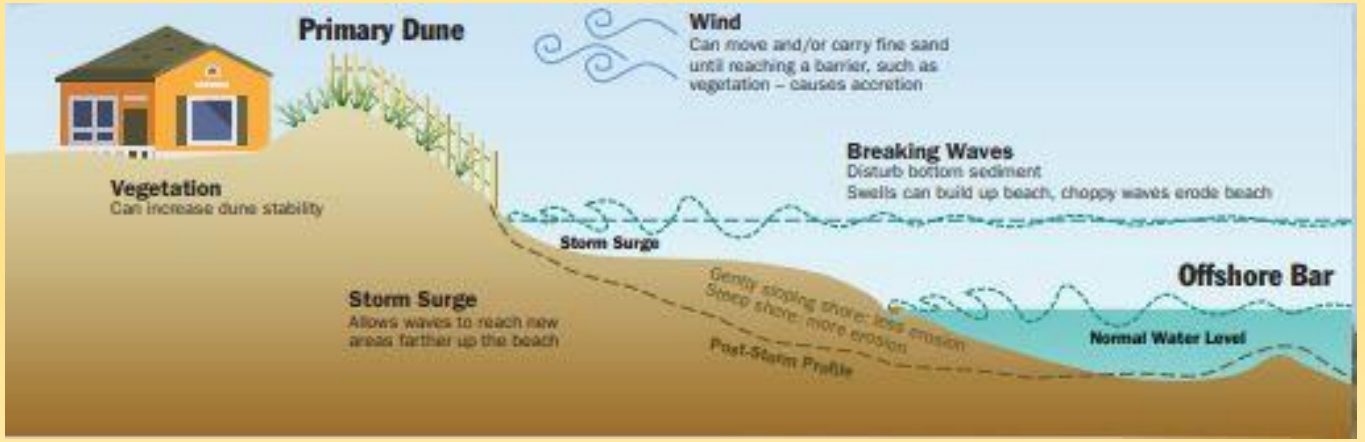
Causes of Erosion - Beaches

- Coastal storms
  - Bring large, steep waves typically on top of surges
    - Reach further inland than normal
    - Sand removed from the beach and stored offshore
    - Sand that is deposited past ‘depth of closure’ is lost from the system
  - Dunes are natural protective barriers
    - If they are flattened, landward infrastructure will be at risk
    - Washovers occur when waves cut away the beach resulting in breaches



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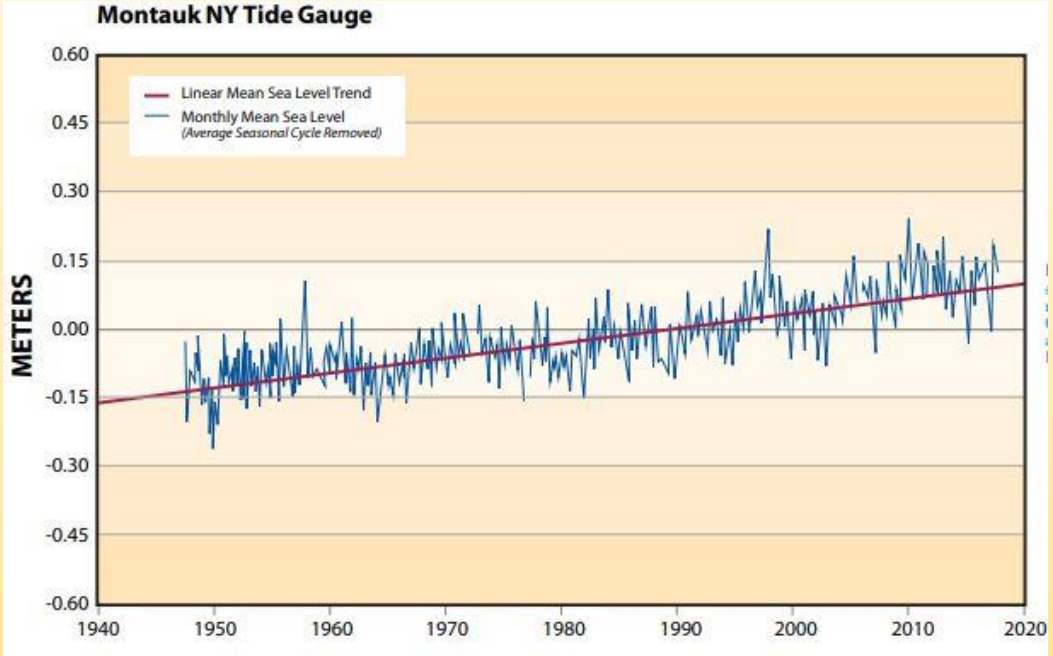
Causes of Erosion – Bluffs

- Heavy rainfall can wash sand down the face of the bluff if it is not vegetated
- Oversaturation of the ground (rainfall or sprinklers)
  - Groundwater can loosen and pick up sediments as it flows through the bluff
  - In winter, groundwater can freeze causing cracks to expand and larger areas to break away
- Wind
- Surge
  - If waves attack the base, normally protected by a beach, sediment is removed resulting in undercutting leading to instability and slumping

Sea Level Rise on Long Island

- SLR = melting of land-based ice + thermal expansion of water
- Impacts
  - Regular flooding at high tides
  - Saltwater intrusion
  - **Erosion** occurring further up on the beach
    - Climate change impacts on storm frequency and intensity!



	Region	Long Island				
	Descriptor	Low	Low-Medium	Medium	High-Medium	High
Time Interval	2020s	2	4	6	8	10
	2050s	8	11	16	21	30
	2080s	13	18	29	39	58
	2100	15	21	34	47	72

NYS official sea level rise projections (in.)

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Mitigation Options

- Dunes/Bluff Vegetation and Reshaping
  - A stable dune or bluff has native vegetative plantings that bind sediment and reduce likelihood of erosion from wind or slumping
  - Also trap sediment and aid in growth
  - Sand fencing can also be utilized
- Beach nourishment
  - Adding sand back to an existing eroded beach
  - Typically short-term solution that needs to be repeated

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Mitigation Options

- Living shorelines
  - Constructed to mimic natural features by utilizing native, living materials
  - Provide risk reduction and ecological benefits

- Wetland restoration/protection
  - Aid in reducing wave action before reaching the shoreline

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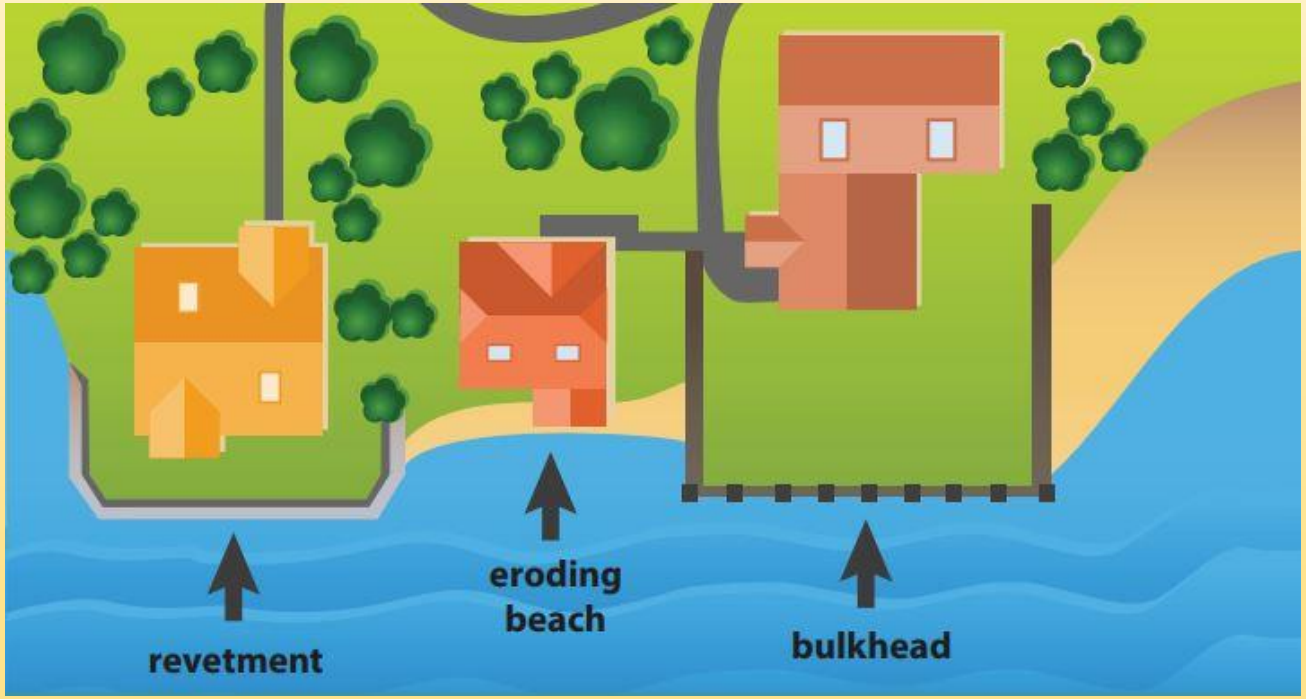
Mitigation Options

- Revetments
  - Slopes composed of rocks that are built to protect shorelines
  - Reflect the wave action to reduce the impact on land behind the structure
- Bulkheads
  - Vertical structures placed parallel to the shoreline
  - Function to hold the land in place



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NYSG Guide to Permitting

- For permit applicants using the NYS Joint Application for shoreline modification projects
- How to use the guide:
  - Understand the process
  - Learn about the permits that may be required
  - Review relevant permit application requirements
  - Contact your regional permit office
  - Complete application
  - Appendix A: Environmental Resources Mapper Activity
  - Appendix B: Application Checklist

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MyCoast NY

- A portal to collect and analyze pictures and data related to flood and storm events
- Brings together community members, researchers, local officials, NGOs, and agencies

1. Download the MyCoast app or visit MyCoast.org/ny
2. Register
3. Snap photo
4. Submit photo report

Sea Grant New York

THANK YOU!

CONTACT INFORMATION

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Sea Grant New York

NEW YORK STATE | Department of Environmental Conservation

Permitting a Living Shoreline

DEC Requirements and Strategies for Success

Alexa Fournier

Restoration Planning and Policy Manager

NYSDEC Division of Marine Resources

alexa.fournier@dec.ny.gov

May 4, 2023

What are Living Shorelines?

Shoreline techniques that incorporate natural living features alone or in combination with structural components such as rock, wood, fiber rolls, bagged shell, and concrete shellfish substrate.

Demonstration site in Southold, installed by Cornell Cooperative Extension with support from Peconic Estuary Partnership, Town of Southold, & Suffolk County

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Applicability

Living shoreline installations are best suited to low or moderate energy, sheltered areas of the Marine District

NEW YORK STATE | Department of Environmental Conservation

Living Shoreline Goals:

- Control or reduce shoreline erosion while maintaining benefits comparable to the natural shoreline such as allowing for natural sediment movement
- Use the minimum number of structural components necessary for hybrid techniques to obtain project goals
- Improve, restore, or maintain the connection between the upland and water habitats
- Incorporate habitat enhancement and natural elements ex: native re-vegetation, establishment of new vegetation

NYS Living Shorelines Guidance Document

- Released in 2017
- Encourages appropriate use of nature-based shoreline protections
- Provides info on types of LS, the permitting process, siting and monitoring considerations

https://www.dec.ny.gov/docs/fish_marine_pdf/dmrlivingshoreguide.pdf

Permitting Standards (Wetlands and Waters) 6 NYCRR § 661, 6 NYCRR § 608

- Compatible with the policy to preserve and protect tidal wetlands and that the project will not cause unreasonable, uncontrolled, or unnecessary damage to the natural resources of the State.
- Compatible with and will not endanger the public health, safety, and/or welfare.
- Reasonable and necessary.
- Complies with the appropriate use guidelines. eg: if a proposed regulated activity is a presumed incompatible use, must demonstrate that the proposed activity will be compatible preservation, protection, and enhancement of the present and potential values of tidal wetlands.

Evaluate the Standards

Suitability to overall conditions - fetch, soils, erosion, adjacent conditions and habitat.

Avoid Impacts - ecological, physical, recreational uses- how can living shorelines enhance function.

-Designed to provide erosion control while enhancing the area involved: water quality, habitat, adaptability (SLR) and sand movement.

Public health and safety - How will project effect adjacent landowners?

sediment movement, shellfish?, navigability, access.

Reasonableness - Is there an erosion problem, alternatives analysis.

CLCPA - Consider factors related to climate change

Evaluate the Standards, Continued

Some projects will be PIP (Presumptively Incompatible – Prohibited)

Not all fill is created equal.

Provide alternative consideration.

Is project reasonable? Is there erosion? What is at risk?

Does project type fit the need?

Will the project likely provide ecological uplift?

When in doubt—consider a Pilot Project!

Small scale = less risk

Proper Siting Considerations

Understand all erosive forces and rates - wave characteristics, boat wakes, runoff, ice.

Habitat- plants animals, water quality, sunlight

Other physical info:

- tidal range
- datums
- SLR projections
- existing site conditions: slope, soil type

Consider Factors Related to Climate Change

Higher mean and spring tide levels,

Higher storm surges and larger areas of inundation,

Extreme precipitation rates and greater storm water runoff,

Greater frequency and intensity of storms,

Wetland migration inland, Changes in salinity and migration of the salt wedge, and permanent inundation of coastal properties.

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Adaptive Management: Maintenance, Monitoring and Adjusting As Needed

Crucial to Successful establishment of a living shoreline

-plant survival or protection

-removal of invasive species/debris

-opening channels to drain ponding water

-measuring erosion and accretion patterns

-replacing / removing sediment

-assuring structural materials stay in place

e.g. replacing stakes, moving fiber rolls, adding larger rock

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Tips for Success

1. Engage with regulators early

2. Choose your design carefully

3. Build a strong case for your selected design

4. Be Flexible! Something will change—that's OK.

Resources for the applicant:

- Pre application **meetings**
- Division of Environmental Permits- **Coordinate** with other state agencies and municipalities
- **Joint applications** for permits (DEC and USACE) http://www.dec.ny.gov/permits/6222.html
- Application **checklists**
- **Uniform Procedures Act-** Laws speak to fairness in review procedures and time frames for review. 15 day review, 45-90 days for decisions.
- Regulated area **maps**
- One stop waterfront permit planner https://waterfrontnavigator.nyc/

  (NYC, DOS, DEC, EDC)

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Other Resources

Living Shoreline Techniques in the Marine District of New York State - DEC guidance doc, released 2017

https://www.dec.ny.gov/docs/fish_marine_pdf/dmrlivingshoreguide.pdf

Using Natural Measures to Reduce the Risk of Flooding and Erosion - 2020 guidance doc from DOS/DEC

https://www.dec.ny.gov/docs/administration_pdf/crranaturalmeasuresgndc.pdf

Living Shorelines: Background, Benefits, and Use

http://opdgig.dos.ny.gov/#/storyTemplate/11/1/1

Model Local Laws to Increase Resilience – Guidance from DOS

https://www.dos.ny.gov/opd/programs/resilience/index.html

Thank You!

Contact Info:
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NEW YORK STATE | Department of Environmental Conservation

Long Island Coastal Erosion Forum – Nassau County

May 4th, 2023

Presenters:

Derek Betts – District Manager, NCSWCD

Olivia Calandra – Conservation Technician , NCSWCD

NASSAU COUNTY

SOIL & WATER CONSERVATION DISTRICT

An Introduction to the NCSWCD

Nassau County Soil & Water Conservation District

- Nassau County Soil & Water Conservation District is one of 58 NY County Districts
- Soil and Water Districts are political subdivisions of the state
- Began with an Act of the President in 1937 called the “Standard Soil Conservation Districts Law”
- The Nassau County Soil & Water Conservation District was formed and authorized by the county in 1977, and there are over 3,000 conservation districts in the United States.
- Our purpose is to protect, preserve, restore, and enhance natural resources through education and technical assistance. We provide programs and technical services to all Nassau County residents and municipalities to manage our precious natural resources. We help foster coordination among municipalities, schools, protection committees and county residents.

NASSAU COUNTY

SOIL & WATER
CONSERVATION DISTRICT

How we're working to combat Coastal Erosion

- Stormwater Management Programs
- Erosion & Sediment Control Trainings
- Nassau County SEPTIC Grant Program
- Beach Cleanups
- Green Infrastructure Installations

What is Stormwater?

Stormwater is rainwater or snowmelt that flows from rooftops, paved areas, bare soil and lawns, picking up litter, sediment, pesticides, fertilizers, bacteria from animal waste, chemicals from automobiles and other pollutants and carrying it all to our streams, rivers, lakes and ocean.

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Why is Stormwater a Concern?

Untreated stormwater runoff can create significant environmental and public health and safety problems.

Polluted runoff is one of our nation's greatest threats to clean water

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Stormwater Impacts from Erosion and Sedimentation

Property Damage

Damage to Roads and Bridges

Beach & Shell fishing Closures

Loss of Aquatic Habitat

Drinking Water Contamination

Streambank Erosion

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Where does all the eroded soil go?

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Here.

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Bottom Line: We need to modify the ways that storm water is mitigated.

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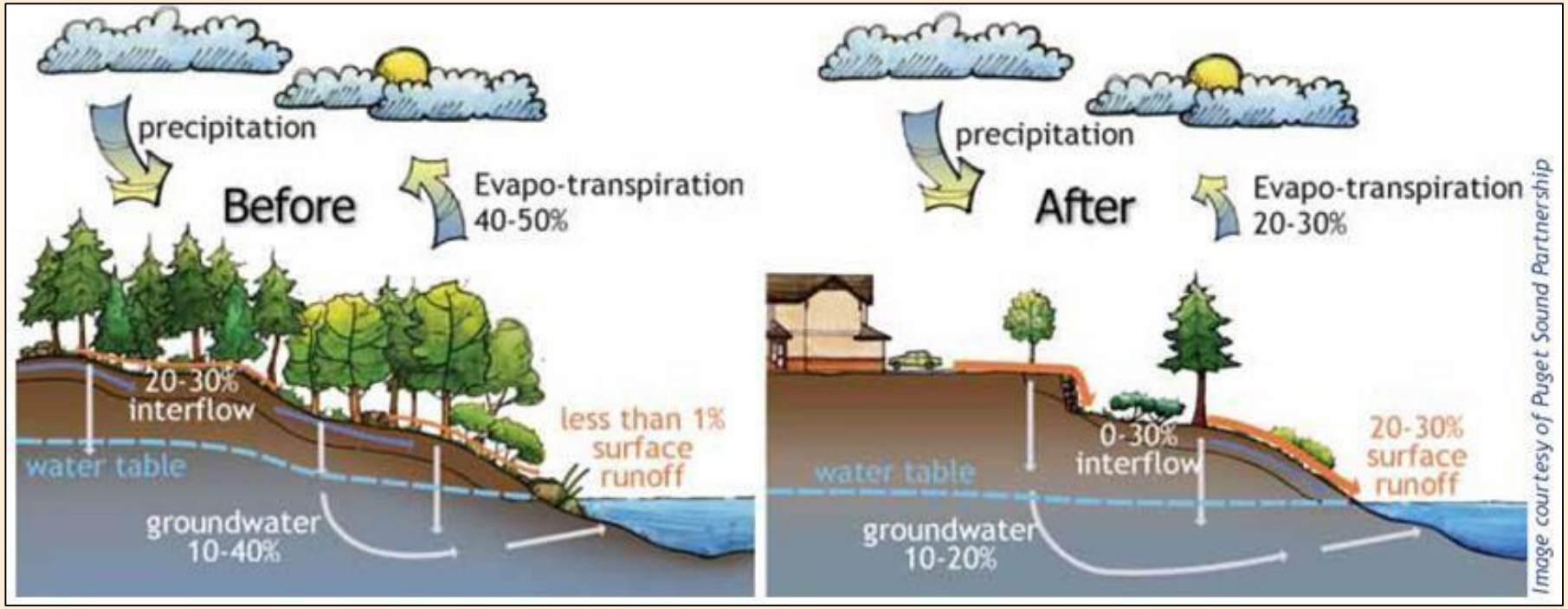
1 acre of land cleared for development → 10 tons of eroded sediment per year

1 acre of impervious cover → 1 million gallons of runoff per year



Stormwater runoff is a natural part of the hydrologic cycle … but as land use changes, runoff can increase, resulting in erosion, pollutant transport, sedimentation, loss of aquatic habitat, & other damages.

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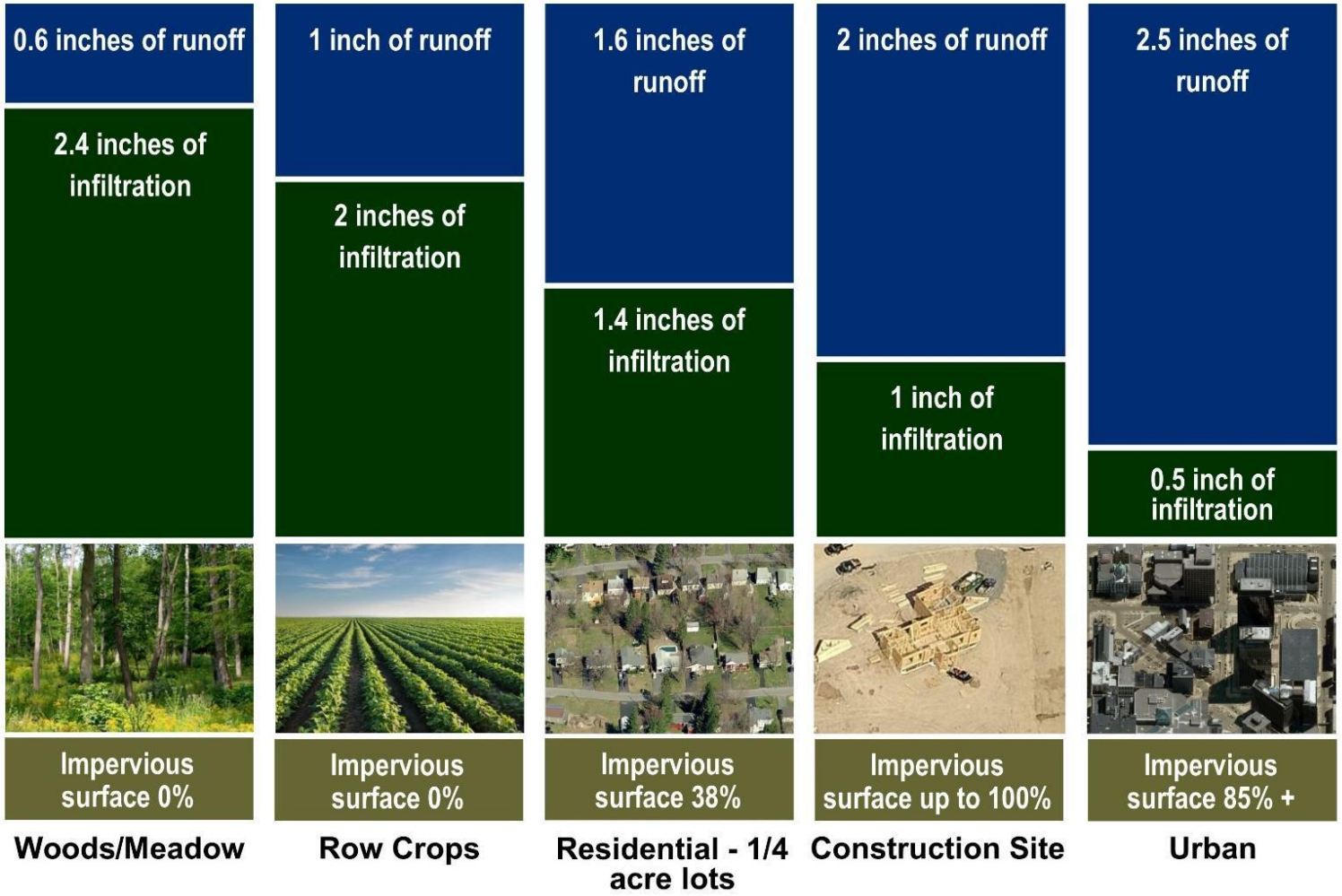
Stormwater Runoff from Construction



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NASSAU COUNTY
SOIL & WATER
CONSERVATION DISTRICT

District Impacts on Soil Erosion & Water Quality

Bayville Community Center Raingarden and Permeable Pavement

Restoring the riparian buffer around Baxters Pond

Funding Cornell Cooperative Extension's collection and analysis of water quality data within Oyster Bay and Cold Spring Harbor

A Day in The Life of a South Shore Estuary Reserve; community outreach and education about protecting our coastal ecosystems

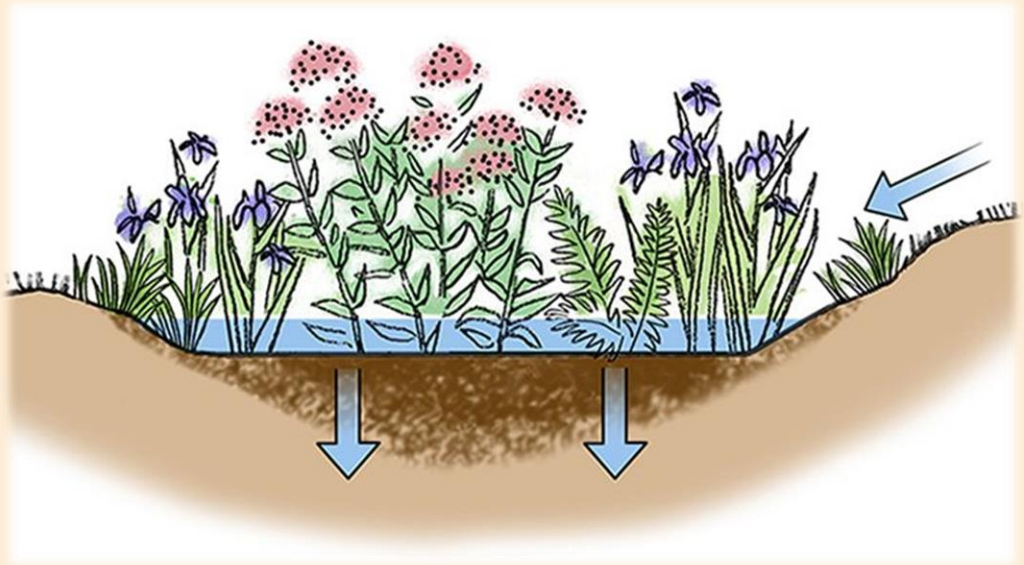
What is a Rain Garden?

A type of bio-retention system comprised of native plants that help filter nonpoint pollution source

Comprised of native plants, drought and flood resistant.

Strategically located in a depression or in the pathway of runoff from an impervious area.

Holds several inches of storm water, allowing it to slowly infiltrate into the ground. Preventing flooding and overloading storm drains.



Rain Gardens Root Systems can absorb up to 90% of nutrients and chemicals from stormwater runoff

Rain gardens remove runoff pollutants before they can drain into our bays and waterways helping safeguard local shellfish

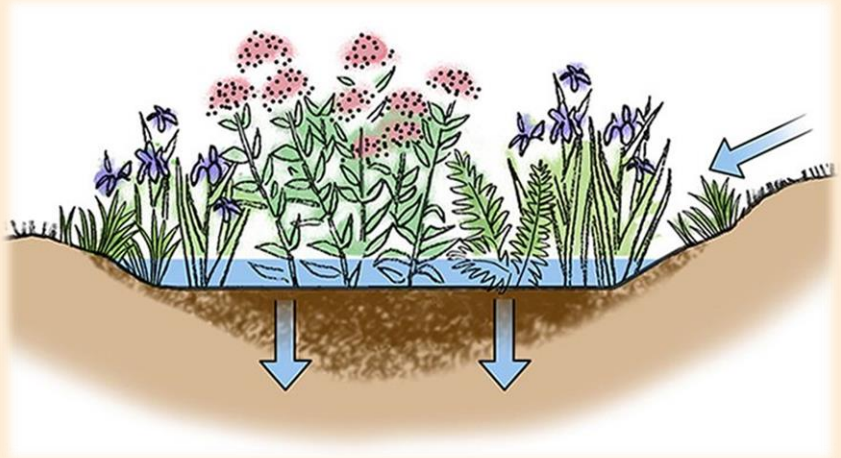
What is a Rain Garden?

A bio-retention “living” system designed to filter nonpoint stormwater pollution.

Filled with native plants that are drought and flood resistant.

Strategically located in a depression or in the pathway of runoff from an impervious area.

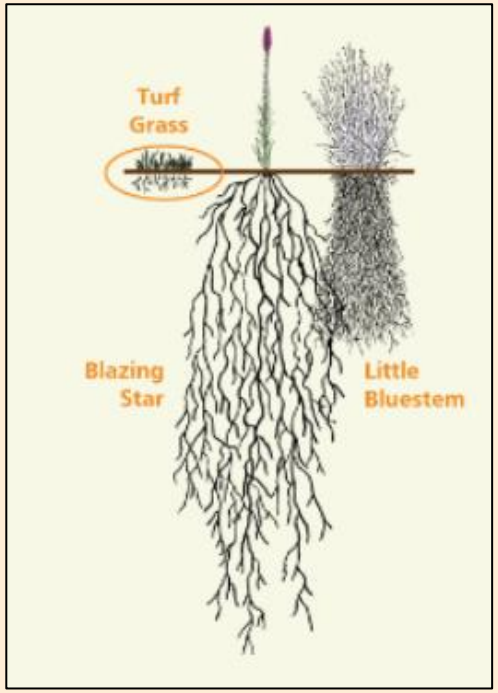
Native plants root systems can absorb 90% of nutrients and chemicals from stormwater runoff.



NASSAU COUNTY SOIL & WATER CONSERVATION DISTRICT

Benefits of having a Rain Garden

- Provide food, shelter, and nesting resources for pollinators, birds, small mammals, and a variety of wildlife species (migratory birds, chipmunks, etc..)
- Adds color and volume to an area.
- Compared to a conventional lawn, rain gardens allow for 30% more water to soak into the ground.
- Low maintenance requirements.



Green Infrastructure for preventing Coastal Erosion

Living Shorelines

Vegetation helps anchor sediment in place against waves by absorbing and dispelling wave energy, helping accumulate sand and creating a more stable natural barrier. Restoring habitats like dune vegetation, seagrass beds and oyster reefs is also a more cost-effective and creates healthier shoreline ecosystems that can support critical wildlife for coastal vitality and protection.

Erosion Prevention for our coastlines is critical for both the environment and economy.

Living shoreline retrofit of a bulkhead seawall in Mobile Bay, Alabama (The Nature Conservancy)

Suggested plants for coastline areas

Trees/Shrubs

- Pitch Pine –*Pinus rigida*
- Canadian Serviceberry– *Amelanchier canadensis*
- Northern Bayberry– *Myrica pennsylvanica*
- Staghorn Sumac – *Rhus typhina*
- Swamp White Oak– *Quercus bicolor*
- Common Baldcypress – *Taxodium distichum*
- Eastern Red Cedar – *Juniperus virginiana*
- Inkberry – *Ilex glabra*

Groundcover

- Beach Heath – *Hudsonia tomentosa*
- Creeping Juniper – *Juniperus horizontalis*
- *Smooth Cordgrass – Spartina alterniflora*

Pinus rigida the Pitch Pine, native to Long Island

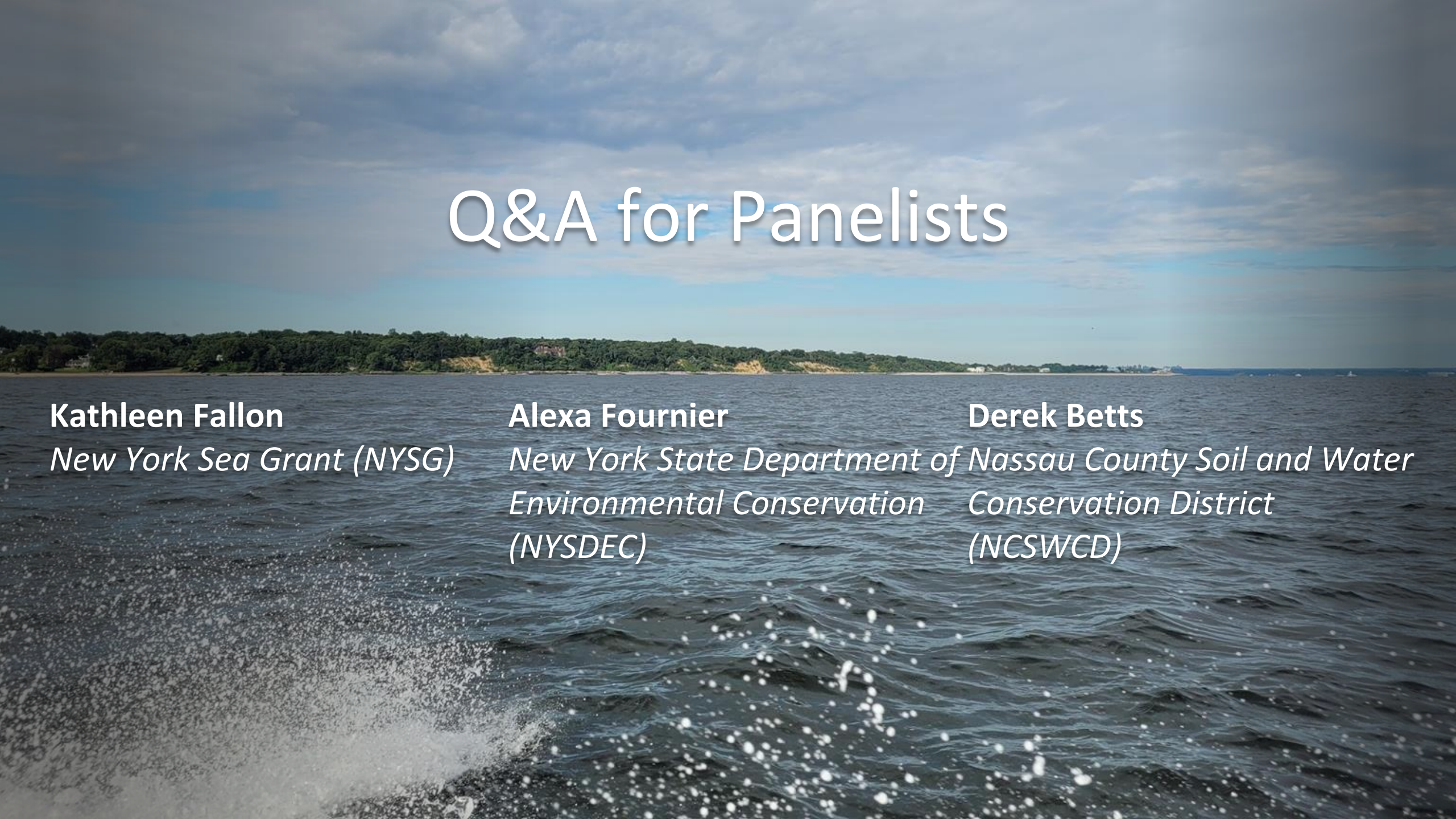
Educational Resources

- **Cornell Woody Plants Database –** Salt tolerant plants database
- **Long Island Sound Study** – Coastal Habitat Restoration
- **NY Natural Heritage Program** – Guides for maritime ecosystems
- **The Nature Conservancy** – Our Living Shorelines

THANK YOU!

QUESTIONS?

NASSAU COUNTY
SOIL & WATER
CONSERVATION DISTRICT



Q&A for Panelists

Kathleen Fallon
New York Sea Grant (NYSG)

Alexa Fournier
New York State Department of Environmental Conservation (NYSDEC)

Derek Betts
Nassau County Soil and Water Conservation District (NCSWCD)

Ryan Porciello and Eric Star
CEHA Program, Division of Water, Region 1, NYSDEC

Sarah Schaefer-Brown
LISS Sustainable and Resilient Communities Extension Professional, NYSG

Barbara Kendall
Coastal Resources Specialist 3, Office of Planning, Development & Community Infrastructure, New York State Department of State (NYSDOS)

Mark Lowery
Assistant Director, Office of Climate Change, NYSDEC

Derek Betts
District Manager, Nassau County Soil and Water Conservation District (NCSWCD)

Coastal Erosion Hazard Areas & Local Codes

NEW YORK
STATE OF
OPPORTUNITY

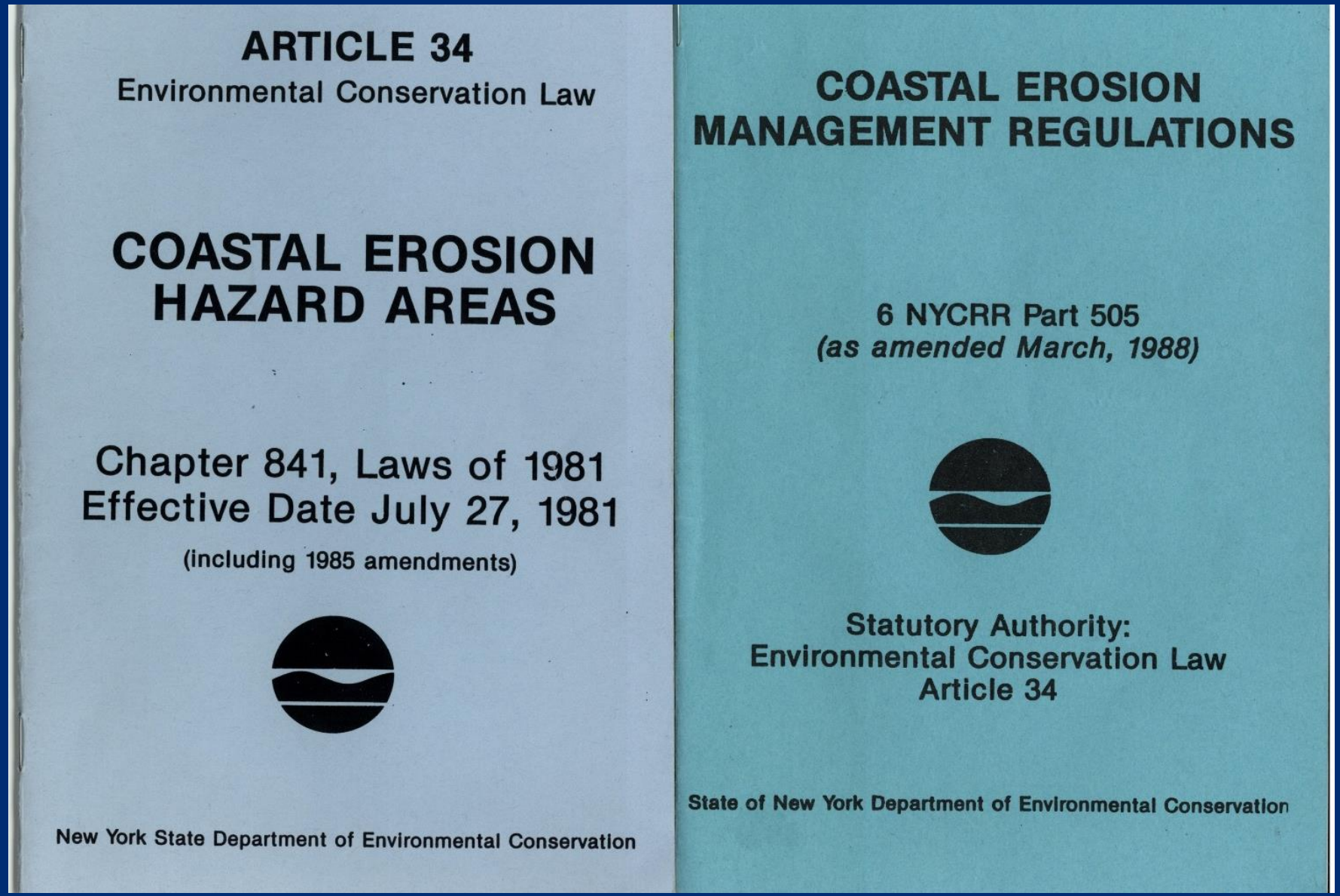
Department of
Environmental
Conservation

Coastal Erosion Hazard Areas (CEHA)

Ryan Porciello
Environmental Program Specialist
NYSDEC - Division of Water
Stony Brook

Permits Required for Shoreline Work

- NYSDEC
  - Article 34 – Coastal Erosion Hazard Areas
  - Article 25 – Tidal Wetlands
- US Army Corps. of Engineers (USACE)
  - Required if work extends below Mean High Water (MHW)
- Joint Application Form (JAF) covers all of the above
- *Permits may also be required at the Local Town/Village level in some cases*



ECL Article 34

Title 6 of New York Codes, Rules, and Regulations (NYCRR) Part 505

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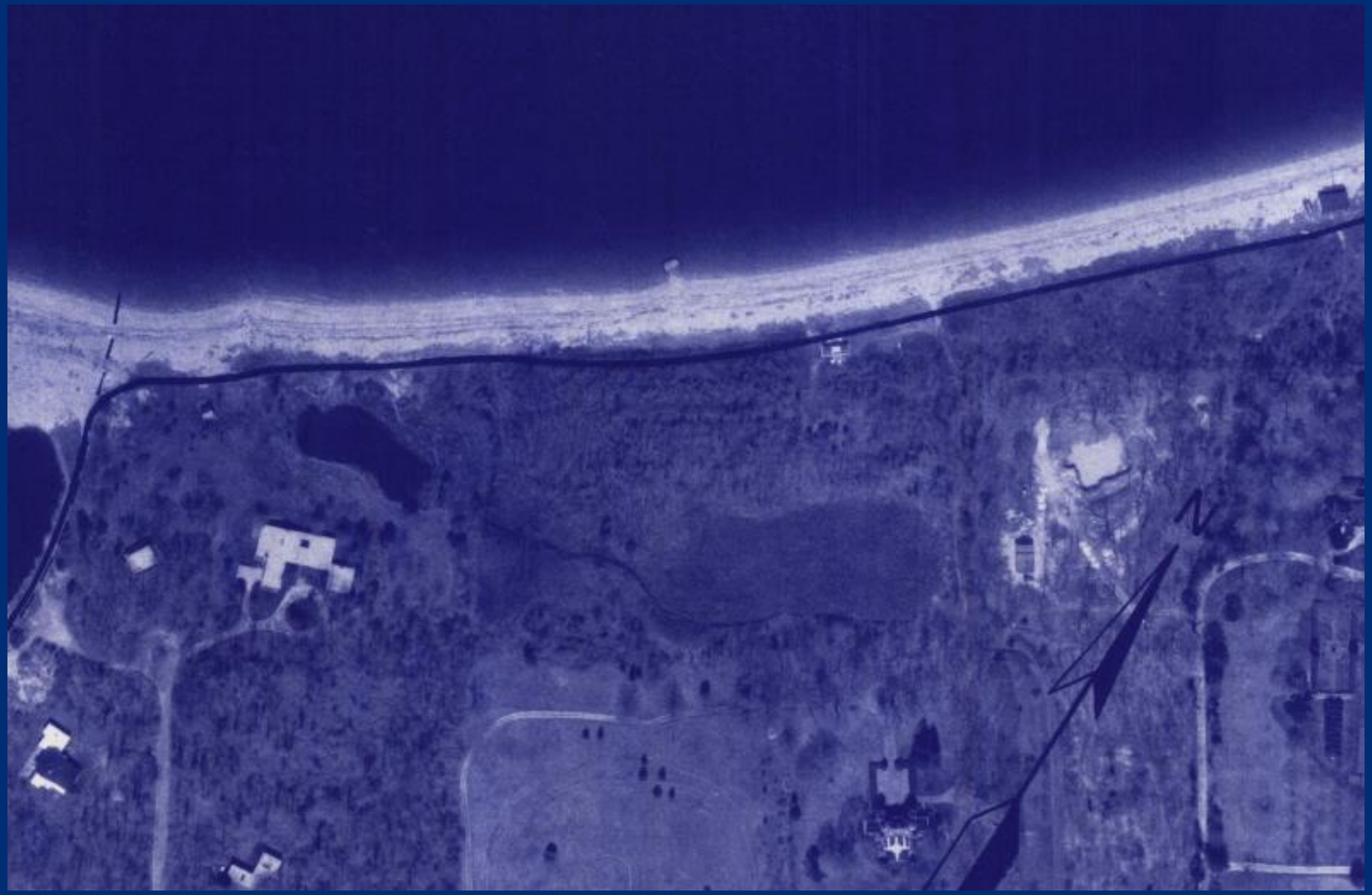

SAMPLE CEHA MAP

CEHA Line is mapped 25’ landward of the receding edge of bluff

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

CEHA – Purpose and Intent

- To promote and preserve the Natural Protective Features (NPFs), such as dunes, bluffs, and beaches of coastal areas.
- Minimize or prevent damage or destruction to NPFs, other natural resources, man-made property, and to protect human life.
- Site new construction or placement of structures a safe distance from active erosion and storm impacts.
- Ensure that erosion control structures are properly built.

CEHA Program Administration

- **Local Delegation:** Local Governments may regulate CEHA within their jurisdictions by adopting a local program that has been certified by DEC
- Approximately 70% of Long Island coastal communities have a DEC-certified local program. NYSDEC administers CEHA in the remaining communities
- NYSDEC monitors the local administration of CEHA by requiring annual reports and conducting periodic audits of the local programs

Activities Within CEHA – 6 NYCRR Part 505.8

- Exempt Activities: No CEHA permit needed. Normal maintenance, native plantings, private elevated walkways, etc…
- Prohibited Activities: All development is prohibited unless *specifically* listed in Part 505.8
- Regulated Activities: CEHA permit required. Construction or modification of structures, erosion protection structures, etc…
  - Must meet permit issuance standards. Permit not guaranteed

Erosion Protection Structures

- Every site/application extremely unique
- Applicants must first articulate issue they are trying to solve
- Hierarchy of solutions from “do nothing” to seawalls/steel bulkheads
- Recession Analysis
- Alternatives Analysis
- Must document real need for measures beyond “soft” or “nature-based”

Erosion Protection Structures

- Must have a long-term maintenance program which includes specifications for normal maintenance and periodic replacement of materials
- All materials used must be durable and capable of withstanding inundation, wave impacts, storm conditions
- Must not be likely to cause an increase in erosion at the development site or other locations
- Must minimize, and if possible prevent, adverse effects to NPFs and other natural resources or habitats

Contact Information

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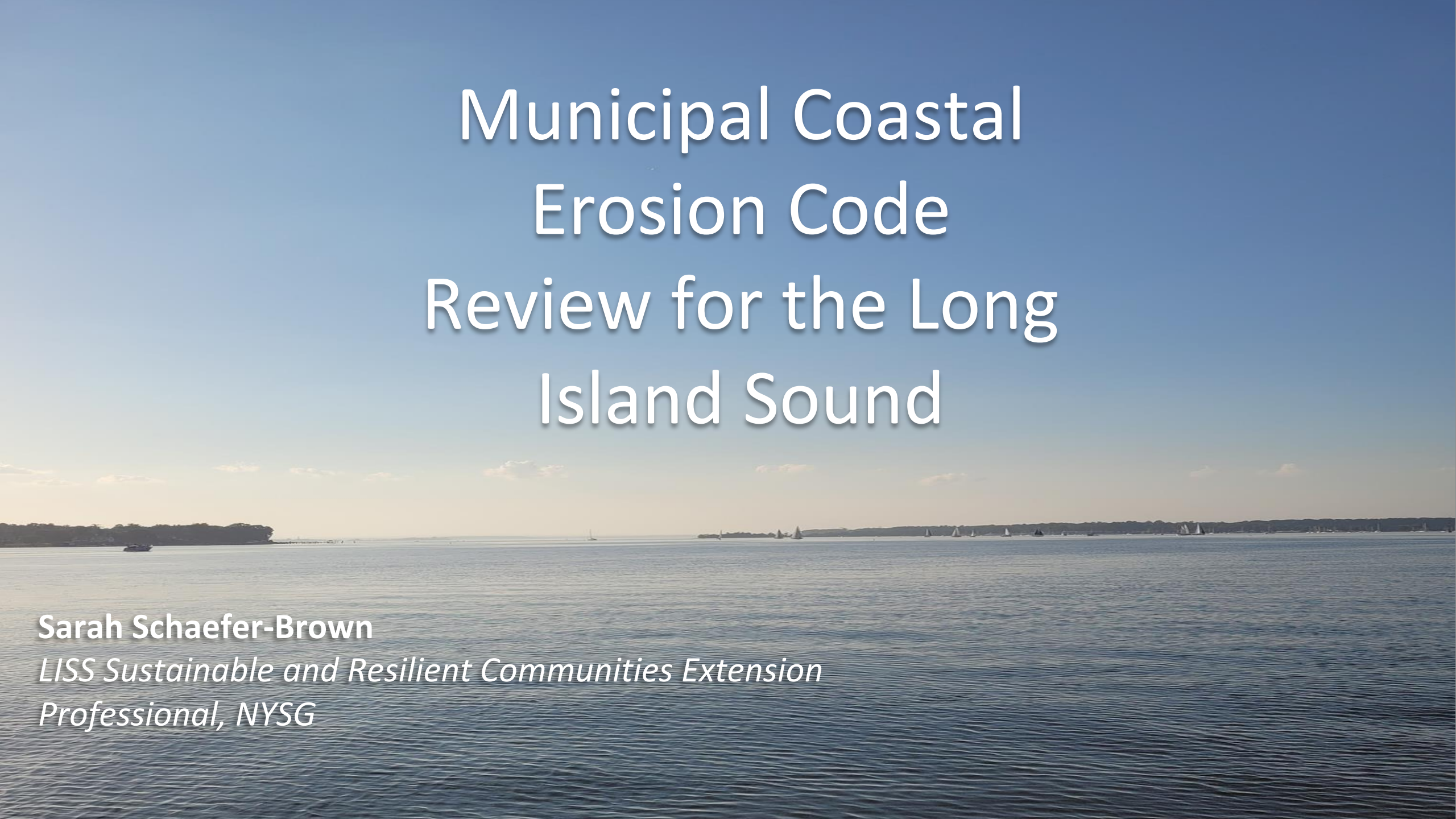


Municipal Coastal Erosion Code Review for the Long Island Sound

Sarah Schaefer-Brown
LISS Sustainable and Resilient Communities Extension Professional, NYSG

Summer 2022 NY Coastal Resilience Law and Policy Fellow

Angelica Austrich, J.D. Candidate '23, CUNY School of Law

Goal: Review existing municipal code and note potential improvements and examples

Reviewed Municipal CEHA Code

- Reviewed current municipal CEHA code.
- Noted differences and similarities to **NYSDOS Model Local Laws for Resilience.**

1) Model Law from NYSDEC meeting the minimum standards established.
2) Alternative CEHA Management Model (based on Town of Brookhaven Law).

CEHA Certified Municipalities

Most Coastal Municipalities on the North Shore of Nassau County in the CEHA are administered by the State.

The 4 below are the only CEHA Certified Communities on the North Shore of Nassau County:

- **Village of Bayville**
- Village of Kings Point
- **Village of Lattingtown**
- Village of Sands Point

NYSDEC CEHA Code

Nearshore area restrictions:

The following restrictions apply to regulated activities in nearshore areas:

a. All development is prohibited in nearshore areas unless specifically provided for by
this local law.

b. Excavating, grading, mining, or dredging which diminishes the erosion protection afforded by nearshore areas is prohibited, except construction or maintenance of navigation channels, bypassing sand around natural and man-made obstructions and artificial beach nourishment, all of which require a Coastal Erosion Management Permit.

c. Clean sand or gravel or an equivalent or slightly larger grain size is the only material which may be deposited within nearshore areas. Any deposition will require a Coastal Erosion Management Permit.

Beach area restrictions:

a. All development is prohibited on beaches unless specifically provided for by this local law.

b. Excavating, grading, or mining which diminishes the erosion protection afforded by beaches is prohibited.

c. Clean sand or gravel of an equivalent or slightly larger grain size is the only material which may be deposited within bench areas. Any deposition will require a Coastal Erosion Management Permit which may be issued only for expansion or stabilization of beaches.

d. Active bird nesting and breeding areas must not be disturbed unless such disturbance is pursuant to a specific wildlife management activity approved in writing by the New York State Department of Environmental Conservation.

e. [*Location for insertion of optional section allowing restoration of existing structures, damaged by non-erosion or flooding related causes, without a permit. See Addendum for specific language*.]

Village of Bayville

NYSDEC CEHA Code Additions

Focus on wetlands as natural protective features & restrictions on use of gabions for erosion control.

Nearshore area restrictions:

Any debris which might effect erosion and deposition patterns is to be removed for proper disposal, if the owner can be identified.

Beach area restrictions:

- Steepening of bluffs and other slopes along the shore for construction or development purposes shall not increase, by more than 20% or beyond the angle of repose, the gradient of slopes presently exceeding 20%.
- Seawall repairs or improvements shall be approved by permit from the administrator. Wood, concrete or large stone stabilizing structures shall be employed as sea walls to control erosion. Gabion sea walls are not permitted. Emplacement of slope and beach stabilizing cribbing timbers of wood or concrete are permitted. Nonstructural plantings to stabilize the bluffs will also be used.

Village of Bayville

NYSDEC CEHA Code Additions

Focus on wetlands as natural protective features & restrictions on use of gabions for erosion control.

Beach area restrictions:

- Adequate mitigating measures to combat the effects of erosion are required when permitting any development or construction adjacent or proximate to the tidal wetlands, particularly when spartina is in the bay. Shoring up of eroding shorelines will be employed to protect tidal wetlands.
- Loosening or removal of stones along the slope of the beach, which results in subsequent erosion onto the wetlands, is prohibited.
- Use of motorized recreational vehicles, including trail bikes and four-wheel-drive vehicles, is prohibited on beaches.
- New permanent or temporary buildings or sheds will not be permitted to be constructed or erected on the water's edge side of existing waterfront roads or rights-of-way, except when they are to be installed for public purposes for beach and adjacent water body uses by government agencies.

Village of Lattingtown

NYSDEC CEHA Code Additions

Additional restrictions on nearshore area & beach, development and alteration.

Nearshore/Beach area restrictions:

- All development, including construction, alteration, restoration, reconstruction of any structure or appurtenance, except an approved erosion protection structure, or removal of any erosion protection structure or appurtenance, is prohibited in nearshore areas/on beaches unless otherwise specifically provided by this article.

APPURTENANCE - A minor or accessory structure attached to, placed near, or used in conjunction with a structure.

NEW YORK STATE OF OPPORTUNITY. | Office of Planning and Development

Using Model Local Laws to Increase Resilience

Long Island Coastal Resilience Forums

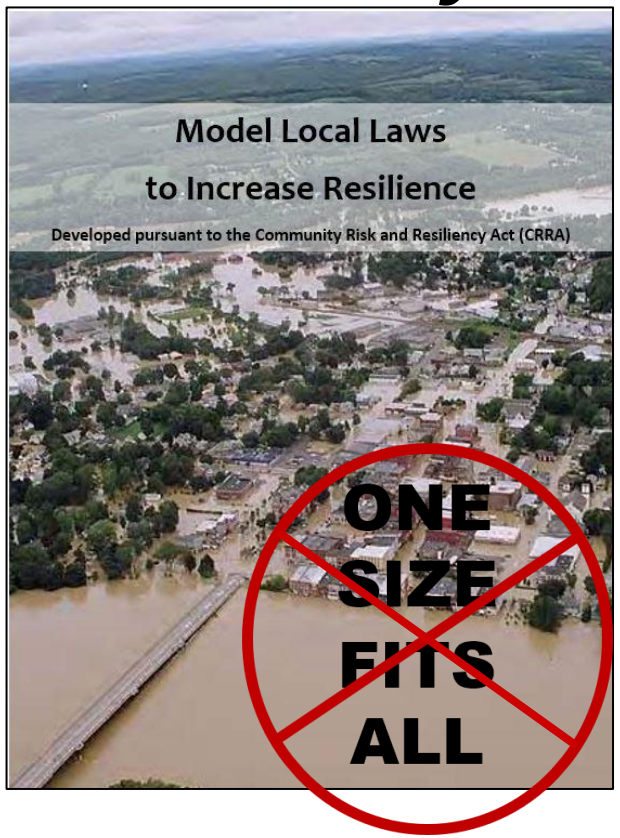
An Office of the New York Department of State

Barbara Kendall, Coastal Resources Specialist

May 2023

Model Local Laws: Local Implementation of Community Risk and Resiliency Act (2014)

as amended by the Climate Leadership and Community Protection Act (2019)



Models created from:

- Existing model laws
- Good examples of current local laws
- Combining sections from various laws using professional expertise

Adapt for local use

- Plug in sections to update existing laws *OR*
- Use entire model law for topics not currently addressed

CHAPTERS

Go to: https://dos.ny.gov/model-local-laws-increase-resilience

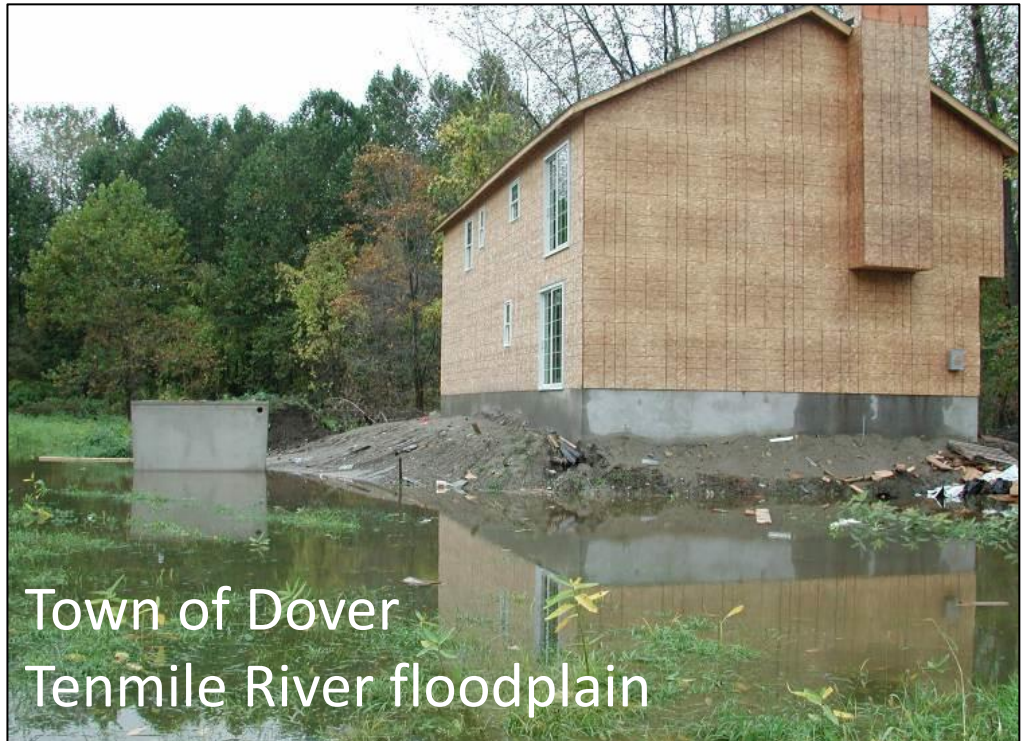
May 2023

9 categories of local land use tools from: Climate Adaptation Toolbox - Peconic Estuary Program Climate Vulnerability Assessment and Action Plan 2019

1. Incorporate wetland migration and sensitive critical natural areas into zoning	MLLS SECTION
Minimum Lot Size	1.2.1
Maximum lot coverage; Nonconformance of impervious surface coverage;	1.2.3 1.3.2
Wetland Conservation Overlay District	2.1.3
Maximum Disturbance Area (T. Southampton)	3.3.2
Limit Development in 100-year or 500-year Floodplain	4.1

1. Incorporate wetland migration areas and sensitive critical natural areas into zoning	MLLS SECTION
Setbacks	1.2.4
Simple Wetland Setbacks and Wetlands Buffer	2.1.1 2.1.2
Simple Watercourse Setbacks	2.2.1
Stream-related zoning standards	2.2.2
Coastal Vegetative Buffers	3.3.1

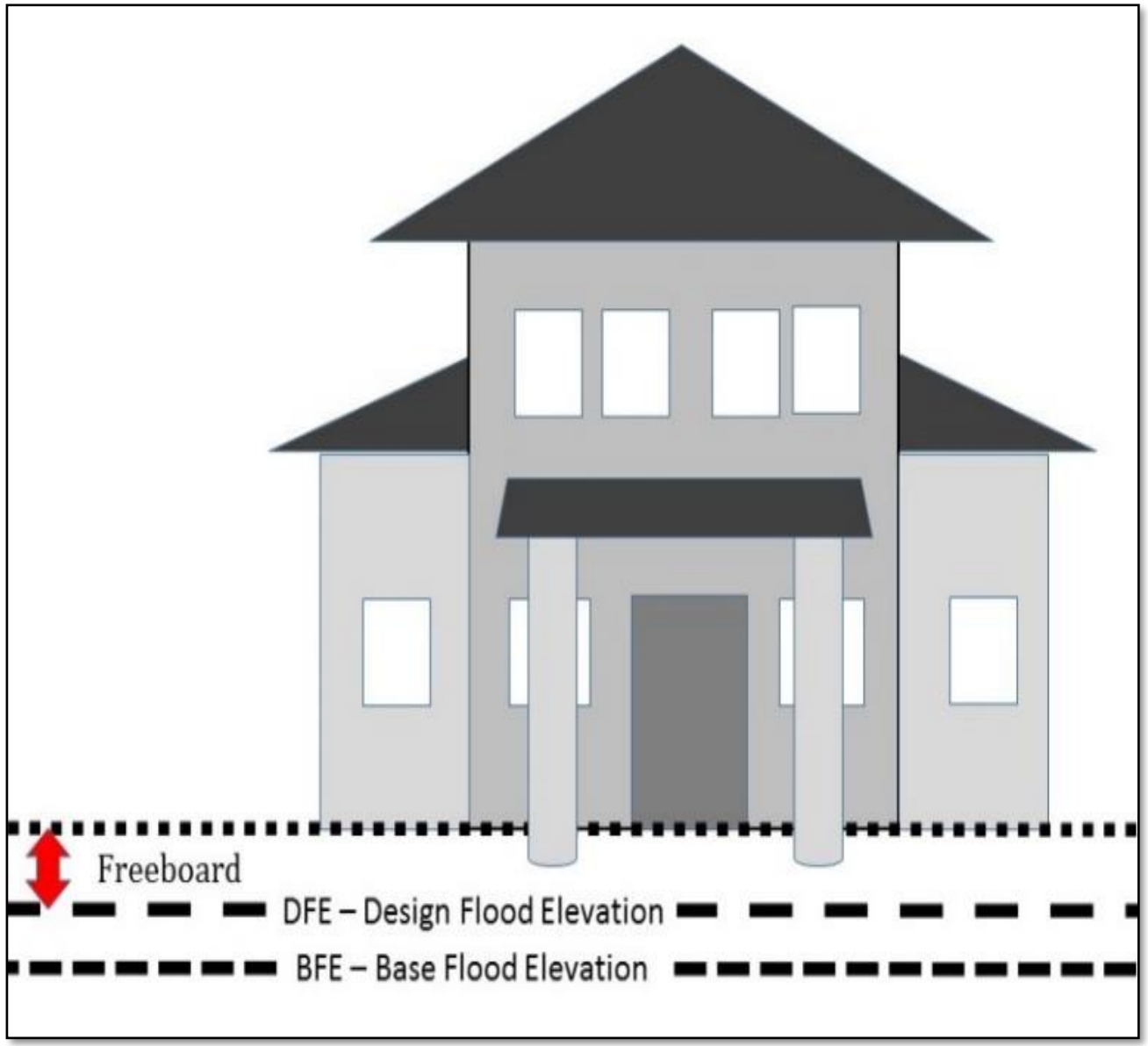
2. Create/Amend Overlay Districts	MLLs SECTION
Waterfront Overlay District	1.1.2
Waterfront Bluff Overlay District (Coordinate w/CEHA)	1.1.3
Watercourse Overlay District	2.2.3
Shoreline Protection Outside of Coastal Erosion Hazard Areas	3.1.3



Models from NYS DEC – ways to amend the standard FEMA Flood Damage Prevention Law to incorporate these provisions

3. Impose More Stringent Building Regulations	MLLs SECTION
Sale of land in regulated floodplain must disclose environmental constraints	1.5.7
Require dry land access to new buildings	4.3.8
Establish design flood elevation to reflect flood levels higher than shown on FIRMS and capture lands that flood adjacent to 100-yr floodplains	4.3.2

Replace BFE with Design Flood Elevation (DFE)



- NYS Uniform Code required freeboard (2 ft.) based on BFE (100 yr FP)
- DFE can be higher than BFE

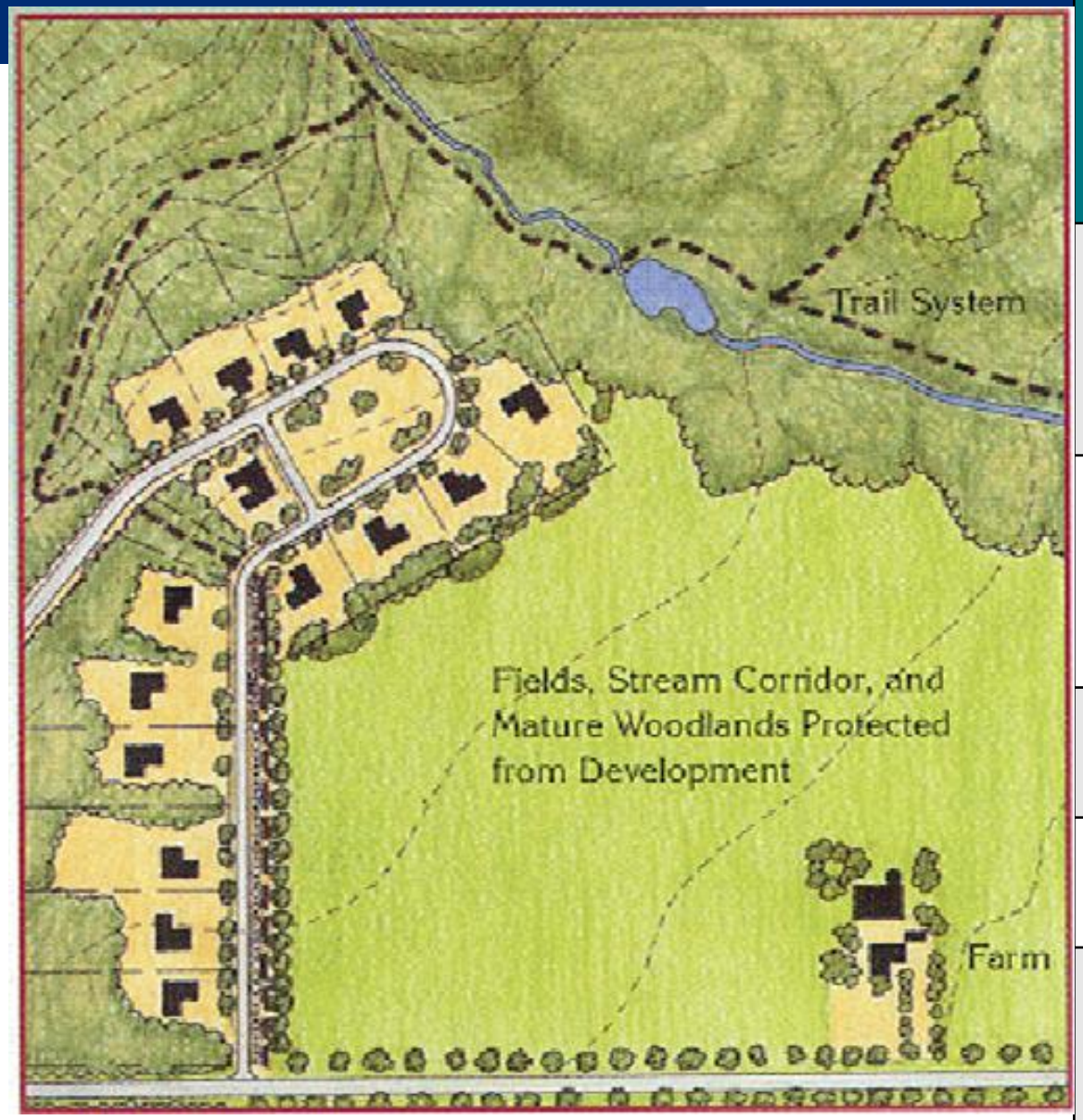
Examples of basis for DFE:

- 500-yr flood elevation
- Extra height added to BFE
- Historical deficiencies
- Climate-informed science (ex. future conditions hydrology)

3. Impose More Stringent Building Regulations	MLLs SECTION
Prohibit new critical facilities in flood zones (amend flood damage prevention law)	4.3.6
Design requirements for elevated buildings	1.4.4.1
Non-conversion agreements: under elevated buildings	1.4.4.2

NYSDEC photo

4. Increase Coastal Setbacks	MLLs SECTION
Fixed mandatory setback (Brookhaven)	3.1.1
Erosion-based setback	3.2.3
Tiered Setback - Setback distance increases with lot size (East Hampton)	3.2.2

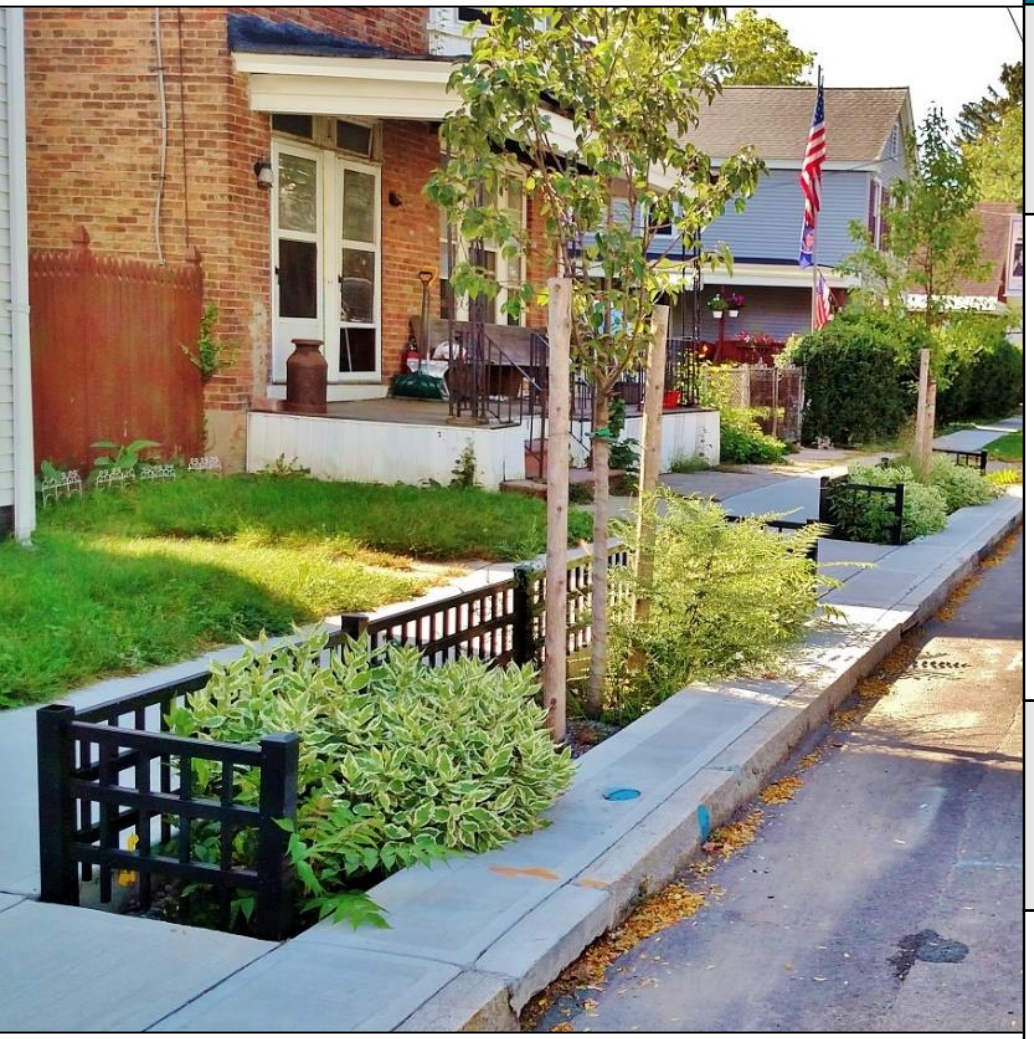


Example Cluster Development
Randall Arendt

5. Subdivision and Open Space Development	MLLs SECTION
Cluster, open space & conservation development	1.5.6
Subdivision in flood-prone areas; Safe building envelopes	1.5.1 1.5.2
Drainage improvements	1.5.3
Lot yield calculations	1.5.5
Design Standards to Protect Natural Features; Subdivision Woodlands	1.5.4.1 1.5.4.2

6. Site Plan Controls and Special Use Permits	MLLs SECTION
Encroachment on Drainageways	1.6.2
Wetland Conservation Overlay District	2.1.3
Stormwater Site Design Plans	5.4
Many of the other model local laws have provisions for site plan review and special use permits.	

7. Vegetation Protection Ordinance	SECTION
Simple wetland setbacks	2.1.1
Wetlands Buffer	2.1.2
Local Freshwater Wetland Law (Adapted from T. Brookhaven and T. Southampton)	2.1.4
Watercourse Overlay District; Local Watercourse Law	2.2.3 2.2.4
3.3.1 Coastal Vegetative Buffers; 3.3.2 Maximum Disturbance Area (T. Southampton)	3.3.1 3.3.2



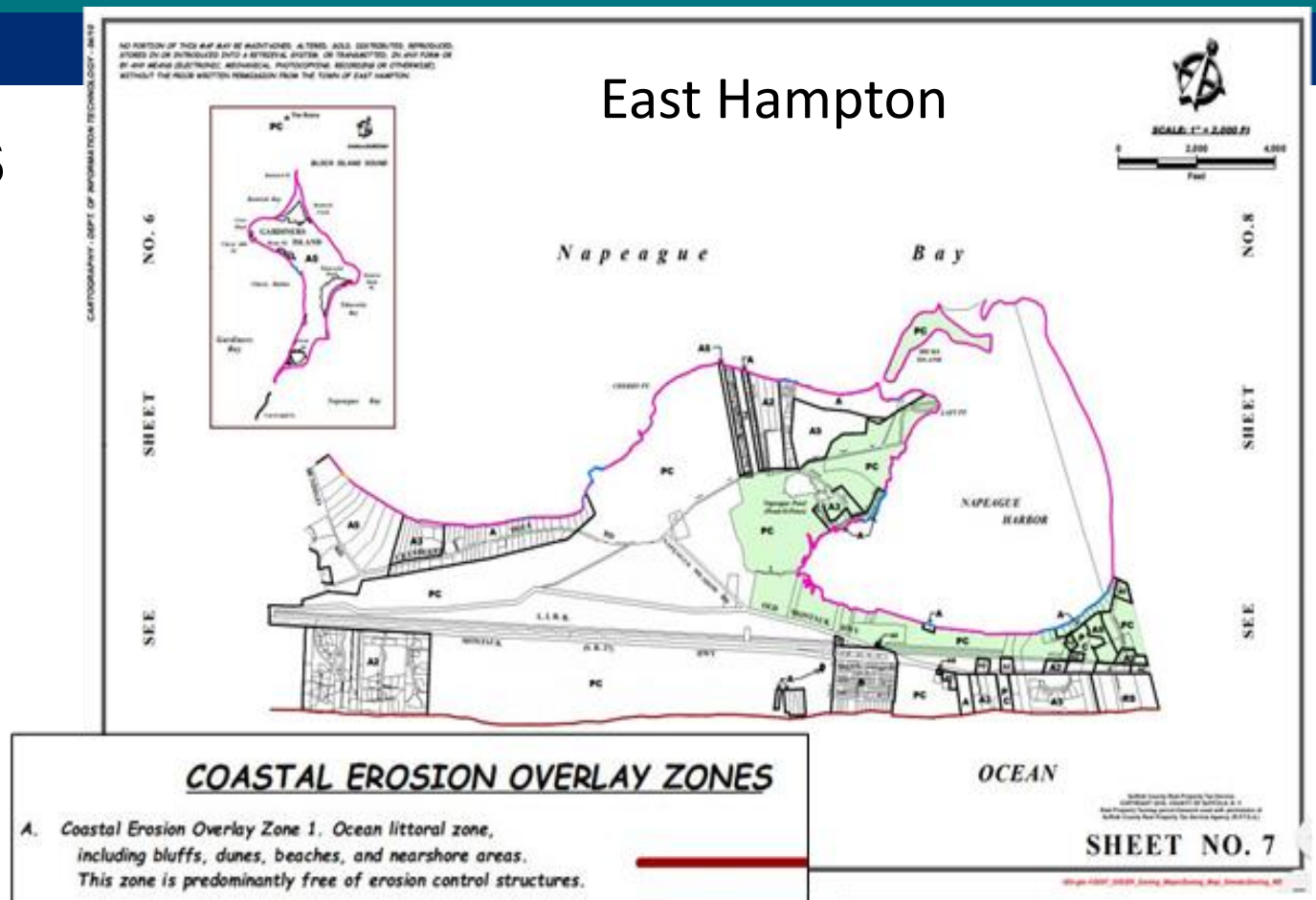
8. Green Infrastructure and Stormwater Management	MLLs SECTION
Prohibit encroachments on drainage ways (e.g. fences)	1.6.2
DEC Model Stormwater Management and Erosion and Sediment Control Laws – Two: 1. Impaired waters 2. Community resiliency	 5.4.1 5.4.2
Steep slope and erosion control performance standards	5.1.2
Stormwater utility program to fund stormwater management	5.5

NYSDEC photo

9. Prohibit New Shoreline Structures or Replacement	MLLs SECTION
Shoreline Management Alternatives • Non-structural and Natural features • Nature-based measures • Structural measures	3.4
Special Use Permit Alternatives Analysis	3.4.1
Shoreline reach analysis to designate overlay zones (next slide)	3.4.2

Shoreline Reach Analysis

- ❑ Study shoreline characteristics
- ❑ Establish overlay zones
- ❑ Use to guide shoreline management decisions
  - No erosion control structures
  - Permit required to alter existing structures
  - Limited repair of existing structures



COASTAL EROSION OVERLAY ZONES

A. Coastal Erosion Overlay Zone 1. Ocean littoral zone, including bluffs, dunes, beaches, and nearshore areas. This zone is predominantly free of erosion control structures.

B. Coastal Erosion Overlay Zone 2. Bay littoral zone. including bluffs, dunes, beaches, and nearshore areas, which is predominantly free of erosion control structures.

C. Coastal Erosion Overlay Zone 3. Bay littoral zone. including bluffs, dunes, beaches, and nearshore areas, which contains erosion control structures which are isolated and discontinuous, or which have no substantial flooding or erosion protection function.

D. Coastal Erosion Overlay Zone 4. Bay littoral zone, including bluffs, dunes, beaches, and nearshore areas, which contains numerous erosion control structures. Within this zone the loss of natural resources and features such as bluffs, dunes, and beaches mean that in many cases erosion control structures provide the only remaining protection against flooding and erosion.

Example of Erosion Overlay Zones on Sheet 7 of the Town of East Hampton Zoning Map.

NYS Shoreline Monitoring Framework

- Released 2018-Phase I Updated 2022-Phase II
- Measure resilience performance of shoreline features: *Ecological, Structural/Hazard Mitigation, Socio-Economic*
- 25 past/active sites across the state monitored by DOS and partners
- ArcGIS online portal for data

Do you know of a shoreline site that should be monitored?

Phase I website: https://dos.ny.gov/statewide-shoreline-monitoring-framework

Contact: Carolyn.fraioli@dos.ny.gov

Office of Planning, Development & Community Infrastructure

www.dos.ny.gov/opd

(518)474-6000

Division of Local Government Services

www.dos.ny.gov/LG

(518)473-3355

Questions & Discussion

NEW YORK
STATE OF
OPPORTUNITY

Department of
Environmental
Conservation

6 NYCRR Part 490
Projected Sea-level Rise

2023 Update

Community Risk and Resiliency Act (2014)

as amended by the Climate Leadership and Community Protection Act (2019)

- **Requires sea-level rise projections (DEC; adopted 2017)**
- Requires consideration of climate change by applicants for major permits and in DEC facility-siting regulations
- Requires model local laws to increase resilience (DOS, DEC; released 2019)
- Requires applicants demonstrate consideration of sea-level rise, storm surge and flooding in specified funding programs
- Adds mitigation of sea-level rise, storm surge and flooding to Smart Growth Public Infrastructure Policy Act criteria
- Authorizes DEC require mitigation of significant climate risks to any natural resource, public infrastructure or services, disadvantaged communities, or private property not owned by the applicant.
- Requires guidance on implementation (DEC, DOS)
- Requires guidance on use of natural resilience measures to reduce risk (DEC, DOS)

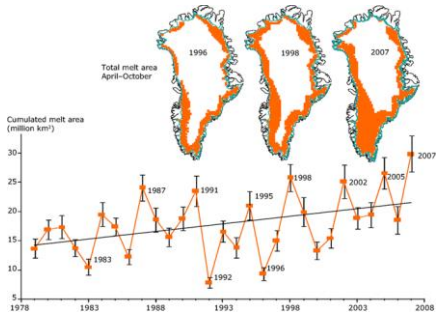
http://www.dec.ny.gov/energy/102559.html

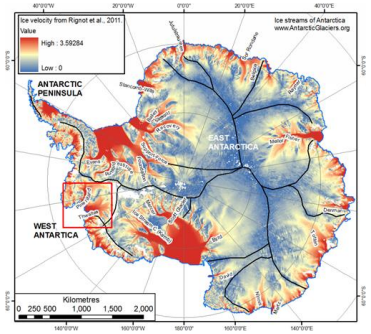
2017 Sea-level Rise Projection Rulemaking

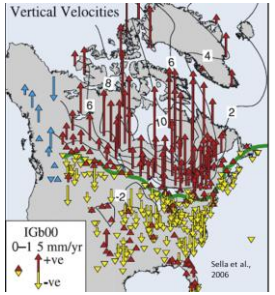
Downscaled from IPCC CMIP5 models

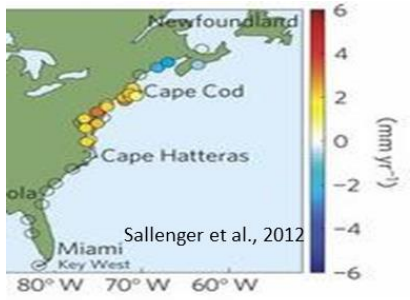
RCPs 4.5, 8.5

Projection outputs reported as percentiles



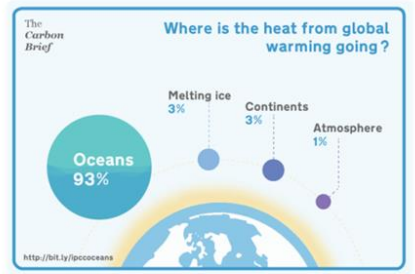




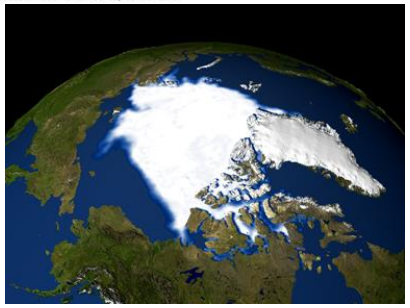


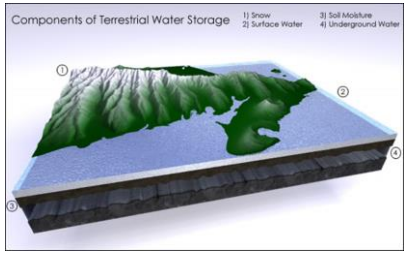
Sea Level Rise Components Included:

- Global
  - Thermal expansion
  - Greenland and Antarctic ice sheet melt
  - Glacier and ice cap melt
  - Land water storage
- Local
  - Ocean height change
  - Ice loss effects
  - Glacioisostatic adjustments



Source: Rosamund Pearce, Carbon Brief





Horton, R., D. Bader, C. Rosenzweig, A. DeGaetano, and W.Solecki. 2014. Climate Change in New York State: Updating the 2011 ClimAID Climate Risk Information. New York State Energy Research and Development Authority (NYSERDA), Albany, New York. (http://www.nyserda.ny.gov/climaid)

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

6 NYCRR Part 490, Projected Sea-level Rise, 2017

Inches of rise relative to 2000-2004 baseline

	Region	Long Island					New York City/Lower Hudson					Mid-Hudson				
	Descriptor	Low	Low-medium	Medium	High-medium	High	Low	Low-medium	Medium	High-medium	High	Low	Low-medium	Medium	High-medium	High
Time Interval	2020s	2	4	6	8	10	2	4	6	8	10	1	3	5	7	9
	2050s	8	11	16	21	30	8	11	16	21	30	5	9	14	19	27
	2080s	13	18	29	39	58	13	18	29	39	58	10	14	25	36	54
	2100	15	21	34	47	72	15	22	36	50	75	11	18	32	46	71




NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NY State Sea-level Rise Projections

2017

Source: ClimAID

Baseline: 2000-2004

Time intervals:

- 2020s
- 2050s
- 2080s
- 2100

Scenarios:

- Low
- Low-medium
- Medium
- High-medium
- High

2023 Update

Source: IPCC

Baseline: 1995-2014

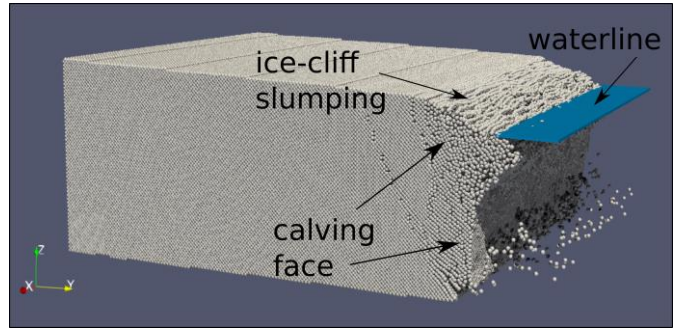
Time intervals:

- 2030s
- 2050s
- 2080s
- 2100
- 2150

Additional Scenarios:

- "Very High" – low probability, high consequence rapid ice melt for 2080s, 2100
- 2150

West Antarctic Ice Sheet. photo: NASA



NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

AR6: Drivers of Sea Level Change and Projection Sources

Sum of the components

Energy Budget Emulator:

- Thermal expansion
- Greenland ice sheet mass balance
- Antarctic ice sheet mass balance
- Glacier mass balance

Relationship to population:

- Land water storage

CMIP6 relationships:

- Ocean dynamic sea level

Tide gauge data:

- Isostatic adjustments

NYS Scenario Development

- SSP2-4.5 – consistent with Paris Agreement NDCs
- SSP5-8.5 – medium confidence – additional amplifying feedback mechanisms
- SSP5-8.5 – low confidence – includes some rapid ice melt

Distribution of model outputs adjusted for consistency with Part 490

Mid-Hudson projections based on NYC projections, adjusted for glacial isostatic rebound

Very high (RIM) scenario based on potential acceleration of ice mass loss and ice cliff instability

http://climatestate.com

Proposed 6 NYCRR Part 490, Projected Sea-level Rise, 2023

	Region	Long Island						New York City/Lower Hudson						Mid-Hudson					
	Descriptor	Low	Low-medium	Medium	High-medium	High	Very High	Low	Low-medium	Medium	High-medium	High	Very High	Low	Low-medium	Medium	High-medium	High	Very High
Time Interval	2030s	7	8	10	12	14	NA	6	7	9	11	13	NA	5	7	8	10	12	NA
	2050s	13	15	18	21	25	NA	12	14	16	19	23	NA	11	12	14	17	21	NA
	2080s	23	26	32	41	48	83	21	25	30	39	45	83	18	21	26	35	41	83
	2100	27	32	39	54	69	114	25	30	36	50	65	114	21	25	32	46	60	114
	2150	42	50	63	94	185	NA	38	47	59	89	177	NA	32	41	52	82	171	NA

Inches of rise relative to 1995-2014 baseline

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Percentage Differences 6 NYCRR Part 490, 2017/2023

	Region	Long Island						New York City/Lower Hudson						Mid-Hudson					
	Descriptor	Low	Low-medium	Medium	High-medium	High	Very High	Low	Low-medium	Medium	High-medium	High	Very High	Low	Low-medium	Medium	High-medium	High	Very High
Time Interval	2030s	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2050s	63%	36%	13%	0%	-17%	NA	50%	27%	0%	-10%	-23%	NA	120%	33%	0%	-11%	-22%	NA
	2080s	77%	44%	10%	5%	-17%	NA	62%	39%	3%	0%	-22%	NA	80%	50%	4%	-3%	-24%	NA
	2100	80%	52%	15%	15%	-4%	NA	67%	36%	0%	0%	-13%	NA	91%	39%	0%	0%	-15%	NA
	2150	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

To comment:

Email:
climatechange@dec.ny.gov, include “Sea Level Rise” in subject line.

Postal Mail:

Sea Level Rise
Office of Climate Change
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-1030

Pre-proposal comments due by May 12, 2023

Request for comments and additional information:
https://www.dec.ny.gov/lands/102559.html

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

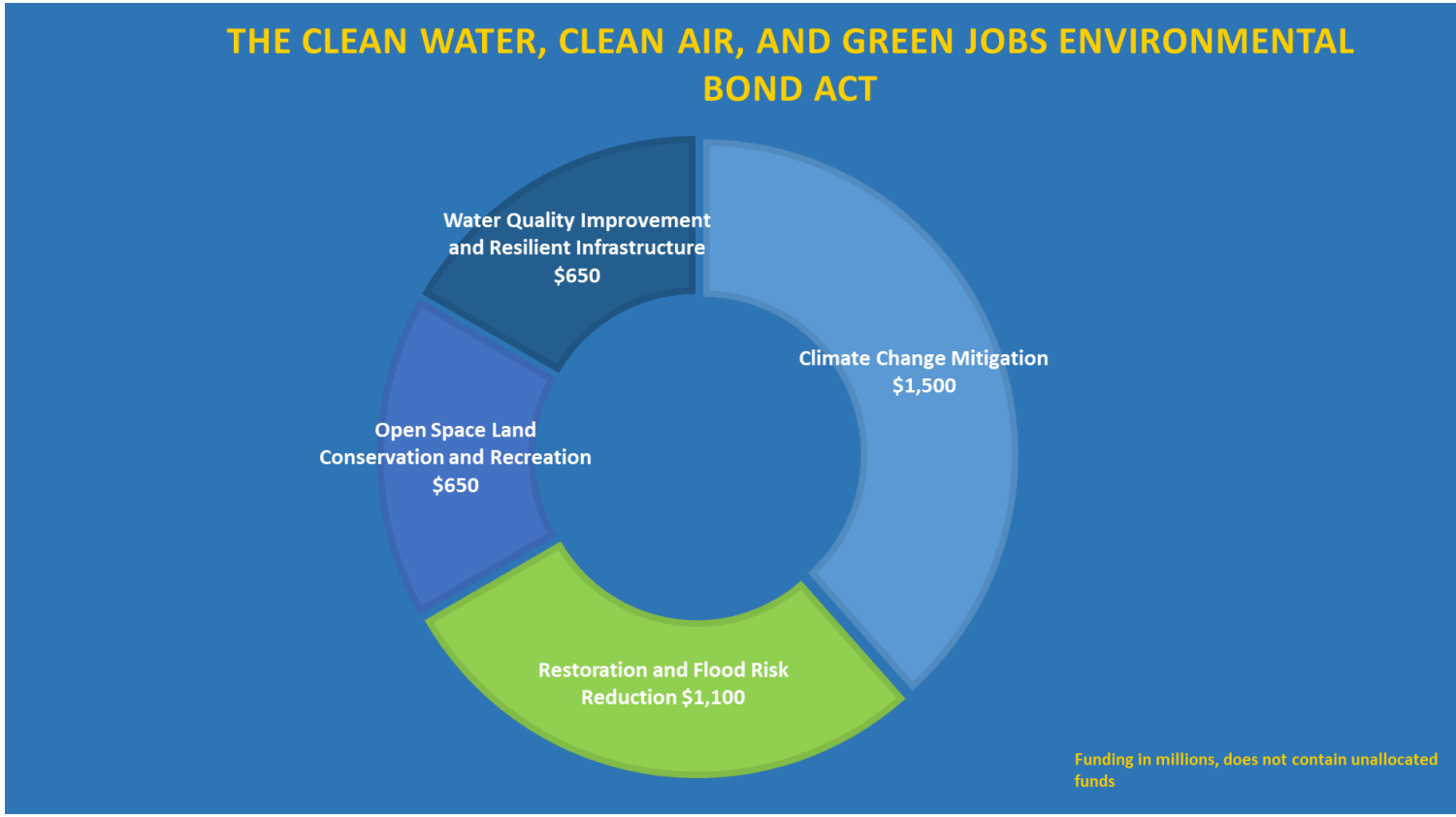
CWCAGJ Environmental Bond Act $4.2 Billion

Centers on equity and justice by committing significant resources directly to communities most affected by pollution and climate change.

Next steps:

Inter-agency working group to identify needs for environmental funding across the state and conduct stakeholder outreach on new program development.

Statewide listening tour for the public and potential funding applicants to learn about the Bond Act and weigh in on draft criteria to identify potential projects.



NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Long Island Coastal Erosion Forum – Nassau County

May 4th, 2023

Presenters:

Derek Betts – District Manager, NCSWCD

Olivia Calandra – Conservation Technician , NCSWCD

NASSAU COUNTY

SOIL & WATER CONSERVATION DISTRICT

Nassau's S.E.P.T.I.C. Program – Project Team

NASSAU SWCD DIRECTORS & STAFF:

NCSWCD Board of Directors

- *Tara Schneider-Moran – Chair*
- *Meagan Fastuca – Vice Chair*
- *Eric Swenson – Treasurer*

NCSWCD Staff

- *Derek Betts – District Manager*
- *Olivia Calandra – Conservation Technician*
- *Sean Rooney – Conservation Technician*
- *Tom Parisi – Conservation Technician*

PROGRAM PARTNERS:

Nassau County Support

- *Joe Cuomo – Nassau County DPW*
- *John Capece – Commissioner Consumer Affairs*

NCSWCD IA Consultant

- *Justin Jobin – Environmental Scientist*

The Nature Conservancy

- *Nicholas Calderon – Marine Scientist*

NASSAU COUNTY SOIL & WATER CONSERVATION DISTRICT

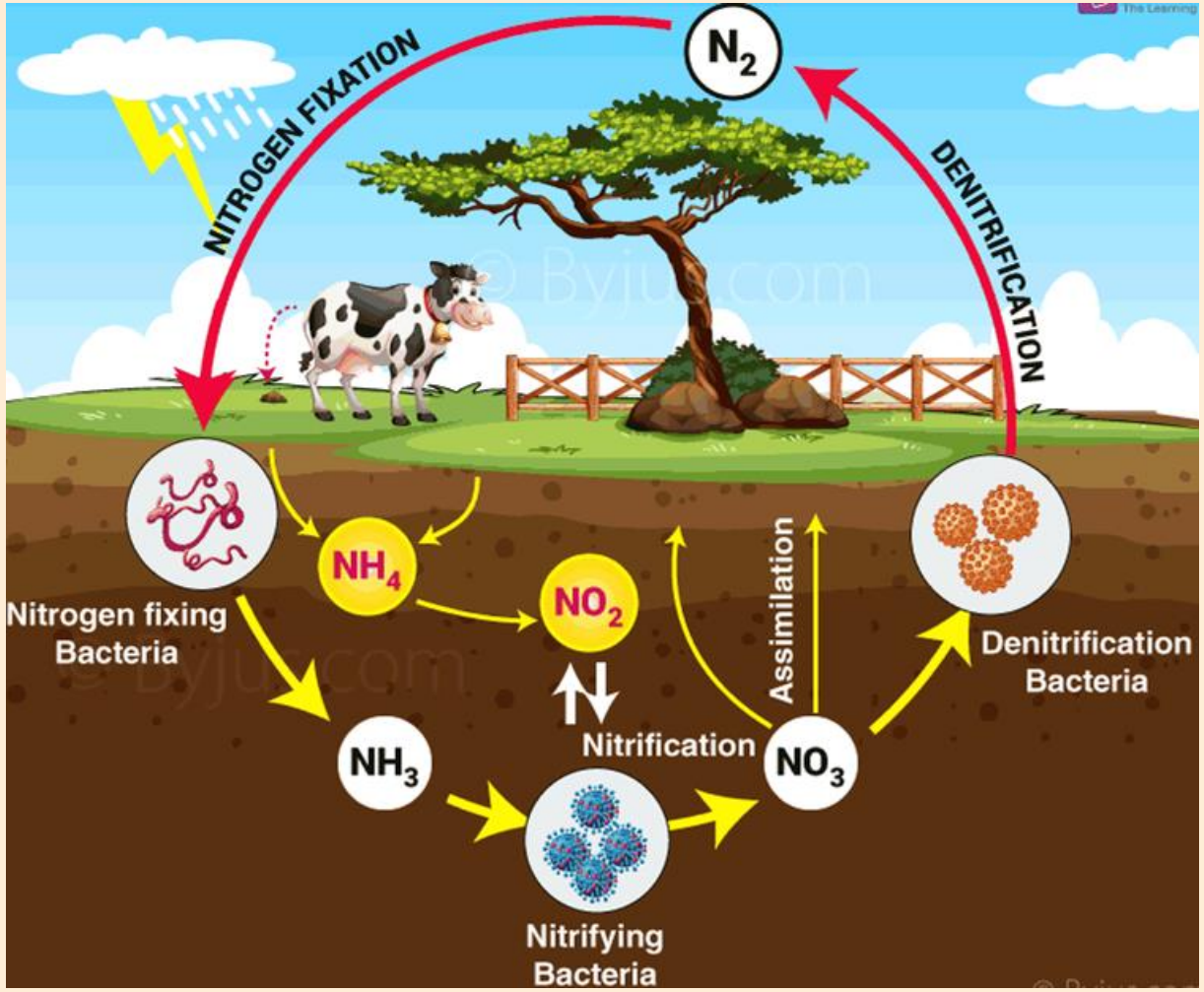
Coastal Wastewater Solutions, LLC

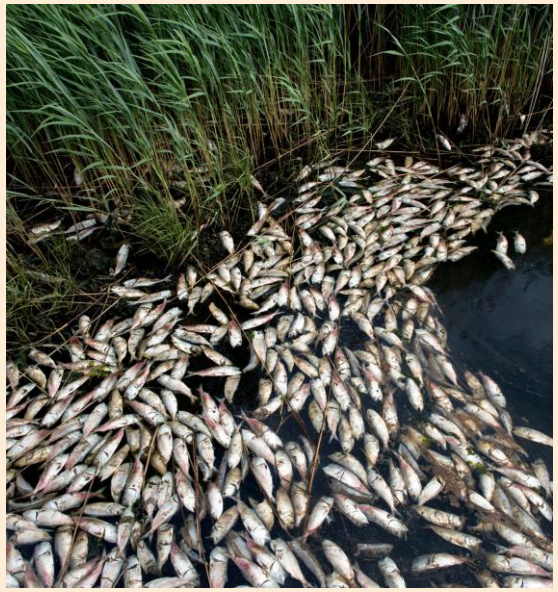
The Nature Conservancy

NASSAU COUNTY · STATE OF NEW YORK ·

What is Nitrogen Pollution?

- 78% of atmosphere comprised of harmless, unreactive N_2 gas
- Excess reactive nitrogen: CH_4N_2O, NH_3, and NO_3
- Too much of a good thing





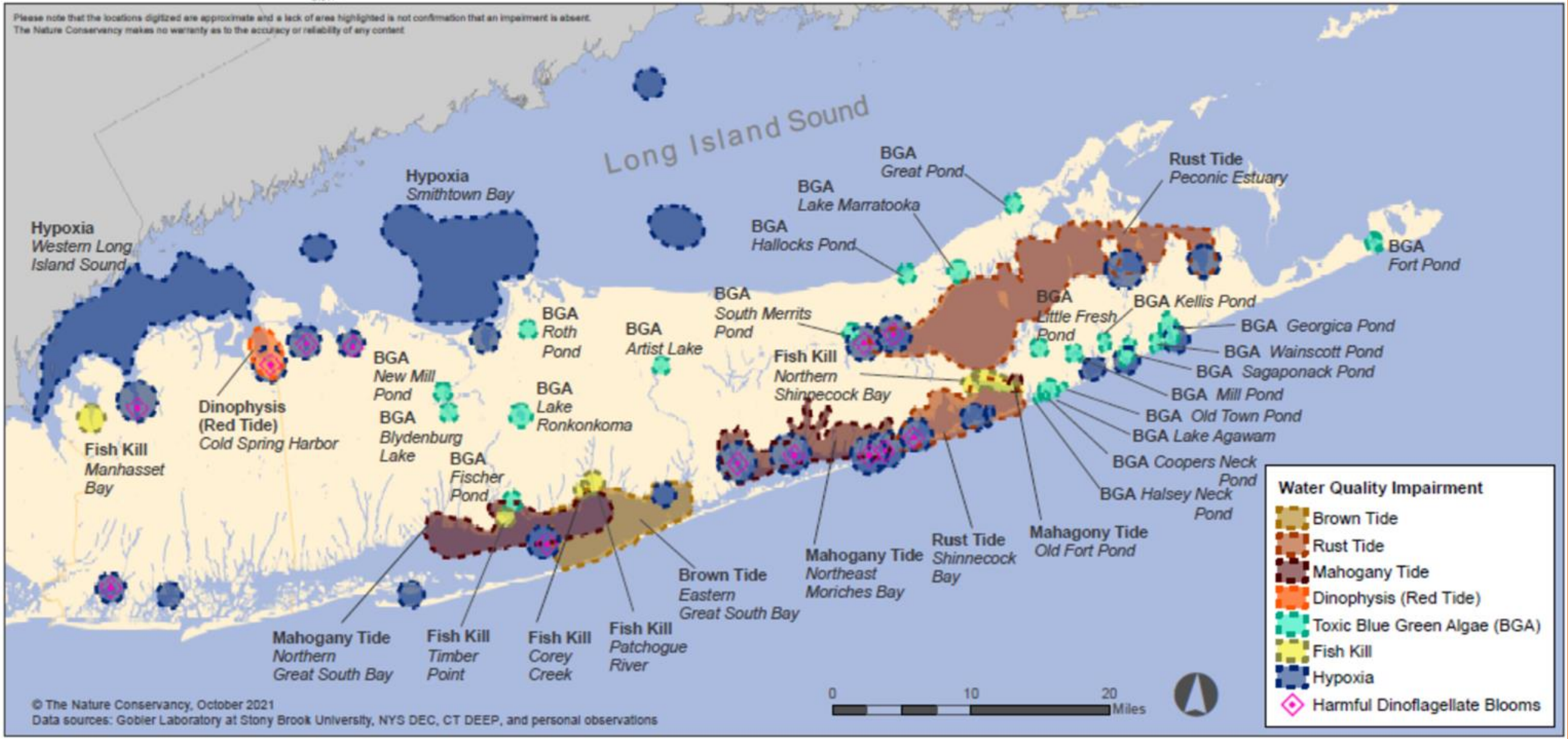
Effects of Excess Nitrogen on the Long Island Sound

- Fish Kills
- Harmful Algae Blooms (HAB)
- Invasive Seaweed
- Paralytic Shellfish Poisoning (PSP)

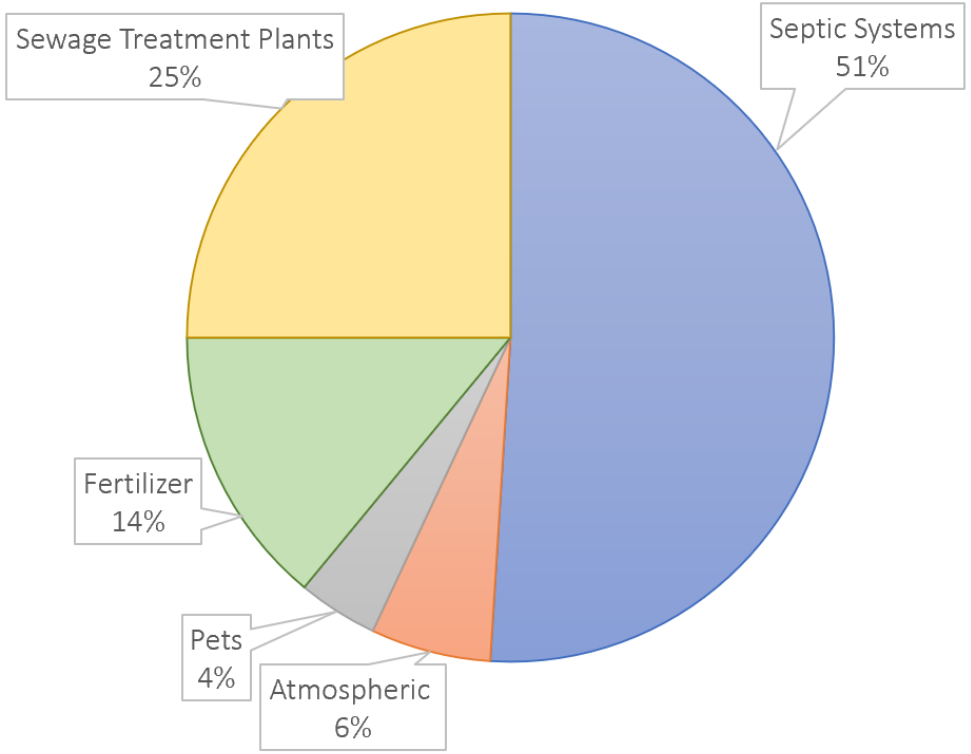
Stony Brook University
School of Marine and Atmospheric Sciences

Long Island Water Quality Impairments
Summer 2021

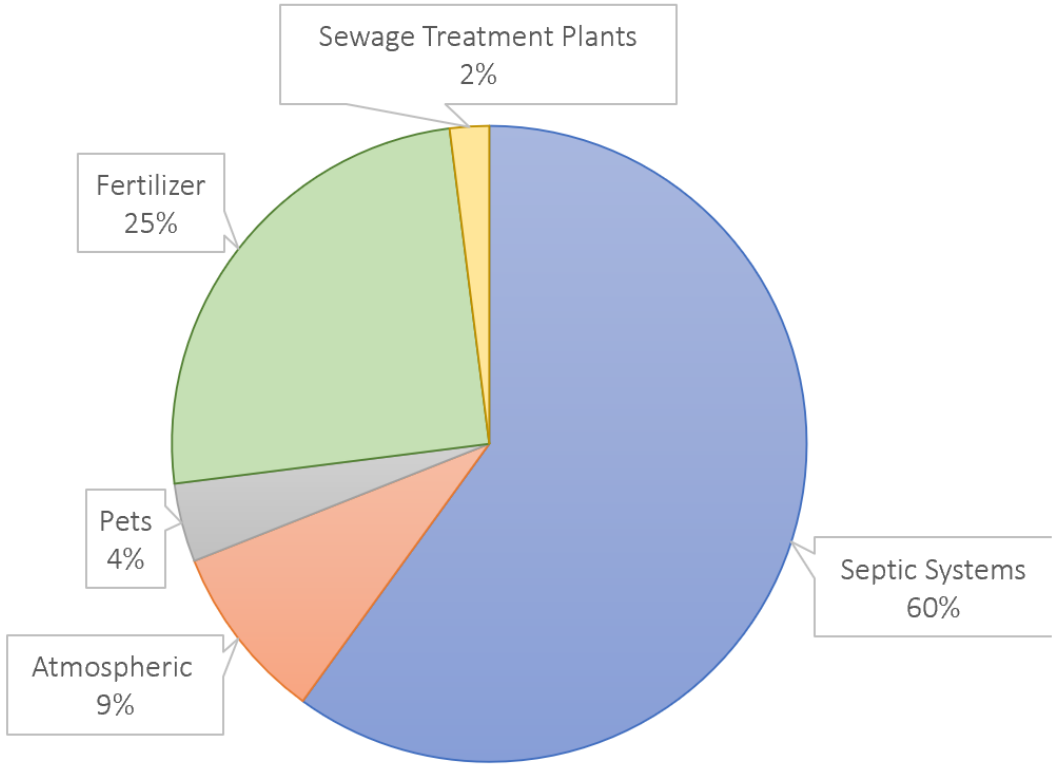
The Nature Conservancy



Distribution of Nitrogen to North Shore of Long Island

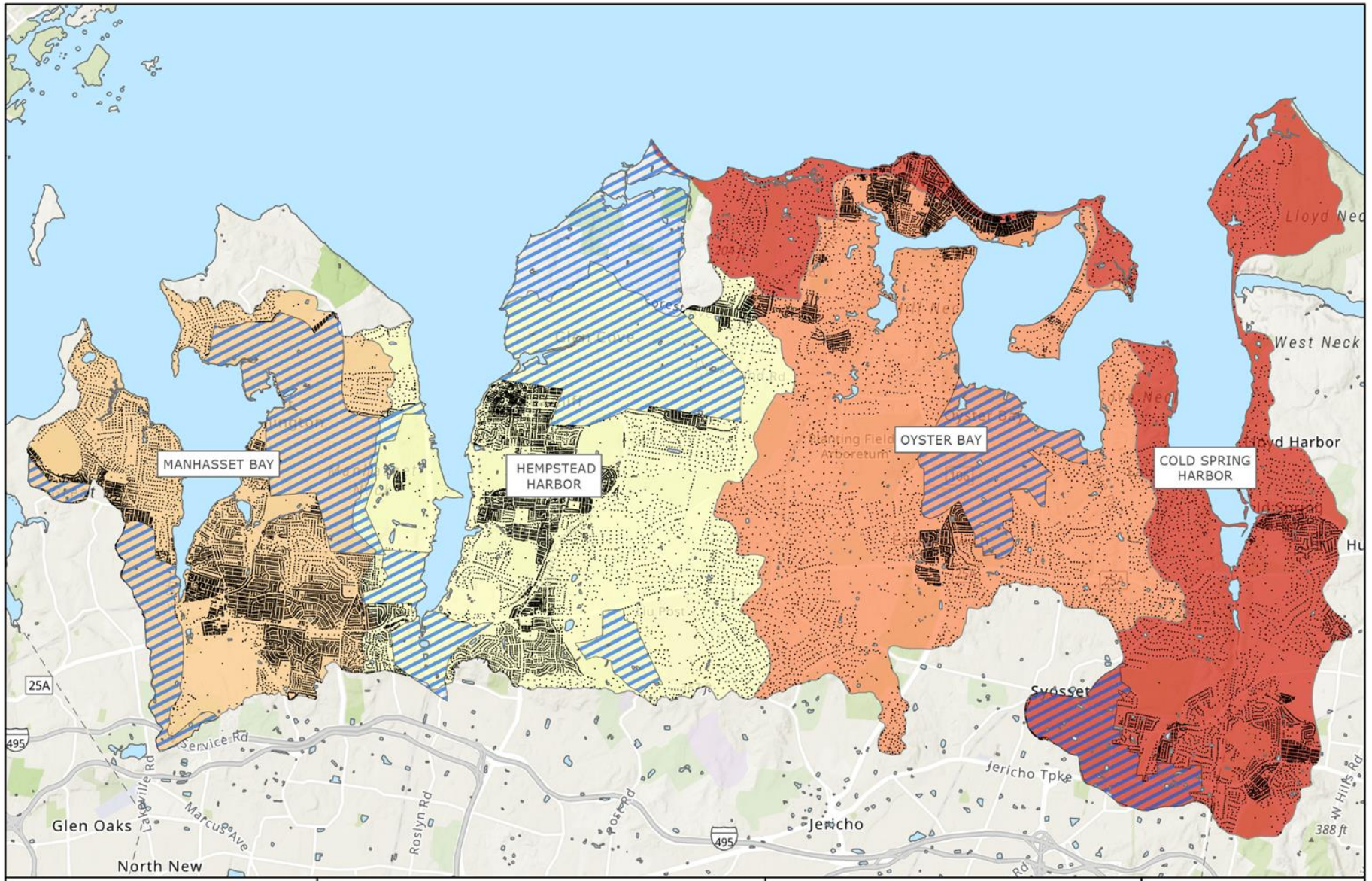


Hempstead Harbor, Manhasset Bay, and Little Neck Bay



Cold Spring Harbor, Oyster Bay, and Long Island Sound

Data from Stony Brook University's Nitrogen-Loading Modeling for Nassau County Subwatersheds.



NORTH SHORE OF LONG ISLAND WATERSHED NITROGEN-REDUCTION TARGETS

LEGEND:

- APPROXIMATE SEPTIC TANK LOCATION
- SEWAGE SERVICE AREA WITHIN WATERSHED BOUNDARY

WATERSHED BOUNDARY AND % NITROGEN REDUCTION TARGET

- 19.5% HEMPSTEAD HARBOR
- 42.2% MANHASSET BAY
- 48.7% OYSTER BAY
- 63.3% COLD SPRING HARBOR

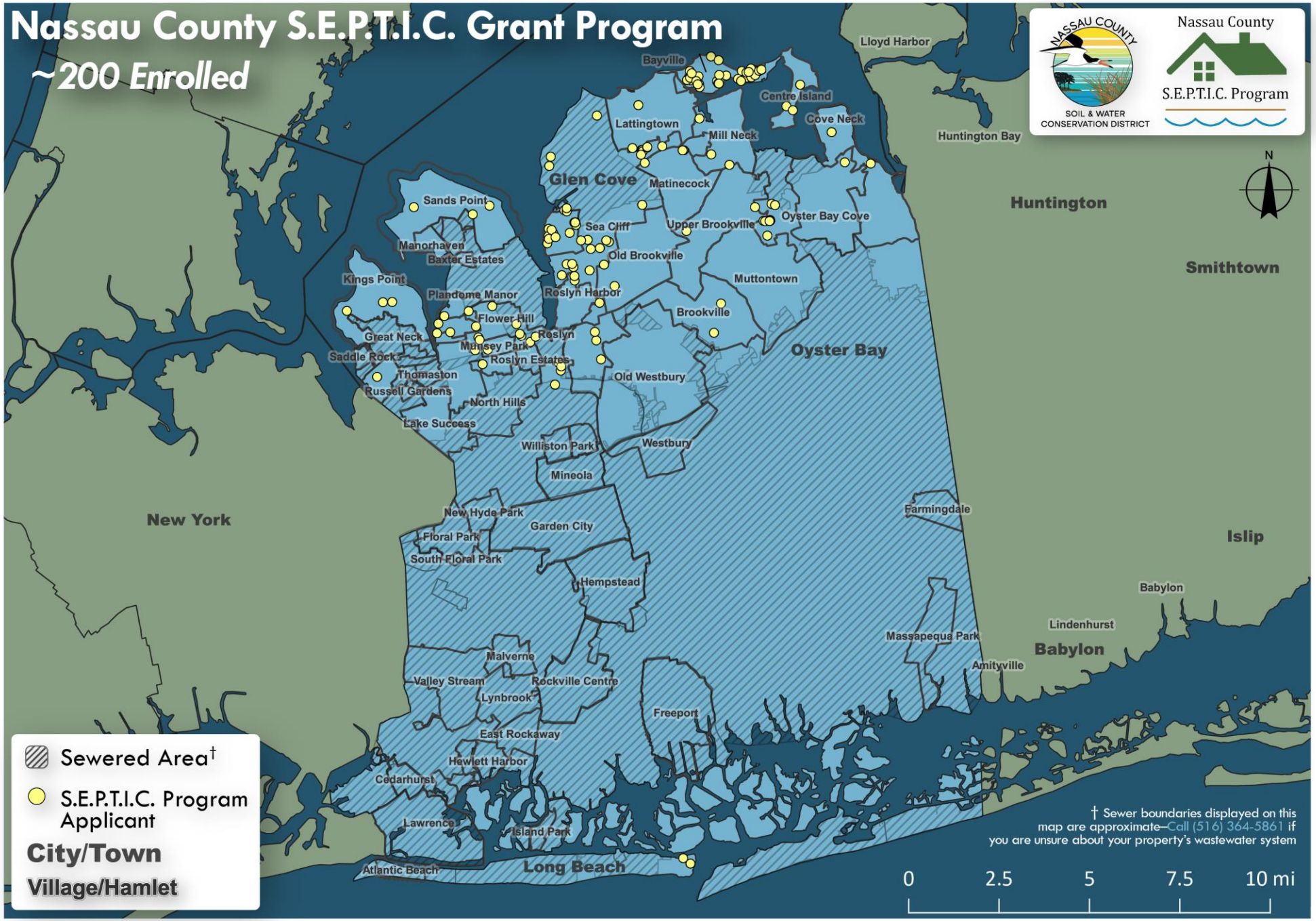
N

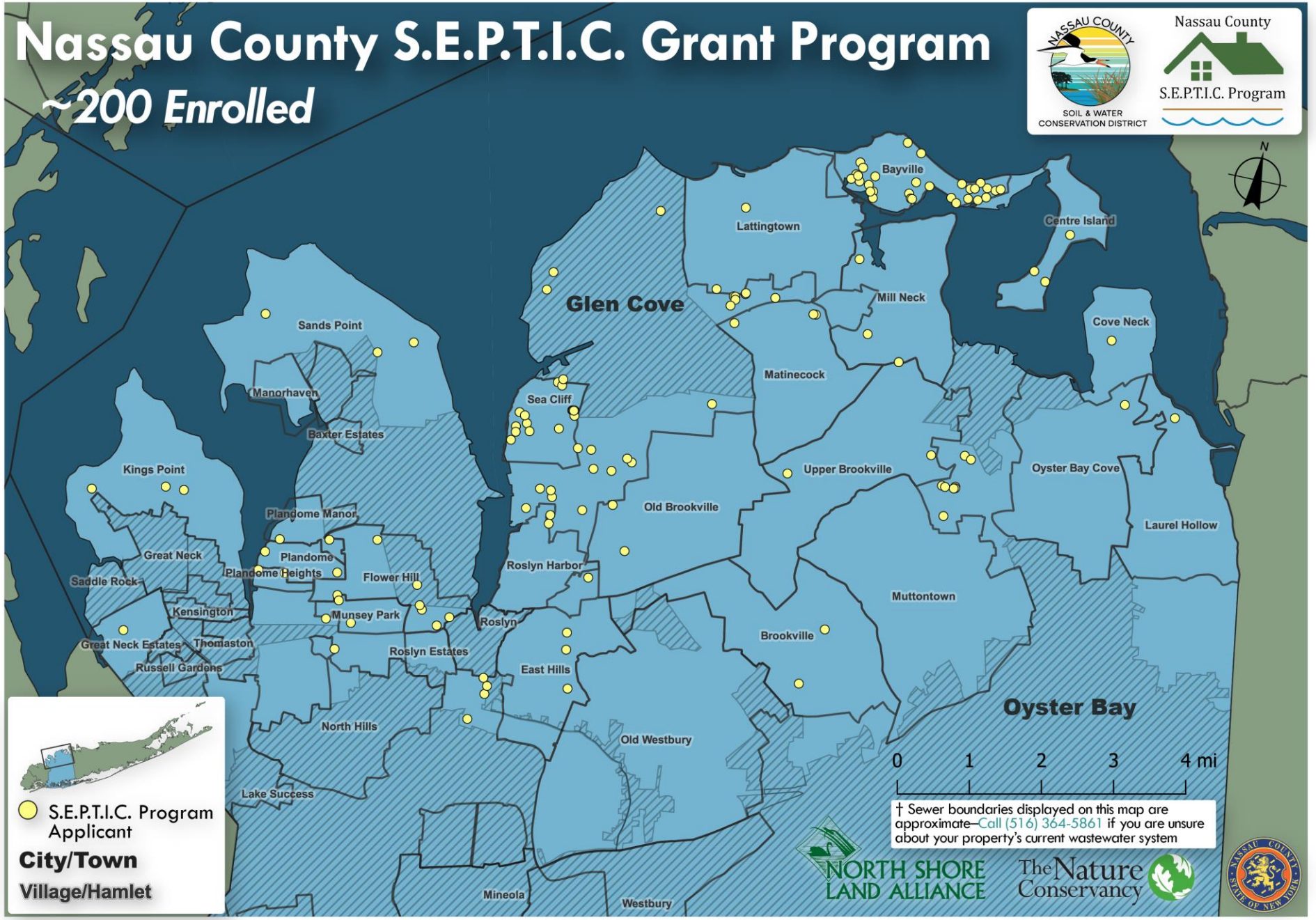
0 0.5 1 2 3

MILES

Data Sources:
Nassau County GIS
Nitrogen Loading Modeling for Nassau County Watersheds prepared by Stony Brook University, School of Marine and Atmospheric Sciences (2020)
National Hydrography Dataset

NORTH SHORE LAND ALLIANCE


Nassau County S.E.P.T.I.C. Grant Program
~200 Enrolled
NASSAU COUNTY
SOIL & WATER CONSERVATION DISTRICT
Nassau County
S.E.P.T.I.C. Program
N
Lloyd Harbor
Bayville
Centre Island
Cove Neck
Lattingtown
Mill Neck
Huntington Bay
Glen Cove
Matinecock
Huntington
Sands Point
Sea Cliff
Upper Brookville
Oyster Bay Cove
Manorhaven
Baxter Estates
Old Brookville
Smithtown
Kings Point
Plandome Manor
Roslyn Harbor
Muttontown
Flower Hill
Brookville
Great Neck
Roslyn
Munsey Park
Oyster Bay
Saddle Rock
Roslyn Estates
Thomaston
Old Westbury
Russell Gardens
North Hills
Lake Success
Williston Park
Westbury
Mineola
New York
New Hyde Park
Farmingdale
Garden City
Floral Park
Islip
South Floral Park
Hempstead
Babylon
Lindenhurst
Massapequa Park
Malverne
Babylon
Amityville
Valley Stream
Rockville Centre
Lynbrook
Freeport
East Rockaway
Hewlett Harbor
Cedarhurst
Lawrence
Island Park
Atlantic Beach
Long Beach
Sewered Area†
S.E.P.T.I.C. Program Applicant
City/Town
Village/Hamlet
† Sewer boundaries displayed on this map are approximate—Call (516) 364-5861 if you are unsure about your property's wastewater system
0
2.5
5
7.5
10 mi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Old Brookville
Plandome Manor
Laurel Hollow
Great Neck
Plandome
Plandome Heights
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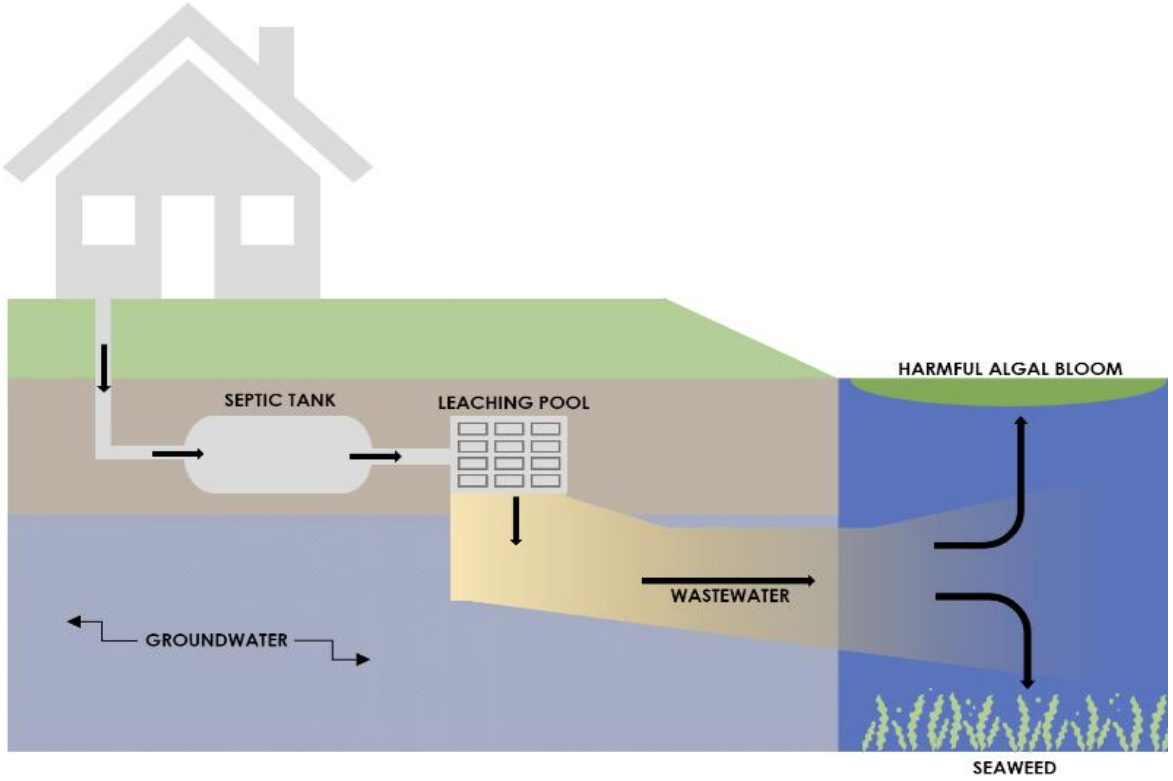
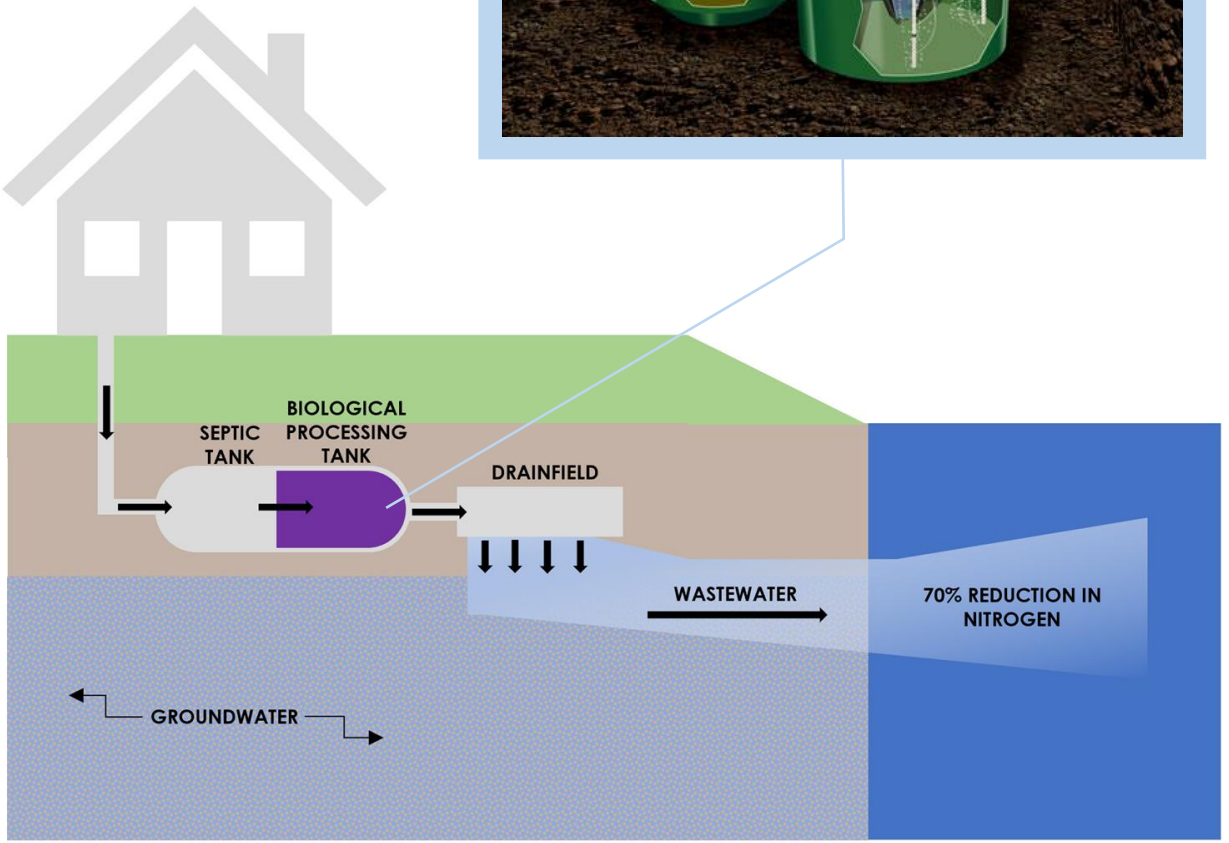
S.E.P.T.I.C. Program Applicant
City/Town
Village/Hamlet
0 1 2 3 4 mi
† Sewer boundaries displayed on this map are approximate—Call (516) 364-5861 if you are unsure about your property's current wastewater system
NORTH SHORE LAND ALLIANCE
The Nature Conservancy
NASSAU COUNTY STATE OF NEW YORK

"Innovative Advanced (I/A) OWTS" or "Clean-Water" septic tanks can reduce nitrogen outputs into groundwater by up to 95%.



CONVENTIONAL SEPTIC TANK



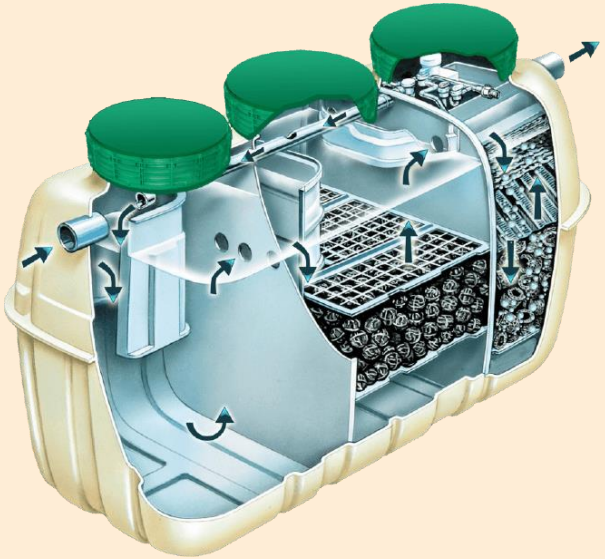
NITROGEN-REDUCING IA SEPTIC TANK

Nassau's S.E.P.T.I.C. Program – Overview

- Nassau County Septic Environmental Program to Improve Cleanliness (S.E.P.T.I.C.)
- Provides State and County grant funding of up to $20,000 to eligible property owners
- Program is administered by the Nassau County Soil and Water Conservation District
- Provide support and program modifications to streamline the upgrade from traditional Cesspools and Septic Systems to nitrogen reducing IA OWTS
- Program grant funds are considered nontaxable income.

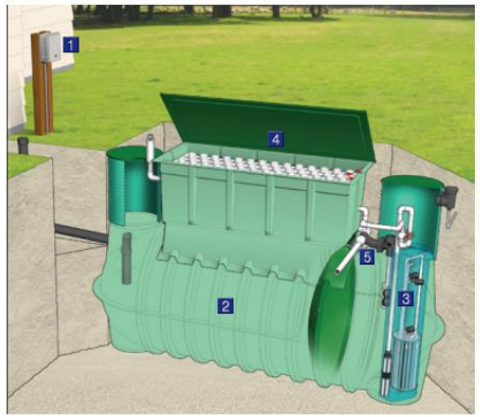
Nassau's S.E.P.T.I.C. Program – Accepted Technologies

Hydro-Action AN Series



Fuji Clean CEN Series

Norweco HydroKinetic



Typical backyard configuration of an AdvanTex® Treatment System.

The system has five main functional parts:

1. *VeriComm® web-based monitoring system†*
2. *Processing tank*
3. *Biotube® pumping package*
4. *AdvanTex filter*
5. *Recirculating splitter valve*

† MVP digital programmable panels available as an option in some markets.

Other configurations and models available.

Orenco Advantex AX-20

SeptiTech STAAR

Average S.E.P.T.I.C. Installation Costs

Note: These numbers are representative of installations completed within our program to date.

Average Cost - $27,950.59

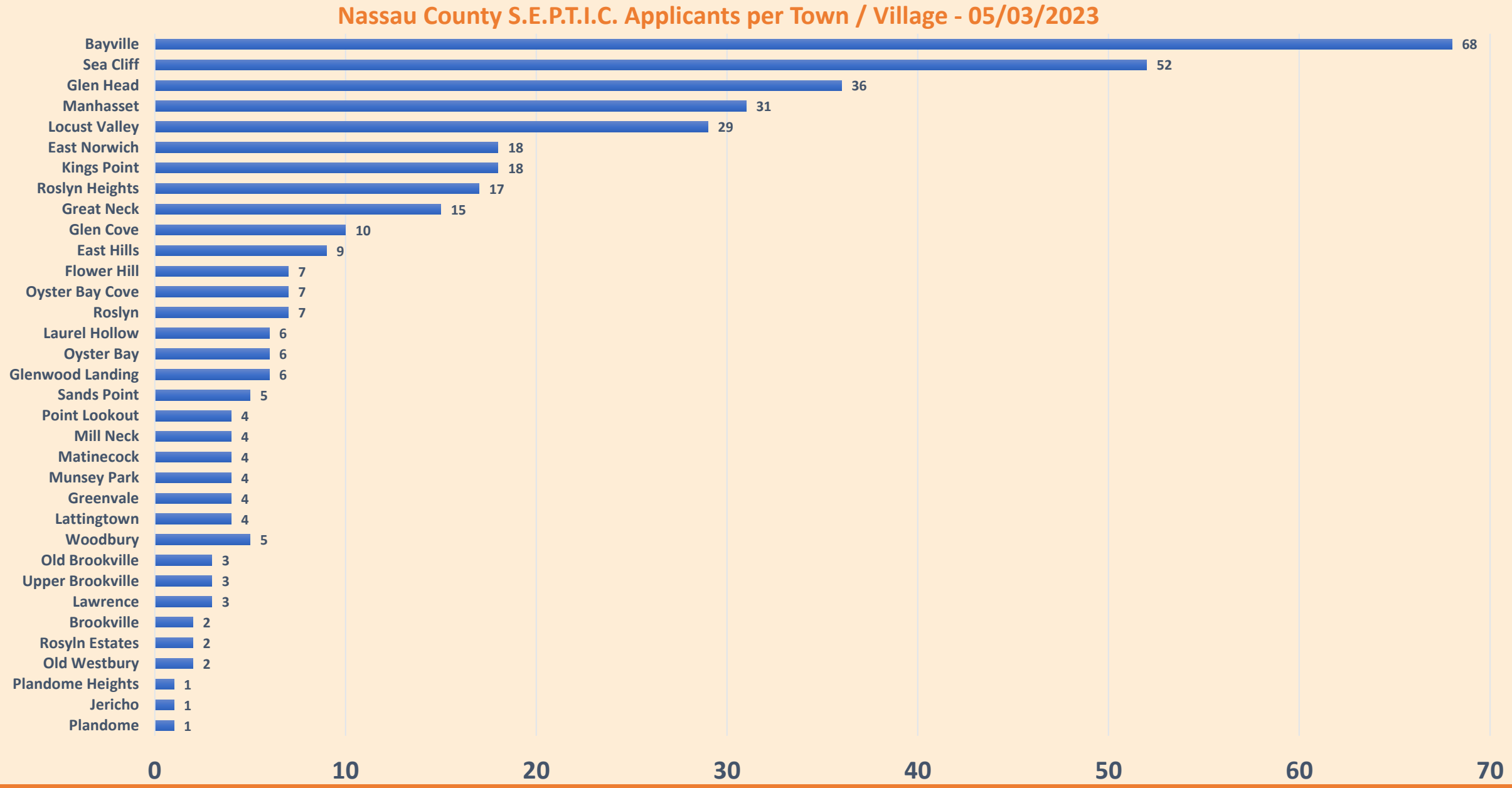
NOTE:

- This reflects only eligible reimbursable costs for the program. Does not include site beautification, O&M or abandonment fees.
- Grants are meant to offset and incentivize I/A systems over conventional systems and cesspools.
- There will be out-of-pocket expenses

Nassau's S.E.P.T.I.C. Program – Bayville Case Study

- Conventional septic system would have cost a minimum of $16,000.00
- The total Design, Material, and Installation costs of the FujiClean CEN Series Clean-Water septic system was $21,867.31.
- The Property Owner received $20,000 in combined grants from Nassau County and New York State
- 'out-of-pocket' cost to Property Owner was $1,867.31

Nassau's S.E.P.T.I.C. Program – Program Statistics



THANK YOU!

QUESTIONS?

NASSAU COUNTY
SOIL & WATER
CONSERVATION DISTRICT

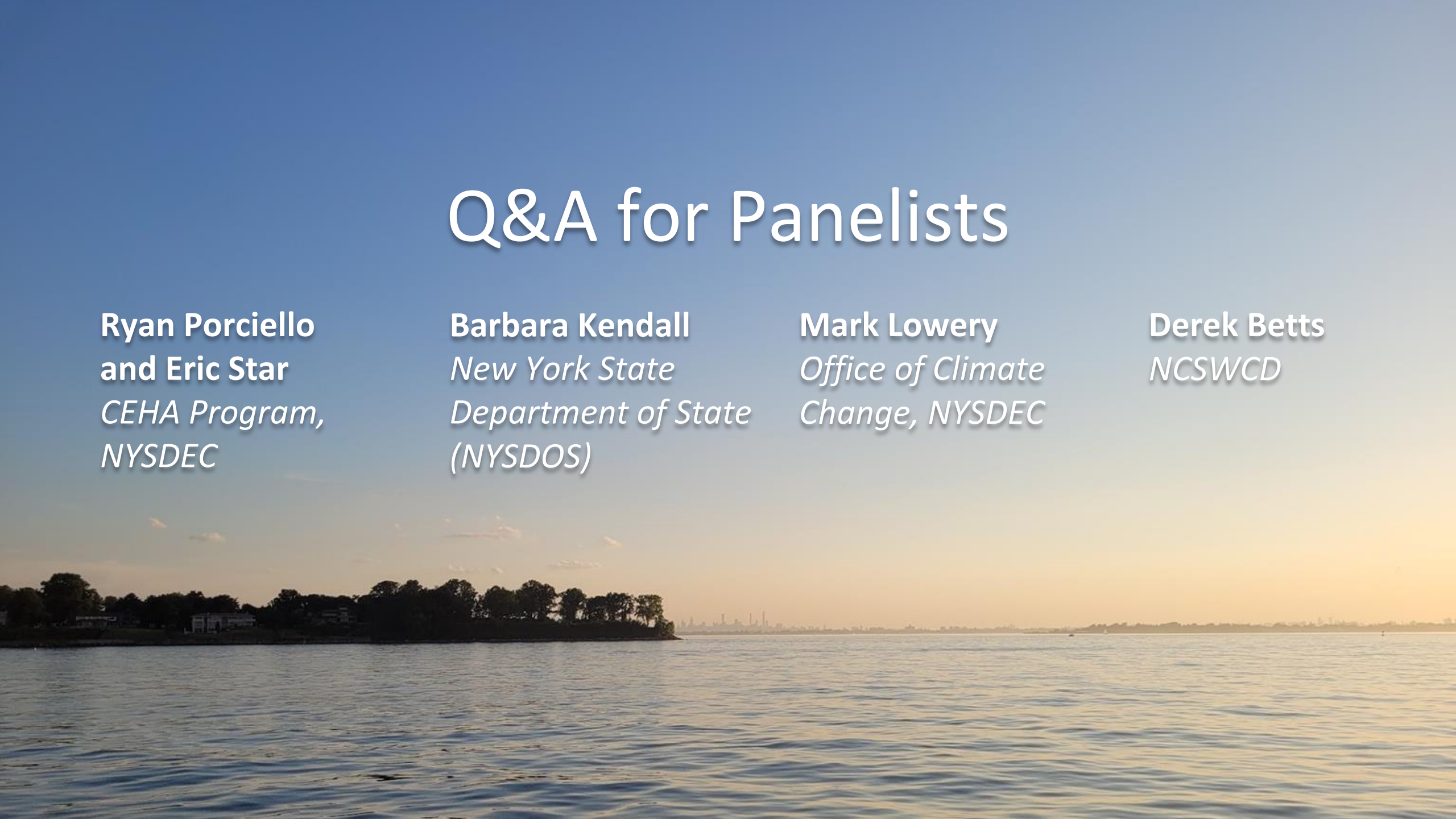
Q&A for Panelists

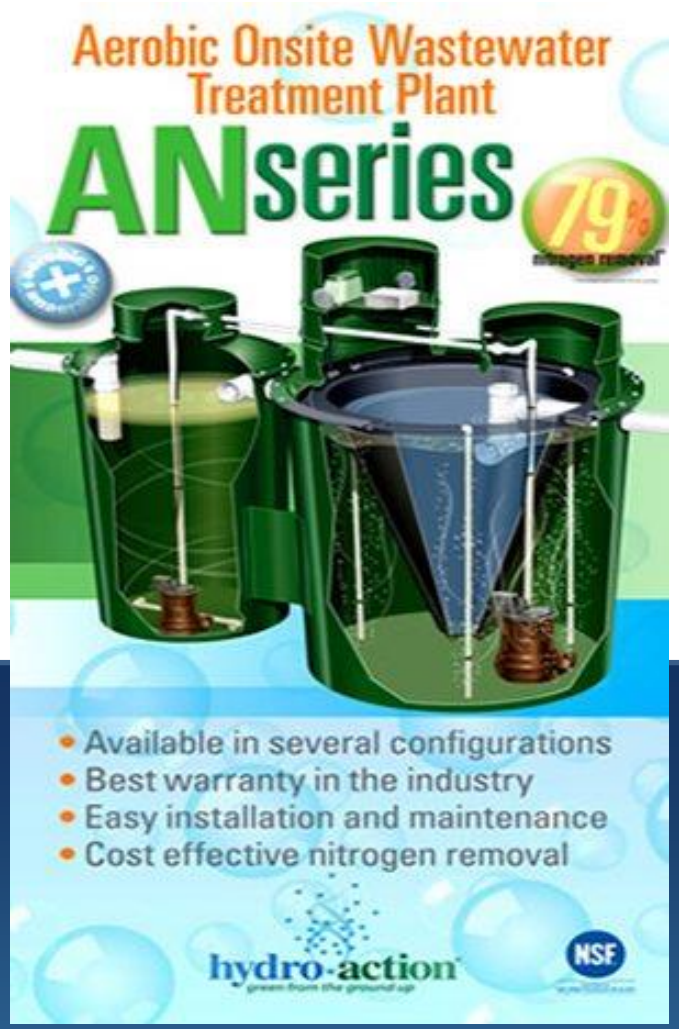
Ryan Porciello and Eric Star
CEHA Program, NYSDEC

Barbara Kendall
New York State Department of State (NYSDOS)

Mark Lowery
Office of Climate Change, NYSDEC

Derek Betts
NCSWCD





Lunch

Attendees can explore outdoor SEPTIC Program vendor – Hydro-Action!

Please be back by 1:15 PM

Welcome back!

Small Group Discussions

Small Group Discussions

Left Side of the Room – 2 Stations

Question 1:

How can we better educate private property owners who live on the shore or who are buying property on the shore? What educational materials/outreach is needed?

Secondary Question: Can we agree on a set of best practices for addressing shoreline erosion? How do we implement these? How do we encourage more nature-based shoreline solutions?

Right Side of the Room – 2 Stations

Question 2:

What support do municipalities/communities need from county, state and federal agencies/entities to help address shoreline erosion issues?

Secondary Question: What are the barriers to updating local codes?

Small Group Discussions

Question 1

Station 1: Kathleen Fallon & Elizabeth Hornstein

How can we better educate private property owners who live on the shore or who are buying property on the shore?

Switch Groups after 25 minutes

Question 2

Station 3: Mark Lowery

What support do municipalities/communities need from county, state and federal agencies/entities to help address shoreline erosion issues?

Question 1

Station 2: Derek Betts & Olivia Calandra

Question 2

Station 4: Barbara Kendall & Sarah Schaefer-Brown

Group Report Out

2 main points from each group

Wrap Up & Next Steps

Thank you!

Long Island Sound Study
A Partnership to Restore and Protect the Sound

Contact Us:

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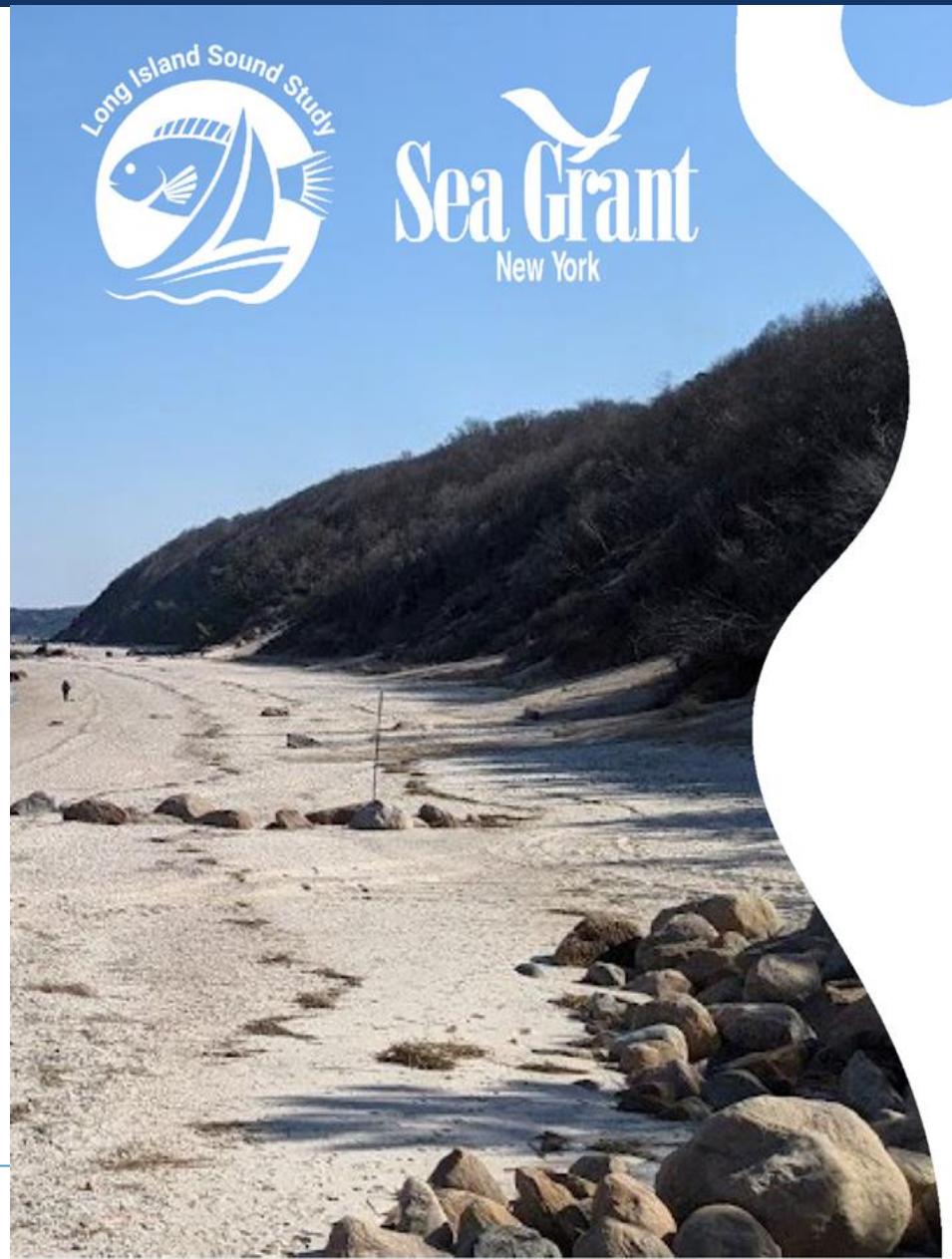
New York Sea Grant
elizabeth.hornstein@cornell.edu

Kathleen Fallon
New York Sea Grant
kmf228@cornell.edu



Save the Date
Long Island Sound Coastal Erosion Forums

Nassau County Forum: Thursday May 4, 2023, Locust Valley Library. Register here.

Suffolk County Forum: Wednesday May 10, 2023, Port Jefferson Village Center. Register here.

These forums will bring together state and local decision makers, municipal staff, and other stakeholders working to address coastal erosion. The goal of these forums is to share information on best practices, discuss challenges, identify opportunities to increase resilience, and enhance coordination across communities.

Hosted by New York Sea Grant and Long Island Sound Study in partnership with Nassau and Suffolk Soil and Water Conservation Districts and Suffolk County Legislators Sarah Anker, Stephanie Bontempi, Kara Hahn, and Al Krupski.

NASSAU COUNTY SOIL & WATER CONSERVATION DISTRICT

SUFFOLK COUNTY SOIL AND WATER CONSERVATION DISTRICT

COUNTY LEGISLATURE SUFFOLK COUNTY, N.Y.