

**United State Army Corps of Engineers
New York District
11th Annual (Virtual) Partner Inspection
April 27, 2021**





Partners



US Army Corps
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New York District

- **USEPA**
- **FEMA**
- **USHUD**
- **NPS**
- **USFWS**
- **NOAA Fisheries**
- **NJDEP**
- **NYSDEC**
- **PANY/NJ**
- **NJ Sports and Exposition Authority**
- **NYCDEP**
- **NYC Parks**
- **NYC Dept of City Planning**
- **NYCEDC**
- **Passaic Valley Sewage Commission**
- **Interstate Environmental Commission**
- **Harbor Estuary Program**
- **NY/NJ Baykeeper**
- **Hackensack Riverkeeper**
- **Riverkeeper**
- **Hudson River Park Trust**
- **Waterfront Alliance**
- **Sandy Hook Pilots**
- **Hudson River Foundation**
- **The Nature Conservancy**
- **NY Harbor School- Billion Oyster Program**
- **Jamaica Bay-Rockaway Conservancy**
- **Jamaica Bay Guardian**
- **American Littoral Society**
- **NYC Audubon Society**
- **Lower Raritan Watershed Partnership**
- **Lauder Institute-Wharton-University of Penn**
- **City College of NY**
- **Hudson County Schools of Technology, High Tech High School**
- **Archipeligo**
- **Dewberry**
- **TetraTech**
- **Princeton Hydro**
- **SumCo Eco-Contracting**

Speakers bolded



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Virtual Harbor Inspection Agenda Tuesday, April 27, 2021



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Introduction

1:00-1:30PM

Welcome Remarks.....Colonel Matthew Luzzatto, Commander
New York District Accomplishments.....Mr. Joseph Seebode, Deputy District Engineer
Hudson Raritan Estuary (HRE) Ecosystem Restoration.....Ms. Lisa Baron, Project Manager

Partner Agency Overviews

1:30-3:15PM

U.S. Environmental Protection Agency.....Mr. Walter Mugdan, Acting Regional Administrator
National Park Service.....Ms. Jennifer Nersesian, Superintendent, Gateway National Recreation Area
National Oceanic Atmospheric Administration.....Ms. Karen Greene, Chief, Mid-Atlantic Branch, NOAA Fisheries
U.S. Fish and Wildlife Service.....Mr. Eric Schrading, Field Supervisor, NJ Field Office
U.S. Housing and Urban Development.....Ms. Donna Mahon, Field Environmental Officer – Disaster Recovery
New York Department of Environmental Conservation.....Mr. Steve Zahn, Regional Director
NJ Department of Environmental Protection.....Mr. David Rosenblatt, Chief Resilience Officer & Asst. Commissioner
NJDEP- Liberty State Park.....Ms. Olivia Glenn, Deputy Commissioner
Port Authority of NY & NJ.....Ms. Bethann Rooney, Deputy Port Director
NYC Department of City Planning.....Mr. Michael Marrella, Director of Waterfront and Open Space Planning
NYC Department of Environmental Protection.....Mr. John McLaughlin, Managing Director of Ecosystem Services
NYC Department of Parks & Recreation.....Mr. Liam Kavanagh, First Deputy Commissioner
NY&NJ Harbor Estuary Program.....Mr. Robert Pirani, Director
NY/NJ Baykeeper.....Mr. Greg Remaud, Baykeeper and CEO and Meredith Comi, Restoration Program Director
Hudson Riverkeeper.....Mr. Paul Gallay, President and Hudson Riverkeeper
American Littoral Society and Jamaica Bay Guardian.....Mr. Don Riepe, Director North East Chapter
Waterfront Alliance.....Ms. Cortney Koenig Worrall, President and CEO
NY Harbor School/Billion Oyster Program.....Mr. Peter Malinowski, Executive Director, BOP



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Group Photo

Break: 3:15PM-3:30PM

Project Updates

3:30-4:10PM

HRE, Hudson River Habitat Restoration, Spring Creek North Restoration.....Ms. Lisa Baron, Project Manager
NY/NJ Harbor Deepening and Channel Improvements and Anchorage Projects.....Mr. Mark Lulka, Project Manager
Passaic River – Minish Park and Passaic Tidal Coastal Storm Risk Management.....Mr. Jason Shea, Project Manager
South Shore Staten Island Coastal Storm Risk Management.....Mr. Frank Verga, Project Manager
Sea Gate-Coney Island Improvement and
East Rockaway and Jamaica Bay Coastal Storm Risk Management Project.....Mr. Dan Falt, Project Manager
NY/NJ Harbor and Tributaries Study.....Mr. Bryce Wisemiller, Project Manager

Question and Answers.....ALL

4:10-4:25PM

Closing Remarks.....Colonel Matthew Luzzatto

4:25-4:30PM

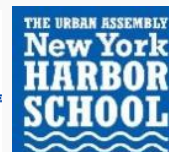


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Walter Mugdan
Acting Regional Administrator



U.S. Environmental Protection Agency



★ Hackensack River

★ Bronx and Harlem River Watersheds

★ Berry's Creek

★ Lower Hudson PCBs

★ Quanta Resources Edgewater



East Orange

★ Passaic River



★ Newtown Creek



★ Gowanus Canal



Staten Island

Piscataway

Edison

Runswick

★ Raritan Bay Slag

Raritan Bay

Sandy Hook



★ Superfund Sites

★ Urban Waters Partnership Locations



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**Jennifer Nersesian, Superintendent
Gateway National Recreation Area**



Park Updates

- COVID visitation
- West Pond Living Shoreline
- Dead Horse Bay
- Utility Improvements
- GAOA – Beach Channel Dr Seawall
- Jacob Riis Park Bathhouse





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**Karen Greene, Chief
NOAA, Mid-Atlantic Branch
National Marine Fisheries**



**NOAA
FISHERIES**

Habitat and Ecosystem Service Division

Mission - to protect and restore habitat to sustain fisheries, recover protected species, and maintain resilient coastal ecosystems and communities.



- Consultation and stewardship – MSA/EFH and FWCA.
- Coastal development and infrastructure, coastal resiliency and climate, hydroelectric/fish passage, watershed planning, aquaculture and offshore wind.
- Fishing industry engagement.
- Fisheries studies in Passaic River and finfish aquaculture studies.
- Early restoration planning in the Passaic River.
- Coastal Resiliency Grants.

<https://www.fisheries.noaa.gov/new-england-mid-atlantic/habitat-conservation/habitat-conservation-and-stewardship-greater-atlantic>



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Eric Schrading
Field Supervisor, NJ Field Office



U.S. Fish and Wildlife Service

- Regional Priorities
 - Landscape Conservation
 - Aquatic Connectivity
 - At-Risk Species
 - Coastal Resilience
- Early Restoration – Newark – NRDAR
- Recontamination Concerns – Mitigation/Restoration
- CDE Restoration Plan – Raritan River - \$27 million





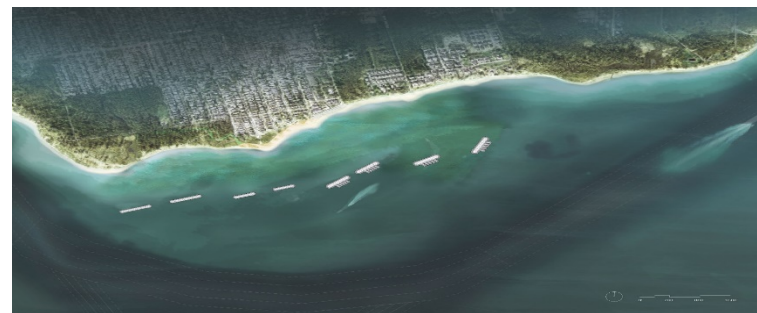
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Donna Mahon
Field Environmental Officer- Disaster Recovery



U. S. Department of Housing and Urban Development Rebuild By Design Resiliency and National Disaster Competition Projects

- New Jersey:
 - **New Jersey Meadowlands:** \$150 Million Flood Resilience Project
 - **Hudson River:** \$230 Million Flood Resilience Project
- New York State
 - **Living Breakwaters:** \$60 Million Coastal Resilience Project
- New York City:
 - **East Side Coastal Resiliency:** \$1.45 Billion (\$338 Million – CDBG-DR) Flood Protection System
 - **Two Bridges:** \$1.76 Million Coastal Resiliency Project





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Department of
Environmental
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Steve Zahn
Regional Director



Steve Zahn- Congratulations!



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- ✓ Being a founding member of and setting up the Regional Dredge team, twice
- ✓ Restoration of Bridge Creek and excellent partner on the Jamaica Bay Marsh Islands (cut down a stranded cormorant stuck on fishing line in a tree)
- ✓ Helping to improve DEC properties
- ✓ Handling DEC's Sandy response
- ✓ Helping with the establishment of the first regional tidal wetland mitigation bank at Sawmill Creek
- ✓ Establishing strong partnerships and relationships with DEC's federal and state partners and establishing trust with the regulated community.
- ✓ Heading up several COVID-19 testing and vaccination sites around the region.



✓ **Phenomenal Partner to the USACE on all our projects!!!**

New York State Department of Environmental Conservation

Coastal Protection

- Ongoing: Rockaways
- Planning: NY/NJ Harbor and Tributaries Study



Habitat Restoration



Shellfish Restoration



Artificial Reefs

Continued our efforts to expand NY's Artificial Reefs



Department of
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Pollution Prevention

NYS's Plastic Bag Ban went into effect in 2020.



Education

- Hudson River Estuary Program's \$300,000 in EBP's supported educational programs in the harbor and estuary
- Region 2 I FISH NY program delivered virtual fishing clinics
- Region 2 Environmental Education program produced 35 virtual lessons, reaching 2500 NYC students, teachers and parents



Renewable Energy

- CLCPA sets renewable energy and emissions reductions targets
- NYS goal of 9,000MW of energy from offshore wind operations



To The Rescue





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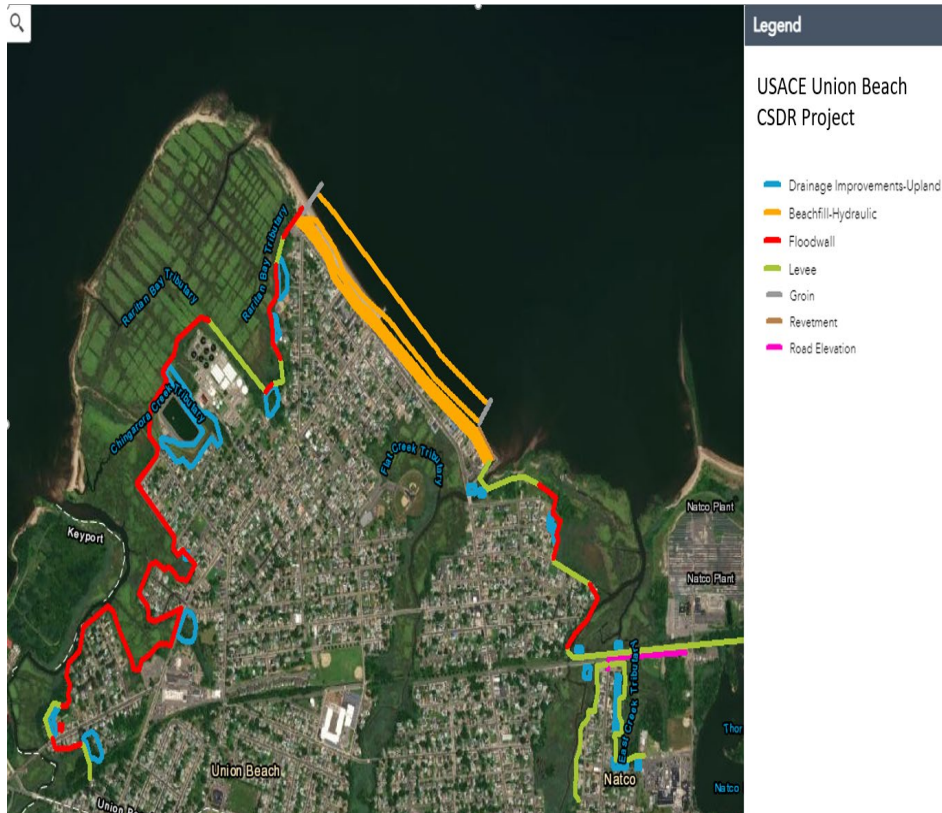


David Roseblatt
Chief Resilience Officer & Assistant Commissioner
Climate and Flood Resilience



New Jersey Department of Environmental Protection

USACE-DEP Union Beach Coastal Storm Risk Management Project



USACE-DEP Port Monmouth Hurricane & Storm Damage Reduction Project



Figure 1 - Project Location Map

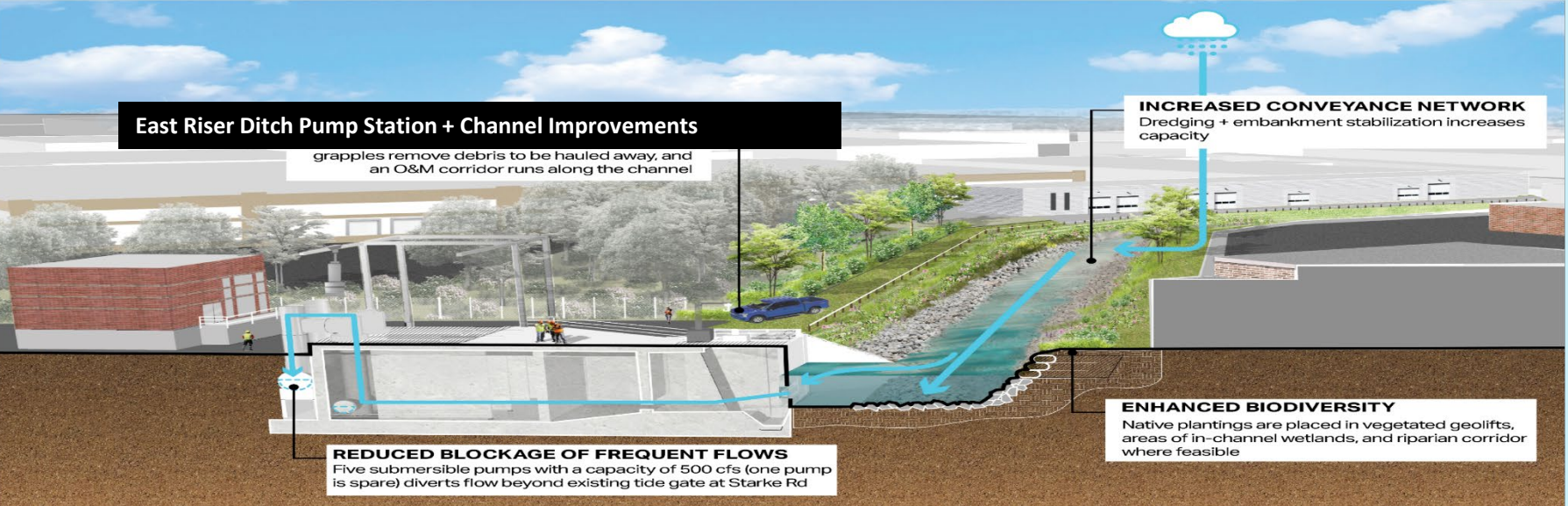


Port Monmouth Hurricane and Storm Damage Reduction Project
Consolidated OMR&R for Port Monmouth, Middletown Township

Nov 2018



New Jersey Department of Environmental Protection



Rebuild by
Design





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Olivia Glenn
Deputy Commissioner



Liberty State Park Interior Restoration





Liberty State Park Interior Restoration



Tidal Wetlands

50 Acres



Non-tidal Wetlands

27 Acres



Uplands/Active Recreation

133 Acres



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THE PORT AUTHORITY
OF NY & NJ



Bethann Rooney
Deputy Director, Port Department



2020 ACCOMPLISHMENTS –

- Record year for volume, despite COVID-19:
 - 7,585,819 TEUs, an increase of 1.5% over 2019
 - Vessels of 9,000 TEUs or more called on the port 14.5% more in 2020 than 2019
 - Three 15,000 TEU vessels called in 2020
- *CMA-CGM Brazil* - welcomed the largest vessel to call the Port to date at 15,072 TEUs on Saturday, September 12th
- Launch of DredGIS+ - a data-driven approach to improve planning of the Port's annual maintenance dredging
- Installation of two new current meters in KVK - aids Sandy Hook Pilots in vessel transit through the channel and overall navigational safety
- Pilot project with "Seabin" at Berth 2 in Spring/Summer 2020
- Release of draft *Harbor Deepening Channel Improvement Feasibility Study*
- Authorization of the Gravesend Anchorage Deepening and full use of the Harbor Maintenance Tax in WRDA 2020
- Finalized Wharf Replacement Program Study
- Commissioning of Bridge 10 at Greenville Yards



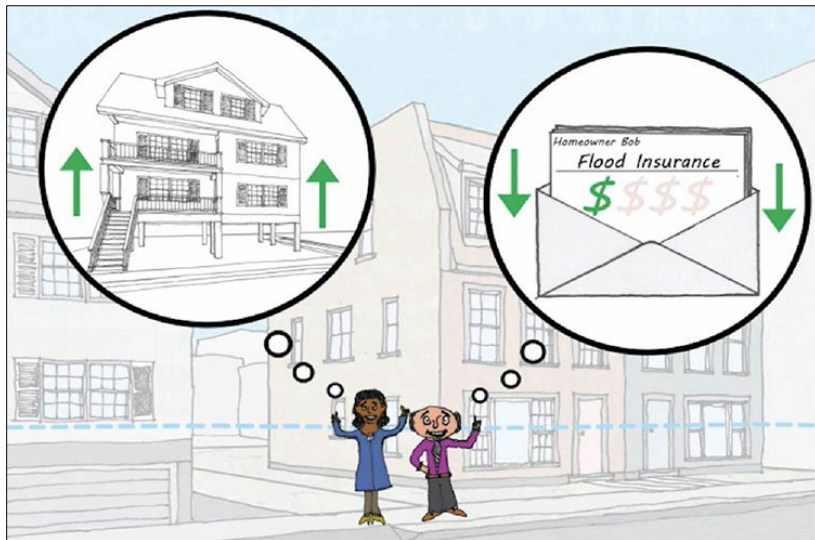


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**Michael Marrella, Director
Waterfront and Open Space Planning**

- Flushing Creek Study and Deauthorization
- Zoning for Coastal Flood Resiliency
- NYC Comprehensive Waterfront Plan





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John McLaughlin
Managing Director of Ecosystem Services

USACE Cost Sharing Feasibility Studies

- Hudson Raritan Estuary (HRE)
- Jamaica Bay
- Bronx River
- Flushing Creek



Jamaica Bay LTCP

- 50-acres of Wetland Restoration
- GI Expansion
- 7-acres of ribbed mussels



Research

Water Quality

Water and sewer rate funding of \$16B in water quality projects over 15-years, including \$3B to \$4B within Jamaica Bay.

Ecosystem Restoration

Public Outreach

Green Infrastructure



Design of schools and NYCHA retrofits. Private GI Contract retrofit resulting in 200 greened acres



Spring Creek North Continuing Authorities Program Cost Sharing Partner



10,000 GI Assets Constructed/in construction of resulting in 500MGY of CSO reduction





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Liam Kavanagh
First Deputy Commissioner



NYC Department of Parks & Recreation

Resiliency and Shoreline Access

- Initiated construction of Rockaway Coastal Protection and East Side Coastal Resiliency Projects
- Began design on reconstruction of Battery Wharf
- Began design on new open space at Harlem River Greenway 125th-132nd
- Secured funds for East River Esplanade and reconstruction of 107th St. Pier

Restoration and Management

- Began implementing the NYC Forest Management Framework, including care for 845 acres of forests across natural areas through invasive management native planting, and expanded protection of native forests from deer herbivory
- Stocked fish and maintained passage for anadromous fish at Wolfe's Pond and Bronx River
- Constructed living shoreline pilot project at Alley Creek in Little Neck Bay
- Worked with Partners to expand and maintain oyster reef restoration sites
- Completed Starlight Park shoreline restoration along the Bronx River
- Oversaw 5 acres of tidal wetland mitigation in the Bronx at Pugsley Creek and Ferry Pt Parks

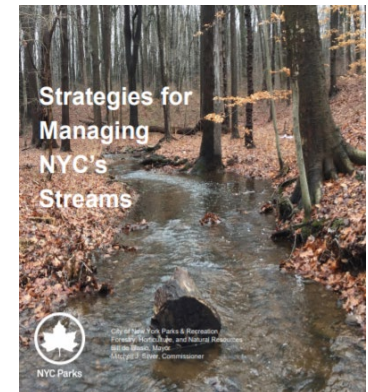
Restoration Planning and Design

- Completed wetland designs for four Bronx Park lake shore and tidal wetland sites
- Completed the Harlem River Watershed Plan
- Completed NYC Streams report and initiated fish passage alternatives analysis
- Advanced Spring Creek North design with USACE
- Assisted Corps in finalizing designs for HRE sites (Bronx Zoo & Dam, Stone Mill Dam, Shoelace Park and Fresh Creek)

Research and Monitoring

- Completed a Statewide Monitoring Framework for Natural and Nature-Based Feature
- Initiated tidal creek and road infrastructure connectivity study

Stewardship: Engaged thousands of volunteers in shoreline, coastal dune, wetland, forest, & tree care





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New York - New Jersey
Harbor & Estuary Program
www.harborestuary.org

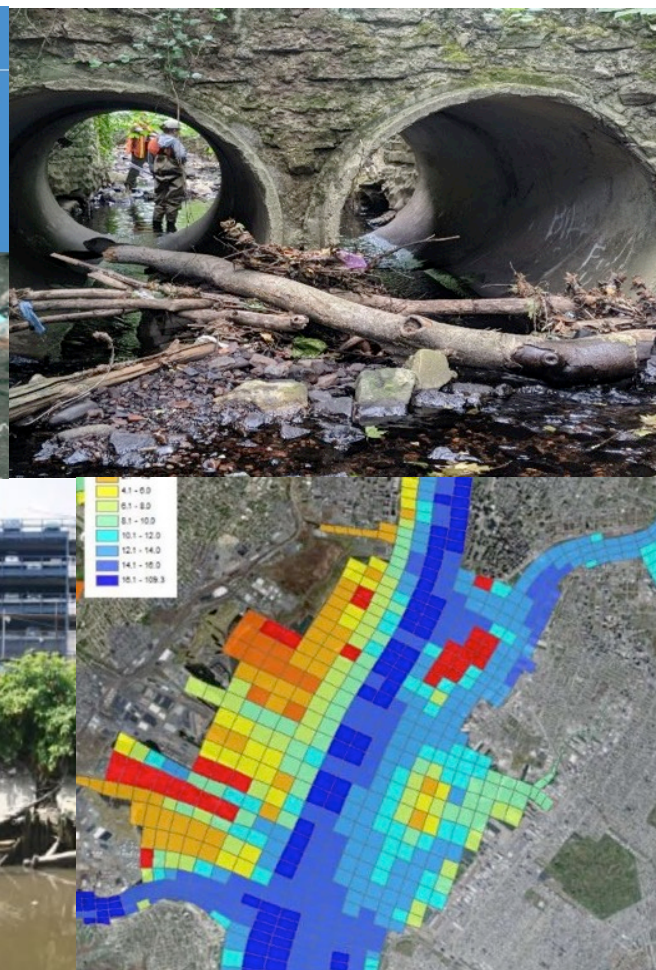
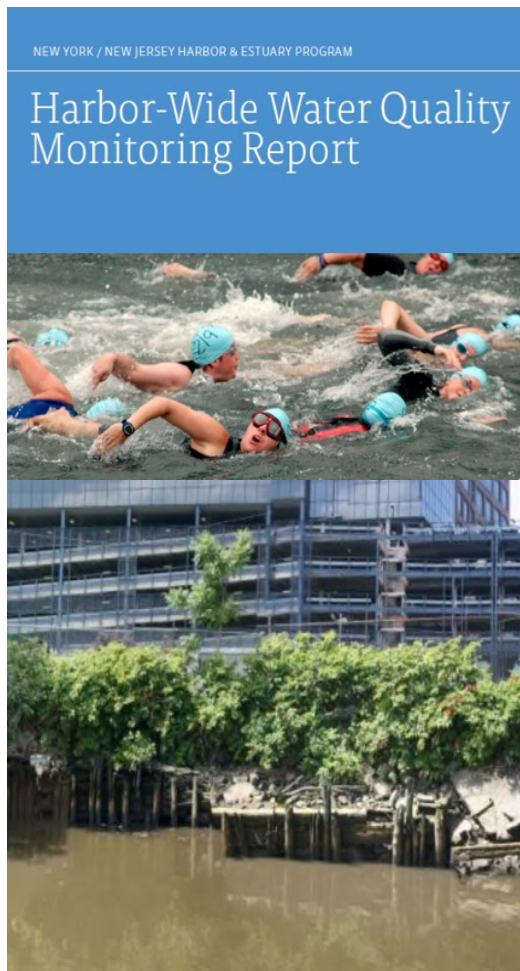


Rob Pirani, Director

NEW YORK - NEW JERSEY HARBOR & ESTUARY PROGRAM

2020 – 2021 Highlights

- Prepared Harbor-wide Water Quality Report
- Addressed CSO through LTCP adoption and Implementation
- Advancing aquatic connectivity through climate-ready Infrastructure
- Improving shoreline and shallow-water habitat values
- Preparing paddling guide for more than 150 launch sites
- Modeling future levels of sediment contamination
- Planning for Lower Passaic shorelines and Harlem River Watershed





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Greg Remaud
Baykeeper and CEO

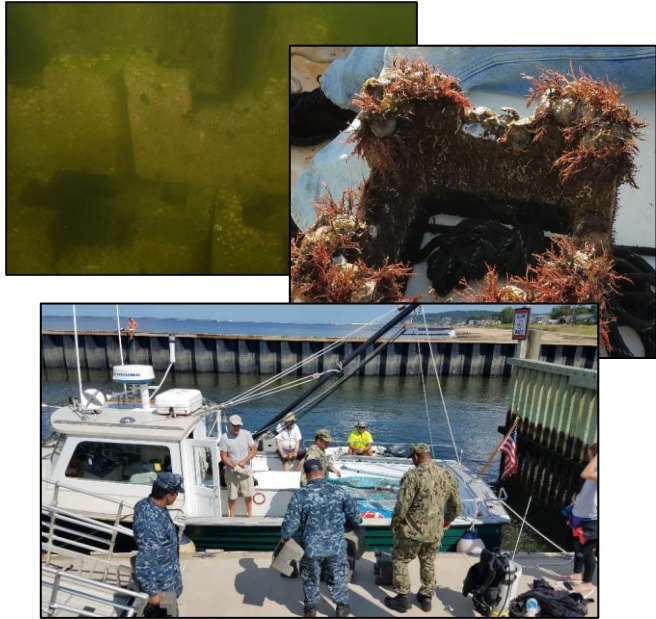


Meredith Comi
Restoration Program Director

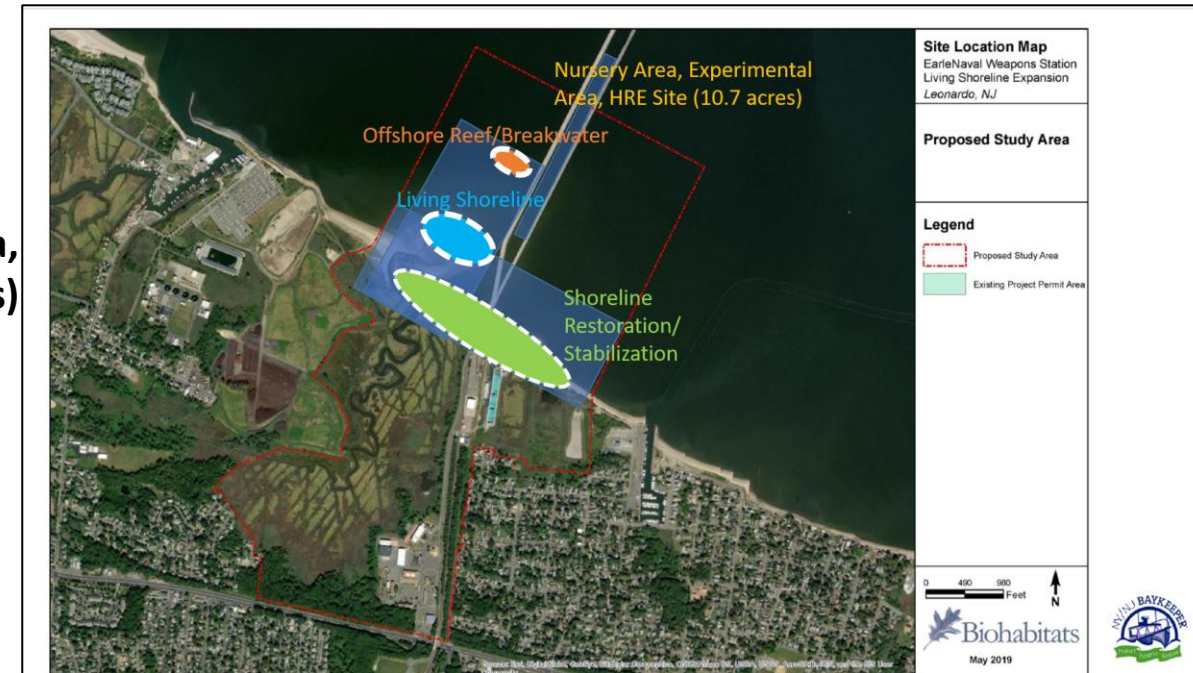
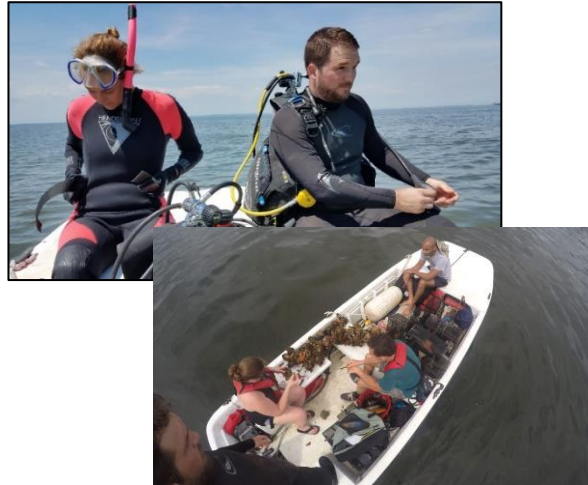


NY/NJ Baykeeper – Restoration at Naval Weapons Station Earle

Living Shoreline/Oyster Breakwater



Oyster Nursery, Experimental Area, Future HRE Project Site (10.7 acres)



Monitoring: Oyster Survivorship/Growth, Recruitment, Sedimentation, Biodiversity, Hydrodynamics, Water Quality

Aquaculture Facility



Ware Creek: Shoreline Stabilization





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RIVERKEEPER®

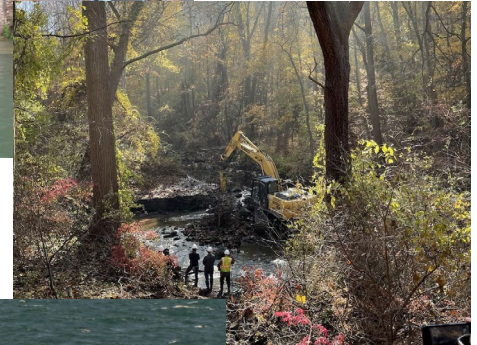
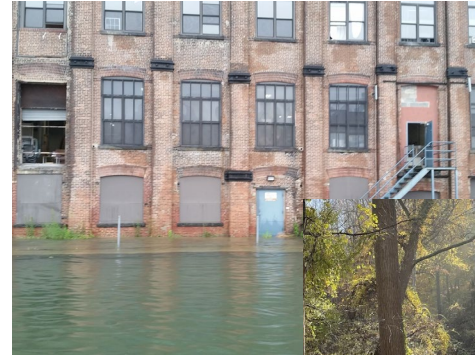


Paul Gallay
President and Hudson Riverkeeper



Hudson Riverkeeper

- Helped drive passage of the **Water Resources Development Act of 2020**
 - A revitalized and expanded approach to the coastal impacts of climate disruption
 - Calls for consideration of sea level rise and inland flooding, community engagement, and a layered approach
- **Removed two dams to allow for fish passage, on Quassaick Creek and Furnace Brook, with more to come**
- **Breakthrough in protections for menhaden:** Atlantic States Marine Fisheries Commission will use 'ecological reference points' to set limits on harvesting.
 - Preserves ecosystem health by allowing species that prey on menhaden to get first dibs





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Don Riepe
Jamaica Bay Guardian
American Littoral Society





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WATERFRONT ALLIANCE



Cortney Koenig Worrall
President and CEO

Priorities and Accomplishments

Holistic Climate Resilience

- Rise to Resilience Coalition
- NJ Climate Resilience Master Plans
- NYC Design Guidelines

Excellence in Design

- Waterfront Edge Design Guidelines (WEDG®)

Funding and Policy

- Advocacy Federal, State, and local

Education

- May 10, 12, & 14: Waterfront Conference
- May 14: NYC Mayoral Forum





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Peter Malinowski
Executive Director
Billion Oyster Program

Billion Oyster Project and Harbor School

2020/21 - Highlights

New York Harbor School Expansion

17 Million Oysters restored at 8 sites over 5 acres of habitat

Curriculum and Professional Development for teachers

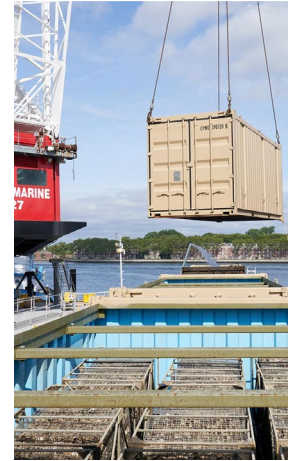
Virtual Educational Programming

Field Stations online at five waterfront sites

Shell Collection Program

Volunteer Program on Governors Island

Prolific Year for Natural Oyster Recruitment





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Project Updates

3:30-4:10PM

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Question and Answers.....ALL

4:10-4:25PM

Closing Remarks.....Colonel Matthew Luzzatto

4:25-4:30PM

Hudson Raritan Estuary Ecosystem Restoration Program



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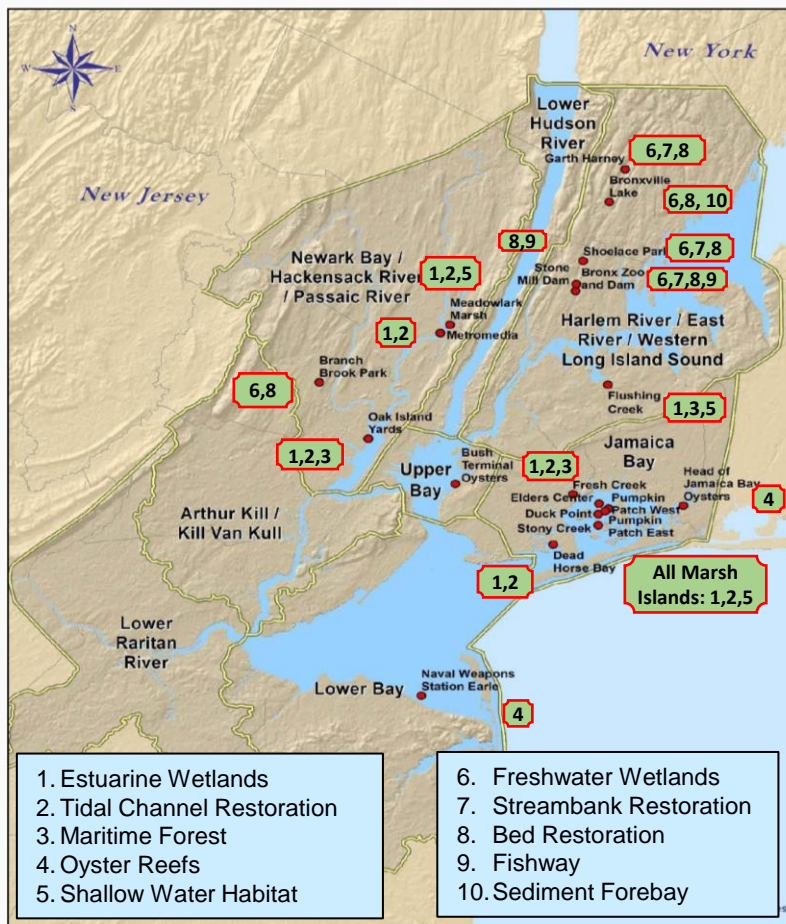
Department of
Environmental
Conservation



NYC Parks



Westchester
gov.com



- **Chief's Report (May 2020) recommended 20 individual projects** that will restore a mosaic of **621 acres of habitat** including:
 - ✓ 381 acres of estuarine wetlands (w/ 6 miles of tidal channels), 50 acres of freshwater riverine wetlands, 27 acres of coastal and maritime forest, 39 acres of shallow water habitat and 52 acres of oyster habitat;
 - ✓ Installation of 2 fishways and modification of 3 weirs to improve fish passage (24 miles) on the Bronx River.
 - ✓ 1.6 miles of stream bank and 72 acres of stream bed and channel restoration.
- **Construction authorized in WRDA 2020.**
- **Awaiting appropriations** for first set of projects to advance Pre-construction Engineering and Design (PED) phase.
 - ✓ Stony Creek Marsh Island
 - ✓ Flushing Creek
 - ✓ Bronx Zoo & Dam/Stone Mill Dam
 - ✓ Oysters at Naval Station Earle

<https://youtu.be/1hisn42KwRg>



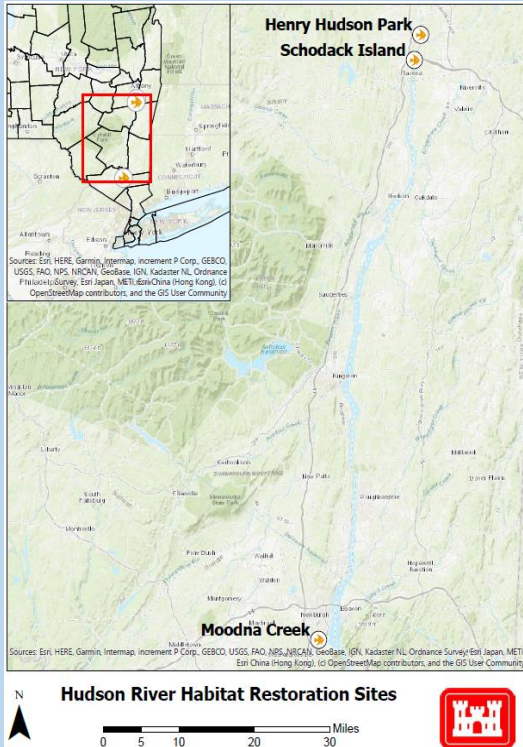
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Hudson River Habitat Restoration (HRHR) Feasibility Study

<https://youtu.be/8CVcwbZWjpw>



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1. Shoreline Restoration



Henry Hudson Park

- Tidal wetland restoration (3.7 acres)
- Replacement of the eroding hardened shoreline with a living shoreline (1,760 linear feet of shoreline with 0.6 acres of tidal wetlands)

2. Large Mosaic-Side Channel Restoration



Schodack Island Park

- Side channel and tidal wetland complex (8.5 acres)
- Tidal wetland restoration (19.1 acres)

3. Tributary Connectivity (Aquatic Organism Passage) Moodna Creek (collectively reconnect 7.8 miles of habitat)



AOP 1- Utility Pipe
Removal



AOP 2- Firth Cliff Dam
Removal



AOP 3- Orr's Mill Dam
Partial Removal

- The Chief's Report was signed on November 19, 2020 and was authorized for construction in WRDA 2020.
- First Cost:\$44,638 and Fully Funded Costs: \$64,810,000 (FY21 Price Level).
- Non-Federal Sponsor for construction is NYSDEC at 75% federal/25% non-federal cost share.

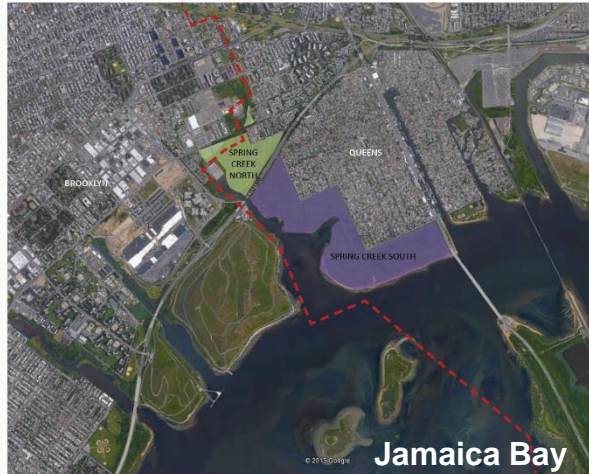


NYC Parks

Spring Creek North Ecosystem Restoration Pre-Construction Engineering and Design



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- Executed PPA for Design and Construction in August 2018.
- Restoration of 35 acres of habitat including 13 acres of intertidal marsh and 22.1 acres of maritime upland habitat (primarily funded by NYC Parks as enhancement activities) and an additional 2.4 acres of maritime upland completed by NYC Parks.

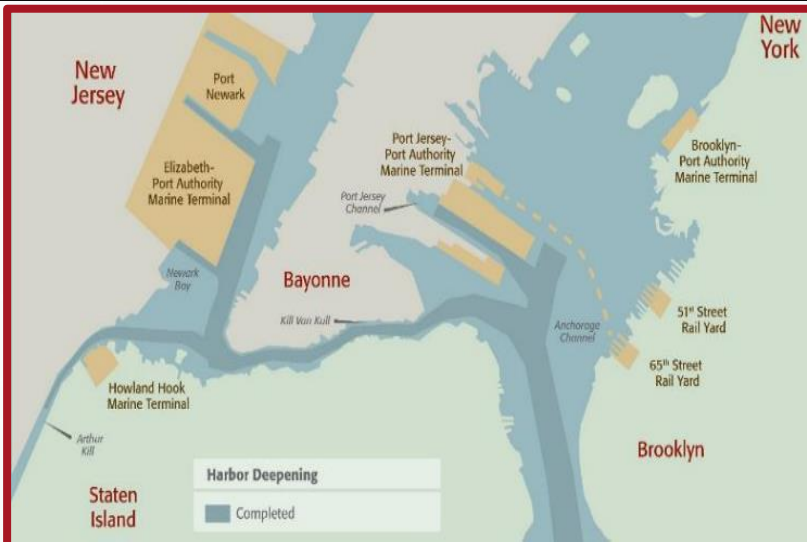
- Field work completed: wetland delineation, upland community tree survey, Bio-benchmarking survey, Hydrodynamic (water level and current flow) data collection and modeling (existing conditions), Bathymetric/Topographic surveys, Utility surveys, Geotechnical sampling plan.
- Advancing designs, plans and specifications for construction end of FY22

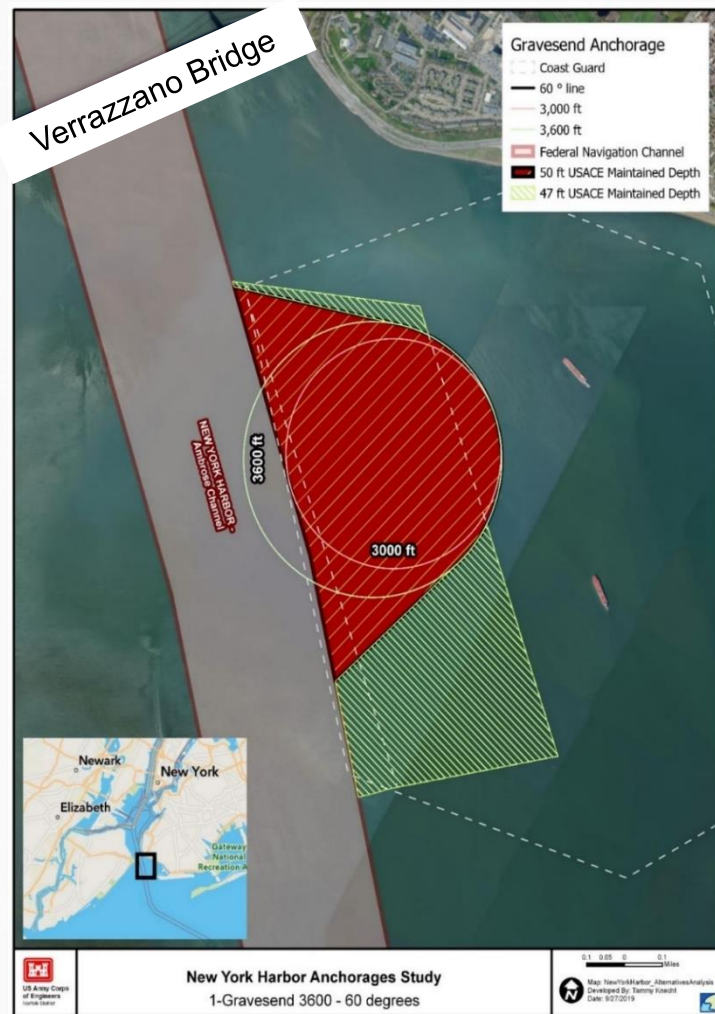
Spring Creek South (Howard Beach), Queens NY

- New Start Multi-Purpose Feasibility Study authorized in WRDA 2020 for “Ecosystem Restoration and Hurricane and storm damage risk reduction”.



- **Non-Federal Sponsor:**
Port Authority of New York & New Jersey
- **Tentatively Selected Plan: 28 Aug 2020 for**
channel depths up to 55' MLLW
- **Agency Decision Milestone: 11 May 2021**
- **Total Estimated Cost: \$4.05B**
- **Feasibility Cost Shared 50% Federal / 50% Non-Federal**
- **BCR: 1.9 at 2.75% Discount Rate**
- **Dredging Volume: 33.2 Million CYDs**
- **Beneficial Use:** potential options include ecosystem restoration, coastal storm risk management, flood risk management, recreation, and remediation efforts, and will be developed during the PED phase





- **Non-Federal Sponsor: Port Authority of New York & New Jersey**
- **Chief of Engineers Report Recommendation April 23, 2020**
- **Authorized for Construction in WRDA 2020.**
- **Total Construction Cost: \$26,070,000**
- **Cost Shared 75% Federal / 25% Non-Federal**
- **BCR: 1.2 at 2.75% Discount Rate**
- **Dredging Volume: 950,000 CY of HARS Suitable (assumed) sandy silts**

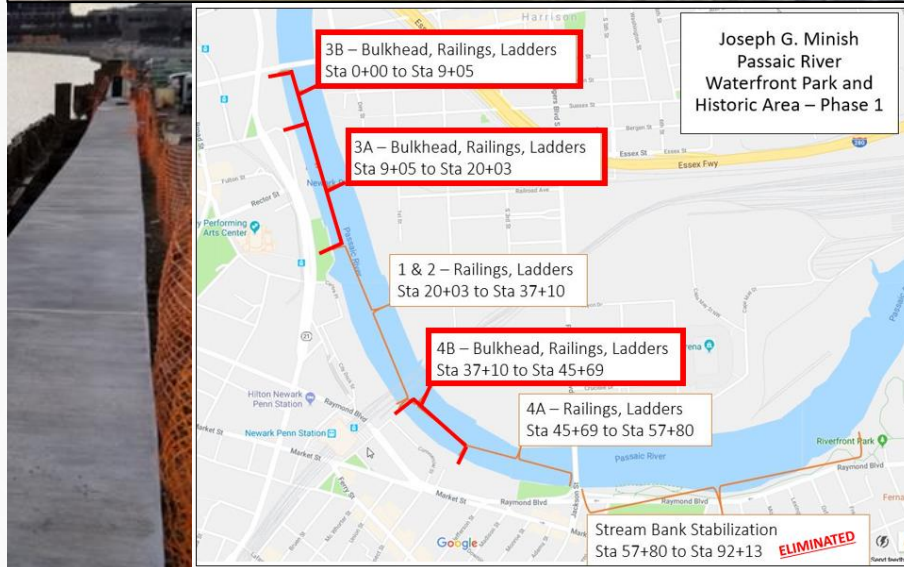


Passaic River – Minish Park and Passaic Tidal



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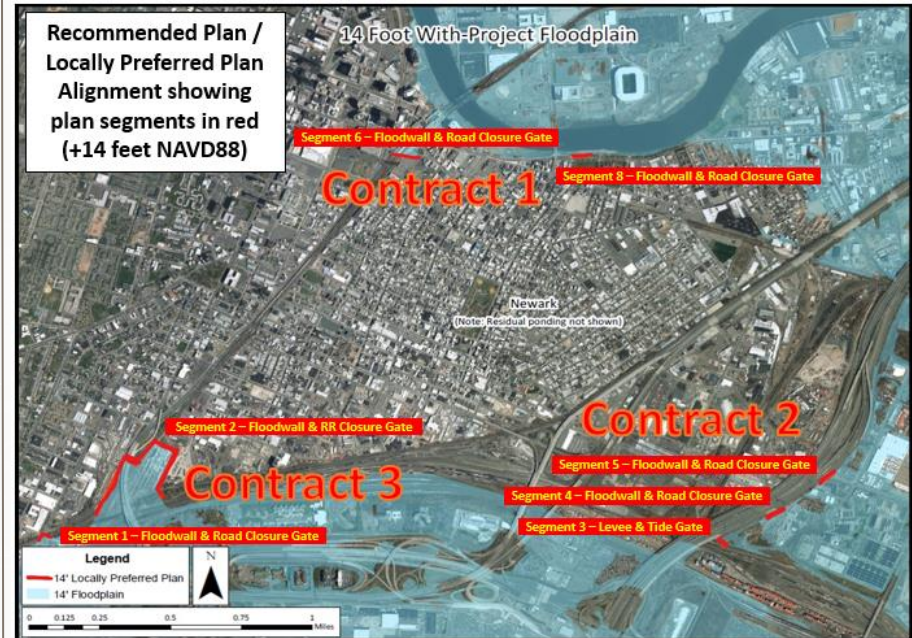
Minish Park



- **Contract 3A – Ongoing, sch. completion JUL 2021**
- **Contract 3B – Sch. OCT 2021 to MAR 2023**
- **Contract 4B – Sch. APR 2022 to SEP 2023**



Passaic Tidal



- **Contract 1 – Sch. AUG 2022 to JUL 2023**
- **Contract 2 – Sch. JUL 2023 to AUG 2024**
- **Contract 3 – Sch. AUG 2023 to NOV 2024**



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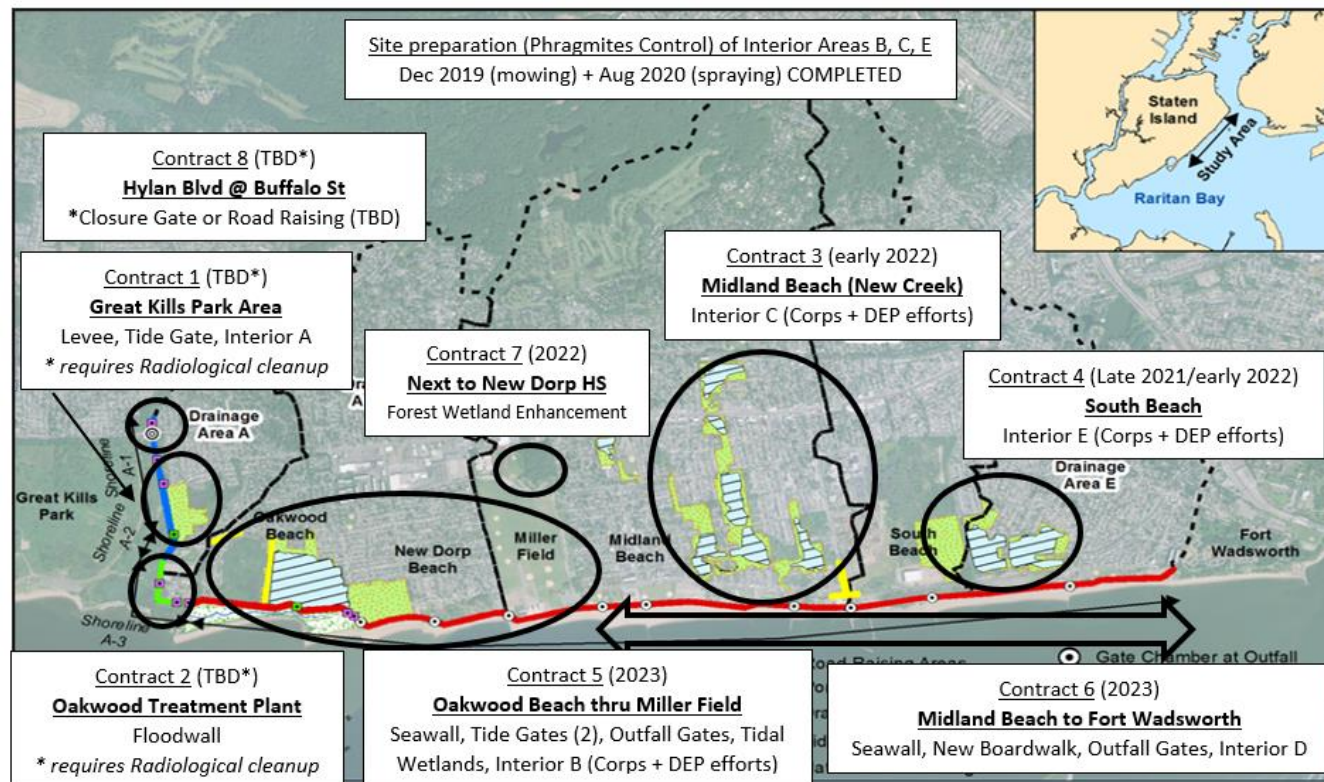


South Shore of Staten Island, NY

Design & Construction



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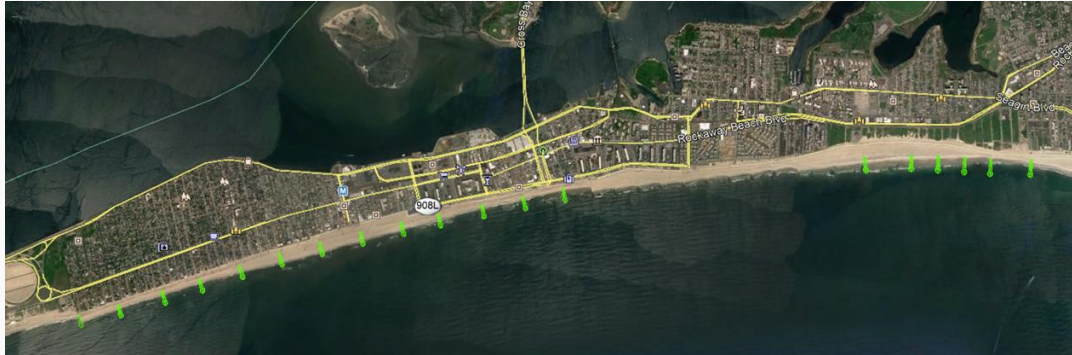
Existing Promenade
Midland Beach Area looking North



Buried Seawall with NEW Boardwalk
Midland Beach Area looking North

- 3-party partnership agreement executed Feb 2019; Corps, NYS (sponsor), NYC (party)
- **Design Phase underway:** Eight (8) contract design efforts underway
- **Significant design coordination is still underway with various stakeholders;** Corps, NYS, Governor Office, NYC, Mayor Office, City Parks, City DEP, City DOT, NPS, FEMA, SI Boro Pres, various Congressional and local interests

Rockaway and Jamaica Bay, New York City



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- Total Project Cost (100% Federal): \$590,750,000.00
- The Authorized and Funded Plan:
 - 19 new or rebuilt stone groins to reduce renourishment requirements and to enhance resiliency (now underway)
 - More than 6 miles of beach fill, reinforced and planted dunes with dune crossover features (coming soon)
 - On Jamaica Bay, more than 3 miles of living shorelines, floodwalls, berms, and pump stations to reduce low level flood events (under design)

Coney Island and Sea Gate, New York City



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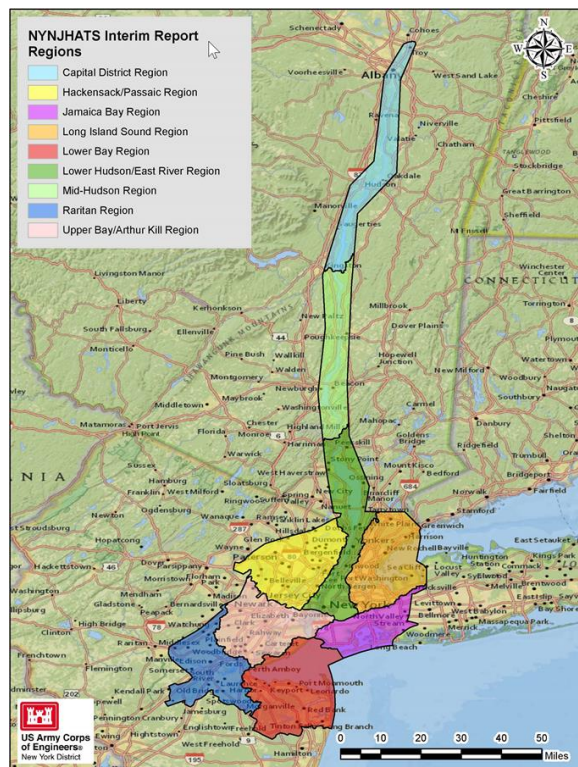
- Sea Gate section was completed in 2016 for \$33M 100% Federally funded: T-groins and 75K cubic yards of beach fill-now highly successful stabilized beach area-completed in 2016



- 3 miles of the public beach from West 37th to Brighton Beach was completed in 1995: Highly successful and has provided significant storm damage risk reduction
- P.L. 113-2-FCCE funding after Sandy provided for another 600K cubic yards of beach fill for the public beach portions



NEW YORK-NEW JERSEY HARBOR AND TRIBUTARIES COASTAL STORM RISK MANAGEMENT FEASIBILITY STUDY



STUDY AREA

- The largest and most densely populated of the 9 NACCS Focus Areas
- Area covers 2,150+ square miles and 900+ miles of affected shoreline
- 25 counties in New York & New Jersey
- Affected population of roughly 16 million people, including New York City and the six most populated cities in New Jersey

COASTAL STORM RISKS & DAMAGES

- Significant Life/Safety Risk and over 275,000 Structures in Potential Impact Area
- Incorporates Dozens of Other Ongoing and Planned CSRM Projects in Study Area
- Present Value Damages for 100-Year Storm Range from \$100+B for Intermediate Sea Level Rise to over \$350B for High Sea Level Rise Projection

STUDY SCOPE

- **Study Cost:** \$19.4M, cost-shared 50/50 with NYSDEC and NJDEP
- **Study Schedule:** Assistant Secretary of the Army for Civil Works Approved Second Exemption for Study Extension to 2024 Completion
- **Funding Resumption:** Seeking Congressional reprogramming with lapse in Fiscal Year 2020 and 2021 Work Plan Funding

ALTERNATIVES

- Span spectrum from Large In-Water Storm Surge Gates to Shoreline-Based Structures
- Alternative Present Value Cost Ranges from \$62B to \$10B
- Best Solution Appears to Involve Multiple, Layered Features
- Possible Phased Implementation: Actionable Features Constructed in Short-Term, Features Requiring More Evaluation & Design and Adaptation (due to further possible sea level rise) in Longer-Term





PROPOSED TIMELINE FOR STUDY COMPLETION

