HUDSON-RARITAN ESTUARY COMPREHENSIVE RESTORATION PLAN
POTENTIAL RESTORATION OPPORTUNITIES
PROJECT SUMMARY SHEETS
Kill Van Kull and Arthur Kill Planning Region

- CRP Site 712. Shooters Island *TBD
- CRP Site 147. Mariner's Marsh
- CRP Site 48. Arlington Marsh
- CRP Site 35. Piles Creek
- CRP Site 7. Outerbridge Ponds & Woods
- CRP Site 4. Charleston/Kreischer Hill Woods
- CRP Site 18. Port Mobile Swamp
- CRP Site 49. Little Fresh Kills, Arthur Kill Peninsula
- CRP Site 704. Fresh Kills Landfill
- Site 17. Neck Creek
- CRP Site 101. Prall's Island
- CRP Site 62. Teleport Magnolia Forest
- CRP Site 16. Merrill's Creek
- CRP Site 15. Sawmill Park Addition
- CRP Site 194. Gulfport Marsh
- CRP Site 50. Graniteville Swamp Woods
- CRP Site 2. Cable Avenue Woods
- CRP Site 110. Arden Heights Woods
- CRP Site 1. Addition to Arden Heights Woods
- CRP Site 3. Canada Hill Forest
- CRP Site 694. Rahway Riverfront Park
- CRP Site 125. Rahway River/ Madison/Maple Avenues
- CRP Site 126. Rahway River/Milton Lake
- CRP Site 127. Rahway River/ Central Avenue
- CRP Site 129. Rahway River/ Rahway River Parkway Lake
- CRP Site 182. Rahway River/Rahway River Parkway (Sperry Section), The Lagoon
- CRP Site 184. Rahway River/ Orange Reservoir
- CRP Site 185. Rahway River/Vauxhall Creek *TBD
- CRP Site 56. Range Road Forest
- CRP Site 131. Rahway River/Potter's Island
- CRP Site 34. Morses Creek *TBD
- CRP Site 121. Elizabeth River- *TBD
- CRP Site 840. Northshore Waterfront Greenway Plan *TBD

CRP SITE 712. SHOOTERS ISLAND

A. HARBOR ESTUARY PROGRAM SITE INFORMATION

Category: Existing restoration, preservation, and/or mitigation site.

Location: 0.5 miles north of the intersection of Richmond Terrace and Coonley Court. *Located off the north shore of Staten Island, New York at the junction of the Newark Bay, Arthur Kill, and Kill Van Kull channels.*

Watershed: Kill Van Kull

Size: 5 Acres, *43 acres total.*

Ownership: *States of NY and NJ, managed by NYCDPR*

Site Description: *Shooters Island is an uninhabited island composed of bedrock and fill. The island has a history of heavy industrial occupation from the late 1800s- early 1900s after which time the islands industry was abandoned. Eventually, the island became inhabited by many breeding populations of herons, egrets, and ibis which used the nearby marshes and mudflats as foraging areas. Although adjacent habitat is occupied, Shooters Island does not currently support active wading bird rookeries. The waters surrounding the island are home to a variety of shellfish species, such as hard-shelled clams (Mercenaria mercenaria) and the American oyster (Crassostrea virginica). Heavy shellfish harvesting and water pollution caused the decline of many shellfish species in the waters surrounding Shooter's Island, but as water quality improves, these populations are improving. The inner portion of the Island is covered with thick vegetation* such as black locust (*Robinia pseudoacacia), tree-of-heaven* (*Ailanthus altissima*) *and Japanese honeysuckle* (*Lonicera japonica*). *Small patches of salt marsh containing cordgrass* (*Spartina alterniflora) and common reed* (*Phragmites australis*) *occur around the shoreline. Foundations of the structures of the ship building facility are still present, as well as pitfalls, heavy debris and a few abandoned vehicles. The shores of the island are littered with washed up debris, ruins of deteriorated piers on the north and east shore, and derelict vessels. This site is noted as having heavy sediment contamination and a lack of soil. Public access to the island may need to be controlled or limited to limit disturbance to the waterbird habitat.*

Current Land Use: *Open space, Harbor Heron's Wildlife Refuge.*

Available Habitat: *Wetland, mudflats, upland.*

Proposed Project: Preliminary USACE restoration plans.

Projected/Estimated Costs:

Project Status:

Partners: NYCDEC, Audubon , USACE.

Project Contact: Howard Ruben, USACE.
Phone: (917) 790-8723
Website:
Project Funding Source:
HEP Ratification Date:

B. Hudson Raritan Estuary Ecosystem Restoration Study Information

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Islands for Waterbirds – Coupled with shoreline and marsh restoration, island restoration should include more heron nesting and feeding habitat, removal of invasives and overgrowth, debris removal, and increased tree and shrub cover. Clean fill may be necessary where lack of soil limits restoration opportunities.

Coastal Wetlands – Creation of fringe marsh habitat and placement of a geotextile fabric tube at the north side of the island in two places: in front of the north cove and the existing pile fields will decrease erosion. It is anticipated that a marsh will form naturally within the north cove. In the vicinity of the pile field a marsh could be created as part of this project.

Habitat for Fish, Crab and Lobsters – Creation of sheet pile barrier along outside perimeter of mudflats created by remnant docks will create connections amongst mudflats and marsh by decreasing erosion.

Shorelines and Shallows – Removal of debris from the shorelines. Removal of derelict vessels, timber, concrete and metals for the shallows outside of sheet pile barrier.

Sediment Contamination – Potential dredging and capping of sediment based on sediment contamination testing.

Benefits, Cost and Comparative Restoration Ratio:

C. Existing Site Specific Data Inventory

A. Survey, Maps and GIS: USGS digital raster graphics maps and NYCDPR regional data inclusive of this site.

B. Site History and Land Use: Various site histories and current land use reports available through NYCDEC and Forever Wild (Design Memorandum, 1998).

C. Biological Studies/ Fauna: Benthic organism, fish distribution by habitat, fish and decapods seasonal abundance, zooplankton, mammals, avian ecology report, reptile and amphibian data surveys (Design Memorandum, 1998)

D. Biological Studies/ General Environment: Vegetation, algal, and phytoplankton surveys (Design Memorandum, 1998)

E. Geotechnical: No data obtained

F. Hydraulics and Hydrology: No data obtained

G. Water and Sediment: Water quality, heavy metals and sediment data (Design Memorandum, 1998)

H. Historical and Cultural Resources: USACE Report 1979.

I. Restoration Remediation and Design Plans: US Army Corps of Engineers (Design Memorandum, 1998)

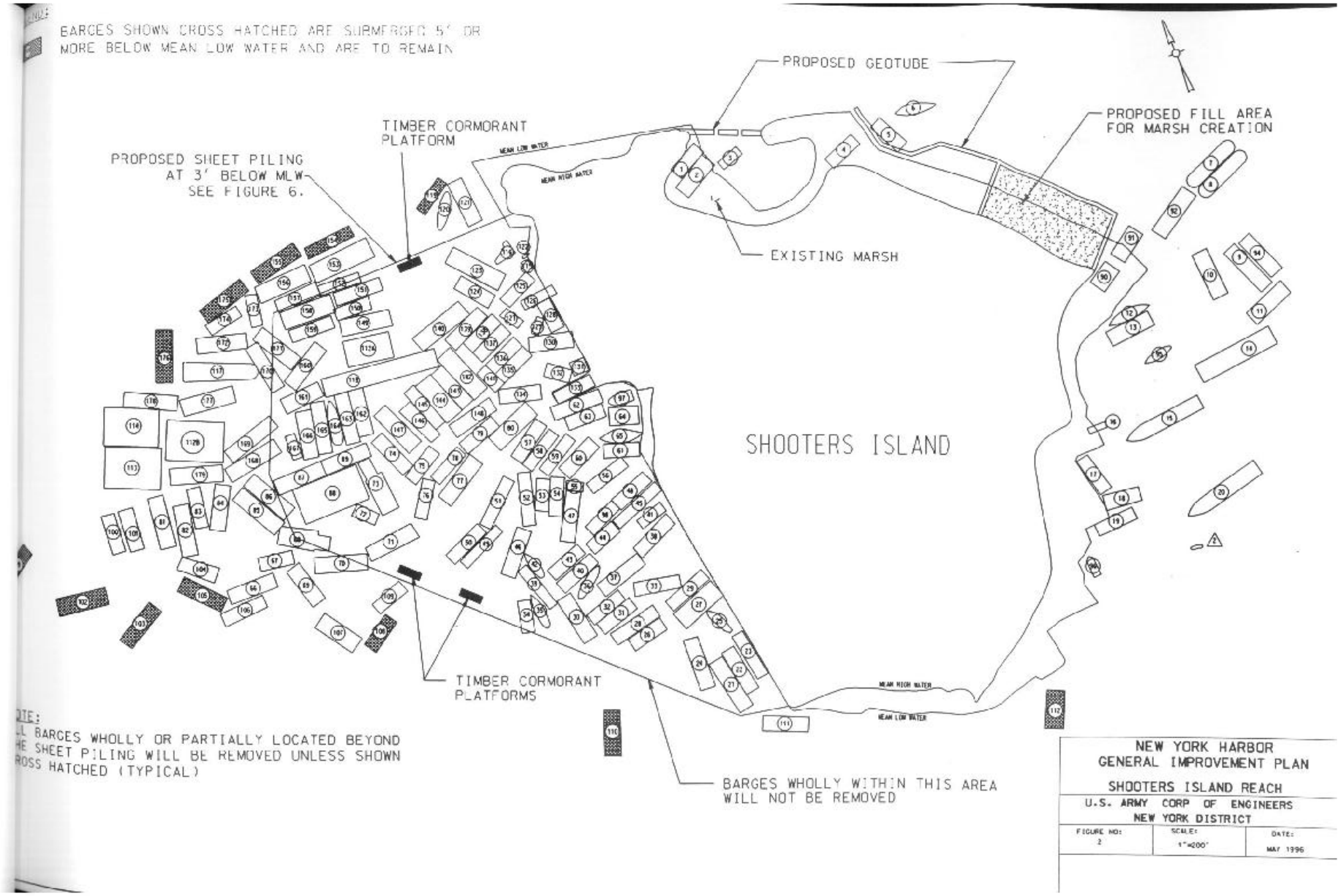
References:

Design Memorandum No.14 Shooters Island Reach, U.S Army Corps of Engineers, New York District, September 1998.

Fish and Wildlife Services. 1997. Significant Habitats and Habitat Complexes of the New York Bight Watershed. http://library.fws.gov/pubs5/web_link/text/akc_form.htm#Arthur%20Kill%20Complex

Rockman, Diana D. and Rothschild, Nan A. for U.S. Army Corp of Engineers. 1979. Preliminary Assessment of Cultural Resources on Shooters Island, Richmond County, New York, and Hudson and Union Counties, New Jersey: Final Report.

*TBD


BARGES SHOWN CROSS HATCHED ARE SUBMERGED 5' OR MORE BELOW MEAN LOW WATER AND ARE TO REMAIN
PROPOSED GEOTUBE
PROPOSED FILL AREA FOR MARSH CREATION
TIMBER CORMORANT PLATFORM
PROPOSED SHEET PILING AT 3' BELOW MLW SEE FIGURE 6.
EXISTING MARSH
SHOOTERS ISLAND
TIMBER CORMORANT PLATFORMS
BARGES WHOLLY WITHIN THIS AREA WILL NOT BE REMOVED
MEAN HIGH WATER
MEAN LOW WATER
TE:
L BARGES WHOLLY OR PARTIALLY LOCATED BEYOND
HE SHEET PILING WILL BE REMOVED UNLESS SHOWN
ROSS HATCHED (TYPICAL)
NEW YORK HARBOR
GENERAL IMPROVEMENT PLAN
SHOOTERS ISLAND REACH
U.S. ARMY CORP OF ENGINEERS
NEW YORK DISTRICT
FIGURE NO: 2
SCALE: 1"=200'
DATE: MAY 1996

CRP SITE

147. MARINERS MARSH

A. HARBOR ESTUARY PROGRAM SITE INFORMATION

Category: Existing restoration, preservation, and/or mitigation site.

Location: *Mariners Marsh Park is located in the Port Ivory section of the Borough of Staten Island, Richmond County, New York- south of Richmond Terrace and West of Holland Avenue.*

Watershed: Arthur Kill

Size: *107 Acres*

Ownership: *City of NY, managed by NYCDPR*

Site Description: *Complex of freshwater wetlands and pine oak swamp hydrologically linked to Arlington Marsh. The natural integrity of the Mariner's Marsh area has been subject to industrial and illegal dumping and neglect. Dotting the park's varied landscape are ten ponds, all of which were created in the early 20th century by extensive sand mining, which lowered the grade and brought the water table to the surface for ship manufactures. Limited EPA phase I and II environmental site assessments have determined a significant amount of contaminated back filling of the site subsequent to termination of manufacturing. Contaminated fill material is present in the vicinity of the former recreational area (baseball fields) and along the former rail spurs, which are all closed to the public. Debris and other material occur within ponds on the property. There is discolored soil in the vicinity of the former Sherardizing building and coal tar residue present near the former gas holders located in the northwest portion of the site. Parks Department conducted some restoration in Monument Pond (1999-2000). Freshwater vegetation was restored and invasives were hand painted with herbicide, Phragmites has since returned.*

Current Land Use: *Open space, degraded industrial site. The park is currently closed to public access due to contamination. Mariner's Marsh was formally declared New York City parkland in 1997 and is foraging complex for nearby Heronries.*

Available Habitat: *Mariner's Marsh is a complex of former dry docks that are now freshwater wetlands including ten ponds, marshes, meadows, woods, and streams. Throughout the year, the ponds are active with waterfowl, and the grassy areas support uncommon birds such as the vesper sparrow. Short-eared owls use the park for their hunting grounds.*

Proposed Project: *Site is currently undergoing USEPA targeted Brownfields assessment under the American Recovery and Investment Act of 2009.*

Projected/Estimated Costs:

Project Status: *The period of performance for this work is from August 27, 2009 through approximately September 30, 2010. Restoration opportunities can be implemented after remediation.NYC DPR NRG has completed a 1 acre salt marsh restoration.*

Partners: *EPA*
Project Contact: *Deborah C. Butler*
Phone: *(212)637-3367*
Website:

Project Funding Source:
HEP Ratification Date:

B. HUDSON RARITAN ESTUARY ECOSYSTEM RESTORATION STUDY INFORMATION

Restoration Recommendations (Applicable Target Ecosystem Characteristics): *pending current investigations.*

Sediment Contamination – Primary restoration opportunity would be removal of contaminated material and clean fill capping. A large zinc oxide pit is a remnant contaminant from when this property was used as a shipyard and significant surface soil contamination and coal tar were found east of Downey Pond in a 300 by 300-feet area classified as a public health hazard. USDOH recommends removal and more in depth testing.

Coastal Wetlands – Removal of back fill material, debris and other material on the property and within the ponds will increase flushing and functional capacity along ≈52.56 acres of wetland habitat. Creation of marsh habitat to include removal of invasive species and re-vegetation with indigenous species. Assess water contamination and improve water quality in existing tidal creeks and man-made ponds.

Coastal and Maritime Forests – Preservation of ≈50.56 acres of Pine Oak swamp (contains many trees from the 19th century). Placement of clean fill and appropriate elevations and topography to degraded portions of the site will facilitate planting additional forest acreage and upland wooded buffer.

Tributary Connections – Re-evaluation and/or clearing of culverts through Richmond Terrace, removal of debris from channels and Newton's Creek and possible stream day-lighting will increase hydrologic connection to the system along ≈2,988 linear feet of stream.

Benefits, Cost and Comparative Restoration Ratio:

C. EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: Alderson & Bowers 2012.

B. Site History and Land Use: No data obtained

C. Biological Studies/ Fauna: No data obtained

D. Biological Studies/ General Environment: No data obtained

E. Geotechnical: No data obtained

F. Hydraulics and Hydrology: No data obtained

G. Water and Sediment: No data obtained

H. Historical and Cultural Resources: No data obtained

I. Restoration Remediation and Design Plans: Alderson & Bowers 2012.

REFERENCES:

NYC Parks - http://www.nycgovparks.org/sub_your_park/historical_signs/hs_historical_sign.php?id=115

Fish and Wildlife Services. 1997. Significant Habitats and Habitat Complexes of the New York Bight Watershed. http://library.fws.gov/pubs5/web_link/text/akc_form.htm#Arthur%20Kill%20Complex

NYC DPR NRG- www.nycgovparks.org/sub_about/parks_divisions/nrg/nrg_rest_prior.html#si

Alderson, Carl and Justin Bowers. 2012. Reaching for the Past in Pursuit of the future: how can our present and past efforts inform the Hudson-Raritan Estuary Comprehensive Restoration Plan and the direction of habitat restoration going forward. A project for the New York-New Jersey Harbor & Estuary Program and New England Interstate Water Pollution Control Commission.


Legend
Habitat Area
Coastal Wetlands
Coastal & Maritime Forest
Tributary Connections Point
US Army Corps
of Engineers
Mairners Marsh
Arthur Kill & Kill Van Kull
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Feet
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CRP SITE 48. ARLINGTON MARSH

A. HARBOR ESTUARY PROGRAM SITE INFORMATION

Category: Existing restoration, preservation, and/or mitigation site.

Location: North shore of Staten Island, shore across Richmond Terrace from Mariners Marsh in northwest Staten Island. *Marsh areas bound by Richmond Terrace to the north; Holland Avenue to the east; Western Avenue to the west; and the former North Shore Railroad to the south*

Watershed: Arthur Kill

Size: 80 Acres

Ownership: City of NY, managed by NYC EDC

Site Description: *Arlington Marsh is a tidal flat area, close to Shooter's Island, with a narrow band of salt marsh along the Kill van Kull shoreline and high marsh further inland. The site is the last tidal wetland on Staten Islands North Shore in the Kill Van Kull watershed. The site contains areas of knotweed and suffers from excessive debris and dumping (primarlily wooden poles and planks). Ancient hydrological and habitat connections with Mariners Marsh persist, despite the presence of Richmond Terrace. An existing hydrological link between Arlington Marsh and Mariners Marsh is provided by tidally influenced Newton's Creek (formerly Bowman's Brook), which originates in Mariners Marsh, passes through Richmond Terrace and enters the southeast corner of Arlington Marsh on its way to the Arthur Kill.*

Current Land Use: *The site comprises about 90 acres, 30 upland acres and 60 acres of marshland and is both a wildlife sanctuary and a community amenity. There is currently an active Heron population using this property as foraging complex.*

Available Habitat: *Arlington Marsh has a range of healthy wetland habitats, from mudflats to salt marsh to shrubs to the freshwater wetlands of the adjacent 107-acre Mariner's Marsh Park. More than 100 species of birds feed or nest here. The mudflats and salt marshes are nurseries for fish, shellfish and other marine organisms. Plants and animals at the northern end of their range, including a number of rare and endangered species, flourish in the wetlands and uplands. For numerous marine invertebrate and vertebrate animals, the offshore waters, shallows, mud flats, intertidal marshes, and tidal creeks offer a wealth of habitat for feeding, reproduction, and escape from predators.*

Proposed Project: Tidal wetland acquisition and preservation - interagency land transfer. *The future of Arlington Marsh is now being considered by the Wetlands Transfer Task Force established by Mayor Michael R. Bloomberg and the New York City Council. The Task Force has been working for the past two years to evaluate the feasibility of transferring available City-owned wetlands—like Arlington Marsh—to the jurisdiction of New York City Department of Parks & Recreation. The marsh east of Catherine Place may be transferred to parks while the Howland Hook shipping yard may expand into the marsh west of Catherine Place.*

Projected/Estimated Costs:

Project Status: *In 1993, NYC DPR crews removed an undetermined quantity of marine lumber, to reveal unvegetated marsh. With debris removed, marsh revegetated within 1 year. In 2007, the 70-acre Natural Salt Marsh was designated Public Parkland.*

Partners:
Project Contact: Dr. Margaret B. Garguillo, NYC Parks/NRG
Phone: (212) 360-1423
Website: www.nycgovparks.org/sub_about/parks_divisions/nrg/nrg_home.html

Project Funding Source:
HEP Ratification Date: 11/2/2000

B. HUDSON RARITAN ESTUARY ECOSYSTEM RESTORATION STUDY INFORMATION

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands – Removal of excessive debris from the shoreline is the primary restoration opportunity at this site. Preservation and enhancement of the ≈7.52 acres of existing *Spartina* marsh habitat to including removal of invasive species and re-vegetation with native species. Site contains strips of good upland features, boarding Richmond Terrace, for high marsh.

Habitat for Fish, Crab and Lobsters – Remove subtidal debris and assess flats for composition, level of degradation and potential enhancements to increase habitat connectivity- such as addition of complex structure along approximately ≈11.92 acres.

Tributary Connections – Removal of man-made debris from channels and Newton's Creek and possible stream day-lighting will increase hydrologic connections along ≈782 linear feet of stream in Arlington Marsh and between the Arlington Marsh and Mariners Marsh systems.

Sediment Contamination – Potential dredging and capping of sediment based on sediment contamination testing.

Benefits, Cost and Comparative Restoration Ratio:

C. EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NYCDPR regional data inclusive of this site, Alderson & Bowers 2012.

B. Site History and Land Use: NYC.gov, Blue Room (2007).

C. Biological Studies/ Fauna: Breeding Bird Surveys, NYC Parks.

D. Biological Studies/ General Environment HEP, Tidal Exchange Autumn issue (2007).

E. Geotechnical: No data obtained

F. Hydraulics and Hydrology: HEP, Tidal Exchange Autumn issue (2007).

G. Water and Sediment: No data obtained

H. Historical and Cultural Resources: No data obtained

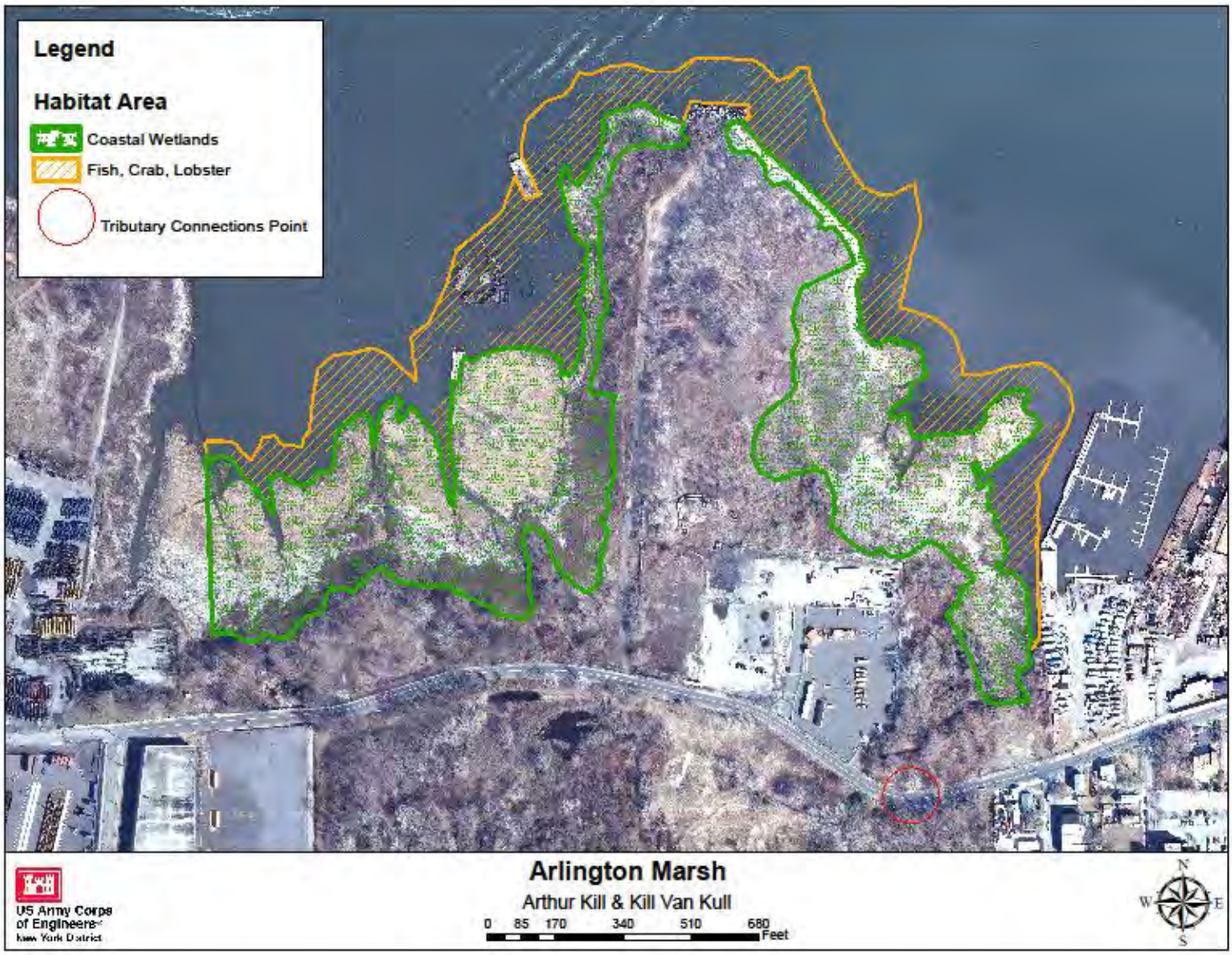
I. Restoration Remediation and Design Plans: Alderson & Bowers 2012.

References:

Fish and Wildlife Services. 1997. Significant Habitats and Habitat Complexes of the New York Bight Watershed. http://library.fws.gov/pubs5/web_link/text/akc_form.htm#Arthur%20Kill%20Complex

City of New York- www.nyc.gov

Alderson, Carl and Justin Bowers. 2012. Reaching for the Past in Pursuit of the future: how can our present and past efforts inform the Hudson-Raritan Estuary Comprehensive Restoration Plan and the direction of habitat restoration going forward. A project for the New York-New Jersey Harbor & Estuary Program and New England Interstate Water Pollution Control Commission.


Legend
Habitat Area
Coastal Wetlands
Fish, Crab, Lobster
Tributary Connections Point
US Army Corps of Engineers
New York District
Arlington Marsh
Arthur Kill & Kill Van Kull
0 85 170 340 510 680
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CRP SITE 35. PILES CREEK

A. HARBOR ESTUARY PROGRAM SITE INFORMATION

Category: Existing restoration, preservation, and/or mitigation site.

Location: Site is located between the Arthur Kill and NJ Turnpike, near Grasselli Road, 0.3 miles east of the NJTPK north Union County, NJ.

Watershed: Arthur Kill

Size: 217 acres

Ownership: EI Dupont, ISP, PSEG, Dupont/GAF

Site Description: *Piles Creek is a dead end tributary of the Arthur Kill that is surrounded by industrial facilities. It contains the largest single tract of intact salt marsh remaining in the New Jersey Arthur Kill drainage, dominated by cordgrass with some common reed and marsh elder. Piles Creek is highly polluted with mercury, metals, PAH's and PCB's. Site originally selected by Harbor Estuary Program Restoration Workgroup as a priority acquisition site for tidal wetland acquisition, preservation, and enhancement. Site contains an existing New Jersey Turnpike Authority 9 acre Wetlands Creation.*

Current Land Use: Superfund, degraded wetland and tidal creek.

Available Habitat: Estuarine - marshes, tidal waterway. Extensive Phragmites stands. Butterfly habitat (thistle) and muskrat lodges. Threatened and endangered bird species habitats for breeding; fields of Phragmites. *Piles Creek is an intertidal stream. Fishermen will find a variety of fish including Brown Trout, Steelhead Trout, Mummichog and Pumpkinseed. Piles Creek contains the largest single tract of intact salt marsh remaining in the New Jersey Arthur Kill drainage, dominated by cordgrasses with some common reed and marsh elder. This area is surrounded by industrial facilities. Piles creek is a main foraging area for nesting colonial wading birds in the Arthur Kill Complex.*

Proposed Project: Tidal Wetland Acquisition, Preservation & Enhancement; requesting a waterfront park, educational facility, wetlands museum, replacement of invasive species, creation of nature trail.

Projected/Estimated Costs:

Project Status: Easement granted; active restoration. *Site contains a New Jersey Turnpike Authority 9 acre wetland creation.*

** Property adjacent to this restoration is the proposed site of a 5 acre wetland mitigation for the proposed Tremley Point Connector Road. The proposed mitigation will be constructed on an existing upland location. The Tremley Point construction is a four-lane, predominantly pile-supported roadway/bridge that will provide a direct link between Industrial Highway in Carteret, Middlesex County, traverse the Rahway River and connect at Tremley Point Road in Linden, Union County, New Jersey. NOAA has expressed concerns regarding the merit of this project.*

Partners:

Project Contact: Megan Callus, Baykeeper
Phone: (732) 888-9870
Website: www.nynjbaykeeper.org

Project Funding Source:
HEP Ratification Date: 7/1/1997

B. HUDSON RARITAN ESTUARY ECOSYSTEM RESTORATION STUDY INFORMATION

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination The site has a history of heavy contamination. Extensive sediment testing and clean up is the primary restoration opportunity at this site and must be conducted prior to any restoration activities.

Coastal Wetlands – Tidal wetland acquisition, preservation and enhancement along ~117 acres. Assessment of ~10.4 acre completed New Jersey Turnpike Authority wetland restoration.

Tributary Connections – Assessment of culvert capacity and potential corridor restoration along ~2,500 linear feet through New Jersey Turnpike overpass.

Benefits, Cost and Comparative Restoration Ratio:

C. EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NYCDPR regional data inclusive of this site, Alderson & Bowers 2012.

B. Site History and Land Use: Data obtained from NYC.gov article News from the Blue Room (2007).

C. Biological Studies/ Fauna: Data obtained from Gotham Gazette (2007). Extensive work from Judith S. Weis Lab at Rutgers University.

D. Biological Studies/ General Environment: Data obtained from HEP's Tidal Exchange Autumn issue (2007). Extensive work from Judith S. Weis Lab at Rutgers University.

E. Geotechnical: No data obtained

F. Hydraulics and Hydrology: Data obtained from HEP's Tidal Exchange Autumn issue (2007).

G. Water and Sediment: No data obtained

H. Historical and Cultural Resources: No data obtained

I. Restoration Remediation and Design Plans: Alderson & Bowers 2012.

References:

http://www.harborestuary.org/pdf/HabitatSiteList.pdf

http://library.fws.gov/pubs5/web_link/text/akc_form.htm

Fish and Wildlife Services. 1997. Significant Habitats and Habitat Complexes of the New York Bight Watershed. http://library.fws.gov/pubs5/web_link/text/akc_form.htm#Arthur%20Kill%20Complex

U.S. Coast Guard Prepared for Jacobs Edwards and Kelcey by Paulus, Sokolowski and Sartor, LLC. 2010. Environmental Assessment for Tremley Point Connector Road and Piles Creek Wetland Mitigation; Borough of Carteret, Middlesex County, New Jersey and City of Linden, Union County, New Jersey.

Judith S. Weis, Lauren Bergey, Jessica Reichmuth, Allison Candelmo. Living in a Contaminated Estuary: Behavioral Changes and Ecological Consequences for Five Species. BioScience, Vol. 61, No. 5 (May 2011), pp. 375-385

Alderson, Carl and Justin Bowers. 2012. Reaching for the Past in Pursuit of the future: how can our present and past efforts inform the Hudson-Raritan Estuary Comprehensive Restoration Plan and the direction of habitat restoration going forward. A project for the New York-New Jersey Harbor & Estuary Program and New England Interstate Water Pollution Control Commission.


Tributary Connections Point
Coastal Wetlands
Completed Coastal Wetlands
US Army Corps of Engineers
New York District
Piles Creek
Arthur Kill & Kill Van Kull
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CRP SITE 7. OUTERBRIDGE PONDS & WOODS

A. HARBOR ESTUARY PROGRAM SITE INFORMATION

Category: Existing restoration, preservation, and/or mitigation site.

Location: Block 7580, Page Avenue and Richmond Valley Road.

Watershed: Arthur Kill

Size: 14 acres

Ownership: Private/ Corporation

Site Description: This site has been on the priority list of the Open Space Advisory Committee since 1997. *Previously a marsh, the site was filled and is now primarily upland with several freshwater ponds.*

Current Land Use: Forest wetland

Available Habitat: This site contains federal wetlands and DEC mapped wetland AR-14 in addition to several other vernal ponds, *freshwater wetlands, scrub shrub oak and white oak. Additionally, this is a historic site for mud turtles.*

Proposed Project: Upland and wetland acquisition and preservation. Illegal clearing on site ongoing.

Projected/Estimated Costs: $12,000,000

Project Status:

Partners:

Project Contact: Dr. Margaret B. Garguillo, NYC Parks/NRG
Phone: (212) 360-1423
Website: www.nycgovparks.org/sub_about/parks_divisions/nrg/nrg_home.html

Project Funding Source:

HEP Ratification Date: 11/2/2000

B. Hudson Raritan Estuary Ecosystem Restoration Study Information

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands - Acquisition and preservation of ≈9.51 acres of freshwater ponds. Potential for native planting and invasive removal.

Coastal and Maritime Forests – Preservation and acquisition of ≈12.48 acres of forest.

Sediment Contamination – Site has a history of mercury contamination. Potential dredging and capping of sediment based on sediment contamination testing.

Benefits, Cost and Comparative Restoration Ratio:

C. Existing Site Specific Data Inventory

A. Survey, Maps and GIS:
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans:

***Work in progress**

References


Legend
Habitat Area
Coastal Wetlands
Coastal & Maritime Forest
US Army Corps of Engineers
New York District
Outerbridge Pond and Woods
Arthur Kill & Kill Van Kull
0 75 150 300 450 600
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CRP SITE 4. CHARLESTON/ KREISCHER HILL WOODS

A. HARBOR ESTUARY PROGRAM SITE INFORMATION

Category: Existing restoration, preservation, and/or mitigation site.

Location: West shore, Staten Island, NY. Site is bounded by Clay Pit State Park Preserve to the north, with which it shares a common border along a portion of Englewood Avenue; Veterans Road West, to the south; Arthur Kill Road to the west and 440 to the east.

Watershed: Arthur Kill

Size: 130 acres

Ownership: NYC DOT, NYC

Site Description: *Site contains forested wetlands and young forest of oak, poplar, and sweetgum. A high number of rare species and ecological communities (14) are found at this site. Kreischer Hill is adjacent to Clay Pit Pond State Park and close to Bloomingdale Park and several privately owned natural areas, which make it an important piece of contiguous habitat in western Staten Island. In 2004 the city sold 42 acres along the south east portion of this property for a shopping center development called Bricktown.*

Current Land Use: *Forested Wetland. Development Threat along Englewood Road.*

Available Habitat: *Forest and wetland. The site includes many rare species such as; Torrey's mountain mint, native greenbriar vines, and eastern mud turtles.*

Proposed Project: Upland/wetland acquisition and preservation.

Projected/Estimated Costs:

Project Status:

Partners: NYC DOT

Project Contact: Dr. Margaret B. Garguillo, NYC Parks/NRG
Phone: (212) 360-1423
Website: www.nycgovparks.org/sub_about/parks_divisions/nrg/nrg_home.html

Project Funding Source:

HEP Ratification Date: 11/2/2000

B. Hudson Raritan Estuary Ecosystem Restoration Study Information

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands – Potential to upgrade ≈3.29 acres of existing wetland through removal of invasive species and native plantings.

Coastal and Maritime Forests - Acquisition and protection of ≈67.16 acres of forest.

Sediment Contamination - Potential dredging and capping of sediment based on sediment contamination testing.

Public Access – Existing trails could be maintained and signage added to promote unique ecology.

Benefits, Cost and Comparative Restoration Ratio:

C. Existing Site Specific Data Inventory

A. Survey, Maps and GIS: Wild Metro, NYC Audubon, SI Protector, NYC EDC.
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment: NYC Audubon
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans:

***Work in progress**

References

Wild Metro- www.wildmetro.org

NYC Audubon- Natural Areas Initiative- www.nycsudubon.org

SI Protector- Kreischer Hill Rare Plant Community, Helen Forgione- www.siprotectors.org/kreischer.html


Legend
Coastal Wetlands
Coastal & Maritime Forest
US Army Corps of Engineers
New York District
Charleston Kreischer Hill Woods
Arthur Kill & Kill Van Kull
0 112.5 225 450 675 900
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CRP SITE 18. PORT MOBILE SWAMP

A. HARBOR ESTUARY PROGRAM SITE INFORMATION

Category: Existing restoration, preservation, and/or mitigation site.

Location: Block 7247 Lot 60, Johnson Rd & Arthur Kill Rd. Richmond County, NY.

Watershed: Arthur Kill

Size: 70 acres

Ownership: Corporation, Port Mobile.

Site Description: *Port Mobil is a 203-acre site, owned by Exxon Mobile, which houses 39 above ground oil tanks. The marsh is bounded by the Arthur Kill, the port mobile tank field, and another industrial property. Claypits drains into this site.*

Current Land Use: Port Mobil swamp, forest, tidal flats.

Available Habitat: Site includes part of NYS DEC Freshwater wetland AR-7 as well as federal freshwater and tidal wetlands.

Proposed Project: Freshwater and tidal wetland acquisition and preservation.

Projected/Estimated Costs:

Project Status: *Property is guarded and not open to the public, restoration is unlikely.*

Partners:

Project Contact: Dr. Margaret B. Garguillo, NYC Parks/NRG
Phone: (212) 360-1423
Website: www.nycgovparks.org/sub_about/parks_divisions/nrg/nrg_home.html

Project Funding Source:

HEP Ratification Date: 11/2/2000

B. Hudson Raritan Estuary Ecosystem Restoration Study Information

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands - Preservation and enhancement of ≈12.54 acres of the existing *Spartina* marsh habitat, removal of invasive species, and re-vegetation with native species. Potential for sediment moving.

Habitat for Fish, Crab and Lobsters –Assess flats for composition, level of degradation and potential enhancements to increase habitat connectivity- such as addition of complex structure along approximately ≈10.81 acres of mudflats.

Coastal and Maritime Forests – Preservation and enhancement of ≈66.25 acres of forest.

Sediment Contamination - Potential dredging and capping of sediment based on sediment contamination testing.

Benefits, Cost and Comparative Restoration Ratio:

C. Existing Site Specific Data Inventory

A. Survey, Maps and GIS:
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans:

***Work in progress**

References


Legend
Habitat Area
Coastal Wetlands
Fish, Crab, Lobster
Coastal & Maritime Forest
US Army Corps
of Engineers
New York District
Port Mobile Swamp and Tidal Flats
Arthur Kill & Kill Van Kull
0 205 410 820 1,230 1,640
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CRP Site 49. Little Fresh Kills, Arthur Kill Peninsula

A. Harbor Estuary Program Site information

Category: Existing restoration, preservation, and/or mitigation site.

Location: *The peninsula is located north of Isle of Meadows across the Little Fresh Kills creek, in Staten Island, NY.*

Watershed: Little Fresh Kills

Size: 60 Acres

Ownership: Consolidated Edison

Site Description: *The peninsula contains a marsh, upland forested habitat and a small un-named tributary that is surrounded on the east bank by landfills. This area is a known foraging site for the nearby rookery.*

Current Land Use:

Available Habitat: *Marsh, upland forest, tidal creek.*

Proposed Project: Tidal wetland acquisition and preservation.

Projected/Estimated Costs: $6,000,000

Project Status: *In 2006 NY DOS completed a 2 acre saltwater marsh restoration , Fresh Kills Rail West Shore Rail Line Mitigation, which featured terracing and clean fill capping. Designed by EEA Group. Constructed by NY Concrete Corp. Wetland Planting supervison by Bill Young. Features an unusually fortified herbivory fence constructed by Paul Lerin of Bionautics Corp.*

Partners:

Project Contact: Carolyn Summers, NRDC
Phone: (212) 727-4535
Website: www.nycgovparks.org/sub_about/parks_divisions/nrg/nrg_home.html

Project Funding Source:
HEP Ratification Date: 11/2/2000

B. Hudson Raritan Estuary Ecosystem Restoration Study Information

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands – Restoration to ≈32.36 acres of existing marsh habitat will likely include invasive removal and debris removal.

Coastal and Maritime Forests – Restoration of ≈67.83 acres of upland forested and grassland habitat would require plantings, invasive removal, debris removal and potentially sediment moving.

Habitat for Fish, Crab and Lobsters – Assess flats for composition, level of degradation and potential enhancements to increase habitat connectivity- such as addition of complex structure along approximately ≈16.70 acres of mudflats.

Sediment Contamination - Potential dredging and capping of sediment based on sediment contamination testing.

Benefits, Cost and Comparative Restoration Ratio:

C. Existing Site Specific Data Inventory

A. Survey, Maps and GIS: Alderson & Bowers 2012.
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans: Alderson & Bowers 2012.

***Work in progress**

References

Fish and Wildlife Services. 1997. Significant Habitats and Habitat Complexes of the New York Bight Watershed. http://library.fws.gov/pubs5/web_link/text/akc_form.htm#Arthur%20Kill%20Complex

Alderson, Carl and Justin Bowers. 2012. Reaching for the Past in Pursuit of the future: how can our present and past efforts inform the Hudson-Raritan Estuary Comprehensive Restoration Plan and the direction of habitat restoration going forward. A project for the New York-New Jersey Harbor & Estuary Program and New England Interstate Water Pollution Control Commission.


Legend
Habitat Area
Coastal Wetlands
Fish, Crab, Lobster
Coastal & Maritime Forest
US Army Corps of Engineers New York District
Little Fresh Kills, Arthur Kill
Arthur Kill & Kill Van Kull
0 135 270 540 810 1,080
Feet
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CRP SITE 704. FRESH KILLS LANDFILL

A. HARBOR ESTUARY PROGRAM SITE INFORMATION

Category: Existing restoration, preservation, and/or mitigation site.

Location: 0.1 miles south from the end of Victory Boulevard

Watershed: Arthur Kill

Size: 300 acres; *entire park is 2,200 acres.*

Ownership: NYCDOS

Site Description: Previously a coastal dune and marsh system. *Forty-five percent of the site was once used for landfilling operations, the remainder of the site is currently composed of wetlands, open waterways, and unfilled lowland areas.* The landfill was scheduled for final closure in 2001.

Current Land Use: *Closed landfill, proposed park, rare species present-breeding willets.*

Available Habitat: Fresh or slightly brackish marsh, forested wetlands, salt marsh and mudflats.

Proposed Project: Upon closure and placement of final cover in remaining active sections, upland pine forest, meadow and coastal dune habitat could be created in addition to the 3.5 acres already restored.

The design goal of the Draft Master Plan is to create a framework for development at Fresh Kills over the next thirty years. This will:

- *Create a world-class, large scale park*
- *Restore ecological systems and cultivate a sustainable landscape*
- *Create extraordinary settings for a range of activities and programs that are unique to the city*
- *Honor the events of September 11, and the recovery effort that took place at Fresh Kills, in a dignified and unique way*
- *Build a limited system of ecologically sensitive park roadways to optimize local and regional access to the park and reduce local traffic congestion*

With the support of a grant from the New York Department of State's Office of Coastal, Local Government & Community Sustainability, the Department of Parks & Recreation is undertaking restoration of two acres of wetland habitat within the Freshkills Park site. This small project will provide guidance for further wetland restoration projects within the park.

Projected/Estimated Costs:

Project Status: *1990's- 3.5 acre pilot upland restoration was completed by NYC DOS. A combination of pine forest, shrubs, and upland meadows was developed over a sand and topsoil cap adjacent to the Davis Wildlife Refuge. The resulting plant community was intended to simulate the vegetated sand dunes once common to this portion of Staten Island.*

1997- Fresh Kills Base of Hill 6/7 Marsh Restoration, 3 acre marsh restoration. Conceived as stabilization at toe of landfill hillslope and at the foot of storm water basin. The design by Joan Hanson for Malcom Pirnie and C. Alderson featured a terraced marsh held with a rock gabion toe extending 1000 feet around the confluence of Main Creek and Richmond Creek. and backfilled with clean sand. The rock gabion attracted Ribbed Mussels. Constructed by Tully Construction Company. Monitoring by Bill Young of Young Environmental.

Fresh Kills Park construction is headed by NYC DPR and began in 2010.

Partners: NY DOS, NY DEC, NYC DPR, USACE.

Project Contact: Phillip Gleason
Phone: 917-237-5870
Website:
Project Funding Source:
HEP Ratification Date:

B. HUDSON RARITAN ESTUARY ECOSYSTEM RESTORATION STUDY INFORMATION

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands – The master plan indicates opportunities for fresh, tidal and forested wetlands throughout the site. Additionally, the William T. Davis Wildlife Refuge lies within Fresh Kills Park totaling ~361 acres. The restoration priority at these wetlands is Phragmites removal and re-planting with native species.

Tributary Connections - Re-assessment of existing culvert capacity along Travis Avenue to facilitate hydrologic connectivity along ~2,850 linear feet to the interior marsh and mitigate flooding along Travis Avenue.

Coastal and Maritime Forests – Master plans include conceptual plans for restored meadow habitat and a million tree project planting along ~1,211 acres.

Sediment Contamination - Potential dredging and capping of sediment based on sediment contamination testing.

Public Access – Master plans include creation of a world class large scale park to include 6 public access structures fields such as education centers and picnic areas and over 12,000 linear feet of paths throughout. However, public access (particularly small boat access) at or near William T. Davis Wildlife Refuge is not advisable due to extensive mudflats and stranding threat.

Benefits, Cost and Comparative Restoration Ratio:

C. EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: Alderson & Bowers 2012.
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans: Alderson & Bowers 2012.

***Work in progress**

REFERENCES

NYC DCP. 2006. Fresh Kills Park Project Draft master Plan. www.nyc.gov/html/dcp/html/fkl/fkl4.shtml

NYC DPR- www.nycgovparks.org/sub_your_park/fresh_kills_park/html/fresh_kills_park.html

Fish and Wildlife Services. 1997. Significant Habitats and Habitat Complexes of the New York Bight Watershed. http://library.fws.gov/pubs5/web_link/text/akc_form.htm#Arthur%20Kill%20Complex

Alderson, Carl and Justin Bowers. 2012. Reaching for the Past in Pursuit of the future: how can our present and past efforts inform the Hudson-Raritan Estuary Comprehensive Restoration Plan and the direction of habitat restoration going forward. A project for the New York-New Jersey Harbor & Estuary Program and New England Interstate Water Pollution Control Commission.


Tributary Connections Point
Public Access Point
Public Access Line
Coastal Wetlands
Coastal & Maritime Forest
US Army Corps
of Engineers
New York District
Fresh Kills
Arthur Kill & Kill Van Kull
0 550 1,100 2,200 3,300 4,400
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CRP Site 17. Neck Creek

A. Harbor Estuary Program Site information

Category: Existing restoration, preservation, and/or mitigation site.

Location: Meredith Avenue, intersection of Meredith Avenue and the West Shore Expressway.

Watershed: Arthur Kill

Size: 60 acres.

Ownership: Consolidated Edison, *NYC DPR (north of creek and west of Route 440)*.

Site Description: *Neck Creek runs from the Arthur Kill through the Neck Creek Marsh Preserve and Meredith Woods. The site contains two large Phragmites dominated wetland tracks with freshwater ponds dotting the property. Neck Creek Marsh is a high marsh area separated from a freshwater marsh and pond by a dike. The creek has large amount of silt build up. The area experiences significant flooding.*

Current Land Use: Site includes freshwater and tidal wetlands that surround the intersection of Meredith Avenue and the West Shore Expressway and are drained by Neck Creek.

Available Habitat: Tidal Creek, salt marsh, upland.

Proposed Project: Tidal wetland, maritime forest acquisition and preservation

Projected/Estimated Costs: $2,000,000

Project Status: New York City Department of Parks and Recreation acquired portions of the property west of Route 440.

Partners:

Project Contact:
Phone:
Website: www.nycgovparks.org/sub_about/parks_divisions/nrg/nrg_home.html

Project Funding Source: NYCDPR
HEP Ratification Date: 1/1/1997

B. Hudson Raritan Estuary Ecosystem Restoration Study Information

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands – Preservation and upgrades to ~81 acres of wetland. This may include debris and invasive removal along marsh boarder, acquisition of marsh property south of creek and assessment of marsh hydrology.

Tributary Connections – Restoration of tributary connections through culvert re-assessment and silt removal to ~4,000 linear feet of stream would benefit upstream habitat, Meredith Woods and reduce flooding.

Benefits, Cost and Comparative Restoration Ratio:

C. Existing Site Specific Data Inventory

A. Survey, Maps and GIS:
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans:

***Work in progress**

References

Fish and Wildlife Services. 1997. Significant Habitats and Habitat Complexes of the New York Bight Watershed. http://library.fws.gov/pubs5/web_link/text/akc_form.htm#Arthur%20Kill%20Complex


Tributary Connections Point
Coastal Wetlands
US Army Corps of Engineers
New York District
Neck Creek
Arthur Kill & Kill Van Kull
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CRP SITE 101. PRALL'S ISLAND

A. HARBOR ESTUARY PROGRAM SITE INFORMATION

Category: Existing restoration, preservation, and/or mitigation site.

Location: *Prall's Island is located in the Arthur Kill, approximately two miles north of Fresh Kills, in the Borough of Staten Island, Richmond County.*

Watershed: Arthur Kill

Size: 50 Acres; *entire island ~80 acres*

Ownership: *Owned by City of NY maintained by* NYCDPR

Site Description: *Former salt marsh which was converted, through filling, to a central densely wooded upland area boardered by Phragmites marsh. Remaining salt marsh is eroding due to proximity to navigation channel. The island was assigned to Parks by the Department of General Services in 1984, to be preserved as a wildlife refuge. The New York Audubon Society has a 30-year lease, which dates back to 1985, which allows the use of Prall's Island for educational and scientific purposes.*

Current Land Use: *Harbor Heron's Wildlife Refuge.*

Available Habitat: Important bird habitat. Gray birch populations, used by Harbor Herons as a rookery, are declining and Ailanthus is dominating. *Uninhabited island, with upland and wetland environment. Site contains a central wooded area (occupying former dredge material) and tidal wetlands around the perimeter. The woodland portion of Prall's Island is dominated by dense stands of tree-of-heaven, gray birch, and cherry less than 30 feet tall.*

Proposed Project: Heron rookery enhancement, wetland restoration, *Control of Ailanthus and planting gray birch in upland areas.*

Projected/Estimated Costs: $410,000 *?*

Project Status: *A study of avian life is being conducted by the Audubon Society and the Manomet Observatory in Massachusetts. Scientists are monitoring nesting sites and studying the habits and diets of migratory birds. The Audubon Society has documented 400 pairs of nesting birds on the island. NYC DPR NRG has completed 73 acres of Tree Canopy Enhancement.*

Three coastal wetland projects were conducted by NYC Park between 1994-1995 as restoration for the Exxon Bay Water oil spill. Additionally, 2 acres of avian breeding habitat were restored by NYC Parks in 2002 to enhance nesting, provide suitable nest sites, eliminate easy access to nest sites by aerial predators. Extensive mapping and cataloging of plant communities, 6000 individual trees, remnant and active heron nests, soils, and predator species. Project pilot included 1 acre area of removal of invasive Ailanthus trees and planting of native Betula nigra. Project was short cut by funding cutbacks in the aftermath of 911. A twist developed when Asian Longhorned Beetle management required the removal of all Betula, Populus and Acer species (host species for the beetle). Large scale tree canopy restoration to begin resumption under Mayor Bloomberg's PlanNYC Million Tree Planting Program.

Partners: NYCDPR, Audubon, HEP/EPA, USACE

Project Contact: Michael Feller, NYC Parks/NRG
Phone: (212) 360-1424
Website: www.nycgovparks.org/sub_about/parks_divisions/nrg/

Project Funding Source: Funded by the NYS Clean Water/Clean Air Bond Act and the City of New York, Partial AB

HEP Ratification Date: 12/11/1997

B. Hudson Raritan Estuary Ecosystem Restoration Study Information

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands – Fringe marsh could be restored along the entire shoreline of the island. Salt marsh fringe erosion control by biotechnology (geotextile tubes/Spartina alterniflora sprig planting) and or wave attenuation structures if required. Additionally, the freshwater marsh is currently dominated by Phragmites should be restored with natives totaling ≈20.97 acres of potential wetland restoration.

Islands for Waterbirds – Remove fill/Phragmites and replace with sand and/or shell to promote water bird nesting throughout the entire ≈63 acre island.

Coastal and Maritime Forests – Three upland forest patches (identified by NYC Parks) totaling ≈8.12 acres could be restored for Herons. This could include control of Ailanthus and planting gray birch in upland areas.

Habitat for Fish, Crab and Lobsters - Assess flats for composition, level of degradation and potential enhancements to increase habitat connectivity- such as addition of complex structure along approximately ≈31.72 acres.

Sediment Contamination - Potential dredging and capping of sediment based on sediment contamination testing.

Benefits, Cost and Comparative Restoration Ratio:

C. Existing Site Specific Data Inventory

A. Survey, Maps and GIS: NYC DPR, Alderson & Bowers 2012.
B. Site History and Land Use:
C. Biological Studies/ Fauna: NYC DPR
D. Biological Studies/ General Environment: NYC DPR, FWS 1997,
E. Geotechnical:
F. Hydraulics and Hydrology: NYC DPR
G. Water and Sediment: NYC DPR
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans: NYC DPR, Alderson & Bowers 2012.

***Work in progress**

References:

New York State Waterfronts. 1992. Prall's Island, Coastal Fish and Wildlife Habitat Rating Form.

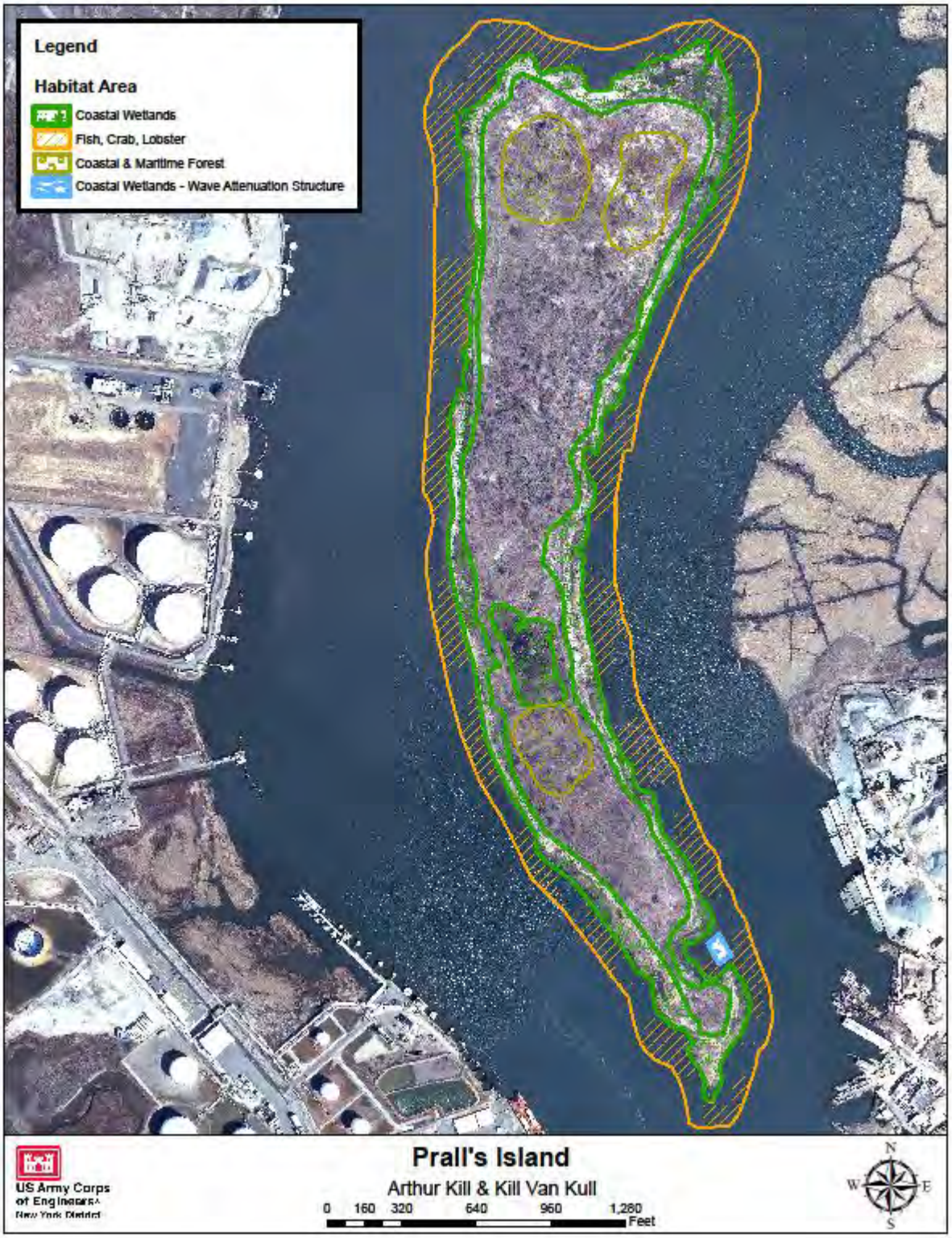
Fish and Wildlife Services. 1997. Significant Habitats and Habitat Complexes of the New York Bight Watershed. http://library.fws.gov/pubs5/web_link/text/akc_form.htm#Arthur%20Kill%20Complex

NYC DPR NRG-
www.nycgovparks.org/sub_about/parks_divisions/nrg/nrg_rest_prior.html#si
www.nycgovparks.org/sub_about/parks_divisions/nrg/forever_wild/site.php?FWID=12

New York/New Jersey Harbor Estuary Program Habitat Workgroup 2001 Status Report-
http://www.harborestuary.org/reports.htm

DARRP- http://www.darrp.noaa.gov/northeast/exxon/restore.html

Alderson, Carl and Justin Bowers. 2012. Reaching for the Past in Pursuit of the future: how can our present and past efforts inform the Hudson-Raritan Estuary Comprehensive Restoration Plan and the direction of habitat restoration going forward. A project for the New York-New Jersey Harbor & Estuary Program and New England Interstate Water Pollution Control Commission.


Legend
Habitat Area
Coastal Wetlands
Fish, Crab, Lobster
Coastal & Maritime Forest
Coastal Wetlands - Wave Attenuation Structure
US Army Corps
of Engineers
New York District
Prall's Island
Arthur Kill & Kill Van Kull
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CRP Site 62. Teleport Magnolia Forest

A. Harbor Estuary Program Site information

Category: Existing restoration, preservation, and/or mitigation site.

Location: Parcels along South Ave. in the Staten Island Corporate Park, *Located in Richmond County New York.*

Watershed: Arthur Kill

Size: 450 acres

Ownership: NYCDPR north of Merrill Ave. Teleport owns property south of Merrill Ave. This property is fenced and guarded.

Site Description: *Staten Island industrial park which contains more than a hundred acres of preserved wetlands. The Sweet Bay Magnolia Preserve, which encompasses most of the parkland and contains a high diversity of rare and endangered trees and plants.*

Current Land Use: *Nature preserve and Industrial park. Part of the Harbor Herons Wildlife Refuge.*

Available Habitat: *Contains almost 130 acres of swamp forest, and 100 acres of preserved wetland. Site contains many plants that are rare in New York State, including swamp or sweetbay magnolia (Magnolia virginiana), persimmon (Diospyros virginiana), possum-haw (Ilex decidua), and primrose-leaved violet (Viola primulafolia). Corporate Park also contains the globally rare Nantucket juneberry (Amelanchier nantucketensis), which has been called "the rarest plant ever to grow in New York City." To preserve local species, gardens with native flora have been planted throughout the park. This park's swamp forest contains areas dominated by Swamp white oak (Quercus bicolor), sweet gum (Liquidambar styraciflua), red maple (Acer rubrum), and pin oak (Quercus palustris). Its understory includes fetterbush (Lyonia lucida), maleberry (Lyonia ligustrina), swamp azalea (Rhododendron viscosum), and highbush blueberry (Vaccinium corymbosum). The herb layer includes many native species such as sensitive (Onoclea sensibilis), virginia chain (Woodwardia virginica) and cinnamon (Osmunda cinnamomea) fern, cardinal flower (Lobelia cardinalis), and turtle head (Chelone glabra). The park also contains marshland filled with common reed (Phragmites australis).*

Proposed Project:

Projected/Estimated Costs:

Project Status:

Partners:

Project Contact: Michael Feller, Chief Naturalist, NYC Parks/NRG
Phone: (212) 360-1424
Website: www.nycgovparks.org/sub_about/parks_divisions/nrg/nrg_home.html
Project Funding Source:

HEP Ratification Date:

B. Hudson Raritan Estuary Ecosystem Restoration Study Information

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands - Preservation of ~42 acres of marsh in center of property and manmade pond in NE section of property (invasive removal). This will require cooperation with Teleport on their property.

Coastal and Maritime Forests - Preservation of ~172 acres of forest and removal of some invasives (patches of knotweed along old streets). Site contains rare maritime shrubland species, Nantucket Juneberry. This will require cooperation with Teleport on their property.

Tributary Connections – Re-assess culvert capacity and flow across roads along ~2,100 linear feet of channel.

Sediment Contamination – Potential capping or removal of contaminated sediment based on testing.

Benefits, Cost and Comparative Restoration Ratio:

C. Existing Site Specific Data Inventory

A. Survey, Maps and GIS:
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans:

***Work in progress**

References:

http://www.nycgovparks.org/parks/statenislandindustrial/

New York/New Jersey Harbor Estuary Program Habitat Workgroup 2001 Status Report- http://www.harborestuary.org/reports.htm


Teleport Magnolia Forest
Arthur Kill & Kill Van Kull
US Army Corps
of Engineers
New York District
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CRP Site 16. Merrill's Creek

A. Harbor Estuary Program Site information

Category: Existing restoration, preservation, and/or mitigation site.

Location: Block 1835, Lot 1 in Bloomfield, Staten Island

Watershed: Arthur Kill

Size: 27 Acres

Ownership: GATX SI Corp.

Site Description: Site is composed of upland and mudflat habitat with areas of marsh. Area provides foraging habitat for herons, rails, bitterns etc. Diamond Back Terrapins nest along the remnant sand humic dotted throughout the site. Sandy humic areas along River Rd and Chelsea Ave. have hybrid oaks patches but also suffer from large amounts of dumping

Current Land Use: *Open space; wetland, upland.*

Available Habitat: Wetland, woodland/marsh and open grassland with coastal sandy oak barrens and hummock features.

Proposed Project: Upland/wetland acquisition and preservation.

Projected/Estimated Costs: $2,000,000

Project Status: *In 1998 NYC DEP implemented the Merrill's Creek Culvert Replacement. The project was conceived by A. Bergen, Salt Marsh Restoration Team and accomplished with help of Steve Zahn, DEC Marine Resources. Culvert Collapse caused impoundment of 11 acres drowned marsh. Culvert repair by NYCDEP in 1997 returned free flowing hydrology and marsh functions.*

Partners:

Project Contact: Michael Feller, Chief Naturalist, NYC Parks/NRG
Phone: (212) 360-1424
Website: www.nycgovparks.org/sub_about/parks_divisions/nrg/nrg_home.html

Project Funding Source: 2001 OPRHP BOND ACT
HEP Ratification Date: 1/1/2001

B. HUDSON RARITAN ESTUARY ECOSYSTEM RESTORATION STUDY INFORMATION

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands – Primary goal is acquisition of ~18 acres of wetland. Potential for wetland restoration, however, large areas of mudflats may preclude marsh creation.

Coastal and Maritime Forests – Primary goal is acquisition of ~7.6 acres of upland habitat. Opportunity to protect and increase sand humic habitat for turtle nesting. Preservation of existing hardwood forest.

Tributary Connections – Assessment of culverts at River Road intersection and potential improvements along ~1,000 linear feet of corridor.

Sediment Contamination - Potential capping or removal of contaminated sediment based on testing.

Benefits, Cost and Comparative Restoration Ratio:

C. EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: Alderson & Bowers 2012.
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans: Alderson & Bowers 2012.

***Work in progress**

REFERENCES

Alderson, Carl and Justin Bowers. 2012. Reaching for the Past in Pursuit of the future: how can our present and past efforts inform the Hudson-Raritan Estuary Comprehensive Restoration Plan and the direction of habitat restoration going forward. A project for the New York-New Jersey Harbor & Estuary Program and New England Interstate Water Pollution Control Commission.


Tributary Connections Point
Coastal Wetlands
Coastal & Maritime Forest
US Army Corps of Engineers
New York District
Merrill's Creek
Arthur Kill & Kill Van Kull
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CRP SITE 15. SAWMILL PARK ADDITION

A. HARBOR ESTUARY PROGRAM SITE INFORMATION

Category: Existing restoration, preservation, and/or mitigation site.

Location: Blocks 1825, 1815, & 1780; River Rd and Merrill, *Located in Richmond County New York.*

Watershed: Arthur Kill

Size: 136 Acres

Ownership: NYC Parks owns the property west of the rail and GATX Inc. owns the property west of the rail.

Site Description: Wetland. *Sawmill Creek Marsh Preserve contains the largest expanse of remaining salt marsh along Staten Island's west shore. Sawmill Creek Marsh is located across Prall's Creek directly opposite the Prall's Island heronry and contains salt marshes, tidal flats, and freshwater wetlands with several small ponds and a 10-hectare (25-acre) freshwater/brackish marsh with headwaters in the Staten Island Corporate Park. Sawmill Park Addition is proposed extension of the existing Saw Mill Creek Marsh Preserve located to the north and east.*

Current Land Use: *Preserve; marsh habitat with fragments of hardwood forest bordering the marsh.*

Available Habitat: High salt marsh and hummock feature supporting rare plant species including persimmon trees, Nantucket juneberry, and maritime oaks. *Site contains hardwood forests and wetlands. Sawmill Creek Marsh is large enough to sustain breeding populations of sharp-tailed (Ammodramus caudacutus), seaside (Ammodramus maritimus), and swamp sparrows (Melospiza georgiana), and wintering northern harriers (Circus cyaneus), and short-eared owls (Asio flammeus). The park is a favorite spot for many other birds such as egrets, herons, and birds of prey including falcons and turkey vultures (Cathartes aura). Mammals that inhabit Sawmill Creek Marsh include white-footed mice (Peromyscus leucopus), muskrat (Ondatra zibethica), Eastern cottontail rabbits (Sylvilagus floridanus), and raccoons (Procyon lotor).*

Proposed Project: Agency land transfer, preservation. *Creation of adjoining marsh habitat.*

Projected/Estimated Costs:

Project Status: *NYC DPR NRG has received numerous grants to restore Saw Mill Creek Marsh. A $52,800 state grant was awarded to the team to help reclaim six acres of marsh and an additional $67,200 was provided toward the task by the City as well.*

In 1997 NYC DEC oversaw the 0.5 acre Buckeye Pipeline Marsh Mitigation, which included wetland plantings for damages during the pipeline reconstruction and maintenance.

Partners: NYCDPR NRG

Project Contact: Michael Feller, Chief Naturalist, NYC Parks/NRG
Phone: (212) 360-1424
Website: www.nycgovparks.org/sub_about/parks_divisions/nrg/nrg_home.html
Project Funding Source:
HEP Ratification Date: 1/1/2001

B. Hudson Raritan Estuary Ecosystem Restoration Study Information

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands – Property west of the rails has potential for wetland restoration and is owned by Parks. Primary restoration opportunity east of the rails is acquisition. Salt marsh restoration of the ~57 available acres may include, excavation of Phragmites stands, regrading and restoration of tidal hydrodynamics, fill removal. These actions should allow impacted areas to revegetate on their own.

Coastal and Maritime Forests – Acquisition of property east of rails. Upland restoration opportunities along ~22 acres include preservation/expansion of sandy humic habitat for turtle breeding and reduction of non-point source pollution into the creek at the Francesco property (car storage). This can be accomplished by stabilizing and replanting eroded slopes and restoring wetlands. Steep upland slopes can be stabilized by employing appropriate erosion control geotextiles and reestablishing native vegetation.

Sediment Contamination - Potential capping or removal of contaminated sediment based on testing.

Benefits, Cost and Comparative Restoration Ratio:

C. Existing Site Specific Data Inventory

A. Survey, Maps and GIS: Alderson & Bowers 2012.
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans: Alderson & Bowers 2012.

***Work in progress**

References:

http://www.nycgovparks.org/sub_about/parks_divisions/nrg/forever_wild/site.php?FWID=14

Fish and Wildlife Services. 1997. Significant Habitats and Habitat Complexes of the New York Bight Watershed. http://library.fws.gov/pubs5/web_link/text/akc_form.htm#Arthur%20Kill%20Complex

Alderson, Carl and Justin Bowers. 2012. Reaching for the Past in Pursuit of the future: how can our present and past efforts inform the Hudson-Raritan Estuary Comprehensive Restoration Plan and the direction of habitat restoration going forward. A project for the New York-New Jersey Harbor & Estuary Program and New England Interstate Water Pollution Control Commission.


Tributary Connections Point
Coastal Wetlands
Coastal & Maritime Forest
US Army Corps of Engineers
New York District
Sawmill Park Additions
Arthur Kill & Kill Van Kull
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CRP SITE 194. GULFPORT MARSH

A. HARBOR ESTUARY PROGRAM SITE INFORMATION

Category: Existing restoration, preservation, and/or mitigation site.

Location: *Located in Richmond County New York. Includes the marsh and shoreline west of Water St. to the Arthur Kill from approximately the intersection of 2nd Ave. with the water, to the top of Merril's Creek (where Saw Mill Creek marsh begins).*

Watershed: Arthur Kill

Size: 162 acres

Ownership: Private, 380 Development Corp.

Site Description: *Gulfport Marsh is a large emergent marsh dominated by common reed and cattails, with pockets of open water. This is the second largest freshwater emergent marsh in New York City. The Gulfport marsh and upland site provides nesting and foraging habitat for several significant species. The site also provides some important open grassland habitat and a "corridor," or link, between Saw Mill Creek and Old Place Creek. Parks completed restoration around the towers, however restored Spartina suffered heavy predation by Geese and wake from boats disrupted the marsh.*

Current Land Use: *Open space, wetland, vacant industrial site, foraging complex and part of the Harbor Herons Wildlife Refuge.*

Available Habitat: *The habitats at Gulfport range from salt marsh along the Arthur Kill to emergent freshwater marshes, a pond, and vernal pools to meadows, linear (mowed) grasslands, hummocks and woodland pockets.*

Proposed Project: *In regards to the contaminated fill placed by 380 Development in 2007: NYS DEC directed 380 Development to fully remove all contaminated fill within 6 months of DEC approval of a work order; instituted a penalty of $562,500, half of which is payable immediately. The remaining half will be due if 380 Development violates any of the terms of the order; Implemented a stormwater pollution prevention plan and other measures to address drainage issues that impact water and soil quality; and Protection of tidal wetlands, water bodies and other natural resources on and adjacent to the site.*

Projected/Estimated Costs:

Project Status: NYC DPR has done extensive restoration work at this site. *In 1996 a 2 acre saltwater marsh restoration was completed as damages for the Exxon Bay Water oil spill. Restoration was designed and monitored by R. Bergfors, C. Alderson, A. Bergen for the NYC Parks Salt Marsh Restoration Team. Constructed by SMRT. Project saw 60% survival and had significant losses at low elevations. Reasons are still not understood.*

Partners:

Project Contact:
Phone:
Website:

Project Funding Source:
HEP Ratification Date:

B. Hudson Raritan Estuary Ecosystem Restoration Study Information

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands – Restoration potential exists all along the ~249 acre Arthur Kill portion of this parcel, particularly south of the tower. Marsh restoration would require wake protection from heavy boat traffic in the channel, invasive species and debris removal. Re-assess 1996 marsh restoration site for potential improvements.

Coastal and Maritime Forests – Potential for extensive upland restorations along ~312 acres of grassland and woodland habitat.

Habitat for Fish, Crab and Lobsters - Assess flats for composition, level of degradation and potential enhancements to increase habitat connectivity- such as addition of complex structure along approximately ~11.5 acres.

Sediment Contamination - Potential capping or removal of contaminated sediment based on testing. 380 Development contamination removal is ongoing.

Benefits, Cost and Comparative Restoration Ratio:

C. Existing Site Specific Data Inventory

A. Survey, Maps and GIS: Alderson & Bowers 2012.
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans: Alderson & Bowers 2012.

***Work in progress**

References:

An Islanded Nature—Natural Area Conservation and Restoration in Western Staten Island, including the Harbor Herons Region (Blanchard, et al, 2001).

Fish and Wildlife Services. 1997. Significant Habitats and Habitat Complexes of the New York Bight Watershed. http://library.fws.gov/pubs5/web_link/text/akc_form.htm#Arthur%20Kill%20Complex

DAARRP- http://www.darrp.noaa.gov/northeast/exxon/restore.html

Alderson, Carl and Justin Bowers. 2012. Reaching for the Past in Pursuit of the future: how can our present and past efforts inform the Hudson-Raritan Estuary Comprehensive Restoration Plan and the direction of habitat restoration going forward. A project for the New York-New Jersey Harbor & Estuary Program and New England Interstate Water Pollution Control Commission.


Coastal Wetlands
Fish, Crab, Lobster
Coastal & Maritime Forest
US Army Corps
of Engineers
Gulfport Marsh
Arthur Kill & Kill Van Kull
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CRP SITE 50. GRANITEVILLE SWAMP WOODS

A. HARBOR ESTUARY PROGRAM SITE INFORMATION

Category: Existing restoration, preservation, and/or mitigation site.

Location: Old Place Creek, Northwest SI; *Bounded by Goethals Road North, Meeker Avenue, and Morrow Street.*

Watershed: Arthur Kill

Size: 43 acres

Ownership: *NYC DPR*, Private (ISC Corps.).

Site Description: The minor creeks radiating from the forest and salt marsh constitute part of the head waters of Old Place Creek that feed into the Arthur Kill. *The site contains wetlands, uplands, forests, freshwater ponds, and vernal pools. Additionally, the state endangered Iris prismatica (which is surrounded by invasives) is located on site. The hydrology of this area was historically linked to "Bowmans" creek which connected Goethals bridge pond with the Arthur kill. It was a boggy woodland separating the marshes of old place creek to the south and bowmans creek to the north. The fresh water source shared by Goethals bridge pond is now hidden under a Home depot, and United Artisan movie theater, but still provides open water habitat and moist spongy soil through the western section of Graniteville (C. Summers & N. McVay, NYC DPR NRG, 2004). It is one of the last parcels of wooded wetland left north of the Staten Island Expressway, offering quality interior habitat and significant resting and foraging grounds for a diversity of migratory and resident birds. Extensive development around Graniteville Swamp Woods threatens the site; abandon cars and off-roading recreation have degraded some of the habitat.*

Current Land Use: *Open space, Harbor Heron Wildlife Sanctuary.*

Available Habitat: Forested Wetland: 31 acres, upland and swamp forest; 12 acres of salt marsh; *The woods of Graniteville Swamp contain pin oak (Quercus palustris), swamp white oak (Quercus bicolor), sweetgum (Liquidambar styraciflua), and red maple (Acer rubrum). The forest floor, mostly in areas not protected by Parks, contains trout lily (Erythronium americanum), wild sarsparilla (Aralia nudicaulis), cinnamon fern (Osmunda cinnamomea), Turk's cap lily (Lilium superbum), Canada mayflower (Maianthemum canadense), and slender blue flag (Iris prismatica). The Parks' protected Graniteville Swamp Park is mostly marsh, filled with saltmarsh cordgrass (Spartina alterniflora) and common reed (Phragmites australis), but also contains some swamp forest. Redwing blackbirds (Agelaus phoeniceus), American woodcock (Philohela minor), spring peepers (Hyla crucifera), many different species of warbler, formerly endangered peregrine falcon (Falco peregrinus), and the muskrats (Ondatra zibethica) have been documented to use the swamp. The last reported sighting of a mud turtle (Kinosternon subrubrum) in New York City was at Graniteville Swamp. The marshes and creeks attract local herons, egrets, and ibis, as well as migrating birds looking for food and rest.*

Proposed Project: Habitat protection and acquisition. Partially developed, additional development proposed. *Freshwater wetland upland swamp woodland aquisiton and preservation.*

Projected/Estimated Costs: $12,000,000/2,500,000

Project Status: Restoration completed 1998; Protection and acquisition on-going.

Partners: NYCDPR, Sweetbay Magnolia Conservancy

Project Contact: Carolyn Summers, NRDC
Phone: (212) 727-4535
Website: www.tpl.org

B. Hudson Raritan Estuary Ecosystem Restoration Study Information

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands - Acquisition and preservation of ≈25.58 acres of existing habitat. Upgrade to freshwater creeks and wetlands to include removal of debris and Phragmites.

Coastal and Maritime Forests – Acquisition and preservation of ≈35.31 acres of upland Oak forest. Removal of invasives and potential for native plantings.

Tributary Connections – Re-assess hydrologic connections over ≈3,801 linear feet by increasing connectivity with Old Place Creek and re-assessing culvert efficiency.

Sediment Contamination - Potential dredging and capping of sediment based on sediment contamination testing.

Benefits, Cost and Comparative Restoration Ratio:

C. Existing Site Specific Data Inventory

A. Survey, Maps and GIS:
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans:

***Work in progress**

References:

Graniteville swamp park. (2003, April 29) - http://www.nycgovparks.org/parks/R141/dailyplant/16647

Summers, C. (n.d.). *Graniteville swamp woods* - http://www.harborestuary.org/TEwinter04.htm#3

Pers. Com. Nate McVay, NYC Parks NRG, 2011.


Legend
Habitat Area
Coastal Wetlands
Coastal & Maritime Forest
Tributary Connections Point
US Army Corps of Engineers
New York District
Graniteville Swamp Woods
Arthur Kill & Kill Van Kull
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CRP Site 2. Cable Avenue Woods

A. Harbor Estuary Program Site information

Category: Existing restoration, preservation, and/or mitigation site.

Location: North of Forest Avenue, west of South Avenue at Cable (Goodrich) Street.

Watershed: Arthur Kill

Size: 28 Acres

Ownership: Private and Corporate owned.

Site Description: *The forest around Staten Island Cable Company. Woodlands contain lowbush blueberry and sassafras. There are also areas of freshwater wetlands and creeks.*

Current Land Use: forest, freshwater wetlands.

Available Habitat: This is a patchy wet and upland forest. It includes most of NYS DEC freshwater wetland E-2, and a number of small federal wetlands.

Proposed Project: Upland/wetland acquisition and preservation.

Projected/Estimated Costs:

Project Status:

Partners:

Project Contact: Dr. Margaret B. Garguillo, NYC Parks/NRG
Phone: (212) 360-1423
Website: www.nycgovparks.org/sub_about/parks_divisions/nrg/nrg_home.html

Project Funding Source:
HEP Ratification Date: 11/2/2000

B. HUDSON RARITAN ESTUARY ECOSYSTEM RESTORATION STUDY INFORMATION

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands – Acquisition and potential improvements to ≈8.54 acres of freshwater wetlands may include invasive removal, plantings and assessment of creek flow.

Coastal and Maritime Forests – Acquisition and restoration of ≈23.56 acres of upland forest. Removal of knotweed, which exist as pockets within this sassafras and low bush blueberry woodland.

Sediment Contamination - Potential dredging and capping of sediment based on sediment contamination testing.

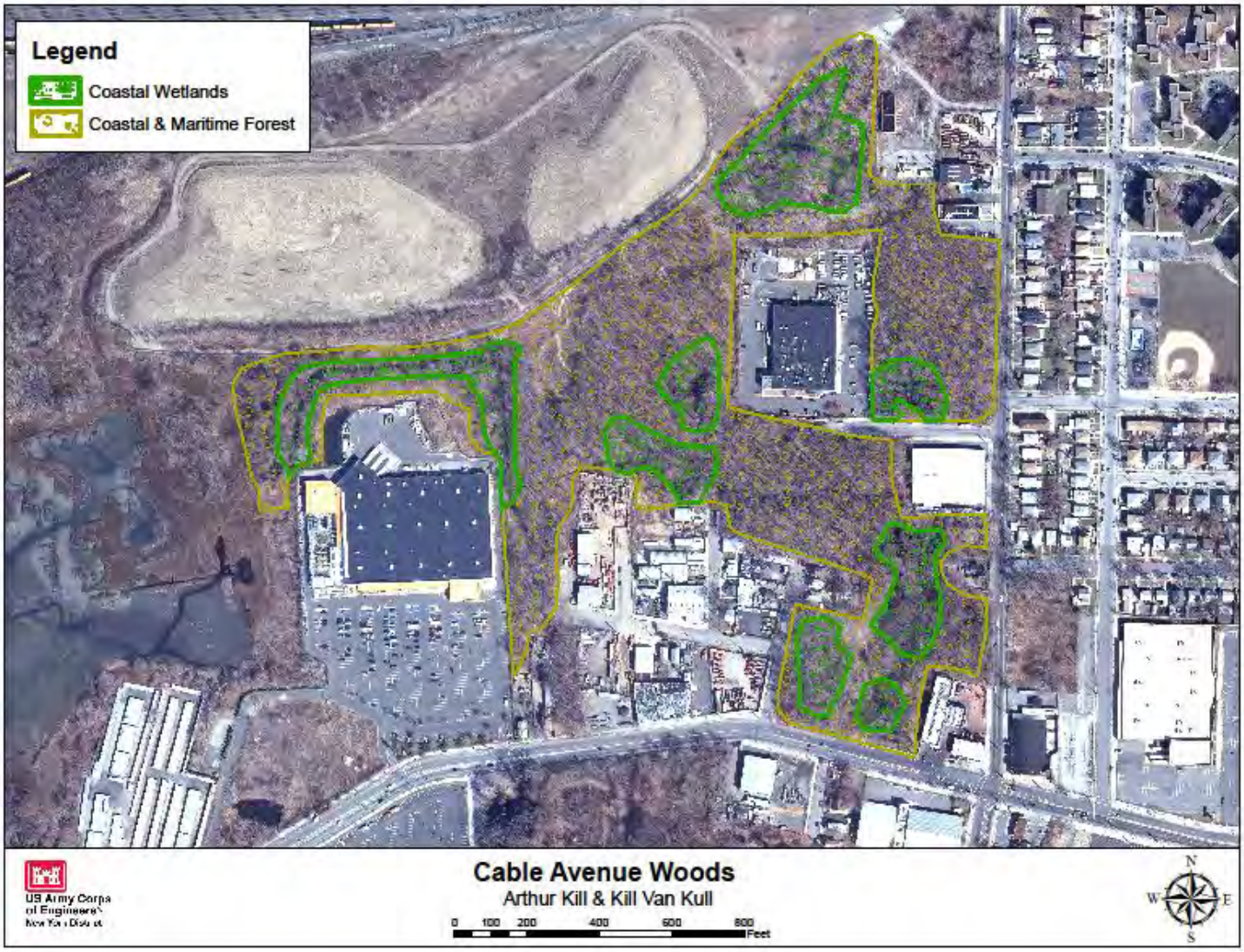
Benefits, Cost and Comparative Restoration Ratio:

C. EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS:
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans:

***Work in progress**

REFERENCE:


Legend
Coastal Wetlands
Coastal & Maritime Forest
US Army Corps of Engineers
New York District
Cable Avenue Woods
Arthur Kill & Kill Van Kull
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CRP SITE 110. ARDEN HEIGHTS WOODS

A. HARBOR ESTUARY PROGRAM SITE INFORMATION

Category: Existing restoration, preservation, and/or mitigation site.

Location: Between Arthur Kill Road, Arden Avenue and Woodrow Road.

Watershed: Raritan Bay

Size: 174.785 acres

Ownership: NYCDPR, NYC Catholic Church

Site Description: *Arden Heights Woods is a class 1 wetland largely composed of a forested hardwood wetland currently included in the Staten Island Blue-Belt program. The site contains several kettle ponds (bodies of water formed by glaciers) which are connected by an intricate network of streams and creeks. The woods are composed of successional forests ranging from open fields to mature hardwood forests. The mature portions of these forests contain a multitude of trees, including hemlocks (Tsuga), black cherry (Prunus serotina), and persimmons (Diospyros). Perhaps most interesting of all the species present is the eastern white pine (Pinus strobus). The swamps contain Blue flags iris (Iris veriscolor) and the common reeds, Phragmites. Many owls frequent this site, including the screech owl (Otus asio), saw whet owl (Aegolius acadicus), great horned owl (Bubo virginianus), and the barn owl (Tyto alba). Occasionally, a barred owl (Strix varia) from the south will venture this far north. The Department of Real Property assigned the first 174.785 acres of this property to Parks in 1993.*

Current Land Use: *Forever Wild Site*

Available Habitat: Undisturbed native oak forest and freshwater wetlands. Non-Point Source

Proposed Project: Forest restoration, perimeter protection/restoration/non-point source reduction. Permanent protection, grant application.

Projected/Estimated Costs: $2,000,000

Project Status: Applied for grant

Partners: NYCDPR-Natural Resources Group

Project Contact: Michael Feller, NYC Parks/NRG
Phone: (212) 360-1424
Website: www.nycgovparks.org/sub_about/parks_divisions/nrg/

Project Funding Source:
HEP Ratification Date: 8/2/2002

B. Hudson Raritan Estuary Ecosystem Restoration Study Information

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands – Support to NYC Parks management efforts.

Coastal and Maritime Forests – Support to NYC Parks management efforts.

Public Access – Existing hiking paths throughout property.

Benefits, Cost and Comparative Restoration Ratio:

C. Existing Site Specific Data Inventory

A. Survey, Maps and GIS:
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans:

***Work in progress**

Reference:

NYC Parks- http://www.nycgovparks.org/parks/ardenwoods/

NYC DEC- http://www.dec.ny.gov/outdoor/45361.html

Forever Wild- http://www.nycgovparks.org/sub_about/parks_divisions/nrg/forever_wild/site.php?FWID=1

Fish and Wildlife Services. 1997. Significant Habitats and Habitat Complexes of the New York Bight Watershed. http://library.fws.gov/pubs5/web_link/text/rb_form.htm

CRP SITE 1. ADDITIONS TO ARDEN WOODS

A. HARBOR ESTUARY PROGRAM SITE INFORMATION

Category: Existing restoration, preservation, and/or mitigation site.

Location: Arthur Kill Road and Fresh Kills, Staten Island, Richmond County, NY.

Watershed: Arthur Kill

Size: 8.215 acres; *entire forest is 183 acres.*

Ownership: NYS DEC and The NYC Catholic Church

Site Description: *Arden Heights Woods is a class 1 wetland largely composed of a forested hardwood wetland included in the Staten Island Blue-Belt program. The site contains several kettle ponds (bodies of water formed by glaciers) which are connected by an intricate network of streams and creeks.*
The woods are composed of successional forests ranging from open fields to mature hardwood forests. The mature portions of these forests contain a multitude of trees, including hemlocks (Tsuga), black cherry (Prunus serotina), and persimmons (Diospyros). Perhaps most interesting of all the species present is the eastern white pine (Pinus strobus).
The swamps contain Blue flags iris (Iris veriscolor) and the common reeds, Phragmites.
Many owls frequent this site, including the screech owl (Otus asio), saw whet owl (Aegolius acadicus), great horned owl (Bubo virginianus), and the barn owl (Tyto alba). Occasionally, a barred owl (Strix varia) from the south will venture this far north.
The Department of Real Property assigned the first 174.785 acres of this property to Parks in 1993. Two years later, an additional 8.215 acres were assigned, making the boundaries of the site Arthur Kill Road, Arden Avenue, and Legate Avenue. The entire 273 Park is designated as Forever Wild Preserve.

Current Land Use: *Open space; passive recreation. Part of the Staten Island Blue-belt.*

Available Habitat: Forested wetland, Forever Wild Preserve.

Proposed Project: Upland/wetland acquisition and preservation; acquisition of property adjacent to Arden Woods.

Projected/Estimated Costs:

Project Status: New York State Department of Environmental Conservation acquired 5.06 acres of this parcel in 2000.

Partners:

Project Contact: Dr. Margaret B. Gargiullo, NYC Parks/NRG
Phone: (212) 360-1423
Website: www.nycgovparks.org/sub_about/parks_divisions/nrg/nrg_home.html

Project Funding Source: NYCDPR
HEP Ratification Date: NYCDPR

B. HUDSON RARITAN ESTUARY ECOSYSTEM RESTORATION STUDY INFORMATION

Restoration Recommendations (Applicable Target Ecosystem Characteristics):
Coastal Wetlands - Support to NYC Parks management efforts.
Coastal and Maritime Forests - Support to NYC Parks management efforts.
Public Access - Existing hiking paths throughout property.

Benefits, Cost and Comparative Restoration Ratio:

C. EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS:
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans:

***Work in progress**

REFERENCES:

NYC Parks- http://www.nycgovparks.org/parks/ardenwoods/

NYC DEC- http://www.dec.ny.gov/outdoor/45361.html

Forever Wild- http://www.nycgovparks.org/sub_about/parks_divisions/nrg/forever_wild/site.php?FWID=1

Fish and Wildlife Services. 1997. Significant Habitats and Habitat Complexes of the New York Bight Watershed. http://library.fws.gov/pubs5/web_link/text/rb_form.htm

*BOTH ARDEN HEIGHTS WOODS (LEFT SIDE) AND ADDITION TO ARDEN HEIGHTS WOODS (RIGHT SIDE) ARE DISPLAYED ON THIS MAP.

CRP SITE 3. CANADA HILL FOREST

A. HARBOR ESTUARY PROGRAM SITE INFORMATION

Category: Existing restoration, preservation, and/or mitigation site.

Location: Richmond Parkway and Rt. 440, This forested site lies just west of Pleasant Plains and south of the intersection of Richmond Parkway and the West shore Expressway (Route 440).

Watershed: Arthur Kill

Size: 33 acres

Ownership: NYS DOT, NYC

Site Description: Site includes both Federal and NYS DEC mapped freshwater wetlands, part of AR-27/Mill Creek; and mature oak forest.

Current Land Use: Forested Wetland

Available Habitat:

Proposed Project: Upland/wetland acquisition and preservation.

Projected/Estimated Costs:

Project Status:

Partners:

Project Contact: Dr. Margaret B. Garguillo, NYC Parks/NRG
Phone: (212) 360-1423
Website: www.nycgovparks.org/sub_about/parks_divisions/nrg/nrg_home.html

Project Funding Source:

HEP Ratification Date: 11/2/2000

B. HUDSON RARITAN ESTUARY ECOSYSTEM RESTORATION STUDY INFORMATION

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands – Preservation and restoration of ≈9.25 to include invasive removal and plantings.

Coastal and Maritime Forests - Preservation and restoration of ≈17.56 acres; to include invasive removal (Mugwort and Bittersweet) in the mature Oak Forest.

Sediment Contamination - Potential dredging and capping of sediment based on sediment contamination testing.

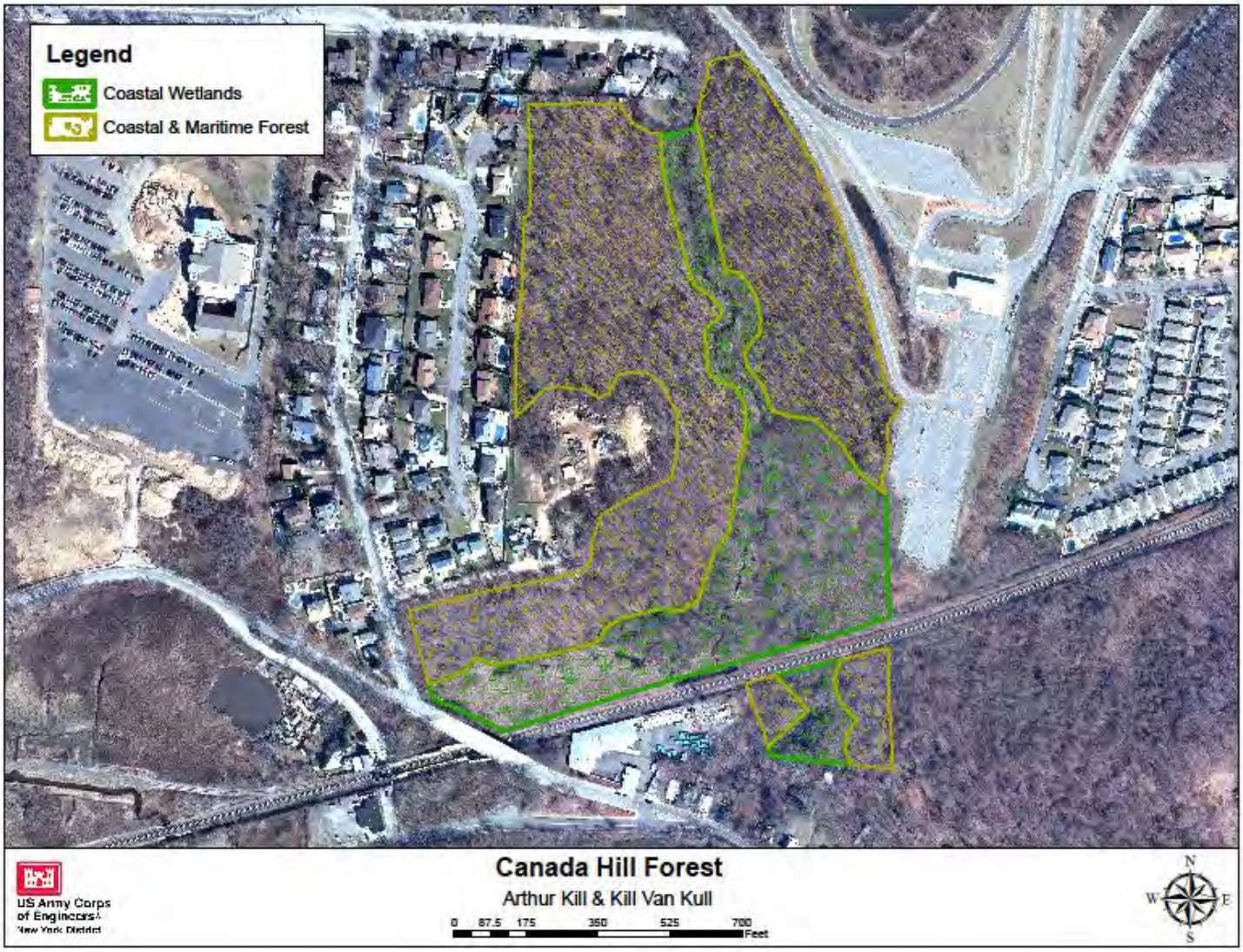
Benefits, Cost and Comparative Restoration Ratio:

C. EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS:
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans:

***Work in progress**

REFERENCE:


Legend
Coastal Wetlands
Coastal & Maritime Forest
US Army Corps
of Engineers
New York District
Canada Hill Forest
Arthur Kill & Kill Van Kull
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CRP SITE 694. RAHWAY RIVERFRONT PARK

A. HARBOR ESTUARY PROGRAM SITE INFORMATION

Category: Existing restoration, preservation, and/or mitigation site.

Location: 0.1 miles northeast of the intersection of East Milton Avenue and Main Street

Watershed: Kings Creek, Rahway River

Size:

Ownership:

Site Description: *Small strip of waterfront property along Dock Street between Milton Avenue and Monroe Street in Rahway NJ. The site is in a highly urban setting and boarders a large residential complex with a high degree of impervious surface. The lawn appears to be mowed along street side, the river portion of the site is covered with shrub and may have a steep slope in some sections.*

Current Land Use:

Available Habitat:

Proposed Project:

Projected/Estimated Costs:

Project Status:

Partners:

Project Contact:
Phone:
Website:

Project Funding Source:
HEP Ratification Date:

B. HUDSON RARITAN ESTUARY ECOSYSTEM RESTORATION STUDY INFORMATION

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands- Assess site for flood risk and potential to create ~0.89 acres of low and high fringe marsh, may require removal of invasives, re-planting and re-grading.

Habitat for Fish, Crab and Lobsters – Assess flats for composition, level of degradation and potential enhancements to increase habitat connectivity- such as addition of complex structure along approximately ~0.87 acres of shallow water habitat.

Sediment Contamination - Potential dredging and capping of sediment based on sediment contamination testing.

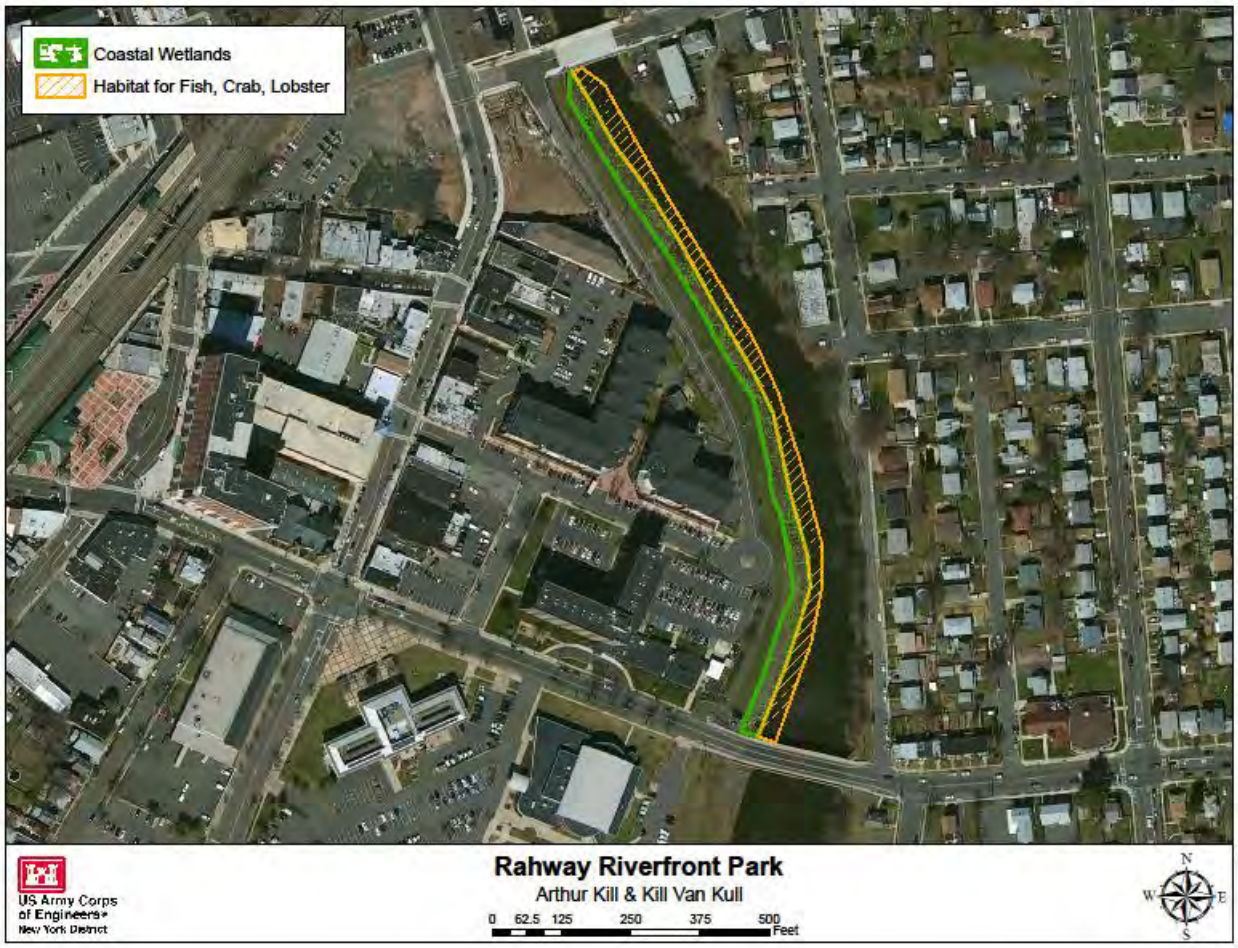
Benefits, Cost and Comparative Restoration Ratio:

C. EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS:
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans:

***Work in progress**

REFERENCE:


Coastal Wetlands
Habitat for Fish, Crab, Lobster
US Army Corps
of Engineers
New York District
Rahway Riverfront Park
Arthur Kill & Kill Van Kull
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Feet
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CRP SITE 125. RAHWAY RIVER/ MADISON/MAPLE AVENUES

A. HARBOR ESTUARY PROGRAM SITE INFORMATION

Category: Existing restoration, preservation, and/or mitigation site.

Location: 0.3 miles west from the intersection of West Lake Avenue and Jefferson Avenue.

Watershed: Arthur Kill

Size:

Ownership: Union County, NJ Park system; private.

Site Description: *Milton Lake Park is part of the Union County Park system and is bisected by the Robinsons Branch of the Rahway River. The area is prone to flooding.*

Current Land Use: Union County Park

Available Habitat: Riverine - open waterways, floodplain areas. Site is entirely aquatic habitat.

Proposed Project: Stormwater impact reduction, streambank stabilization, riparian habitat restoration, permanent protection.

Projected/Estimated Costs:

Project Status: *As part of a $1.1 million dollar restoration and improvement project, a fish ladder was installed at the Milton Lake Dam in 2006 to aid in the migration of white perch and gizzard shad to their historical spawning grounds. The County stocks the lake with trout in the Spring. Area prone to flooding. Fish ladder does not have attraction flow in bypass channel to draw fish and head is too low at most times of year to provide sufficient water in the ladder.*

Partners: Baykeeper, Rahway River Association

Project Contact: Jeffrey Jotz, Rahway River Association
Phone: (732) 340-0882
Website: www.harborestuary.org

Project Funding Source:
HEP Ratification Date: 7/1/1997

B. HUDSON RARITAN ESTUARY ECOSYSTEM RESTORATION STUDY INFORMATION

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Tributary Connections- Preservation and restoration of ~19.89 acres of forested flood plain and ~1,866 linear feet of stream corridor. Assess potential to naturalize the streambank through stabilization with vegetated slopes. Potential re-grading of river corridor slopes to re-connect the floodplain. Assess opportunities to reduce storm water impacts through BMP's and potential addition of stormwater capture features to the floodplain.

Sediment Contamination - Potential dredging and capping of sediment based on sediment contamination testing.

Public Access – Support to Union County Parks system public access improvements.

Benefits, Cost and Comparative Restoration Ratio:

C. EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: Alderson & Bowers 2012.
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans: Alderson & Bowers 2012.

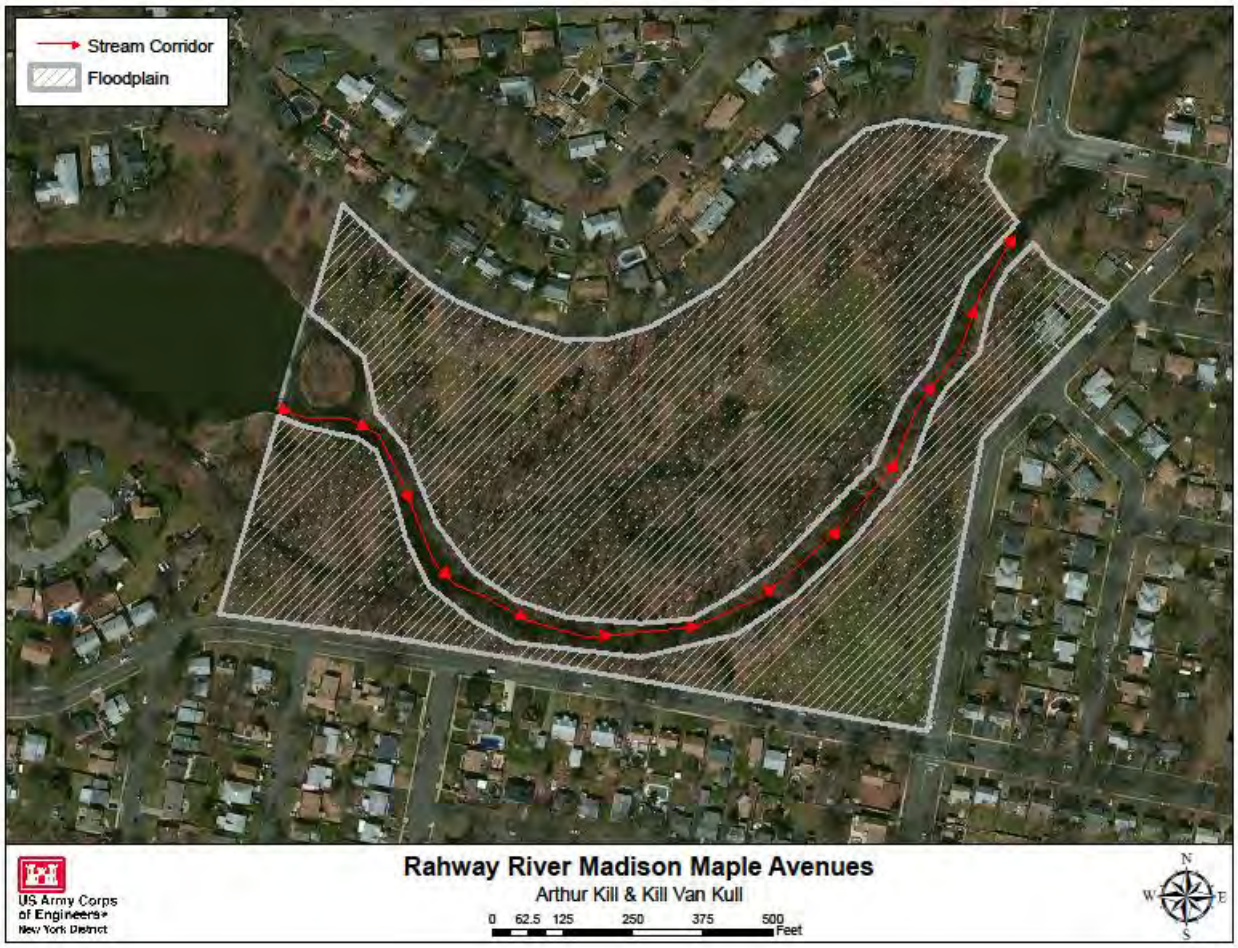
***Work in progress**

REFERENCE:

County of Union, New Jersey- http://ucnj.org/wp-content/uploads/2010/08/Milton-Lake-Park.pdf

New York/New Jersey Harbor Estuary Program Habitat Workgroup 2001 Status Report- http://www.harborestuary.org/reports.htm

Alderson, Carl and Justin Bowers. 2012. Reaching for the Past in Pursuit of the future: how can our present and past efforts inform the Hudson-Raritan Estuary Comprehensive Restoration Plan and the direction of habitat restoration going forward. A project for the New York-New Jersey Harbor & Estuary Program and New England Interstate Water Pollution Control Commission.


Stream Corridor
Floodplain
US Army Corps
of Engineers
New York District
Rahway River Madison Maple Avenues
Arthur Kill & Kill Van Kull
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CRP Site 126. Rahway River/Milton Lake

A. Harbor Estuary Program Site information

Category: Existing restoration, preservation, and/or mitigation site.

Location: Rahway River, Robinsons Branch, 0.1 miles north from the intersection of Post Boulevard.

Watershed: Arthur Kill

Size:

Ownership: Union County

Site Description: *Milton Lake is a reservoir on the Robinson Branch of the Rahway River in Middlesex County NJ. The lake lies within Milton Lake Park, which is part of the Union County Park system.*

Current Land Use: Union County Park

Available Habitat: Lacustrine - marshes. Mostly aquatic habitat.

Proposed Project: Shoreline restoration, possible feshwater habitat creation.

Projected/Estimated Costs:

Project Status: *As part of a $1.1 million dollar restoration and improvement project, a fish ladder was installed at the Milton Lake Dam in 2006 to aid in the migration of white perch and gizzard shad to their historical spawning grounds. The County stocks the lake with trout in the Spring. Area prone to flooding. Fish ladder does not have attraction flow in bypass channel to draw fish and head is too low at most times of year to provide sufficient water in the ladder.*

Partners: Baykeeper, Union County Parks Department

Project Contact: Jeffrey Jotz, Rahway River Association
Phone: (732) 340-0882
Website: www.harborestuary.org

Project Funding Source:
HEP Ratification Date: 7/1/1997

B. HUDSON RARITAN ESTUARY ECOSYSTEM RESTORATION STUDY INFORMATION

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Tributary Connections - Preservation and restoration of ~18.35 acres of flood plain and stream corridor. Assess potential to naturalize the stream banks through stabilization with vegetated slopes along ~1,971 linear feet. Potential re-grading of slopes to re-connect the floodplain. Assess potential to include add stormwater capture features to the floodplain.

Shorelines and Shallows- Shoreline improvements along ~6,170 linear feet may include bank stabilization with vegetated riparian slopes and shallow water habitat improvements through addition of structure or re-grading.

Sediment Contamination - Potential dredging and capping of sediment based on sediment contamination testing.

Public Access – Support to Union County Parks system public access improvements.

Benefits, Cost and Comparative Restoration Ratio:

C. EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: Alderson & Bowers 2012.
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans: Alderson & Bowers 2012.

***Work in progress**

REFERENCE:

HEP Tidal Exchange Fall 2006- **http://www.harborestuary.org/TEautumn06.htm**

County of Union, New Jersey- http://ucnj.org/wp-content/uploads/2010/08/Milton-Lake-Park.pdf

Alderson, Carl and Justin Bowers. 2012. Reaching for the Past in Pursuit of the future: how can our present and past efforts inform the Hudson-Raritan Estuary Comprehensive Restoration Plan and the direction of habitat restoration going forward. A project for the New York-New Jersey Harbor & Estuary Program and New England Interstate Water Pollution Control Commission.


Stream Corridor
Floodplain
Shorelines & Shallows
US Army Corps
of Engineers
New York District
Rahway River Milton Lake
Arthur Kill & Kill Van Kull
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CRP SITE 127. RAHWAY RIVER/ CENTRAL AVENUE

A. HARBOR ESTUARY PROGRAM SITE INFORMATION

Category: Existing restoration, preservation, and/or mitigation site.

Location: *Site lies at the intersection of Central Avenue and Route 27 in Rahway, NJ.*

Watershed: Arthur Kill

Size:

Ownership: Private, Municipality.

Site Description: The site is bisected by the Robinson Branch of the Rahway River and contains forested open space on both sides. Portions of the site, on either side of Central Avenue, are part of the Municipal Park system (Kiwanis Park and Art Center Park).

Current Land Use: Municipal Park, private.

Available Habitat: Riparian

Proposed Project: Stormwater impact reduction, riparian habitat restoration.

Projected/Estimated Costs:

Project Status: No permanent protection

Partners:

Project Contact: Jeffrey Jotz, Rahway River Association
Phone: (732) 340-0882
Website: www.harborestuary.org

Project Funding Source:
HEP Ratification Date: 7/1/1997

B. HUDSON RARITAN ESTUARY ECOSYSTEM RESTORATION STUDY INFORMATION

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Tributary Connections- Preservation and restoration of ~18.17 acres of flood plain and streambed. Assess potential to naturalize the ~3.184 linear feet of streambank through stabilization and vegetated slopes. Potential re-grading of river corridor slopes to re-connect the floodplain. Assess opportunities to reduce storm water impacts through BMP's and potential addition of stormwater capture features to the floodplain.

Sediment Contamination - Potential dredging and capping of sediment based on sediment contamination testing.

Public Access – Support to Union County Parks system public access improvements.

Benefits, Cost and Comparative Restoration Ratio:

C. EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS:
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans:

***Work in progress**

REFERENCE:


Stream Corridor
Floodplain
US Army Corps
of Engineers
New York District
Rahway River Central Avenue
Arthur Kill & Kill Van Kull
0 75 150 300 450 600
Feet
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CRP SITE 129. RAHWAY RIVER/ RAHWAY RIVER PARKWAY LAKE

A. HARBOR ESTUARY PROGRAM SITE INFORMATION

Category: Existing restoration, preservation, and/or mitigation site.

Location: 0.1 miles southwest of the intersection of West Scott Avenue and St. Georges Avenue.

Watershed: Arthur Kill

Size:

Ownership: Union County Parks

Site Description: *The site lies within Rahway River Park, Clark and Rahway, NJ.*

Current Land Use: Mostly open fields/lawns.

Available Habitat: Lacustrine - open water.

Proposed Project: Shoreline Stabilization; Shallow Water Habitat Enhancement

Projected/Estimated Costs: *$*500,000

Project Status:

Partners: Baykeeper, Union County Parks Department

Project Contact: Jeffrey Jotz, Rahway River Association
Phone: (732) 340-0882
Website: www.harborestuary.org

Project Funding Source: FEMA
HEP Ratification Date: 7/1/1997

B. Hudson Raritan Estuary Ecosystem Restoration Study Information

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Tributary Connections - Preservation and restoration of ~14.77 acres of flood plain. Potential re-grading of slopes to re-connect the floodplain. Assess potential to include add stormwater capture features to the floodplain.

Shorelines and Shallows- Shoreline improvements along ~3,756 linear feet may include bank stabilization with vegetated slopes and shallow water habitat improvements through addition of structure or re-grading.

Sediment Contamination - Potential dredging and capping of sediment based on sediment contamination testing.

Public Access – Support to Union County Parks system public access improvements.

Benefits, Cost and Comparative Restoration Ratio:

C. Existing Site Specific Data Inventory

A. Survey, Maps and GIS:
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans:

***Work in progress**

Reference:

Union County, New Jersey- http://ucnj.org/wp-content/uploads/2010/08/Rahway-River-Park.pdf


Floodplain
Shorelines & Shallows
US Army Corps
of Engineers
New York District
Rahway River Parkway Lake
Arthur Kill & Kill Van Kull
0 75 150 300 450 600
Feet
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CRP Site 184. Rahway River/ Orange Reservoir

A. Harbor Estuary Program Site information

Category: Existing restoration, preservation, and/or mitigation site.

Location: 0.5 miles south from the intersection of Cherry Lane and Northfield Avenue.

Watershed: *Arthur Kill*

Size:

Ownership: City of Orange

Site Description: *Orange Reservoir is located in the northern tract of the South Mountain Reservation. The site lies within the borders of West Orange and is owned by the City of Orange. It was originally developed during the intense urbanization of northeastern New Jersey in the late 19th century, drawing from Rahway River. The man-made lake is no longer part of the water-supply system.*

Current Land Use:

Available Habitat: Riparian

Proposed Project: *Various proposals have been made to allow its use as a recreational resource as part of the Recreational Complex. Proposals have been complicated by the fact that while owned by one municipality, it lies within the borders of another, it is unclear whether it is taxable. Offers by the Essex County Park System to buy or lease property have not led to a resolution.*

Projected/Estimated Costs:

Project Status:

Partners:

Project Contact: Jeffrey Jotz, Rahway River Association
Phone: (732) 340-0882
Website: www.harborestuary.org

Project Funding Source:
HEP Ratification Date: 7/1/1997

B. Hudson Raritan Estuary Ecosystem Restoration Study Information

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Shorelines and Shallows - Shoreline improvements along ~8,727 linear feet may include bank stabilization with vegetated riparian slopes and shallow water habitat improvements through addition of structure or re-grading.

Sediment Contamination - Potential dredging and capping of sediment based on sediment contamination testing.

Public Access – Support to City of Orange public access improvements.

Benefits, Cost and Comparative Restoration Ratio:

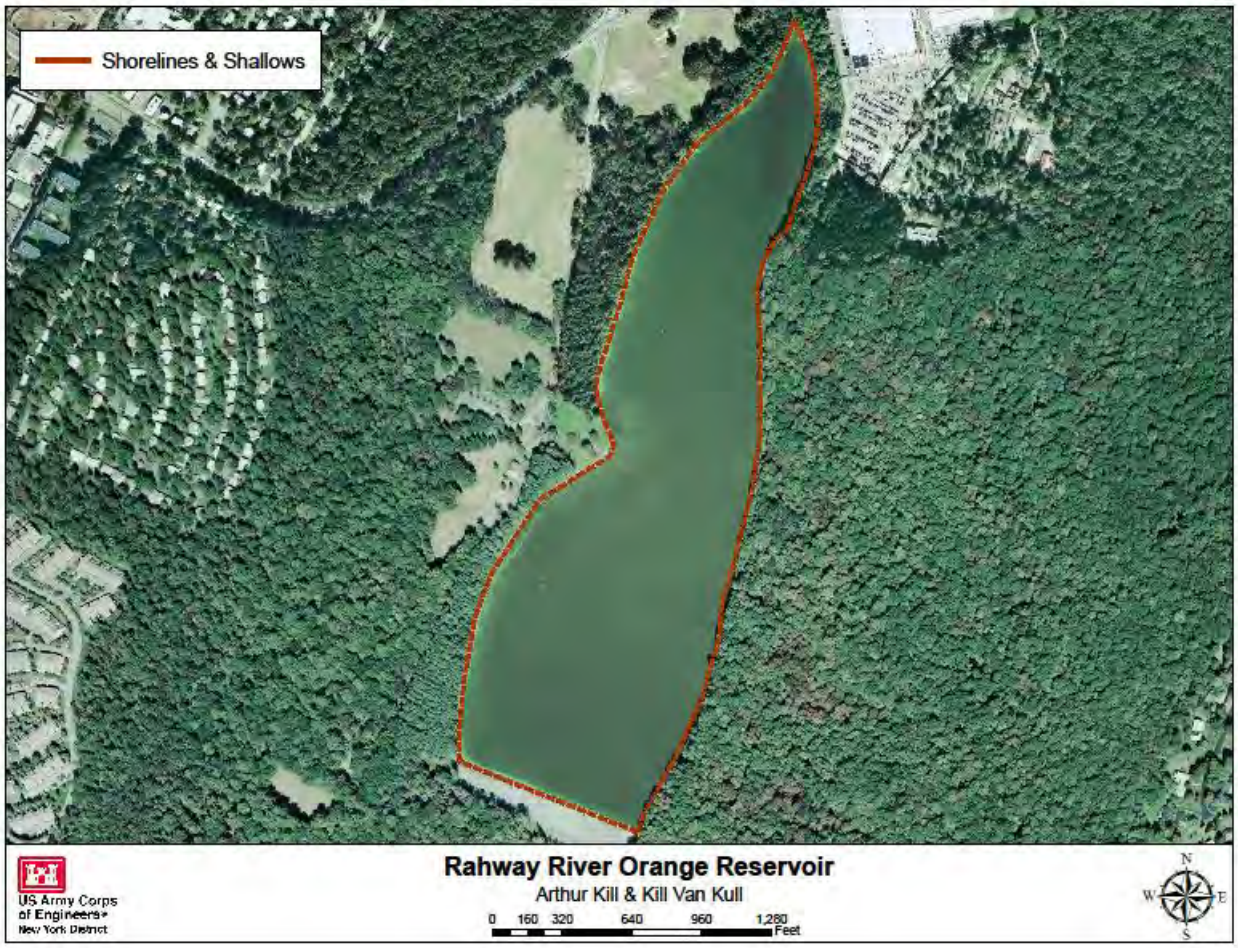
C. Existing Site Specific Data Inventory

A. Survey, Maps and GIS:
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans:

***Work in progress**

Reference:

Wikipedia- Orange Reservoir- http://en.wikipedia.org/wiki/South_Mountain_Reservation


Shorelines & Shallows
US Army Corps
of Engineers
New York District
Rahway River Orange Reservoir
Arthur Kill & Kill Van Kull
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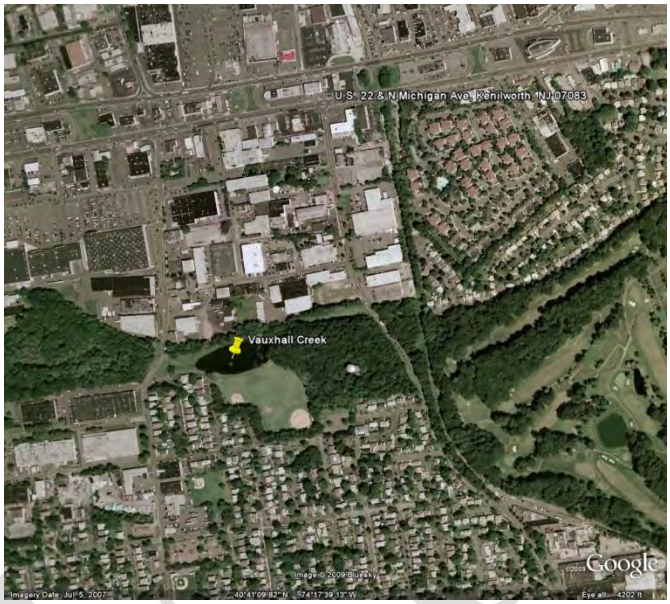
CRP SITE 185. RAHWAY RIVER/VAUXHALL CREEK



A. HARBOR ESTUARY PROGRAM SITE INFORMATION

Category: Existing restoration, preservation, and/or mitigation site.

Location: 0.4 miles south of the intersection of North Michigan Avenue and US Highway 22

Watershed: Arthur Kill

Size:

Ownership:

Site Description:

Current Land Use:

Available Habitat: Riparian

Proposed Project: Invasive plant management, streambank restoration, aquatic habitat enhancement.

Projected/Estimated Costs:

Project Status:

Partners:

Project Contact: Jeffrey Jotz, Rahway River Association
Phone: (732) 340-0882
Website: www.harborestuary.org

Project Funding Source:
HEP Ratification Date: 7/1/1997

B. HUDSON RARITAN ESTUARY ECOSYSTEM RESTORATION STUDY INFORMATION- TBD

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands -
Islands for Waterbirds -
Coastal and Maritime Forests -
Oyster Reefs -
Eelgrass Beds -
Shorelines and Shallows -
Habitat for Fish, Crab and Lobsters -
Tributary Connections -
Enclosed and Confined Waters -
Sediment Contamination -
Public Access -

Benefits, Cost and Comparative Restoration Ratio:

C. EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS:
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans:

***Work in progress**

REFERENCE:

*TBD.

CRP SITE 182. RAHWAY RIVER/RAHWAY RIVER PARKWAY (SPERRY SECTION), THE LAGOON

A. HARBOR ESTUARY PROGRAM SITE INFORMATION

Category: Existing restoration, preservation, and/or mitigation site.

Location: *The lagoon is located just north of where the Garden State Parkway intersects the Rahway River in Cranford, NJ.*

Watershed: Arthur Kill

Size:

Ownership:

Site Description:
The Sunny Acres Civic and Improvement Association organized several improvements to the park since 1998.

Current Land Use:

Available Habitat:

Proposed Project: Shoreline restoration, stormwater impact reduction, possible wetland creation.

Projected/Estimated Costs:

Project Status:

Partners:

Project Contact: Jeffrey Jotz, Rahway River Association
Phone: (732) 340-0882
Website: www.harborestuary.org

Project Funding Source:
HEP Ratification Date: 7/1/1997

B. Hudson Raritan Estuary Ecosystem Restoration Study Information

Restoration Recommendations (Applicable Target Ecosystem Characteristics)

Tributary Connections - Preservation and restoration of ~6 acres of flood plain. Potential re-grading of slopes to re-connect the floodplain. Assess potential to add stormwater capture features to the floodplain and incorporate BMP's to reduce impacts.

Shorelines and Shallows- Shoreline improvements along ~2,160 linear feet may include bank stabilization with vegetated slopes and shallow water habitat improvements through addition of structure or re-grading.

Sediment Contamination - Potential dredging and capping of sediment based on sediment contamination testing.

Public Access – Support to Union County Parks system public access improvements.

Benefits, Cost and Comparative Restoration Ratio:

C. Existing Site Specific Data Inventory

A. Survey, Maps and GIS:
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources: Site of Crane's Mill, built ca. 1716, north of North Union Ave.
I. Restoration Remediation and Design Plans:

***Work in progress**

Reference:

Union County Historic Sites Inventory (abridged)- www.mountainsidelibrary.org/HistoryFiles/UCHistoricSites.pdf


Floodplain
Shorelines & Shallows
US Army Corps
of Engineers
New York District
Rahway River Parkway The Lagoon
Arthur Kill & Kill Van Kull
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CRP Site 56. Range Road Forest

A. Harbor Estuary Program Site information

Category: Existing restoration, preservation, and/or mitigation site.

Location: West of NJ Turnpike between Marshes Dock Road and King's Creek.

Watershed: Arthur Kill

Size: 196 Acres

Ownership: Linden, Merck Co.

Site Description: *Site contains forest upland and estuarine wetland along Kings Creek. It is adjacent to a Merck & Co. owned landfill. Some waste material from Merck's main site in Linden, NJ was transferred to a two-acre landfill at the Range Road site. DEP approved the final cleanup of this landfill area in 2004 after Merck capped the site and completed ground water and surface water monitoring. This lies to the east of a 10 acres wooded and wetland parcel (Block 581 Lot 18) that was granted as conservation easement as part of an NJ DEP groundwater contamination settlement in 2006.*

Current Land Use:

Available Habitat:

Proposed Project: Forest acquisition, preservation of upland forest and wetland, creation of nature walk.

Projected/Estimated Costs: $16,000,000

Project Status: Easement for wetlands in negotiation

Partners: Rahway River Association

Project Contact: Dennis Miranda, NJCF**;** Jeffrey Jotz, Rahway River Association
Phone: (908) 234-1225; (732) 340-0882
Website: www.njconservation.org

Project Funding Source: Baykeeper/NJDEP Green Acres Funds may be used
HEP Ratification Date: 7/1/1997

B. HUDSON RARITAN ESTUARY ECOSYSTEM RESTORATION STUDY INFORMATION

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands – Preservation and assessment of restoration needs to attain high quality habitat along ~18.59 acres.

Coastal and Maritime Forests – Acquisition, preservation and assessment of restoration needs to attain high quality habitat along ~45.95 acres.

Habitat for Fish, Crab and Lobsters – Assess flats for composition, level of degradation and potential enhancements to increase habitat connectivity- such as addition of complex structure along approximately ~5.11.

Tributary Connections – Assess capacity of culvers across Range Road.

Sediment Contamination - Potential dredging and capping of sediment based on sediment contamination testing.

Benefits, Cost and Comparative Restoration Ratio:

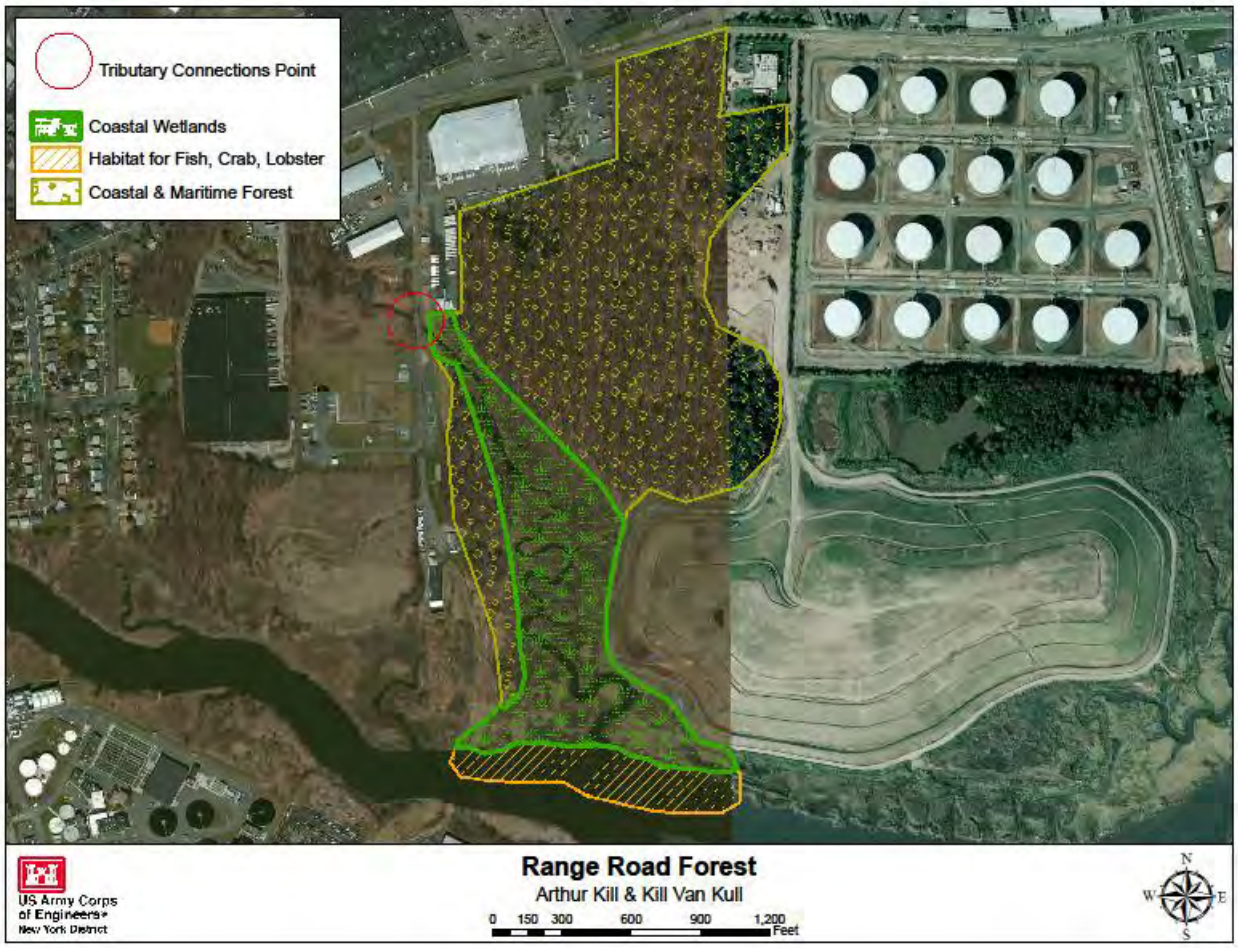
C. EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: NJ DEP
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans:

***Work in progress**

REFERENCE:

NJ DEP, Natural Resources Damages- http://www.nj.gov/dep/newsrel/2006/06_0002.htm


Tributary Connections Point
Coastal Wetlands
Habitat for Fish, Crab, Lobster
Coastal & Maritime Forest
US Army Corps of Engineers
New York District
Range Road Forest
Arthur Kill & Kill Van Kull
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CRP Site 131. Rahway River/Potter's Island

A. Harbor Estuary Program Site information

Category: Existing restoration, preservation, and/or mitigation site.

Location: 0.7 miles east of the intersection of the NJ Turnpike north and the Rahway River.

Watershed: Arthur Kill

Size: *~1.15 acres*

Ownership:

Site Description: Site contains low and high marsh.

Current Land Use:

Available Habitat: Bird foraging habitat.

Proposed Project:

Projected/Estimated Costs:

Project Status:

Partners:

Project Contact: Jeffrey Jotz, Rahway River Association
Phone: (732) 340-0882
Website: www.harborestuary.org

Project Funding Source:
HEP Ratification Date: 7/1/1997

B. HUDSON RARITAN ESTUARY ECOSYSTEM RESTORATION STUDY INFORMATION

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Islands for Waterbirds –Habitat enhancement for Heron/Egret rookery throughout the entire ~1.15 acre island. Public access may be a deterrent to the bird populations.

Shorelines and Shallows – Debris removal along ~1,445 linear feet of shoreline and island interior.

Benefits, Cost and Comparative Restoration Ratio:

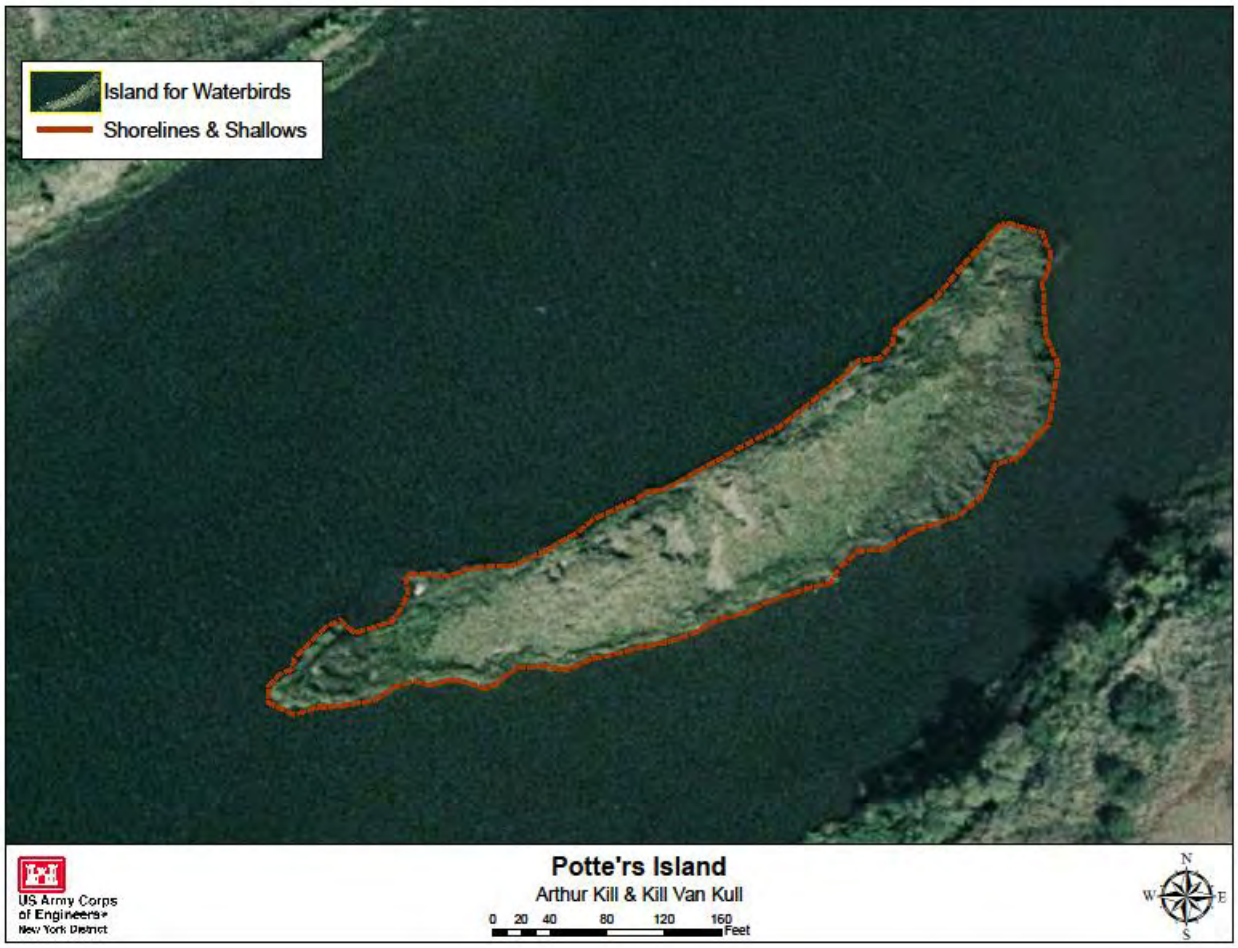
C. EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS:
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans:

***Work in progress**

REFERENCE:

The Harbor Herons Subcommittee- edited by Susan B. Elbin and Nellie K. Tsipoura. May 24, 2010. The Harbor Herons Conservation Plan New York/New Jersey Harbor Region


Island for Waterbirds
Shorelines & Shallows
US Army Corps
of Engineers
New York District
Potte'rs Island
Arthur Kill & Kill Van Kull
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CRP Site 34. Morses Creek

A. Harbor Estuary Program Site information

Category: Existing restoration, preservation, and/or mitigation site.

Location: 0.5 miles west of I-95, 0.75 miles east of US Highway 1.

Watershed: Arthur Kill

Size:

Ownership: Private

Site Description: Degraded wetland.

Current Land Use:

Available Habitat: Extensive Phragmites stands.

Proposed Project: Tidal wetland acquisition, preservation and enhancement

Projected/Estimated Costs:

Project Status:

Partners:

Project Contact: Megan Callus, Baykeeper
Phone: (732) 888-9870
Website: www.nynjbaykeeper.org

Project Funding Source:
HEP Ratification Date: 7/1/1997

B. HUDSON RARITAN ESTUARY ECOSYSTEM RESTORATION STUDY INFORMATION- TBD

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands -
Islands for Waterbirds -
Coastal and Maritime Forests -
Oyster Reefs -
Eelgrass Beds -
Shorelines and Shallows -
Habitat for Fish, Crab and Lobsters -
Tributary Connections -
Enclosed and Confined Waters -
Sediment Contamination -
Public Access -

Benefits, Cost and Comparative Restoration Ratio:

C. EXISTING SITE SPECIFIC DATA INVENTORY

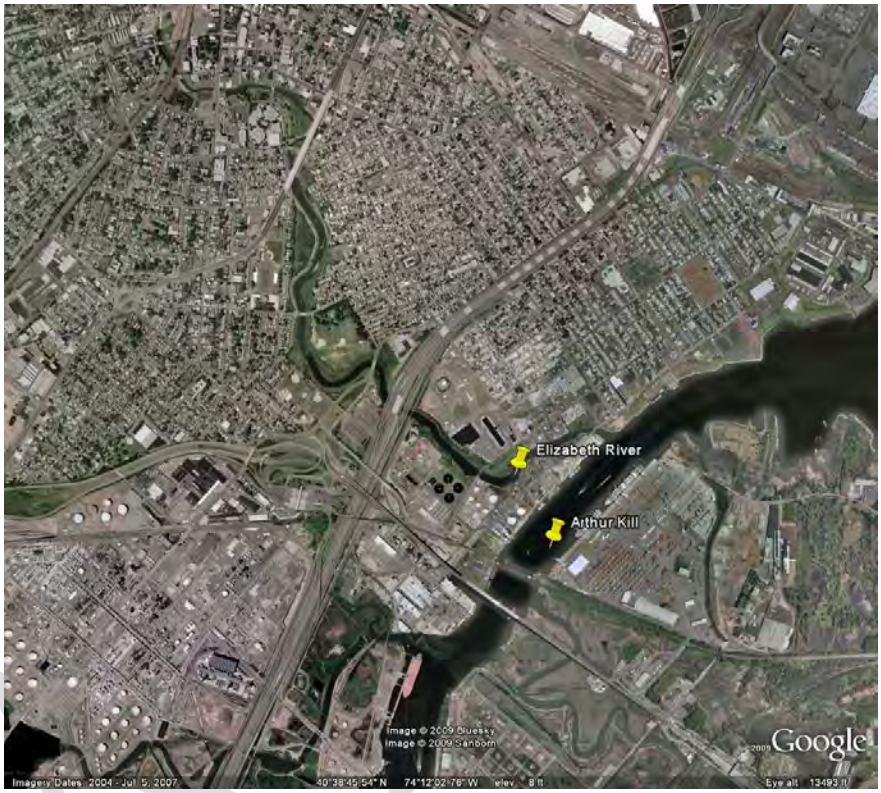
A. Survey, Maps and GIS:
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans:

***Work in progress**

*TBD

CRP Site 121. Elizabeth River

A. Harbor Estuary Program Site information



Category: Existing restoration, preservation, and/or mitigation site.

Location: 0.15 miles southeast from the corner of 3rd Avenue and South 1st Street

Watershed: Arthur Kill

Size:

Ownership: New Jersey, county, municipalities, private.

Site Description: The course of the Elizabeth River in the Ursino Section of the Union County Park System has been altered drastically over a period extending back to 1914. These alterations have resulted in severe erosion and degradation of the river's banks.

Current Land Use: Urbanized watershed, modified shoreline.

Available Habitat: Riparian Riverine - open waterways, floodplain. Site is used by migratory waterfowl.

Proposed Project: Riparian Corridor Restoration/Enhancement.

Projected/Estimated Costs:

Project Status: Baykeeper has submitted a restoration proposal to Union County. Permanent protection

Partners: Baykeeper, NJ Conservation Foundation, USACE.

Project Contact: John Sacco, NJ DEP
Phone: (609) 292-2938
Website: www.nj.gov/dep/nrr/

Project Funding Source:
HEP Ratification Date: 7/1/1997

B. HUDSON RARITAN ESTUARY ECOSYSTEM RESTORATION STUDY INFORMATION-TBD

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands -
Islands for Waterbirds -
Coastal and Maritime Forests -
Oyster Reefs -
Eelgrass Beds -
Shorelines and Shallows -
Habitat for Fish, Crab and Lobsters -
Tributary Connections -
Enclosed and Confined Waters -
Sediment Contamination -
Public Access -

Benefits, Cost and Comparative Restoration Ratio:

C. EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS:
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources:
I. Restoration Remediation and Design Plans:

***Work in progress**

REFERENCE:

*TBD

CRP Site 840. Northshore Waterfront Greenway Plan

A. Harbor Estuary Program Site information

Category: Acquisition, protection, restoration, public access.

Location: The site is located along the north shore of Staten Island, NY; it spans the area from the SI Ferry terminal to the western shore/Goethal's Bridge, and South to Ft. Wadsworth. The site is bounded to the north between the Kill Van Kull and Richmond Terrace, and on the east along the water from the Staten Island Ferry south to Ft. Wadsworth.

Watershed:

Size:

Ownership: Private, corporate, government.

Site Description: The site is partially developed and not protected or restored. Likely many contaminated areas, hardened shorelines, and runoff exist throughout.

Current Land Use: Residential, commercial, industrial, historic/ cultural significance, landfills, infrastructure, vacant lot, paved surfaces, public access to water, park, active/ passive restoration.

Available Habitat: Site currently contains: coastal wetlands, tidal wetlands, intertidal, upland, shrub/scrub, forest, shorelines and shallows and estuarine habitat. Site is inhabited by herons, waterbirds and some fish along the old piers.

Proposed Project: Create a connected access trail along the north and east shores of Staten Island; remediate contaminants, and potentially add habitat value to the edge through wetlands and shorelines/shallows restoration, coastal & maritime forests, etc.

There is very little access for the public to get to the waterfront in Staten Island; the public are generally walled off from even views of the waterfront in some cases. A trail would help the public value these important resources.

Projected/Estimated Costs:

Project Status: Proposed, unknown plan status.

Partners:

Project Contact: Linda Eskinas, The North Shore Waterfront Greenway Trail and Park.
Phone: 917-545-3060
Website: esken2@aol.com

Project Funding Source:
HEP Ratification Date:

B. HUDSON RARITAN ESTUARY ECOSYSTEM RESTORATION STUDY INFORMATION- TBD- SEE HEP NOMINATION FORM.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands - Wetlands could potentially be enhanced/created on part of the site.

Islands for Waterbirds - Birds from Shooters Island might use this site.

Coastal and Maritime Forests - These could be much enhanced.

Oyster Reefs - Could potentially be a site for oyster cultivation.

Habitat for Fish, Crab and Lobsters - Improvements to habitat for these species could be made.

Sediment Contamination - Further remediation is likely necessary.

Public Access - Waterfront access represents the most important positive change that could occur on this extraordinary historic waterfront, bringing forward environmental, economic, and cultural restoration. The restoration would also enhance the quality of life and health of the area.

Benefits, Cost and Comparative Restoration Ratio:

C. EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS:
B. Site History and Land Use:
C. Biological Studies/ Fauna:
D. Biological Studies/ General Environment:
E. Geotechnical:
F. Hydraulics and Hydrology:
G. Water and Sediment:
H. Historical and Cultural Resources: Native American (Lenape) and Revolutionary war important sites along part of the Greenway.
I. Restoration Remediation and Design Plans:

***Work in progress**

REFERENCE:

*TBD