

ENVIRONMENTAL IMPACT ASSESSMENT

GRANT PROGRAM: Stewardship

APPLICANT: Hudson County

PROJECT: Hackensack River Greenway and Wetland Restoration Project at Lincoln Park West – Jersey City, NJ 07036

1. DESCRIPTION OF THE PROPOSED PROJECT

a. Briefly describe the total development project

The proposed project includes the removal of invasive species (*Phragmites*, black locust, and poplar) and planting native vegetation within the coastal wetlands at Lincoln Park West in Jersey City. Additionally, we will extend the existing Hackensack River Greenway from Duncan Avenue to the Skyway Golf Course.

b. State objectives of the project

The objective of this project is to remove invasive species from the coastal wetlands of Lincoln Park West and to enhance waterfront access and passive recreation with a 0.35-mile extension of the recreational greenway.

c. Fully describe multi-phase projects

The proposed project will contribute to a larger wetlands restoration effort which also includes wetland grading, the installation of two aerator fountains in Lincoln Park West's large pond, coastal wetlands scrub/shrub area plantings across 31 acres, pond dredging within Lincoln Park West's small pond, the installation of new outflow structures within both ponds, deck repairs at the large pond, and the addition of a bioswale near the 4.3-acre pond. The goal of this wetland restoration effort is to restore and enhance the intention of the original 2012 wetland restoration of this area by re-establishing marsh plane elevations and locating and appropriately sizing tidal channels. The County will continue to pursue all applicable external funding opportunities to support the full scope of work needed to address current challenges to wetland function and therefore provide cleaner water, create more suitable habitat for wildlife, and improve coastal resilience to storms within Overburdened Communities.

2. DESCRIPTION OF THE ENVIRONMENT

Describe existing environmental features:

a. vegetation

There is a wide variety of tree, shrub, flower, and grass species that can be found through the region including oak, maple, sumac and other species. Some of the common invasive or non-native plant species include found in this region that might be present near the site include common mugwort (*Aremisia vulgaris*), common reed (*Phragmites australis*), tree of heaven (*Ailanthus altissima*), white mulberry (*Morus alba*) and many more.

Phragmites australis is the predominant invasive species within the coastal wetlands of Lincoln Park West and threatens ecosystems and harms habitat health by consuming large quantities of water and lowering the water level. *Phragmites* also crowds out native vegetation that support native fish and bird species. The dense stems of *Phragmites* also prevent recreational activities such as fishing, paddling, and swimming and prevent wildlife from migrating between vegetated and open water areas. Other invasive plant species within the wetlands, which will also be removed as part of this project, include poplars and black locust. Monitoring data shows that since the original restoration of this wetlands area in 2012, about one third of total native vegetation has been lost.

Endangered or threatened vegetation which are native to the area, though none have been specifically observed on the Project Site, include:

- New Jersey status of Critically Imperiled
 - o Large White Trillium (*Trillium grandiflorum*)
 - o American Chestnut (*Castanea dentata*)
 - o White Ash (*Fraxinus americana*)
 - o Green Ash (*Fraxinus pennsylvanica*)
- New Jersey status of Imperiled:
 - o Tall boneset (*Eupatorium altissimum*)
 - o American elm (*Ulmus americana*) - Observed in J.J. Braddock Park (North Bergen), Lincoln Park (Jersey City), and Laurel Hill Park (Secaucus)
- International Union for Conservation of Nature status of Near Threatened
 - o Eastern Hemlock (*Tsuga canadensis*)
 - o Closed bottle gentian (*Gentiana andrewsii*)
- International Union for Conservation of Nature status of Vulnerable
 - o Horse-chestnut (*Aesculus hippocastanum*)

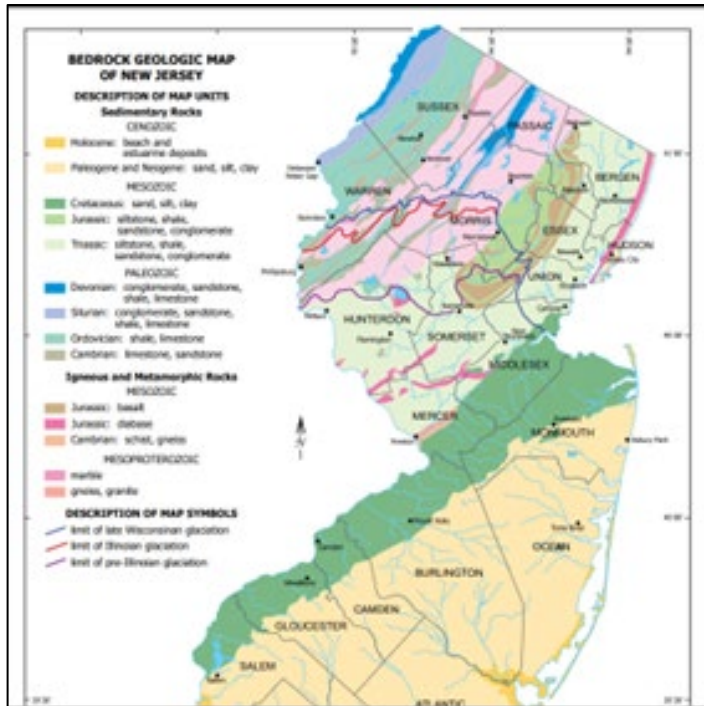
b. wildlife, including State and federal threatened and endangered species and critical habitats – Sophia

This project is not expected to reduce or impact the habitat of existing wildlife. However, it will also not increase habitat. According to the species list provided by iNaturalist, this region is home to a variety of mammals, reptiles, birds, and aquatic species. Hudson County as a whole provides a large habitat range for these species. Some of the wildlife indicated are endangered, threatened, or vulnerable, though none of these have been specifically spotted on the project site. Furthermore, some wildlife present was introduced to the area, and some are even considered invasive. The following includes example species but is not an extensive list:

- **Mammals:** Small mammals introduced by humans include house mice (*Mus musculus*), Brown rat (*Rattus norvegicus*), and feral dogs (*Canis familiaris*) and cats (*Felis catus*) (iNaturalist 2022). A variety of urban-adapted mammals are likely to occur in this area based on their habitat ranges and individual reporting. These mammals include but are not limited to the eastern gray squirrel (*Sciurus carolinensis*), groundhog (*Marmota monax*), striped skunk (*Mephitis mephitis*), common raccoon (*Procyon lotor*), cottontail rabbit (*Sylvilagus floridanus*), white-tailed deer (*Odocoileus virginianus*), opossum (*Didelphis virginiana*), red fox (*Vulpes vulpes*), muskrat (*Ondatra zibethicus*), American beaver (*Castor canadensis*), meadow vole (*Microtus pennsylvanicus*), coyote (*Canis latrans*), eastern chipmunk (*Tamias striatus*), white-footed mouse (*Peromyscus leucopus*), American red squirrel (*Tamiasciurus hudsonicus*), gray fox (*Urocyon cinereoargenteus*), north American river otter (*Lontra canadensis*), short-tail shrew (*Blarina brevicauda*), among many other mammals (iNaturalist 2022). Migrating bat species in the area include the little brown bat (*Myotis lucifugus*), big brown bat (*Eptesicus fuscus*), tricolored bat (*Perimyotis subglavus*), silver-haired bat (*Lasionycteris noctivans*), red bat (*Lasiurus borealis*), Indiana bat (*Myotis sodalis*) and hoary bat (*Lasiurus cinereus*). There are several species of endangered and threatened mammal whose habitat ranges overlap with this site, though no observations have been made. These include the little brown bat (*Myotis lucifugus*), Indiana bat (*Myotis sodalis*), and Eastern small-footed myotis (*Myotis leibii*). The bobcat (*Lynx rufus*) is classified as critically endangered and its historic habitat range includes all of Hudson County. Finally, the Northern Myotis (*Myotis septentrionalis*) is classified as threatened.
- **Reptiles:** Introduced species of reptiles found in the area: pond slider (*Trachemys scripta*), Italian wall lizard (*Podarcis siculus*). Reptiles found in the area include but are not limited to the common garter snake (*Thamnophis sirtalis*), common snapping turtle (*Chelydra serpentina*), painted turtle (*Chrysemys picta*), Eastern milksnake (*Lampropeltis triangulum*), Eastern musk turtle (*Sternotherus odoratus*), Dekay's brownsnake (*Storeria dekayi*). Vulnerable reptiles in the region include the Common box turtle (*Terrapene Carolina*), Eastern copperhead (*Agkistrodon contortrix*), Eastern hognose snake (*Heterodon platirhinos*), Smooth green snake (*Opheodrys vernalis*), and diamondback terrapin (Malaclemys terrapin). Critically endangered reptiles in the region include the Kemp's ridley sea turtle (*Lepidochelys kempii*) and the Timber rattlesnake (*Crotalus horridus*).

- **Amphibians:** Amphibians live on both land and in the water, they are an important part of the ecosystem, however they are typically very small and often undetected. This project site is not ideal habitat for most amphibians, so it is likely there are few to none living on the exact project site. However, the surrounding area includes two ponds which might provide habitat to many local amphibians. Common amphibians to this area include: Eastern red-backed salamander (*Plethodon cinereus*), American Toad (*Anaxyrus americanus*), Eastern Newt (*Notophthalmus viridescens*), Green Frog (*Lithobates clamitans*), American, Bullfrog (*Lithobates catesbeianus*), Wood Frog (*Lithobates sylvaticus*), Spring peeper (*Pseudacris crucifer*), Pickerel Frog (*Lithobates palustris*), and the Southern leopard frog (*Lithobates sphenoccephalus*), among others. Threatened or endangered amphibians that may live in the surrounding area – none of these species have been specifically observed on the project site though the site is located in their habitat range:
 - New Jersey status of Critically Imperiled
 - Cope’s gray treefrog (*Hyla chrysoscelis*)
 - Blue spotted salamander (*Ambystoma laterale*)
 - New Jersey status of Imperiled
 - Long-tailed salamander (*Eurycea longicauda*)
 - New Jersey status of Vulnerable
 - Fowler’s Toad (*Anaxyrus fowleri*)
 - Spotted Salamander (*Ambystoma maculatum*)
 - Marbled Salamander (*Ambystoma opacum*)
 - Eastern spadefoot (*Scaphiopus holbrookii*)
 - Spring salamander (*Gyrinophilus porphyriticus*)
 - Jefferson salamander (*Ambystoma jeffersonianum*)
 - New Jersey chorus frog (*Pseudacris kalmi*)
 - New Jersey status of Apparently Secure or Near Threatened
 - Northern dusky salamander (*Desmognathus fuscus*)
- **Insects:** Hudson County is home to many native and some invasive insects and hexapods. None of which appear on the endangered or threatened species list. Some of the insects likely found on the project sites include Monarch (*Danaus plexippus*), common eastern bumble bee (*Bombus impatiens*), eastern carpenter bee (*Xylocopa virginica*), black swallowtail (*Papilio polyxenes*), along with many other species of butterflies, dragonflies, ants, bees, beetles and many more. Some invasive insects in the area include the spotted lanternfly (*Lycorma delicatula*), brown marmorated stink bug (*Halyomorpha halys*), and European hornet (*Vespa crabro*) among others.
- **Molluscs:** There are some species of molluscs found in the region, though none are endangered or threatened.
- **Fungi including lichens:** Many species of fungi and lichen are native to this region. Some that have been specifically observed in Lincoln Park include Common greenshield lichen (*Flavoparmelia caperata*), the Star rosette lichen (*Physcia stellaris*), and the Sycamore powdery mildew (*Erysiphe platani*).
- **Birds:** Lincoln Park provides important habitat to many bird species, though the playground itself does not provide nesting habitat, the surrounding trees and grassy areas contributes to the nesting, feed, and landing areas within a bird’s habitat needs. Some of the bird species in this area include: Canada goose (*Branta canadensis*), ring-billed gull (*Larus delawarensis*), brant (*Branta bernicla*), American robin (*Turdus migratorius*), mallard (*Anas platyrhynchos*), mourning dove (*Zenaidura macroura*), northern mockingbird (*Mimus polyglottos*), great blue heron (*Ardea herodias*), great Egret (*Ardea alba*), bufflehead (*Bucephala albeola*), red-winged blackbird (*Agelaius phoeniceus*), gadwall (*Mareca strepera*), red-tailed hawk (*Buteo jamaicensis*) among many others.
 - New Jersey status of Critically Imperiled
 - Double-crested cormorant (*Phalacrocorax auratus*) has been spotted in Bayonne, Jersey City, and Secaucus
 - Bald Eagle (*Haliaeetus leucocephalus*) has been observed in Bayonne and Secaucus, including in Stephen R. Gregg Park

- Pied-billed grebe (*Podilymbus podiceps*) has been observed in Bayonne and Jersey City, including in Stephen R. Gregg Park and Lincoln Park.
- Other critically imperiled species with no observations reported:
 - Northern Harrier (*Circus hudsonius*)
 - Red-shouldered hawk (*Buteo lineatus*)
 - Piping plover (*Charadrius melodus*)
 - American bittern (*Botaurus lentiginosus*)
 - Upland sandpiper (*Bartramia longicauda*)
- New Jersey status of Imperiled
 - Yellow-crowned Night-Heron (*Nyctanassa violacea*) – this endangered species has been spotted in Lincoln Park in Jersey City and in Stephen R. Gregg Park in Bayonne by several different observers in 2022 (iNaturalist 2022).
 - Black-crowned night-heron (*Nycticorax nycticorax*) – Has been observed throughout the county, specifically at Lincoln Park and J.J. Braddock Park.
 - Cooper's hawk (*Accipiter cooperii*) – has been observed throughout Hudson County, including Stephen R. Gregg Park and Lincoln Park.
 - Osprey (*Pandion haliaetus*) – has been observed in Bayonne, Jersey City, and Secaucus – specifically in Laurel Park and Lincoln Park.
 - Long-eared owl (*Asio otus*)
 - Saltmarsh sparrow (*Ammospiza caudacuta*)
- National conservation status of Near Threatened
 - Common grackle (*Quisalus quiscula*) – has been seen in Secaucus, Bayonne, and Jersey City. Specifically, spotted at the Skyway Golf Course and Duncan Ave in Lincoln Park in Jersey City.
- New Jersey status of Vulnerable:
 - Black-throated green warbler (*Setophaga virens*)
 - Horned grebe (*Podiceps auratus*), snowy owl (*Bubo scandiacus*)
 - Northern parula (*Setophaga Americana*)
 - Hooded merganser (*Lophodytes cucullatus*)
 - Long-tailed duck (*Clangula hyemalis*)
 - Evening grosbeak (*Coccothraustes vespertinus*)
 - Little blue heron (*Egretta caerulea*)
 - Eurasian wigeon (*Mareca Penelope*)
 - Sharp-shinned hawk (*Accipiter striatus*)
 - Sora (*Porzana Carolina*)
- New Jersey status of Near Threatened
 - Peregrin Falcon (*Falco peregrinus*)
 - Semipalmated sandpiper (*Calidris pusilla*)
 - Rusty Blackbird (*Euphagus carolinus*)
 - King rail (*Rallus elegans*)
 - Black tern (*Chlidonias niger*)
 - Blackpoll warbler (*Setophaga striata*)
 - Red knot (*Calidris canutus*)



c. geology, topography, and soils

According to the Bedrock geologic map of New Jersey provided by the NJ Department of Environmental Protection and NJ Geological and Water Survey, this site sits on top of a historic bedrock from the Mesozoic period. The park sits on Triassic rock, a sedimentary mix of siltstone, shale, sandstone, and conglomerate, shown in light green on the map below. Today, the area is covered by a soil and grass mix, with trees and other vegetation growing throughout the surrounding area. The shoreline along the Hackensack River consists of larger, exposed rocks and a natural vegetation buffer. Regarding topography, the park is less than ten feet above sea level.

d. water resources/hydrology

The Project Site is located within the Hackensack River watershed, which covers 197 square miles in northeastern New Jersey and southern New York. Further, the New Jersey Department of Environmental Protection (NJDEP) Division of Watershed Management divides watersheds in New Jersey into several Watershed Management Areas (WMAs). The Project Area is located within the Hackensack, Hudson, and Pascack Watershed Management Areas (WMA-05). NJDEP classifies the surface water of the Hackensack River, and tributaries from Overpeck Creeks south to the State Route 1 and 9 crossing, as Saline Estuarine-2 (SE-2). NJDEP designated uses of SE-2 water include maintenance, migration, and propagation of natural and established biota; migration of diadromous fish; maintenance of wildlife; secondary contact recreation; and any other reasonable uses.

In addition to the 31 acres of wetlands and 4.69 acres of wetland-upland transition, the Lincoln Park recreational complex also contains three major ponds that are connected by culverts. The streets adjacent to the park drain into the Jersey City sewer system, which is separate from the park's drainage system. The three ponds gather surface water runoff and direct it towards the southwestern section of the wetlands area.

e. historic/archeological resources

There are no historic or archeological resources contained within the park or Project Site. Lincoln Park is located adjacent to the West Bergen-East Lincoln Park Historic Site. Parts of the park are also located within the EW89 and EX89 Archeological grids.

f. transportation/access to site

The following NJ Transit bus lines make stops within walking distance from Lincoln Park: #159, #156, #22, #84, #89, #128, and #23. There are many different entry points into the park which may be accessed either on foot or by bicycle. There are also bike paths and walking paths throughout the park. Additionally, there are multiple parking lots for visitors who travel by car.

g. adjacent land uses/description of the surrounding neighborhood

The surrounding land use consists of dense urban development. Primarily, the surrounding area consist of industrial use (warehouses on the northern border of the park), residential use (throughout the border of the park), and recreational use (Skyway Golf Course connected to the park).

3. ENVIRONMENTAL IMPACT ANALYSIS OF PROPOSED ACTION

a. Discuss all affected resources and the significance of each impact

The proposed project includes removal of invasive plant species and planting of native vegetation. This activity will help to restore natural habitats and wetland function. Primary benefits include cleaner water, healthier wildlife habitats, and increased coastal resilience. Improving resilience to the impacts of climate change is especially critical in coastal areas, as we see continually rising sea levels and increased frequency and intensity of storms.

During the construction of the greenway extension, there is potential for pollution to enter the river system, which could negatively impact fish, birds, and other wildlife. Temporary noise pollution from construction activities might also impact birds and other wildlife.

b. Discuss short-term and long-term project impacts

The short-term impact is that there will be an extension of the Hackensack River Greenway, improving opportunities for passive recreation and enhancing waterfront access. The long-term impact is that this project contributes to a regional effort to expand the Hackensack River Greenway, which will eventually connect to the Morris Canal Greenway and the Garden State Greenway. Further, the management of invasive plant species will support water-based recreation and improve opportunities for residents to observe native wildlife. As noted above, this project also contributes to a larger plan to restore the entire 31-acres of coastal wetlands within Lincoln Park West. In the long-term, this will have numerous positive impacts including increased resilience to the impacts of climate change, enhanced wildlife habitat, and cleaner air and water.

c. Discuss anticipated increase in recreation and overall use of site over time.

This will be a new extension to the existing walkways in the parks which promotes better waterfront access. However, it is not likely there will be a big increase of use in the site compared to what is currently present.

d. Identify adjacent environmental features that may be affected by the proposal.

Adjacent environmental features that may be affected include the wetland area between the Skyway Golf Course and remainder of Lincoln Park, the surrounding lake and ponds in Lincoln Park, and the Hackensack River.

e. List any permits required for the project and brief status.

Due to the presence of the Hackensack River adjacent to the project site, the site is subject to a variety of environmental regulations. The entirety of the project area is located within the Zone AE (EL 9) of the National Flood Hazard Area; therefore any development would be subject to the Flood Hazard Area Control Act Rules (N.J.A.C. 7:13). Additionally, the site location is governed by the Coastal Zone Management Rules (N.J.A.C. 7:7) and will require a Waterfront Development Permit. The County will apply for all necessary permits once the final design plans are complete.

f. Natural Heritage Data Request Form

Not applicable; this project does not impact an undisturbed portion of the park.

g. Discuss if/how the project may be impacted by sea level rise and any related design considerations.

The Project Site is located along the Hackensack Riverfront and is susceptible to both flooding and sea level rise (SLR). Initial flooding will occur for SLR of 1-3 feet and at 4 feet of SLR, flooding will come further inland in this area, according to the online mapping tool provided by the National Oceanic and Atmospheric Administration.

This site is susceptible to flooding as well. The National Flood Hazard Layer FIRMette, a section of the Flood Insurance Rate Map (FIRM), indicates that the Park sits within in the 100-year floodplain with designation zone AE, meaning that it will flood during intense rain events.

4. ALTERNATIVES TO THE PROPOSED ACTION - Sophia

a. Identify alternate sites.

As this project responds to the need for invasive plant removal and Greenway extension at this specific site, no alternatives were considered.

b. Discuss alternate levels and types of development

The no-action alternative would result in continued encroachment of invasive phragmites vegetation and reduced public access to the waterfront at this location.

c. Compare environmental impacts of each alternative

By developing this area into a publicly accessible walkway with a vegetation management strategy, the wetland function is expected to improve, providing better habitat to native species. Increasing public access to the waterfront will provide indirect benefits such as increasing the community's feeling of connection and responsibility over the local rivershed and surrounding environment.

5. MITIGATING MEASURES

Describe the measures that will be undertaken to mitigate adverse impacts.

The proposed methods are informed by wetland hydrology science and support a project design that will mimic the natural structure and function of coastal wetland environments. The County will work with qualified organizations and consultants to develop final plans for removing invasive species and planting native vegetation to support improved wetland function. Further, we will follow best practices to ensure safety to the public and minimize disturbances to wildlife. Temporary disturbances to the Project Site the construction phase may include increased turbidity and sedimentation within surface water.

Regarding the Greenway construction component, the County of Hudson is dedicated to ensuring that all of its properties are diligently cared for to ensure that our park facilities are clean, well-maintained, and welcoming to all visitors. In this spirit, the County resolves to take all proper measures and precautions necessary both during and after this renovation project to ensure that the surrounding environment, and natural resources as documented in this Environmental Impact Assessment, are not adversely impacted. These measures include, but are not limited to, erecting silt fencing during and after construction and scheduling and staging efforts to minimize overall disturbance. Additionally, the County is committed to continued compliance with any and all rules and regulations promulgated by the New Jersey Department of Environmental Protection and/or any other regulatory agencies and to retain all necessary permits as required by these agencies.

6. AUTHOR(S) AND QUALIFICATIONS

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