State Environmental Quality Review
Negative Declaration
Notice of Determination of Non-Significance

TRIBECA ECOLOGICAL ENHANCEMENTS IN HUDSON RIVER PARK SEGMENT 3

This notice is issued pursuant to the New York State Environmental Quality Review Act, Article 8 of the Environmental Conservation Law ("SEQRA"), and its implementing regulations at 6 NYCRR Part 617.

The Hudson River Park Trust ("HRPT"), as lead agency, has determined, based on the Environmental Assessment Form for the Tribeca Ecological Enhancements in Hudson River Park Segment 3 project (the "Proposed Action"), dated July 2020 (the "Environmental Assessment"), that the Proposed Action will not have a significant adverse impact on the environment and therefore an environmental impact statement will not be prepared.

Name of Action: Tribeca Ecological Enhancements in Hudson River Park Segment 3

SEQRA Status: Unlisted Action

Conditioned Negative Declaration: No

Description of Action:

HRPT in consultation with the New York State Department of Environmental Conservation proposes a habitat enhancement project to be located between Piers 26 and 34 in the Hudson River that would deploy multiple techniques to improve and enrich the habitat within the Segment 3 section of Hudson River Park. The Proposed Action would trial a variety of oyster restoration and other habitat enhancing treatments to promote the proliferation of oysters and other shellfish, improving the habitat in the Sanctuary waters. Proposed enhancement treatments include: (a) locating biohuts around select piles and filling the interior cages of the biohuts with seeded oyster shells; (b) adding textured concrete pile encasements with supportive beams on which mussel ropes and oyster bags could be hung; (c) wrapping piles with mesh fabric containing oyster shells; and (d) installing gabions and reef balls with seeded oyster shells.

Location:

Between Piers 26 and 34 in Hudson River Park in the Borough of Manhattan, New York City.

Reasons Supporting this Determination:

The Proposed Action was analyzed pursuant to SEQRA and its implementing regulations, and the Environmental Assessment, which includes the Short Environmental Assessment Form and accompanying Attachment, concluded that the action would not result in the potential for any significant adverse impact to the environment. Rather, the Proposed Action would enrich and improve the aquatic habitat area within the Park's Segment 3 area. The Proposed Action is also consistent with the coastal zone policies of the New York City Waterfront Revitalization Program ("WRP") as reflected in the Federal Consistency Assessment form and WRP Consistency Assessment Form. The Project also would not result in any adverse impacts to historic resources pursuant to Section 14.09 of the State Historic Preservation Act.

A full statement of the reasons supporting this determination is set forth in the Environmental Assessment.

For Further Information:

Christine Fazio, Esq.
Hudson River Park Trust
Pier 40, 353 West Street
New York, NY 10014
E-mail: cfazio@hrpt.ny.gov
Phone: 212-627-2020

Dated: July 23, 2020

Noreen Doyle, Vice President

Short Environmental Assessment Form
Part 1 - Project Information

Instructions for Completing

Part 1 – Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 – Project and Sponsor Information

Name of Action or Project:

Tribeca Ecological Enhancements in Hudson River Park Segment 3

Project Location (describe, and attach a location map):

Hudson River Park Segment 3 between Pier 26 and Pier 34 (approximately Beach Street to Canal Street)

Brief Description of Proposed Action:

In 1998, the New York State Legislature passed the Hudson River Park Act (the "Act"), creating Hudson River Park and establishing the Hudson River Park Trust (the "Trust") to plan, design, build, operate and maintain the Park. The Act also designated certain water areas within the Park's boundaries as an Estuarine Sanctuary (the "Sanctuary"). As part of its core mission, the Trust conducts science and research within the Sanctuary, runs a robust environmental education program, and has also made efforts to enhance the Sanctuary environment. The Trust has worked closely with the NYS Dept. of Environmental Conservation to plan a habitat enhancement project between Pier 26 and Pier 34 that deploys multiple techniques to improve and enrich habitat within the Segment 3 portion of the Park. The Trust proposes to use existing infrastructure from current and previous piers within the Sanctuary to deploy the enhancements where possible; treatment locations will include debris fields from piers removed decades ago, the Pier 32 pile field (which was previously assessed in the Park's 1998 FEIS as an ecological pier), and piles under extant piers at Piers 26 and Pier 34, as well as some open water area. The small amounts of fill and platform coverage are within previously assessed and approved amounts for the Park overall and Segment 3 as well as shown in the attached charts.

Name of Applicant or Sponsor:	Telephone: 917-661-8756
Hudson River Park Trust	E-Mail: ndoyle@hrpt.ny.gov

Address:

Pier 40, 353 West Street

City/PO:	State:	Zip Code:
New York	NY	10014

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.	☑	☐
2. Does the proposed action require a permit, approval or funding from any other government Agency? If Yes, list agency(s) name and permit or approval: NYS Dept. of Environmental Conservation, US Army Corps of Engineers, NYS and NYC Coastal Zone Consistency determinations	☐	☑

3. a. Total acreage of the site of the proposed action? appx. 0.05 acres
   b. Total acreage to be physically disturbed? appx. 0.05 acres
   c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? appx. 550 acres

4. Check all land uses that occur on, are adjoining or near the proposed action:
   ☑ Urban ☐ Rural (non-agriculture) ☐ Industrial ☐ Commercial ☐ Residential (suburban)
   ☐ Forest ☐ Agriculture ☑ Aquatic ☐ Other(Specify):
   ☑ Parkland

	NO	YES	N/A
5. Is the proposed action,			
a. A permitted use under the zoning regulations?	☐	☑	☐
b. Consistent with the adopted comprehensive plan?	☐	☑	☐

	NO	YES
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	☐	☑

	NO	YES
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area?		
If Yes, identify: _____	☑	☐

	NO	YES
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	☑	☐
b. Are public transportation services available at or near the site of the proposed action?	☐	☑
c. Are any pedestrian accommodations or bicycle routes available on or near the site of the proposed action?	☐	☑

	NO	YES
9. Does the proposed action meet or exceed the state energy code requirements?		
If the proposed action will exceed requirements, describe design features and technologies:		
This question is not applicable. The project consists solely of habitat enhancement features in and above the water column and will not require the use of any energy following construction	☑	☐

	NO	YES
10. Will the proposed action connect to an existing public/private water supply?		
If No, describe method for providing potable water: _____		
No potable water is required because the project consists of in-water environmental enhancements	☑	☐

	NO	YES
11. Will the proposed action connect to existing wastewater utilities?		
If No, describe method for providing wastewater treatment: _____		
No wastewater will be generated as the project consists of in-water environmental enhancements	☑	☐

	NO	YES
12. a. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places?	☐	☑
b. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	☑	☐

	NO	YES
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	☐	☑
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?	☐	☑
If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____		
The project would be located within and above the Hudson River and is entirely within Hudson River Park. The total square feet of the 304 individual proposed enhancements is 2,107. Approximately 12.85 cubic yards of volume would be located completely above Spring High Tide, while approximately 113.33 cubic yards would be located below Spring High Tide; of this amount, approximately 49.25 cubic yards consists of oyster shells and the balance consists of biohut structures, reef balls, oyster wraps, gabions and textured concrete pile enhancements. Approximately 350 square feet of platform coverage would occur.		

14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:

☑ Shoreline ☐ Forest ☐ Agricultural/grasslands ☐ Early mid-successional

☐ Wetland ☑ Urban ☐ Suburban

	NO	YES
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?	☐	☑
16. Is the project site located in the 100-year flood plan?	☐	☑
17. Will the proposed action create storm water discharge, either from point or non-point sources?	☑	☐
If Yes,		
a. Will storm water discharges flow to adjacent properties?	☐	☐
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)?	☐	☐
If Yes, briefly describe: _____		
18. Does the proposed action include construction or other activities that would result in the impoundment of water or other liquids (e.g., retention pond, waste lagoon, dam)?	☑	☐
If Yes, explain the purpose and size of the impoundment: _____		
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility?	☑	☐
If Yes, describe: _____		
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste?	☑	☐
If Yes, describe: _____		

I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

Applicant/sponsor/name: Hudson River Park Trust Date: 7/23/20

Signature: _____ Title: Executive Vice President

PRINT FORM

Agency Use Only [If applicable]

Project:

Date:

Short Environmental Assessment Form
Part 2 - Impact Assessment

Part 2 is to be completed by the Lead Agency.
Answer all of the following questions in Part 2 using the information contained in Part 1 and other materials submitted by the project sponsor or otherwise available to the reviewer. When answering the questions the reviewer should be guided by the concept "Have my responses been reasonable considering the scale and context of the proposed action?"

	No, or small impact may occur	Moderate to large impact may occur
1. Will the proposed action create a material conflict with an adopted land use plan or zoning regulations?	☑	☐
2. Will the proposed action result in a change in the use or intensity of use of land?	☑	☐
3. Will the proposed action impair the character or quality of the existing community?	☑	☐
4. Will the proposed action have an impact on the environmental characteristics that caused the establishment of a Critical Environmental Area (CEA)?	☑	☐
5. Will the proposed action result in an adverse change in the existing level of traffic or affect existing infrastructure for mass transit, biking or walkway?	☑	☐
6. Will the proposed action cause an increase in the use of energy and it fails to incorporate reasonably available energy conservation or renewable energy opportunities?	☑	☐
7. Will the proposed action impact existing: a. public / private water supplies?	☑	☐
b. public / private wastewater treatment utilities?	☑	☐
8. Will the proposed action impair the character or quality of important historic, archaeological, architectural or aesthetic resources?	☑	☐
9. Will the proposed action result in an adverse change to natural resources (e.g., wetlands, waterbodies, groundwater, air quality, flora and fauna)?	☑	☐
10. Will the proposed action result in an increase in the potential for erosion, flooding or drainage problems?	☑	☐
11. Will the proposed action create a hazard to environmental resources or human health?	☑	☐

PRINT FORM

Agency Use Only [If applicable]

Project:

Date:

Short Environmental Assessment Form
Part 3 Determination of Significance

For every question in Part 2 that was answered "moderate to large impact may occur", or if there is a need to explain why a particular element of the proposed action may or will not result in a significant adverse environmental impact, please complete Part 3. Part 3 should, in sufficient detail, identify the impact, including any measures or design elements that have been included by the project sponsor to avoid or reduce impacts. Part 3 should also explain how the lead agency determined that the impact may or will not be significant. Each potential impact should be assessed considering its setting, probability of occurring, duration, irreversibility, geographic scope and magnitude. Also consider the potential for short-term, long-term and cumulative impacts.

See attached.

☐ Check this box if you have determined, based on the information and analysis above, and any supporting documentation, that the proposed action may result in one or more potentially large or significant adverse impacts and an environmental impact statement is required.

☐ Check this box if you have determined, based on the information and analysis above, and any supporting documentation, that the proposed action will not result in any significant adverse environmental impacts.

Hudson River Park Trust	7/23/20
Name of Lead Agency	Date
Noreen Doyle	Exec. Vice President
Print or Type Name of Responsible Officer in Lead Agency	Title of Responsible Officer
Signature of Responsible Officer in Lead Agency	Signature of Preparer (if different from Responsible Officer)

PRINT FORM

EAS: Additional Information for Tribeca Habitat Enhancements

A. INTRODUCTION

Hudson River Park (the "Park") is an approximately 550-acre park and estuarine sanctuary created by New York State legislation, the Hudson River Park Act, Chapter 592 of the laws of 1998, and as subsequently amended (the "Act"). It extends from the northern edge of Battery Park City to 59th Street, west of Route 9A's bikeway, between the Route 9A bikeway and the U.S. Pierhead Line, and includes numerous piers, bulkheads, platforms and docks encompassed in and intended by the Act.

As set forth in the Hudson River Park Act (the "Act"), Hudson River Park includes both an upland portion and an approximately 400-acre water section known as the Estuarine Sanctuary. The Act provides for several uses of the Estuarine Sanctuary, including conservation of marine resources, environmental education and research, public recreation, and, in certain areas, authorized commercial maritime uses. The Act further explicitly also contemplates habitat restoration as a permissible activity.

The Park is being constructed and maintained by the Hudson River Park Trust (the "Trust"), a New York State public benefit corporation created by the Hudson River Park Act and charged with the park's planning, design, construction and operation. Inclusive of upland areas beyond the limits of the NYS Department of Environmental Conservation's ("NYSDEC") jurisdiction, Hudson River Park is now almost 80 percent complete.

The Hudson River Park General Project Plan, which outlines the proposed development of the entire park, was developed and fully analyzed in accordance with the State Environmental Quality Review Act ("SEQRA"), culminating in a Final Environmental Impact Statement ("FEIS") in May 1998 that evaluated the full array of potential environmental impacts associated with development of the park. NYSDEC issued a permit for the Hudson River Park project in 1999 (NYSDEC permit 2-6299-00004/00001). The U.S. Army Corps of Engineers ("USACE") issued a federal permit for the Park project in May 2000 (Department of the Army Permit Number 1998-00290). To allow the Trust to continue construction of still unfinished Park elements, the USACE has renewed its 2000 park permit until May 31, 2021, and on March 20, 2019, NYSDEC issued a new permit to allow continuing construction of the Park. In so doing, NYSDEC recognized that the continuing construction is for the same project, with the same project purpose and intent, as the originally permitted project assessed and authorized in the 1998 FEIS and other foundational documents.

The USACE and NYSDEC permit conditions, FEIS and General Project Plan continue to guide the project's ongoing development and construction, and both the USACE and NYSDEC permits authorize the Trust to do substantial in-water construction requiring both new platform coverage and fill. The Trust has not sought to use all of the

previously approved coverage and fill, and the agencies recognize such coverage and fill as being potentially available for use within the Park's boundaries provided it is explicitly approved by each following review of construction documents and additional environmental review under SEQRA and other materials as may be required.

B. PROJECT DESCRIPTION:

The Trust currently seeks to implement a new project within a portion of the "Segment 3" Park area in Tribeca, largely within a zone identified within the Estuarine Sanctuary Management Plan as a "reserve." While non-motorized boating is permitted in such areas, the primary purpose of the reserves is for marine habitat preservation, enhancement, education and research.

The Trust has developed the proposed plan in conjunction with members of the Technical Advisory Committee of its Sanctuary Management Plan and with NYSDEC as the underlying owner of the Sanctuary waters within the Park. The goal is to deploy multiple techniques at existing and former piers and within a limited portion of the interpier area to increase the Sanctuary's oyster population and provide increased habitat options for colonizing organisms and fish populations.

The Trust proposes to use existing infrastructure from current and previous piers within the Sanctuary to deploy the enhancements where possible; treatment locations include debris fields from piers removed decades ago, the Pier 32 pile field, and piles under previously constructed Pier 26 and Pier 34 as well as some open water area.

The proposed enhancement treatments include (North to South):

1. Location: Pier 34; Treatment: Biohuts
   Biohuts are stainless steel, two-cage systems that would be secured around select steel piles on the south side of Pier 34. Pier 34 consists of two "fingers" connected by the Holland Tunnel Vent Shaft; the Vent Shaft and northern finger are operated by the Port Authority, while the southern finger is part of the Park. Both fingers are supported by steel piles. The interior cage of the biohuts would be filled with seeded oyster shell intended to create habitat for colonizing organisms and small fishes, which are then protected by the outer empty cage. This treatment is proposed to improve the habitat capacity of existing steel piles, which have demonstrated a lower capacity for supporting colonizing organisms than concrete piles within the Park based on initial studies. A total of up to 20 biohuts could be installed through this project.

2. Location: Pier 32 Pile Field; Treatment(s): Textured Concrete Pile Encasements and Reef Balls

Hudson River Park has a number of pile fields, which consist of aging wooden piles that once supported piers used for shipping. Pile fields are already recognized as providing habitat value for finfish. The Trust seeks to enhance the habitat value of these structures by adapting portions of them to provide expanded opportunities for vertical habitat and structure for supporting oyster restoration treatments. The enhancement proposal consists of posting certain piles to provide structural stability and then installing clusters of textured concrete pile postings extending approximately three feet above Mean High Water and topped with supportive beams, on which mussel ropes and oyster bags could potentially be hung. At each corner of the posting clusters, reef balls with seeded oysters are proposed. A total of up to 36 concrete pile encasements and 32 reef balls with timber bases could be installed.

In addition to these measures, the Trust proposes to incorporate a previously permitted demonstration project known as the "Oyster Wrap" project. That project, which was authorized for three years, involved wrapping 10 piles with a mesh fabric with oyster shells. The project has been closely monitored since its installation, and it has succeeded in establishing that oysters suspended from piles display growth in mass and length, recruit spat, and provide habitat for juvenile fish and invertebrate species, and the Trust seeks to retain the existing wraps as part of this larger effort.

3. Location: Interpier area between Pier 34 and Pier 26; Treatment(s): Gabions and Reef Balls
To inform current planning, the Trust conducted a detailed hydrographic survey of the area between Pier 34 and Pier 26 in November 2019. The survey provided high resolution bathymetry of the area and revealed debris fields consisting of remnants from former Piers 29, 28 and 27 on the river bottom. These debris field areas consist of structured elements, including aging wood and concrete that have accrued sediment, which would help support oyster restoration treatments like gabions, reef balls and oyster castles. Gabions with seeded shell as well as seeded reef balls are proposed within the debris fields and in some adjacent open water areas. The specific locations will be configured to optimize habitat benefits. A total of 112 reef balls and a corresponding number of oyster gabions could be installed as part of the project.

4. Location: Pier 26 existing piles; Treatment: Biohuts
The piles beneath the "ecological get down" at the western end of Pier 26 are an additional location for installing six biohuts. The ecological get down was planned and constructed to create a physical and educational link between the

Park and the Sanctuary, and having the biohuts at this location strengthens the connection.

Overall, the Tribeca Enhancements Project seeks to trial a variety of oyster restoration and other habitat enhancing treatments on Park structures to determine which methods are most successful over time in promoting the proliferation of oysters and other shellfish and in improving habitat in Sanctuary waters. The project is designed to be scalable over several years based on available funding and regulatory requirements. Governor Cuomo has proposed an Environmental Bond Act for consideration by New York's voters in November 2020; if approved, or if additional funding beyond the approximately $1 million the Trust hopes to have access to in 2020 can be identified, more components from among those described in this application could be installed over the requested permitting period, up to the maximum numbers (with corresponding maximum amounts of fill described herein) could be installed.

While the Trust will be seeking approval from the US Army Corps of Engineers ("Corps") and NYS Department of Environmental Conservation ("NYSDEC") for the proposed enhancements, the Tribeca Habitat Enhancements subproject for which permits will be sought will build upon previous park planning documents, environmental reviews and regulatory approvals related to construction of the overall Park.

As part of the Park's continuing buildout, the Trust has eliminated certain platform coverage and fill in various park locations, such that there is unused, previously permitted fill, both for the Park overall and in Segment 3 in which this project would be located. The attached charts show the amounts of platform coverage fill associated with each proposed habitat enhancing feature, both alone and in the aggregate. In sum, the small amounts of fill needed for the proposed structures (162.58 cubic yards below SHT inclusive of both structure and shell, or 2,107 square feet), as well as the total amount of platform coverage (350 square feet), are well within the previously/currently permitted amounts by both the USACE and NYSDEC under existing Park permits.

C. ENVIRONMENTAL ANALYSIS

Question 12a:

Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places?

There are two historic resources within the area where the project elements would be deployed: the Holland Tunnel Ventilation Shaft and the Hudson River Park Bulkhead. The Ventilation Shaft is a National Historic Landmark and is also eligible for the State and National Registers of Historic Places. The Hudson River Park Bulkhead is the other resource. Running along the entire length of the Park, the bulkhead is eligible for the State and National Registers of Historic Places.

No construction on or in close proximity to either structure is proposed. Some gabions and reef balls would be placed in the interpier area between Pier 26 and Pier 34 and on debris fields from former piers; the closest of these would be at least 150 feet away from the Bulkhead edge; all other treatments are more than 300 feet away from the edge. Placing these gabions would be done from a vessel with a crane mounted to it, and by divers using hand-held tools. None of this construction has the potential to disturb or alter the bulkhead. The biohuts, oyster wraps and textured pile field covers and timber bracing proposed for Pier 26, Pier 32 and Pier 34 would be attached to existing piles and would similarly not affect the bulkhead given their distance to it.

The biohuts proposed for Pier 34 would be attached to existing piles below the existing pier deck by divers working in the water. No pile driving is needed; the biohuts would be secured with friction clamps and bolts. There is an existing protective deck structure surrounding the ventilator building, and a fence topping the deck, and the distance between the closest biohut and the Ventilation structure is 51 feet. The work vessel would be deployed as far away from the vent shaft as feasible, and in coordination with the Port Authority of New York/New Jersey which controls the site. The biohuts would not be visible since they would be fully below water.

No archaeological resources would be affected based on previous analysis for this geographic area in the Hudson River Park FEIS.

As with all construction in the Park, the Trust would require a Construction Protection Plan (CPP) from the contractors before they could mobilize, and the CPP would include provisions about work vessels in proximity to these resources and with other standard measures that the Park uses to protect the bulkhead and other historic resources from inadvertent damage. Relevant provisions of the March 31, 2000 Programmatic Agreement developed as part of the USACE permitting process would also be adhered to.

For all of these reasons, the proposed enhancements do not have the potential to adversely affect historic resources.

Question 13:

a. ***Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?***
b. ***Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?***

The proposed work would occur within and, for a few components, above the Hudson River. The project area does not contain a tidal wetland but it is regulated by federal and state agencies. The Trust has existing permits from these agencies, the USACE and NYSDEC, that authorize in water construction throughout Hudson River Park based on previous environmental reviews. While the Trust will be seeking approval from both agencies for the proposed enhancements, both the USACE and NYSDEC recognize that the Park has a balance of previously assessed and approved unused fill and platform coverage. As such, and as demonstrated on the attached tables, the project elements will not increase the amount of platform coverage or fill from that previously assessed. While the locations of where the platform and fill would shift somewhat, in the 1998 overall Park FEIS, no portion of Hudson River Park's waters was considered to have different habitat qualities than any other.

Question 15: Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?

Adult and subadult shortnose sturgeon (*Acipenser brevirostrum*, federal endangered) and Atlantic sturgeon (*Acipenser oxyrinchus*, federal endangered) have the potential to be present within the Hudson River in the vicinity of the proposed enhancement features.

Shortnose sturgeon would likely be using the lower Hudson River as a migration corridor to and from foraging, overwintering, and/or spawning grounds located upstream of the enhancement site. Due to the distance from shortnose sturgeon spawning grounds in the Hudson River, and the higher salinity of the river in the vicinity of the installation site, shortnose sturgeon eggs, larvae, and young-of-the-year would not occur near the project area.

The lower Hudson River in the vicinity of the enhancements site is not a known overwintering, spawning, or foraging ground for Atlantic sturgeon, and early life stages of this species are likewise not expected to occur in the area. Atlantic sturgeon may occur in the study area as they migrate upriver to freshwater habitat, or downriver back to coastal waters. The proposed area for the enhancements is located within an

area designated as critical habitat for Atlantic sturgeon. Critical habitat for Atlantic sturgeon has been designated for the length of the tidal Hudson River from lower Manhattan to the Federal Dam at Troy. For Atlantic sturgeon, the physical or biological features of critical habitat that are essential to the conservation of the species include hard bottom substrate (e.g., rock, cobble, gravel, limestone, boulder, etc.) in low salinity waters (0 to 0.5 ppt) for settlement of fertilized eggs, refuge, growth, and development of early life stages. Conditions in the project area are not conducive to Atlantic sturgeon, including because there is no hard bottom substrate in the proposed enhancement area. Moreover, the extent and nature of the construction disturbance is minimal, and the amount of fill is within previously assessed and permitted amounts for both Hudson River Park overall and Segment 3 specifically. None of the structures would add a physical barrier to passage between the river mouth and spawning sites necessary to support unimpeded movement of adults to and from spawning sites, seasonal movement of juveniles, and staging, resting, or holding of subadults or spawning condition adults. Finally, the gabions and other features proposed for the project are intended to enhance habitat as their sole purpose.

New York and New Jersey waters may be warm enough to support loggerhead (*Caretta caretta*; federally threatened, state endangered) and Kemp's ridley (*Lepidochelys kempi*; endangered) turtles from May through mid-November, and green sea turtles (*Chelonia mydas*) from June through October; those that do occur in these waters are typically small juveniles. Leatherback sea turtles (*Dermochelys coriacea*; endangered) may be found in the waters off New York and New Jersey during the warmer months, but this species generally prefers deep, pelagic waters over shallow, nearshore waters, and would not be expected in the vicinity of the study area. The New York-New Jersey Harbor complex of which the lower Hudson River is a part is considered to be of marginal or lower quality sea turtle habitat, and observations of these species are infrequent. Overall, sea turtles have the potential to occur within the study area on rare occasions, and only as transient individuals, rather than for long-term occupation for breeding, wintering, or growth and development.

Apart from endangered species, the New York State Department of State (NYSDOS) has designated 15 SCFWHs within New York City. The proposed installation site falls within one of these designated areas, the Lower Hudson Reach. SCFWHs are coastal habitats designated by NYSDOS based on the uniqueness of the habitat; presence of protected or vulnerable species; recreational, education, and other uses; abundance of ecologically important species; and habitat irreplaceability (NYSDOS 1984). The Lower Hudson Reach includes the 19-mile stretch of the Hudson River from Battery Park to the tip of Manhattan and from there north to Yonkers near Glenwood, and includes areas with deep waters, shallows, piers, and interpier basins. NYSDOS designated the Lower Hudson Reach as a SCFWH in part because it provides an important wintering habitat for young-of-year, yearling, and older striped bass. In addition, the Lower

Hudson Reach is one of the few large tidal river mouth habitats in the northeastern United States, and is part of the greater Hudson River Estuary system that supports a diverse and historically highly productive ecosystem of fish and invertebrate species. Significant numbers of other fish species and waterfowl also use the Lower Hudson Reach, including winter flounder, summer flounder, white perch, Atlantic tomcod, Atlantic silversides, bay anchovy, hogchoker, and American eel. The Lower Hudson Reach is potentially important for bluefish and weakfish young-of-year, American shad, blue crab, Atlantic sturgeon, and shortnose sturgeon. Planktonic and benthic organisms that provide an important food source are also present, including copepods, rotifers, mysid shrimp, nematodes, oligochaetes, polychaetes, and amphipods. Wintering waterfowl that use habitat in the Lower Hudson Reach include canvasback, scaup, mergansers, mallards, and Canada geese.

USFWS also designated the Lower Hudson River Estuary, from the Battery at the southern tip of Manhattan upstream to Stony Point at river mile 41, as a Significant Habitat Complex due to its regional significance as nursery and wintering habitat for a number of anadromous, estuarine, and marine fish species, including striped bass, and its use as a migratory and feeding area for birds and fish that feed on the abundant fish and benthic invertebrate resources found in this portion of the estuary. Striped bass are anadromous and range from along the North American Atlantic coast from Canada to northern Florida. Striped bass was one of the four most abundant species collected within Hudson River Park from June 2002 through June 2004.

The Hudson River supports one of several principal spawning populations, which also include Delaware Bay, Chesapeake Bay, the Roanoke and Chowant Rivers and Albemarle Sound, North Carolina, the Santee River in South Carolina, and the St. Johns River in northern Florida. Peak spawning in the Hudson River typically occurs between mid-May and mid-June in freshwater areas where currents are moderate to swift, considerably upriver from the project site. Larval striped bass recruit to the lower salinity areas of the Hudson River again upstream of the project site during summer (May to July). Larvae are abundant throughout the Hudson River during this time, but are more common from the Tappan Zee Bridge upstream to Hyde Park, rather than in the lower estuary. As juveniles, striped bass begin to move to shallower nursery habitat in the lower estuary. Juvenile abundance typically peaks in July and August upstream of Hyde Park in deeper bottom habitats (greater than 20 feet deep). Many juvenile striped bass move downstream by the end of their first summer to the lower estuary and into New York Harbor, western Long Island Sound, and along the south shore of Long Island where they remain near shore until November or December. At this time, some juveniles may move to deeper water, although they have been documented as using interpier areas within the Hudson River Park for overwintering habitat from December through March. The lower Hudson River, including the area proposed for the enhancements, contains striped bass throughout the year and provides important

winter habitat (mid-November to mid-April) for young-of-year, yearling, and older striped bass.

At two to three years old, adult striped bass leave Atlantic coast estuaries and begin the typical seasonal coastal migration, northward during the spring and summer and southward during the fall. Some individuals are thought to mature and remain year-round in the upper freshwater portion of the estuary, while others adopt an anadromous life style and, once sexually mature, spend most of their time in coastal saltwater habitats, migrating into freshwater and brackish habitats in the spring to spawn. Adult striped bass are top predators and are prey to few other organisms. In the lower Hudson River Estuary, striped bass prey upon at least 20 different taxa, dominated by a variety of small-bodied and juvenile fishes and crustaceans. The coastal stock is healthy, with spawning stock biomass well above the target level specified in the Interstate Fisheries Management Plan and stocks at historically high levels.

Installing the proposed features would not entail any pile driving or other activities with the potential to create significant disturbances to these species. Aside from the vessels with cranes needed to lift the biohuts, gabions, reef balls and textured pile covers and beams into position, all of the work would be accomplished by divers using hand-held tools. The biohuts are designed with friction clamps and would be bolted onto the piles. The reef balls would be held in place with small spikes driven by hand-held hammers. The gabions would also be fabricated off site and would be lowered into position.

At Pier 32, the pile covers would be fabricated off site, and a portable grouting machine would need to be located on the nearby work barge. Divers supported by small floating platforms would install falsework, possibly using surrounding existing piles, to hold the posts in place before grouting. The textured pile covers would be lowered onto designated piles, with the timber beams acting as braces installed above them. Divers would need to do some excavation using hand held tools around the base on the piles to be improved at Pier 32, but this amount would be modest and no fill would need to be removed from the site.

Collectively, these activities would create localized, temporary disturbances including increases in suspended sediment and resuspension and re-deposition of contaminants for certain of the enhancement features, but these would be temporary and localized and would dissipate quickly. Such disturbances would also be confined to the immediate vicinity of construction activities. The average tidal current in the Hudson River is 1.4 knots; therefore, any sediment resuspended during certain construction activities would move away from the area of in-water activities and would dissipate shortly after the completion of construction. Additionally, the temporary localized increases in suspended sediment during the limited construction activities would be intermittent, followed by a period of no sediment disturbing activity while the next

enhancement feature is being prepared for installation. No heavy machinery would be needed aside from work vessels. In all instances, work would adhere to previously established permit conditions and other best practices. No work that could create sources of pollution would occur except while the vessels are on site during the installation. Equipment will be placed to protect against inadvertent spill into the river, and a spill protection kit will be located on site in the unlikely event a spill could occur.

Increases in underwater noise from the vessels could lead to temporary habitat avoidance by fish and some macroinvertebrates. The minimal increase in temporary shade from barges and from underwater noise associated with vessel operation is well within the typical range of vessel activity in the lower Hudson River, and is in any case is consistent with other work previously approved for construction in this area.

Elevated underwater noise from the very limited construction activities would be intermittent, localized, and short in duration. Since no pile driving is required, exposure of shortnose sturgeon and Atlantic sturgeon (federally-listed endangered species) to potentially disturbing levels of underwater noise would be minimal. The small amount of fill in the interpier areas and below existing piers would be a minimal change from the existing condition, but would not be an increase in the overall amounts previously approved for Hudson River Park as a whole or for the Segment 3 area. For all of these reasons, the proposed project may affect, but would be unlikely to adversely affect, shortnose and Atlantic sturgeon or other species.

Moreover, these additions are proposed specifically as habitat enhancements for shellfish and finfish.

As with other in-water construction elements, the Trust inspects structures periodically to maintain them, and cameras, Park Enforcement Patrol and members of the Trust's Environment and Education staff will monitor the area and the enhancements once they are installed, both to prevent the public from accessing, poaching or interfering with the enhancements and to monitor progress towards the enhancement goals. Small boats or divers would be used for periodic monitoring; disturbances from these activities would be of short duration and temporary.

16. Is the project site located in the 100-year flood plan?

Yes. The project is water-dependent, and is solely intended to enhance habitat within the Hudson River Park Sanctuary. All project elements are intended either to be either within the Hudson River itself or able to withstand inundation.

Other

The project has been designed to be installed incrementally based on available funding. Project elements would be constructed off site, and installation of each proposed

enhancement type could be installed quickly, with durations ranging from several days to approximately one month of non-consecutive work for typical workdays lasting approximately 6 hours. Typically, each biohut could take 1-2 days to install. At Pier 32, each cluster of timber piles to be enhanced with textured pile covers and reef balls would take approximately 2-3 weeks to install; up to four such clusters are proposed. A total of approximately two weeks would be needed to install the inter-pier features assuming all of them were deployed simultaneously; this includes both the initial placement on the river bottom and then threading through them to provide additional stabilization.

No other in-water construction is currently anticipated within the Segment 3 area.

D. CONCLUSION

The proposed project would enrich and improve the aquatic habitat area within the Park's Segment 3 area and would not result in any potential significant adverse impact to the environment. Nor would the proposed project result in any significant adverse cumulative impacts with other construction projects in the Park: (i) the installation of the ecological enhancements will be within Segment 3 of the Park where in-water construction of Park improvements is now complete; and (ii) the time period of construction for the enhancements is too short and too far away to result in cumulative impacts with Park construction to the north of Segment 3. *