Draft Integrated Interim Response Feasibility Report and Environmental Assessment for Actionable Elements

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

APPENDIX A-2B HARLEM RIVER ACTIONABLE ELEMENT SITE ENDANGERED SPECIES ACT – NOAA NMFS

July 2025

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1 INTRODUCTION

The U.S. Army Corps of Engineers (USACE), New York District, has prepared this assessment to evaluate Federally-listed threatened and endangered species for the New York New Jersey Harbor and Tributaries (NYNJHAT) Coastal Storm Risk Management (CSRM) Feasibility Study, Integrated Interim Response Feasibility Report and Environmental Assessment on Actionable Elements.

The NYNJHAT Study was authorized as a result of the findings in the January 2015, USACE North Atlantic Coast Comprehensive Study (NACCS) which identified high-risk areas on the Atlantic Coast for warranting further investigation of flood and coastal storm risk management solutions including the NYNJHAT study. In February 2019, a NYNJHAT Feasibility Study Interim Report (Interim Report) was completed to document existing information and assumptions about the future, and to identify knowledge gaps that warranted further investigation because of their potential to affect plan selection. The Interim Report states the impacts from Hurricane Sandy highlighted the National need for a comprehensive and collaborative evaluation to manage risk for vulnerable populations within the North Atlantic region. In September 2022, a Draft Integrated Feasibility Report and Tier 1 (Programmatic) Environmental Impact Statement for the Comprehensive Plan was released detailing the additional analyses conducted following the Interim Report (2019) and what additional information was needed in the future for the remainder of Tier 1 and Tier 2 of the programmatic process.

The Endangered Species Act (ESA) of 1973 was passed to protect and recover imperiled species and the ecosystems upon which they depend. The ESA is administered by the USFWS and the National Marine Fisheries Service (NMFS). Under the ESA, species may be listed as either endangered or threatened, whereby species are either in danger of extinction through all, or a significant portion, of its range (endangered) or are species that are likely to become endangered within the foreseeable future (threatened). The ESA prohibits the “take” of protected species, including harassment, hunting, capturing, collecting, or killing.

Consultation with USFWS and NMFS is required for any Federal action that may adversely affect ESA species. An adverse effect includes direct or indirect physical, chemical, or biological alterations to waters or substrate, species and their habitat, other ecosystem components, supportive of listed species.

This document focuses on the Harlem River Actionable Element Site, but only the Seaward Alignment as the Landward Alignment does not interact or intersect with the aquatic environment, as a complementary feature to the NYNJHAT Study Comprehensive Plan. This document further serves as a mechanism for coordination.

1.1 PROJECT PURPOSE AND NEED

Storms have historically severely impacted the New York New Jersey Harbor region, including Hurricane Sandy most recently, causing loss of life and extensive economic damages.

In 2012, Hurricane Sandy caused considerable loss of life, extensive damage to property, and massive disruption to the North Atlantic Coast. The effects of this storm were particularly severe because of its tremendous size and the timing of its landfall during high tide. Twenty-six states were impacted by Hurricane Sandy, and disaster declarations were issued in 13 states. NY and NJ were the most severely impacted states, with the greatest damage and most fatalities in the NY Metropolitan Area. For example, a storm surge of 12.65 feet above normal high tide was reported at Kings Point on the western end of Long Island Sound and 9.4 feet at the Battery on the southern tip of Manhattan. Flood depths due to the storm tide were as much as nine feet in Manhattan, Staten Island, and other low-lying areas within the NY Metropolitan Area. The storm exposed vulnerabilities associated with inadequate coastal storm risk management (CSRM) measures and lack of defense to critical transportation and energy infrastructure.

The January 2015, USACE North Atlantic Coast Comprehensive Study (NACCS) identified high-risk areas on the Atlantic Coast for warranting further investigation of flood risk management solutions. In February 2019, a NYNJHAT Feasibility Study Interim Report was completed to document existing information and assumptions

about the future conditions, and to identify knowledge gaps that warranted further investigation because of their potential to affect plan selection. The Interim Report states the impacts from Hurricane Sandy highlighted the national need for a comprehensive and collaborative evaluation to manage risk for vulnerable populations within the North Atlantic region. To address the impacts and concerns associated with devastating storms, the New York District has proposed measures to manage coastal storm risk in the NYNJ Harbor and its tributaries.

In response, the New York District is investigating measures to manage future flood and coastal storm risk in ways that support the long-term resilience and sustainability of the coastal ecosystem and surrounding communities, and reduce the economic costs and risks associated with flood and storm events for the NYNJHAT Study Area (USACE 2019). The alternative concepts proposed would help the region manage flood risk that is expected to be exacerbated by relative sea level rise.

The scope of the Interim Response Actionable Element builds upon the September 2022 Draft Integrated Feasibility Report (FR) and Tier 1 (Programmatic) Environmental Impact Statement (EIS), as an interim action while the overall Comprehensive Plan continues to be studied, subject to future funding and appropriations. The Comprehensive Plan is a programmatic assessment described as containing two tiers, with September 2022 Draft Report initiating the Tier 1, or broad-level assessment, with plans for a future Tier 2 containing the detailed site-specific analyses including any design refinements and reasonable alternatives. This Report is not a Tier 2, but rather an Interim Response to the Comprehensive Plan responsive to the larger Coastal Storm Risk Management (CSRM) authorization to assess a 2,500+ square mile radius in the New York-New Jersey Metropolitan Area. This interim response, like Tier 2, assesses the measures at a site-specific level, completing enough design maturity and analyses to disclose the potential effects of the Alternatives, and complete full environmental compliance. Interim responses often arise during the progress of a programmatic study, of which purpose and need is to respond to an immediate need for CSRM where able in the interim and corresponding with future legislative cycles (e.g. Water Resources Development Act (WRDA), while the more complex measures of the larger NYNJHAT Study require additional analysis, modeling, public engagement, and design maturity to complete. Interim responses often arise during the progress of a programmatic study, of which purpose is to respond to an immediate CSRM need in the interim and corresponding with future legislative cycles (e.g. Water Resources Development Act (WRDA), while the more complex measures of the larger NYNJHAT Study require additional analysis, modeling, public engagement, and design maturity to complete. The purpose and need of this action is to manage risk to critical infrastructure in local areas of high susceptibility to storm surge and at-risk communities. This Interim Response action addresses a critical need for CSRM measures in Harlem River, New York, East Riser, New Jersey, and Oakwood Beach, New York.

1.2 1.2 COORDINATION AND CONSULTATION HISTORY

Coordination with stakeholders has been a critical component of the NYNJHAT study. Since early 2017. The New York District held many workshops and meetings with Cooperating and Participating Agencies and other stakeholders to share information on the study scope and purpose and formulation of alternatives, and to exchange ideas and information on natural and marine resources within the Study Area. Cooperating Agencies include the U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, U.S. Coast Guard, National Oceanic and Atmospheric Administration National Marine Fisheries Service, and the National Park Service. The Federal Emergency Management Agency is a Participating Agency.

The New York District announced the preparation of an Integrated Feasibility Report/Tiered EIS for the NYNJHAT study feasibility in the February 13, 2018 Federal Register pursuant to the requirements of Section 102(2)(C) of NEPA. The NEPA scoping period initially spanned 45 days from July 6 – August 20, 2018, but was extended to 120 days due to numerous requests from the public. The New York District held a total of nine public scoping meetings during the public scoping period. In 2019, four NYBEM workshops were held on January 3, March 11, June 6, and November 14 to help inform the NYBEM model set up to be used as a tool for assessing some direct and indirect effects of agency actions on regional ecosystems including the NYNJHAT Study, among others.

In February 2020, the NYNJHAT Study paused until October 2021 due to a lack of Federal funding. Following study resumption, the New York District held several Cooperating Agency meetings to facilitate open communication, share study progress, status updates, and data as it became available, including an Engineering presentation on the study alternatives, a presentation on the TSP, and a presentation on the New York Bight Ecological Model (NYBEM) development progress. In September 2022, a Draft Integrated FR/Tier 1 (Programmatic) EIS was released for stakeholder, agency, and public review and comment. Following a substantial public review period of 175+ days, and approximately 2,700 comments received, many comments required a need for, among other requests, more consideration for Nature-Based Solutions to be incorporated into the Study. Ultimately, these comments informed the future of the NYNJHAT Study, and introduced the need for further coordination with public and resource agencies as the Study progresses.

Previously, In August 2022, the New York District and the USFWS initiated a scope of work for the preparation of a Fish and Wildlife Coordination Act Report (FWCAR) pursuant to the Fish and Wildlife Coordination Act 48 Stat. 401, as amended; 16 U.S.C 661 et seq., to provide information of fish and wildlife resources, including listed species under the ESA, and trust resources within the NYNJHAT Study Area. The USFWS provided a PAL letter until further information would become available to allow for the preparation of a FWCAR for the comprehensive study, or for the Tier 2 documents.

Given the schedule timeline following Study resumption, the New York District requested the USFWS advance the preparation of a Fish and Wildlife Coordination Act Report (FWCAR) instead of a PAL for the Actionable Element Sites. The FWCAR will be coordinated with the National Oceanic and Atmospheric Administration National Marine Fisheries Service, US Environmental Protection Agency (EPA), NYSDEC, NJDEP, and other agencies/organizations as appropriate, regarding the Interim Response Actionable Element area resources, potential project related impacts, and conservation recommendations to avoid, minimize, or compensate for impacts to fish and wildlife resources resulting from the Alternatives, including the Action Alternative. The New York District anticipates a Draft FWCAR will be received between the Draft and Final Integrated Interim Response FR/EA, prior to January 2026, and a Final FWCAR thereafter following a review and comment period. This Subappendix, as well as the Integrated Interim Response FR/EA will be updated with the FWCAR findings and recommendations for issuance of the Final Integrated Interim Response FR/EA.

2 STUDY AREA

2.1 COMPREHENSIVE PLAN

The Study Area of the NYNJHAT Study includes the NY Metropolitan Area, including New York City (NYC) which is the most densely populated city in the United States, and five of the six largest cities in New Jersey by population. The shorelines of some of the NYNJHAT Study Area is characterized by low elevation areas, developed with residential and commercial infrastructure, and is subject to tidal flooding during storms. The Study Area covers more than 2,150 square miles and comprises parts of 25 counties in New Jersey and New York, including Bergen, Passaic, Morris, Essex, Hudson, Union, Somerset, Middlesex, and Monmouth Counties in New Jersey; and Rensselaer, Albany, Columbia, Greene, Dutchess, Ulster, Putnam, Orange, Westchester, Rockland, Bronx, New York, Queens, Kings, Richmond, and Nassau Counties in New York.

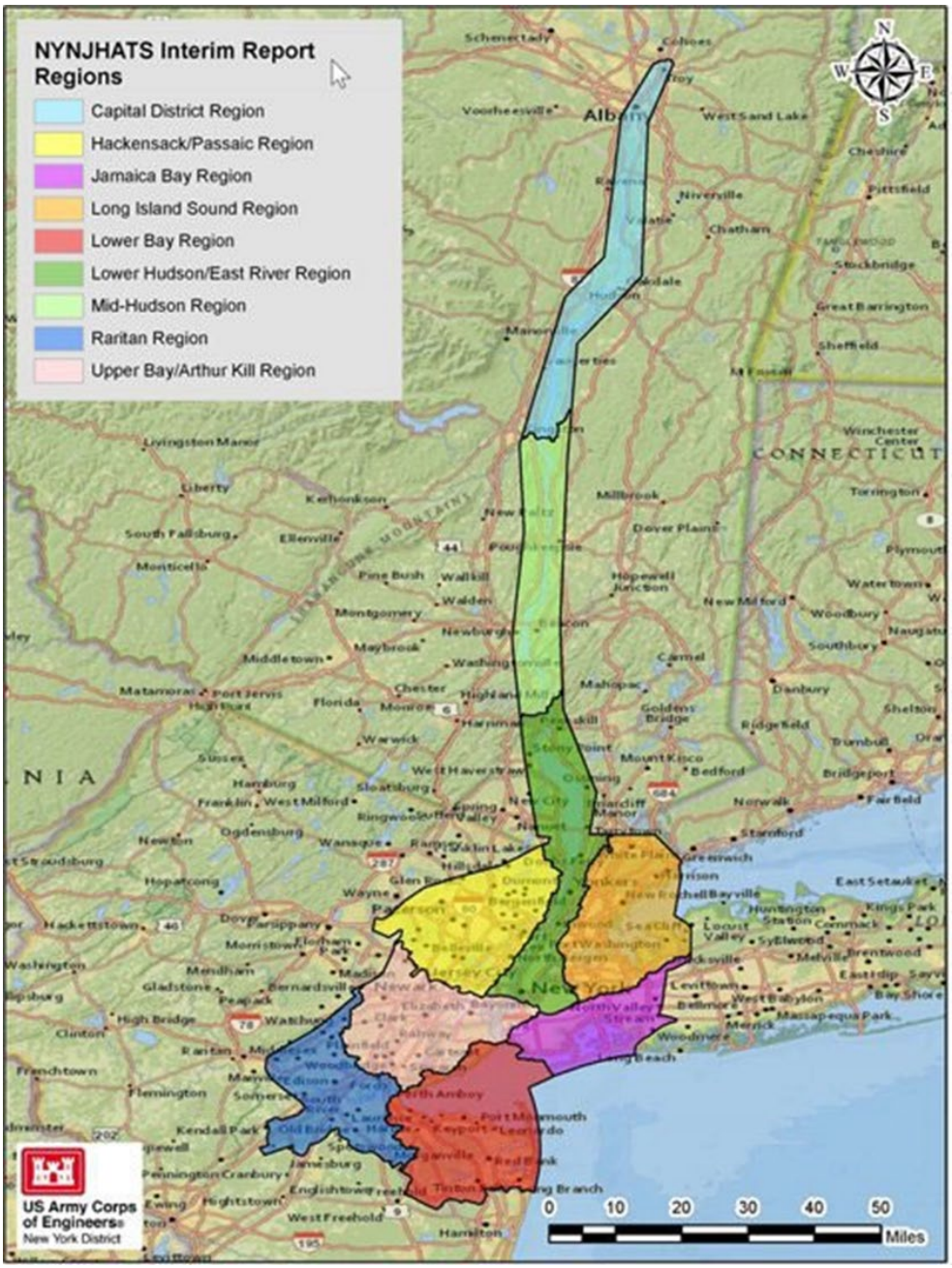

Figure 1. NYNJHAT Study Area

3 HARLEM RIVER ACTIONABLE ELEMENT SITE

3.1 PROJECT DESCRIPTION

All NYNJHAT Study Alternatives contained primary structural features, such as floodwalls, seawalls, and storm surge barriers as well as secondary, complementary Nature-Based Solutions (NBS) and Non-Structural Measures. At the time of the release of the September 2022 Draft Integrated Feasibility Report and Tier 1 (Programmatic) EIS, only the structural measures had been included as those would provide the primary CSRM function, and complimentary NBS and non-structural measures would be identified for inclusion into all Alternatives at a future date. Following substantial public review period of 175+ days, and approximately 2,700 comments received, many comments requested a need for, among other requests, more consideration for NBS to be incorporated into the Study. Following, Harlem River Actionable Element was identified to include NBS for consideration in the NYNJHAT Study.

The Harlem River Actionable Element is a Coastal Storm Risk Management (CSRM) structural measure with complimentary nature-based solution (NBS) features to the NYNJHAT Study Overall Comprehensive Plan, providing high-frequency flood risk management, and serves as a multi-line of defense to the NYNJHAT Study, Harlem River section of Manhattan. This Site includes two separate alignments for public consideration: (1) a Seaward Alignment consisting of an in-water measure (combination seawall and tunnel span structure), shore-based tie-in measures (e.g. floodwall), deployable vehicular gates, and complimentary NBS; and, (2) a Landward Alignment consisting of entirely on-land measures (e.g. floodwalls), several deployable vehicular gates, and invasive vegetation species management for replacement with native species and other potential complementary NBS to be identified.

No Action:

Under the No Action Alternative, the U.S. Army Corps of Engineers will not construct the CSRM project, therefore, he proposed Actionable Element Site would remain as is and would continue to be exposed to flood risks.

Action (two alternative alignments):

Seaward Alignment:

This alternative proposes approximately 320 linear feet (LF) of floodwall, two 40 LF each deployable flood barriers – vehicle gates, 3,636 LF anchored combi wall, and 155 LF tunnel span. The top of the CSRM line of protection is approximately 17 ft NAVD88 which corresponds to approximately 6 ft higher than the existing barrier along the north bound section of the Harlem River Dr. The CSRM protection is approximately 25 feet in water (seaward) from the existing Harlem Rive Drive barrier and 5 feet wide. Backfill will fill in the space between the roadway barrier and the seawall, and will include NBSs such as oyster reefs, tidal wetlands, tide pools, and seawall panels, armor blocks, and or pile encapsulations that support aquatic marine organism growth for wave attenuation. This alignment also includes some invasive vegetation species management and replacement for the tie-ins.

Landward Alignment:

This alternative proposes approximately 2,700 LF of floodwall and five 40 LF each deployable flood barriers. approximately 17 ft NAVD88 which corresponds to 0 - 12 ft above ground. The floodwalls and barriers will be approximately 5 ft wide. Also included is approximately 1+ acre (AC) of invasive vegetation species management and replacement with native species.

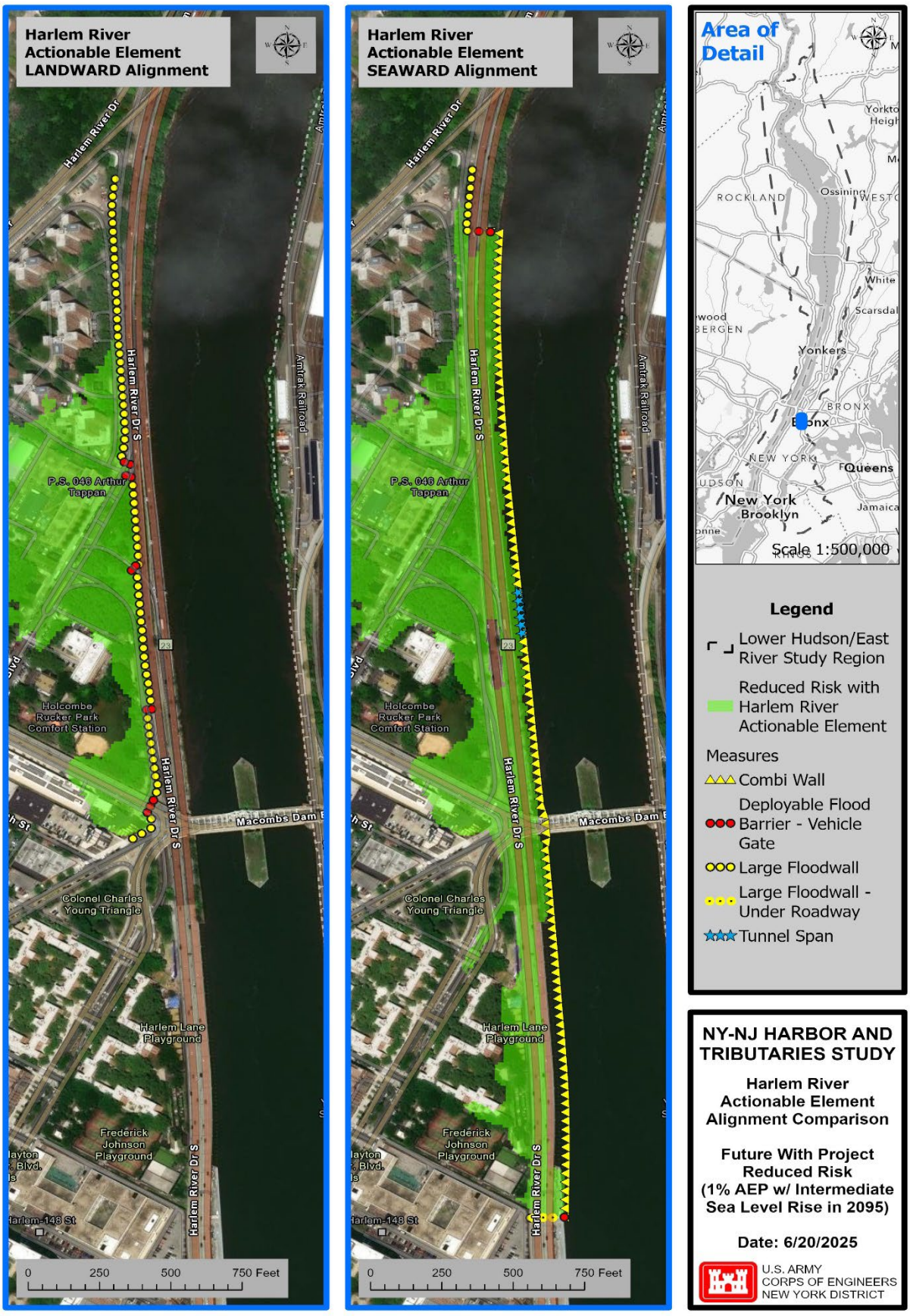

Table 3-1 Harlem River CSRM Alignment Alternatives

3.2 ACTIONABLE ELEMENT PROJECT OBJECTIVES

Actionable Elements were evaluated on whether they make significant contributions to the planning objectives and sufficiently avoid planning constraints. The study objectives, below, were used to evaluate the Actionable Elements:

- Manage the risk of coastal storm flood damage to communities, public infrastructure, important societal resources, and the environment.
- Improve the community's ability to recover from damages caused by storm surges by reducing the duration of interruption in services provided by manufactured and natural systems.
- Enhance human health and safety by improving the performance of critical infrastructure and natural features during and after storm surge events.
- Recruit natural ecosystems into the coastal storm risk management framework where able to provide multiple lines of defense.

3.3 EFFECTS AND CONSEQUENCES SUMMARY

The species identified as potentially present within the Lower Hudson and East River Planning Region and this Actionable Element Site were reviewed for potential to effect, based on the existing conditions and the proposed action, to determine if the species was likely to be present at the Site relative to suitable habitat, and if so further assess if there is an anticipated adverse or beneficial effect. Species that are anticipated to not have suitable habitat available at the Site are to have no effect. Federal-listed aquatic threatened and endangered species potentially present within the Comprehensive Plan Study Area, East River/Lower Hudson Planning Region are listed below, and those species identified as potentially present in the vicinity of the Actionable Element site, sourced from the Section 7 Mapper (accessed June 30, 2025), are highlighted yellow:

Table 2. Federally Listed Aquatic Species Potentially Present in the Lower Hudson and East River Planning Region and Actionable Element Site

Common Name	Scientific Name	Federal Status	New York State Status	Listing/Recovery Plan Citation	Region/Site Where Species May Occur
Fish					
Atlantic sturgeon	*Acipenser oxyrinchus oxrynchus*	E	E	77 FR 5880 and 77 FR 5914	LH/ER, AE
Shortnose sturgeon	*Acipenser brevirostrum*	E	E	32 FR 4001; Recovery plan: NMFS 1998	LH/ER, AE

Notes: [1] Status Abbreviations – Threatened (T), Endangered (E), Candidate (C), Proposed (P), Not Listed (NL); [2] Region/Site Abbreviations - Lower Hudson/East River (LH/ER) Planning Region, Actionable Element (AE) site vicinity. Yellow = sourced from the Section 7 Mapper database as potentially occurring at the Actionable Element Site.

Aquatic Threatened and Endangered Species are present throughout the Comprehensive Plan Study Area including the Lower Hudson and East River Region where this Actionable Element Site is located.

While there is limited information about the presence of these species in the Harlem River, the NMFS Section 7 Mapper indicates that subadult and adult Atlantic sturgeon may migrate and opportunistically forage in the East River year-round as it converges with the Hudson River and Long Island Sound, with the most likely occurrence in the East River between spring and fall. The Section 7 Mapper also states there is a lack of published research on the potential presence of Shortnose sturgeon in the East River, and therefore, it is assumed that migrating and foraging adults could be present anywhere within the connected system of the Hudson River and Connecticut Rivers. Coastal migrations are anticipated between April 1 and November 30.

Source information can be found at the following website:
https://noaa.maps.arcgis.com/apps/webappviewer/index.html?id=a85c0313b68b44e0927b51928271422a

The Section 7 Mapper also indicates there is potential critical habitat within or near this Actionable Element Site for Atlantic Sturgeon, identified as the New York Bight Unit 3: Hudson River. As this Actionable Element Site is located on the Harlem River, it is not anticipated to adversely effect this critical habitat, but may provide a benefit to species migrating through with the incorporation of complimentary NBS for additional areas to forage.

3.4 EFFECTS AND CONSEQUENCES SUMMARY

The species identified as potentially present within the Lower Hudson and East River Planning Region and this Actionable Element Site were reviewed for potential to effect, based on the existing conditions and the proposed action, to determine if the species was likely to be present at the Site relative to suitable habitat, and if so further assess if there is an anticipated adverse or beneficial effect. Species that are anticipated to not have suitable habitat available at the Site will have no effect.

3.4.1 Seaward Alternative

Adverse Effects

The ESA prohibits the "take" of protected species, including harassment, hunting, capturing, collecting, or killing. Direct impacts from construction are not anticipated to result in a "take" of a regulated wildlife species due to the limited presence of these species at the project site. Prior to construction, threatened and endangered species surveys may be conducted as necessary to identify potential special status plants or wildlife species present, or with the potential to be present. Should species be identified as present, or potentially present, avoidance is the primary mitigation action to prevent adverse effects to these species. While Atlantic and Shortnose Sturgeon may be present in the Harlem River, there is no anticipated sustaining habitat along this portion of the river. Direct effects from construction will cause temporary noise, vibration, and disturbances for species passing through that will be mitigated for through appropriate construction windows, and the utilization of cofferdams to reduce adverse effects.

No direct or indirect adverse effects from operation and maintenance of the site are anticipated to threatened and/or endangered species, as the site would continue to be monitored for establishment of the native habitat, to prevent the return on non-native habitat, preserving the quality of habitat for wildlife present. Maintenance may include non-native plant management, such as herbicide application and removal which could temporarily disturb terrestrial vegetation to eliminate non-native or invasive species but would be negligible given that procedures would be established to avoid such impacts.

Beneficial Effects

Beneficial effects to aquatic threatened and endangered species are anticipated to be low to moderate, as the complimentary NBS will provide newly created habitat for aquatic species to forage and shelter.

3.5 POTENTIAL STRESSORS LIKELIHOOD OF EFFECT ASSESSMENT

Potential Stressor	Sturgeon
Water Quality	NLAA
Vessel Interaction	NLAA
Underwater Noise and Vibration	NLAA
Physical Seabed Disturbance	NLAA

Notes: NLAA (not likely to adversely affect) is the appropriate conclusion when effects on listed species are expected to be discountable, insignificant, or completely beneficial. LAA (likely to adversely affect) is the appropriate conclusion when

effects on listed species are expected to be measurable and significant. N/A (not applicable) means the stressor/species is not applicable to the action and will not be considered further.

Additional information received from the USFWS, NOAA-NMFS, and NYNHP will be incorporated into the Final Integrated Interim Response FR/EA, including any conclusions to the adverse and/or beneficial effects of the Actionable Element Site.

4 LIST OF PREPARERS AND CONTRIBUTORS

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