

Empire Offshore Wind LLC

Empire Wind 1 Project
Article VII Application

Appendix A
Agency Outreach and Correspondence

June 2021

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ACRONYMS AND ABBREVIATIONS

BOEM	Bureau of Ocean Energy Management
BSEE	Bureau of Safety and Environmental Enforcement
ConEdison	Consolidated Edison Company of New York, Inc.
DHS	United States Department of Homeland Security
EPA	United States Environmental Protection Agency
Empire, the Applicant	Empire Offshore Wind LLC
EW 1	Empire Wind 1
EW 2	Empire Wind 2
GARFO	Greater Atlantic Regional Fisheries Office
HVAC	high-voltage alternating current
IHA	Incidental Harassment Authorization
km	kilometer
kV	kilovolt
Lease Area	Designated Renewable Energy Lease Area OCS-A 0512
mi	mile
nm	nautical mile
NAVFAC	Naval Facilities Engineering Command
NJDEP	New Jersey Department of Environmental Protection
NOAA Fisheries	National Oceanic and Atmospheric Administration National Marine Fisheries Service
NPS	United States National Park Service
NSRA	Navigational Safety Risk Assessment
NYCDCAS	New York City Department of Citywide Administrative Services
NYCEDC	New York City Economic Development Corporation
NYCDEP	New York City Department of Environmental Protection
NYDPS	New York Department of Public Services
NYISO	New York Independent System Operator, Inc.
NYSDOS	New York State Department of State
NYSDOT	New York State Department of Transportation
NYSOGS	New York State Office of General Services
OCS	Outer Continental Shelf
OPRHP	New York State Parks Recreation & Historic Preservation
POI	Point of Interconnection at the Gowanus 345-kV Substation
Project	EW 1 Project transmission facilities in New York
PSL	New York Public Service Law
NYSDEC	New York State Department of Environmental Conservation
NYSDPS	New York State Department of Public Service
NYSERDA	New York State Energy Research and Development
NYISO	New York Independent System Operator, Inc.

NYSPSC or Commission	New York State Public Service Commission
SAP	Site Assessment Plan
SBMT	South Brooklyn Marine Terminal
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service

A.1 Introduction

Empire Offshore Wind LLC (Empire, or the Applicant) proposes to construct and operate the Empire Wind 1 (EW 1) Project as one of two separate offshore wind projects to be located within the Bureau of Ocean Energy Management (BOEM) designated Renewable Energy Lease Area OCS-A 0512 (Lease Area). This document is being submitted to the New York State Public Service Commission (NYSPSC or Commission) for the portions of the EW 1 Project transmission system located within the State of New York (collectively the Project) pursuant to Article VII of the New York Public Service Law (PSL).

The Project will interconnect to the New York State Transmission System operated by the New York Independent System Operator, Inc. (NYISO) at the Gowanus 345-kilovolt (kV) Substation (the point of interconnection, or POI). The Gowanus 345-kV Substation is owned by the Consolidated Edison Company of New York, Inc. (ConEdison). The Project's onshore facilities, including the onshore cable route, onshore substation, and the POI, are located entirely within Brooklyn, Kings County, New York.

The Article VII components of the EW 1 Project include:

- Two three-core 230-kV high-voltage alternating-current (HVAC) submarine export cables located within an approximately 15.1-nautical mile (nm, 27.9-kilometer [km])-long, submarine export cable corridor from the boundary of New York State waters 3 nm (5.6 km) offshore to the cable landfall in Brooklyn, New York;
- A 0.2-mile (mi, 0.3-km)-long onshore cable route and substation including:
 - Two three-core 230-kV HVAC EW 1 onshore export cables buried underground from the cable landfall either directly to the cable terminations or to a vault within the onshore substation;
 - An onshore substation located at the South Brooklyn Marine Terminal (SBMT), which will increase the voltage to 345 kV for the onshore interconnection cables; and
 - Two 345-kV cable circuits, each with three single-core HVAC onshore interconnection cables, buried underground from the onshore substation to the POI.

A.2 Agency Outreach and Correspondence

The Applicant is proposing to develop the entire Lease Area in two individual projects, to be known as EW 1 and Empire Wind 2 (EW 2) Projects. The Applicant's EW 1 Project, which was awarded a contract for 816 megawatts (MW) as a result of the New York State's first competitive offshore wind solicitation, is the subject of this application to the Commission, and will occupy a portion of the Lease Area. In addition to the Project under Article VII, the EW 1 Project includes areas outside of New York State and will involve installation of offshore wind turbines, supporting structures and foundations, interarray cables, and one offshore substation, located within the Lease Area on the Outer Continental Shelf (OCS) in federal waters. The submarine export cable route from the Lease Area to the cable landfall is approximately 38 nm (70 km), of which approximately 23 nm (42 km) is in federal waters and 15.1 nm (27.9 km) is in New York State waters. For the purposes of this Application, "EW 1 Project" is used to refer to the offshore wind farm and transmission facilities together, inclusive of components in federal waters outside of New York State. "Project" is used to refer specifically to the Article VII transmission facilities in New York State that are the subject of this Application.

This Appendix summarizes the Applicant's agency outreach and correspondence through April 30, 2021. **Table A-1** includes a summary of outreach and meetings held with federal, state and local agencies and Native American tribes. **Attachment A-1** provide biological resource correspondence and **Attachment A-2** provides cultural resource correspondence. Agency meetings and correspondence on the EW 1 Project have been inclusive of EW 1 Project components in federal waters and components within New York State, where appropriate based on the agency's area of jurisdiction. As the concept of the EW 1 Project has evolved, correspondence may reflect routing that has subsequently been modified. In certain cases, consultation and outreach is also combined with discussion of the EW 2 Project, which is outside of the scope of this Application¹.

¹ Correspondence may also reference Boardwalk Wind and associated facilities that were previously under evaluation in New Jersey, which are also outside of the scope of this Application.

Table A-1 Agency Outreach²

Date	Stakeholder	Topic
April 2017	New York State Energy Research and Development (NYSERDA)	Introduction to the Empire Wind 1 (EW 1) Project
April 2017	New York State Public Service Commission (NYSPSC)/ Dept. of Public Service	Introduction to the EW 1 Project
May 2017	New York Department of State (NYSDOS)	Introduction to the EW 1 Project
May 2017	Bureau of Ocean Energy Management (BOEM)	Introduction to the EW 1 Project
July 2017	BOEM	General EW 1 Project information and updates
August 2017	New York State Department of Environmental Conservation (NYSDEC)	Introduction to the EW 1 Project
August 2017	National Oceanic and Atmospheric Administration- Fisheries (NOAA Fisheries)	General EW 1 Project information and updates
August 2017	BOEM	General EW 1 Project information and updates
September 2017	United States Army Corps of Engineers (USACE)	Introduction to the EW 1 Project
October 2017	United States Coast Guard (USCG)	Introduction to the EW 1 Project and Navigational Safety Risk Assessment discussion.
October 2017	BOEM	Survey coordination and general EW 1 Project updates
November 2017	NOAA Fisheries	Incidental Harassment Authorization (IHA) discussion
November 2017	BOEM	Review of survey plans
December 2017	BOEM, NOAA Fisheries, USCG, United States Fish and Wildlife Service (USFWS), United States Environmental Protection Agency (EPA), United States National Park Service (NPS), USACE, United States Department of Homeland Security (DHS), NYSDEC, NYSERDA, New York Department of Public Service (NY DPS), NYSDOS	Project introduction and survey planning

² At this time, agency and stakeholder engagement included in this table is representative of Project efforts through April 30, 2021 and do not reflect efforts completed after that date. Empire Offshore Wind LLC continues to engage with agencies and other stakeholders in support of the Empire Wind 1 Project.

Table A-1 Summary of Agency Engagement (continued)

Date	Stakeholder	Topic
December 2017	BOEM	Avian survey planning
December 2017	BOEM	Pre-Survey meeting
January 2018	NOAA Fisheries	Survey planning and Project updates
January 2018	Shinnecock Indian Nation	Pre-Survey meeting
February 2018	BOEM	Survey planning
February 2018	USFWS, NYSDEC	Marine mammals discussion
February 2018	BOEM	Marine mammals discussion
February 2018	BOEM	Project updates and survey planning
February 2018	Unkechaug Nation Chief	Introduction to the EW 1 Project
February 2018	NYSERDA	General EW 1 Project information and updates
March 2018	USACE	General EW 1 Project information and preliminary cable routing discussion
March 2018	BOEM	Project update and survey review
March 2018	NYSDEC	Project update and fisheries discussion
March 2018	NOAA Fisheries	Project updates and geotechnical survey planning
March 2018	EPA	Project updates and survey planning
March 2018	NYSPSC	Project update at public technical conference
April 2018	BOEM	Project updates and Site Assessment Plan (SAP) preparation
April 2018	BOEM	Project updates and SAP preparation
June 2018	BOEM	SAP submittal
June 2018	NYSERDA	EW 1 Project update and survey planning
June 2018	New York City Economic Development Corporation (NYCEDC)	General EW 1 Project information and updates
July 2018	BOEM	General EW 1 Project information and updates

Table A-1 Summary of Agency Engagement (continued)

Date	Stakeholder	Topic
August 2018	NOAA Fisheries Greater Atlantic Regional Fisheries Office (GARFO)	EW 1 Project updates and IHA discussion
August 2018	NOAA Fisheries Office of Protected Resources	EW 1 Project updates and survey planning
August 2018	USCG	EW 1 Project updates and vessel traffic surveys
August 2018	NPS	EW 1 Project introduction and visual impact assessment
September 2018	BOEM	EW 1 Project update and SAP discussion
September 2018	BOEM	EW 1 Project update and SAP follow up
September 2018	USCG	EW 1 Project update and vessel traffic discussion
September 2018	USCG	EW 1 Project update and layout discussion
September 2018	NYSERDA	EW 1 Project and permitting updates
September 2018	BOEM	EW 1 Project update and vessel traffic discussion
October 2018	BOEM	EW 1 Project update and 2019 geotechnical survey plan discussion
October 2018	Naval Facilities Engineering Command (NAVFAC)	EW 1 Project update and export cable routing discussion
November 2018	New York State Department of Transportation (NYSDOT) on Long Island	EW 1 Project overview and interconnection discussions
November 2018	NYSDOT	EW 1 Project introduction and onshore cable routing discussion
November 2018	BOEM	EW 1 Project update and vessel traffic discussion
December 2018	NYS DPS	EW 1 Project introduction and onshore routing discussion
December 2018	New York State Parks Recreation & Historic Preservation (OPRHP)	EW 1 Project introduction and onshore routing discussion
January 2019	NYSDOS	EW 1 Project update and survey planning
January 2019	BOEM	EW 1 Project update and survey planning

Table A-1 Summary of Agency Engagement (continued)

Date	Stakeholder	Topic
January 2019	NOAA Fisheries	Survey planning and IHA renewal
February 2019	BOEM	2019 survey planning and 2018 survey results
March 2019	OPRHP	EW 1 Project update and visual simulations discussion
March 2019	BOEM	Survey update and Construction and Operations Plan (COP) discussion
March 2019	USACE	Project update and COP discussion
March 2019	EPA	Project update and COP discussion
March 2019	BOEM	Survey planning and visual impact assessment discussion
April 2019	USCG	Project update and foundations towing discussion
April 2019	USCG	Navigational Safety Risk Assessment (NSRA) discussion
April 2019	BOEM	Visual impacts assessment discussion
May 2019	New York City Planning Department	Introduction to the EW 1 Project and onshore substation and O&M facilities discussion
May 2019	USCG	NRSA and O&M activities discussion
May 2019	BOEM	EW 1 Project updates and floating LiDAR buoy discussion
May 2019	Shinnecock Indian Nation	Offered EW 1 Project update
June 2019	BOEM	Project updates, survey activities, and NSRA discussion
June 2019	USCG	Vessel traffic and cable landfall discussion
July 2019	BOEM	EW 1 Project update, fisheries and navigation outreach discussion and COP schedule
August 2019	BOEM	COP discussion
August 2019	BOEM	Pre-COP workshop

Table A-1 Summary of Agency Engagement (continued)

Date	Stakeholder	Topic
September 2019	New York City Department of Citywide Administrative Services (NYCDCAS)	General EW 1 Project information and updates
September 2019	NYSDEC, NYDPS, NYSDOS	EW 1 Project update and NY State permitting discussion
September 2019	NOAA Fisheries	EW 1 Project update and submarine export cable route discussion
September 2019	EPA, Bureau of Safety and Environmental Enforcement (BSEE), NYSDEC, NJDEP	EW 1 Project update and air permitting discussion
September 2019	USACE	EW 1 Project update and permitting discussion
September 2019	OPRHP	EW 1 Project update and visual impact assessment discussion
September 2019	NYSERDA	EW 1 Project updates
October 2019	NOAA Fisheries	EW 1 Project update and Underwater Acoustic Assessment discussion for COP
October 2019	BOEM	EW 1 Project update and preliminary third party Environmental Impact Statement contractor discussion
November 2019	New York City Department of Transportation	EW 1 Project introduction and onshore export cable permitting discussion
November 2019	BOEM	EW 1 Project updates, marine mammal acoustic monitoring, and NYSERDA Open Houses discussion
December 2019	BOEM	EW 1 Project update and discussion of underwater acoustic guidelines
December 2019	USACE	EW 1 Project update and submarine export cable burial and permit discussion
December 2019	BOEM	EW 1 Project and permitting schedule update
January 2020	USCG	EW 1 Project update
January 2020	BOEM	EW 1 Project and outreach updates

Table A-1 Summary of Agency Engagement (continued)

Date	Stakeholder	Topic
February 2020	BOEM	EW 1 Project update and 2020 survey campaign and third-party contractor status discussion
February 2020	USCG	EW 1 Project overview on upcoming plans and discussion of the NSRA
March 2020	Shinnecock Indian Nation	Offered EW 1 Project update
March 2020	BOEM	Discussed and coordinated data needs and submission protocol
March 2020	BOEM	EW 1 Project update
April 2020	BOEM	EW 1 Project update
April 2020	BOEM	EW 1 Project updates and agency coordination discussion
April 2020	NOAA Fisheries	EW 1 Project update and survey overview discussion
April 2020	BOEM/BSEE	EW 1 Project schedule overview and discussion of emergency response preparedness approach
April 2020	EPA	EW 1 Project overview and schedule updates and discussion of the air quality modelling protocol
April 2020	BOEM	EW 1 Project update
May 2020	BOEM	Discussion of BOEM comments on the COP
May 2020	BOEM	EW 1 Project and agency coordination updates
May 2020	BOEM	Discussion of BOEM comments on the COP
May 2020	BOEM	EW 1 Project update
June 2020	BOEM/USCG	EW 1 Project, survey, and outreach updates
June 2020	BOEM	2020 survey campaign update and discussion
June 2020	BOEM	Discussion of BOEM comments on the COP
June 2020	NYSDOS	EW 1 Project overview and updates, and discussion of the 2020 survey campaigns
June 2020	BOEM	EW 1 Project update

Table A-1 Summary of Agency Engagement (continued)

Date	Stakeholder	Topic
June 2020	USACE	EW 1 Project and permitting updates
June 2020	NOAA Fisheries	EW 1 Project update
June 2020	NYSDEC/ New York Department of Public Service (NYSDPS)	EW 1 Project overview and update
June 2020	BOEM	EW 1 Project updates
July 2020	BOEM	EW 1 Project updates
July 2020	BOEM	Presentation of BOEM comments on the COP
July 2020	BOEM/USCG	EW 1 Project overview, updates, and NSRA Search and Rescue discussion
July 2020	BOEM	EW 1 Project updates
July 2020	BOEM/USCG	Discussion of stakeholder consultations (World Shipping Council, American Waterways Operators, and Chamber of Shipping of America)
August 2020	NYSDEC/NYSDPS	Sediment Sampling and Analysis Plan and Geotechnical Survey overview and discussion
August 2020	BOEM	EW 1 Project updates
August 2020	NOAA Fisheries GARFO	Presentation and discussion of benthic habitat characterization surveys
August 2020	BOEM	Discussion of Ground Model and Electronic Data Deliverable
August 2020	BOEM	Discussion of BOEM comments on High Resolution Geophysical/Geotechnical Survey Plan
August 2020	BOEM/BSEE	Review of regulations pertaining to SAP decommissioning
August 2020	BOEM	EW 1 Project updates
August 2020	USACE	Correspondence re permitting schedule and temporary mooring overview
August 2020	BOEM/BSEE	SAP Decommissioning Plan follow-up

Table A-1 Summary of Agency Engagement (continued)

Date	Stakeholder	Topic
August 2020	BOEM	COP overview and updates
September 2020	BOEM	EW 1 Project updates
September 2020	BOEM	EW 1 Project updates
September 2020	USCG	EW 1 Project overview and discussion of Navigation Safety Risk Assessment
September 2020	BOEM	EW 1 Project updates
October 2020	USCG, NYSDOS	Discussion of Cable Burial Risk Assessment (CBRA) undertaken for Gravesend Bay
October 2020	New York City Department of Environmental Protection (NYCDEP)	EW 1 Project introduction and discussion of water siphons and potential crossing methodologies
October 2020	BOEM	EW 1 Project updates
October 2020	NYSERDA	Overview of EW 1 Project design updates, EW 1 Project activities, and New York State comments on initial COP submittal
October 2020	USACE	Discussion of cable routing onshore in Brooklyn/Coney Island and offshore in Gravesend Bay
October 2020	BOEM	EW 1 Project updates
November 2020	BOEM, BSEE, EPA, Federal Permitting Improvement Steering Council, USFWS, NOAA Fisheries, NPS, USACE, NYSDEC, NYSDPS, NYSDOS, NJDEP, New Jersey Board of Public Utilities, USCG	EW 1 Project update and overview
November 2020	New York City Parks	Discussion of considerations for making landfall in and/or routing through New York City parks
November 2020	USCG	Discussion of potential ports to support EW 1 Project construction
November 2020	BOEM	EW 1 Project updates
December 2020	BOEM	EW 1 Project updates

Table A-1 Summary of Agency Engagement (continued)

Date	Stakeholder	Topic
December 2020	NYCDEP	Discussion of NYCDEP infrastructure crossings along the potential alternative landfalls and onshore routes under consideration
December 2020	NYSDEC, NYSDOS	Discussion of the Joint Permit Application submitted for the 2021 Geotechnical Surveys and Sediment Sampling Campaign
December 2020	NYSDEC, NYSDOS, NYSDPS, NYSDOT, NYSERDA, OPRHP	EW 1 Project overview and updates
December 2020	NOAA Fisheries, BOEM	Discussion of Benthic Habitat Characterization Mapping
January 2021	BOEM	Project updates
January 2021	EPA	Discussion on the air dispersion modeling protocol for the Outer Continental Shelf air permit application
January 2021	BOEM	Project design update and discussion of Marine Minerals Program sand borrow areas and requirements
January 2021	NYSDEC, NYSDOS, NYSDPS, NYSDOT, NYSERDA, OPRHP	Discussion of submarine export cable installation methodologies, routing, vessel types, and time-of-year restrictions
January 2021	BOEM	Discussion of the new Section 106/Nation Environmental Policy Act Integration process
January 2021	BOEM	Pre-survey meeting
January 2021	NOAA Fisheries	EW 1 Project update and discussion of IHA timeline
February 2021	BOEM	EW 1 Project updates
February 2021	NYSDEC, NYSDOS, USACE	Discussion of proposed Sediment Sampling Campaign
February 2021	EPA, NYSDOS	EW 1 Project updates and discussion of permitting for multi-phase Project

Table A-1 Summary of Agency Engagement (continued)

Date	Stakeholder	Topic
February 2021	BOEM	Discussion of information needs to support Endangered Species Act and Section 7 consultation
February 2021	NYSDEC, NYSDOS, NYSDPS, NYSDOT, NYSERDA, New York State Office of General Services (NYSOGS)	Discussion of proposed landfall methodologies, dredging needs, and time-of-year restrictions
February 2021	BOEM	EW 1 Project updates
February 2021	Shinnecock Indian Nation, Mohegan Tribe of Connecticut, Mashantucket Western Pequot Tribal Nation, Delaware Tribe of Indians	Offered pre-survey meeting and EW 1 Project update
February 2021	NYSDPS	Pre-application meeting for Article VII application
March 2021	BOEM	EW 1 Project updates
March 2021	NYSDEC, NYSDOS, NYSDPS, NYSDOT, NYSERDA, NYSGS, OPRHP	Discussion of landfall methodology, rationale for selection, location, and installation sequence
March 2021	BOEM	EW 1 Project updates
March 2021	USACE	EW 1 Project update, discussion of sand borrow areas, proposed Sediment Sampling and Analysis Plan, discussion of landfall alternatives considered, review of Cable Burial Risk Assessment work completed for Gravesend Bay, and overview of the potential cable crossing methodologies
March 2021	NYDPS	Discussion of noise assessment activities, including policy standards considered in the onshore substation operations, ambient noise monitoring conducted, and operational modeling results
March 2021	BOEM	EW 1 Project updates
April 2021	BOEM	Discussion of EW 1 Project and permitting schedule, inter-agency coordination, and high-level COP discussion

Table A-1 Summary of Agency Engagement (continued)

Date	Stakeholder	Topic
April 2021	NYSDEC, NYSDOS, NYSDPS, NYSDOT, NYSERDA, NYSOGS, OPRHP	Discussion of cable routing considerations and cable installation methodology along each portion of the submarine export cable route
April 2021	EPA	Discussion of permitting strategy
April 2021	NOAA Fisheries, BOEM	EW 1 Project update, discussion of timeline, and alignment among agencies
April 2021	BOEM	EW 1 Project updates
April 2021	EPA, BOEM	Discussion of permitting strategy and timeline

Attachment A-1
Biological Resource Correspondence



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Long Island Ecological Services Field Office
340 Smith Road
Shirley, NY 11967-2258
Phone: (631) 286-0485 Fax: (631) 286-4003



In Reply Refer To:
Consultation Code: 05E1LI00-2019-SLI-0134
Event Code: 05E1LI00-2019-E-00294
Project Name: Gowanus

November 30, 2018

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Long Island Ecological Services Field Office
340 Smith Road
Shirley, NY 11967-2258
(631) 286-0485

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

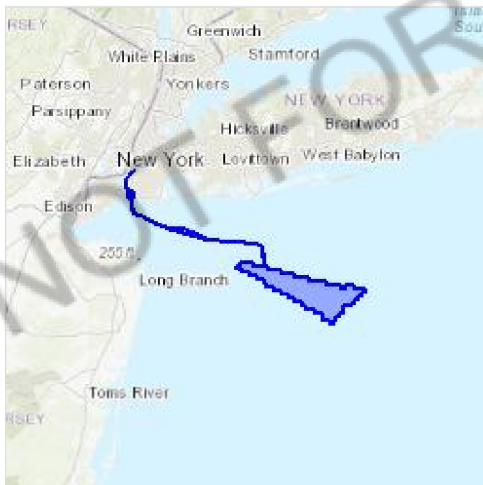
Project information

NAME

Empire Wind - EW1

LOCATION

New Jersey and New York



DESCRIPTION

Equinor Wind US LLC (Equinor Wind) proposes to construct and operate the Project located in the designated Renewable Energy Lease Area OCS-A 0512 (Lease Area). The Lease Area covers approximately 79,350 acres (ac; 32,112 hectares [ha]) and is located approximately 14 statute miles (mi) (22 kilometers [km]) south of Long Island, New York and 19.5 mi (31.4 km) east of Long Branch, New Jersey. Equinor Wind proposes to develop the entire Lease Area in what could be from one to up to a maximum of three individual phases, known as Empire Wind 1 (EW 1), Boardwalk Wind 1 (BW 1), and EW 2. The individual phases within the Lease Area will be electrically isolated and independent from each other. Each phase of development will, independently of one another,

connect via offshore substations to Points of Interconnection (POIs) at onshore locations by way of export cable routes and onshore substations.

Local offices

Long Island Ecological Services Field Office

☎ (631) 286-0485

📠 (631) 286-4003

340 Smith Road
Shirley, NY 11967-2258

New Jersey Ecological Services Field Office

☎ (609) 646-9310

📠 (609) 646-0352

4 E. Jimmie Leeds Road, Suite 4
Galloway, NJ 08205

<http://www.fws.gov/northeast/njfieldoffice/Endangered/consultation.html>

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME

STATUS

Piping Plover *Charadrius melodus* Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat.
<https://ecos.fws.gov/ecp/species/6039>

Red Knot *Calidris canutus rufa* Threatened
No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/1864>

Roseate Tern *Sterna dougallii dougallii* Endangered
No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/2083>

Flowering Plants

NAME	STATUS
Seabeach Amaranth <i>Amaranthus pumilus</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8549	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>

- Measures for avoiding and minimizing impacts to birds
<http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds
<http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A
BREEDING SEASON IS INDICATED
FOR A BIRD ON YOUR LIST, THE
BIRD MAY BREED IN YOUR
PROJECT AREA SOMETIME WITHIN
THE TIMEFRAME SPECIFIED,
WHICH IS A VERY LIBERAL
ESTIMATE OF THE DATES INSIDE
WHICH THE BIRD BREEDS ACROSS
ITS ENTIRE RANGE. "BREEDS
ELSEWHERE" INDICATES THAT THE
BIRD DOES NOT LIKELY BREED IN
YOUR PROJECT AREA.)

American Oystercatcher *Haematopus palliatus*

Breeds Apr 15 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/8935>

Arctic Tern *Sterna paradisaea*

Breeds May 20 to Aug 15

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

Bald Eagle *Haliaeetus leucocephalus*

Breeds Oct 15 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

Black Scoter *Melanitta nigra*

Breeds elsewhere

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

Black Skimmer *Rynchops niger*

Breeds May 20 to Sep 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/5234>

Black-billed Cuckoo *Coccyzus erythrophthalmus*

Breeds May 15 to Oct 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9399>

Bobolink *Dolichonyx oryzivorus*

Breeds May 20 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Bonaparte's Gull *Chroicocephalus philadelphia*

Breeds elsewhere

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

Bridled Tern *Onychoprion anaethetus*

Breeds Apr 15 to Sep 20

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

Brown Pelican *Pelecanus occidentalis*

Breeds Jan 15 to Sep 30

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/6034>

Buff-breasted Sandpiper *Calidris subruficollis*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9488>

Canada Warbler *Cardellina canadensis*

Breeds May 20 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Cerulean Warbler *Dendroica cerulea*

Breeds Apr 29 to Jul 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/2974>

Clapper Rail *Rallus crepitans*

Breeds Apr 10 to Oct 31

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Common Eider *Somateria mollissima*

Breeds Jun 1 to Sep 30

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

Common Loon *gavia immer*

Breeds Apr 15 to Oct 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/4464>

Common Tern *Sterna hirundo*

Breeds May 10 to Sep 10

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/4963>

Cory's Shearwater *Calonectris diomedea*

Breeds elsewhere

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<p>Double-crested Cormorant <i>phalacrocorax auritus</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p> <p>https://ecos.fws.gov/ecp/species/3478</p>	Breeds Apr 20 to Aug 31
<p>Dovekie <i>Alle alle</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p> <p>https://ecos.fws.gov/ecp/species/6041</p>	Breeds elsewhere
<p>Dunlin <i>Calidris alpina arctica</i></p> <p>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds elsewhere
<p>Eastern Whip-poor-will <i>Antrostomus vociferus</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 1 to Aug 20
<p>Evening Grosbeak <i>Coccothraustes vespertinus</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds elsewhere
<p>Golden-winged Warbler <i>Vermivora chrysoptera</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p>https://ecos.fws.gov/ecp/species/8745</p>	Breeds May 1 to Jul 20
<p>Great Black-backed Gull <i>Larus marinus</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds Apr 15 to Aug 20
<p>Great Shearwater <i>Puffinus gravis</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds elsewhere
<p>Gull-billed Tern <i>Gelochelidon nilotica</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p>https://ecos.fws.gov/ecp/species/9501</p>	Breeds May 1 to Jul 31

Herring Gull *Larus argentatus*

Breeds Apr 20 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

Hudsonian Godwit *Limosa haemastica*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Kentucky Warbler *Oporornis formosus*

Breeds Apr 20 to Aug 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

King Rail *Rallus elegans*

Breeds May 1 to Sep 5

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/8936>

Leach's Storm-petrel *Oceanodroma leucorhoa*

Breeds May 15 to Nov 20

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

Least Tern *Sterna antillarum*

Breeds Apr 20 to Sep 10

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Lesser Yellowlegs *Tringa flavipes*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9679>

Long-eared Owl *asio otus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3631>

Long-tailed Duck *Clangula hyemalis*

Breeds elsewhere

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/7238>

<p>Manx Shearwater <i>Puffinus puffinus</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds Apr 15 to Oct 31
<p>Nelson's Sparrow <i>Ammodramus nelsoni</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 15 to Sep 5
<p>Northern Gannet <i>Morus bassanus</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds elsewhere
<p>Parasitic Jaeger <i>Stercorarius parasiticus</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds elsewhere
<p>Prairie Warbler <i>Dendroica discolor</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 1 to Jul 31
<p>Prothonotary Warbler <i>Protonotaria citrea</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Apr 1 to Jul 31
<p>Purple Sandpiper <i>Calidris maritima</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds elsewhere
<p>Razorbill <i>Alca torda</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds Jun 15 to Sep 10
<p>Red Phalarope <i>Phalaropus fulicarius</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds elsewhere

<p>Red-breasted Merganser <i>Mergus serrator</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds elsewhere
<p>Red-headed Woodpecker <i>Melanerpes erythrocephalus</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 10 to Sep 10
<p>Red-necked Phalarope <i>Phalaropus lobatus</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds elsewhere
<p>Red-throated Loon <i>Gavia stellata</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds elsewhere
<p>Ring-billed Gull <i>Larus delawarensis</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds elsewhere
<p>Roseate Tern <i>Sterna dougallii</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds May 10 to Aug 31
<p>Royal Tern <i>Thalasseus maximus</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds Apr 15 to Aug 31
<p>Ruddy Turnstone <i>Arenaria interpres morinella</i></p> <p>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds elsewhere
<p>Rusty Blackbird <i>Euphagus carolinus</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds elsewhere

Seaside Sparrow *Ammodramus maritimus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 10 to Aug 20

Semipalmated Sandpiper *Calidris pusilla*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

Short-billed Dowitcher *Limnodromus griseus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9480>

Breeds elsewhere

Snowy Owl *Bubo scandiacus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

Surf Scoter *Melanitta perspicillata*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

Breeds elsewhere

Thick-billed Murre *Uria lomvia*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

Breeds Apr 15 to Aug 15

Whimbrel *Numenius phaeopus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9483>

Breeds elsewhere

White-winged Scoter *Melanitta fusca*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

Breeds elsewhere

Willet *Tringa semipalmata*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Apr 20 to Aug 5

Wilson's Storm-petrel *Oceanites oceanicus*

Breeds elsewhere

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

Wood Thrush *Hylocichla mustelina*

Breeds May 10 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (l)

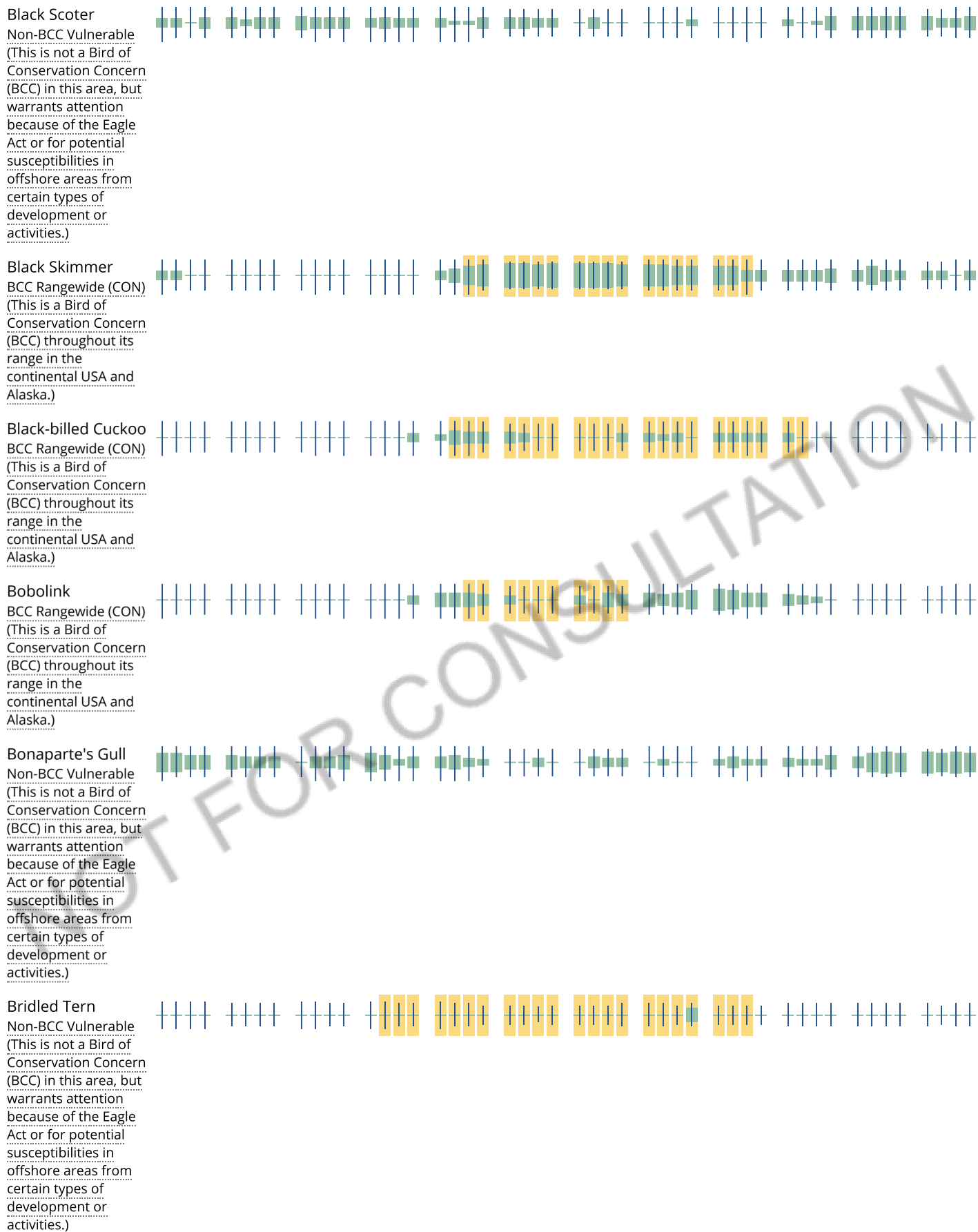
probability of presence **breeding season** **survey effort** **no data**

SPECIES JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

American Oystercatcher
 BCC Rangewide (CON)
 (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Arctic Tern
 Non-BCC Vulnerable
 (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

Bald Eagle
 Non-BCC Vulnerable
 (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)



[illegible]

Common Loon
Non-BCC Vulnerable
(This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)



Common Tern
Non-BCC Vulnerable
(This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)



Cory's Shearwater
Non-BCC Vulnerable
(This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)



Double-crested Cormorant
Non-BCC Vulnerable
(This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)



Dovekie
Non-BCC Vulnerable
(This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)



Dunlin
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Eastern Whip-poor-will
BCC Rangelwide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

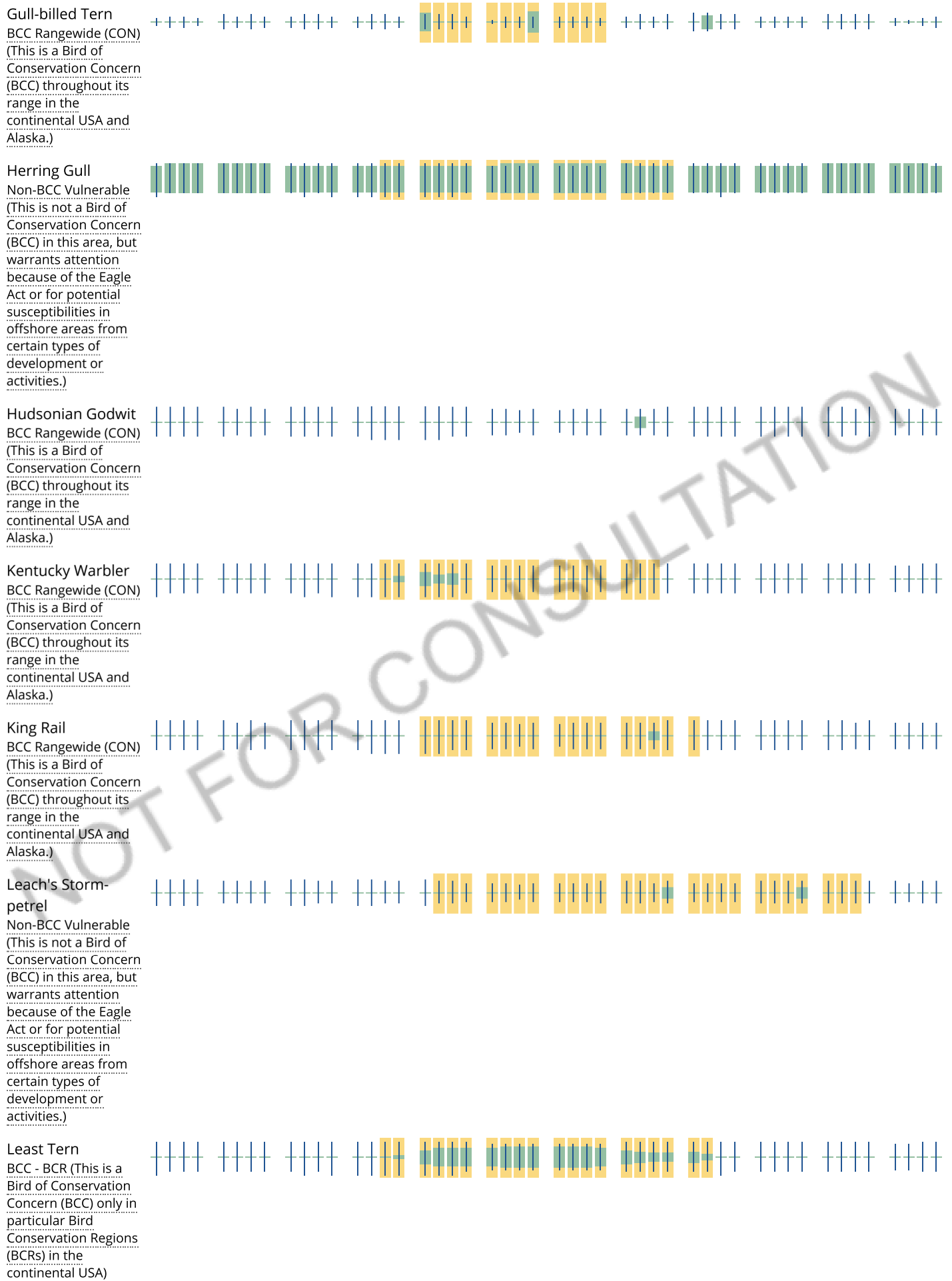
Evening Grosbeak
BCC Rangelwide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

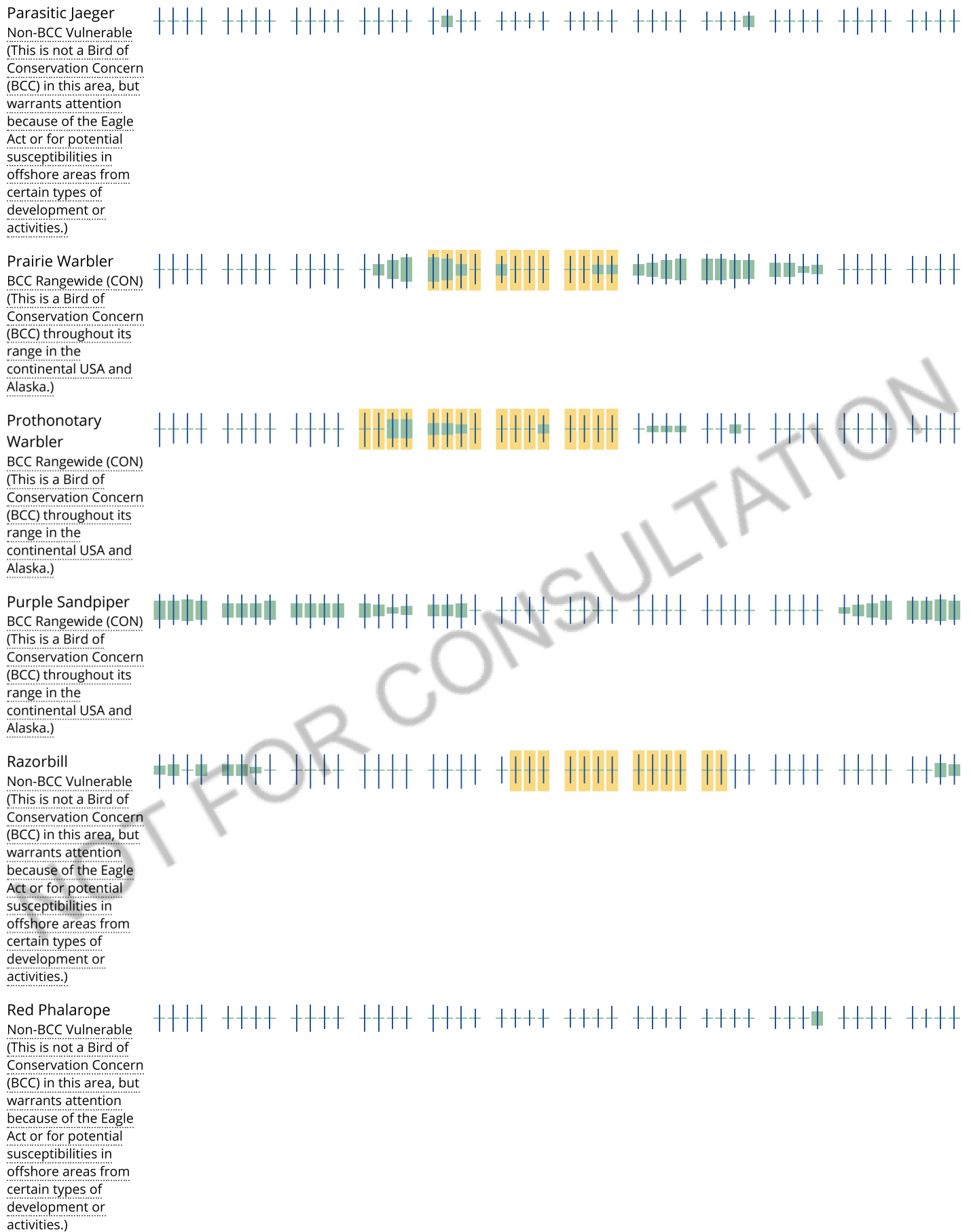
Golden-winged Warbler
BCC Rangelwide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

SPECIES JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

Great Black-backed Gull
Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

Great Shearwater
Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)



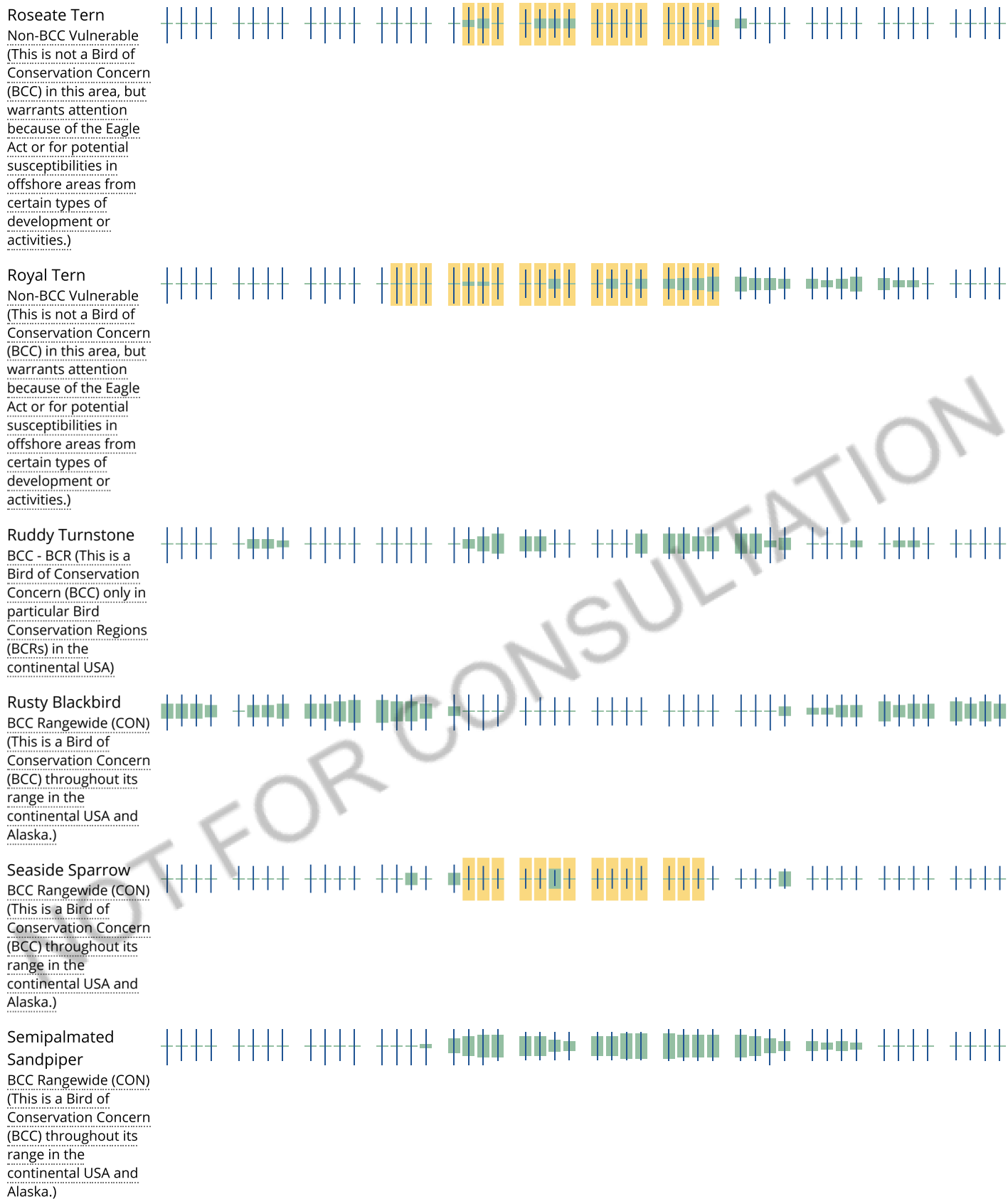


CONSULTANCY

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

[illegible]

Age Group	Percentage
18-24	10%
25-34	15%
35-44	15%
45-54	15%
55-64	15%
65-74	15%
75-84	15%
85+	10%



[illegible]



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

[M1UBL](#)

[E1UBL](#)

[E1UBLx](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.



United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Jersey Ecological Services Field Office
4 E. Jimmie Leeds Road, Suite 4

Galloway, NJ 08205

Phone: (609) 646-9310 Fax: (609) 646-0352

<http://www.fws.gov/northeast/njfieldoffice/Endangered/consultation.html>



In Reply Refer To:

September 14, 2020

Consultation Code: 05E2NJ00-2020-SLI-1591

Event Code: 05E2NJ00-2020-E-03436

Project Name: Empire Wind - EW1

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species that may occur in your proposed action area and/or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under Section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*)

If the enclosed list indicates that any listed species may be present in your action area, please visit the New Jersey Field Office consultation web page as the next step in evaluating potential project impacts: <http://www.fws.gov/northeast/njfieldoffice/Endangered/consultation.html>

On the New Jersey Field Office consultation web page you will find:

- habitat descriptions, survey protocols, and recommended best management practices for listed species;
- recommended procedures for submitting information to this office; and
- links to other Federal and State agencies, the Section 7 Consultation Handbook, the Service's wind energy guidelines, communication tower recommendations, the National Bald Eagle Management Guidelines, and other resources and recommendations for protecting wildlife resources.

The enclosed list may change as new information about listed species becomes available. As per Federal regulations at 50 CFR 402.12(e), the enclosed list is only valid for 90 days. Please return to the ECOS-IPaC website at regular intervals during project planning and implementation to obtain an updated species list. When using ECOS-IPaC, be careful about drawing the boundary of your Project Location. Remember that your action area under the ESA is not limited to just the footprint of the project. The action area also includes all areas that may be indirectly affected

through impacts such as noise, visual disturbance, erosion, sedimentation, hydrologic change, chemical exposure, reduced availability or access to food resources, barriers to movement, increased human intrusions or access, and all areas affected by reasonably foreseeable future that would not occur without ("but for") the project that is currently being proposed.

We appreciate your concern for threatened and endangered species. The Service encourages Federal and non-Federal project proponents to consider listed, proposed, and candidate species early in the planning process. Feel free to contact this office if you would like more information or assistance evaluating potential project impacts to federally listed species or other wildlife resources. Please include the Consultation Tracking Number in the header of this letter with any correspondence about your project.

Attachment(s):

- Official Species List
 - USFWS National Wildlife Refuges and Fish Hatcheries
 - Migratory Birds
 - Wetlands
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New Jersey Ecological Services Field Office

4 E. Jimmie Leeds Road, Suite 4
Galloway, NJ 08205
(609) 646-9310

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following office, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Long Island Ecological Services Field Office

340 Smith Road
Shirley, NY 11967-2258
(631) 286-0485

Project Summary

Consultation Code: 05E2NJ00-2020-SLI-1591

Event Code: 05E2NJ00-2020-E-03436

Project Name: Empire Wind - EW1

Project Type: POWER GENERATION

Project Description: Equinor Wind US LLC (Equinor Wind) proposes to construct and operate the Project located in the designated Renewable Energy Lease Area OCS-A 0512 (Lease Area). The Lease Area covers approximately 79,350 acres (ac; 32,112 hectares [ha]) and is located approximately 14 statute miles (mi) (22 kilometers [km]) south of Long Island, New York and 19.5 mi (31.4 km) east of Long Branch, New Jersey. Equinor Wind proposes to develop the entire Lease Area in what could be from one to up to a maximum of three individual phases, known as Empire Wind 1 (EW 1), Boardwalk Wind 1 (BW 1), and EW 2. The individual phases within the Lease Area will be electrically isolated and independent from each other. Each phase of development will, independently of one another, connect via offshore substations to Points of Interconnection (POIs) at onshore locations by way of export cable routes and onshore substations.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/40.6609370593265N74.00562158360711W>



Counties: Monmouth, NJ | Kings, NY | Queens, NY

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot <i>Calidris canutus rufa</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

Flowering Plants

NAME	STATUS
Seabeach Amaranth <i>Amaranthus pumilus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8549	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Arctic Tern <i>Sterna paradisaea</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds May 20 to Aug 15
Black Scoter <i>Melanitta nigra</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds elsewhere

NAME	BREEDING SEASON
Bonaparte's Gull <i>Chroicocephalus philadelphia</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds elsewhere
Brown Pelican <i>Pelecanus occidentalis</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/6034	Breeds Jan 15 to Sep 30
Common Eider <i>Somateria mollissima</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jun 1 to Sep 30
Common Loon <i>gavia immer</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/4464	Breeds Apr 15 to Oct 31
Common Tern <i>Sterna hirundo</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/4963	Breeds May 10 to Sep 10
Double-crested Cormorant <i>phalacrocorax auritus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/3478	Breeds Apr 20 to Aug 31
Great Black-backed Gull <i>Larus marinus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Apr 15 to Aug 20
Herring Gull <i>Larus argentatus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Apr 20 to Aug 31
Least Tern <i>Sterna antillarum</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Apr 20 to Sep 10

NAME	BREEDING SEASON
Long-tailed Duck <i>Clangula hyemalis</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/7238	Breeds elsewhere
Manx Shearwater <i>Puffinus puffinus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Apr 15 to Oct 31
Northern Gannet <i>Morus bassanus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds elsewhere
Parasitic Jaeger <i>Stercorarius parasiticus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds elsewhere
Razorbill <i>Alca torda</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jun 15 to Sep 10
Red-breasted Merganser <i>Mergus serrator</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds elsewhere
Red-throated Loon <i>Gavia stellata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Ring-billed Gull <i>Larus delawarensis</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds elsewhere
Roseate Tern <i>Sterna dougallii</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds May 10 to Aug 31

NAME	BREEDING SEASON
Royal Tern <i>Thalasseus maximus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Apr 15 to Aug 31
Surf Scoter <i>Melanitta perspicillata</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds elsewhere
White-winged Scoter <i>Melanitta fusca</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds elsewhere
Wilson's Storm-petrel <i>Oceanites oceanicus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds elsewhere

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum

probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

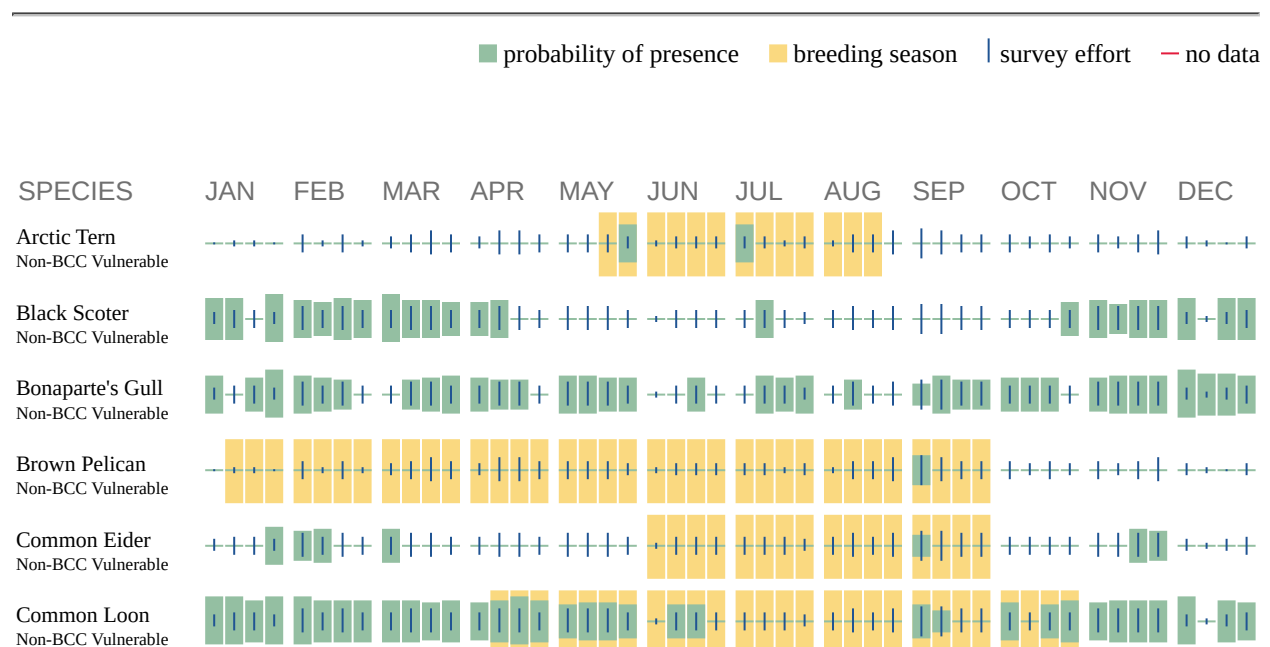
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

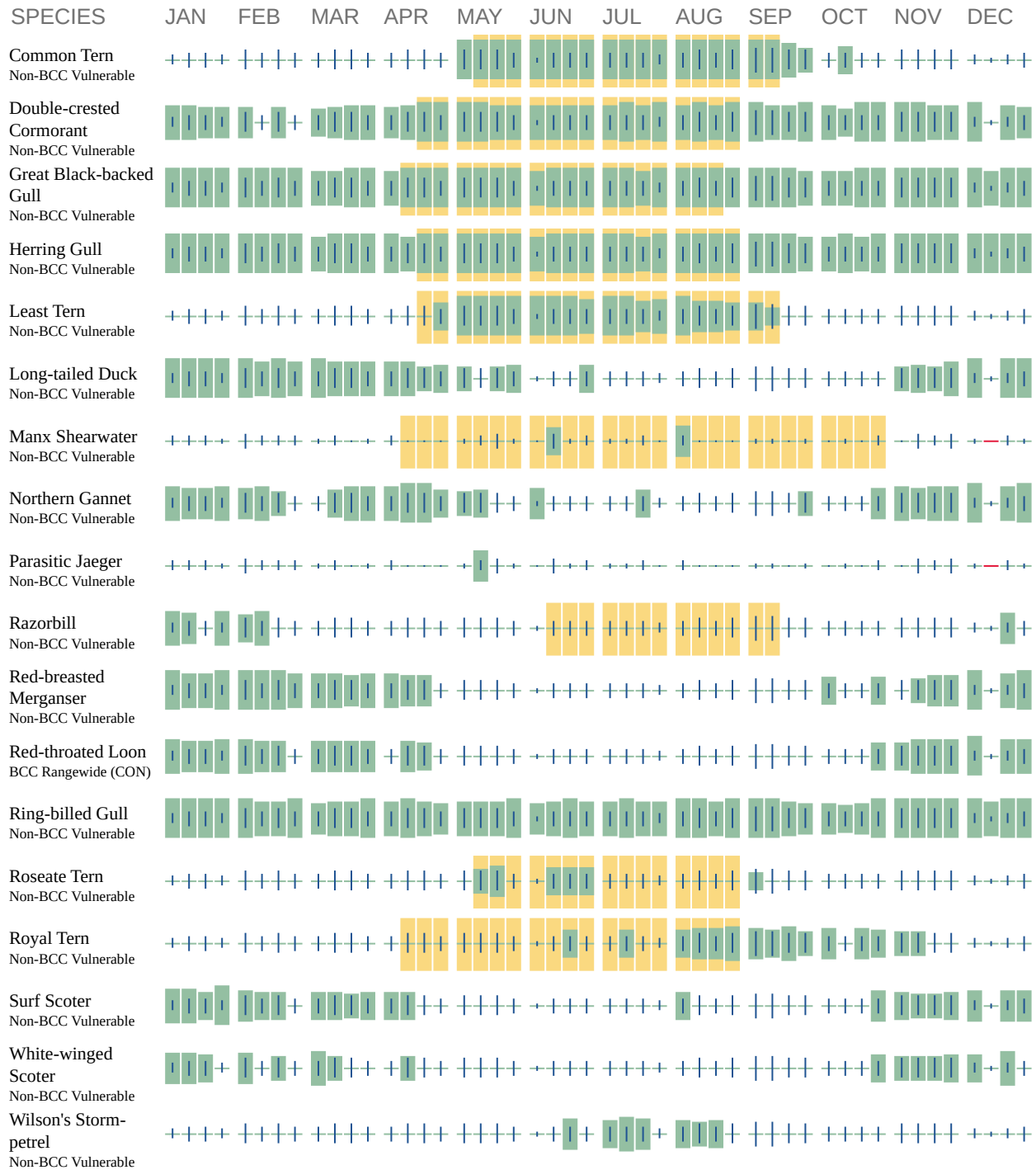
No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>

- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and

how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

ESTUARINE AND MARINE DEEPWATER

- [M1UBL](#)
-

Project Summary

Consultation Code: 05E1LI00-2019-SLI-0134

Event Code: 05E1LI00-2019-E-00294

Project Name: Gowanus

Project Type: POWER GENERATION

Project Description: The Project is a proposed offshore wind energy facility with the potential to produce 1000 to 1500 megawatts of electricity located an average of 20 miles south of Long Island, east of the Rockaways. Multiple potential routes for underwater transmission lines, landfall locations, and upland transmission to the respective substations are currently under review. This inquiry for potential listed species in the vicinity of the Project is associated with one of the alternative upland routes to reach the respective substation.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/40.63571257872576N74.03767804386644W>



Counties: Kings, NY

Endangered Species Act Species

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot <i>Calidris canutus rufa</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened
Roseate Tern <i>Sterna dougallii dougallii</i> Population: northeast U.S. nesting pop. No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2083	Endangered

Flowering Plants

NAME	STATUS
Seabeach Amaranth <i>Amaranthus pumilus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8549	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

July 10, 2020

Division of Fish and Wildlife
New York State Department of Environmental Conservation
Natural Heritage Program
625 Broadway, 5th Floor Albany, NY 12233-4757

**Subject: Equinor Wind US – Lease Area OCS-A 0512 Offshore Wind Project
Nassau and Kings Counties, NY.
Request for all documented occurrences of rare or listed species or significant natural
communities**

Greetings:

As described in a letter dated January 16, 2019, Equinor Wind US LLC (Equinor Wind) proposes to construct and operate the Project located in the designated Renewable Energy Lease Area OCS-A 0512 (Lease Area). The Lease Area covers approximately 79,350 acres (ac; 32,112 hectares [ha]) and is located approximately 14 statute miles (mi) (22 kilometers [km]) south of Long Island, New York and 19.5 mi (31.4 km) east of Long Branch, New Jersey. The Project Area is shown in Figure 1.

Equinor Wind proposes to develop the entire Lease Area in what could be from one to up to a maximum of three individual phases, known as Empire Wind 1 (EW 1), Boardwalk Wind 1 (BW 1), and EW 2 (collectively referred to hereafter as the Project). The individual phases within the Lease Area will be electrically isolated and independent from each other. Each phase of development will, independently of one another, connect via offshore substations to Points of Interconnection (POIs) at onshore locations by way of export cable routes and onshore substations.

Equinor Wind is currently developing the federal and state permit applications that will support construction, operation, and decommissioning of the proposed Project. The first phase, the EW 1 Project (formerly referred to as the Empire Wind Gowanus Project), will deliver up to 816 MW of energy to the Gowanus Generating Station, Brooklyn, Kings County, New York¹. Additional phases could also transmit

¹ On July 18, 2019, New York's Governor Cuomo announced Equinor Wind and its 816 MW EW 1 Project as a winning bidder in the State's competitive solicitation for Offshore Wind Renewable Energy Credits.

energy, with the EW 2 Project (formerly referred to as the Empire Wind Barrett Project) also under consideration.

Previous design alternatives were subject to prior consultation to NYSDEC NHP (dated January 16, 2019, June 26, 2019, and August 28, 2019 with responses received February 14, 2019 and July 30, 2019, and September 20, 2019, respectively). Since this prior consultation, the potential routes for underwater transmission lines, landfall locations, and upland transmission for the EW 1 and EW 2 Projects have gone through review and were subsequently refined. Therefore, in order to satisfy BOEM requirements related to biological resources, including threatened and endangered species, the most recent potential offshore transmission, landfall locations, upland transmission, and onshore substation locations are submitted for review.

To assist us in completing the associated effort, a figure showing the most recent potential upland transmission routes for EW 1 and EW 2 are enclosed (Figure 2 and Figure 3, respectively). Please note that the routes remain under review and are subject to further change. Please provide any information you may have regarding the presence of rare or listed species or significant natural communities that may be present on or within the immediate vicinity of the proposed Project to my attention at:

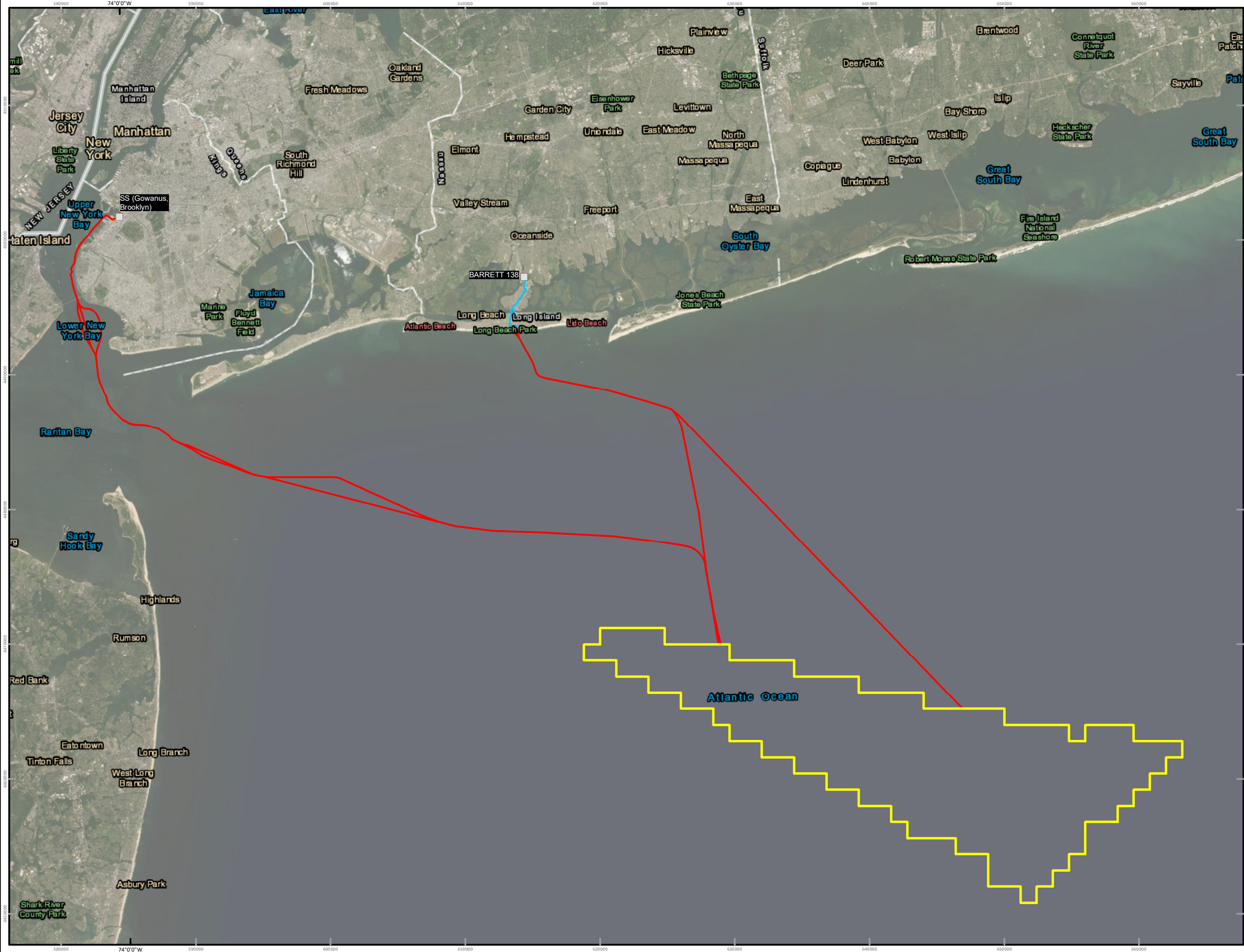
Tetra Tech, Inc.
One Oxford Valley, Suite 200 Langhorne, PA, 19047
Email: Steve.Ryan@tetrattech.com

Included with this request is a GIS shape file, illustrating the location of the proposed offshore facilities and the onshore portion of development within New York, including both preferred and alternative routes, to facilitate your review. If you have any questions regarding this request, please contact me by telephone at (215) 702-4048 or email at steve.ryan@tetrattech.com. Thank you for your assistance in obtaining this information.

Very truly yours,

A handwritten signature in black ink, appearing to read "Steve S. Ryan".



Stephen Ryan
Biologist



Empire Wind

Figure 1

PROJECT OVERVIEW



Substation

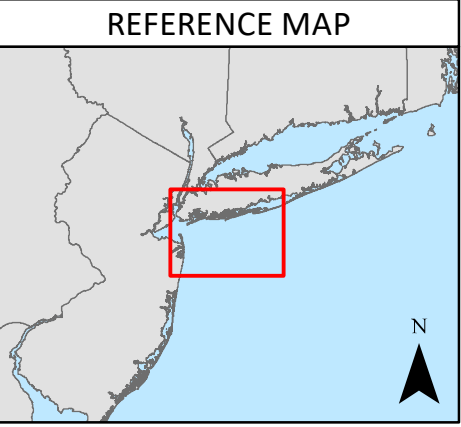
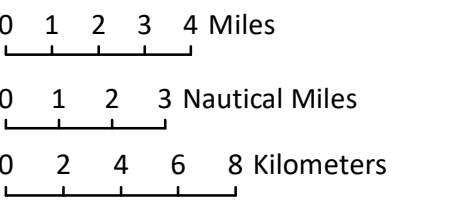
Potential Onshore Route (EW 1)

Potential Onshore Route (EW 2)

Approximate Offshore Cable Route Corridor (500 ft wide)

Lease Area

Date	7/2/2020
File/Job Number	
Personnel	Figure Prepared by:





Empire Wind 1

Figure 2

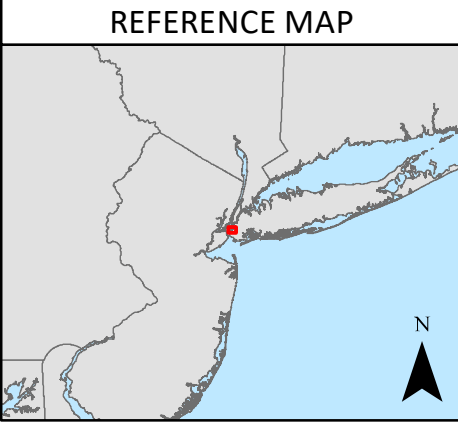
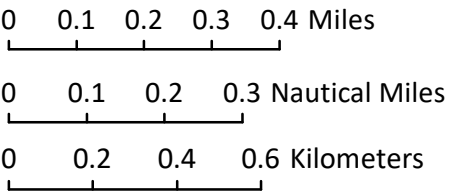
EW 1 Route



- Substation
- Substation Parcel
- Potential Route
- Onshore Substation Parcel

PRELIMINARY – SUBJECT TO CHANGE

Date	7/2/2020
File/Job Number	
Personnel	Figure Prepared by:





June 26, 2019

Division of Fish and Wildlife
New York State Department of Environmental Conservation
Natural Heritage Program
625 Broadway, 5th Floor
Albany, NY 12233-4757

**Subject: Equinor Wind US – Empire Wind Project
Kings County, NY
Request for all documented occurrences of rare or listed species or significant natural communities**

Greetings:

Tetra Tech is currently under contract to Equinor Wind US (Equinor) to assist with the siting and permitting of a proposed offshore wind energy project associated with the Bureau of Ocean Energy Management's (BOEM's) Lease Area OCS-A-0512 (the Project). The Project is planned for an area of approximately 80,000 acres in federal waters, located an average of 20 miles south of Long Island, east of the Rockaways (Figure 1). The Project could have the capacity to produce up to approximately 2,100 megawatts (MW) of electricity, enough to power one million homes. Equinor is currently developing the federal and state permit applications that will support construction, operation, and decommissioning of the proposed offshore wind farm(s) on the lease site where development occurs.

The energy produced by the offshore facilities could be transmitted to as many as three substations, with the Gowanus Generating Station, Brooklyn, Kings County, New York, currently under consideration. Additional substations in both New York and New Jersey are also under consideration. Multiple potential routes for underwater transmission lines, landfall locations, and upland transmission to the Gowanus substation are currently under review. The lead federal agency for the Project is BOEM. Among many studies that are currently planned or in progress to satisfy BOEM requirements are investigations related to biological resources, including threatened and endangered species.

Tetra Tech previously submitted a request to the NYS DEC in November 2018 associated with the preliminary potential upland transmission routes. Since that time, the routes to the Gowanus Substation have been refined and updated (see Figure 2). Please note that these routes are still subject to change.

Please provide any information you may have regarding the presence of rare or listed species or significant natural communities that may be present on or within the immediate vicinity of the proposed Project to my attention at:

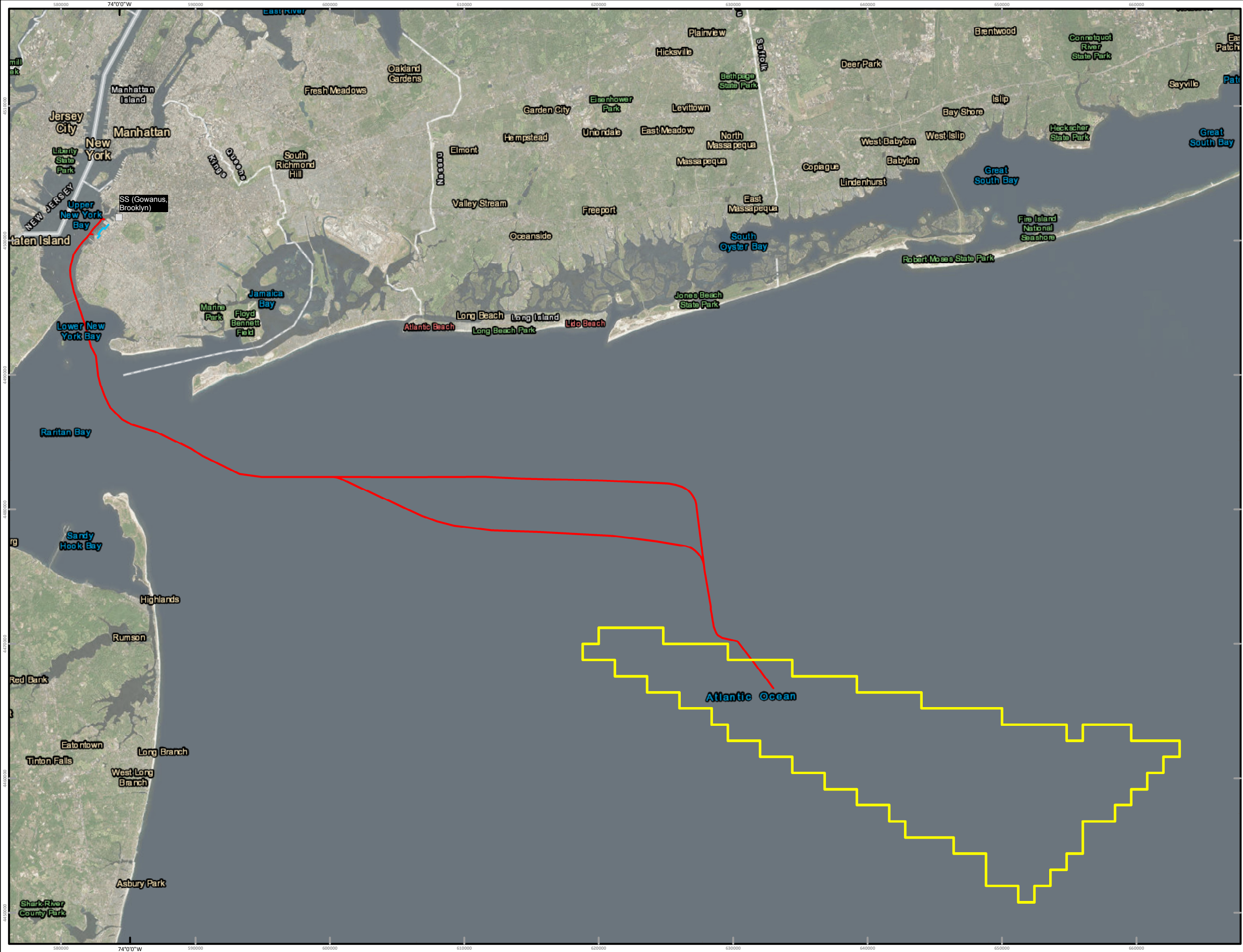
Tetra Tech, Inc.
One Oxford Valley, Suite 200
Langhorne, PA, 19047
Email: Steve.Ryan@tetrattech.com

Included with this request is a GIS shape file, illustrating the location of the proposed onshore portion of development within New York, including both preferred and alternative routes, to facilitate your review. If you have any questions regarding this request, please contact me by telephone at (215) 702-4048 or email at steve.ryan@tetrattech.com. Thank you for your assistance in obtaining this information.

Very truly yours,

A handwritten signature in black ink, appearing to read 'S. Ryan', with a stylized flourish at the end.



Stephen Ryan
Biologist





Empire Wind Project


Figure 1


PROJECT OVERVIEW



 Lease Area

 Approximate Offshore Cable Route Corridor (500 ft wide)

 Onshore Route Alternatives (Gowanus)

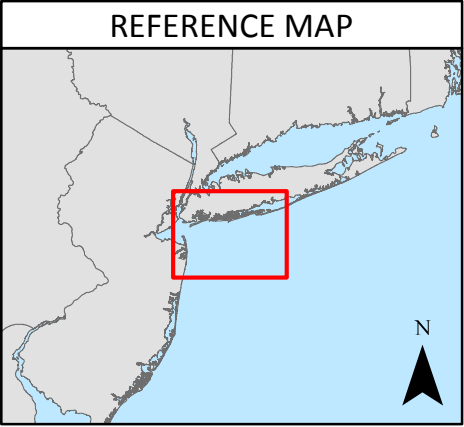
 Substation

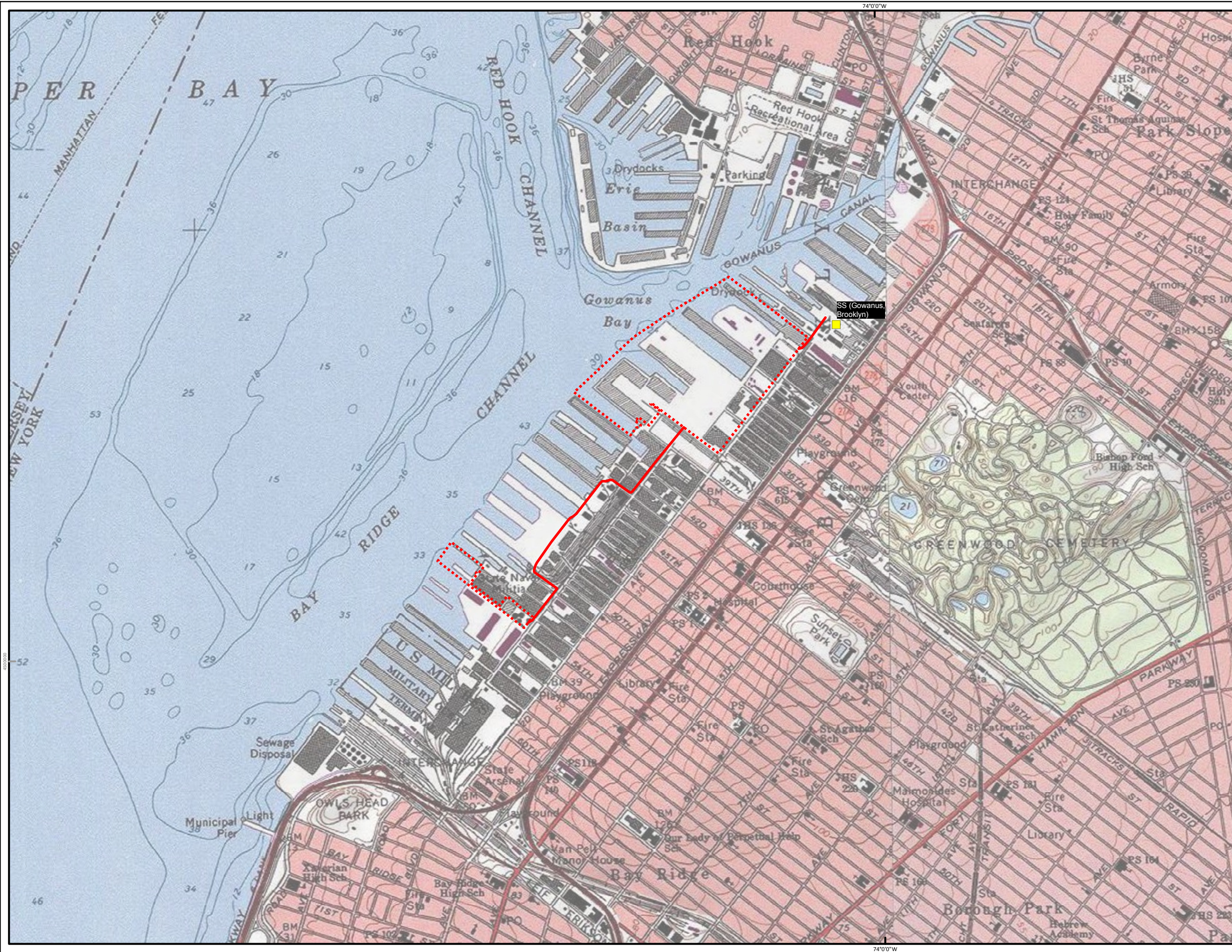
Date	6/25/2019
File/Job Number	
Personnel	Figure Prepared by:

0 1 2 3 4 Miles

0 1 2 3 Nautical Miles

0 2 4 6 8 Kilometers








Empire Wind Project

Figure 2

Gowanus Route



-  Substation
-  Potential Route
-  Onshore Substation Parcel

PRELIMINARY – SUBJECT TO CHANGE

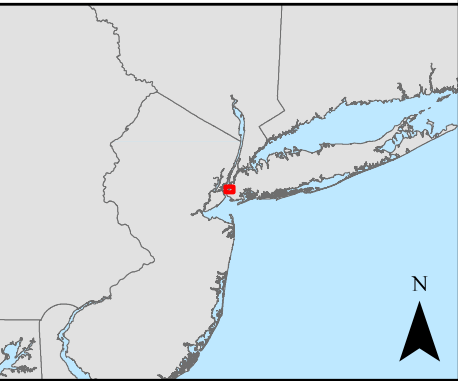
Date	6/25/2019
File/Job Number	
Personnel	Figure Prepared by:

0 0.1 0.2 0.3 0.4 Miles

0 0.1 0.2 0.3 Nautical Miles

0 0.2 0.4 0.6 Kilometers

REFERENCE MAP





January 16, 2019

Division of Fish and Wildlife
New York State Department of Environmental Conservation
Natural Heritage Program
625 Broadway, 5th Floor
Albany, NY 12233-4757

**Subject: Equinor Wind US – Empire Wind Project
Kings, Nassau, and Suffolk Counties, NY
Request for all documented occurrences of rare or listed species or significant natural
communities**

Greetings:

Tetra Tech is currently under contract to Equinor Wind US (Equinor) to assist with the siting and permitting of a proposed offshore wind energy project associated with the Bureau of Ocean Energy Management's (BOEM's) Lease Area OCS-A-0512 (the Project). The Project is planned for an area of approximately 80,000 acres in federal waters, located an average of 20 miles south of Long Island, east of the Rockaways (Figure 1). The Project could have the capacity to produce up to approximately 2,100 megawatts (MW) of electricity, enough to power one million homes. Equinor is currently developing the federal and state permit applications that will support construction, operation, and decommissioning of the proposed offshore wind farm(s) on the lease site where development occurs.

The energy produced by the offshore facilities could be transmitted to as many as three substations: Oceanview Substation, Neptune, Monmouth County, New Jersey; Gowanus Generating Station, Brooklyn, Kings County, New York, and Ruland Road Substation, Village of Melville in the Town of Huntington, Suffolk County, New York. As such, the New Jersey portion of the Project has been named "Boardwalk Wind" and the New York portion of the Project has been named "Empire Wind." Multiple potential routes for underwater transmission lines, landfall locations, and upland transmission to the respective substations are currently under review. The lead federal agency for the Project is BOEM. Among many studies that are currently planned or in progress to satisfy BOEM requirements are investigations related to biological resources, including threatened and endangered species.

Tetra Tech, Inc.

One Oxford Valley, Langhorne, PA, 19047
Tel 215-702-4000 Fax 215-702-4042 www.tetratech.com

Equinor US has participated in introductory kick-off meeting in December 2017 during which the Project was introduced and described, as well as a more detailed meeting coordinated by the New York State Department of Public Services in December 2018 where the proposed routes were provided.

To assist us in completing the associated effort, figures showing the potential upland transmission routes to the Gowanus Substation and the Ruland Road Substation are enclosed (Figure 2a and Figure 2b, respectively). Please note that these routes are preliminary and subject to change. Please provide any information you may have regarding the presence of rare or listed species or significant natural communities that may be present on or within the immediate vicinity of the proposed Project to my attention at:

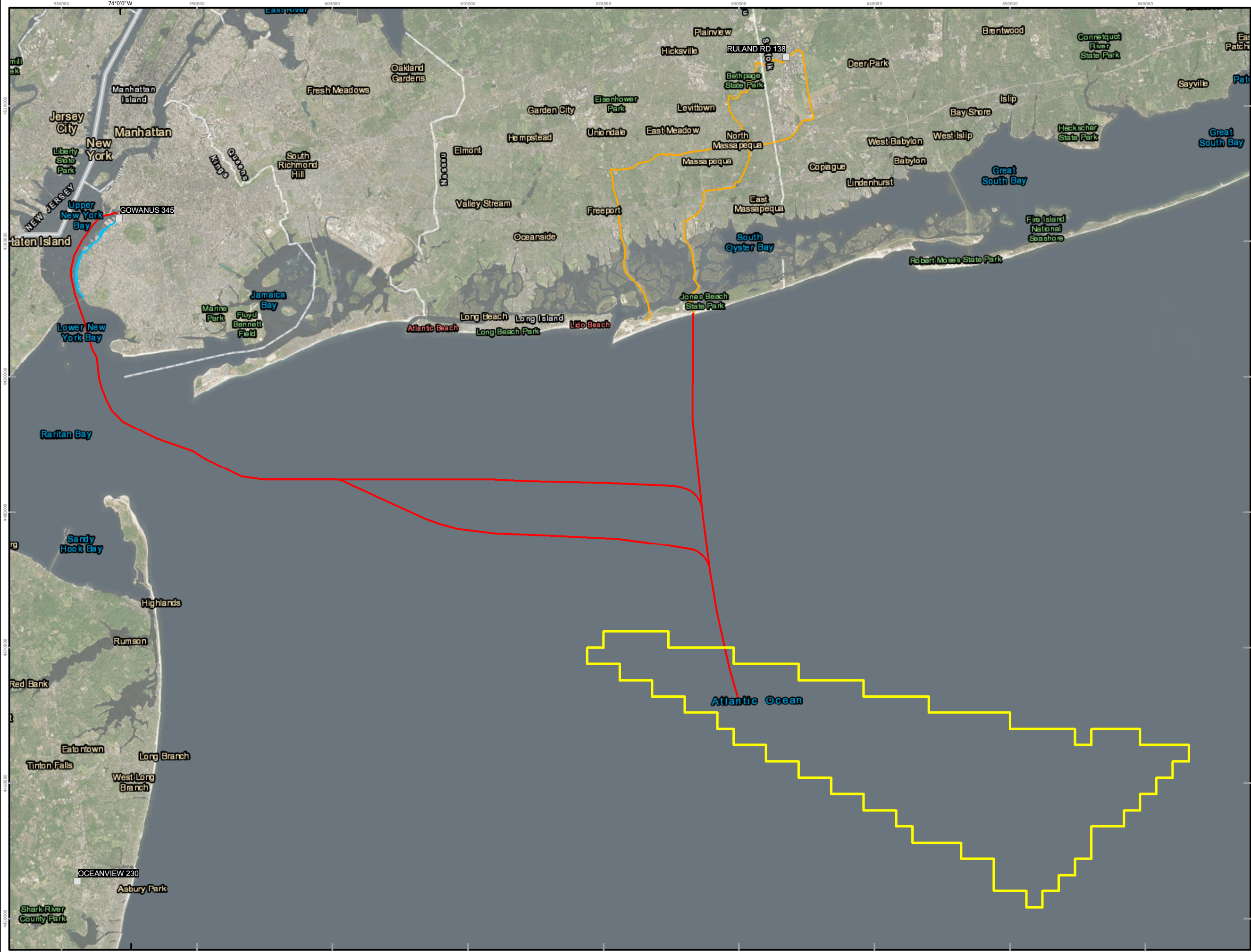
Tetra Tech, Inc.
One Oxford Valley, Suite 200
Langhorne, PA, 19047
Email: Steve.Ryan@tetrattech.com

Included with this request is a GIS shape file, illustrating the location of the proposed onshore portion of development within New York, including both preferred and alternative routes, to facilitate your review. If you have any questions regarding this request, please contact me by telephone at (215) 702-4048 or email at steve.ryan@tetrattech.com. Thank you for your assistance in obtaining this information.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Stephen Ryan', with a stylized flourish at the end.



Stephen Ryan
Biologist





Empire Wind Project


Figure 1


PROJECT OVERVIEW




 Lease Area

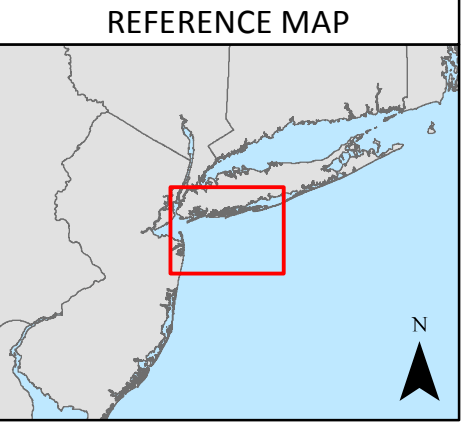
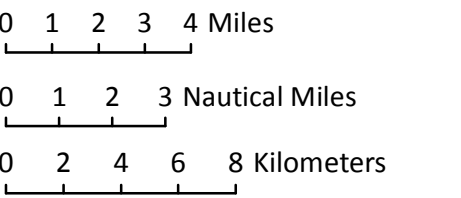
 Approximate Offshore Cable Route Corridor (500 ft wide)

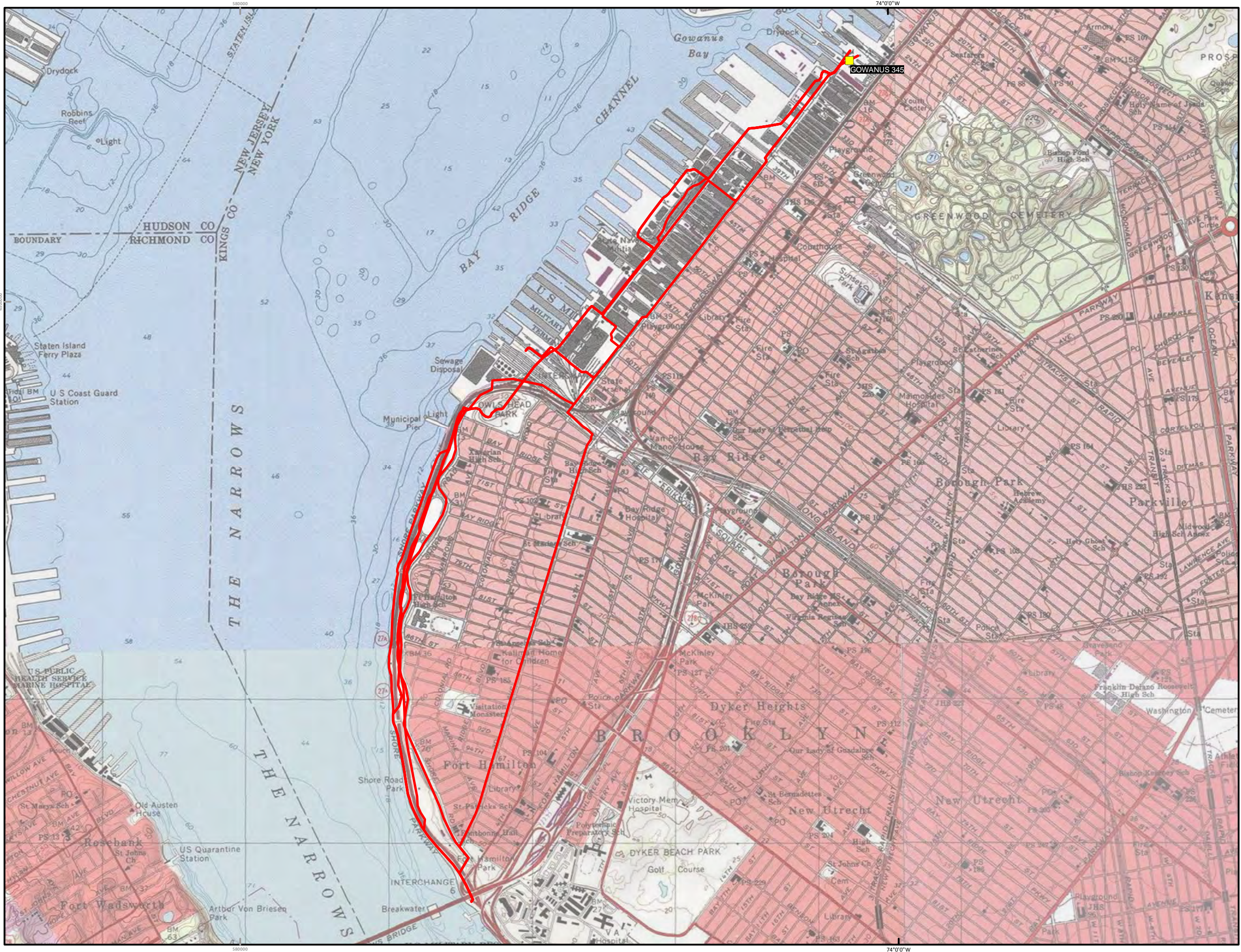
 Onshore Route Alternatives (Gowanus)

 Onshore Route Alternatives (Ruland Rd.)

 Substation

Date	1/14/2019
File/Job Number	
Personnel	Figure Prepared by:





Empire Wind Project

Figure 2a

Gowanus Route



- Substation
- Potential Route

PRELIMINARY – SUBJECT TO CHANGE

Date	12/19/2018
File/Job Number	
Personnel	Figure Prepared by:

0 0.2 0.4 0.6 Miles

0 0.2 0.4 Nautical Miles

0 0.25 0.5 0.75 1 Kilometers

REFERENCE MAP



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, New York Natural Heritage Program
625 Broadway, Fifth Floor, Albany, NY 12233-4757
P: (518) 402-8935 | F: (518) 402-8925
www.dec.ny.gov

August 21, 2020

Stephen Ryan
Tetra Tech, Inc.
One Oxford Valley, Suite 200
Langhorne, PA 19047

Re: Empire Wind Project -- Equinor Wind US -- Lease Area OCS-A 0512 Offshore
Wind Project -- Revised Route
County: Kings, Nassau Town/City: City Of Long Beach, City Of New York, Hempstead

Dear Mr. Ryan:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities that our database indicates occur at or in the vicinity of the project site and routes. Note that New York Natural Heritage has limited information on the biological resources of the offshore waters of the New York Bight; NYSDEC's Division of Marine Resources, Region 1, may have more information.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our database. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities, please contact the NYS DEC.

Sincerely,



Nicholas Conrad
Information Resources Coordinator
New York Natural Heritage Program



This page includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed. This page also includes other rare animals that occur with these species; while unlisted by NYS, these other species are rare in the state and of conservation concern.

For information about any permit considerations for the project, contact NYSDEC.

The following state-listed animals have been documented within the offshore lease area and along all proposed export cable routes of the Empire Wind Project.

The following species have been documented regularly within the New York Bight and the offshore waters south of Long Island.

<i>COMMON NAME</i>	<i>SCIENTIFIC NAME</i>	<i>NY STATE LISTING</i>	<i>FEDERAL LISTING</i>
Humpback Whale	<i>Megaptera novaeangliae</i>	Endangered	Endangered
Fin Whale	<i>Balaenoptera physalus</i>	Endangered	Endangered

The following state-listed animal has been documented along the proposed Empire Wind Gowanus export cable route.

The following species has been documented nesting on the Verrazano-Narrows Bridge, under which the proposed cable route passes.

<i>COMMON NAME</i>	<i>SCIENTIFIC NAME</i>	<i>NY STATE LISTING</i>	<i>FEDERAL LISTING</i>
Peregrine Falcon <i>Breeding</i>	<i>Falco peregrinus</i>	Endangered	

The following state-listed and other rare animals have been documented near the Empire Wind Barrett onshore cable route.

The following species have been documented at Garrett Marsh, a salt marsh about 1/3 mile east of the proposed route in Island Park.

<i>COMMON NAME</i>	<i>SCIENTIFIC NAME</i>	<i>NY STATE LISTING</i>	<i>FEDERAL LISTING</i>
Common Tern <i>Breeding</i>	<i>Sterna hirundo</i>	Threatened	
Forster's Tern <i>Breeding</i>	<i>Sterna forsteri</i>	Unlisted	
Gull-billed Tern <i>Breeding</i>	<i>Gelochelidon nilotica</i>	Unlisted	



The following rare animal has been documented in the waters offshore of both proposed Empire Wind Barrett landfalls, and along both the east and west Barrett export cable routes.

This animal, while not listed by New York State as Endangered or Threatened, is rare in New York and of conservation concern.

Harlequin Duck	<i>Histrionicus histrionicus</i>	Unlisted	Critically Imperiled in NYS
<i>Nonbreeding</i>			
Regularly observed wintering from Long Beach Island at Long Beach east to Jones Beach Island at Tobay Beach, and in Jones Inlet.			

The following significant communities have been documented in the salt marshes and channels of Hempstead Bay; patches of these communities are near the Empire Wind Barrett onshore cable route to the west and east, and are closest to the proposed route at its north end in the channels south, west, and east of the Barrett substation.

These natural communities are considered significant from a statewide perspective by the NY Natural Heritage Program. Each community is a high-quality example of an uncommon community type. The NY Natural Heritage Program considers these community occurrences to have high ecological and conservation value.

COMMON NAME

HERITAGE CONSERVATION STATUS

Low Salt Marsh

High Quality Occurrence of Uncommon Community Type

High Salt Marsh

High Quality Occurrence of Uncommon Community Type

Salt Panne

High Quality Occurrence of Uncommon Community Type

Hempstead Bay Wetlands: A complex system of salt marshes in tidal bays with variable tidal range.

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org.

Information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org. For descriptions of all community types, go to www.dec.ny.gov/animals/97703.html for Ecological Communities of New York State.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, New York Natural Heritage Program
625 Broadway, Fifth Floor, Albany, NY 12233-4757
P: (518) 402-8935 | F: (518) 402-8925
www.dec.ny.gov

July 30, 2019

Stephen Ryan
Tetra Tech, Inc.
One Oxford Valley, Suite 200
Langhorne, PA 19047

Re: Empire Wind Project - revised Gowanus route
County: Kings, Queens Town/City: City Of New York

Dear Mr. Ryan:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities that our database indicates occur along the proposed Gowanus Cable Route.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our database. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

Our database is continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the NYS DEC Division of Environmental Permits.

Sincerely,



Nicholas Conrad
Information Resources Coordinator
New York Natural Heritage Program



**The following state-listed animals have been documented
along the proposed Gowanus Cable Route.**

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed or are candidates for federal listing.

For information about any permit considerations for the project, contact the Division of Environmental Permits at NYSDEC Central Office or at the NYSDEC Region 2 Office.

The following species has been documented nesting on the Verrazano-Narrows Bridge, under which the proposed cable route passes.

<i>COMMON NAME</i>	<i>SCIENTIFIC NAME</i>	<i>NY STATE LISTING</i>	<i>FEDERAL LISTING</i>	
Peregrine Falcon <i>Breeding</i>	<i>Falco peregrinus</i>	Endangered		9017

The following species have been documented in the offshore waters through which the proposed cable route passes.

<i>COMMON NAME</i>	<i>SCIENTIFIC NAME</i>	<i>NY STATE LISTING</i>	<i>FEDERAL LISTING</i>	
Humpback Whale	<i>Megaptera novaeangliae</i>	Endangered	Endangered	15039
Fin Whale	<i>Balaenoptera physalus</i>	Endangered	Endangered	15040

This report only includes records from the NY Natural Heritage database.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the listed animals in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, and from NYSDEC at www.dec.ny.gov/animals/7494.html.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, New York Natural Heritage Program
625 Broadway, Fifth Floor, Albany, NY 12233-4757
P: (518) 402-8935 | F: (518) 402-8925
www.dec.ny.gov

February 14, 2019

Stephen Ryan
Tetra Tech, Inc.
One Oxford Valley, Suite 200
Langhorne, PA 19047

Re: Empire Wind Project
County: Kings, Nassau, Suffolk Town/City:

Dear Mr. Ryan:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

Enclosed are reports of rare or state-listed animals and plants, and significant natural communities that our database indicates occur in the vicinity of the project site.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our database. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

Our database is continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the NYS DEC Region 1 Office, Division of Environmental Permits, at dec.r1@dec.ny.gov, (631) 444-0365.

Sincerely,



Nicholas Conrad
Information Resources Coordinator
New York Natural Heritage Program



**The following state-listed animals have been documented
in the vicinity of the Gowanus Route Alternatives.**

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed or are candidates for federal listing.

For information about any permit considerations for the project, contact the NYSDEC Region x Office, Division of Environmental Permits, at dep.r1@dec.ny.gov, (631) 444-0365.

The following species has been documented nesting on the Verrazano-Narrows Bridge.

<i>COMMON NAME</i>	<i>SCIENTIFIC NAME</i>	<i>NY STATE LISTING</i>	<i>FEDERAL LISTING</i>
Peregrine Falcon <i>Breeding</i>	<i>Falco peregrinus</i>	Endangered	

This report only includes records from the NY Natural Heritage database.

Information about many of the listed animals in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, and from NYSDEC at www.dec.ny.gov/animals/7494.html.



**The following state-listed animals have been documented
along the Ruland Road Route Alternative or in its vicinity.**

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed or are candidates for federal listing.

For information about any permit considerations for the project, contact the NYSDEC Region 1 Office, Division of Environmental Permits, at dep.r1@dec.ny.gov, (631) 444-0365.

The following species have been documented on Jones Beach Island, in the vicinity of the western route.

<i>COMMON NAME</i>	<i>SCIENTIFIC NAME</i>	<i>NY STATE LISTING</i>	<i>FEDERAL LISTING</i>
Piping Plover <i>Breeding</i>	<i>Charadrius melodus</i>	Endangered	Threatened
Roseate Tern <i>Breeding</i>	<i>Sterna dougallii</i>	Endangered	Endangered
Short-eared Owl <i>Wintering</i>	<i>Asio flammeus</i>	Endangered	
Common Tern <i>Breeding</i>	<i>Sterna hirundo</i>	Threatened	
Least Tern <i>Breeding</i>	<i>Sternula antillarum</i>	Threatened	
Black Skimmer <i>Breeding</i>	<i>Rynchops niger</i>	Special Concern	

The following species have been documented on Jones Beach Island, in the vicinity of the eastern route.

Piping Plover <i>Breeding</i>	<i>Charadrius melodus</i>	Endangered	Threatened
Short-eared Owl <i>Wintering</i>	<i>Asio flammeus</i>	Endangered	
Peregrine Falcon <i>Breeding</i>	<i>Falco peregrinus</i>	Endangered	

The following species have been documented on islands and salt marsh along Meadowbrook State Parkway.

Short-eared Owl <i>Breeding</i>	<i>Asio flammeus</i>	Endangered
Common Tern <i>Breeding</i>	<i>Sterna hirundo</i>	Threatened

The following species have been documented on salt marsh islands near Wantaugh State Parkway.

Common Tern <i>Breeding</i>	<i>Sterna hirundo</i>	Threatened
Black Skimmer <i>Breeding</i>	<i>Rynchops niger</i>	Special Concern

The following species has been documented at Cedar Creek County Park near the Wantaugh State Parkway.

Least Tern <i>Breeding</i>	<i>Sternula antillarum</i>	Threatened
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The following species has been documented at Massapequa County Preserve, adjacent to the proposed route.

Least Bittern <i>Breeding</i>	<i>Ixobrychus exilis</i>	Threatened
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This report only includes records from the NY Natural Heritage database.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the listed animals in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, and from NYSDEC at www.dec.ny.gov/animals/7494.html.



**The following state-listed animals have been documented within
the offshore lease area and proposed cable routes of the Empire Wind Project.**

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed or are candidates for federal listing.

The following species have been documented regularly within the New York Bight and the offshore waters south of Long Island.

<i>COMMON NAME</i>	<i>SCIENTIFIC NAME</i>	<i>NY STATE LISTING</i>	<i>FEDERAL LISTING</i>
Humpback Whale <i>Nonbreeding</i>	<i>Megaptera novaeangliae</i>	Endangered	Endangered
Fin Whale	<i>Balaenoptera physalus</i>	Endangered	Endangered

**The following rare animal has been documented in the waters offshore of the
two proposed landfalls of the Ruland Road Route Alternative.**

We recommend that potential impacts of the proposed project on these species or communities be addressed as part of any environmental assessment or review conducted as part of the planning, permitting and approval process. Final requirements of the project to avoid, minimize, or mitigate potential impacts are determined by the lead permitting agency or the government body approving the project.

The animal in this report, while not listed by New York State as Endangered or Threatened, is rare in New York and of conservation concern.

Harlequin Duck <i>Nonbreeding</i>	<i>Histrionicus histrionicus</i>	Unlisted	Critically Imperiled in NYS
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Jones Beach Island West and Long Beach Island, 2018-03-31: Regularly observed wintering from Long Beach Island West at Long Beach east to Jones Beach Island at Tobay Beach, and in Jones Inlet.

This report only includes records from the NY Natural Heritage database.



The following rare plants, rare animals, and significant natural communities have been documented along the Ruland Road Route Alternative or in its vicinity.

We recommend that potential impacts of the proposed project on these species or communities be addressed as part of any environmental assessment or review conducted as part of the planning, permitting and approval process. Field surveys of the project site may be necessary to determine the status of a species at the site, particularly for sites that are currently undeveloped and may still contain suitable habitat. Final requirements of the project to avoid, minimize, or mitigate potential impacts are determined by the lead permitting agency or the government body approving the project.

The plants in this report are listed as Endangered or Threatened by New York State, and/or are rare in New York State, and so are a vulnerable natural resource of conservation concern.

The animals in this report, while not listed by New York State as Endangered or Threatened, are rare in New York and are of conservation concern.

The natural communities in this report are considered significant from a statewide perspective by the NY Natural Heritage Program. Each community is either an example of a community type that is rare in the state, or a high-quality example of a more common community type. By meeting specific, documented criteria, the NY Natural Heritage Program considers these community occurrences to have high ecological and conservation value.

The following species and communities have been documented on Jones Beach Island, in the vicinity of the western route.

COMMON NAME	SCIENTIFIC NAME	NY STATE LISTING	HERITAGE CONSERVATION STATUS
Plants			
Seabeach Amaranth 2017 summer: Barrier island beach.	<i>Amaranthus pumilus</i>	Threatened and Federally Listed as Threatened	Imperiled in NYS and Globally Rare
Golden Dock 1992-09-28: Atlantic barrier beach interdunal swales.	<i>Rumex fueginus</i>	Endangered	Critically Imperiled in NYS
Retrose Flatsedge 2003-08-14: Maritime dunes.	<i>Cyperus retrorsus</i>	Endangered	Critically Imperiled in NYS
Marsh Straw Sedge 2001-08-22: Brackish interdunal swales that are periodically flooded.	<i>Carex hormathodes</i>	Threatened	Imperiled in NYS
Seaside Bulrush 2011-09-19: The plants are growing in a complex of brackish swales between the foredunes, primary dunes, and secondary dunes.	<i>Bolboschoenus maritimus</i> <i>ssp. paludosus</i>	Threatened	Imperiled in NYS
Red Pigweed 1992-09-28: The plants are growing on the beach at the edge of a wet swale between low dunes.	<i>Oxybasis rubra</i> var. <i>rubra</i>	Threatened	Imperiled in NYS

The following species and communities have been documented on Jones Beach Island, in the vicinity of the western route (cont.).

COMMON NAME	SCIENTIFIC NAME	NY STATE LISTING	HERITAGE CONSERVATION STATUS
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Plants (cont.)

Seabeach Knotweed	<i>Polygonum glaucum</i>	Rare	Vulnerable in NYS and Globally Uncommon
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2011-09-19: The plants are growing on a coastal barrier island maritime beach in front of foredunes.

Dragonflies and Damselflies

Rambur's Forktail	<i>Ischnura ramburii</i>	Unlisted	Imperiled in NYS
Seaside Dragonlet	<i>Erythrodiplax berenice</i>	Unlisted	Imperiled in NYS

2009-07-24: The habitat of the above two species is an ephemeral pool that varies from mostly freshwater to completely saltwater.

Moths

Pink Star Moth	<i>Derrima stellata</i>	Unlisted	Critically Imperiled in NYS
Fawn Brown Dart	<i>Euxoa pleuritica</i>	Unlisted	Imperiled in NYS
The Pink Streak	<i>Dargida rubripennis</i>	Unlisted	Status Uncertain

2012-08-16: The above three moths were collected at the Jones Beach Nature Center.

Beetles

Hairy-necked Tiger Beetle	<i>Cicindela hirticollis</i>	Unlisted	Critically Imperiled in NYS
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2016-08-15: Beach.

Significant Natural Ecological Communities

Maritime Beach	High Quality Occurrence of Uncommon Community Type
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Jones Beach Island: This is a 16-mile long maritime beach adjacent to a large dune system along the south shore of Jones Beach Island.

Maritime Dunes	High Quality Occurrence of Uncommon Community Type
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Jones Beach Island: This is an extensive maritime dune system with good diversity of native species, fairly intact ecological processes, and connection to other natural communities, but with some large swaths of invasives.

Brackish Interdunal Swales	High Quality Occurrence of Rare Community Type
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Jones Beach Island West: This is an extensive, diverse swale complex in an relatively intact maritime dunes system, but with large portions at advanced stages of exotic species invasion.

Maritime Shrubland	High Quality Occurrence
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Jones Beach Island West: This is a large maritime shrubland with good diversity and processes fairly intact, but with exotic plants abundant in some areas.

The following species and communities have been documented on Jones Beach Island, in the vicinity of the eastern route.

COMMON NAME	SCIENTIFIC NAME	NY STATE LISTING	HERITAGE CONSERVATION STATUS
Plants			
Seabeach Knotweed	<i>Polygonum glaucum</i>	Rare	Vulnerable in NYS and Globally Uncommon
2011-09-19: The plants are growing on a coastal barrier island maritime beach in front of foredunes.			
Beetles			
Hairy-necked Tiger Beetle	<i>Cicindela hirticollis</i>	Unlisted	Critically Imperiled in NYS
2016-08-15: Beach.			

Significant Natural Ecological Communities

Maritime Beach	High Quality Occurrence of Uncommon Community Type
Jones Beach Island: This is a 16-mile long maritime beach adjacent to a large dune system along the south shore of Jones Beach Island.	
Maritime Dunes	High Quality Occurrence of Uncommon Community Type
Jones Beach Island: This is an extensive maritime dune system with good diversity of native species, fairly intact ecological processes, and connection to other natural communities, but with some large swaths of invasives.	
Maritime Shrubland	High Quality Occurrence
Jones Beach Island West: This is a large maritime shrubland with good diversity and processes fairly intact, but with exotic plants abundant in some areas.	

The following species has been documented on salt marsh islands near Wantagh State Parkway.

Birds			
Forster's Tern	<i>Sterna forsteri</i>	Unlisted	Critically Imperiled in NYS
<i>Breeding</i>			
2013-06-20: Deep Creek Meadow and Cuba Island Group.			

The following community has been documented in the channels, creeks, and bays just east of Wantagh State Parkway.

Significant Natural Ecological Communities	
Marine Back-barrier Lagoon	High Quality Occurrence of Rare Community Type
Great South Bay: This is a very large marine back-barrier lagoon that is in good condition within a fair quality, but mostly developed landscape.	

The following communities have been documented in the salt marshes along and near both the Wantagh State Parkway and the Meadowbrook Parkway.

COMMON NAME	SCIENTIFIC NAME	NY STATE LISTING	HERITAGE CONSERVATION STATUS
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Significant Natural Ecological Communities

Low Salt Marsh		High Quality Occurrence of Uncommon Community Type
High Salt Marsh		High Quality Occurrence of Uncommon Community Type
Salt Panne		High Quality Occurrence of Uncommon Community Type

Hempstead Bay Wetlands: A complex system of salt marshes in tidal bays with variable tidal range.

The following species has been documented in Cow Meadow County Park near Meadowbrook State Parkway.

Plants

Fringed Boneset	<i>Eupatorium torreyanum</i>	Threatened	Imperiled in NYS
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1992-11-15: The plants are in a sandy shrub thicket next to a salt marsh.

The following species have been documented in Massapequa County Preserve adjacent to or near the proposed route.

Plants

Coastal Carrion Flower	<i>Smilax pseudochina</i>	Endangered	Critically Imperiled in NYS
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1992-07-02: Damp pine barrens in a park preserve along a water course through a suburban area.

Whip Nut Sedge	<i>Scleria triglomerata</i>	Endangered	Critically Imperiled in NYS
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1992-08-27: A rutted road through recently burned wet pine barrens. 1986: Woods in damp pine barrens.

Low St. John's Wort	<i>Hypericum stragulum</i>	Endangered	Critically Imperiled in NYS
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1990-07-09: Rutted road through pine barrens.

Leggett's Pinweed	<i>Lechea pulchella</i>	Endangered	Critically Imperiled in NYS
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1987-07-28: The plants are in wet, burned Long Island pine barrens.

Yellow Flatsedge	<i>Cyperus flavescens</i>	Endangered	Critically Imperiled in NYS
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2000-10-07: Edge of lake.

Button Sedge	<i>Carex bullata</i>	Endangered	Critically Imperiled in NYS
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1986-06-02: Stream margin with red maple and *Carex stricta* marsh.

The following species have been documented in Massapequa County Preserve adjacent to or near the proposed route (cont).

COMMON NAME	SCIENTIFIC NAME	NY STATE LISTING	HERITAGE CONSERVATION STATUS
Dragonflies and Damselflies			
Needham's Skimmer	<i>Libellula needhami</i>	Unlisted	Vulnerable in NYS
2008-07-19: Massapequa Lake, a lake within a bog.			
Seaside Dragonlet	<i>Erythrodiplax berenice</i>	Unlisted	Imperiled in NYS
2008-07-19: Pond adjacent to proposed route.			

The following community has been documented in Bethpage State Park, including adjacent to Winding Road.

Significant Natural Ecological Communities

Coastal Oak-Heath Forest	Uncommon Community Type
Bethpage: This is a small coastal oak-heath forest consisting of 11 patches ranging from 9 to 53 acres.	

The following species have been documented in Pinelawn Cemetery, which is along Wellwood Road.

Butterflies

Edwards' Hairstreak	<i>Satyrrium edwardsii</i>	Unlisted	Vulnerable in NYS
1991-06-30: Pinelawn Cemetery. The butterflies were found in a dense scrub oak thicket with scattered pitch pine.			

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, from NatureServe Explorer at www.natureserve.org/explorer, and from USDA's Plants Database at <http://plants.usda.gov/index.html> (for plants).

Information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org. For descriptions of all community types, go to www.dec.ny.gov/animals/97703.html for Ecological Communities of New York State.

April 20, 2021

Division of Fish and Wildlife
New York State Department of Environmental Conservation
Natural Heritage Program
625 Broadway, 5th Floor Albany, NY 12233-4757

**Subject: Empire Offshore Wind LLC – Lease Area OCS-A 0512 Offshore Wind Project
Nassau and Kings Counties, NY.
Request for all documented occurrences of rare or listed species or significant natural
communities**

Greetings:

Tetra Tech is currently under contract to Empire Offshore Wind LLC¹ (Empire; previously Equinor Wind US LLC) to assist with the siting and permitting of a proposed offshore wind energy project associated with the Bureau of Ocean Energy Management's (BOEM's) Lease Area OCS-A-0512 (the Project). The Project is planned for an area of approximately 80,000 acres in federal waters, located an average of 20 miles south of Long Island, east of the Rockaways (Figure 1).

Empire is currently developing the federal and state permit applications that will support construction, operation, and decommissioning of the proposed offshore wind project. The first phase, the Empire Wind 1 (EW 1) Project (previously referred to as the Empire Wind Gowanus Project), will deliver up to 816 MW of energy to the Gowanus Point of Interconnection (POI), Brooklyn, Kings County, New York². The second phase, the Empire Wind 2 (EW 2) Project (previously referred to as the Empire Wind Barrett Project), will deliver up to 1,260 MW of energy to the Oceanside POI, Town of Hempstead, Nassau County, New York³.

¹ Equinor Wind US LLC (Equinor Wind) assigned the Lease to Empire Offshore Wind LLC (Empire) on January 27, 2021. Previous correspondence refers to Equinor Wind as the Lease holder.

² On July 18, 2019, New York's Governor Cuomo announced Empire and its 816 MW EW 1 Project as a winning bidder in the State's competitive solicitation for Offshore Wind Renewable Energy Credits.

³ On January 13, 2021, New York's Governor Cuomo announced Empire and its 1,260 MW EW 2 Project as a winning bidder in the State's competitive solicitation for Offshore Wind Renewable Energy Credits.

Previous design alternatives were subject to prior consultation to NYSDEC NHP (dated January 16, 2019, June 26, 2019, August 28, 2019, and July 10, 2020) with responses received February 14, 2019 and July 30, 2019, September 20, 2019, and August 21, 2020, respectively). Since this prior consultation, the potential landfall locations and onshore export cable and interconnection cable routes to the point of interconnections have gone through review and were subsequently refined. Therefore, in order to satisfy BOEM requirements related to biological resources, including threatened and endangered species, the most recent potential landfall locations, onshore export cable and interconnection cable routes, and onshore substation locations are submitted for review.

To assist us in completing the associated effort, figures showing the most recent potential onshore export cable and interconnection cable routes and onshore substations for EW 1 and EW 2 are enclosed (Figure 2 and Figure 3, respectively). Please note that the routes remain under review and are subject to further change. Please provide any information you may have regarding the presence of rare or listed species or significant natural communities that may be present on or within the immediate vicinity of the proposed Project to my attention at:

Tetra Tech, Inc.
One Oxford Valley, Suite 200 Langhorne, PA, 19047
Email: Steve.Ryan@tetrattech.com

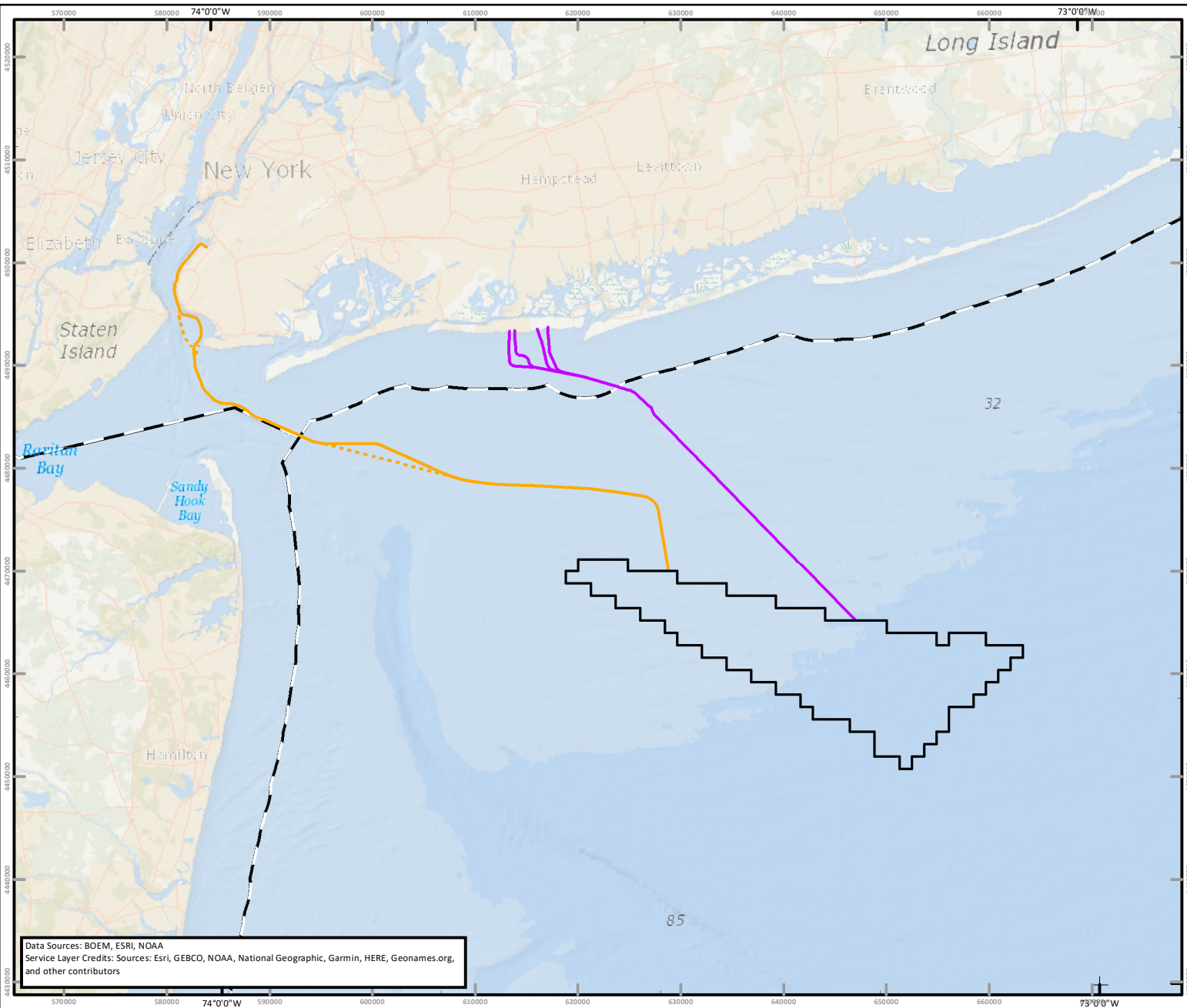
Included with this request is a GIS shape file, illustrating the location of the proposed offshore facilities and the onshore development within New York, including proposed route options, to facilitate your review. If you have any questions regarding this request, please contact me by telephone at (215) 702-4048 or email at steve.ryan@tetrattech.com. Thank you for your assistance in obtaining this information.

Very truly yours,

A handwritten signature in black ink, appearing to read "Steve S. Ryan", with a stylized flourish at the end.

Stephen Ryan
Biologist

cc: Laura Morales (Empire)
Laura Sliker (Empire)
Nathalie Schils (Tetra Tech)
Katherine Miller (Tetra Tech)



Data Sources: BOEM, ESRI, NOAA
Service Layer Credits: Sources: Esri, GEBCO, NOAA, National Geographic, Garmin, HERE, Geonames.org, and other contributors

EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT



 EW 1 Submarine Export Cable Route

 EW 1 Submarine Export Cable Route Variant

 EW 2 Submarine Export Cable Route

 Lease Area

 State Territorial Waters Boundary

Up to two landfalls will be selected for the EW 2 Project

Date	March 31, 2021
File/Job Number	194-1247-0001
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

02468 Miles

0246 Nautical Miles

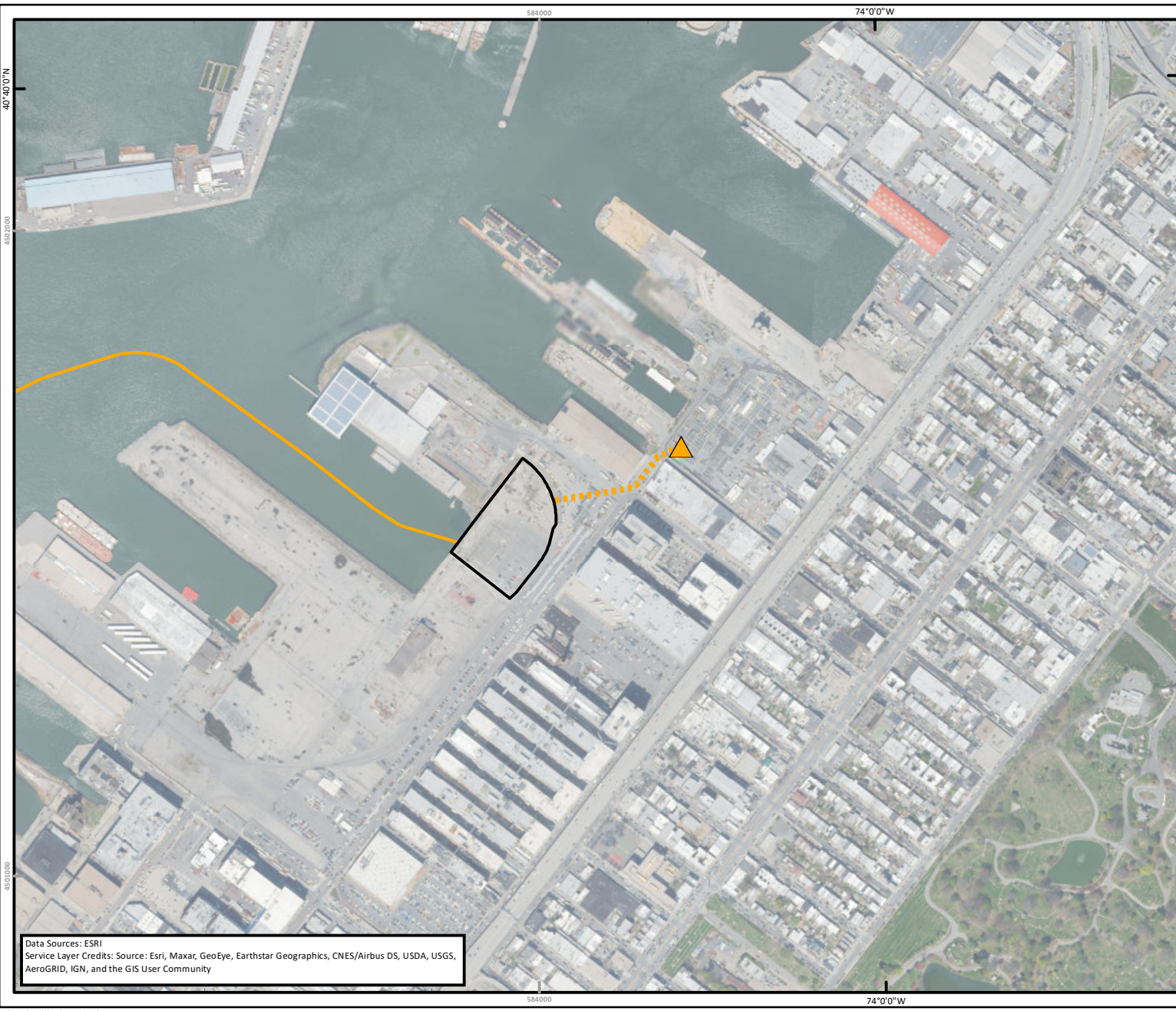
036912 Kilometers

REFERENCE MAP



NOT FOR CONSTRUCTION





Path: F:\GIS\StateWind\Network_OffshoreWind\Project IGIS\Spatial\WKD\COP_Rev2\Introduction\COP_Intro_ProjectOverview.mxd



Data Sources: ESRI
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**EMPIRE OFFSHORE WIND
LEASE: OCS-A 0512
EMPIRE WIND PROJECT**



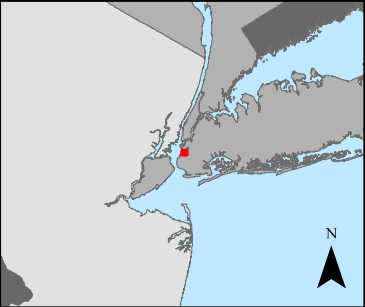
-  Gowanus POI
-  EW 1 Interconnection Cable Route
-  EW 1 Onshore Substation
-  EW 1 Submarine Export Cable Route

Date	March 31, 2021
File/Job Number	194-1247-0001
Personnel	Figure Prepared by: Tetra Tech Offshore GIS

0 250 500 750 1,000 Feet

0 100 200 300 Meters

REFERENCE MAP



Attachment A-2
Cultural Resource Correspondence



December 13, 2018

Tim Lloyd, Ph.D.
Archaeology Unit
New York State Division for Historic Preservation
Peebles Island Resource Center
Delaware Avenue
Cohoes, NY 12047

**Subject: Equinor Wind US – Empire Wind Project
Kings, Nassau, and Suffolk Counties, NY
Initiate Project Review Under Section 106 of National Historic Preservation Act
NY Project #: 18PR07274**

Dear Dr. Lloyd:

Tetra Tech is currently under contract to Equinor Wind US (Equinor) to assist with the siting and permitting of a proposed offshore wind energy project associated with the Bureau of Ocean Energy Management's (BOEM's) Lease Area OCS-A-0512 (the Project). The Project is planned for an area of approximately 80,000 acres in federal waters, located an average of 20 miles south of Long Island, east of the Rockaways (Figure 1). The Project could have the capacity to produce up to approximately 2,100 megawatts (MW) of electricity, enough to power one million homes. Equinor is currently developing the federal and state permit applications that will support construction, operation, and decommissioning of the proposed offshore wind farm(s) on the lease site where development occurs.

The energy produced by the offshore facilities could be transmitted to as many as three substations: Oceanview Substation, Neptune, Monmouth County, New Jersey; Gowanus Generating Station, Brooklyn, Kings County, New York; and Ruland Road Substation, Village of Melville in the Town of Huntington, Suffolk County, New York. As such, the New Jersey portion of the Project has been named "Boardwalk Wind" and the New York portion of the Project has been named "Empire Wind." Multiple potential routes for underwater transmission lines, landfall locations, and upland transmission to the respective substations are currently under review (Figure 1). The lead federal agency for the Project is BOEM. Among many studies that are currently planned or in progress to satisfy federal and state permitting requirements are investigations related to cultural resources. Upland archaeological surveys, historic architecture surveys, and underwater surveys will be performed in compliance with Section 106 of the National Historic Preservation Act and implementing regulations at 36 CFR 800, and with state

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guidelines of New Jersey and New York. Equinor will also be submitting this Project Review to the New Jersey State Historic Preservation Office in parallel with this request.

A goal of this letter is to present an overview of the approach that Tetra Tech will take to perform cultural resources studies in New York on behalf of Equinor as this work continues into 2019. We would appreciate hearing any comments or questions you may have about our proposed approach by **January 4, 2019**.

Upland Archaeology Survey

Tetra Tech will perform background research within a study area that extends approximately one mile around potential land cable routes. The Project's Area of Potential Effects (APE) for archaeology includes all areas where ground-disturbing activity will take place including export cable corridors and all associated appurtenances such as landfalls, horizontal direct drill (HDD) entry and exit locations, workspaces, equipment laydown areas, and access roads. Tetra Tech has been performing in-field reconnaissance of the alternative routes under consideration by Equinor's design team to identify areas that are both potentially sensitive for containing archaeological sites that may be eligible to the NRHP and testable. Equinor currently proposes to place its upland transmission lines within existing rights-of-way to the maximum extent practicable, primarily following public roadways. All transmission cables will be installed subsurface, as well as any supporting infrastructure (e.g., jointing vaults or manholes), to the extent practicable. In New York, several alternatives under consideration would bring transmission through extant streets located within made-land. These areas will not be recommended for archaeological investigation. Other segments of alternatives under consideration extend through portions of the Massapequa Preserve, Owls Head Park, and some sections of Shore Road Park that are located on fast land. Review of historic cartographic sources suggest that some of these areas may have potential to contain archaeological sites and they may be recommended for focused and limited subsurface testing. Additionally, areas that have been previously surveyed for other projects for which reports are available are identified. These areas are illustrated in Figures 2a and 2b.

Historic Architecture Survey

Tetra Tech's architectural historian is working with the visual impact assessment team to identify areas from which the offshore project may be visible and to identify project effects to aboveground cultural resources listed in and/or eligible to the NRHP. As a starting point, the visual assessment study area is a 35-mile radius around the proposed offshore Lease Area, as described in the draft visual impact assessment study plan, previously provided on November 7, 2018, and for which SHPO provided responses on November 29, 2018. The actual APE for historic architecture is anticipated to be within 0.5 km (0.3 mile) of shorelines within the Visual Study Area (Figure 3) where at least the hub of the turbines and above are visible. Properties most likely to be affected within the APE would likely comprise aboveground cultural resources listed in, eligible to, or potentially eligible to the NRHP that are associated with maritime settings. These cultural resources would be the focus of inventory and evaluation by the team's architectural historian.

Underwater Survey

Underwater survey will be performed for this Project by Tetra Tech's subcontractor, SEARCH, Inc. The study area for underwater archaeology will comprise the Lease Area depicted in Figure 1, and the submarine cable routes under consideration (Figure 1). Systematic remote sensing survey involving use of a combination of high resolution sub-bottom profiler, magnetometer, and side scan sonar technologies implemented along transects that generally do not exceed 30 meter intervals and that satisfy BOEM's *Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585* (March 2017) will be used to collect geophysical data within the entire Lease Area and within a 500-foot-wide submarine cable corridors. These data will be assessed by a qualified marine archaeologist to identify potentially archaeologically sensitive locations of submerged landforms that have potential to contain NRHP-eligible sites possibly related to Archaic and Paleo-Indian prehistoric time periods, and to identify potential targets suggestive of submerged marine-related cultural resources that may also be eligible to the NRHP.

We look forward to hearing from you about any concerns you and your staff may have related to our approaches to upland archaeology, historic architecture, and marine archaeology. Thank you for your attention and consideration of this Project.

Very truly yours,

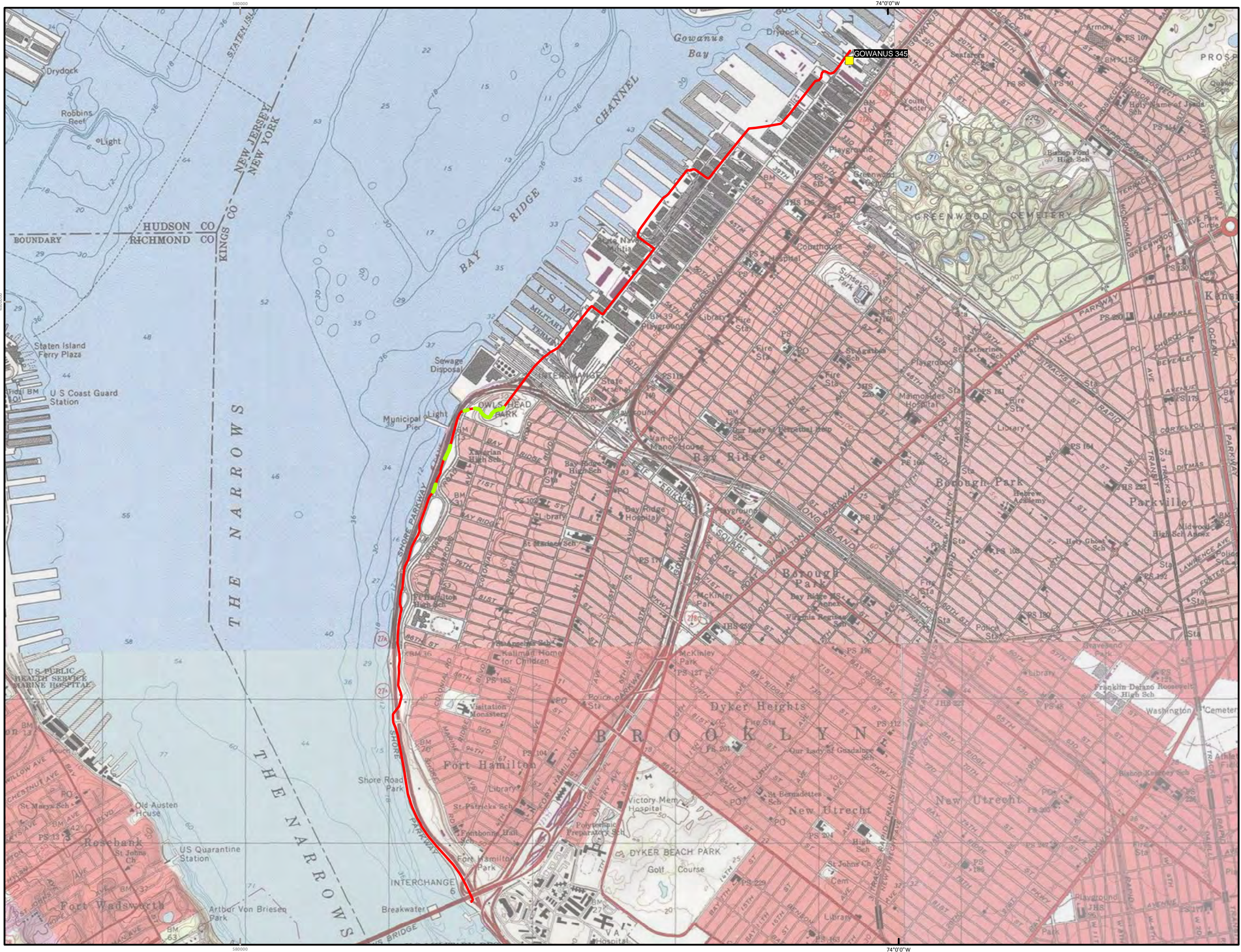


Sydne B. Marshall, Ph.D., RPA
Cultural Resources Lead

Attachments:

- Figure 1 Project Overview
- Figure 2a Cultural Resources Survey: Gowanus Alternative
- Figure 2b Cultural Resources Survey: Ruland Rd. Alternative
- Figure 3 Project Visual Study Area and Historic Architecture APE

cc: M. Goff (Equinor)
L. Morales (Equinor)
S. Lundin (TT PM)
N. Schils (TT DPM)
R. Jacoby (TT)
C. Borstel (TT)
J. Sexton (TT)



Empire Wind Project

Figure 2a

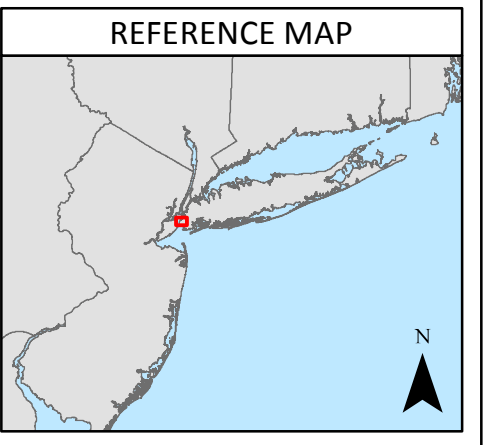
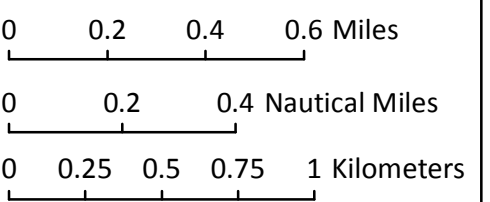
Cultural Resources Survey:
Gowanus Alternative



- Substation
- Previously Surveyed
- Recommended for Survey
- Recommended No Survey

PRELIMINARY – SUBJECT TO CHANGE

Date	12/12/2018
File/Job Number	
Personnel	Figure Prepared by:





Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

December 19, 2018

Dr. Sydne Marshall
Cultural Resources Discipline Lead
Tetra Tech
6 Century Drive, Suite 300
Parsippany, NJ 07054

Re: BOEM
Empire Wind Offshore Wind Farm Project
18PR07274

Dear Dr. Marshall:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the submitted materials in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York State Environmental Conservation Law Article 8).

We have reviewed your letter dated December 13, 2018, describing your overall approach to cultural resources surveys of terrestrial archaeology, underwater archaeology, and historic architecture. We find the approach detailed in your letter to be acceptable.

On Page 2 you state, "Tetra Tech will perform background research within a study area that extends approximately one mile around potential land cable routes." SHPO will accept a reduction of the background research study area to one-quarter mile on each side of the proposed land cable routes, making a total study area width of one-half mile straddling the cable route.

If further correspondence is required regarding this project, please refer to the SHPO Project Review (PR) number noted above. If you have any questions I can be reached at 518-268-2186.

Sincerely,

Tim Lloyd, Ph.D., RPA
Scientist - Archaeology
timothy.lloyd@parks.ny.gov

via e-mail only

Division for Historic Preservation

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August 22, 2019

Tim Lloyd, Ph.D.
Archaeology Unit
New York State Division for Historic Preservation
Peebles Island Resource Center
Delaware Avenue
Cohoes, NY 12047

**Subject: Equinor Wind US – Lease Area OCS-A 0512 Offshore Wind Project
Nassau County, NY
Update Regarding Empire Wind Project
18PR07274**

Dear Dr. Lloyd:

As described in a letter to you dated December 13, 2018, Tetra Tech is currently under contract to Equinor Wind US (Equinor) to assist with the siting and permitting of a proposed offshore wind energy project associated with the Bureau of Ocean Energy Management's (BOEM's) Lease Area OCS-A-0512 (the Project). This letter provides an update on the upland routes under consideration for the Project.

As previously described, the Project is planned for an area of approximately 80,000 acres in federal waters, located an average of 20 miles south of Long Island, east of the Rockaways (Figure 1). The Project could have the capacity to produce up to approximately 2,100 megawatts (MW) of electricity, enough to power one million homes. Equinor is currently developing the federal and state permit applications that will support construction, operation, and decommissioning of the proposed offshore wind project.

The lead federal agency for the Project is BOEM. Among many studies that are currently planned or in progress to satisfy federal and state permitting requirements are investigations related to cultural resources. Upland archaeological surveys, historic architecture surveys, and underwater surveys are ongoing in compliance with Section 106 of the National Historic Preservation Act and implementing regulations at 36 CFR 800, and with state guidelines of New York.

In New York, the energy produced by the offshore facilities could be transmitted to two substations. As announced by Governor Cuomo on July 18, 2019, the first phase, known as the Empire Wind Project, proposes to connect into the Gowanus Generating Station, Brooklyn, Kings County, New York. A subsequent phase considers connection to the Barrett substation, located in the Town of Hempstead,

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Nassau County, New York. An additional phase, the Boardwalk Wind Project, proposes to bring energy to New Jersey.

A goal of this letter is to present an update of the Project's upland energy transmission routes since the December 2018 letter. Although Equinor maintains its request for interconnection at the Ruland Road substation, the Barrett substation route has been added for consideration. Tetra Tech continues to perform the background research that will include the added route as part of the Area of Potential Effects (APE). Tetra Tech has been performing in-field reconnaissance of the Barrett Onshore Export Cable Route to identify areas that are both potentially sensitive for containing archaeological sites that may be eligible to the NRHP and testable. As noted in the earlier correspondence, Equinor currently expects to place its upland transmission lines within existing rights-of-way to the maximum extent practicable, primarily following public roadways. All transmission cables will be installed subsurface, as well as any supporting infrastructure (e.g., jointing vaults or manholes), to the extent practicable. The proposed transmission routes are shown in the attached figures and are described below.

Gowanus Onshore Route

The Gowanus Export Cable is proposed to make landfall in Gowanus, Brooklyn NY, with two parcels currently under consideration as the substation with which the onshore route would tie in: the Eastern Generation Narrows Substation (EGNS) and the South Brooklyn Marine Terminal (SBMT). From the EGNS site, the Gowanus Onshore Export Cable would traverse approximately 8,900 feet through portions of 1st Avenue, 2nd Avenue, and the margins of Bush Terminal including Bush Terminal Park, ultimately connecting into the Gowanus Generating Station. From the SBMT site, the Gowanus Onshore Export Cable route traverses north into the Gowanus Generating Substation (see Figure 2). A review of nineteenth century maps of the Brooklyn shoreline indicates that the Terrestrial Archaeological APE occurs in its entirety on landfill constructed into Gowanus Bay in the late nineteenth and early twentieth centuries (NYPL 2019); therefore, no additional areas are recommended for further investigation.

Barrett Onshore Export Cable Route

The Barrett Onshore Export Cable Route is proposed to make landfall on Long Beach Island, Nassau County, New York and extends approximately 3.1 miles northward to the proposed substation located on the E.F. Barrett power station parcel, in the Town of Hempstead, Nassau County, New York (Figure 3). The route would include open trench and trenchless installation of the cable. Open trench installation would occur within surface road ROW, Long Island Rail Road parking ROW, and vacant land parcels. Trenchless crossings, utilizing bores or horizontal direct drilling (HDD), are being considered for large intersections and water crossing (Reynolds Channel) between Long Beach Island and Barnum Island. The offshore cable landfall would bore/drill under the beach and boardwalk at Long Beach and connect to open trench installation along Riverside Boulevard. Equinor is examining two potential trenchless crossings of Reynolds Channel; one extends northward from Riverside Boulevard; the second potential crossing extends northward from Long Beach Road just west of the Long Beach Bridge. The cable route would cross Hog Island Channel, an arm of Barnums Channel, about 650 feet south of the proposed

substation. The substation parcel is adjacent to the existing power station and supports thick scrub-shrub vegetation and wetlands.

A pedestrian reconnaissance was conducted by registered professional archaeologists under contract to Equinor Wind in July 2019. Archaeological sensitivity is judged to be low across the full extent of the Barrett onshore cable route. Based on the site files review and pedestrian reconnaissance, it is recommended that no further archaeological investigations are warranted for the Barrett Onshore Export Cable Route and Onshore Substation.

Field and reporting efforts associated with historic architecture issues and underwater cultural resources issues are also ongoing as described within the December 2018 correspondence.

Please feel free to reach out with any questions or concerns you may have about the upland routes under consideration for the Project.

As always, thank you for your attention and consideration of this Project.

Very truly yours,

A handwritten signature in cursive script, reading "Sydne B. Marshall".

Sydne B. Marshall, Ph.D., RPA
Cultural Resources Lead

Attachments:

- Figure 1 – Project Overview
- Figure 2 – Gowanus Alternative
- Figure 3 – Barrett Alternative

cc: N. Schils (TT PM)
K. Miller (TT DPM)
R. Jacoby (TT)
C. Borstel (TT)
J. Sexton (TT)
Martin Goff (Equinor)
Laura Morales (Equinor)

View and/or Address a Response

Project 18PR07274: Empire Wind Offshore Wind Farm Project (G7V1SILNVYAF)

[●View Project](#)

Please accept the following information below as the consolidated response from NYS SHPO for the above referenced submission.

Review Responses

Reviewer Review Type Response

Tim Lloyd	Archaeology	Sydney, I have reviewed your letter dated August 22, 2019, regarding the updates to the project plans and the status of the ongoing cultural resource surveys. I concur with your recommendations regarding archaeological investigations of the Gowanus and Barrett Onshore Cable Routes. I have no comments or questions at this time and look forward to continued consultation.
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Information Requests

Process Status Reviewer Review Type Request Type Request Entity Request Item Request Description

No Request Records

Attachments

Attachment Reviewer Review Type Type Name Description

No Attachment Records