

October 25, 2023

Ms. Jolie Harrison
Office of Protected Resources Permits and Conservation Division
National Marine Fisheries Service
1315 East West Highway
Silver Spring MD 20910

RE: Empire Offshore Wind Project – Evaluation of Pile Driving Restriction in the Month of May

Dear Ms. Harrison,

Empire Offshore Wind LLC (Empire) proposes to construct and operate an offshore wind farm located in the designated Renewable Energy Lease Area OCS-A 0512 (Lease Area). The Project's purpose is to construct and operate a commercial-scale offshore wind facility, which is needed to help fulfill the State of New York's renewable energy goals. These goals include the development of 2.1 gigawatts (GW) of renewable energy from offshore wind by 2027.

Empire filed an application for a Letter of Authorization (LOA) pursuant to Section 101(a)(5) of the Marine Mammal Protection Act (MMPA) and 50 Code of Federal Regulations (CFR) Part 216 Subpart I to allow for the incidental harassment of small numbers of marine mammals resulting from construction activities in the Lease Area and Submarine Export Cable Route Corridor during the construction of an offshore wind farm. Empire's LOA application was deemed adequate and complete by National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) in July 2022 and a notice of proposed rulemaking was published on April 13, 2023 (Proposed Rule)¹. Empire's LOA application and the coordination with NOAA Fisheries since the inception of the Project and leading up to the submittal of the LOA application have been based on the implementation of seasonal pile driving restrictions from January through April to avoid and minimize potential impacts to the North Atlantic right whale (NARW). Further, the Proposed Rule included a proposed restriction on pile driving from January through April.²

NOAA Fisheries communicated to Empire that a comment received during the public comment period (16 April-15 May 2023) for Empire's Proposed Rule recommended the extension of the seasonal pile driving restriction through May of each year. However, as described below, the extension of the pile driving restriction through May would yield no meaningful benefit for NARW, but would negatively impact the Project.

The MMPA and its regulations requires that consideration of effects to marine mammals, in this case potential acoustic impacts, are mitigated to the level of least practicable adverse impact (see 50 CFR § 216.104(11)). That is, applicants must employ mitigation measures when effective measures are feasible. *Id.* In the Lease Area, NARW densities are very low in May, both compared to the densities in the Lease

¹ See *Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to the Empire Wind Project, Offshore New York – Proposed Rule*, 88 Fed. Reg. 22696 (May 15, 2023).

² *Id.* at 22697.

Area during the highest density months, and to the densities present off Massachusetts during the month of May. As such, potential impacts to NARW in May can be effectively mitigated through the mitigation and monitoring measures described in Empire’s LOA application and the additional mitigation and monitoring measures provided in the Protected Species Mitigation and Monitoring Plan (PSMMP). The Project’s acoustic modeling, marine mammal exposure estimation, and proposed mitigation measures as described in the LOA application were also based on the timing associated with a January through April pile driving restriction. For the reasons detailed in this letter, the extension of the pile driving restriction through the month of May is not warranted to protect the NARW and is not practicable to implement at this phase of the Project.

North Atlantic Right Whale Occurrence in the Lease Area

Based on an evaluation of marine mammal density data, long term passive acoustic monitoring (PAM) data collected in the Lease Area, and PSO data from EW surveys in the Lease Area, NARW are unlikely to be present in the Lease Area during the month of May. As shown in **Table 1**, based on marine mammal density data generated by the Duke University Marine Geospatial Ecology Laboratory (Roberts et al. 2016, 2022), predicted NARW density in May in the EW Lease Area (0.025 animals/100 km²) is approximately an order of magnitude lower than the peak predicted densities in the Lease Area in late winter (0.100 animals/km²) and early spring (0.115 animals/km²). As depicted in the mapped density data for May, shown in **Figure 1**, the Lease Area is within a low NARW density patch, with significantly higher densities of NARW in a region starting south of Massachusetts and extending into the Gulf of Maine.

Table 1. NARW predicted density data in the Empire Wind Lease Area

Monthly density (animals/100 km ²) a/											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.100	0.116	0.115	0.088	0.025	0.006	0.003	0.003	0.004	0.008	0.016	0.050

Notes:

a/ Density estimates are from habitat-based density modeling of the entire Atlantic Exclusive Economic Zone (EEZ) (Roberts et al. 2016, 2022).

Long term passive acoustic monitoring (PAM) data collected in the Lease Area also shows a lack of NARWs in the Lease Area in May over multiple years. A PAM buoy with near real-time detection capabilities has been continuously deployed in the southeast portion of the Lease Area since 2016, and a second near real-time PAM buoy has been continuously deployed in the northwest portion of the Lease Area since 2020. These PAM buoys detect and classify the vocalizations of whale species in near real-time as well as archive recordings of whale vocalizations for additional analysis. Data from the eight years of these PAM deployments indicates there have been no NARW detections in May in any year since 2016, with the exception of May 2017 when a single NARW detection occurred (WCS 2023, Murray et al. 2022; WCS 2021; WCS 2020).

Protected species observer (PSO) reports from EW site assessment surveys in the Lease Area since 2018 have documented zero NARW sightings in May. These include zero sightings of NARW from March-April 2018, June-December 2018, April-August 2019, and October-December 2020 (Gardline 2021; Milne 2021;

AIS 2019; Gardline 2019a,b,c; RPS 2019; Smultea 2019). Specifically, surveys conducted during the month of May in 2019 yielded zero NARW sightings in the EW Lease Area by PSOs with a total survey effort of 31 days onboard the M/V Dina Polaris (AIS 2019), and 23 days onboard the R/V Shearwater (Milne 2019).

Finally, long-term detection and comprehensive sighting data from aerial, vessel, buoy, and Slocum autonomous long-endurance ocean glider surveys shows very low observations/detections of NARW in the New York Bight – with no observations/detections within the EW Lease Area – during the month of May from 2010-2023 (**Figure 2**). When comparing NARW observations in the New York Bight region to those off Massachusetts during the month of May, the right whale sighting advisory system detected 139 right whales in the entire New York Bight (not limited to the Lease Area), whereas a total of 2,253 right whales were detected off Massachusetts (www.whalemap.org). These data present strong evidence based on the best available scientific information that NARW presence is relatively low in the New York Bight during the month of May.

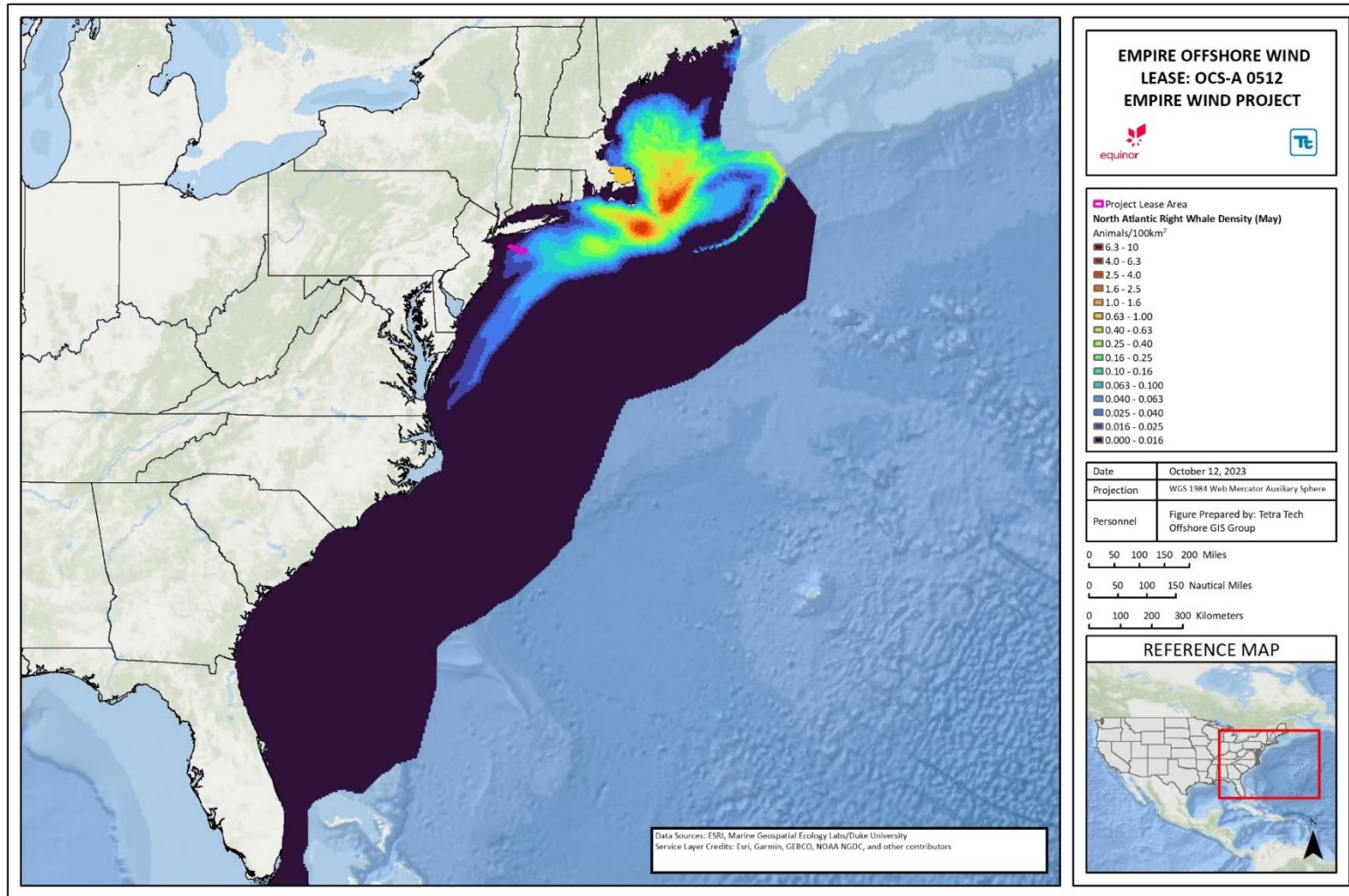


Figure 1. North Atlantic Right Whale Detections during the Month of May along the Atlantic East Coast (Roberts and Halpin 2022).

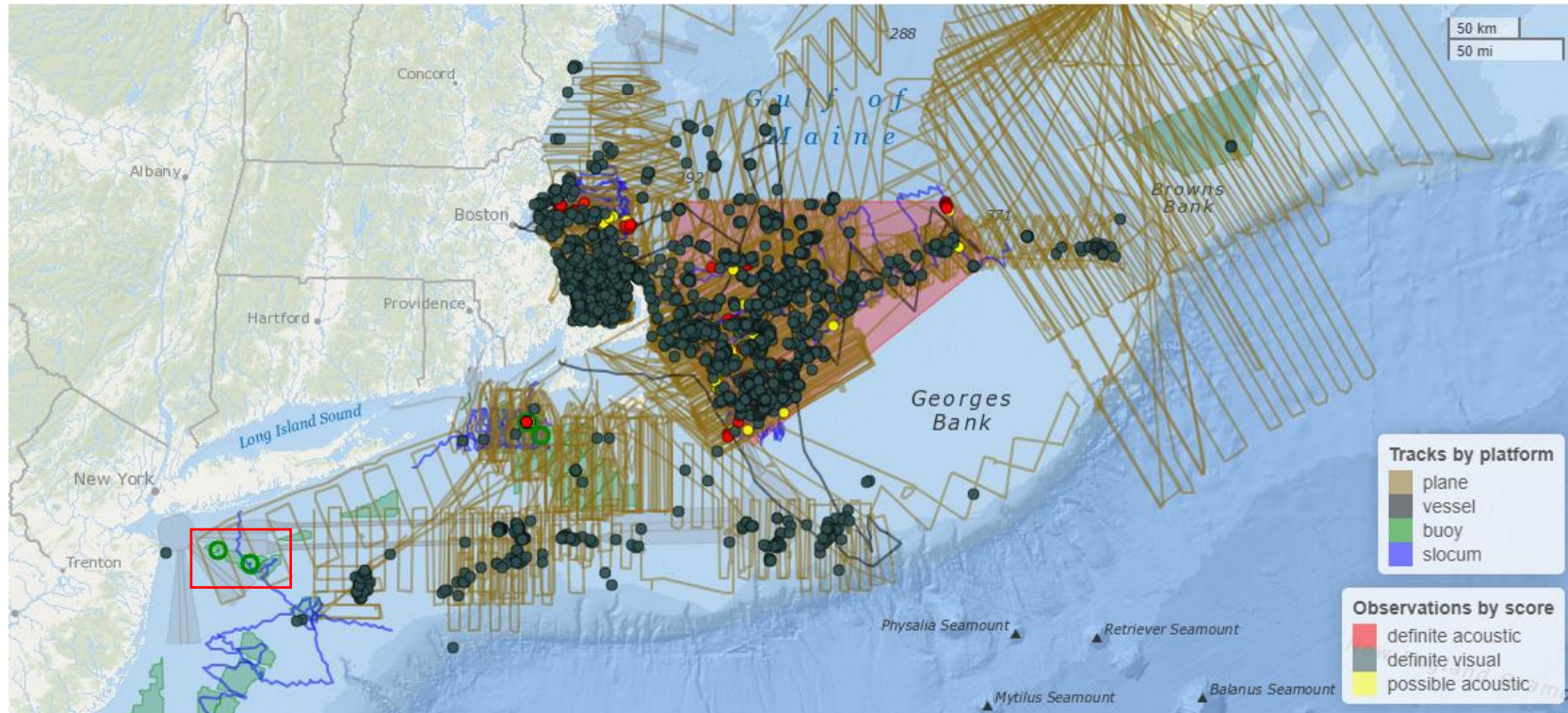


Figure 2. North Atlantic Right Whale Detections during the Month of May for years 2010-2023 along the Atlantic East Coast extending into the Gulf of Maine (Empire Wind lease shown within red box). Generated from www.whalemap.org. EW Lease Area is shown in red box.

Project Considerations for a Pile Driving Restriction in the Month of May

Project planning, since inception of the Project, has been premised on a January through April pile driving restriction, and the ability to complete all pile driving activities necessary to construct the Project within two pile driving seasons (2025 and 2026) to ensure the Project is operational by 2027. This timing has been incorporated into Project scheduling and construction activity sequencing, vessel and other services procurement and availability, and contracts. This includes the coordination of specialized heavy lift and installation vessels to deliver and install the major offshore wind components. Only a few of these specialized vessels exist in the world; as a result, contract schedules for these vessels are set years in advance of construction.

Empire has evaluated the implications of a potential extension of the pile driving restriction into May and determined that such an extension would have severely negative impacts to the Project without any concomitant benefit to NARW. Most significant, due to the maturation of the Project, marine installation contracts for foundations and inter-array cables (IAC) have already been signed and subcontractors have been secured. As these contracts have been based on a construction start date of May 1 2025, a 30-day delay to the start of these activities would result in increased costs associated with the transport and installation and IAC installation contracts. The estimated Project cost impact if the pile driving restriction is extended through May is estimated at between [REDACTED] to [REDACTED]. Additional impacts of an extended pile driving restriction into May would include: jeopardizing activities such as IAC installation due to loss of buffer time between executions, which could lead to increased waiting time of IAC installation vessels; schedule delays associated with increased health and safety risks; and increased risk of weather-related delays (i.e., hurricanes) and reduced daylight hours, due to construction being concentrated towards the end of the season.

Summary

Based on the best available commercial and scientific information including marine mammal density data, comprehensive sighting data, PSO data and long term PAM data within the Lease Area, as well as the planned monitoring and mitigation measures in May, the risk of pile driving disturbance to NARW in May is already very low and does not warrant an extension of the proposed time of year restriction for pile driving activities to include the month of May. Additionally, as detailed above, restricting pile driving in May would have significant negative impacts to the Project that make the restriction impracticable.

Thank you for your consideration. If you have any questions or concerns regarding this matter, please do not hesitate to contact Jordan Carduner, Permitting Manager.

Sincerely,



Josh Verleun, Empire Wind Permitting Director

- AIS. 2019. AIS Protected Species Observer Final Report. Empire/Boardwalk Wind Lease BOEM Lease OCS-A 0512 M/V Dina Polaris.
- Gardline. 2019. BOEM Lease Area OCS-A 0512 Geophysical Survey Protected Species Observer Report. Alpine Ocean Seismic Survey Inc.
- Gardline. 2019a. BOEM Lease Area OCS-A 0512 Geophysical Survey Protected Species Observer Interim Report 1. Alpine Ocean Seismic Survey Inc.
- Gardline. 2019b. BOEM Lease Area OCS-A 0512 Geophysical Survey Protected Species Observer Interim Report 2. Alpine Ocean Seismic Survey Inc.
- Gardline. 2019c. BOEM Lease Area OCS-A 0512 Geophysical Survey Protected Species Observer Interim Report 3. Alpine Ocean Seismic Survey Inc.
- Gardline. 2021. BOEM Lease Area OCS-A 0512 High Resolution Geophysical Survey Protected Species Observer Interim Report 1. Equinor Wind US, LLC.
- Johnson H, Morrison D, Taggart C (2021). WhaleMap: a tool to collate and display whale survey results in near real-time. *Journal of Open Source Software*, 6(62), 3094, <https://joss.theoj.org/papers/10.21105/joss.03094>
- Milne, S. 2019. Protected Species Observer Report. Prepared for Alpine Ocean Seismic Survey Inc. on behalf of Equinor Wind, US, LLC.
- Milne, S. 2021. Equinor Empire Wind High Resolution Geophysical Survey Protected Species Observer Report. Prepared for Alpine Ocean on behalf of Equinor Wind.
- Murray, A., Rekdahl, M.L., Baumgartner, M.F., Rosenbaum, H.C. 2022. Acoustic presence and vocal activity of North Atlantic right whales in the New York Bight: Implications for protecting a critically endangered species in a human-dominated environment. *Conservation Science and Practice*. <https://doi.org/10.1111/csp2.12798>
- NOAA Fisheries. 2023. Reducing Vessel Strikes to North Atlantic Right Whales. Available online at: www.fisheries.noaa.gov/national/endangered-species-conservation/reducing-vessel-strikes-north-atlantic-right-whales
- Roberts, J.J., B.D. Best, L. Mannocci, E. Fujioka, P.N. Halpin, D.L. Palka, L.P. Garrison, K.D. Mullin, T.V.N. Cole, C.B. Khan, W.M. McLellan, D.A. Pabst, and G.G. Lockhart. 2016. "Habitat-based cetacean density models for the U.S. Atlantic and Gulf of Mexico". *Scientific Reports* 6: 22615. Available online at: doi: 10.1038/srep22615. Accessed on 16 Sept 2022.
- Roberts, J. J. and P. N. Halpin. 2022. Habitat-based Marine Mammal Density Models for the U.S. Atlantic: Latest Versions (last updated 20 June 2022), provided by Duke University Marine Geospatial Ecology Laboratory, v.12. Available at: <https://seamap.env.duke.edu/models/Duke/EC/>. Accessed. September 12, 2022.
- Smultea Environmental Sciences. 2019. Protected Species Observer Technical Report for the Geotechnical Survey of OCS-A 0512 Lease Area, Equinor Wind, US.

Wildlife Conservation Society (WCS). 2020. Acoustic Monitoring in Equinor Wind Lease Area: WCS-WHOI collaboration, Phase 1, 2019-2022. Year 1 Progress Report to Equinor Wind US LLC. WCS Ocean Giants.

Wildlife Conservation Society (WCS). 2021. Acoustic Monitoring in Equinor Wind Lease Area: WCS-WHOI collaboration, Phase 1, 2019-2022. Year 2 Progress Report to Equinor Wind US LLC. WCS Ocean Giants.

Wildlife Conservation Society (WCS). 2023. Acoustic Monitoring in Equinor Wind Lease Area: WCS-WHOI collaboration, Phase 1 & 2, 2019-2029. Year 3 Progress Report to Equinor Wind US LLC. WCS Ocean Giants.