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Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
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(Submitted via email to jolie.harrison@noaa.gov and benjamin.laws@noaa.gov)

**Subject: Renewal of Incidental Harassment Authorization for Ocean Wind LLC Site
 Characterization Survey off of New Jersey (OCS-A 0498)**

Dear Ms. Harrison and Mr. Laws:

Ocean Wind LLC (Ocean Wind 01) was issued an incidental harassment authorization (IHA) on 10 May 2021 (86 *Federal Register* [FR] 26465), pursuant to Section 101(a)(5) of the Marine Mammal Protection Act and 50 Code of Federal Regulations § 216 Subpart I to allow for the incidental Level B harassment of small numbers of marine mammals during marine site characterization surveys in coastal waters off of New Jersey in the areas of the Bureau of Ocean Energy Management (BOEM) *Commercial Lease of Submerged Lands for Renewable Energy Development on the Outer Continental Shelf* (OCS)-A 0498 (Lease Area).

The issued IHA, effective through 09 May 2022, includes the provision for a one-year renewal, on a case-by-case basis when (1) up to another year of identical, or nearly identical, activities as described in the Specified Activities section of the IHA is planned, or (2) the activities as described in the Specified Activities of the IHA would not be completed by the time the IHA expires and a Renewal would allow for completion of the activities beyond that described in the authorization. Ocean Wind 01 plans to conduct a second year of high-resolution geophysical (HRG) site characterization surveys identical to those described in the issued IHA and is therefore requesting a Renewal IHA. The information provided below is pursuant to the requirements of 8(b)(i) and (ii) of the issued IHA and discussions with Office of Protected Resources (OPR) staff.

Specified Activities

Ocean Wind 01 proposes to continue site characterization HRG surveys within the geographic area depicted in the issued IHA, including federal waters located in Lease Areas, and federal and state waters along potential export cable routes (ECRs) to landfall locations between Raritan Bay (part of the New York Bight) and Delaware Bay, collectively referred to as the Project Area. **Figure 1** shows the Project Area boundaries (gray shaded area) for the site characterization surveys.

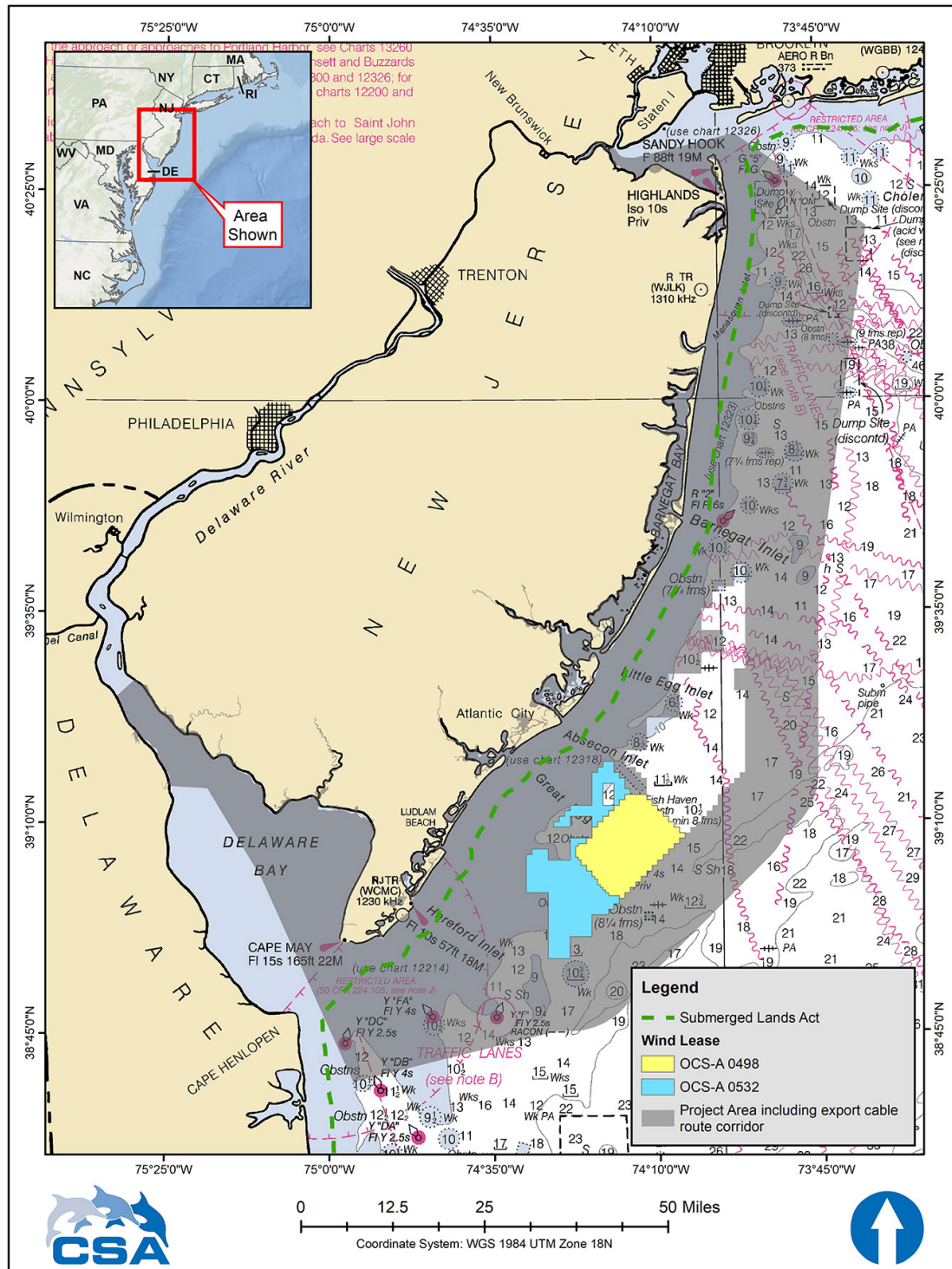


Figure 1. Project Area for the site characterization surveys, indicated in gray, which include the Lease Area in yellow and the potential export cable route area under consideration in this Renewal incidental harassment authorization (IHA) request.

Consistent with the issued IHA, HRG surveys will be completed with shallow- to medium-penetration sub-bottom profiling (SBP) equipment (e.g., parametric sonars, compressed high-intensity radiated pulses [CHIRPs], boomers, sparkers) with operating frequencies below 200 kHz. Survey equipment will be deployed from multiple vessels or remotely operated vehicles (ROVs). No deep-penetration sub-bottom profiling (e.g., airgun or bubble gun surveys) will be conducted. In the prior analysis conducted for the issued IHA, it was determined that only two categories of equipment would result in potential take: non-impulsive, non-parametric SBP (i.e., CHIRPs) and impulsive SBP (i.e., boomers, sparkers). No other types of equipment were included in the take assessment (86 FR 26465). The maximum Level B threshold ranges identified for the two equipment categories were as follows:

- 48 m for all non-impulsive, non-parametric SBP (i.e., CHIRPs); and
- 141 m for all impulsive sources (i.e., boomers, sparkers).

The proposed scope of the surveys in this renewal request is identical to the surveys being conducted under the issued IHA (**Table 1**). Therefore, **no changes to the mitigation and monitoring protocols established under the issued IHA are proposed.**

Table 1. Number of survey days within the Lease Area and the potential export cable route (ECR) with the maximum number of days an impulsive source may be used.

Area	Number of Survey Days	Maximum Number of Survey Days Using Impulsive Sources
Lease Area	142	142
ECR	133	133
Total	275	275

2022 – 2023 Survey Take Estimation

Marine mammal take estimates for the 2022/2023 survey campaign (10 May 2022 – 09 May 2023) for the anticipated activities to be conducted under the renewed IHA are provided in **Table 2**. The estimated takes are based on the issued IHA's annual average species density estimates (derived from the latest data from Roberts [2021]¹) and harassment zones², except for the North Atlantic right whale (*Eubalaena glacialis*), which was updated in November 2021 after the IHA was issued. The density model from Robert (2021) was updated to include new sighting data from the Northeast Fisheries Science Center spring 2019 surveys which resulted in a minor increase in densities for this species in the winter and spring, but no changes in the summer and fall. Although this slight increase in density increases the take estimate for North Atlantic right whales from 9 to 11, Ocean Wind 01 does not expect 11 takes to be realized based on previous protected species observer (PSO) data for this region. Only one sighting of a North Atlantic right whale was reported within the Ocean Wind 01 Lease Area for surveys conducted from 2017 to 2018 (Smultea Environmental Sciences, 2018)³ and one confirmed sighting was reported inside the Garden State Offshore Energy, LLC lease area (OCS-A 0482) during surveys conducted from 2018 to 2019 (Smultea Environmental Sciences, 2019)⁴. Consistent with the issued IHA (86 FR 26465), no Level A takes are expected to result from any of the proposed survey activities and only

¹Roberts JJ. 2021. Habitat-based marine mammal density models for the U.S. Atlantic: Latest Versions. <https://seamap.env.duke.edu/models/Duke/EC/>. Accessed 19 December 2021.

²The harassment zone is a representation of the maximum extent of the ensonified area around a sound source over a 24-hour period. The harassment zone for each piece of equipment operating below 200 kHz was calculated per the following formulae: Harassment Zone = (Distance/day × 2r) + πr where r is the linear distance from the source to the isopleth for Level A or Level B thresholds and day = 1 (i.e., 24 hours). The estimated potential daily active survey distance of 70 km was used as the estimated areal coverage over a 24-hour period.

³Smultea Environmental Sciences. 2018. Protected Species Observer Technical Report OCW01 Geotechnical Investigation 1A New Jersey (2017 & 2018). Prepared for Fugro USA Marine, Inc. 9 August 2018. 137 pp.

⁴Smultea Environmental Sciences. 2019. Protected Species Observer Technical Report Deepwater Wind Skipjack Wind Project Delaware Lease Area OCS-A 0482 Maryland and Delaware 2018. Prepared for Deepwater Wind, LLC (U.S.). 19 April 2019. 134 pp.

Level B take estimates were included in this request. The surveys conducted under the issued IHA (86 *FR* 26465) have not exceeded takes for any species.

Table 2. Maximum potential Level B take exposure resulting from 100% usage of the sparker systems during all 142 days of survey in the Lease Area and 133 days of survey in the export cable route area for this incidental harassment authorization renewal request.

Species	Density		Total Calculated Takes
	OCS-A-0498	ECR	
North Atlantic Right Whale	0.0024	0.0021	11
Humpback Whale	0.0004	0.0004	2
Fin Whale	0.0011	0.0010	6
Sei Whale	0.0000	0.0000	0
Minke Whale	0.0003	0.0003	2
Sperm Whale	0.0001	0.0001	0
Short-finned Pilot Whale ¹	0.0004	0.0005	2
Long-finned Pilot Whale ¹	0.0004	0.0005	2
Common Bottlenose Dolphin (Offshore) ²	0.0529	0.0429	262
Common Bottlenose Dolphin (Migratory) ²	0.1312	0.3953	1,410
Common Dolphin	0.0198	0.0258	124
Atlantic White-sided Dolphin	0.0026	0.0033	16
Atlantic Spotted Dolphin	0.0004	0.0007	3
Risso's Dolphin	0.0000	0.0000	0
Harbor Porpoise	0.0140	0.0198	91
Gray Seal ³	0.0003	0.0037	11
Harbor Seal ³	0.0003	0.0037	11

ECR = export cable route; OCS = outer continental shelf.

¹Long- and short-finned pilot whales are difficult to distinguish during shipboard surveys so individual habitat models were not able to be developed. Because both species have the same potential to occur in this region, densities are assumed to apply to both species.

²Roberts (2021) does not provide density estimates for individual stocks of common bottlenose dolphins, so densities for each stock were delineated using the 20-m isobath and the take calculation assumes 142 survey days are conducted in the Lease Area and 133 survey days are conducted in the ECR for both stocks.

³Seal species are not separated in the Roberts (2021) data therefore densities were evenly split between the two species.

Following the same methods used in the issued IHA (86 *FR* 26465), the estimated take numbers for some species were adjusted from the calculated takes based on preliminary PSO data and documented mean group sizes to provide the requested take authorization for the Renewal IHA (**Table 3**).

Table 3. Requested Level B takes for the incidental harassment authorization renewal request.

Species		Population Estimate ¹	Requested Takes ²	% Population
North Atlantic Right Whale	<i>Eubalaena glacialis</i>	368	11	2.45%
Humpback Whale	<i>Megaptera novaeangliae</i>	1,396	2	0.14%
Fin Whale	<i>Balaenoptera physalus</i>	6,802	6	0.09%
Sei Whale	<i>Balaenoptera borealis</i>	6,292	1	0.02%
Minke Whale	<i>Balaenoptera acutorostrata</i>	21,968	2	0.01%
Sperm Whale	<i>Physeter macrocephalus</i>	4,349	3	0.07%
Short-finned Pilot Whale	<i>Globicephala melas</i>	28,924	2	0.01%
Long-finned Pilot Whale	<i>Globicephala melas</i>	39,215	2	0.01%
Bottlenose Dolphin (W.N.A Offshore)	<i>Tursiops truncatus</i>	62,851	262	0.42%
Bottlenose Dolphin (W.N.A Migratory)	<i>Tursiops truncatus</i>	6,639	1,410	21.24%
Common Dolphin	<i>Delphinus delphis</i>	172,974	124	0.07%
Atlantic White-sided Dolphin	<i>Lagenorhynchus acutus</i>	93,233	16	0.02%
Atlantic Spotted Dolphin	<i>Stenella frontalis</i>	39,921	3	0.01%
Risso's Dolphin	<i>Stenella frontalis</i>	35,215	30	0.09%
Harbor Porpoise	<i>Phocoena phocoena</i>	95,543	91	0.10%
Harbor Seal	<i>Phoca vitulina</i>	61,336	11	0.02%
Gray Seal	<i>Halichoerus grypus</i>	27,300	11	0.04%

W.N.A = Western North Atlantic.

¹Population estimates have been updated from the previous issued IHA (86 FR 26465) using the draft 2021 Marine Mammal Stock Assessment Reports (86 FR 58887).

²Requested takes were increased from calculated takes for species with no modeled exposures based on mean group sizes derived from the following references:

- Sei whale: Kenny and Vigness-Raposa, 2010⁵;
- Sperm whale: Barkaszi and Kelly, 2019⁶; and
- Risso's dolphin: Barkaszi and Kelly, 2019.

⁵Kennedy RD, Vigness-Raposa KJ. 2010. Marine Mammals and Sea Turtles of Narragansett Bay, Block Island Sound, Rhode Island Sound, and Nearby Waters: An Analysis of Existing Data for the Rhode Island Ocean Special Area Management Plan. University of Rhode Island. Ocean Special Area Management Plan Technical Report #10. 337 pp.

⁶Barkaszi MJ, Kelly CJ. 2019. Seismic survey mitigation measures and protected species observer reports: synthesis report. U.S. Department of the Interior, Bureau Ocean Energy Management, Gulf of Mexico OCS Region, New Orleans, LA. Contract No.: M17PD00004. OCS Study BOEM 2019-012. 220 pp.

Ocean Wind 01 appreciates the opportunity to submit this IHA renewal request. Should you have any questions or need further information, please do not hesitate to contact Marc Reimer at mreim@orsted.com or (857) 256-1725.

Yours sincerely,
Ocean Wind 01

A handwritten signature in black ink that reads 'Marc Reimer' in a cursive script.

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