



TO: Jessica Taylor, Office of Protected Resources, NOAA Fisheries
DATE: September 11, 2023

FROM: US Wind, TRC Environmental, TRC PROJECT NO.: 016310
Marine Acoustics, Inc.

SUBJECT: NMFS Comment Responses, Revised Requested Take Tables – Maryland Offshore Wind
Project LOA

Please see revised tables 6-10, 6-15, 6-16, 6-18, and 6-20 below in response to comments from NMFS received by US Wind on September 7, 2023.

Table 6-10. Maximum Annual Injury (PTS; Cumulative Sound Exposure Levels [SEL] and Peak) and Behavior (Sound Pressure Level [SPL]) Acoustic Exposure and MMPA Level A and Level B Requested Takes of Potentially Affected Marine Mammals in the Buffered Lease Area Associated with the Mitigated (10 dB Sound Reduction Level) Sound Level for Pile Driving of 11-m Monopiles During the Three Years of Construction Planned for the Project; Only Sound Level Attenuation (10 dB) Mitigation Applied.

Marine Mammal Hearing Group	Marine Mammal Species	PTS Cumulative Injury SEL Acoustic Exposures			PTS Peak Injury Acoustic Exposures			Behavioral SPL Acoustic Exposures			Level A Requested Takes			Level B Requested Takes		
		Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Low Frequency Cetaceans (LFC)	Fin whale	0.39	1.16	0.68	0.00	0.00	0.00	3.94	11.57	6.83	2	2	2	4	12	7
	Common minke whale	0.49	5.55	1.11	0.00	0.00	0.00	2.96	33.31	6.66	1	6	2	3	34	7
	Humpback whale	0.42	1.55	0.67	0.00	0.00	0.00	2.52	9.29	4.05	2	2	2	3	10	5
	North Atlantic right whale	0.01	0.05	0.02	0.00	0.00	0.00	0.06	0.24	0.08	0 ^a	0 ^a	0 ^a	2	2	2
	Sei whale	0.01	0.12	0.02	0.00	0.00	0.00	0.11	0.83	0.17	1	1	1	1	1	1
Mid-frequency Cetaceans (MFC)	Atlantic spotted dolphin	0.00	0.00	0.00	0.00	0.00	0.00	14.07	38.86	50.75	0	0	0	24 ^b	54 ^b	54 ^b
	Blainville's beaked whale	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0
	Common bottlenose dolphin ¹	0.00	0.00	0.00	0.00	0.00	0.00	846.85	2320.67	1711.04	0	0	0	847	2,321	1,712
	Cuvier's beaked whale	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0
	Gervais' beaked whale	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0
	Killer whale	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.22	0.15	0	0	0	0 ^c	0 ^c	0 ^c
	Long-finned and short-finned pilot whales ^d	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	27 ^e	27 ^e	27 ^e
	Pantropical spotted dolphin	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.45	0.31	0	0	0	5	5	5
	Risso's dolphin	0.00	0.00	0.00	0.00	0.00	0.00	0.79	4.33	1.94	0	0	0	9	9	9
	Rough toothed dolphin	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.11	0.08	0	0	0	0 ^c	0 ^c	0 ^c
	Short-beaked common dolphin	0.00	0.00	0.00	0.00	0.00	0.00	28.63	233.12	96.48	0	0	0	29	234	97
Sperm whale	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	

Table 6-10. Maximum Annual Injury (PTS; Cumulative Sound Exposure Levels [SEL] and Peak) and Behavior (Sound Pressure Level [SPL]) Acoustic Exposure and MMPA Level A and Level B Requested Takes of Potentially Affected Marine Mammals in the Buffered Lease Area Associated with the Mitigated (10 dB Sound Reduction Level) Sound Level for Pile Driving of 11-m Monopiles During the Three Years of Construction Planned for the Project; Only Sound Level Attenuation (10 dB) Mitigation Applied.

Marine Mammal Hearing Group	Marine Mammal Species	PTS Cumulative Injury SEL Acoustic Exposures			PTS Peak Injury Acoustic Exposures			Behavioral SPL Acoustic Exposures			Level A Requested Takes			Level B Requested Takes		
		Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
	Striped dolphin	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.45	0.31	0	0	0	0 ^c	0 ^c	0 ^c
	True's beaked whale	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0
High Frequency Cetaceans (HFC)	Harbor porpoise	0.00	0.00	0.00	0.00	1.19	0.01	0.03	15.83	0.08	0	3	3	3	16	3
	Dwarf sperm whale	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0
	Pygmy sperm whale	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0
Phocid Pinnipeds Underwater (PW)	Harbor and Gray seals ^d	0.00	0.00	0.00	0.00	0.00	0.00	17.87	234.31	30.02	0	0	0	18	235	31

¹Two stocks of common bottlenose dolphin (the Western North Atlantic migratory coastal stock and the Western North Atlantic offshore stock) may occur in the Project area. Both stocks are presented together here.

^a Given the efficacy of the planned mitigation, no takes by MMPA Level A are requested for the North Atlantic right whale

^b Requested takes for Atlantic spotted dolphins for 11-m monopile driving activities are based upon the assumption that 4 groups will be observed during year 1, and 9 groups will be observed during years 2 and 3.

^c No takes are being requested for killer whales, rough-toothed dolphins, and striped dolphins due to their limited occurrence within the Project area.

^d Exposure estimates and requested takes presented for pilot whale and seal guilds, as requested by NMFS

^e Requested take for pilot whales for 11-m monopile driving activities are based upon the assumption that one group of each species would be observed during each year. Group size for long-finned pilot whale: 16 individuals, group size for short-finned pilot whale: 11 individuals.

Table 6-15. Calculated Level B Takes of Marine Mammals by Acoustic Harassment due to MicroSiting HRG Survey Activities, Second Construction Campaign, Daylight-only Operations.

Hearing Group	Common Name	Best Abundance Estimate of Stock	Month of Max Density	Calculated Level B Exposures	Max Percentage of Stock Impacted ^a	Level B Requested Takes
LF Cetaceans	North Atlantic right whale	338	Feb	0.1	0.035	0 ^b
	Fin whale	6,802	Jan	0.3	0.005	0 ^b
	Humpback whale	1,393	Apr	0.3	0.021	0 ^b
	Minke whale	21,968	May	1.2	0.005	2
	Sei whale	6,292	Apr	0.1	0.002	0 ^b
MF Cetaceans	Atlantic spotted dolphin ^c	39,921	Aug	2.3	0.0059	6
	Bottlenose dolphin	69,490	Aug	32.1	0.046	33
	Killer whale	UNK	N/A	0.0	UNK	0
	Long-finned and short-finned pilot whale ^d	68,139	N/A	0.02	0.000	0 ^b
	Pantropical spotted dolphin	6,593	N/A	0.0	0.000	0
	Risso's dolphin	35,215	Dec	0.3	0.0007	0 ^b
	Rough toothed dolphin	136	N/A	0.0	0.002	0
	Short-beaked common dolphin	172,974	Dec	12.4	0.007	13
	Striped dolphin	67,036	N/A	0.0	0.000	0
	Sperm Whale	4,349	May	0.0	0.000	0
	Blainville's beaked whale	10,107	N/A	0.0	0.000	0
	Cuvier's beaked whale	5,744	N/A	0.0	0.000	0
	Gervais' beaked whale	10,107	N/A	0.0	0.000	0
	True's beaked whale	10,107	N/A	0.0	0.000	0
HF Cetaceans	Harbor porpoise	95,543	Jan	5.7	0.006	6
	Kogia sp.	UNK	N/A	0.0	UNK	0
Pinnepeds	Harbor and Gray seal ^d	88,636	Jan	26.4	0.030	27

UNK: no stock abundance estimate available

N/A: only annual density data available

^a Based upon calculated Level B Exposures

^b No MMPA Level B takes are requested during HRG survey activities due to the efficacy of planned mitigation and the short duration of these activities.

^c Two stocks of common bottlenose dolphin (the Western North Atlantic migratory coastal stock and the Western North Atlantic offshore stock) may occur in the Project area. Both stocks are presented together here.

^d Exposure estimates and requested takes presented for pilot whale and seal guilds, as requested by NMFS

Table 6-16. Calculated Level B Takes of Marine Mammals by Acoustic Harassment due to MicroSiting HRG Survey Activities, Third Construction Campaign, Daylight-only Operations.

Hearing Group	Common Name	Best Abundance Estimate of Stock	Month of Max Density	Calculated Level B Exposures	Max Percentage of Stock Impacted ^a	Level B Requested Takes
LF Cetaceans	North Atlantic right whale	338	Feb	0.1	0.035	0 ^b
	Fin whale	6,802	Jan	0.3	0.005	0 ^b
	Humpback whale	1,393	Apr	0.3	0.021	0 ^b
	Minke whale	21,968	May	1.2	0.005	2
	Sei whale	6,292	Apr	0.1	0.002	0 ^b
MF Cetaceans	Atlantic spotted dolphin ^c	39,921	Aug	2.3	0.0059	6
	Bottlenose dolphin	69,490	Aug	32.1	0.046	33
	Killer whale	UNK	N/A	0.0	UNK	0
	Long-finned and short-finned pilot whale ^d	68,139	N/A	0.02	0.000	0 ^b
	Pantropical spotted dolphin	6,593	N/A	0.0	0.000	0
	Risso's dolphin	35,215	Dec	0.3	0.0007	0 ^b
	Rough toothed dolphin	136	N/A	0.0	0.002	0
	Short-beaked common dolphin	172,974	Dec	12.4	0.007	13
	Striped dolphin	67,036	N/A	0.0	0.000	0
	Sperm Whale	4,349	May	0.0	0.000	0
	Blainville's beaked whale	10,107	N/A	0.0	0.000	0
	Cuvier's beaked whale	5,744	N/A	0.0	0.000	0
	Gervais' beaked whale	10,107	N/A	0.0	0.000	0
	True's beaked whale	10,107	N/A	0.0	0.000	0
HF Cetaceans	Harbor porpoise	95,543	Jan	5.7	0.006	6
	Kogia sp.	UNK	N/A	0.0	UNK	0
Pinnepeds	Harbor and Gray seal ^d	88,636	Jan	26.4	0.030	27

UNK: no stock abundance estimate available

N/A: only annual density data available

^a Based upon calculated Level B Exposures

^b No MMPA Level B takes are requested during HRG survey activities due to the efficacy of planned mitigation and the short duration of these activities.

^c Two stocks of common bottlenose dolphin (the Western North Atlantic migratory coastal stock and the Western North Atlantic offshore stock) may occur in the Project area. Both stocks are presented together here.

^d Exposure estimates and requested takes presented for pilot whale and seal guilds, as requested by NMFS



Table 6-18. Maximum Annual MMPA Level A and Level B Acoustic Exposure and MMPA Level A and Level B Requested Takes of Potentially Affected Marine Mammals in the Buffered Lease Area Resulting from Acoustic Exposure During Mitigated (10 dB Sound Reduction Level) Impact Pile Driving (Monopile, Skirt Pile, and Pin Pile) and Micro-Siting HRG Survey Activities During Each Year of the Planned Construction and Survey Activities for the Project.

Marine Mammal Hearing Group	Marine Mammal Species	Injury SEL					Behavior SPL					Level A Requested Takes					Level B Requested Takes				
		Year 1		Year 2		Year 3	Year 1		Year 2		Year 3	Year 1		Year 2		Year 3	Year 1		Year 2		Year 3
		Pile Driving	Pile Driving	HRG Surveys	Pile Driving	HRG Surveys	Pile Driving	Pile Driving	HRG Surveys	Pile Driving	HRG Surveys	Pile Driving	Pile Driving	HRG Surveys	Pile Driving	HRG Surveys	Pile Driving	Pile Driving	HRG Surveys	Pile Driving	HRG Surveys
Low Frequency Cetaceans	Fin whale	0.39	1.16	0.00	0.68	0.00	3.97	11.65	0.3	6.86	0.3	2	2	0	2	0	6	16	0 ^a	9	0 ^a
	Common Minke whale	0.49	5.55	0.00	1.11	0.00	3.00	33.39	1.2	6.70	1.2	1	6	0	2	0	4	36	2	8	2
	Humpback whale	0.42	1.55	0.00	0.67	0.00	2.54	9.33	0.3	4.06	0.3	2	2	0	2	0	5	14	0 ^a	7	0 ^a
	North Atlantic right whale	0.01	0.05	0.00	0.02	0.00	0.06	0.24	0.1	0.08	0.1	0 ^b	0 ^b	0	0 ^b	0	2	2	0 ^a	2	0 ^a
	Sei whale	0.01	0.12	0.00	0.02	0.00	0.11	0.83	0.1	0.17	0.1	1	1	0	1	0	1	1	0 ^a	1	0 ^a
Mid-Frequency Cetaceans	Atlantic spotted dolphin	0.00	0.00	0.00	0.00	0.00	14.24	39.21	2.3	50.92	2.3	0	0	0	0	0	30 ^c	60 ^c	6	60 ^c	6
	Blainville's beaked whale	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0	0
	Common Bottlenose dolphin ^d	0.00	0.00	0.00	0.00	0.00	856.38	2341.64	32.10	1720.57	32.10	0	0	0	0	0	859	2353	33	1724	33
	Cuvier's beaked whale	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0	0
	Gervais' beaked whale	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0	0
	Killer whale	0.00	0.00	0.00	0.00	0.00	0.08	0.22	0.00	0.15	0.00	0	0	0	0	0	0 ^e	0 ^e	0	0 ^e	0
	Long-finned and short-finned pilot whale ^f	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0	0	0	0	0	27 ^g	27 ^g	0	27 ^g	0
	Pantropical spotted dolphin	0.00	0.00	0.00	0.00	0.00	0.17	0.45	0.00	0.31	0.00	0	0	0	0	0	5	5	0	5	0
	Risso's dolphin	0.00	0.00	0.00	0.00	0.00	0.80	4.36	0.3	1.95	0.3	0	0	0	0	0	18	18	0 ^a	18	0 ^a
Rough toothed dolphin	0.00	0.00	0.00	0.00	0.00	0.04	0.11	0.00	0.08	0.00	0	0	0	0	0	0 ^e	0 ^e	0	0 ^e	0	

Table 6-18. Maximum Annual MMPA Level A and Level B Acoustic Exposure and MMPA Level A and Level B Requested Takes of Potentially Affected Marine Mammals in the Buffered Lease Area Resulting from Acoustic Exposure During Mitigated (10 dB Sound Reduction Level) Impact Pile Driving (Monopile, Skirt Pile, and Pin Pile) and Micro-Siting HRG Survey Activities During Each Year of the Planned Construction and Survey Activities for the Project.

Marine Mammal Hearing Group	Marine Mammal Species	Injury SEL					Behavior SPL					Level A Requested Takes					Level B Requested Takes				
		Year 1		Year 2		Year 3	Year 1		Year 2		Year 3	Year 1		Year 2		Year 3	Year 1		Year 2		Year 3
		Pile Driving	HRG Surveys	Pile Driving	HRG Surveys	Pile Driving	HRG Surveys	Pile Driving	HRG Surveys	Pile Driving	HRG Surveys	Pile Driving	HRG Surveys	Pile Driving	HRG Surveys	Pile Driving	HRG Surveys	Pile Driving	HRG Surveys	Pile Driving	HRG Surveys
	Short-beaked common dolphin	0.00	0.00	0.00	0.00	0.00	29.20	234.44	12.4	97.06	12.4	0	0	0	0	0	36	248	13	104	13
Mid-Frequency Cetaceans	Sperm whale	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0	0
	Striped dolphin	0.00	0.00	0.00	0.00	0.00	0.17	0.45	0.00	0.31	0.00	0	0	0	0	0	0 ^e	0 ^e	0	0 ^e	0
	True's beaked whale	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0	0
High Frequency Cetaceans	Harbor porpoise	0.00	1.19	0.00	0.01	0.00	0.03	15.83	5.7	0.09	5.7	0	3	0	3	0	3	16	6	3	6
	Dwarf sperm whale	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0	0
	Pygmy sperm whale	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0	0
Pinnipeds in Water	Harbor and Gray seal ^e	0.00	0.00	0.00	0.00	0.00	17.95	234.56	26.4	30.1	26.4	0	0	0	0	0	19	237	27	32	27

^a No MMPA Level B takes of fin whale, humpback whale, NARW, sei whale, or Risso's dolphin are requested during HRG survey activities, due to the efficacy of the planned mitigation and the short duration of these activities.

^b Given the efficacy of the planned mitigation, no takes by MMPA Level A are requested for the North Atlantic right whale.

^c Requested MMPA Level B takes for Atlantic spotted dolphins for pile driving activities are based upon the assumption that a total of 5 groups will be observed during year 1, and a total of 10 groups will be observed during each of years 2 and 3.

^d Two stocks of common bottlenose dolphin (the Western North Atlantic migratory coastal stock and the Western North Atlantic offshore stock) may occur in the Project area. Both stocks are presented together here.

^e No takes are being requested for killer whales, rough-toothed dolphins, and striped dolphins due to their limited occurrence within the Project area.

^f Exposure estimates and requested takes presented for pilot whale and seal guilds, as requested by NMFS

^g Requested take for pilot whales for 11-m monopile driving activities are based upon the assumption that one group would be observed during each year.

Table 6-20. Total Requested MMPA Level A (PTS Cumulative and Peak) and Level B (Behavior) Harassment Takes Associated with Acoustic Exposure During Mitigated (10 dB Sound Reduction Level) Impact Pile Driving (Monopile, Skirt Pile, and Pin Pile) and Micro-Siting HRG Survey Activities for the Full Duration of the Construction and Survey Periods for the Project; Harassment Takes Rounded Upwards to Nearest Whole Integer.

Marine Mammal Hearing Group	Marine Mammal Species	Abundance ¹	MMPA Level A Harassment Requested	Percent of Stock Affected	MMPA Level B (Behavior) Harassment Requested	Percent of Stock Affected
Low Frequency Cetaceans	Fin whale	6,802	6	0.088	31	0.456
	Common minke whale	21,968	9	0.041	52	0.237
	Humpback whale	1,396	6	0.430	26	1.862
	North Atlantic right whale	338	0	0.000	6	1.775
	Sei whale	6,292	3	0.048	3	0.048
Mid-Frequency Cetaceans (MFC)	Atlantic spotted dolphin	39,921	0	0.000	162	0.406
	Common Bottlenose dolphin ²	69,490	0	0.000	5002	7.198
	Pantropical spotted dolphin	6,593	0	0.000	15	0.228
	Risso's dolphin	35,215	0	0.000	54	0.153
	Short-beaked common dolphin	172,974	0	0.000	414	0.239
	Long-finned and short-finned pilot whales	68,139 ^a	0	0.000	81	0.119
High Frequency Cetaceans	Harbor porpoise	95,543	6	0.006	34	0.036
Pinnipeds in Water	Harbor and Gray seal	88,636 ^b	0	0.000	342	0.386

¹Hayes et al. 2022, 2021, 2020, 2019; Waring et al. 2015; UNK=unknown

²Two stocks of common bottlenose dolphin (the Western North Atlantic migratory coastal stock and the Western North Atlantic offshore stock) may occur in the Project area. Both stocks are presented together here.

^aSum of long-finned pilot whale and short-finned pilot whale abundances.

^bSum of harbor seal and gray seal abundances.