APPENDIX E3

Maximum-Case Scenario Estimates for Offshore Wind Projects

Contents

Tables

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INTRODUCTION

Table E3-1 (parts 1–10) provides maximum-case scenario estimates of potential offshore wind project impacts assuming maximum buildout, using the geographic analysis areas in the Revolution Wind Farm (RWF) and Revolution Wind Export Cable (RWEC) project environmental impact statement (EIS) and construction and operations plan–designated numbers for the RWF and RWEC. The Bureau of Ocean Energy Management (BOEM) developed these estimates based on offshore wind demand, as discussed in its 2019 study *National Environmental Policy Act Documentation for Impact-Producing Factors in the Offshore Wind Cumulative Impacts Scenario on the North Atlantic Outer Continental Shelf* (BOEM 2019). Estimates disclosed in the EIS's Chapter 3, No Action analyses were developed by summing acreage or number calculations across all lease areas noted as occurring within, or overlapping, a given geographic analysis area. This likely overestimates some impacts in cases where lease areas only partially overlap analysis areas. However, this approach was used to provide the most conservative estimate of future offshore wind development.

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Table E3-1. Offshore Wind Leasing Activities in the U.S. East Coast: Projects and Assumptions (as of March 17, 2023) (part 1)

Region[1]	Lease/Project/ Lease Remainder[2]	Status[3]	Resource/Projects[4]								Estimated Offshore Construction Time Period[5]	Expected Turbine Size (MW)[6]
			Air	Water	Benthic/ Cultural Resources	Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use	Navigation/ Commercial Fisheries/Other Marine Uses	Visual/ Recreation -Tourism	Environmental Justice	Demographics/ Environmental Justice		
NE	NE Aquaventis	State Project	–	–	–	–	–	–	–	–	2024	11
NE	Block Island	State Project, Built	–	–	–	–	–	–	–	–	Built	6
	Total State Waters Leases		–	–	–	–	–	–	–	–	N/A	N/A
MA/RI	Vineyard Wind 1 part of OCS-A 0501	COP, ROD	–	–	–	–	–	–	–	–	2023	Up to 14
MA/RI	South Fork, OCS-A 0517	COP, ROD	–	–	–	–	–	–	–	–	2023	11
MA/RI	Revolution Wind, OCS #	COP	–	–	–	–	–	–	–	–	2024	–
MA/RI	Sunrise, OCS-A 0487	COP	–	–	–	–	–	–	–	–	2024	11
MA/RI	New England Wind, OCS-A 0534 and portion of OCS-A 0501 (Phase 1 [i.e., Park City Wind])	COP	–	–	–	–	–	–	–	–	2024	13–16
MA/RI	New England Wind, OCS-A 0534 and portion of OCS-A 0501 (Phase 2 [i.e., Commonwealth Wind])	COP	–	–	–	–	–	–	–	–	2025 or later	13–19
MA/RI	South Coast Wind, OCS-A 0521	COP	–	–	–	–	–	–	–	–	2024	14
MA/RI	Beacon Wind, part of OCS-A 0520 (Phase 1)	COP	–	–	–	–	–	–	–	–	2024–2026	13
MA/RI	Beacon Wind, part of OCS-A 0520 (Phase 2)	COP	–	–	–	–	–	–	–	–	2027–2029	13
MA/RI	Vineyard Northeast Wind (OCS-A 0522)	Planning	–	–	–	–	–	–	–	–	By 2030	15
MA/RI	Bay State Wind, part of OCS-A 0500	Planning	–	–	–	–	–	–	–	–	By 2030	12
MA/RI	OCS-A 0500 remainder	Planning	–	–	–	–	–	–	–	–	By 2030	12
MA/RI	OCS-A 0487 remainder	Planning	–	–	–	–	–	–	–	–		12
	Total MA/RI Leases		–	–	–	–	–	–	–	–	N/A	N/A
NY/NJ	Ocean Wind 1, part of OCS-A 0498	COP	–	–	–	–	–	–	–	–	2024–2025	12
NY/NJ	Empire Wind 1, part of OCS-A 0512	COP	–	–	–	–	–	–	–	–	2023–2026	Up to 18
NY/NJ	Empire Wind 2, part of OCS-A 512	COP	–	–	–	–	–	–	–	–	2024–2027	Up to 18
NY/NJ	Atlantic Shores South OCS-A 0499	COP	–	–	–	–	–	–	–	–	2025	15
NY/NJ	Ocean Wind 2, part of OCS-A 0532	Planning	–	–	–	–	–	–	–	–	By 2030, spread over 2026-2030	14
NY/NJ	Atlantic Shores North, OCS-A 0549	Planning	–	–	–	–	–	–	–	–	2026	15
NY/NJ	OW Ocean Winds East LLC, OCS-A 0537	Planning	–	–	–	–	–	–	–	–	By 2030, spread over 2026–2030	>12
NY/NJ	Attentive Energy LLC, OCS-A 0538	Planning	–	–	–	–	–	–	–	–		>12
NY/NJ	Bight Wind Holdings, LLC, OCS-A 0539	Planning	–	–	–	–	–	–	–	–		>12
NY/NJ	Atlantic Shores Offshore Wind Bight, OCS-A 0541	Planning	–	–	–	–	–	–	–	–		>12
NY/NJ	Invenergy Wind Offshore LLC, OCS-A 0542	Planning	–	–	–	–	–	–	–	–		>12
NY/NJ	Vineyard Mid-Atlantic LLC, OCS-A 0544	Planning	–	–	–	–	–	–	–	–		>12
	Total NY/NJ Leases		–	–	–	–	–	–	–	–	N/A	N/A
DE/MD	Skipjack, part of OCS-A 0519	COP	–	–	–	–	–	–	–	–	2024	12
DE/MD	US Wind, part of OCS-A 0490	COP	–	–	–	–	–	–	–	–	2024	Up to 18

Region[1]	Lease/Project/ Lease Remainder[2]	Status[3]	Resource/Projects[4]								Estimated Offshore Construction Time Period[5]	Expected Turbine Size (MW)[6]
			Air	Water	Benthic/ Cultural Resources	Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use	Navigation/ Commercial Fisheries/Other Marine Uses	Visual/ Recreation -Tourism	Environmental Justice	Demographics/ Environmental Justice		
DE/MD	GSOE I, OCS-A 0482	Planning	–	–	–	–	–	–	–	–	By 2030, spread over 2023–2030	12
DE/MD	OCS-A 0519 remainder	Planning	–	–	–	–	–	–	–	–	By 2030	12
–	Total DE/MD Leases		–	–	–	–	–	–	–	–	N/A	N/A
South Atlantic	CVOW, OCS-A 0497	Built	–	–	–	–	–	–	–	–	Built	6
South Atlantic	CVOW-C, OCS-A 0483	COP	–	–	–	–	–	–	–	–	2023	14–16
South Atlantic	Kitty Hawk Wind North, OCS-A 0508	COP	–	–	–	–	–	–	–	–	2027	14–18
South Atlantic	Kitty Hawk Wind South, OCS-A 0508 remainder	COP	–	–	–	–	–	–	–	–	2027–2028	> 20
South Atlantic	TotalEnergies Renewables Wind, LLC OCS-A 0545	Planning	–	–	–	–	–	–	–	–	By 2030	> 12
South Atlantic	Duke Energy Renewables Wind, LLC OCS-A 0546	Planning	–	–	–	–	–	–	–	–	By 2030	> 12
–	Total South Atlantic Leases	–	–	–	–	–	–	–	–	–	N/A	N/A
–	OCS Total:	–	–	–	–	–	–	–	–	–	N/A	N/A

Table E3-1. Offshore Wind Leasing Activities in the U.S. East Coast: Projects and Assumptions (as of March 17, 2023) (part 2)

Region[1]	Lease/Project/ Lease Remainder[2]	Status[3]	Generating Capacity (MW)[7]	COP Total Export Cable Length (statute miles)[8]	Export Cable Corridor Length (statute miles)[9]	Number of Export Cables[10]	ESTIMATED Total Export Cable Length (statute miles)[11]	Offshore Export Cable Footprint (acres)[12]	Offshore Export Cable Installation Tool Disturbance Width (feet)[13]
			Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses
NE	NE Aquaventis	State Project	11	–	–	–	–	N/A	–
NE	Block Island	State Project, Built	30	28	–	–	–	11.61	5
–	Total State Waters Leases	–	41	28	0	0	0	11.61	N/A
MA/RI	Vineyard Wind 1 part of OCS-A 0501	COP, ROD	800	98	–	–	–	11.88	6.5
MA/RI	South Fork, OCS-A 0517	COP, ROD	132	139	–	–	–	3	6.5
MA/RI	Revolution Wind, OCS #	COP	Up to 880	42	–	–	–	5.09	6.5
MA/RI	Sunrise, OCS-A 0487	COP	934	-	104.6	2	209.2	25.36	13
MA/RI	New England Wind, OCS-A 0534 and portion of OCS-A 0501 (Phase 1 [i.e., Park City Wind])	COP	804	125	–	–	–	36	10

Region[1]	Lease/Project/ Lease Remainder[2]	Status[3]	Generating Capacity (MW)[7]	COP Total Export Cable Length (statute miles)[8]	Export Cable Corridor Length (statute miles)[9]	Number of Export Cables[10]	ESTIMATED Total Export Cable Length (statute miles)[11]	Offshore Export Cable Footprint (acres)[12]	Offshore Export Cable Installation Tool Disturbance Width (feet)[13]
			Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses
MA/RI	New England Wind, OCS-A 0534 and portion of OCS-A 0501 (Phase 2 [i.e., Commonwealth Wind])	COP	1,725	226	–	–	–	113	10
MA/RI	South Coast Wind, OCS-A 0521	COP	1,600–2,400	1,184	–	–	–	472	6.5
MA/RI	Beacon Wind, part of OCS-A 0520 (Phase 1)	COP	1,230	202	–	–	–	24.48	6.5
MA/RI	Beacon Wind, part of OCS-A 0520 (Phase 2)	COP	1,100	202	–	–	–	24.48	6.5
MA/RI	Vineyard Northeast Wind (OCS-A 0522)	Planning	2,400	532	–	–	–	128	33
MA/RI	Bay State Wind, part of OCS-A 0500	Planning	1,128	139	–	–	–	16.85	6.5
MA/RI	OCS-A 0500 remainder	Planning	1,392	–	–	–	200	64	7
MA/RI	OCS-A 0487 remainder	Planning		–	–	–	200		7
	Total MA/RI Leases		14,925	2,889	105	2	609	923	N/A
NY/NJ	Ocean Wind 1, part of OCS-A 0498	COP	1,100	175	–	–	–	21.2	7
NY/NJ	Empire Wind 1, part of OCS-A 0512	COP	816	46	–	–	–	5.6	5
NY/NJ	Empire Wind 2, part of OCS-A 512	COP	1,260	30	–	–	–	3.6	5
NY/NJ	Atlantic Shores South OCS-A 0499	COP	1,510+	342	–	–	–	294.1	3.3
NY/NJ	Ocean Wind 2, part of OCS-A 0532	Planning	1,148	-	–	–	200	24.2	7
NY/NJ	Atlantic Shores North, OCS-A 0549	Planning	2,355+	330.6	–	–	-	392.9	3.3
NY/NJ	OW Ocean Winds East LLC, OCS-A 0537	Planning	7,584–11,502	–	–	–	200	24.2	7
NY/NJ	Attentive Energy LLC, OCS-A 0538	Planning		–	–	–	200	24.2	7
NY/NJ	Bight Wind Holdings, LLC, OCS-A 0539	Planning		–	–	–	200	24.2	7
NY/NJ	Atlantic Shores Offshore Wind Bight, OCS-A 0541	Planning		–	–	–	200	24.2	7
NY/NJ	Invenergy Wind Offshore LLC, OCS-A 0542	Planning		–	–	–	200	24.2	7

Region[1]	Lease/Project/ Lease Remainder[2]	Status[3]	Generating Capacity (MW)[7]	COP Total Export Cable Length (statute miles)[8]	Export Cable Corridor Length (statute miles)[9]	Number of Export Cables[10]	ESTIMATED Total Export Cable Length (statute miles)[11]	Offshore Export Cable Footprint (acres)[12]	Offshore Export Cable Installation Tool Disturbance Width (feet)[13]
			Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses
NY/NJ	Vineyard Mid-Atlantic LLC, OCS-A 0544	Planning		–	–	–	200	24.2	7
–	Total NY/NJ Leases	–	19,691	924	0	0	1,400	887	N/A
DE/MD	Skipjack, part of OCS-A 0519	COP	192	–	40	1	40	4.85	6.5
DE/MD	US Wind, part of OCS-A 0490	COP	Up to 2,000	145	–	–	–	114	6.5
DE/MD	GSOE I, OCS-A 0482	Planning	1,128	–	–	–	200	24	6.5
DE/MD	OCS-A 0519 remainder	Planning	1,128	–	–	–	200	24	6.5
–	Total DE/MD Leases		4,448	145	40	1	440	168	N/A
South Atlantic	CVOW, OCS-A 0497	Built	12	27	–	–	–	11	3.3
South Atlantic	CVOW-C, OCS-A 0483	COP	2,500–3,000	417	–	–	–	272	5
South Atlantic	Kitty Hawk Wind North, OCS-A 0508	COP	966–1,242	112	–	–	–	45	30
South Atlantic	Kitty Hawk Wind South, OCS-A 0508 remainder	COP	1,694–2,178	353	–	–	–	141	30
South Atlantic	TotalEnergies Renewables Wind, LLC OCS-A 0545	Planning	785	–	–	–	200	24	6.5
South Atlantic	Duke Energy Renewables Wind, LLC OCS-A 0546	Planning	788	–	–	–	200	24	6.5
–	Total South Atlantic Leases	–	8,005	909	0	0	400	517	N/A
–	OCS Total:	–	47,110	4,895	145	3	2,849	2,507	N/A

Table E3-1. Offshore Wind Leasing Activities in the U.S. East Coast: Projects and Assumptions (as of March 17, 2023) (part 3)

Region[1]	Lease/Project/ Lease Remainder[2]	Status[3]	Inter-array Cable Length (statute miles)[14]	Hub Height (feet)[15]	Rotor Diameter (feet)[16]	Total Height of Turbine (feet)[17]	Turbine Number[18]
			Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses and Visual/Recreation-Tourism	Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses and Visual/Recreation-Tourism	Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses and Visual/Recreation-Tourism	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses and Visual/Recreation-Tourism
NE	NE Aquaventis	State Project			450	520	2
NE	Block Island	State Project, Built	2	328	541	659	5
	Total State Waters Leases		2	N/A	N/A	N/A	7

Region[1]	Lease/Project/ Lease Remainder[2]	Status[3]	Inter-array Cable Length (statute miles)[14]	Hub Height (feet)[15]	Rotor Diameter (feet)[16]	Total Height of Turbine (feet)[17]	Turbine Number[18]
			Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses and Visual/Recreation-Tourism	Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses and Visual/Recreation-Tourism	Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses and Visual/Recreation-Tourism	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses and Visual/Recreation-Tourism
MA/RI	Vineyard Wind 1 part of OCS-A 0501	COP, ROD	171	451	721	812	62
MA/RI	South Fork, OCS-A 0517	COP, ROD	24	358	543	614	12
MA/RI	Revolution Wind, OCS #	COP	155	377–512	538–722	648–873	100
MA/RI	Sunrise, OCS-A 0487	COP	180	459	656	787	Up to 94 (at 102 potential locations)
MA/RI	New England Wind, OCS-A 0534 and portion of OCS-A 0501 (Phase 1 [i.e., Park City Wind])	COP	139	702	935	1,171	41–62
MA/RI	New England Wind, OCS-A 0534 and portion of OCS-A 0501 (Phase 2 [i.e., Commonwealth Wind])	COP	201	702	935	1,171	64–88
MA/RI	South Coast Wind, OCS-A 0521	COP	497	605	919	1,066	147
MA/RI	Beacon Wind, part of OCS-A 0520 (Phase 1)	COP	187	591	984	1,083	70–94
MA/RI	Beacon Wind, part of OCS-A 0520 (Phase 2)	COP	187	591	984	1,083	70–94
MA/RI	Vineyard Northeast Wind (OCS-A 0522)	Planning	221	787	1,050	1,312	160
MA/RI	Bay State Wind, part of OCS-A 0500	Planning	148	492	722	853	94
MA/RI	OCS-A 0500 remainder	Planning	240	492	722	853	116
MA/RI	OCS-A 0487 remainder	Planning		492	722	853	
	Total MA/RI Leases		2,350	N/A	N/A	N/A	1,123
NY/NJ	Ocean Wind 1, part of OCS-A 0498	COP	190	512	788	906	98
NY/NJ	Empire Wind 1, part of OCS-A 0512	COP	134	525	853	951	57
NY/NJ	Empire Wind 2, part of OCS-A 512	COP	166	525	853	951	90
NY/NJ	Atlantic Shores South OCS-A 0499	COP	273.5	522	919	1,049	105–136
NY/NJ	Ocean Wind 2, part of OCS-A 0532	Planning	173	512	788	906	109
NY/NJ	Atlantic Shores North, OCS-A 0549	Planning	528.1	574.2	919	1,049	157
NY/NJ	OW Ocean Winds East LLC, OCS-A 0537	Planning	120	1,009	1,230	Up to 1,312	80
NY/NJ	Attentive Energy LLC, OCS-A 0538	Planning	120	1,009	1,230	Up to 1,312	100
NY/NJ	Bight Wind Holdings, LLC, OCS-A 0539	Planning	120	1,009	1,230	Up to 1,312	145
NY/NJ	Atlantic Shores Offshore Wind Bight, OCS-A 0541	Planning	120	1,009	1,230	Up to 1,312	93
NY/NJ	Invenergy Wind Offshore LLC, OCS-A 0542	Planning	120	1,009	1,230	Up to 1,312	97
NY/NJ	Vineyard Mid-Atlantic LLC, OCS-A 0544	Planning	120	1,009	1,230	Up to 1,312	102
	Total NY/NJ Leases		2,184	N/A	N/A	N/A	1,264
DE/MD	Skipjack, part of OCS-A 0519	COP	23.7	492	722	822	16
DE/MD	US Wind, part of OCS-A 0490	COP	152	528	820	938	121
DE/MD	GSOE I, OCS-A 0482	Planning	139.12	492	722	853	94
DE/MD	OCS-A 0519 remainder	Planning	139.12	492	722	853	

Region[1]	Lease/Project/ Lease Remainder[2]	Status[3]	Inter-array Cable Length (statute miles)[14]	Hub Height (feet)[15]	Rotor Diameter (feet)[16]	Total Height of Turbine (feet)[17]	Turbine Number[18]
			Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses and Visual/Recreation-Tourism	Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses and Visual/Recreation-Tourism	Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses and Visual/Recreation-Tourism	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses and Visual/Recreation-Tourism
	Total DE/MD Leases		454	N/A	N/A	N/A	231
South Atlantic	CVOW, OCS-A 0497	Built	9	364	506	620	2
South Atlantic	CVOW-C, OCS-A 0483	COP	300	446–489	725–761	804–869	205
South Atlantic	Kitty Hawk Wind North, OCS-A 0508	COP	149	574	935	1,042	69
South Atlantic	Kitty Hawk Wind South, OCS-A 0508 remainder	COP	200	574	935	1,042	121
South Atlantic	TotalEnergies Renewables Wind, LLC OCS-A 0545	Planning	179.08	492	722	853	64
South Atlantic	Duke Energy Renewables Wind, LLC OCS-A 0546	Planning	94.72	492	722	853	64
	Total South Atlantic Leases		932	N/A	N/A	N/A	525
	OCS Total:		5,922	N/A	N/A	N/A	3,150

Table E3-1. Offshore Wind Leasing Activities in the U.S. East Coast: Projects and Assumptions (as of March 17, 2023) (part 4)

Region[1]	Lease/Project/ Lease Remainder[2]	Status[3]	ESP/OSS Number[19]	Foundation Number[20]	Total Footprint of Foundations (acres)[21]	Seabed Disturbance Based on Addition of Scour Protection (Foundation+Scour Protection) (acres)[22]	Offshore Export Cable Seabed Disturbance (acres)[23]
			Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses and Visual/Recreation-Tourism	Air and Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses and Visual/Recreation-Tourism	Water and Benthic/Cultural Resources and Navigation/Commercial Fisheries/Other Marine Uses	Benthic/Cultural Resources and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses
NE	NE Aquaventis	State Project	0	2	N/A	N/A	N/A
NE	Block Island	State Project, Built	0	5	1	6	11.61
	Total State Waters Leases		N/A	7	1	6	11.61
MA/RI	Vineyard Wind 1 part of OCS-A 0501	COP, ROD	1	63	1.3	32.7	69
MA/RI	South Fork, OCS-A 0517	COP, ROD	1	13	1	11	555
MA/RI	Revolution Wind, OCS #	COP	2	102	3	74	1,324
MA/RI	Sunrise, OCS-A 0487	COP	1	Up to 95 (at 103 potential locations)	3.27	97.57	1,185
MA/RI	New England Wind, OCS-A 0534 and portion of OCS-A 0501 (Phase 1 [i.e., Park City Wind])	COP	1–2	42–64	1.1–1.7	74	252
MA/RI	New England Wind, OCS-A 0534 and portion of OCS-A 0501 (Phase 2 [i.e., Commonwealth Wind])	COP	1–3	65–91	2.1–3.0	204	358

Region[1]	Lease/Project/ Lease Remainder[2]	Status[3]	ESP/OSS Number[19]	Foundation Number[20]	Total Footprint of Foundations (acres)[21]	Seabed Disturbance Based on Addition of Scour Protection (Foundation+Scour Protection) (acres)[22]	Offshore Export Cable Seabed Disturbance (acres)[23]
			Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses and Visual/Recreation-Tourism	Air and Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses and Visual/Recreation-Tourism	Water and Benthic/Cultural Resources and Navigation/Commercial Fisheries/Other Marine Uses	Benthic/Cultural Resources and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses
MA/RI	South Coast Wind, OCS-A 0521	COP	2	149	142	1,697	2,480
MA/RI	Beacon Wind, part of OCS-A 0520 (Phase 1)	COP	1	Up to 95	24	399	159.15
MA/RI	Beacon Wind, part of OCS-A 0520 (Phase 2)	COP	1	Up to 95	24	399	159.15
MA/RI	Vineyard Northeast Wind (OCS-A 0522)	Planning	0–3	160	1.8–2.9	2.7–3.8	2,136
MA/RI	Bay State Wind, part of OCS-A 0500	Planning	2	96	17	113	110
MA/RI	OCS-A 0500 remainder	Planning	3	119	18	137	170
MA/RI	OCS-A 0487 remainder	Planning					
	Total MA/RI Leases		N/A	1,142	232	3,238	8,957
NY/NJ	Ocean Wind 1, part of OCS-A 0498	COP	3	101	2.53	59.59	1,935
NY/NJ	Empire Wind 1, part of OCS-A 0512	COP	0	57	1.14	52.44	28
NY/NJ	Empire Wind 2, part of OCS-A 512	COP	0	90	2	82.80	18
NY/NJ	Atlantic Shores South OCS-A 0499	COP	Up to 5	Up to 141	21	162	2,607
NY/NJ	Ocean Wind 2, part of OCS-A 0532	Planning	2	111	17	130	170
NY/NJ	Atlantic Shores North, OCS-A 0549	Planning	3–8	160–165	25	190	3,393
NY/NJ	OW Ocean Winds East LLC, OCS-A 0537	Planning	2	82	21	103	170
NY/NJ	Attentive Energy LLC, OCS-A 0538	Planning	2	102	27	129	170
NY/NJ	Bight Wind Holdings, LLC, OCS-A 0539	Planning	3	148	38	186	170
NY/NJ	Atlantic Shores Offshore Wind Bight, OCS-A 0541	Planning	2	95	25	120	170
NY/NJ	Invenergy Wind Offshore LLC, OCS-A 0542	Planning	2	99	26	125	170
NY/NJ	Vineyard Mid-Atlantic LLC, OCS-A 0544	Planning	2	104	27	131	170
	Total NY/NJ Leases		N/A	1,295	232	1,470	9,169
DE/MD	Skipjack, part of OCS-A 0519	COP	1	17	4.4	21	32
DE/MD	US Wind, part of OCS-A 0490	COP	4	125	32.5	158	114
DE/MD	GSOE I, OCS-A 0482	Planning	2	96	25.0	121.0	157.6
DE/MD	OCS-A 0519 remainder	Planning					
	Total DE/MD Leases		N/A	238	62	300	303
South Atlantic	CVOW, OCS-A 0497	Built	0	2	0.1	2	11
South Atlantic	CVOW-C, OCS-A 0483	COP	3	208	4	198	13,244
South Atlantic	Kitty Hawk Wind North, OCS-A 0508	COP	1	70	1	66	407
South Atlantic	Kitty Hawk Wind South, OCS-A 0508 remainder	COP	2	123	1	100	1,284

Region[1]	Lease/Project/ Lease Remainder[2]	Status[3]	ESP/OSS Number[19]	Foundation Number[20]	Total Footprint of Foundations (acres)[21]	Seabed Disturbance Based on Addition of Scour Protection (Foundation+Scour Protection) (acres)[22]	Offshore Export Cable Seabed Disturbance (acres)[23]
			Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses and Visual/Recreation-Tourism	Air and Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses and Visual/Recreation-Tourism	Water and Benthic/Cultural Resources and Navigation/Commercial Fisheries/Other Marine Uses	Benthic/Cultural Resources and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses
South Atlantic	TotalEnergies Renewables Wind, LLC OCS-A 0545	Planning	1	65	17	82	158
South Atlantic	Duke Energy Renewables Wind, LLC OCS-A 0546	Planning	1	65	17	82	158
	Total South Atlantic Leases		N/A	533	39	529	15,261
	OCS Total:		N/A	3,215	566	5,544	33,701

Table E3-1. Offshore Wind Leasing Activities in the U.S. East Coast: Projects and Assumptions (as of March 17, 2023) (part 5)

Region[1]	Lease/Project/ Lease Remainder[2]	Status[3]	Offshore Export Cable Hard Protection (acres)[24]	Anchoring Disturbance (acres)[25]	Inter-array Construction Footprint/Seabed Disruption (acres)[26]	Inter-array Operating Footprint/Seabed Disruption (acres)[27]	Inter-array Cable Hard Protection (acres)[28]
			Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses
NE	NE Aquaventis	State Project	N/A	N/A	N/A	N/A	N/A
NE	Block Island	State Project, Built	N/A	0.5	4	7.15	N/A
	Total State Waters Leases		N/A	0.5	4	7	N/A
MA/RI	Vineyard Wind 1 part of OCS-A 0501	COP, ROD	35	122	129	90	22.491
MA/RI	South Fork, OCS-A 0517	COP, ROD	10	821	340	19	10.2
MA/RI	Revolution Wind, OCS #	COP	48	21	2,471	98	41.8
MA/RI	Sunrise, OCS-A 0487	COP	25.2	259.8	2,150	95.1	129
MA/RI	New England Wind, OCS-A 0534 and portion of OCS-A 0501 (Phase 1 [i.e., Park City Wind])	COP	2	143	222	51	10
MA/RI	New England Wind, OCS-A 0534 and portion of OCS-A 0501 (Phase 2 [i.e., Commonwealth Wind])	COP	5	199	321	73	14
MA/RI	South Coast Wind, OCS-A 0521	COP	247	442	1,408	213	122
MA/RI	Beacon Wind, part of OCS-A 0520 (Phase 1)	COP	24.00	9	962.8	113	82
MA/RI	Beacon Wind, part of OCS-A 0520 (Phase 2)	COP	24.00	9	962.8	113	82
MA/RI	Vineyard Northeast Wind (OCS-A 0522)	Planning	130	896	1,176	21	21
MA/RI	Bay State Wind, part of OCS-A 0500	Planning	17	442	226	137	137
MA/RI	OCS-A 0500 remainder	Planning	24	248.3	1,206	119	0

Region[1]	Lease/Project/ Lease Remainder[2]	Status[3]	Offshore Export Cable Hard Protection (acres)[24]	Anchoring Disturbance (acres)[25]	Inter-array Construction Footprint/Seabed Disruption (acres)[26]	Inter-array Operating Footprint/Seabed Disruption (acres)[27]	Inter-array Cable Hard Protection (acres)[28]
			Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses	Water and Birds/Bats/Finfish-Invertebrates-EFH/Marine Mammals/Sea Turtles/Land Use and Navigation/Commercial Fisheries/Other Marine Uses
MA/RI	OCS-A 0487 remainder	Planning		248.3			
	Total MA/RI Leases		590	3,859	11,574	1,143	671
NY/NJ	Ocean Wind 1, part of OCS-A 0498	COP	21	293.9	1,484	199	0
NY/NJ	Empire Wind 1, part of OCS-A 0512	COP	5	77.2	838	112	0
NY/NJ	Empire Wind 2, part of OCS-A 512	COP	4	50.4	1,323	177	0
NY/NJ	Atlantic Shores South OCS-A 0499	COP	294	714	2,335	301	301
NY/NJ	Ocean Wind 2, part of OCS-A 0532	Planning	24	335.8	1,631	219	0
NY/NJ	Atlantic Shores North, OCS-A 0549	Planning	393	416	2,162	301	301
NY/NJ	OW Ocean Winds East LLC, OCS-A 0537	Planning	24	335.8	1,205	162	0
NY/NJ	Attentive Energy LLC, OCS-A 0538	Planning	24	335.8	1,499	201	0
NY/NJ	Bight Wind Holdings, LLC, OCS-A 0539	Planning	24	335.8	2,175	292	0
NY/NJ	Atlantic Shores Offshore Wind Bight, OCS-A 0541	Planning	24	335.8	1,396	187	0
NY/NJ	Invenergy Wind Offshore LLC, OCS-A 0542	Planning	24	335.8	1,455	195	0
NY/NJ	Vineyard Mid-Atlantic LLC, OCS-A 0544	Planning	24	335.8	1,529	205	0
	Total NY/NJ Leases		883	3,902	19,033	2,552	603
DE/MD	Skipjack, part of OCS-A 0519	COP	5	67.2	250	33	0
DE/MD	US Wind, part of OCS-A 0490	COP	17	243.5	1,837	246	0
DE/MD	GSOE I, OCS-A 0482	Planning	4.8	335.8	14,10.9	189.2	0
DE/MD	OCS-A 0519 remainder	Planning					
	Total DE/MD Leases		27	647	3,498	469	0
South Atlantic	CVOW, OCS-A 0497	Built	3	0.6	5	3	0
South Atlantic	CVOW-C, OCS-A 0483	COP		9.9	14,819	38	0
South Atlantic	Kitty Hawk Wind North, OCS-A 0508	COP	32	2	5,931	14	0
South Atlantic	Kitty Hawk Wind South, OCS-A 0508 remainder	COP	49	9	7,957	19	0
South Atlantic	TotalEnergies Renewables Wind, LLC OCS-A 0545	Planning	24	4.7	4,631	12	0
South Atlantic	Duke Energy Renewables Wind, LLC OCS-A 0546	Planning	24	4.7	4,631	12	0
	Total South Atlantic Leases		132	31	37,974	98	0
	OCS Total:		1,632	8,439	72,082	4,269	1,274

Table E3-1. Offshore Wind Leasing Activities in the U.S. East Coast: Projects and Assumptions (as of March 17, 2023) (part 6)

Region[1]	Lease/Project/ Lease Remainder[2]	Status[3]	Total of Coolant fluids in WTGs (gallons)[29]	Total Coolant fluids in ESP/OSS (gallons)[30]	Total of Oils and Lubricants in WTGs (gallons)[31]	Total Oils and Lubricants in ESP/OSS (gallons)[32]	Total Diesel Fuel in WTGs (gallons)[33]	Total Diesel Fuel in ESP/OSS (gallons)[34]
			Water	Water	Air and Water	Air and Water	Air and Water	Air and Water
NE	NE Aquaventis	State Project	N/A	N/A	N/A	N/A	N/A	N/A
NE	Block Island	State Project, Built	N/A	N/A	N/A	N/A	N/A	N/A
	Total State Waters Leases		N/A	N/A	N/A	N/A	N/A	N/A
MA/RI	Vineyard Wind 1 part of OCS-A 0501	COP, ROD	42,300	46	383,000	123,559	79,300	5,696
MA/RI	South Fork, OCS-A 0517	COP, ROD	41,208	27	69,732	80,045	9,516	52,834
MA/RI	Revolution Wind, OCS #	COP	343,400	0	330,300	159,138	79,300	105,668
MA/RI	Sunrise, OCS-A 0487	COP	322,796	13,208	208,680	109,570	0	24,304
MA/RI	New England Wind, OCS-A 0534 and portion of OCS-A 0501 (Phase 1 [i.e., Park City Wind])	COP	314,464	4,228	498,604	263,650	98,272	10,936
MA/RI	New England Wind, OCS-A 0534 and portion of OCS-A 0501 (Phase 2 [i.e., Commonwealth Wind])	COP	314,464	9,510	839,608	533,333	162,712	24,606
MA/RI	South Coast Wind, OCS-A 0521	COP	530,024	8,033	433,650	755,000	132,300	200,000
MA/RI	Beacon Wind, part of OCS-A 0520 (Phase 1)	COP	81,968	13,208	415,386	86,001	74,542	35,663
MA/RI	Beacon Wind, part of OCS-A 0520 (Phase 2)	COP	81,968	13,208	415,386	86,001	74,542	35,663
MA/RI	Vineyard Northeast Wind (OCS-A 0522)	Planning	1,268,000	14,792	1,056,640	947,016	0	79,736
MA/RI	Bay State Wind, part of OCS-A 0500	Planning	322,796	50	310,200	160,000	75,200	105,668
MA/RI	OCS-A 0500 remainder	Planning	421,999	12,049	571,497	521,576	90,506	107,491
MA/RI	OCS-A 0487 remainder	Planning						
	Total MA/RI Leases		4,085,387	88,358	5,532,683	3,824,889	876,190	788,265
NY/NJ	Ocean Wind 1, part of OCS-A 0498	COP	39,690	4,488	187,964	238,707	77,714	158,502
NY/NJ	Empire Wind 1, part of OCS-A 0512	COP	49,704	0	236,037	158,503	0	7,925
NY/NJ	Empire Wind 2, part of OCS-A 512	COP	78,480	0	372,690	158,503	0	7,925
NY/NJ	Atlantic Shores South OCS-A 0499	COP	820,000	10,300	606,200	370,050	80,000	75,000
NY/NJ	Ocean Wind 2, part of OCS-A 0532	Planning	330,561	2,992	391,774	185,452	44,677	5,225
NY/NJ	Atlantic Shores North, OCS-A 0549	Planning	643,700	9,150	530,817	557,850	62,800	557,850
NY/NJ	OW Ocean Winds East LLC, OCS-A 0537	Planning	242,613	2,992	287,540	185,452	32,790	100,900
NY/NJ	Attentive Energy LLC, OCS-A 0538	Planning	303,267	2,992	359,425	185,452	40,988	100,900
NY/NJ	Bight Wind Holdings, LLC, OCS-A 0539	Planning	439,736	4,488	521,167	278,177	59,432	151,350
NY/NJ	Atlantic Shores Offshore Wind Bight, OCS-A 0541	Planning	282,038	2,992	334,266	185,452	38,119	100,900
NY/NJ	Invenergy Wind Offshore LLC, OCS-A 0542	Planning	294,169	2,992	348,643	185,452	39,758	100,900
NY/NJ	Vineyard Mid-Atlantic LLC, OCS-A 0544	Planning	309,332	2,992	366,614	185,452	41,807	100,900
	Total NY/NJ Leases		3,833,289	46,381	4,543,136	2,874,500	518,085	1,468,278
DE/MD	Skipjack, part of OCS-A 0519	COP	48,523	1,496	57,508	92,726	6,558	50,450
DE/MD	US Wind, part of OCS-A 0490	COP	366,953	5,985	434,905	370,903	49,595	201,801
DE/MD	GSOE I, OCS-A 0482	Planning	285,071	2,992.3	337,859.8	185,451.6	38,528.5	100,900.3
DE/MD	OCS-A 0519 remainder	Planning						

Region[1]	Lease/Project/ Lease Remainder[2]	Status[3]	Total of Coolant fluids in WTGs (gallons)[29]	Total Coolant fluids in ESP/OSS (gallons)[30]	Total of Oils and Lubricants in WTGs (gallons)[31]	Total Oils and Lubricants in ESP/OSS (gallons)[32]	Total Diesel Fuel in WTGs (gallons)[33]	Total Diesel Fuel in ESP/OSS (gallons)[34]
			Water	Water	Air and Water	Air and Water	Air and Water	Air and Water
	Total DE/MD Leases		700,546	10,473	830,272	649,081	94,682	353,151
South Atlantic	CVOW, OCS-A 0497	Built	846	0	7,660	0	1,586	0
South Atlantic	CVOW-C, OCS-A 0483	COP	855,670	0	437,060	258,300	0	20,409
South Atlantic	Kitty Hawk Wind North, OCS-A 0508	COP	29,165	46	229,800	61,780	47,580	2,848
South Atlantic	Kitty Hawk Wind South, OCS-A 0508 remainder	COP	51,144	93	447,507	247,117	95,894	11,396
South Atlantic	TotalEnergies Renewables Wind, LLC OCS-A 0545	Planning	151,025	23	180,881	94,533	23,385	5,776
South Atlantic	Duke Energy Renewables Wind, LLC OCS-A 0546	Planning	151,025	23	180,601	94,533	23,385	5,776
	Total South Atlantic Leases		1,238,874	185	1,483,509	756,262	191,830	46,204
	OCS Total:		9,858,096	145,398	12,389,600	8,104,732	1,680,786	2,655,898

Table E3-1. Offshore Wind Leasing Activities in the U.S. East Coast: Projects and Assumptions (as of March 17, 2023) (part 7)

Region[1]	Lease/Project/ Lease Remainder[2]	Status[3]	Construction Emissions NOx (tons)[35]	Construction Emissions VOC (tons)[36]	Construction Emissions CO (tons)[37]	Construction Emissions PM_{10} (tons)[38]	Construction Emissions $PM_{2.5}$ (tons)[39]	Construction Emissions SO_2 (tons)[40]	Construction Emissions CO_2e (tons)[41]	Operation Emissions NOx (tpy)[42]	Operation Emissions VOC (tpy)[43]	Operation Emissions CO (tpy)[44]	Operation Emissions PM10 (tpy)[45]	Operation Emissions PM2.5 (tpy)[46]	Operation Emissions SO2 (tpy)[47]	Operation Emissions CO_2e (tpy)[48]
			Air	Air	Air	Air	Air	Air	Air	Air	Air	Air	Air	Air	Air	Air
NE	NE Aquaventis	State Project	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NE	Block Island	State Project, Built	586.0	25.7	101.2	37.2	N/A	0.4	42,940.0	21.4	0.8	2.8	1.4	N/A	0.0	1,572.0
	Total State Waters Leases		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MA/RI	Vineyard Wind 1 part of OCS-A 0501	COP, ROD	4,961	122	1,116	172	125	38	250,920	71.0	2.0	18.0	12.3	12.0	0.9	342,121
MA/RI	South Fork, OCS-A 0517	COP, ROD	521.5	11.7	80.7	17.5	16.9	3.6	97,026	92.9	1.9	17.3	3	2.8	0.5	18,894
MA/RI	Revolution Wind, OCS #	COP	22,395.4	80.6	5,468.3	757.7	732.1	69.3	1,702,429	322.6	12.4	93.3	12.3	12	0.9	73,349
MA/RI	Sunrise, OCS-A 0487	COP	2,092.80	49.1	869.4	38.6	38.6	2.1	230,504	183.8	4.3	76.3	3.4	3.4	0.2	20,242
MA/RI	New England Wind, OCS-A 0534 and portion of OCS-A 0501 (Phase 1 [i.e., Park City Wind])	COP	5,917	124	1,406	238	230	41	393,627.00	178	3.2	45	6	5.8	0.5	20,259
MA/RI	New England Wind, OCS-A 0534 and portion of OCS-A 0501 (Phase 2 [i.e., Commonwealth Wind])	COP	7,732	164	1,841	339	329	54	520,958.00	179	3.2	45	6	5.8	0.5	27,594
MA/RI	South Coast Wind, OCS-A 0521	COP	39,965	1,590	8,284	2,897	1,566	1,556	2,633,405	729	13	180	24	19	28	48,898

Region[1]	Lease/Project/ Lease Remainder[2]	Status[3]	Construction Emissions NOx (tons)[35]	Construction Emissions VOC (tons)[36]	Construction Emissions CO (tons)[37]	Construction Emissions PM_{10} (tons)[38]	Construction Emissions $PM_{2.5}$ (tons)[39]	Construction Emissions SO_2 (tons)[40]	Construction Emissions CO_2e (tons)[41]	Operation Emissions NOx (tpy)[42]	Operation Emissions VOC (tpy)[43]	Operation Emissions CO (tpy)[44]	Operation Emissions PM10 (tpy)[45]	Operation Emissions PM2.5 (tpy)[46]	Operation Emissions SO2 (tpy)[47]	Operation Emissions CO_2e (tpy)[48]
			Air	Air	Air	Air	Air	Air	Air	Air	Air	Air	Air	Air	Air	Air
MA/RI	Beacon Wind, part of OCS-A 0520 (Phase 1)	COP	8,838.6	364.8	878.8	145.2	134.9	253.8	506,326.2	62.2	2.5	11.8	1.7	1.6	2.5	16,034.4
MA/RI	Beacon Wind, part of OCS-A 0520 (Phase 2)	COP	8,838.6	364.8	878.8	145.2	134.9	253.8	506,326.2	62.2	2.5	11.8	1.7	1.6	2.5	16,034.4
MA/RI	Vineyard Northeast Wind (OCS-A 0522)	Planning	17,298	390	4,087	635	613	133.1	1,246,612	773	14	196	26	25	2.6	86,780
MA/RI	Bay State Wind, part of OCS-A 0500	Planning	12,304.3	148.8	2,936.9	451.6	74.52	61.01	304,762	249.9	6.7	64.8	11.7	11.4	1.0	21,252
MA/RI	OCS-A 0500 remainder	Planning	15,222.7	396.6	3,239.3	679.0	464.7	286.8	976,299.7	337.8	7.6	88.3	12.6	11.7	4.7	80,433.5
MA/RI	OCS-A 0487 remainder	Planning														
	Total MA/RI Leases		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NY/NJ	Ocean Wind 1, part of OCS-A 0498	COP	11,173.00	293.90	2,156.00	365.60	349.50	115.30	665,960.00	159.00	4.10	40.00	5.60	5.40	0.90	11,912.00
NY/NJ	Empire Wind 1, part of OCS-A 0512	COP	2,895.6	71.3	641.3	95.7	94.6	21.5	186,824.6	167.9	3.1	39.6	5.5	5.3	0.5	11,263.7
NY/NJ	Empire Wind 2, part of OCS-A 512	COP	4,572.0	112.6	1,012.6	151.2	149.4	34.0	294,986.2	265.1	4.8	62.5	8.7	8.3	0.7	17,784.8
NY/NJ	Atlantic Shores South OCS-A 0499	COP	2,089	40	503	70	86	7	139,357	519	9	121	17	16	1	33,566
NY/NJ	Ocean Wind 2, part of OCS-A 0532	Planning	5,638.8	138.8	1,248.9	186.4	184.3	41.9	363,816.3	327.0	6.0	77.1	10.7	10.3	0.9	21,934.6
NY/NJ	Atlantic Shores North, OCS-A 0549	Planning	7,413.6	175.2	1,920.4	248.0	240.2	31.3	528,676.1	521.1	8.7	121.7	16.7	16.2	1.4	34,948.7
NY/NJ	OW Ocean Winds East LLC, OCS-A 0537	Planning	4,165.6	102.6	922.6	137.7	136.1	30.9	268,765.2	241.6	4.4	57.0	7.9	7.6	0.7	16,203.9
NY/NJ	Attentive Energy LLC, OCS-A 0538	Planning	5,181.6	127.6	1,147.7	171.3	169.3	38.5	334,317.7	300.5	5.5	70.8	9.8	9.4	0.8	20,156.1
NY/NJ	Bight Wind Holdings, LLC, OCS-A 0539	Planning	7,518.4	185.1	1,665.2	248.6	245.7	55.9	485,088.4	436.0	7.9	102.8	14.3	13.7	1.2	29,246.1
NY/NJ	Atlantic Shores Offshore Wind Bight, OCS-A 0541	Planning	4,826.0	118.8	1,068.9	159.6	157.7	35.9	311,374.3	279.9	5.1	66.0	9.2	8.8	0.8	18,772.8
NY/NJ	Invenergy Wind Offshore LLC, OCS-A 0542	Planning	5,029.2	123.8	1,113.9	166.3	164.4	37.4	324,484.8	291.7	5.3	68.8	9.6	9.1	0.8	19,563.3
NY/NJ	Vineyard Mid-Atlantic LLC, OCS-A 0544	Planning	5,283.2	130.1	1,170.2	174.7	172.7	39.2	340,872.9	306.4	5.6	72.2	10.0	9.6	0.8	20,551.3
	Total NY/NJ Leases		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DE/MD	Skipjack, part of OCS-A 0519	COP	863.6	21.3	191.3	28.6	28.2	6.4	55,719.6	50.1	0.9	11.8	1.6	1.6	0.1	3,359.3

Region[1]	Lease/Project/ Lease Remainder[2]	Status[3]	Construction Emissions NOx (tons)[35]	Construction Emissions VOC (tons)[36]	Construction Emissions CO (tons)[37]	Construction Emissions PM_{10} (tons)[38]	Construction Emissions $PM_{2.5}$ (tons)[39]	Construction Emissions SO_2 (tons)[40]	Construction Emissions CO_2e (tons)[41]	Operation Emissions NOx (tpy)[42]	Operation Emissions VOC (tpy)[43]	Operation Emissions CO (tpy)[44]	Operation Emissions PM10 (tpy)[45]	Operation Emissions PM2.5 (tpy)[46]	Operation Emissions SO2 (tpy)[47]	Operation Emissions CO_2e (tpy)[48]
			Air	Air	Air	Air	Air	Air	Air	Air	Air	Air	Air	Air	Air	Air
DE/MD	US Wind, part of OCS-A 0490	COP	6,350.0	156.4	1,406.4	210.0	207.5	47.2	409,703.0	368.3	6.7	86.8	12.1	11.5	1.0	24,701.1
DE/MD	GSOE I, OCS-A 0482	Planning	4,876.8	120.1	1,080.2	161.2	159.4	36.2	314,651.9	282.8	5.1	66.7	9.3	8.9	0.8	18,970.4
DE/MD	OCS-A 0519 remainder	Planning														
	Total DE/MD Leases		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
South Atlantic	CVOW, OCS-A 0497	Built	193.2	8.5	48.2	6.2	6.0	3.9	12,069.1	7.4	0.4	3.4	0.3	0.3	0.1	681.0
South Atlantic	CVOW-C, OCS-A 0483	COP	20,093.0	883.8	5,008.3	641.3	622.1	409.1	1,255,186.2	773.6	43.1	352.6	35.4	34.4	12.5	70,819.2
South Atlantic	Kitty Hawk Wind North, OCS-A 0508	COP	7,950.5	359.7	1,681.9	222.9	216.2	200.8	499,886.0	287.2	16.9	148.5	14.6	14.2	4.2	28,209.0
South Atlantic	Kitty Hawk Wind South, OCS-A 0508 remainder	COP	10,693.5	460.4	2,965.2	372.2	361.0	178.8	664,782.0	430.6	23.1	178.6	18.3	17.7	7.3	37,503.0
South Atlantic	TotalEnergies Renewables Wind, LLC OCS-A 0545	Planning	6,279.0	276.2	1,565.1	200.4	194.4	127.8	392,245.7	241.8	13.5	110.2	11.1	10.7	3.9	22,131.0
South Atlantic	Duke Energy Renewables Wind, LLC OCS-A 0546	Planning	6,279.0	276.2	1,565.1	200.4	194.4	127.8	392,245.7	241.8	13.5	110.2	11.1	10.7	3.9	22,131.0
	Total South Atlantic Leases		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	OCS Total:		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

BOEM recognizes that the estimates presented within this cumulative analysis are likely high, conservative estimates; however, BOEM believes that this analysis is appropriately capturing the potential cumulative impacts and errs on the side of maximum impacts. Totals by lease area and by OCS may not fully sum due to rounding errors.

Unless otherwise noted, assumptions below are based on what has been most commonly submitted via previous and current COPs. These may require updates.

[1] Categorizes each project by its geographic area and separates United States offshore wind projects into the following regions to allow for a holistic look at projects in close proximity to others:

i. NE: Northeast State Waters leases that do not align to state projects (include a single strand of WTGs and no OSSs)
ii. MA/RI: Leases from Massachusetts and Rhode Island (a 1x1–nm grid spacing is assumed if not included in COP)
iii. NY/NJ: Leases from New York and New Jersey (a 1x1–nm grid spacing is assumed if not included in COP)
iv. DE/MD: Leases from Delaware and Maryland (a 1x1–nm grid spacing is assumed if not included in COP)
v. South Atlantic: Leases from Virginia and North Carolina (a 1x1–nm grid spacing is assumed if not included in COP)

[2] Provides the name and, if applicable, part of a project, including the project's OCS number.

[3] Provides the status of the project, and should be classified as a State Project, COP, Record of Decision (ROD), and/or Built; otherwise the project should be labeled as Planning.

[4] These 8 columns are used as a template for the EIS. Project NEPA Coordinators pull these headers for their project to fill in a project-specific table of resources with checkmarks in the EIS they are drafting. These columns identify lease areas that are applicable to each resource based on the geographic analysis areas shown in the EIS.

[5] This column estimates the construction time period as a range for each project as provided in the COP. This estimate is for offshore components only.
If there is no COP, the estimated dates are based on information as of February 1, 2022, and are subject to change when an applicant submits a COP or as project COPs progress through the approval process. Furthermore, BOEM assumes that construction of all the foundations would be installed during year 1 of a given project's construction schedule with the remaining work completed in year 2. If there is no other information, assume the estimated offshore construction time period is "By 2030".

[6] Compare the dimensions of the turbine provided in the COP (if available) with known turbine capacities to determine the estimated capacity of the turbine to be installed. If the information is provided in the COP, use that.
Otherwise, use the best available public facing information in order to estimate the expected turbine size. For those projects without announced WTG sizes, use the known dimensions of turbines of the same capacity as the prototype capacity, rounded to the nearest even number, for the current year in DOE's most recent Offshore Wind Market Report (for 2022, https://www.energy.gov/eere/wind/articles/offshore-wind-market-report-2022-edition). NOTE: A different set of assumptions may be necessary for floating offshore wind, and this should be considered once floating COPs are being received.

[7] This column showcases the top of the envelope estimate based on the COP. This information will be updated to whatever is the most up to date publicly available data at the time. Often, the final generating capacity in the EIS is much more conservative.
If not included in the COP, use the formula below:
Generating Capacity = Turbine Number (Column Z) * Expected Turbine Size (Column N MW)
*Note: If you are including a range in this cell for your project, be sure to update the subregion and overall OCS total numbers by adding in the larger value of your range.

[8] Often times, COPs provide the total export cable length. If not, ask for this data from the developer. However, the COP typically reports in nautical miles, so this must be converted into statute miles. If the COP provides the export cable length rather than the export cable corridor length, you may skip Columns Q, R, and S.
Statute miles = nautical miles * (1.1508 SM/NM)
If the value is provided to you as a range, use the higher value.

[9] Often times, COPs provide the corridor length, rather than the total export cable length. However, the COP typically reports in nautical miles, so this must be converted into statute miles.
Statute miles = nautical miles * 1.15 (1.15 Statute Mile = 1 Nautical Mile)

[10] This number should come from the COP if the corridor length is provided but may have to be interpreted as COPs typically provide a description such as "up to x number of cables". In these cases, use the max case for the number of export cables.
If this information is not available, proceed to Column S to estimate the total export cable length.

[11] When the export cable length is not provided in the COP, estimate this value by using the following formula:
ESTIMATED Total Export Cable Length = [export cable corridor length (Column Q miles)] * [number of export cables (Column R)]

If neither the export cable length nor the export cable corridor length are included in the COP, assume that each offshore wind development has its own cable (both onshore and offshore) and that future projects would not utilize a regional transmission line. The length of offshore export cable for those lease areas without a known project size has been assumed to total 200 statute miles for fixed foundation development. When using the assumed 200 mile value, Column Q and Column R will be left blank (this is denoted in the main tab by a -).

[12] This number should come from the COP. If it does, ensure the value is converted to acres. If not, use the formula below to estimate:
Cable Footprint = [[COP Export Cable Length (Column P miles) OR ESTIMATED Export Cable Length (Column S miles)] * (5,280 ft/mile) * 1 ft]/(43,560 sqft/acre)
Note: If the COP provides the export cable length (Column P), use that in the equation above, otherwise use the estimated export cable length value from Column S.
The 1 ft value is the typical cable diameter provided from previously submitted COPs. Use this value unless the COP reports a different value.

[13] This number should come from the COP. If not, ask for this data from the developer.
If not available, assume the disturbance width is 6.5 feet based on COPs submitted to date. This column represents an important number for calculating the area of benthic disturbance from construction.

[14] This number should come from the COP. If not, ask for this data from the developer. If not available, use the following estimated formula:
inter-array cable length = turbine # (Column Z) * 1.48 miles
The 1.48 miles factor is based on COPs submitted to date (2.4 kilometers).

[15] This number should come from the COP. If not, ask for this data from the developer.
Otherwise, use the best available public facing information. For those projects without announced WTG dimensions, use the known dimensions of turbines of the same capacity as the prototype capacity, rounded to the nearest even number, for the current year in DOE's most recent Offshore Wind Market Report (for 2022, https://www.energy.gov/eere/wind/articles/offshore-wind-market-report-2022-edition). The report lists values in meters, ensure these values are converted to feet. NOTE: A different set of assumptions may be necessary for floating offshore wind, and this should be considered once floating COPs are being received.

[16] This number should come from the COP.
Otherwise, use the best available public facing information. For those projects without announced WTG dimensions, use the known dimensions of turbines of the same capacity as the prototype capacity, rounded to the nearest even number, for the current year in DOE's most recent Offshore Wind Market Report (for 2022, https://www.energy.gov/eere/wind/articles/offshore-wind-market-report-2022-edition). The report lists values in meters, ensure these values are converted to feet. NOTE: A different set of assumptions may be necessary for floating offshore wind, and this should be considered once floating COPs are being received.

[17] This number should come from the COP. If not, use the following assumption:
total heigh of turbine = rotor diameter (Column X feet) + 100 feet OR 853 feet, whichever is higher
The 100 ft value is the assumption for an air gap. 853 ft comes from a turbine model already available that has been used in visual simulations but has a larger air gap (Haliade X-12).

[18] This number should come from the COP. If not, ask for this data from the developer. If not available, BOEM staff will assume this data based on best available information.
*Note: If you are including a range in this cell for your project, be sure to update the subregion and overall OCS total numbers by adding in the larger value of your range.

[19] This number should come from the COP. If not, assume that for every 50 turbines there would be one ESP/OSS installed.

[20] This number should come from the COP. If not, ask for this data from the developer. If not available, use the following estimated formula:
foundation # = turbine # (Column Z) + ESP/OSS # (Column AA)
*Note: If you are including a range in this cell for your project, be sure to update the subregion and overall OCS total numbers by adding in the larger value of your range.

[21] This number should come from the COP and is typically included as the diameter of a monopile. However, there are variances to how the developer presents this information in a COP. Additionally, COPs sometimes include a formula to derive this information. If so, use said formula. If this information is not included in a COP, use the following formula to estimate:
foundation footprint = 0.26 acres * foundation # (Column AB)
Assumption of 0.26 acres is based on monopile size used in Ocean Wind and other projects with 12-14 MW turbines, subtracting scour footprint from total location footprint.
*Note: If you are including a range in this cell for your project, be sure to update the subregion and overall OCS total numbers by adding in the larger value of your range.

[22] This number should come from the COP. If the COP provides a range, include only the highest value. If not, use the following formula to estimate:
Seabed Disturbance + Scour = [1 acre * foundation # (Column AB)] + foundation footprint (Column AC acres)
The "1" is based off of a previously submitted COPs with a scour protection of 1 acre
*Note: If you are including a range in this cell for your project, be sure to update the subregion and overall OCS total numbers by adding in the larger value of your range.

[23] This number should come from the COP. If so, ensure it is converted to acres. If not, use the following formula to estimate:
Seabed Disturbance = [[COP Export Cable Length (Column P miles) OR ESTIMATED Export Cable Length (Column S miles)] * 5,280 ft/mile * installation tool disturbance width (Column U ft)]/(43,560 sqft/acre)
Note: If the COP provides the export cable length (Column P), use that in the equation above. Otherwise, use the estimated export cable length value from Column S.
Offshore export cable seabed bottom disturbance is assumed to be due to installation of the export cable, the use of jack-up vessels, the need to perform dredging, and boulder removal.

[24] This number should come from the COP. If so, ensure it is converted to acres. If not, use the following formula to estimate:
Offshore Export Cable Hard Protection = [[COP Export Cable Length (Column P miles) OR ESTIMATED Export Cable Length (Column S miles)] * 5,280 ft/mile * 0.10 * 9.8 ft]/(43,560 sqft/acre)
Note: If the COP provides the export cable length (Column P), use that in the equation above. Otherwise, use the estimated export cable length value from Column S.
This equation uses the 9.8 ft as the width of a concrete mattress used in previously submitted COPs and multiplies by 10% based on the assumption built in to previously submitted COPs on how much of the cable route will require hard protection/mattressing/armoring.

[25] This number should come from the COP. If so, ensure it is converted to acres. If not, use the following formula to estimate:
Anchoring Disturbance = [COP Export Cable Length (Column P miles) OR ESTIMATED Export Cable Length (Column S miles)] * (the corresponding subregion total COP anchoring disturbance per export cable length total)
Note: If the COP provides the export cable length (Column P), use that in the equation above. Otherwise, use the estimated export cable length value from Column S.
To provide an assumption for non-COPs, please calculate the total anchoring disturbance values for COPs listed in the Scenario tab for a specific subregion and divide by the corresponding COP provided total export cable length associated with that specific subregion. (Note: White color coded cells are values taken directly from a COP). For example, if your new project is within the MA/RI region but does not have a COP yet, or does not provide the anchoring disturbance value, calculate using the following formula from the values currently within the MA/RI region.
[(SUM Column AG white color coded cells)/(SUM Corresponding Column P white color coded cells)] * (new project Column S or P)

[26] The length of expected inter-array cables should come from the COP. If so, ensure it is converted to acres. If not, use the following formula to estimate:
Inter-array construction seabed disruption = foundation # (Column AB) * (the corresponding subregion total COP inter-array construction seabed disruption per foundation total)
To provide an assumption for non-COPs, please calculate the total inter-array construction seabed disruption values for COPs listed in the Scenario tab for a specific subregion and divide by the corresponding COP provided total foundations associated with that specific subregion. (Note: White color coded cells are values taken directly from a COP). For example, if your new project is within the MA/RI region but does not have a COP yet, or does not provide the construction seabed disruption value, calculate using the following formula from the values currently within the MA/RI region.
[(SUM Column AH white color coded cells)/(SUM Corresponding Column AB white color coded cells)] * (new project Column AB)

[27] This number should come from the COP. If so, ensure it is converted to acres. If not, use the following formula to estimate:
inter-array operating seabed disruption = foundation # (Column AB) * (the corresponding subregion total COP inter-array operating seabed disruption per foundation total)
To provide an assumption for non-COPs, please calculate the total inter-array operating seabed disruption values for COPs listed in the Scenario tab for a specific subregion and divide by the corresponding COP provided total foundations associated with that specific subregion. (Note: White color coded cells are values taken directly from a COP). For example, if your new project is within the MA/RI region but does not have a COP yet, or does not provide the operating seabed disruption value, calculate using the following formula from the values currently within the MA/RI region.
[(SUM Column AI white color coded cells)/(SUM Corresponding Column AB white color coded cells)] * (new project Column AB)

[28] This number should be come from the COP. If not, this number is assumed to be zero.

[29] This column is not applicable to State Waters projects.
From the COP: Total of Coolant Fluids in WTGs = [sum of all coolants provided in the COP (any material used as a coolant, not including water)] * [turbine # (Column Z)]
To provide an assumption for non-COPs, please calculate the total coolant fluids in WTGs for all COPs listed in the Scenario tab for a specific subregion and divide by the corresponding COP provided total foundations associated with that specific subregion. (Note: White color coded cells are values taken directly from a COP). For example, if your new project is within the MA/RI region but does not have a COP yet, or does not provide the total coolant fluids in WTGs value, calculate using the following formula from the values currently within the MA/RI region.
[(SUM Column AK white color coded cells)/(SUM Corresponding Column Z white color coded cells)] * (new project Column Z)

[30] This column is not applicable to State Waters projects.
From the COP: Total of Coolant Fluids in ESP/OSS = [sum of all coolants provided in the COP (any material used as a coolant, not including water)] * [ESP/OSS # (Column AA)]
To provide an assumption for non-COPs, please calculate the total coolant fluids in ESP/OSSs for all COPs listed in the Scenario tab for a specific subregion and divide by the corresponding COP provided total foundations associated with that specific subregion. (Note: White color coded cells are values taken directly from a COP). For example, if your new project is within the MA/RI region but does not have a COP yet, or does not provide the total coolant fluids in ESP/OSSs value, calculate using the following formula from the values currently within the MA/RI region.
[(SUM Column AL white color coded cells)/(SUM Corresponding Column AA white color coded cells)] * (new project Column AA)

[31] This column is not applicable to State Waters projects.
From the COP: Total of Oils and Lubricants in WTGs = [sum of all oils and lubricants provided in the COP] * [turbine # (Column Z)]
To provide an assumption for non-COPs, please calculate the total oils and lubricants in WTGs for all COPs listed in the Scenario tab for a specific subregion and divide by the corresponding COP provided total foundations associated with that specific subregion. (Note: White color coded cells are values taken directly from a COP). For example, if your new project is within the MA/RI region but does not have a COP yet, or does not provide the total oils and lubricants in WTGs value, calculate using the following formula from the values currently within the MA/RI region.
[(SUM Column AM white color coded cells)/(SUM Corresponding Column Z white color coded cells)] * (new project Column Z)

[32] This column is not applicable to State Waters projects.
From the COP: Total of Oils and Lubricants in ESPs/OSSs = [sum of all oils and lubricants provided in the COP] * [ESP/OSS # (Column AA)]
To provide an assumption for non-COPs, please calculate the total oils and lubricants in ESP/OSSs for all COPs listed in the Scenario tab for a specific subregion and divide by the corresponding COP provided total foundations associated with that specific subregion. (Note: White color coded cells are values taken directly from a COP). For example, if your new project is within the MA/RI region but does not have a COP yet, or does not provide the total oils and lubricants in ESP/OSSs value, calculate using the following formula from the values currently within the MA/RI region.
[(SUM Column AN white color coded cells)/(SUM Corresponding Column AA white color coded cells)] * (new project Column AA)

[33] This column is not applicable to State Waters projects.
From the COP: Total of Diesel Fuel in WTGs = [sum of all diesel fuel provided in the COP] * [turbine # (Column Z)]
To provide an assumption for non-COPs, please calculate the total diesel fuel in WTGs for all COPs listed in the Scenario tab for a specific subregion and divide by the corresponding COP provided total foundations associated with that specific subregion. (Note: White color coded cells are values taken directly from a COP). For example, if your new project is within the MA/RI region but does not have a COP yet, or does not provide the total diesel fuel in WTGs value, calculate the following formula from the values currently within the MA/RI region.
[(SUM Column AO white color coded cells)/(SUM Corresponding Column Z white color coded cells)] * (new project Column Z)

[34] This column is not applicable to State Waters projects.
From the COP: Total of Diesel Fuel in ESPs/OSSs = [sum of all diesel fuel provided in the COP] * [ESP/OSS # (Column AA)]
To provide an assumption for non-COPs, please calculate the total diesel fuels in ESP/OSSs for all COPs listed in the Scenario tab for a specific subregion and divide by the corresponding COP provided total foundations associated with that specific subregion. (Note: White color coded cells are values taken directly from a COP). For example, if your new project is within the MA/RI region but does not have a COP yet, or does not provide the total diesel fuels in ESP/OSSs value, calculate using the following formula from the values currently within the MA/RI region.
[(SUM Column AP white color coded cells)/(SUM Corresponding Column AA white color coded cells)] * (new project Column AA)

[35] This number should come from the COP, but may require a summation of numbers provided per chemical compound. If not in the COP, ask for this data from the developer. If not available, use the following assumption:
Construction emissions are totals for all construction activities, which take place over multiple years.
To provide an assumption for non-COPs, please calculate the total construction emissions of Nox for all COPs listed in the Scenario tab for a specific subregion and divide by the corresponding COP provided total foundations associated with that specific subregion. (Note: White color coded cells are values taken directly from a COP). For example, if your new project is within the MA/RI region but does not have a COP yet, or does not provide the total construction emissions of Nox value, calculate using the following formula from the values currently within the MA/RI region.
[(SUM Column AQ white color coded cells)/(SUM Corresponding Column AB white color coded cells)] * (new project Column AB)

[36] This number should come from the COP, but may require a summation of numbers provided per chemical compound. If not in the COP, ask for this data from the developer. If not available, use the following assumption:
Construction emissions are totals for all construction activities, which take place over multiple years.
To provide an assumption for non-COPs, please calculate the total construction emissions of VOC for all COPs listed in the Scenario tab for a specific subregion and divide by the corresponding COP provided total foundations associated with that specific subregion. (Note: White color coded cells are values taken directly from a COP). For example, if your new project is within the MA/RI region but does not have a COP yet, or does not provide the total construction emissions of VOC value, calculate using the following formula from the values currently within the MA/RI region.
[(SUM Column AR white color coded cells)/(SUM Corresponding Column AB white color coded cells)] * (new project Column AB)

[37] This number should come from the COP, but may require a summation of numbers provided per chemical compound. If not in the COP, ask for this data from the developer. If not available, use the following assumption:
Construction emissions are totals for all construction activities, which take place over multiple years.
To provide an assumption for non-COPs, please calculate the total construction emissions of CO for all COPs listed in the Scenario tab for a specific subregion and divide by the corresponding COP provided total foundations associated with that specific subregion. (Note: White color coded cells are values taken directly from a COP). For example, if your new project is within the MA/RI region but does not have a COP yet, or does not provide the total construction emissions of CO value, calculate using the following formula from the values currently within the MA/RI region.
[(SUM Column AS white color coded cells)/(SUM Corresponding Column AB white color coded cells)] * (new project Column AB)

[38] This number should come from the COP, but may require a summation of numbers provided per chemical compound. If not in the COP, ask for this data from the developer. If not available, use the following assumption:
Construction emissions are totals for all construction activities, which take place over multiple years.
To provide an assumption for non-COPs, please calculate the total construction emissions of PM10 for all COPs listed in the Scenario tab for a specific subregion and divide by the corresponding COP provided total foundations associated with that specific subregion. (Note: White color coded cells are values taken directly from a COP). For example, if your new project is within the MA/RI region but does not have a COP yet, or does not provide the total construction emissions of PM10 value, calculate using the following formula from the values currently within the MA/RI region.
[(SUM Column AT white color coded cells)/(SUM Corresponding Column AB white color coded cells)] * (new project Column AB)

[39] This number should come from the COP, but may require a summation of numbers provided per chemical compound. If not in the COP, ask for this data from the developer. If not available, use the following assumption:
Construction emissions are totals for all construction activities, which take place over multiple years.
To provide an assumption for non-COPs, please calculate the total construction emissions of PM2.5 for all COPs listed in the Scenario tab for a specific subregion and divide by the corresponding COP provided total foundations associated with that specific subregion. (Note: White color coded cells are values taken directly from a COP). For example, if your new project is within the MA/RI region but does not have a COP yet, or does not provide the total construction emissions of PM2.5 value, calculate the following formula from the values currently within the MA/RI region.
[(SUM Column AU white color coded cells)/(SUM Corresponding Column AB white color coded cells)] * (new project Column AB)

[40] This number should come from the COP, but may require a summation of numbers provided per chemical compound. If not in the COP, ask for this data from the developer. If not available, use the following assumption:
Construction emissions are totals for all construction activities, which take place over multiple years.
To provide an assumption for non-COPs, please calculate the total construction emissions of SO2 for all COPs listed in the Scenario tab for a specific subregion and divide by the corresponding COP provided total foundations associated with that specific subregion. (Note: White color coded cells are values taken directly from a COP). For example, if your new project is within the MA/RI region but does not have a COP yet, or does not provide the total construction emissions of SO2 value, calculate using the following formula from the values currently within the MA/RI region.
[(SUM Column AV white color coded cells)/(SUM Corresponding Column AB white color coded cells)] * (new project Column AB)

[41] This number should come from the COP. If not, request from the developer. For COPs that report CO2 equivalent per pollutant, total all pollutant values.
To provide an assumption for non-COPs, please calculate the total construction emissions of CO2e for all COPs listed in the Scenario tab for a specific subregion and divide by the corresponding COP provided total foundations associated with that specific subregion. (Note: White color coded cells are values taken directly from a COP). For example, if your new project is within the MA/RI region but does not have a COP yet, or does not provide the total construction emissions of CO2e value, calculate using the following formula from the values currently within the MA/RI region.
[(SUM Column AW white color coded cells)/(SUM Corresponding Column AB white color coded cells)] * (new project Column AB)

[42] This number should come from the COP, but may require a summation of numbers provided per chemical compound. If not in the COP, ask for this data from the developer. If not available, use the following assumption:
Operations emissions are the highest annual level if all years not expected to be equal.
To provide an assumption for non-COPs, please calculate the total operation emissions of Nox for all COPs listed in the Scenario tab for a specific subregion and divide by the corresponding COP provided total foundations associated with that specific subregion. (Note: White color coded cells are values taken directly from a COP). For example, if your new project is within the MA/RI region but does not have a COP yet, or does not provide the total operation emissions of Nox value, calculate using the following formula from the values currently within the MA/RI region.
[(SUM Column AX white color coded cells)/(SUM Corresponding Column AB white color coded cells)] * (new project Column AB)

[43] This number should come from the COP, but may require a summation of numbers provided per chemical compound. If not in the COP, ask for this data from the developer. If not available, use the following assumption:
Operations emissions are the highest annual level if all years not expected to be equal.
To provide an assumption for non-COPs, please calculate the total operation emissions of VOC for all COPs listed in the Scenario tab for a specific subregion and divide by the corresponding COP provided total foundations associated with that specific subregion. (Note: White color coded cells are values taken directly from a COP). For example, if your new project is within the MA/RI region but does not have a COP yet, or does not provide the total operation emissions of VOC value, calculate using the following formula from the values currently within the MA/RI region.
[(SUM Column AY white color coded cells)/(SUM Corresponding Column AB white color coded cells)] * (new project Column AB)

[44] This number should come from the COP, but may require a summation of numbers provided per chemical compound. If not in the COP, ask for this data from the developer. If not available, use the following assumption:
Operations emissions are the highest annual level if all years not expected to be equal.
To provide an assumption for non-COPs, please calculate the total operation emissions of CO for all COPs listed in the Scenario tab for a specific subregion and divide by the corresponding COP provided total foundations associated with that specific subregion. (Note: White color coded cells are values taken directly from a COP). For example, if your new project is within the MA/RI region but does not have a COP yet, or does not provide the total operation emissions of CO value, calculate using the following formula from the values currently within the MA/RI region.
[(SUM Column AZ white color coded cells)/(SUM Corresponding Column AB white color coded cells)] * (new project Column AB)

[45] This number should come from the COP, but may require a summation of numbers provided per chemical compound. If not in the COP, ask for this data from the developer. If not available, use the following assumption:
Operations emissions are the highest annual level if all years not expected to be equal.
To provide an assumption for non-COPs, please calculate the total operation emissions of PM10 for all COPs listed in the Scenario tab for a specific subregion and divide by the corresponding COP provided total foundations associated with that specific subregion. (Note: White color coded cells are values taken directly from a COP). For example, if your new project is within the MA/RI region but does not have a COP yet, or does not provide the total operation emissions of PM10 value, calculate the following formula from the values currently within the MA/RI region.
[(SUM Column BA white color coded cells)/(SUM Corresponding Column AB white color coded cells)] * (new project Column AB)

[46] This number should come from the COP, but may require a summation of numbers provided per chemical compound. If not in the COP, ask for this data from the developer. If not available, use the following assumption:
Operations emissions are the highest annual level if all years not expected to be equal.
To provide an assumption for non-COPs, please calculate the total operation emissions of PM2.5 for all COPs listed in the Scenario tab for a specific subregion and divide by the corresponding COP provided total foundations associated with that specific subregion. (Note: White color coded cells are values taken directly from a COP). For example, if your new project is within the MA/RI region but does not have a COP yet, or does not provide the total operation emissions of PM2.5 value, calculate using the following formula from the values currently within the MA/RI region.
[(SUM Column BB white color coded cells)/(SUM Corresponding Column AB white color coded cells)] * (new project Column AB)

[47] This number should come from the COP, but may require a summation of numbers provided per chemical compound. If not in the COP, ask for this data from the developer. If not available, use the following assumption:
Operations emissions are the highest annual level if all years not expected to be equal.

To provide an assumption for non-COPs, please calculate the total operation emissions of SO2 for all COPs listed in the Scenario tab for a specific subregion and divide by the corresponding COP provided total foundations associated with that specific subregion. (Note: White color coded cells are values taken directly from a COP). For example, if your new project is within the MA/RI region but does not have a COP yet, or does not provide the total operation emissions of SO2 value, calculate using the following formula from the values currently within the MA/RI region.
[(SUM Column BC white color coded cells)/(SUM Corresponding Column AB white color coded cells)] * (new project Column AB)

[48] This number should come from the COP. If not, request from the developer. For COPs that report CO2 equivalent per pollutant, total all pollutant values.
To provide an assumption for non-COPs, please calculate the total operation emissions of CO2e for all COPs listed in the Scenario tab for a specific subregion and divide by the corresponding COP provided total foundations associated with that specific subregion. (Note: White color coded cells are values taken directly from a COP). For example, if your new project is within the MA/RI region but does not have a COP yet, or does not provide the total operation emissions of CO2e value, calculate using the following formula from the values currently within the MA/RI region.
[(SUM Column BD white color coded cells)/(SUM Corresponding Column AB white color coded cells)] * (new project Column AB)

LITERATURE CITED

Bureau of Ocean Energy Management (BOEM). 2019. *National Environmental Policy Act Documentation for Impact-Producing Factors in the Offshore Wind Cumulative Impacts Scenario on the North Atlantic Outer Continental Shelf*. Available at: https://www.boem.gov/sites/default/files/environmental-stewardship/Environmental-Studies/Renewable-Energy/IPFs-in-the-Offshore-Wind-Cumulative-Impacts-Scenario-on-the-N-OCS.pdf. Accessed December 2020.

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APPENDIX E4

Maximum-Case Scenario Estimates for Select Offshore Wind Project Components

Contents

Tables

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Introduction

The following table provides maximum-case scenario estimates of potential No Action, Proposed Action, and other action alternative impacts for specific offshore wind project components, assuming maximum buildout, using the geographic analysis areas in the Revolution Wind Farm (RWF) and Revolution Wind Export Cable (RWEC) project environmental impact statement (EIS) and cumulative estimates developed by Bureau of Ocean Energy Management BOEM (see Table E3-1 in Appendix E3). All numbers are estimates and subject to change.

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Table E4-1. Maximum-Case Scenario Estimates of Potential Impacts for Specific Offshore Wind Project Components

Project Component	Geographic Analysis Area	OCS Total (without Proposed Action)*	Proposed Action	Alt C	Alt D	Alt E	Alt F	Alt G	Proposed Action + OCS Total (cumulative)	Alt C + OCS Total (cumulative)	Alt D + OCS Total (cumulative)	Alt E + OCS Total (cumulative)	Alt F + OCS Total (cumulative)	Alt G + OCS Total (cumulative)
Offshore export cable length (statute miles)	All	7,702	84	84[Ŧ]	84[Ŧ]	84[Ŧ]	84[Ŧ]	84[Ŧ]	7,786	7,786[Ŧ]	7,786[Ŧ]	7,786[Ŧ]	7,786[Ŧ]	7,786[Ŧ]
Inter-array cable and OSS-link cable length (statute miles)[†]	All	5,767	164	164[Ŧ]	164[Ŧ]	164[Ŧ]	164[Ŧ]	126	5,931	5,931[Ŧ]	5,931[Ŧ]	5,931[Ŧ]	5,931[Ŧ]	5,893
WTG number	Air	299	100	64–65	78–93	64 or 81	56	65	399	363–364	377–392	363 or 380	355	364
	Water	178	100	64–65	78–93	64 or 81	56	65	278	242–243	256–271	242 or 259	234	243
	Benthic/cultural resources (marine)	12	100	64–65	78–93	64 or 81	56	65	112	76–77	90–105	76 or 93	68	77
	Birds/bats/commercial fisheries/finfish-invertebrates-EFH/marine mammals/other marine uses (surveys)/sea turtles/land-use	3,025	100	64–65	78–93	64 or 81	56	65	3,125	3,089–3,090	3,103–3,118	3,089 or 3,106	3,081	3,090
	Navigation//other marine uses (excluding surveys)	998	100	64–65	78–93	64 or 81	56	65	1,098	1,062–1,063	1,076–1,091	1,062 or 1079	1,054	1,063
	Visual/recreation-tourism/cultural resources (viewshed)	876	100	64–65	78–93	64 or 81	56	65	980	940–941	954–969	940 or 957	932	941
	Demographics/environmental justice	3,025	100	64–65	78–93	64 or 81	56	65	3,125	3,089–3,090	3103–3,118	3,089 or 3,106	3,081	3,090
Foundation number (WTG and OSS)[‡]	Air	306	102	66–67	80–95	66 or 83	58	67	408	372–373	386–401	372 or 389	364	373
	Water	181	102	66–67	80–95	66 or 83	58	67	283	247–248	261–276	247 or 264	239	248
	Benthic/cultural resources (marine)	13	102	66–67	80–95	66 or 83	58	67	115	79–80	93–108	79 or 96	71	80
	Birds/bats/commercial fisheries/finfish-invertebrates-EFH/marine mammals/other marine uses (surveys)/sea turtles/land-use	3,088	102	66–67	80–95	66 or 83	58	67	3,190	3,154–3,155	3,168–3,183	3,154 or 3,171	3,146	3,155
	Navigation/other marine uses (excluding surveys)	1,015	102	66–67	80–95	66 or 83	58	67	1,117	1081–1082	1095–1110	1081 or 1098	1,073	1,082
	Visual/recreation-tourism/cultural resources (viewshed)	893	102	66–67	80–95	66 or 83	58	67	995	959–960	973–988	959 or 976	951	960
	Demographics/environmental justice	3,088	102	66–67	80–95	66 or 83	58	67	3,190	3,154–3,155	3,168–3,183	3,154 or 3,171	3,146	3,155

Project Component	Geographic Analysis Area	OCS Total (without Proposed Action)*	Proposed Action	Alt C	Alt D	Alt E	Alt F	Alt G	Proposed Action + OCS Total (cumulative)	Alt C + OCS Total (cumulative)	Alt D + OCS Total (cumulative)	Alt E + OCS Total (cumulative)	Alt F + OCS Total (cumulative)	Alt G + OCS Total (cumulative)
Operation footprint of foundations (WTG and OSS)(acres)[§ ¶]	Air	80	3	2	2–3	2	2	2	83	82	82–83	82	82	82
	Water	47	3	2	2–3	2	2	2	50	49	49–50	49	49	49
	Benthic/cultural resources (marine)	1	3	2	2–3	2	2	2	4	3	3–4	3	3	3
	Birds/bats/commercial fisheries/finfish-invertebrates-EFH/marine mammals/other marine uses (surveys)/sea turtles/land-use	564	3	2	2–3	2	2	2	567	566	566–567	566	566	566
	Navigation/other marine uses (excluding surveys)	264	3	2	2–3	2	2	2	267	266	266–267	266	266	266
	Visual/recreation-tourism/cultural resources (viewshed)	232	3	2	2–3	2	2	2	235	234	234–235	234	234	234
	Demographics/environmental justice	564	3	2	2–3	2	2	2	567	566	566–567	566	566	566
Construction footprint of foundations (WTG and OSS) (acres)	Air	Not available	3,172.2	2,065.8–2,097.1	2,504–2,973.5	2,065.8 or 2,597.9	1,815.4	2,097.1	Not available	Not available	Not available	Not available	Not available	Not available
	Water	Not available	3,172.2	2,065.8–2,097.1	2,504–2,973.5	2,065.8 or 2,597.9	1,815.4	2,097.1	Not available	Not available	Not available	Not available	Not available	Not available
	Benthic/cultural resources (marine)	Not available	3,172.2	2,065.8–2,097.1	2,504–2,973.5	2,065.8 or 2,597.9	1,815.4	2,097.1	Not available	Not available	Not available	Not available	Not available	Not available
	Birds/bats/commercial fisheries/finfish-invertebrates-EFH/marine mammals/other marine uses (surveys)/sea turtles/land-use	Not available	3,172.2	2,065.8–2,097.1	2,504–2,973.5	2,065.8 or 2,597.9	1,815.4	2,097.1	Not available	Not available	Not available	Not available	Not available	Not available
	Navigation/other marine uses (excluding surveys)	Not available	3,172.2	2,065.8–2,097.1	2,504–2,973.5	2,065.8 or 2,597.9	1,815.4	2,097.1	Not available	Not available	Not available	Not available	Not available	Not available
	Visual/recreation-tourism/cultural resources (viewshed)	Not available	3,172.2	2,065.8–2,097.1	2,504–2,973.5	2,065.8 or 2,597.9	1,815.4	2,097.1	Not available	Not available	Not available	Not available	Not available	Not available
	Demographics/environmental justice	Not available	3,172.2	2,065.8–2,097.1	2,504–2,973.5	2,065.8 or 2,597.9	1,815.4	2,097.1	Not available	Not available	Not available	Not available	Not available	Not available

Project Component	Geographic Analysis Area	OCS Total (without Proposed Action)*	Proposed Action	Alt C	Alt D	Alt E	Alt F	Alt G	Proposed Action + OCS Total (cumulative)	Alt C + OCS Total (cumulative)	Alt D + OCS Total (cumulative)	Alt E + OCS Total (cumulative)	Alt F + OCS Total (cumulative)	Alt G + OCS Total (cumulative)
Seabed disturbance based on addition of scour protection (foundation + scour protection) (acres)[#]	Air	386	71.4	46–47	56–67	46 or 58	41	47	457	432–433	442–453	432 or 444	427	433
	Water	228	71.4	46–47	56–67	46 or 58	41	47	299	274–275	284–295	274 or 286	269	275
	Benthic/cultural resources (marine)	11	71.4	46–47	56–67	46 or 58	41	47	82	57–58	67–78	57 or 69	52	58
	Birds/bats/commercial fisheries/finfish-invertebrates-EFH/marine mammals/other marine uses (surveys)/sea turtles/land-use	5,469	71.4	46–47	56–67	46 or 58	41	47	5,540.4	5,515–5,516	5,525–5,536	5,515 or 5,527	5,510	5,516
	Navigation/other marine uses (excluding surveys)	1,279	71.4	46–47	56–67	46 or 58	41	47	1,350	1,325–1,326	1,335–1,346	1,325 or 1,337	1,320	1,326
	Visual/recreation-tourism/cultural resources (viewshed)	1,125	71.4	46–47	56–67	46 or 58	41	47	1,197	1,171–1,172	1,181–1,192	1,171 or 1,183	1,166	1,172
	Demographics/environmental justice	5,469	71.4	46–47	56–67	46 or 58	41	47	5,540.4	5,515–5,516	5,525–5,536	5,515 or 5,527	5,510	5,516
Offshore export cable construction seabed disturbance (acres)**	Water	2,018	1,390	1,390[‡]	1,390[‡]	1,390[‡]	1,390[‡]	1,390[‡]	3,408	3,408[‡]	3,408[‡]	3,408[‡]	3,408[‡]	3,408[‡]
	Benthic/cultural resources (marine)	555	1,390	1,390[‡]	1,390[‡]	1,390[‡]	1,390[‡]	1,390[‡]	1,945	1,945[‡]	1,945[‡]	1,945[‡]	1,945[‡]	1,945[‡]
	Birds/bats/commercial fisheries/finfish-invertebrates-EFH/marine mammals/other marine uses (surveys)/sea turtles/land-use	32,377	1,390	1,390[‡]	1,390[‡]	1,390[‡]	1,390[‡]	1,390[‡]	33,767	33,767[‡]	33,767[‡]	33,767[‡]	33,767[‡]	33,767[‡]
	Navigation/other marine uses (excluding surveys)	7,633	1,390	1,390[‡]	1,390[‡]	1,390[‡]	1,390[‡]	1,390[‡]	9,023[‡]	9,023[‡]	9,023[‡]	9,023[‡]	9,023[‡]	9,023[‡]
	Visual/recreation-tourism/cultural resources (viewshed)	7,463	1,390	1,390[‡]	1,390[‡]	1,390[‡]	1,390[‡]	1,390[‡]	8,853	8,853[‡]	8,853[‡]	8,853[‡]	8,853[‡]	8,853[‡]
	Demographics/environmental justice	32,377	1,390	1,390[‡]	1,390[‡]	1,390[‡]	1,390[‡]	1,390[‡]	33,767	33,767[‡]	33,767[‡]	33,767[‡]	33,767[‡]	33,767[‡]

Project Component	Geographic Analysis Area	OCS Total (without Proposed Action)*	Proposed Action	Alt C	Alt D	Alt E	Alt F	Alt G	Proposed Action + OCS Total (cumulative)	Alt C + OCS Total (cumulative)	Alt D + OCS Total (cumulative)	Alt E + OCS Total (cumulative)	Alt F + OCS Total (cumulative)	Alt G + OCS Total (cumulative)
Offshore export cable hard protection (acres)[††]	Water	60	39.2	39.2[Ŧ]	39.2[Ŧ]	39.2[Ŧ]	39.2[Ŧ]	39.2[Ŧ]	99.2	99.2[Ŧ Ŧ]	99.2[Ŧ]	99.2[Ŧ]	99.2[Ŧ]	99.2[Ŧ]
	Benthic/cultural resources (marine)	10	39.2	39.2[Ŧ]	39.2[Ŧ]	39.2[Ŧ]	39.2[Ŧ]	39.2[Ŧ]	49.2	49.2[Ŧ]	49.2[Ŧ]	49.2[Ŧ]	49.2[Ŧ]	49.2[Ŧ]
	Birds/bats/commercial fisheries/finfish-invertebrates-EFH/marine mammals/other marine uses (surveys)/sea turtles/land-use	1,584	39.2	39.2[Ŧ]	39.2[Ŧ]	39.2[Ŧ]	39.2[Ŧ]	39.2[Ŧ]	1,623.2	1,623.2[Ŧ]	1,623.2[Ŧ]	1,623.2[Ŧ]	1,623.2[Ŧ]	1,623.2[Ŧ]
	Navigation/other marine uses (excluding surveys)	543	39.2	39.2[Ŧ]	39.2[Ŧ]	39.2[Ŧ]	39.2[Ŧ]	39.2[Ŧ]	582.2	582.2[Ŧ]	582.2[Ŧ]	582.2[Ŧ]	582.2[Ŧ]	582.2[Ŧ]
	Visual/recreation-tourism/cultural resources (viewshed)	519	39.2	39.2[Ŧ]	39.2[Ŧ]	39.2[Ŧ]	39.2[Ŧ]	39.2[Ŧ]	558.2	558.2[Ŧ]	558.2[Ŧ]	558.2[Ŧ]	558.2[Ŧ]	558.2[Ŧ]
	Demographics/environmenta l justice	1,584	39.2	39.2[Ŧ]	39.2[Ŧ]	39.2[Ŧ]	39.2[Ŧ]	39.2[Ŧ]	1,623.2	1,623.2[Ŧ]	1,623.2[Ŧ]	1,623.2[Ŧ]	1,623.2[Ŧ]	1,623.2[Ŧ]
Anchoring disturbance (acres)	Water	1,862	3,204	2,066–2,098	2,510–2,985	2,066 or 2,605	1,812	2,098	5,066	3,928–3,960	4,372–4,847	3,928 or 4,467	3,674	3,960
	Benthic/cultural resources (marine)	821	3,204	2,066–2,098	2,510–2,985	2,066 or 2,605	1,812	2,098	4,025	2,887–2,919	3,331–3,806	2,887 or 3,426	2,633	2,919
	Birds/bats/commercial fisheries/finfish-invertebrates-EFH/marine mammals/other marine uses (surveys)/sea turtles/land-use	8,427	3,204	2,066–2,098	2,510–2,985	2,066 or 2,605	1,812	2,098	11,631	10,493–10,525	10,937–11,412	10,493 or 11,032	10,239	10,525
	Navigation/other marine uses (excluding surveys)	3,848	3,204	2,066–2,098	2,510–2,985	2,066 or 2,605	1,812	2,098	7,052	5,914–5,946	6,358–6,833	5,914 or 6,453	5,660	5,946
	Visual/recreation-tourism/cultural resources (viewshed)	3,346	3,204	2,066–2,098	2,510–2,985	2,066 or 2,605	1,812	2,098	6,550	5,412–5,444	5,856–6,331	5,412 or 5,951	5,158	5,444
	Demographics/environmenta l justice	8,427	3,204	2,066–2,098	2,510–2,985	2,066 or 2,605	1,812	2,098	11,631	10,493–10,525	109,37–11,412	104,93 or 11,032	10,239	10,525
Inter-array cable and OSS-link cable construction seabed disturbance (acres)[‡‡]	Water	4,131	2,619	2,619[Ŧ]	2,619[Ŧ]	2,619[Ŧ]	2,619[Ŧ]	2,010	6,750	6,750[Ŧ]	6,750[Ŧ]	6,750[Ŧ]	6,750[Ŧ]	6,141
	Benthic/cultural resources (marine)	340	2,619	2,619[Ŧ]	2,619[Ŧ]	2,619[Ŧ]	2,619[Ŧ]	2,010	2,959	2,959[Ŧ]	2,959[Ŧ]	2,959[Ŧ]	2,959[Ŧ]	2,350

Project Component	Geographic Analysis Area	OCS Total (without Proposed Action)*	Proposed Action	Alt C	Alt D	Alt E	Alt F	Alt G	Proposed Action + OCS Total (cumulative)	Alt C + OCS Total (cumulative)	Alt D + OCS Total (cumulative)	Alt E + OCS Total (cumulative)	Alt F + OCS Total (cumulative)	Alt G + OCS Total (cumulative)
	Birds/bats/commercial fisheries/finfish-invertebrates-EFH/marine mammals/other marine uses (surveys)/sea turtles/land-use	69,004	2,619	2,619[Ŧ]	2,619[Ŧ]	2,619[Ŧ]	2,619[Ŧ]	2,010	71,623	71,623[Ŧ]	71,623[Ŧ]	71,623[Ŧ]	71,623[Ŧ]	71,014
	Navigation/other marine uses (excluding surveys)	8,495	2,619	2,619[Ŧ]	2,619[Ŧ]	2,619[Ŧ]	2,619[Ŧ]	2,010	8,944	8,944[Ŧ]	8,944[Ŧ]	8,944[Ŧ]	8,944[Ŧ]	8,335
	Visual/recreation-tourism/cultural resources (viewshed)	7,523	2,619	2,619[Ŧ]	2,619[Ŧ]	2,619[Ŧ]	2,619[Ŧ]	2,010	10,142	10,142[Ŧ]	10,142[Ŧ]	10,142[Ŧ]	10,142[Ŧ]	9,533
	Demographics/environmental justice	69,004	2,619	2,619[Ŧ]	2,619[Ŧ]	2,619[Ŧ]	2,619[Ŧ]	2,010	71,623	71,623[Ŧ]	71,623[Ŧ]	71,623[Ŧ]	71,623[Ŧ]	71,014
Inter-array cable and OSS-link cable hard protection (acres)[§§]	Water	444	78.5	78.5[Ŧ]	78.5[Ŧ]	78.5[Ŧ]	78.5[Ŧ]	60.3	522.5	522.5[Ŧ]	522.5[Ŧ]	522.5[Ŧ]	522.5[Ŧ]	504
	Benthic/cultural resources (marine)	10	78.5	78.5[Ŧ]	78.5[Ŧ]	78.5[Ŧ]	78.5[Ŧ]	60.3	88.5	88.5[Ŧ]	88.5[Ŧ]	88.5[Ŧ]	88.5[Ŧ]	70.3
	Birds/bats/commercial fisheries/finfish-invertebrates-EFH/marine mammals/other marine uses (surveys)/sea turtles/land-use	1,232	78.5	78.5[Ŧ]	78.5[Ŧ]	78.5[Ŧ]	78.5[Ŧ]	60.3	1,435.5	1,310.5[Ŧ]	1,310.5[Ŧ]	1,310.5[Ŧ]	1,310.5[Ŧ]	1292.3
	Navigation/other marine uses (excluding surveys)	629	78.5	78.5[Ŧ]	78.5[Ŧ]	78.5[Ŧ]	78.5[Ŧ]	60.3	707.5	707.5[Ŧ]	707.5[Ŧ]	707.5[Ŧ]	707.5[Ŧ]	689.3
	Visual/recreation-tourism/cultural resources (viewshed)	629	78.5	78.5[Ŧ]	78.5[Ŧ]	78.5[Ŧ]	78.5[Ŧ]	60.3	707.5	707.5[Ŧ]	707.5[Ŧ]	707.5[Ŧ]	707.5[Ŧ]	689.3
	Demographics/environmental justice	1,232	78.5	78.5[Ŧ]	78.5[Ŧ]	78.5[Ŧ]	78.5[Ŧ]	60.3	1,435.5	1,310.5[Ŧ]	1,310.5[Ŧ]	1,310.5[Ŧ]	1,310.5[Ŧ]	1292.3
Total hazardous fluids (WTG and OSS) (gallons)***	Air	4,990,313	585,200	468,856–473,060	514,712–562,772	468,856 or 524,324	444,224	473,060	5,575,513	5,459,169–5,463,373	5,505,025–5,553,085	5,459,169 or 5,514,637	5,434,537	5,463,373
	Water	2,866,729	585,200	468,856–473,060	514,712–562,772	468,856 or 524,324	444,224	473,060	3,451,929	3,335,585–3,339,789	3,381,441–3,429,501	3,335,585 or 3,391,053	3,310,953	3,339,789
	Benthic/cultural resources (marine)	253,362	585,200	468,856–473,060	514,712–562,772	468,856 or 524,324	444,224	473,060	838,562	72,2218–726,422	768,074–816,134	722,218 or 777,686	697,586	726,422
	Birds/bats/commercial fisheries/finfish-invertebrates-EFH/marine mammals/other marine uses	33,869,870	585,200	468,856–473,060	514,712–562,772	468,856 or 524,324	444,224	473,060	34,455,070	34,338,726–34,342,930	34,384,582–34,432,642	34,338,726 or 34,394,194	34,314,094	34,342,930

Project Component	Geographic Analysis Area	OCS Total (without Proposed Action)*	Proposed Action	Alt C	Alt D	Alt E	Alt F	Alt G	Proposed Action + OCS Total (cumulative)	Alt C + OCS Total (cumulative)	Alt D + OCS Total (cumulative)	Alt E + OCS Total (cumulative)	Alt F + OCS Total (cumulative)	Alt G + OCS Total (cumulative)
	(surveys)/sea turtles/land-use													
	Navigation/other marine uses (excluding surveys)	14,231,132	585,200	468,856–473,060	514,712–562,772	468,856 or 524,324	444,224	473,060	14,816,332	14,699,988–14,704,192	14,745,844–14,793,904	14,699,988 or 14,755,456	14,675,356	14,704,192
	Visual/recreation-tourism/cultural resources (viewshed)	12,453,920	585,200	468,856–473,060	514,712–562,772	468,856 or 524,324	444,224	473,060	13,039,120	12,922,776–12,926,980	12,968,632–13,016,692	12,922,776 or 12,978,244	12,898,144	12,926,980
	Demographics/environmental justice	33,869,870	585,200	468,856–473,060	514,712–562,772	468,856 or 524,324	444,224	473,060	34,455,070	34,338,726–34,342,930	34,384,582–34,432,642	34,338,726 or 34,394,194	34,314,094	34,342,930

* Totals provided in Appendix E3 and summarized here.

† Sums total IAC and OSS-Link cable length by alternative, as disclosed in Section 2.1.

‡ Sums total WTGs and OSSs by alternative, as disclosed in Section 2.1.

§ Sums OSS monopile foundation (0.043 acre/foundation) and WTG monopile foundation (0.027 acre/foundation) by alternative, as disclosed in Section 2.1.

¶ Sums OSS monopile foundation (7.2 acres/foundation) and WTG monopile foundation (7.2 acres/foundation) by alternative, as disclosed in Section 2.1.

Sums WTG monopile scour protection (0.67 acre/foundation) and OSS monopile scour protection (0.66 acres/foundation) by alternative, as disclosed in Section 2.1.

** Sums RWEC-OCS and RWEC-RI construction and installation footprint by alternative, as disclosed in Section 2.1.

†† Sums RWEC-OCS and RWEC-RI operation footprint by alternative, as disclosed in Section 2.1.

‡‡ Sums IAC and OSS-link construction and installation footprint by alternative, as disclosed in Section 2.1.

§§ Sums IAC and OSS-link operation footprint by alternative, as disclosed in Section 2.1.

*** Totals provided in Appendix E3 and summarized here.

ǂ Project design has not occurred for Alternatives C through F; therefore, GIS calculations for the IAC, OSS-link cable, and RWEC are not available. This table uses the Proposed Action as the most conservative proxy estimate. However, best professional judgment suggests that the footprint of the IAC, OSS-link cable, and RWEC would change and be slightly reduced to match the reduced number of WTGs under Alternatives C through F.

Literature Cited

Bureau of Ocean Energy Management (BOEM). 2019. *National Environmental Policy Act Documentation for Impact-Producing Factors in the Offshore Wind Cumulative Impacts Scenario on the North Atlantic Outer Continental Shelf*. Available at: https://www.boem.gov/sites/default/files/environmental-stewardship/Environmental-Studies/Renewable-Energy/IPFs-in-the-Offshore-Wind-Cumulative-Impacts-Scenario-on-the-N-OCS.pdf. Accessed December 2020.

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APPENDIX F

Environmental Protection Measures, Mitigation, and Monitoring

Contents

Tables

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Introduction

The Revolution Wind Farm (RWF) and the Revolution Wind Export Cable (RWEC) Project environmental impact statement (EIS) assesses the potential environmental, social, economic, historical, and cultural impacts that could result from the construction, operations and maintenance (O&M), and decommissioning of a wind energy project (the Project) located in the Bureau of Ocean Energy Management's (BOEM's) Renewable Energy Lease Area OCS-A 0486, approximately 15.0 miles east of Block Island, Rhode Island; approximately 12.5 miles south of the Rhode Island mainland coast; and between approximately 12.0 and 13.5 miles southeast of various points along the Massachusetts coastline in the Atlantic Ocean. The Project comprises the siting and development of the RWF and the RWEC. Revolution Wind, LLC (Revolution Wind) is proposing the Project, which is designed to contribute to Connecticut's renewable energy mandate of 2,000 megawatts (MW) of offshore wind energy by 2030 and Rhode Island's 100% renewable energy goal by 2030.

As part of the Project, Revolution Wind has committed to self-implement measures to avoid, reduce, mitigate, and/or monitor impacts on the resources discussed in Chapter 3 of the EIS. Those environmental protection measures (EPMs) are summarized in Table F-1 of this appendix. BOEM considers as part of the Proposed Action and Preferred Alternative only those measures that Revolution Wind has committed to in the construction and operations plan (COP) (VHB 2023).

Table F-1 includes EPMs derived from the COP in the following volumes, sections, and appendices:

- Volume 1 Section 3.3.3.2, Section 4.6.1.3, and Table 4.7-2
- Volume III
- Appendix Z2 - *Protected Species Mitigation and Monitoring Plan (PSMMP): Sea Turtles, and ESA-Listed Fish Species* (LGL Ecological Research Associates, Inc. 2022a)
- Appendix Z3 - *Protected Species Mitigation and Monitoring Plan (PSMMP): Marine Mammals* (Revolution Wind 2022)
- Appendix AA - *Assessment of the Potential Effects of the Revolution Offshore Wind Farm on Birds and Bats* (Biodiversity Research Institute 2023)

In addition to EPMs identified in the COP, Table F-1 also includes mitigation measures that Revolution Wind has proposed in its unanticipated discovery plan (Revolution Wind 2023:Attachments B and C). Note: the EMP descriptions in Table F-1 were taken verbatim from the COP and were not edited.

Table F-2 includes mitigation measures resulting from consultations and reviews under several environmental statutes (Clean Air Act, Endangered Species Act [ESA], Magnuson-Stevens Fisheries Conservation and Management Act, Marine Mammal Protection Act [MMPA], and National Historic Preservation Act), as discussed in Appendix A of the Final EIS. Examples include the following:

- *Petition for Incidental Take Regulations for the Construction and Operation of the Revolution Wind Offshore Wind Farm* (LGL Ecological Research Associates, Inc. 2022b)

- Federal consistency consultations under the Coastal Zone Management Act, which concluded on May 10, 2023, with the Massachusetts Office of Coastal Zone Management and on May 12, 2023, with the Rhode Island Coastal Resources Management Council

BOEM may select alternatives and/or require additional mitigation or monitoring measures to further protect and monitor these resources. Additional mitigation measures identified by BOEM are shown in Table F-3.

Please note that not all of the mitigation measures in Table F-2 and Table F-3 are within BOEM's statutory and regulatory authority but could be adopted and imposed by other governmental entities.

If BOEM decides to approve the COP, the record of decision (ROD) would state which of the mitigation and monitoring measures identified in Table F-2 and Table F-3 have been adopted, and if not, why they were not. The ROD will describe the specific terms and conditions of these measures for which compliance is required (40 Code of Federal Regulations [CFR] 1505.3). Revolution Wind would be required to certify compliance with certain terms and conditions under 30 CFR 285.633(a). Furthermore, BOEM would periodically review the activities conducted under the approved COP, with the frequency and extent of the review based on the significance of any changes in available information and on onshore or offshore conditions affecting, or affected by, the activities conducted under the COP.

Monitoring measures may be required to evaluate the effectiveness of a mitigation measure or to identify if resources are responding as predicted to impacts from the Project. This monitoring would typically be developed in coordination between BOEM and agencies with jurisdiction over the resource to be monitored. The information generated by monitoring may be used to 1) modify how a mitigation measure identified in the COP or ROD is being implemented, 2) revise or develop new mitigation or monitoring measures for which compliance would be required under the RWF COP in accordance with 30 CFR 585.634(b), 3) develop measures for future projects, or 4) contribute to regional efforts for better understanding the impacts and benefits resulting from offshore wind energy projects in the Atlantic (e.g., a potential cumulative impact assessment tool). Unless specified as an EPM, the proposed mitigation measures described below would not change the impact ratings on the affected resource, as described in Chapter 3 of the Final EIS, but would further reduce expected impacts or inform the development of additional mitigation measures if required.

In this appendix, distances in miles are in statute miles (miles used in the traditional sense) or nautical miles (miles used specifically for marine navigation). Statute miles are more commonly used and are referred to simply as *miles*, whereas nautical miles are referred to by name or by their abbreviation *nm*.

Table F-1. Environmental Protection Measures (EPMs) Committed to by Revolution Wind, LLC (Applicant Proposed Measures)

EPM Number	Proposed Project Phase	EPM	Description of Environmental Protection Measures Committed to by Revolution Wind, LLC (VHB 2023)*	Resource Area Affected	Anticipated Enforcing Agency/Lessee†
Provided in COP Table 4.7-2					
AQ-1	Construction and installation, O&M, and decommissioning	Mitigation of air emissions	Vessels providing construction or maintenance services for the RWF will use low-sulfur fuel, where possible.	Air quality	Revolution Wind
AQ-2	Construction and installation, O&M, and decommissioning	Mitigation of air emissions	Vessel engines will meet the appropriate Environmental Protection Agency (EPA) air emission standards for nitrogen oxide (NO_X) emissions when operating within Emission Controls Areas.	Air quality	Revolution Wind
AQ-3	Construction and installation, O&M, and decommissioning	Mitigation of air emissions	Onshore Facilities equipment and fuel suppliers will provide equipment and fuels that comply with the applicable EPA or equivalent emission standards.	Air quality	Revolution Wind
AQ-4	Construction and installation, O&M, and decommissioning	Mitigation of air emissions	Marine engines with a model year of 2007 or later and non-road engines complying with the Tier 3 standards (in 40 CFR 89 or 1039) or better will be used to satisfy best available control technology (BACT) or lowest achievable emission rate (LAER).	Air quality	Revolution Wind
WQ-1	Construction and installation	Cable burial risk assessment	To the extent feasible, installation of the Inter-array cables (IACs), OSS-Link Cable, and RWEC will occur using equipment such as mechanical cutter, mechanical plow, or jet plow. The feasibility of cable burial equipment will be determined based on an assessment of seabed conditions and the Cable Burial Risk Assessment.	Water quality	Revolution Wind
WQ-2	Construction and installation, O&M, and decommissioning	Spill prevention and control measures	Revolution Wind will require all construction and operations vessels to comply with regulatory requirements related to the prevention and control of spills and discharges.	Water quality	Revolution Wind
WQ-3	Construction and installation, O&M, and decommissioning	Oil spill response plan (OSRP)	Accidental spill or release of oils or other hazardous materials offshore will be managed through the OSRP (COP Appendix D [Orsted 2023]).	Water quality	Revolution Wind
WQ-4	Construction and installation, O&M, and decommissioning	Marine debris awareness training	All vessels will comply with United States Coast Guard (USCG) and EPA regulations that require operators to develop waste management plans, post informational placards, manifest trash sent to shore, and use special precautions such as covering outside trash bins to prevent accidental loss of solid materials. Vessels will also comply with BOEM lease stipulations that require adherence to Notice to Lessee (NTL) 2015-G03, which instructs operators to exercise caution in the handling and disposal of small items and packaging materials, requires the posting of placards at prominent locations on offshore vessels and structures, and mandates a yearly marine trash and debris awareness training and certification process.	Water quality	Revolution Wind
WQ-5	Construction and installation	HDD contingency plan	At the landfall location, drilling fluids will be managed within a contained system to be collected for reuse, as necessary. An HDD Contingency Plan will be prepared and implemented to minimize the potential risks associated with release of drilling fluids.	Water quality	Revolution Wind
WQ-6	Construction and installation, O&M, and decommissioning	Soil erosion and sediment control (SESC) plan	A SESC plan, including erosion and sedimentation control measures, will be implemented to minimize potential water quality impacts during construction and operation of the Onshore Facilities.	Water quality	Revolution Wind
Coast-1	Construction and installation	Siting of onshore facilities	Onshore Facilities will be sited within previously disturbed and developed areas to the extent practicable.	Coastal and terrestrial habitats	Revolution Wind
Coast-2	Construction and installation, O&M, and decommissioning	OSRP	Accidental spill or release of oils or other hazardous materials offshore will be managed through the OSRP.	Coastal and terrestrial habitats	Revolution Wind

EPM Number	Proposed Project Phase	EPM	Description of Environmental Protection Measures Committed to by Revolution Wind, LLC (VHB 2023)*	Resource Area Affected	Anticipated Enforcing Agency/Lessee†
Coast-3	Construction and installation	HDD contingency plan	At the landfall location, drilling fluids will be managed within a contained system to be collected for reuse, as necessary. An HDD Contingency Plan will be prepared and implemented to minimize the potential risks associated with release of drilling fluids.	Coastal and terrestrial habitats	Revolution Wind
Coast-4	Construction and installation, O&M, and decommissioning	Spill prevention and control measures and SESC plan	Compliance with the RIPDES General Permit for Stormwater Discharges associated with construction activity which requires the implementation of a SESC Plan and spill prevention and control measures.	Coastal and terrestrial habitats	Revolution Wind
Coast-5	Construction and installation	SESC plan	The operator must implement the site-specific SESC Plan and maintain it during the entire construction process until the entire worksite is permanently stabilized by vegetation or other means. The measures employed in the SESC Plan use best management practices (BMPs) to minimize the opportunity for turbid discharges leaving a construction work area.	Coastal and terrestrial habitats	Revolution Wind
Coast-6	Construction and installation, O&M, and decommissioning	Spill prevention and control measures	The spill prevention and control measures mandate that the operator identifies all areas where spills can occur and their accompanying drainage points. The operator must also establish spill prevention and control measures to reduce the chance of spills, stop the source of spills, contain and clean up spills, and dispose of materials contaminated by spills. Spill prevention and control training will be provided for relevant personnel.	Coastal and terrestrial habitats	Revolution Wind
Coast-7	Construction and installation and O&M	Vegetation management	The perimeter surrounding Onshore Facilities will be managed to encourage the growth of native grasses, ferns, and low-growing shrubs. The management strategy will include the removal of invasive plants in compliance with state and federal regulations (e.g., herbicide use will not be permitted within regulated wetlands).	Coastal and terrestrial habitats	Revolution Wind
Coast-8	Construction and installation	Avoidance/mitigation of wetland impacts	In accordance with Section 2.9(B)(1)(d) of the Freshwater Wetland Rules, the Onshore Facilities will be designed to avoid and minimize impacts to freshwater wetlands to the maximum extent practicable. Any wetlands that will be impacted as a result of the Project will be mitigated via the federal and state permitting process in accordance with Section 404 of the CWA and the Freshwater Wetland Rules.	Coastal and terrestrial habitats	Revolution Wind
Coast-9	Construction and installation, O&M, and decommissioning	SESC plan	An SESC Plan, including erosion and sedimentation control measures, will be implemented to minimize potential water quality impacts during construction and operation of the Onshore Facilities.	Coastal and terrestrial habitats	Revolution Wind
Coast-10	Construction and installation	Vegetation management	The documented sickle-leaved golden aster population on the OnSS parcel will be protected during construction.	Coastal and terrestrial habitats	Revolution Wind
Ben-1	Preconstruction	Siting of RWF and RWEC	The RWF and RWEC will be sited to avoid and minimize impacts to sensitive habitats (e.g., hard-bottom habitats) to the extent practicable.	Benthic habitat and invertebrates	Revolution Wind
Ben-2	Construction and installation	Cable burial risk assessment	The IAC, OSS-Link Cable, and RWEC will avoid identified shallow hazards to the extent practicable.	Benthic habitat and invertebrates	Revolution Wind
Ben-3	Construction and installation	Cable burial risk assessment	To the extent feasible, installation of the IAC, OSS-Link Cable, and RWEC will occur using equipment such as mechanical cutter, mechanical plow, or jet plow. The feasibility of cable burial equipment will be determined based on an assessment of seabed conditions and the Cable Burial Risk Assessment.	Benthic habitat and invertebrates	Revolution Wind
Ben-4	Construction and installation	Cable burial risk assessment	To the extent feasible, the RWEC, IAC, and OSS-Link Cable will typically target a burial depth of 4 to 6 ft (1.2 to 1.8 m) below seabed. The target burial depth will be determined based on an assessment of seabed conditions, seabed mobility, the risk of interaction with external hazards such as fishing gear and vessel anchors, and a site-specific Cable Burial Risk Assessment.	Benthic habitat and invertebrates	Revolution Wind
Ben-5	Construction and installation	Cable burial risk assessment	DP vessels will be used for installation of the IACs, OSS-Link Cable, and RWEC to the extent practicable.	Benthic habitat and invertebrates	Revolution Wind
Ben-6	Preconstruction	Anchoring plan	A plan for vessels will be developed prior to construction to identify no-anchorage areas to avoid documented sensitive resources.	Benthic habitat and invertebrates	Revolution Wind
Ben-7	Preconstruction, construction and installation, and postconstruction	Fisheries and benthic monitoring studies	Revolution Wind is committed to collaborative science with the commercial and recreational fishing industries pre-, during, and post-construction. Fisheries and benthic monitoring studies are being planned to assess the impacts associated with the Project on economically and ecologically important fisheries resources. These studies will be conducted in	Benthic habitat and invertebrates	Revolution Wind

EPM Number	Proposed Project Phase	EPM	Description of Environmental Protection Measures Committed to by Revolution Wind, LLC (VHB 2023)*	Resource Area Affected	Anticipated Enforcing Agency/Lessee†
			collaboration with the local fishing industry and will build upon monitoring efforts being conducted by affiliates of Revolution Wind at other wind farms in the region.		
Ben-8	Preconstruction	Submerged aquatic vegetation (SAV) study	A preconstruction SAV survey will be completed to identify any new or expanded SAV beds. The Project design will be refined to avoid impacts to SAV to the greatest extent practicable.	Benthic habitat and invertebrates	Revolution Wind
Ben-9	Construction and installation, O&M, and decommissioning	Spill prevention and control measures	Revolution Wind will require all construction and operations vessels to comply with regulatory requirements related to the prevention and control of spills and discharges.	Benthic habitat and invertebrates	Revolution Wind
Ben-10	Construction and installation, O&M, and decommissioning	OSRP	Accidental spill or release of oils or other hazardous materials will be managed through the OSRP.	Benthic habitat and invertebrates	Revolution Wind
Ben-11	Construction and installation, O&M, and decommissioning	Marine debris awareness training	All vessels will comply with United States Coast Guard (USCG) and EPA regulations that require operators to develop waste management plans, post informational placards, manifest trash sent to shore, and use special precautions such as covering outside trash bins to prevent accidental loss of solid materials. Vessels will also comply with BOEM lease stipulations that require adherence to Notice to Lessee (NTL) 2015-G03, which instructs operators to exercise caution in the handling and disposal of small items and packaging materials, requires the posting of placards at prominent locations on offshore vessels and structures, and mandates a yearly marine trash and debris awareness training and certification process.	Benthic habitat and invertebrates	Revolution Wind
Ben-12	Construction and installation	Soft start before pile driving	A ramp-up or soft start will be used at the beginning of each pile segment during impact pile driving and/or vibratory pile driving to provide additional protection to mobile species in the vicinity by allowing them to vacate the area prior to the commencement of pile-driving activities.	Benthic habitat and invertebrates	Revolution Wind
Ben-13	Construction and installation and O&M	Lighting minimization	Construction and operational lighting will be limited to the minimum necessary to ensure safety and compliance with applicable regulations.	Benthic habitat and invertebrates	Revolution Wind
Ben-14	Construction and installation	Time of year (TOY) restrictions	Revolution Wind will continue to coordinate with Rhode Island Department of Environmental Management (RIDEM) and National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) regarding TOY restrictions through the permitting process and will adhere to requirements imposed by these agencies.	Benthic habitat and invertebrates	Revolution Wind
Ben-15	Preconstruction and construction and installation	Siting of RWF and RWEC	The RWF and RWEC would use HRG surveys and other site characterization methods to identify, avoid, and minimize impacts to complex bottom habitats to the extent practicable	Benthic habitat and invertebrates	Revolution Wind
Ben-16	Construction and installation, O&M, and decommissioning	Fisheries and benthic monitoring plan	Revolution Wind has developed a fisheries and benthic habitat monitoring plan (dated May 2023) that has been prepared in accordance with recommendations set forth in Guidelines for Providing Benthic Habitat Survey Information for Renewable Energy Development on the Atlantic Outer Continental Shelf Pursuant to 30 CFR Part 585 (BOEM 2019).	Benthic habitat and invertebrates	Revolution Wind
Ben-17	Construction and installation	Boulder relocation	It is anticipated that a boulder grab and specialized working class, remotely operated vehicle boulder skid will be used for the majority of boulder relocations to reduce the magnitude and spatial extent of impacts to benthic habitats and invertebrates, such as complex and large-grained complex habitats. The boulder plow will only be used in limited segments of the RWEC.	Benthic habitat and EFH	BOEM and Bureau of Safety and Environmental Enforcement (BSEE)
Ben-18	Construction and installation	HDD landfall	At the landfall location, drilling fluids will be managed within a contained system to be collected for reuse, as necessary. An HDD Contingency Plan will be prepared and implemented to minimize the potential risks associated with the release of drilling fluids. This EPM would minimize adverse effects to benthic habitats and invertebrates from impacts to water quality.	Benthic habitat and EFH	Revolution Wind, BOEM
Ben-19	O&M	Bathymetry surveys	Revolution Wind intends to conduct an as-built survey/bathymetry survey along the entirety of the cable routes following installation. Bathymetry surveys will be performed post-installation one year after commissioning, two years after commissioning, and every five years thereafter or in accordance with permits and authorizations received for the Project.	Benthic habitat and EFH	Revolution Wind, BOEM
Fin-1	Construction and installation	Cable burial risk assessment	To the extent feasible, installation of the IAC, OSS-Link Cable, and RWEC will occur using equipment such as mechanical cutter, mechanical plow, or jet plow. The feasibility of cable burial equipment will be determined based on an assessment of seabed conditions and the Cable Burial Risk Assessment.	Finfish and essential fish habitat	Revolution Wind

EPM Number	Proposed Project Phase	EPM	Description of Environmental Protection Measures Committed to by Revolution Wind, LLC (VHB 2023)*	Resource Area Affected	Anticipated Enforcing Agency/Lessee†
Fin-2	Construction and installation	TOY restrictions	Based on the coordination with RIDEM and NOAA NMFS to date, in general, offshore site preparation for and installation of the RWEC-RI north of the Convention on the International Regulations for Preventing Collisions at Sea ("COLREGS") line of demarcation will occur between the day after Labor Day and February 1 to avoid and minimize impacts to winter flounder (Pseudopleuronectes americanus) and shellfish. Revolution Wind will continue to coordinate with RIDEM and NOAA NMFS regarding TOY restrictions through the permitting process and will adhere to requirements imposed by these agencies.	Finfish and essential fish habitat	Revolution Wind
Fin-3	Construction and installation	Cable burial risk assessment	To the extent feasible, the RWEC, IAC, and OSS-Link Cable will typically target a burial depth of 4 to 6 ft (1.2 to 1.8 m) below seabed. The target burial depth will be determined based on an assessment of seabed conditions, seabed mobility, the risk of interaction with external hazards such as fishing gear and vessel anchors, and a site-specific Cable Burial Risk Assessment.	Finfish and essential fish habitat	Revolution Wind
Fin-4	Construction and installation	Cable burial risk assessment	DP vessels will be used for installation of the IACs, OSS-Link Cable, and RWEC to the extent practicable.	Finfish and essential fish habitat	Revolution Wind
Fin-5	Preconstruction	Anchoring plan	A plan for vessels will be developed prior to construction to identify no-anchorage areas to avoid documented sensitive resources.	Finfish and essential fish habitat	Revolution Wind
Fin-6	Preconstruction, construction and installation, and postconstruction	Fisheries and benthic monitoring studies	Revolution Wind is committed to collaborative science with the commercial and recreational fishing industries pre-, during, and post-construction. Fisheries and benthic monitoring studies are being planned to assess the impacts associated with the Project on economically and ecologically important fisheries resources. These studies will be conducted in collaboration with the local fishing industry and will build upon monitoring efforts being conducted by affiliates of Revolution Wind at other wind farms in the region.	Finfish and essential fish habitat	Revolution Wind
Fin-7	Construction and installation, O&M, and decommissioning	Spill prevention and control measures	Revolution Wind will require all construction and operations vessels to comply with regulatory requirements related to the prevention and control of spills and discharges.	Finfish and essential fish habitat	Revolution Wind
Fin-8	Construction and installation, O&M, and decommissioning	OSRP	Accidental spill or release of oils or other hazardous materials will be managed through the OSRP.	Finfish and essential fish habitat	Revolution Wind
Fin-9	Construction and installation	Soft start before pile driving	A ramp-up or soft start will be used at the beginning of each pile segment during impact pile driving and/or vibratory pile driving to provide additional protection to mobile species in the vicinity by allowing them to vacate the area prior to the commencement of pile-driving activities.	Finfish and essential fish habitat	Revolution Wind
Fin-10	Construction and installation and O&M	Lighting minimization	Construction and operational lighting will be limited to the minimum necessary to ensure safety and compliance with applicable regulations.	Finfish and essential fish habitat	Revolution Wind
Fin-11	Construction and installation, O&M, and decommissioning	Marine debris awareness training	All vessels will comply with USCG and EPA regulations that require operators to develop waste management plans, post informational placards, manifest trash sent to shore, and use special precautions such as covering outside trash bins to prevent accidental loss of solid materials. Vessels will also comply with BOEM lease stipulations that require adherence to NTL 2015-G03, which instructs operators to exercise caution in the handling and disposal of small items and packaging materials, requires the posting of placards at prominent locations on offshore vessels and structures, and mandates a yearly marine trash and debris awareness training and certification process.	Finfish and essential fish habitat	Revolution Wind
Fin-12	Construction and installation	TOY restrictions	Revolution Wind will continue to coordinate with RIDEM and NOAA NMFS regarding TOY restrictions through the permitting process and will adhere to requirements imposed by these agencies.	Finfish and essential fish habitat	Revolution Wind
Fin-13	Construction and installation, postconstruction and installation monitoring	Gear identification	To facilitate identification of gear on any entangled animals, all trap/pot gear used in the surveys must be uniquely marked to distinguish it from other commercial or recreational gear.	Finfish and essential fish habitat	Revolution Wind, BOEM, BSEE, and NMFS
Fin-14	Construction and installation	Boulder relocation	It is anticipated that a boulder grab and specialized working class, remotely operated vehicle boulder skid will be used for the majority of boulder relocations to reduce the magnitude and spatial extent of impacts to benthic habitats and	Benthic habitat and EFH	BOEM and BSEE

EPM Number	Proposed Project Phase	EPM	Description of Environmental Protection Measures Committed to by Revolution Wind, LLC (VHB 2023)*	Resource Area Affected	Anticipated Enforcing Agency/Lessee†
			invertebrates, such as complex and large-grained complex habitats. The boulder plow will only be used in limited segments of the RWEC.		
Fin-15	Construction and installation	TOY restrictions	Timing restrictions to avoid noise impacts to North Atlantic right whale would also be protective of a portion of the Atlantic cod spawning season. This includes the restriction of pile-driving to the months of May to December; no pile driving will occur from January 1st to April 30th.	Finfish and essential fish habitat	Revolution Wind, BOEM, BSEE, and NMFS
Fin-16	Construction and installation	HDD landfall	At the landfall location, drilling fluids will be managed within a contained system to be collected for reuse, as necessary. An HDD Contingency Plan will be prepared and implemented to minimize the potential risks associated with the release of drilling fluids. This EPM would minimize adverse effects to benthic and pelagic EFH, including EFH species, from impacts to water quality.	Finfish and essential fish habitat	Revolution Wind, BOEM
Fin-17	O&M	Bathymetry surveys	Revolution Wind intends to conduct an as-built survey/bathymetry survey along the entirety of the cable routes following installation. Bathymetry surveys will be performed post-installation one year after commissioning, two years after commissioning, and every five years thereafter or in accordance with permits and authorizations received for the Project.	Benthic habitat and essential fish habitat	Revolution Wind, BOEM
MM-1	Construction and installation	Establishment of pre-clearance and shutdown zones for impact pile driving	Exclusion and monitoring zones for marine mammals and sea turtles will be established for impact and vibratory pile-driving activities.	Marine mammals	Revolution Wind
MM-2	Construction and installation	Impact and vibratory pile-driving mitigation measures	The following measures will be implemented for impact and vibratory pile-driving activities. These measures will include seasonal restrictions, soft-start measures, shutdown procedures, marine mammal and sea turtle monitoring protocols, the use of qualified and NOAA-approved Protected Species Observers (PSO), and noise attenuation systems such as bubble curtains, as appropriate.	Marine mammals	Revolution Wind
MM-3	Construction and installation, O&M, and decommissioning	Vessel speed restrictions	Vessels will follow NOAA guidelines for marine mammal and sea turtle strike avoidance measures, including vessel speed restrictions.	Marine mammals	Revolution Wind
MM-4	Construction and installation, O&M, and decommissioning	Marine mammal, sea turtle, and marine debris awareness training	All personnel working offshore will receive training on marine mammal and sea turtle awareness and marine debris awareness.	Marine mammals	Revolution Wind
MM-5	Construction and installation, O&M, and decommissioning	Spill prevention and control measures	Revolution Wind will require all construction and operations vessels to comply with regulatory requirements related to the prevention and control of spills and discharges.	Marine mammals	Revolution Wind
MM-6	Construction and installation, O&M, and decommissioning	OSRP	Accidental spill or release of oils or other hazardous materials offshore will be managed through the OSRP.	Marine mammals	Revolution Wind
MM-7	Construction and installation, O&M, and decommissioning	Marine debris awareness training	All vessels will comply with USCG and EPA regulations that require operators to develop waste management plans, post informational placards, manifest trash sent to shore, and use special precautions such as covering outside trash bins to prevent accidental loss of solid materials. Vessels will also comply with BOEM lease stipulations, which instructs operators to exercise caution in the handling and disposal of small items and packaging materials, requires the posting of placards at prominent locations on offshore vessels and structures, and mandates a yearly marine trash and debris awareness training and certification process.	Marine mammals	Revolution Wind
MM-8	Construction and installation	Cable burial risk assessment	To the extent feasible, the RWEC, IAC, and OSS-Link Cable will typically target a burial depth of 4 to 6 ft (1.2 to 1.8 m) below seabed. The target burial depth will be determined based on an assessment of seabed conditions, seabed mobility, the risk of interaction with external hazards such as fishing gear and vessel anchors, and a site-specific Cable Burial Risk Assessment.	Marine mammals	Revolution Wind
MM-9	Construction and installation,	Gear identification	All trap/pot gear used in the surveys would be uniquely marked to distinguish it from other commercial or recreational gear. Per the May 2023 Fisheries Research and Benthic Monitoring Plan, Revolution Wind will use	Marine mammals	Revolution Wind, BOEM, BSEE, and NMFS

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	postconstruction and installation monitoring		ropeless trap/pot gear equipped with acoustic retrieval systems (see MM-12). This EPM will effectively avoid risk of marine mammal entanglement.		
MM-10	Construction and installation and postconstruction and installation	MMPA application measures	Revolution Wind is committed to minimizing impacts to marine mammal species through a comprehensive monitoring and mitigation program. The mitigation measures identified in the MMPA Incidental Take Regulations (ITR) application to be implemented include, but are not limited to, the following: 1. Noise attenuation through use of a noise mitigation system; 2. Seasonal restrictions; 3. Standard PSO training and equipment requirements; 4. Visual monitoring; including low visibility monitoring tools; 5. Passive acoustic monitoring; 6. Establishment and monitoring of shutdown zones 7. Pre-start clearance; 8. Ramp-up (soft-start) procedures; 9. Operational and long-term monitoring of marine mammals and sea turtles; 10. Operational shutdowns and delay; 11. Sound source verification measurements taken for the first three monopile foundations 12. Survey sighting coordination; 13. Entanglement reduction measures during fishery and benthic monitoring surveys; 14. Vessel strike avoidance procedures; and 15. Data recording and reporting procedures.	Marine mammals	Revolution Wind, NMFS, and BSEE
MM-11	Construction and installation, postconstruction and installation monitoring	Fisheries and benthic habitat monitoring	Fisheries monitoring was designed in accordance with recommendations set forth in "Guidelines for Providing Information on Fisheries for Application for Renewable Energy Development on the Atlantic Outer Continental Shelf" (BOEM 2019) and consideration to the Responsible Offshore Science Alliance (ROSA) Offshore Wind Project Monitoring Framework and Guidelines. All survey activities will be subject to rules and regulations outlined under the MMPA and ESA. Efforts will be taken to reduce marine mammal, sea turtle, and seabird injuries and mortalities caused by incidental interactions with sampling gear. All gear restrictions, closures, and other regulations set forth by take reduction plans (e.g., Harbor Porpoise Take Reduction Plan, Atlantic Large Take Whale Reduction Plan, etc.) will be adhered to as with typical scientific fishing operations to reduce the potential for interaction or injury.	Marine mammals	Revolution Wind
MM-12	Construction and installation, postconstruction and installation monitoring	Fisheries and benthic habitat monitoring	Changes to Appendix Y, Fisheries Research and Benthic Monitoring Plan, include measures to reduce potential impacts to protected species, specifically, use of ropeless technology or grappling techniques which will require no downlines in the lease area. To mitigate unmarked gear, applicant would post the gear positions in an online gear tracking application until such a point, if any, where downlines and markers are permitted. As an additional mitigation measure, the researchers for the Revolution Wind ventless lobster trap survey would remove gear from the lease area between sampling periods as to reduce the risk of it being lost or accidentally towed up by fishing or survey vessels.	Marine Mammals	Revolution Wind
ST-1	Construction and installation	Establishment of clearance and/or shutdown zones for impact pile driving	Exclusion and monitoring zones for marine mammals and sea turtles will be established for impact and vibratory pile-driving activities.	Sea turtles	Revolution Wind
ST-2	Construction and installation	Impact and vibratory pile-driving mitigation measures	The following measures will be implemented for impact and vibratory pile-driving activities. These measures will include seasonal restrictions, soft-start measures, shut-down procedures, marine mammal and sea turtle monitoring protocols, the use of qualified and NOAA-approved Protected Species Observers (PSOs), and noise attenuation systems such as bubble curtains, as appropriate.	Sea turtles	Revolution Wind
ST-3	Construction and installation, O&M, and decommissioning	Vessel speed restriction	Vessels will follow NOAA guidelines for marine mammal and sea turtle strike avoidance measures, including vessel speed restrictions.	Sea turtles	Revolution Wind
ST-4	Construction and installation, O&M, and decommissioning	Marine mammal, sea turtle, and marine debris awareness training	All personnel working offshore will receive training on marine mammal and sea turtle awareness and marine debris awareness.	Sea turtles	Revolution Wind

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ST-5	Construction and installation, O&M, and decommissioning	Spill prevention and control measures	Revolution Wind will require all construction and operations vessels to comply with regulatory requirements related to the prevention and control of spills and discharges.	Sea turtles	Revolution Wind
ST-6	Construction and installation, O&M, and decommissioning	OSRP	Accidental spill or release of oils or other hazardous materials offshore will be managed through the OSRP.	Sea turtles	Revolution Wind
ST-7	Construction and installation, O&M, and decommissioning	Marine debris awareness training	All vessels will comply with USCG and EPA regulations that require operators to develop waste management plans, post informational placards, manifest trash sent to shore, and use special precautions such as covering outside trash bins to prevent accidental loss of solid materials. Vessels will also comply with BOEM lease stipulations that require adherence to NTL 2015-G03, which instructs operators to exercise caution in the handling and disposal of small items and packaging materials, requires the posting of placards at prominent locations on offshore vessels and structures, and mandates a yearly marine trash and debris awareness training and certification process.	Sea turtles	Revolution Wind
ST-8	Construction and installation	Cable burial risk assessment	To the extent feasible, the RWEC, IAC, and OSS-Link Cable will typically target a burial depth of 4 to 6 ft (1.2 to 1.8 m) below seabed. The target burial depth will be determined based on an assessment of seabed conditions, seabed mobility, the risk of interaction with external hazards such as fishing gear and vessel anchors, and a site-specific Cable Burial Risk Assessment.	Sea turtles	Revolution Wind
ST-9	Construction and installation	Develop and implement Protected Species Monitoring and Mitigation Plan	A Protected Species Monitoring and Mitigation Plan has been developed that defines the mitigation and monitoring that will be carried out to reduce the potential impacts on federally protected species including sea turtles.	Sea turtles	Revolution Wind
ST-10	Construction and installation	Develop and implement Protected Species Monitoring and Mitigation Plan	All PSOs will have completed a NMFS-approved PSO training course.	Sea turtles	Revolution Wind
ST-11	Construction and installation	Develop and implement Protected Species Monitoring and Mitigation Plan	Sound field verification measurements of the installation of at least three monopile foundations will be made and results used to modify shutdown zones, as appropriate.	Sea turtles	Revolution Wind
ST-12	Construction and installation	Develop and implement Protected Species Monitoring and Mitigation Plan	Prior to the initiation of pile-driving and HRG survey equipment ramp-up, PSOs will conduct a 30-minute watch of the shutdown zones to monitor for sea turtles. Prior to munitions and explosives of concern/unexploded ordnance detonation, a 60-minute watch of the shutdown zone will be conducted.	Sea turtles	Revolution Wind
ST-13	Construction and installation	Develop and implement Protected Species Monitoring and Mitigation Plan	If the HRG survey acoustic source is shut down for reasons other than mitigation (e.g., mechanical difficulty) for less than 30 minutes, it will be reactivated without ramp-up if PSOs have maintained constant observation and no detections of any sea turtles have occurred within the respective shutdown zones.	Sea turtles	Revolution Wind
ST-14	Construction and installation, postconstruction and installation monitoring	Fisheries and benthic habitat monitoring	Revisions to the March 2023 COP version of Appendix Y, Fisheries Research and Benthic Monitoring Plan, include additional measures to reduce potential impacts to protected species. The ventless trap and pot gear will employ ropeless technology or grappling techniques that will eliminate the need for buoy lines and surface floats. To mitigate unmarked gear, the applicant would post the gear positions in an online gear tracking application until such a point, if any, where downlines and markers are permitted. As an additional mitigation measure, the researchers for the Revolution Wind ventless lobster trap survey would remove gear from the lease area between sampling periods as to reduce risk of loss.	Sea turtles	Revolution Wind
Bird-1	Construction and installation	TOY restrictions for tree and shrub removal	To the extent feasible, tree and shrub removal for Onshore Facilities will occur outside the avian nesting and bat roosting period, May 1 through August 15. If tree and shrub removal cannot be avoided during this season, Revolution Wind will coordinate with appropriate agencies to determine appropriate course of action.	Birds	Revolution Wind

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Bird-2	Construction and installation and O&M	WTG spacing and layout	Revolution Wind is committed to an indicative layout scenario with WTGs sited in a grid with approximately 1.15-mi (1-nm) by 1.15-mi (1-nm) spacing that aligns with other proposed adjacent offshore wind projects in the RI/MA WEA. This wide spacing of WTGs will allow avian species to avoid individual WTGs and minimize risk of potential collision.	Birds	Revolution Wind
Bird-3	Construction and installation and O&M	Lighting minimization	Construction and operational lighting will be limited to the minimum necessary to ensure safety and compliance with applicable regulations.	Birds	Revolution Wind
Bird-4	Construction and installation and O&M	Lighting minimization with lighting technology	Revolution Wind will comply with Federal Aviation Administration (FAA) and USCG requirements for lighting while using lighting technology (e.g., low-intensity strobe lights) that minimizes impacts on avian species.	Birds	Revolution Wind
Bird-5	Construction and installation, O&M, and decommissioning	OSRP	Accidental spill or release of oils or other hazardous materials offshore will be managed through the OSRP.	Birds	Revolution Wind
Bird-6	Construction and installation, O&M, and decommissioning	Marine debris awareness training	All vessels will comply with USCG and EPA regulations that require operators to develop waste management plans, post informational placards, manifest trash sent to shore, and use special precautions such as covering outside trash bins to prevent accidental loss of solid materials. Vessels will also comply with BOEM lease stipulations that require adherence to NTL 2015-G03, which instructs operators to exercise caution in the handling and disposal of small items and packaging materials, requires the posting of placards at prominent locations on offshore vessels and structures, and mandates a yearly marine trash and debris awareness training and certification process.	Birds	Revolution Wind
Bird-7	Construction and installation, O&M, and decommissioning	SESC plan	An SESC Plan, including erosion and sedimentation control measures, will be implemented to minimize potential water quality impacts during construction and operation of the Onshore Facilities.	Birds	Revolution Wind
Bird-8	Construction and installation	Siting of onshore facilities	Onshore Facilities will be sited within previously disturbed and developed areas to the extent practicable.	Birds	Revolution Wind
Bird-9	Construction and installation	Burial of onshore transmission cables	The Onshore Transmission Cables will be buried; therefore, avoiding the risk to avian and bat species associated with overhead lines.	Birds	Revolution Wind
Bird-10	O&M	Adaptive mitigation for birds and bats	Revolution Wind has developed an Avian and Bat Post-Construction Monitoring Framework (see Appendix G and COP Appendix AA [Biodiversity Research Institute 2023]) for the Project that summarizes the approach to monitoring; describes overarching monitoring goals and objectives; identifies the key avian species, priority questions, and data gaps unique to the region and Project Area that will be addressed through monitoring; and describes methods and time frames for data collection, analysis, and reporting. Post-construction monitoring will assess impacts of the Project with the purpose of filling select information gaps and supporting validation of the Project's Avian Risk Assessment. Focus may be placed on improving knowledge of ESA-listed species occurrence and movements offshore, avian collision risk, species/species-group displacement, or similar topics. Where possible, monitoring conducted by Revolution Wind will build on and align with post-construction monitoring conducted by the other Orsted/Eversource offshore wind projects in the Northeast region. Revolution Wind will engage with federal and state agencies and environmental groups (eNGOs) to identify appropriate monitoring options and technologies and to facilitate acceptance of the final plan.	Birds	Revolution Wind, BOEM, BSEE, USFWS
Bird-11	Construction and installation, O&M, and decommissioning	Adaptive mitigation for birds and bats	Revolution Wind will document any dead (or injured) birds/bats found incidentally on vessels and structures during construction, O&M, and decommissioning and provide an annual report to BOEM and United States Fish and Wildlife Service (USFWS).	Birds	Revolution Wind and BSEE
Bird-12	Construction and installation	TOY restrictions	Revolution Wind will continue to coordinate with RIDEM and NOAA NMFS regarding TOY restrictions through the permitting process and will adhere to requirements imposed by these agencies.	Birds	Revolution Wind
Bird-13	Construction and installation and O&M	Aircraft detection lighting system (ADLS) (or a similar system)	Revolution Wind will use an aircraft detection lighting system (ADLS) (or a similar system), pursuant to approval by the FAA and commercial and technical feasibility at the time of Facility Design Report (FDR)/ Fabrication and Installation Report (FIR) approval.	Birds	Revolution Wind
Bat-1	Construction and installation and O&M	Lighting minimization	Construction and operational lighting will be limited to the minimum necessary to ensure safety and to comply with applicable regulations.	Bats	Revolution Wind

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Bat-2	Construction and installation	TOY restrictions for tree and shrub removal	To the extent feasible, tree and shrub removal for Onshore Facilities will occur outside the avian nesting and bat roosting period; May 1 through August 15. If tree and shrub removal cannot be avoided during this season, Revolution Wind will coordinate with appropriate agencies to determine appropriate course of action.	Bats	Revolution Wind
Bat-3	Construction and installation and O&M	WTG spacing and layout	Revolution Wind is committed to an indicative layout scenario with WTGs sited in a grid with approximately 1.15-mi (1-nm) by 1.15-mi (1-nm) spacing that aligns with other proposed adjacent offshore wind projects in the RI/MA WEA. This wide spacing of WTGs will allow avian and bat species to avoid individual WTGs and minimize risk of potential collision.	Bats	Revolution Wind
Bat-4	Construction and installation and O&M	Lighting minimization with lighting technology	Revolution Wind will comply with FAA and USCG requirements for lighting while using lighting technology (e.g., low-intensity strobe lights) that minimize impacts on avian and bat species.	Bats	Revolution Wind
Bat-5	Construction and installation, O&M, and decommissioning	OSRP	Accidental spill or release of oils or other hazardous materials offshore will be managed through the OSRP.	Bats	Revolution Wind
Bat-6	Construction and installation, O&M, and decommissioning	SESC plan	An SESC Plan, including erosion and sedimentation control measures, will be implemented to minimize potential water quality impacts during construction and operation of the Onshore Facilities.	Bats	Revolution Wind
Bat-7	Construction and installation	Siting of onshore facilities	Onshore Facilities will be sited within previously disturbed and developed areas to the extent practicable.	Bats	Revolution Wind
Bat-8	Construction and installation	Burial of onshore transmission cables	The Onshore Transmission Cables will be buried; therefore, avoiding the risk to avian and bat species associated with overhead lines.	Bats	Revolution Wind
Bat-9	Construction and installation, O&M, and decommissioning	Adaptive mitigation for birds and bats	Revolution Wind will document any dead (or injured) birds/bats found incidentally on vessels and structures during construction, O&M, and decommissioning and provide an annual report to BOEM and USFWS.	Bats	Revolution Wind and BSEE
Bat-10	Construction and installation	TOY restrictions	Revolution Wind will continue to coordinate with RIDEM and NOAA NMFS regarding TOY restrictions through the permitting process and will adhere to requirements imposed by these agencies.	Bats	Revolution Wind
Bat-11	Construction	Minimization of long=term impacts	Comply with the Northern Long-Eared Bat 4(d) rule (81 FR 1900-1922) to avoid and minimize long-term impacts on the species and sensitive upland habitats.	Bats	BOEM and USFWS
CR-1	Construction and installation and O&M	Aircraft detection lighting system (ADLS) (or a similar system)	Revolution Wind will use Aircraft Detection Lighting System (ADLS) (or a similar system), pursuant to approval by the FAA and commercial and technical feasibility at the time of FDR/FIR approval.	Cultural resources	Revolution Wind
CR-2	Construction and installation and O&M	WTG design	RWF WTGs will have uniform design, speed, height, and rotor diameter, thereby mitigating visual clutter.	Cultural resources	Revolution Wind
CR-3	Construction and installation and O&M	WTG design	The WTGs will be painted Pure White (RAL 9010) to Light Grey (RAL 7035), as recommended by BOEM and the FAA. This color white of the turbines generally blends well with the sky at the horizon and eliminates the need for daytime warning lights or red paint marking of the blade tips.	Cultural resources	Revolution Wind
CR-4	Construction and installation	Burial of onshore transmission cables and ICF interconnection	The Onshore Transmission Cable and ICF Interconnection ROW will be buried, minimizing potential impacts to adjacent properties.	Cultural resources	Revolution Wind
CR-5	Construction and installation and O&M	Onshore facilities location	The Onshore Facilities will be located adjacent to an existing substation on a parcel zoned for commercial and industrial/utility use.	Cultural resources	Revolution Wind
CR-6	Construction and installation and O&M	Onshore facilities screening	Screening will be implemented at the aboveground Onshore Facilities to the extent feasible, to reduce potential visibility and noise.	Cultural resources	Revolution Wind
CR-7	Preconstruction	Siting of RWF and RWEC	The RWF and RWEC will be sited to avoid or minimize impacts to potential submerged cultural sites and paleolandforms, or will mitigate these impacts as specified in the memorandum of agreement (MOA) (Appendix J).	Cultural resources	Revolution Wind
CR-8	Construction and installation and O&M	Marine survey design, execution, and interpretation	Native American Tribal representatives were involved, and will continue to be involved, in marine survey protocol design, execution of the surveys, and interpretation of the results.	Cultural resources	Revolution Wind

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CR-9	Preconstruction	Anchoring plan	A plan for vessels will be developed prior to construction to identify no-anchorage areas to avoid documented sensitive resources.	Cultural resources	Revolution Wind
CR-10	Construction and installation	Unanticipated discovery plan (UDP)	An Unanticipated Discovery Plan (UDP) will be implemented that will include stop-work and notification procedures to be followed if a potentially significant archaeological resource is encountered during construction.	Cultural resources	Revolution Wind
CR-11	Construction and installation	Siting of onshore facilities	Onshore Facilities will be sited within previously disturbed and developed areas to the extent practicable.	Cultural resources	Revolution Wind
CR-12	Preconstruction	Siting of onshore facilities	Onshore Facilities will be sited to avoid or minimize impacts to potential terrestrial archeological resources, or will mitigate these impacts as specified in the MOA (Appendix J).	Cultural resources	Revolution Wind
VR-1	Construction and installation	ADLS (or a similar system)	Revolution Wind will use ADLS (or a similar system), pursuant to approval by the FAA and commercial and technical feasibility at the time of FDR/FIR approval.	Visual resources	Revolution Wind
VR-2	Construction and installation and O&M	WTG design	RWF WTGs will have uniform design, speed, height, and rotor diameter, thereby mitigating visual clutter.	Visual resources	Revolution Wind
VR-3	Construction and installation and O&M	WTG design	The WTGs will be painted Pure White (RAL 9010) to Light Grey (RAL 7035), as recommended by BOEM and the FAA for aviation safety.	Visual resources	Revolution Wind
VR-4	Construction and installation	Burial of onshore transmission cables and ICF interconnection	The Onshore Transmission Cable and ICF Interconnection ROW will be buried, minimizing potential impacts to adjacent properties.	Visual resources	Revolution Wind
VR-5	Construction and installation and O&M	Onshore facilities screening	Screening will be implemented with vegetation and other site adaptive materials at the aboveground Onshore Facilities to the extent feasible, to reduce potential visibility and noise.	Visual resources	Revolution Wind
VR-6	Construction and installation and O&M	Onshore facilities design	Adaptive color treatments (i.e. the use of colors that repeat in the surrounding environment, especially those of the natural elements) and non-reflective surface treatments and finishes will be used on Onshore Facilities to minimize contrast and reflected glare to the surrounding setting, as it aligns with local stakeholder preference and approval by local authorities.	Visual resources	Revolution Wind
VR-7	Construction and installation and O&M	Lighting minimization at the ONSS and ICF	Lighting at the OnSS and ICF will be designed and installed using sustainable outdoor lighting specifications to minimize impact to natural night skies or to contribute to increased impacts https://www.nps.gov/subjects/nightskies/sustainable-outdoor-lighting.htm, (e.g., kept to a minimum and turned on only as needed by manual switch, all recessed or fully shielded light fixtures, no upward lighting, etc.).	Visual resources	Revolution Wind
Demo-1	Construction and installation, O&M, and decommissioning	Employment of local workers	Where possible, local workers will be hired to meet labor needs for Project construction, O&M, and decommissioning.	Demographics, employment, and economics	Revolution Wind
Demo-2	Construction and installation	TOY restrictions of onshore facility construction	The Onshore Facilities construction schedule will be designed to minimize impacts to the local community during the summer tourist season, generally between Memorial Day and Labor Day.	Demographics, employment, and economics	Revolution Wind
Demo-3	Construction and installation and O&M	Onshore facilities screening	Screening will be implemented at the aboveground Onshore Facilities to the extent feasible, to reduce potential visibility and noise.	Demographics, employment, and economics	Revolution Wind
Demo-4	Construction and installation	Coordination with local authorities to address environmental and community concerns	Revolution Wind will coordinate with local authorities during construction of Onshore Facilities to minimize local traffic impacts; further, these Project components will be constructed in compliance with applicable regulations related to environmental and community concerns (e.g., traffic and erosion). In addition, traffic will be temporary and will not impact long-term property values.	Demographics, employment, and economics	Revolution Wind
Demo-5	Preconstruction	Community-based career development programming	Revolution Wind is committing $1,000,000 to community-based programming, including $500,000 to the Community College of Rhode Island to help build their Global Wind Organization (GWO) training center and $500,000 to Building Futures Rhode Island to enable both new entrants to union construction careers (through pre-apprenticeship). An	Demographics, employment, and economics	Revolution Wind

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			additional $700,000 will be dedicated to other local programming that creates access to these careers for disadvantaged communities.		
Demo-6	Construction and Installation	Labor standards	Construction of the Revolution Wind project will be governed by the National Offshore Wind Agreement, which is a project labor agreement that will apply to domestic construction activities associated with the project.	Demographics, employment, and economics	Revolution Wind
Rec-1	Construction and installation	Fisheries communication plan	A comprehensive communication plan will be implemented during offshore construction to inform all mariners, including commercial and recreational fishermen, and recreational boaters of construction activities and vessel movements. Communication will be facilitated through a Project website, public notices to mariners and vessel float plans, and a fisheries liaison. Revolution Wind will submit information to the USCG to issue Local Notice to Mariners during offshore installation activities.	Recreation and tourism	Revolution Wind
Rec-2	Construction and installation	TOY restrictions on onshore facilities construction	The Onshore Facilities construction schedule will be designed to minimize impacts to the local community during the summer tourist season, generally between Memorial Day and Labor Day.	Recreation and tourism	Revolution Wind
Rec-3	Construction and installation	Coordination with local authorities to address environmental and community concerns	Revolution Wind will coordinate with local authorities during construction of Onshore Facilities to minimize local traffic impacts; further, these Project components will be constructed in compliance with applicable regulations related to environmental and community concerns (e.g., traffic and erosion). In addition, traffic will be temporary and will not impact long-term property values.	Recreation and tourism	Revolution Wind
ComFish-1	Construction and installation and O&M	WTG spacing and layout	Revolution Wind is committed to an indicative layout scenario with WTGs sited in a grid with approximately 1.15-mi (1-nm) by 1.15-mi (1-nm) spacing that aligns with other proposed adjacent offshore wind projects in the RI/MA WEA. This layout has been confirmed through expert analysis to allow for safe navigation without the need for additional designated transit lanes. This layout will also provide a uniform, wide spacing among structures to facilitate search and rescue operations.	Commercial and recreational fishing	Revolution Wind
ComFish-2	Construction and installation	Cable burial risk assessment	To the extent feasible, installation of the Inter-Array Cable, OSS Interconnector Cable, and RWEC will occur using equipment such as mechanical cutter, mechanical plow, or jet plow. The feasibility of cable burial equipment will be determined based on an assessment of seabed conditions and the Cable Burial Risk Assessment.	Commercial and recreational fishing	Revolution Wind
ComFish-3	Construction and installation	Cable burial risk assessment	To the extent feasible, the RWEC, IAC, and OSS-Link Cable will typically target a burial depth of 4 to 6 ft (1.2 to 1.8 m) below seabed. The target burial depth will be determined based on an assessment of seabed conditions, seabed mobility, the risk of interaction with external hazards such as fishing gear and vessel anchors, and a site-specific Cable Burial Risk Assessment.	Commercial and recreational fishing	Revolution Wind
ComFish-4	Construction and installation and O&M	Implementation of BMPS	As appropriate and feasible, BMPs will be implemented to minimize impacts on fisheries, as described in the Guidelines for Providing Information on Fisheries Social and Economic Conditions for Renewable Energy Development on the Atlantic Outer Continental Shelf Pursuant to 30 CFR Part 585 (BOEM 2020).	Commercial and recreational fishing	Revolution Wind
ComFish-5	Preconstruction, construction and installation, and postconstruction	Fisheries and benthic monitoring studies	Revolution Wind is committed to collaborative science with the commercial and recreational fishing industries pre-, during, and postconstruction. Fisheries and benthic monitoring studies are being planned to assess the impacts associated with the Project on economically and ecologically important fisheries resources. These studies will be conducted in collaboration with the local fishing industry and will build upon monitoring efforts being conducted by affiliates of Revolution Wind at other wind farms in the region.	Commercial and recreational fishing	Revolution Wind
ComFish-6	Construction and installation and O&M	WTG lighting and ais installation	Each WTG will be marked and lit with both USCG navigation lighting and FAA aviation lighting. Automatic Identification Systems (AISs) will be installed at the RWF marking the corners of the wind farm to assist in safe navigation.	Commercial and recreational fishing	Revolution Wind
ComFish-7	Construction and installation, O&M, and decommissioning	Spill prevention and control measures	Revolution Wind will require all construction and operations vessels to comply with regulatory requirements related to the prevention and control of spills and discharges.	Commercial and recreational fishing	Revolution Wind
ComFish-8	Construction and installation, O&M, and decommissioning	OSRP	Accidental spill or release of oils or other hazardous materials offshore will be managed through the OSRP.	Commercial and recreational fishing	Revolution Wind

EPM Number	Proposed Project Phase	EPM	Description of Environmental Protection Measures Committed to by Revolution Wind, LLC (VHB 2023)*	Resource Area Affected	Anticipated Enforcing Agency/Lessee†
ComFish-9	Construction and installation, O&M, and decommissioning	Marine debris awareness training	All vessels will comply with USCG and EPA regulations that require operators to develop waste management plans, post informational placards, manifest trash sent to shore, and use special precautions such as covering outside trash bins to prevent accidental loss of solid materials. Vessels will also comply with BOEM lease stipulations that require adherence to NTL 2015-G03, which instructs operators to exercise caution in the handling and disposal of small items and packaging materials, requires the posting of placards at prominent locations on offshore vessels and structures, and mandates a yearly marine trash and debris awareness training and certification process.	Commercial and recreational fishing	Revolution Wind
ComFish-10	Construction and installation and O&M	Fisheries communication plan	Communications and outreach with the commercial and recreational fishing industries will be guided by the Project-specific Fisheries Communication Plan. Revolution Wind has agreed to share fisheries monitoring data with regulatory agencies and interested stakeholders upon request. Data sharing will occur on an annual cycle, which may be unique to each survey, and all data will be subject to rigorous quality assurance and quality control criterion prior to dissemination.	Commercial and recreational fishing	Revolution Wind
ComFish-11	Construction and installation, O&M, and decommissioning	Coordination with appropriate federal, state, and local contacts	Project construction, O&M, and decommissioning activities will be coordinated with appropriate contacts at USCG, Naval Undersea Warfare Center (NUWC)-Newport RI, the Northeast Marine Pilots Association, and Department of Defense (DoD) command headquarters.	Commercial and recreational fishing	Revolution Wind
ComFish-12	Preconstruction	Siting of RWEC	RWEC was sited to avoid conflicts with DoD use areas and navigational areas identified by the USCG, as applicable.	Commercial and recreational fishing	Revolution Wind
ComFish-13	Construction and installation	Fisheries communication plan	A comprehensive communication plan will be implemented during offshore construction to inform all mariners, including commercial and recreational fishermen, and recreational boaters of construction activities and vessel movements. Communication will be facilitated through a Fisheries Liaison, Project website, and public notices to mariners and vessel float plans (in coordination with USCG).	Commercial and recreational fishing	Revolution Wind
ComFish-14	Construction and installation	TOY restrictions	Revolution Wind will continue to coordinate with RIDEM and NOAA NMFS regarding TOY restrictions through the permitting process and will adhere to requirements imposed by these agencies.	Commercial and recreational fishing	Revolution Wind
ComFish-15	Construction and installation, O&M, and decommissioning	Coastal Zone Management Act (CZMA) consistency reviews	**Direct Compensation Program** (will be in place 30 days after the receipt of all final federal, state and local permits, authorizations, concurrences, and approvals necessary to construct and operate Revolution Wind as described in the approved COP and will exist for the life of the project) – Revolution Wind will create a Direct Compensation Program for impacted fishermen. Similar to South Fork Wind, Revolution Wind will base the direct compensation program on findings from two separate Coastal Zone Management Act (CZMA) consistency reviews conducted by the states of Rhode Island and Massachusetts and resulting mitigation agreements. The direct compensation programs which are part of the mitigation agreements for the states of Rhode Island and Massachusetts will address impacts to commercial fishing operations and for-hire recreational fishing operations. Revolution Wind expects that the structure of the direct compensation programs agreed to via the CZMA process will substantially reflect South Fork Wind's direct compensation program. Understanding there may be impacts outside of Rhode Island and Massachusetts, Revolution Wind is committed to advancing and adhering to principles set forth by the nine-state initiative as well as ideals laid out in the BOEM guidance. Together, the nine-state initiative and BOEM guidance will ensure a fair and efficient compensatory mitigation process regardless of homeport. It is Revolution Wind's intent to contribute, to the extent necessary, an amount commensurate to impacted landings from states exclusive of Rhode Island and Massachusetts. It is Revolution Wind's understanding that the nine-state initiative will create a process that will be managed by a third party, determine eligibility, and approve claims.	Commercial and recreational fishing	Revolution Wind, Massachusetts Office of Coastal Zone Management, and Rhode Island Coastal Resources Management Council
ComFish-16	Construction and installation, O&M, and decommissioning	CZMA consistency reviews	**Coastal Community Funds** – In addition to the direct compensation programs created during the CZMA process, Revolution Wind will create or contribute to Coastal Community Funds in Rhode Island and Massachusetts. The contribution amounts will be determined during the CZMA process. The Coastal Community Funds will be grant-making entities, unrelated to Revolution Wind, and open to all fishing interests, including private recreational angling and on-shore support businesses.	Commercial and recreational fishing	Revolution Wind, Massachusetts Office of Coastal Zone Management, and Rhode Island Coastal Resources Management Council
ComFish-17	Construction and installation, O&M, and decommissioning	CZMA consistency reviews	**Navigational Safety Fund** (will be in place 30 days after the receipt of all final federal, state and local permits, authorizations, concurrences, and approvals necessary to construct and operate Revolution Wind as described in the approved COP and will exist until funds run out) – The Navigational Safety Fund will enable eligible commercial fishermen and for-hire vessels to acquire navigation equipment through a voucher system. The Navigational Safety Fund will be similar to and carry out the same intent as the program established for South Fork Wind[2]. It will also provide training and	Commercial and recreational fishing	Revolution Wind, Massachusetts Office of Coastal Zone Management, and Rhode Island Coastal Resources Management Council

EPM Number	Proposed Project Phase	EPM	Description of Environmental Protection Measures Committed to by Revolution Wind, LLC (VHB 2023)*	Resource Area Affected	Anticipated Enforcing Agency/Lessee†
			experiential learning opportunities to those navigating within Orsted's lease area off the coast of Rhode Island and Massachusetts. Fishermen eligible for the Direct Compensation Program and who do not already possess AIS transceivers and/or pulse compression radar systems may receive one-time grants for up to $10,000 in order to upgrade or purchase pulse compression radar or AIS. Commercial fishing vessels and inspected for-hire/party vessels will be eligible for $10,000 in upgrades and uninspected for- hire vessels will be eligible for $5,000 in upgrades. Eligible fishermen will be issued vouchers to spend at approved vendors for approved products. The process of issuing vouchers, approving vendors, and approving equipment will be managed by a third party which could be the same third party managing the Direct Compensation Program. In addition to vessel upgrades, there will be an educational component to the Navigational Safety Fund. Those eligible for direct compensation may attend a professional training of their choice with support up to $1,000 per person. Eligible trainings include but are not limited to a captain's course, license upgrade, radar course, or rules of the road refresher. Like vessel upgrades, a third party manager will issue vouchers for training and be responsible for approving trainings, trainers, educators, and/or institutions.		
ComFish-18	Construction and installation, O&M, and decommissioning	CZMA consistency reviews	**Gear Claim Procedure** (currently in use and will exist for the life of the project) – Orsted administers a portfolio-wide gear claim procedure which makes fishermen whole if Orsted activities damage or destroy commercial fishing gear. The gear claim process has been in place since 2018 and has had significant updates since then. The most significant update in January 2021 included changes to model the gear claim procedure after NOAA's Fishermen's Contingency Fund to the greatest extent possible. Currently, the gear claim process requires a fisherman to file a claim within 30 days upon discovery of lost or damaged gear. They may request reimbursement for lost/damaged gear, economic loss (lost catch and business interruption), and reasonable claim preparation costs. After they submit a complete claim, the claim is reviewed and either accepted or rejected in whole or in part. If rejected in whole or in part, the fishermen may appeal the decision to an independent third party. The independent third party's review is final. The full details of the gear claim process can be found at https://us.orsted.com/renewable-energy-solutions/offshore-wind/mariners.	Commercial and recreational fishing	Revolution Wind, Massachusetts Office of Coastal Zone Management, and Rhode Island Coastal Resources Management Council
Nav-1	Construction and installation and O&M	WTG spacing and layout	Revolution Wind is committed to an indicative layout scenario with WTGs sited in a grid with approximately 1.15-mi (1-nm) by 1.15-mi (1-nm) spacing that aligns with other proposed adjacent offshore wind projects in the RI-MA WEA. This layout has been confirmed through expert analysis to allow for safe navigation without the need for additional designated transit lanes. This layout will also provide a uniform, wide spacing among structures to facilitate search and rescue operations.	Navigation and vessel traffic	Revolution Wind
Nav-2	Construction and installation and O&M	WTG lighting and ais installation	Each WTG will be marked and lit with both USCG navigation lighting and FAA aviation lighting. AIS will be installed at the RWF marking the corners of the wind farm to assist in safe navigation.	Navigation and vessel traffic	Revolution Wind
Nav-3	Construction and installation, O&M, and decommissioning	Spill prevention and control measures	Revolution Wind will require all construction and operations vessels to comply with regulatory requirements related to the prevention and control of spills and discharges.	Navigation and vessel traffic	Revolution Wind
Nav-4	Construction and installation, O&M, and decommissioning	OSRP	Accidental spill or release of oils or other hazardous materials offshore will be managed through the OSRP.	Navigation and vessel traffic	Revolution Wind
Nav-5	Construction and installation, O&M, and decommissioning	Coordination with appropriate federal, state, and local contacts	Project construction, O&M, and decommissioning activities will be coordinated with appropriate contacts at USCG, NUWC-Newport RI, the Northeast Marine Pilots Association, and DoD command headquarters.	Navigation and vessel traffic	Revolution Wind
Nav-6	Preconstruction	Siting of RWEC	RWEC was sited to avoid conflicts with DoD use areas and navigational areas identified by the USCG, as applicable.	Navigation and vessel traffic	Revolution Wind
Nav-7	Construction and installation	Fisheries communication plan	A comprehensive communication plan will be implemented during offshore construction to inform all mariners, including commercial and recreational fishermen, and recreational boaters of construction activities and vessel movements. Communication will be facilitated through a Fisheries Liaison, Project website, and public notices to mariners and vessel float plans (in coordination with USCG).	Navigation and vessel traffic	Revolution Wind

EPM Number	Proposed Project Phase	EPM	Description of Environmental Protection Measures Committed to by Revolution Wind, LLC (VHB 2023)*	Resource Area Affected	Anticipated Enforcing Agency/Lessee†
Nav-8	Construction and installation, O&M, and decommissioning	Consultation with appropriate federal, state, and local agencies	Revolution Wind will consult with USCG, NUWC-Newport RI, the Northeast Marine Pilots Association, and regional ferry service operators to avoid or reduce use conflicts.	Navigation and vessel traffic	Revolution Wind
Land-1	Construction and installation	Siting of onshore facilities	Onshore Facilities will be sited within previously disturbed and developed areas to the extent practicable.	Land use and coastal infrastructure	Revolution Wind
Land-2	Construction and installation	Coordination with local authorities to address environmental and community concerns	Revolution Wind will coordinate with local authorities during construction of Onshore Facilities to minimize local traffic impacts; further, these Project components will be constructed in compliance with applicable regulations related to environmental and community concerns (e.g., traffic and erosion). In addition, traffic will be temporary and will not impact long-term property values.	Land use and coastal infrastructure	Revolution Wind
Land-3	Construction and installation, O&M, and decommissioning	SESC plan	An SESC Plan, including erosion and sedimentation control measures, will be implemented to minimize potential water quality impacts during construction and operation of the Onshore Facilities.	Land use and coastal infrastructure	Revolution Wind
Other-1	Construction and installation and O&M	WTG spacing and layout	Revolution Wind is committed to an indicative layout scenario with WTGs sited in a grid with approximately 1.15-mi (1-nm) by 1.15-mi (1-nm) spacing that aligns with other proposed adjacent offshore wind projects in the RI/MA WEA. This layout has been confirmed through expert analysis to allow for safe navigation without the need for additional designated transit lanes. This layout will also provide a uniform, wide spacing among structures to facilitate search and rescue operations.	Other uses	Revolution Wind
Other-2	Construction and installation, O&M, and decommissioning	Consultation with appropriate federal, state, and local agencies	Revolution Wind will consult with USCG, NUWC-Newport RI, the Northeast Marine Pilots Association, and regional ferry service operators to avoid or reduce use conflicts.	Other uses	Revolution Wind
Other-3	Construction and installation and O&M	WTG lighting and ais installation	Each WTG will be marked and lit with both USCG navigation lighting and FAA aviation lighting. AIS will be installed at the RWF marking the corners of the wind farm to assist in safe navigation.	Other uses	Revolution Wind
EJ-1	Construction and installation, O&M, and decommissioning	Labor standards	Construction of the Revolution Wind project will be governed by the National Offshore Wind Agreement, which is a project labor agreement that will apply to domestic construction activities associated with the project.	Environmental justice	Revolution Wind
EJ-2	Construction and installation	TOY restrictions on onshore facilities construction	The Onshore Facilities construction schedule will be designed to minimize impacts to the local community during the summer tourist season, generally between Memorial Day and Labor Day.	Environmental justice	Revolution Wind
EJ-3	Construction and installation	Coordination with local authorities to address environmental and community concerns	Revolution Wind will coordinate with local authorities during construction of Onshore Facilities to minimize local traffic impacts; further, these Project components will be constructed in compliance with applicable regulations related to environmental and community concerns (e.g., traffic and erosion). In addition, traffic will be temporary and will not impact long-term property values.	Environmental justice	Revolution Wind
EJ-4	Construction and installation, O&M, and decommissioning	Studies of contaminated soil and groundwater in environmental justice focus areas	Investigation and remediation of contaminated soil and groundwater must be carried out in accordance with RIDEM regulations and policies regarding Environmental Justice Focus Areas including enhanced stakeholder outreach.	Environmental justice	Revolution Wind
EJ-5	Construction and installation	ADLS (or a similar system)	Revolution Wind will use ADLS (or a similar system), pursuant to approval by the FAA and commercial and technical feasibility at the time of FDR/FIR approval.	Environmental justice	Revolution Wind
EJ-6	Construction and installation	Burial of onshore transmission cables and ICF interconnection	The Onshore Transmission Cable and ICF Interconnection ROW will be buried, minimizing potential impacts to adjacent properties.	Environmental justice	Revolution Wind
EJ-7	Construction and installation and O&M	Onshore facilities screening	Screening will be implemented at the aboveground Onshore Facilities to the extent feasible, to reduce potential visibility and noise.	Environmental justice	Revolution Wind
EJ-8	Construction and installation, O&M, and decommissioning	Mitigation of air emissions	Onshore facilities equipment and fuel suppliers will provide equipment and fuels that comply with the applicable EPA or equivalent emission standards.	Environmental justice	Revolution Wind

EPM Number	Proposed Project Phase	EPM	Description of Environmental Protection Measures Committed to by Revolution Wind, LLC (VHB 2023)*	Resource Area Affected	Anticipated Enforcing Agency/Lessee†
EJ-9	Preconstruction	Community-based career development programming	Revolution Wind is committing $1,000,000 to community-based programming, including $500,000 to the Community College of Rhode Island to help build their Global Wind Organization (GWO) training center and $500,000 to Building Futures Rhode Island to enable both new entrants to union construction careers (through pre-apprenticeship). An additional $700,000 will be dedicated to other local programming that creates access to these careers for disadvantaged communities .	Environmental Justice	Revolution Wind

* The COP EMP descriptions were taken verbatim from the COP and were not edited.

† At the time of preparation of this document, BOEM and BSEE are in the process of transferring enforcement authorities from BOEM to BSEE.

Table F-2. Mitigation and Monitoring Measures Resulting from Consultations

Mitigation Number	Proposed Project Phase	Mitigation or Monitoring Measure	Description of Mitigation and Monitoring Measures Resulting from Consultations	Resource Area Mitigated	BOEM's Identification of the Anticipated Enforcing Agency*
Radar Systems Mitigations Resulting from Department of Defense (DOD), Federal Aviation Administration (FAA), National Oceanic and Atmospheric Administration (NOAA) Integrated Ocean Observing System (IOOS) Reviews					
1	O&M	Mitigation for oceanographic high-frequency radars	Operational mitigations identified for impacts on airport surveillance radar (ASR)-8/9: • Passive aircraft tracking using Automatic Dependent Surveillance–Broadcast (ADS-B) or signal/transponder • Increasing aircraft altitude near radar • Sensitivity time control (range-dependent attenuation) • Range azimuth gating (ability to isolate/ignore signals from specific range-angle gates) • Track initiation inhibit, velocity editing, plot amplitude thresholding (limiting the amplitude of certain signals) • Modification mitigations for Air Route Surveillance Radar (ARSR)-4 and for ASR-8/9 systems: • Using the dual beams of the radar simultaneously • In-fill radars	Other marine uses – land-based radar	BOEM and Bureau of Safety and Environmental Enforcement (BSEE)
2	O&M	Mitigation for oceanographic high-frequency radars	BOEM would require that Revolution Wind coordinate with the radar operators and the Surface Currents Program of NOAA IOOS Office to assess if the Project causes radar interference to the degree that radar performance is no longer within the specified radar system's operation parameters or fails to meet mission objectives. If either is the case, the lessee must notify BOEM and engage radar operators and NOAA IOOS on mitigation efforts. The following options to mitigate operational impacts on oceanographic high-frequency radars have been identified: • Data sharing from turbine operators to include the following: o Sharing real-time telemetry of surface current velocity, wave height, wave period, wave direction, and other oceanographic data measured at locations in the Project with radar operators into the public domain o Sharing time-series of blade rotation rates, nacelle bearing angles, and other information about the operational state of each of the Project's turbines with radar operators to aid interference mitigation • Wind farm curtailment/curtailment agreement	Other marine uses – land-based radar	BOEM and BSEE

Mitigation Number	Proposed Project Phase	Mitigation or Monitoring Measure	Description of Mitigation and Monitoring Measures Resulting from Consultations	Resource Area Mitigated	BOEM's Identification of the Anticipated Enforcing Agency*
			Additional modifications identified for oceanographic high-frequency radar systems to mitigate impacts: • Signal processing enhancements • Antenna modifications		
3	O&M	Mitigation for Next Generation Weather Radar (NEXRAD) weather radar systems	Operational mitigations to NEXRAD weather radar systems include the following: • Wind farm curtailment/curtailment agreement Research is being conducted to determine whether impacts on weather radar can be mitigated by using phased array radars to achieve a null in the antenna radiation pattern in the direction of the wind turbine.	Other marine uses – land-based radar	BOEM and BSEE
4	Construction, O&M, decommissioning	Add conditions of COP approval	Require the following conditions of COP approval to mitigate potential impacts on ASR-8/9: • Notify North American Aerospace Defense Command (NORAD) 30 to 60 days ahead of Project completion and when the Project is complete and operational for radar adverse-impact management (RAM) scheduling • Contribute funds toward execution of the RAM • Curtail operations for national security or defense purposes as described in the leasing agreement	Other marine uses – land-based radar	BOEM and BSEE
USFWS Biological Opinion Reasonable and Prudent Measures from the USFWS Issued May 30, 2023†					
1	Construction and O&M	Measures to minimize take of piping plovers and rufa red knots.	Periodically review current technologies and methods for minimizing collision risk of migratory birds with WTGs, including but not limited to: WTG coloration/marking, lighting, avian deterrents, remote sensing such as radar and thermal cameras, and limited WTG operational changes.[1]	Birds	BOEM and USFWS
2	Construction and O&M	Measures to minimize take of piping plovers and rufa red knots.	Implement those technologies and methods deemed reasonable and prudent to minimize collision risk.[2]	Birds	BOEM and USFWS
USFWS Biological Opinion Terms and Conditions from the USFWS Issued May 30, 2023†					
1	O&M	Collision risk minimization and monitoring	Periodically review current technologies and methods for minimizing collision risk of listed birds. • Prior to the start of WTG operations at Revolution Wind, BOEM must compile, from existing project documentation (e.g., the BA, other consultation documents, the final EIS, the COP), a stand-alone summary of technologies and methods that BOEM evaluated to reduce or minimize bird collisions at the Revolution Wind WTGs. • Within 5 years of the start of WTG operation, and then every 5 years for the life of the project, BOEM must prepare a Collision Minimization Report (CMR), reviewing best available scientific and commercial data on technologies and methods that have been implemented, or are being studied, to reduce or minimize bird collisions at offshore and onshore WTGs. The review must be global in scope.	Birds	BOEM and USFWS

[1] Operational changes may include, but are not limited to, feathering, which involves adjusting the angle of the blades to slow or stop them from turning under certain conditions.

[2] Reasonable and prudent minimization measures will include only actions that occur within the action area, involve only minor changes to the project, and reduce the projected level of take. Measures are reasonable and prudent when they (and their implementing terms and conditions) are consistent with the project's basic design, location, scope, duration, and timing (50 CFR 402.14(i)(i)(2)). The reasonableness determination will consider both technical and economic factors; the test for reasonableness is whether the proposed measure would cause more than a minor change to the project. The prudency determination will consider the likelihood, based on best available information, of successfully and appreciably reducing bird collisions relative to the cost and technical difficulty of the measure. The BOEM and the Service will ensure that any reasonable and prudent measures and terms and conditions are within the legal authority and jurisdiction of the BOEM and Revolution Wind to carry out.

Mitigation Number	Proposed Project Phase	Mitigation or Monitoring Measure	Description of Mitigation and Monitoring Measures Resulting from Consultations	Resource Area Mitigated	BOEM's Identification of the Anticipated Enforcing Agency*
			• BOEM must distribute a draft CMR to the USFWS, Revolution Wind, and appropriate state agencies for a 60-day review period. BOEM must address all comments received during the review period and issue the final report within 60 days of the close of the review period. • Within 60 days of issuing the final CMR, BOEM must convene a meeting with the USFWS, Revolution Wind, and appropriate state agencies to discuss the report and seek consensus on whether implementation of any technologies/methods are reasonable and prudent. If consensus cannot be reached, the USFWS will consider input from the meeting participants and make the final determination of whether any measures are reasonable and prudent and should be implemented under RPM 2.		
2	Construction and O&M	Implementation of measures to minimize take of piping plovers and rufa red knots.	Implement those technologies and methods deemed reasonable and prudent to minimize collision risk. BOEM will require Revolution Wind to adopt and deploy reasonable and prudent technologies and methods to avoid or minimize take of the piping plover and rufa red knot. Additional technology and methods would be required only if they are likely to appreciably reduce take of the piping plover and rufa red knot, in accordance with 50 CFR 402.14(i)(2). BOEM will specify the USFWS-approved timeframe in which any required minimization measure(s) must be implemented, as well as any requirements to monitor, maintain, or adapt the measure(s) over time. BOEM will require Revolution Wind to provide periodic reporting on the implementation of any minimization measure(s) according to a schedule developed by BOEM and approved by the USFWS.	Birds	BOEM and USFWS
USFWS Biological Opinion Monitoring and Reporting Requirements from the USFWS Issued May 30, 2023†					
1	Construction and O&M	Monitoring and reporting for piping plovers and rufa red knots	BOEM or Revolution Wind shall monitor the action area for piping plovers and rufa red knots. As effective technology and methods become available, BOEM should include monitoring for piping plovers and rufa red knots that may have collided with a WTG during migration. The monitoring method(s) should be informed by the best available information and technology and could include boat-based monitoring, Motus stations, remote sensing, cameras, microphones, Doppler and NEXRAD radar, eDNA, etc. The monitoring should occur during the time(s) of year when collisions are most likely. Initially, monitoring will proceed according to Revolution Wind's Avian and Bat Post-Construction Monitoring Framework and be operational for the first piping plover and rufa red knot migratory seasons after the WTGs are operational. Subsequently, consideration of new methods and timing will occur on the same timeline as the CMR described in the Terms and Conditions above unless BOEM and the USFWS agree to a different schedule.	Birds	BOEM and USFWS
2	Construction and O&M	Monitoring and reporting for piping plovers and rufa red knots	BOEM shall notify the USFWS within two business days if an injured or dead piping plover or rufa red knot is identified in or within 1 mile of the Revolution Wind lease area	Birds	BOEM and USFWS
3	Construction and O&M	Monitoring and reporting for listed species	BOEM or Revolution Wind shall provide a report to the USFWS annually summarizing monitoring efforts, methods, and results; observations of injured or dead piping plovers and rufa red knots; observations of any listed species perching on Revolution Wind infrastructure (including offshore substations); implementation and effectiveness of avoidance and minimization measures; and any other relevant activity and information related to the proposed action and potential impacts to listed species. BOEM will submit the report to the USFWS by the end of each calendar year or at another time agreed to by the two agencies. This report can be part of a larger, more comprehensive offshore wind report submitted to the USFWS annually.	Birds	BOEM and USFWS
4	Construction and O&M	Reporting for listed species	Reports and notifications will be submitted to: Field Supervisor New England Field Office U.S. Fish and Wildlife Service	Birds	BOEM and USFWS

Mitigation Number	Proposed Project Phase	Mitigation or Monitoring Measure	Description of Mitigation and Monitoring Measures Resulting from Consultations	Resource Area Mitigated	BOEM's Identification of the Anticipated Enforcing Agency*
			70 Commercial Street, Suite 300 Concord, NH 03301 newengland@fws.gov 603-223-2541		
BOEM-proposed Bird and Bat Mitigation Measures					
1	Construction, O&M	Bird-perching deterrent devices	To minimize attracting birds to operating turbines, the Lessee must install anti-perching devices on turbines and the offshore substation (OSS). The location of anti-perching devices must be proposed by Revolution Wind based on best management practices (BMPs) applicable to the appropriate operation and safe installation of the devices. Revolution Wind must confirm the locations of anti-perching devices with a monitoring plan to track the efficacy of the anti-perching devices as part of the documentation it must submit with the facility design report (FDR).	Birds	BOEM, BSEE and USFWS
2	Construction and installation, O&M, and decommissioning	Annual bird and bat mortality reporting	Revolution Wind must submit an annual report covering each calendar year, due by January 31 of the following year, documenting any dead (or injured) birds or bats found on vessels and structures during construction, operations, and decommissioning. The report must be submitted to BOEM (at renewable_reporting@boem.gov) and BSEE (at OSWSubmittals@bsee.gov) and the U.S. Fish and Wildlife Service (USFWS). The report must contain the following information: name of species, date found, location, a picture to confirm species identity (if possible), and any other relevant information. Carcasses with federal or research bands must be reported to the U.S. Geological Survey (USGS) Bird Banding Laboratory at https://www.usgs.gov/labs/bird-banding-laboratory.	Birds and bats	BOEM, BSEE, and USFWS
3	Construction and installation, O&M, and decommissioning	Annual Bird and Bat Mortality Reporting	Any occurrence of dead ESA-listed birds or bats must be reported to BOEM, BSEE, and USFWS as soon as practicable (taking into account crew and vessel safety), but no later than 24 hours after the sighting, and if practicable, the dead specimen should be carefully collected and preserved in the best possible state.	Birds and bats	BOEM, BSEE and USFWS
4	O&M	Avian and Bat Monitoring Program	At least 45 calendar days before beginning surveys, Revolution Wind must complete, obtain concurrence from the U.S. Department of the Interior (DOI), and adopt an avian and bat monitoring plan (ABMP), as described in Revolution Wind's *Avian and Bat Post- Construction Monitoring Framework* in COP Appendix AA (Biodiversity Research Institute [BRI] 2023), including coordination with interested stakeholders. The DOI will review the ABMP and provide any comments on the plan within 30 calendar days of its submittal. Revolution Wind must resolve all comments on the ABMP to the DOI's satisfaction before implementing the plan. Revolution Wind may conclude that DOI has concurred in the ABMP if the DOI provides no comments on the plan within 30 calendar days of its submittal date. a. Monitoring. Revolution Wind 1) must install acoustic monitoring devices for bats for 2 years; 2) must install Motus receivers within the wind farm; 3) may include refurbishment of up to two onshore Motus receiver stations and may include providing funding for up to 150 Motus tags per year for up to 3 consecutive years, or equivalent; and 4) conduct a 1- to 2-year cross-project radar study to measure migrant flux rates, flight heights, and marine bird avoidance. b. Annual monitoring reports. Revolution Wind must submit to BOEM (at renewable_reporting@boem.gov), USFWS, and BSEE (at OSWSubmittals@bsee.gov) a comprehensive report after each full year of monitoring (preconstruction and postconstruction) within 6 months of completion of the last avian survey. The report must include all data, analyses, and summaries regarding ESA-listed and non-ESA-listed birds and bats. The DOI will use the annual monitoring reports to assess the need for reasonable revisions (based on subject matter expert analysis) to the ABMP. The DOI reserves the right to require reasonable revisions to the ABMP and may require new technologies as they become available for use in offshore environments. c. Postconstruction quarterly progress reports. Revolution Wind must submit quarterly progress reports during the implementation of the ABMP to BOEM (at renewable_reporting@boem.gov) and the USFWS by the fifteenth day of the month following the end of each quarter during the first full year that the Project is	Birds and bats	BOEM, BSEE, and USFWS

Mitigation Number	Proposed Project Phase	Mitigation or Monitoring Measure	Description of Mitigation and Monitoring Measures Resulting from Consultations	Resource Area Mitigated	BOEM's Identification of the Anticipated Enforcing Agency*
			operational. The progress reports must include a summary of all work performed, an explanation of overall progress, and any technical problems encountered. d. Monitoring plan revisions. Within 15 calendar days of submitting the annual monitoring report, the Lessee must meet with BOEM and the USFWS to discuss the following: the monitoring results; the potential need for revisions to the ABMP, including technical refinements or additional monitoring; and the potential need for any additional efforts to reduce impacts. If the DOI determines after this discussion that revisions to the ABMP are necessary, the DOI may require the Lessee to modify the ABMP. If the reported monitoring results deviate substantially from the impact analysis included in the Final EIS, the Lessee must transmit to the DOI recommendations for new mitigation measures and/or monitoring methods. e. Operational reporting (operations). Revolution Wind must submit to BOEM (at renewable_reporting@boem.gov) and BSEE (at OSWSubmittals@bsee.gov) an annual report summarizing the following monthly operational data calculated from 10-minute supervisory control and data acquisition (SCADA) for all turbines together in tabular format: the proportion of time the turbines were operational (spinning at > x rpm) each month, the average rotor speed (monthly rpms) of spinning turbines plus 1 standard deviation, and the average pitch angle of blades (degrees relative to rotor plane) plus 1 standard deviation. The DOI will use this information as inputs for avian collision risk models to assess whether the results deviate substantially from the impact analysis included in the Final EIS. f. Raw data. Revolution Wind must store the raw data from all avian and bat surveys and monitoring activities according to accepted archiving practices. Such data must remain accessible to the DOI and the USFWS, upon request for the duration of the lease. Revolution Wind must work with BOEM to ensure the data are publicly available. The USFWS may specify third-party data repositories that must be used, such as the Motus Wildlife Tracking System or MoveBank, and such parties and associated data standards may change over the duration of the monitoring plan.		
5	O&M	Adaptive mitigation for birds and bats	If the reported postconstruction bird and bat monitoring results (generated as part of the *Avian and Bat Post-Construction Monitoring Framework* in COP Appendix AA [BRI 2023] indicate bird and bat impacts deviate substantially from the impact analysis included in this EIS, then Revolution Wind must make recommendations for new mitigation measures or monitoring methods.	Birds and bats	BOEM and USFWS
BOEM-proposed Navigation and Vessel Traffic Mitigation Measures Developed in Conjunction with the U.S. Coast Guard (USCG)					
1	Construction, O&M, decommissioning	Submarine cable system burial plan	A copy of the submarine cable system burial plan shall be submitted by Revolution Wind as part of its FDR and fabrication and installation report (FIR) that depicts precise planned locations and burial depths of the entire cable system. This plan shall be reviewed by the USCG and BOEM.	Navigation and vessel traffic	BOEM, BSEE, and USCG
2	Construction	Boulder relocation reporting	The locations of any boulder (which would protrude > 2 meters [m] or more on the seafloor) relocated during cable installation activities must be reported to BOEM, the USCG, NOAA, and the local harbormaster within 30 days of relocation. These locations must be reported in latitude and longitude degrees to the nearest 10 thousandth of a decimal degree (roughly the nearest meter), or as precise as practicable.	Navigation and vessel traffic	BOEM, BSEE, USCG, and NOAA
3	Construction, O&M, decommissioning	Vessel safety practices	All Project vessels involved in construction, O&M, and decommissioning activities would comply with U.S. or International Convention for the Safety of Life at Sea (SOLAS) standards, as applicable, with regard to vessel construction, vessel safety equipment, and crewing practices.	Navigation and vessel traffic	BOEM, BSEE, and USCG

Mitigation Number	Proposed Project Phase	Mitigation or Monitoring Measure	Description of Mitigation and Monitoring Measures Resulting from Consultations	Resource Area Mitigated	BOEM's Identification of the Anticipated Enforcing Agency*
4	Construction, O&M, decommissioning	WTG and OSS marking	Each WTG and OSS would be marked with private aids to navigation (PATONs), subject to the approval of the Commander (dpw-1) of the First Coast Guard District. Revolution Wind would do the following: Provide BOEM and the USCG with a proposed lighting, marking, and signaling plan, which must be approved by BOEM after consultation with the USCG. The plan should conform to the International Association of Marine Aids to Navigation and Lighthouse Authorities Recommendation G1162, *The Marking of Man-Made Offshore Structures* (IALA 2021). Should any part of the recommendation conflict with federal law or regulation, or if Revolution Wind seeks an alternative to the recommendation, Revolution Wind must consult with the USCG. Mark each individual WTG and OSS with clearly visible, unique, alphanumeric identification characters. Light each WTG and OSS in a manner that is visible by mariners in a 360-degree arc around the WTG and OSS. Apply to the First Coast Guard District to establish PATONs for the facility. Approval for all PATONs must be obtained before installation of RWF structures begins. Ensure each WTG is lighted with red obstruction lighting consistent with the FAA Advisory Circular 70/7460-1L Change 2 (FAA 2018), so long as this requirement does not preclude the use of an aircraft detection lighting system (ADLS). Provide signage that covers 360 degrees of the wind turbine structures warning vessels of the air draft of the turbine blades as determined at highest astronomical tide. Cooperate with the USCG and NOAA to ensure that cable routes and wind turbines are depicted on appropriate government produced and commercially available nautical charts. Provide mariner information sheets on Revolution Wind's website with details on the location of the turbines and specifics such as blade clearance above sea level.	Navigation and vessel traffic	BOEM, BSEE, USCG, and NOAA
5	Construction, O&M, decommissioning	WTG shutdown mechanism	Equip all WTG rotors (blade assemblies) with control mechanisms operable from the RWF control centers available 24 hours a day, 7 days a week. The control mechanisms shall enable control room operators to shut down the requested WTGs within an agreed-upon time of notification between the USCG and Revolution Wind. A formal shutdown procedure would be part of the standard operating procedures and periodically tested. Normally, USCG-ordered shutdowns would be limited to those WTGs in the immediate vicinity of an emergency and for as short a period as is safely practicable under the circumstances, as determined by the USCG.	Navigation and vessel traffic: other marine uses	BSEE and USCG
6	Construction, O&M, decommissioning	USCG training and exercises	Revolution Wind would participate in periodic USCG-coordinated training and exercises to test and refine notification and shutdown procedures and to provide SAR training opportunities for USCG vessels and aircraft.	Navigation and vessel traffic; other marine uses	BSEE and USCG
7	Construction, O&M, decommissioning	Operations and maintenance plan	Prior to operation of the Project, Revolution Wind shall submit a written plan for O&M, which includes control center(s), for review by BOEM and the USCG. The plan must demonstrate that the control center(s) would be adequately staffed to perform standard operating procedures, communications capabilities, and monitoring capabilities. The plan shall include, but not be limited to, the following topics, which may be modified through ongoing discussions with the USCG: Standard operating procedures: Methods for establishing and testing WTG rotor shutdown; methods of lighting control; method(s) for notifying the USCG of mariners in distress or potential/actual SAR incidents; method(s) for notifying the USCG of any events or incidents that may impact maritime safety or security; and methods for providing the USCG with environmental data, imagery, communications, and other information pertinent to SAR or marine pollution response. Staffing: Number of personnel intended to staff the control center(s) to ensure continuous monitoring of WTG operations, communications, and surveillance systems.	Navigation and vessel traffic; other marine uses	BOEM, BSEE, and USCG

Mitigation Number	Proposed Project Phase	Mitigation or Monitoring Measure	Description of Mitigation and Monitoring Measures Resulting from Consultations	Resource Area Mitigated	BOEM's Identification of the Anticipated Enforcing Agency*
			Communications: Capabilities to be maintained by the control center(s) to communicate with the USCG and mariners within and near the Lease Area. Communications capability shall at a minimum include very high frequency (VHF) marine radio and landline and wireless for voice and data. Monitoring: The control center(s) should maintain the capability to monitor RWF installation and operations in real time (including night and periods of poor visibility) for determining the status of all PATONs and detection of a survivor who has climbed to the survivor's platform, if installed, on any WTG or OSS.		
8	Construction, O&M, decommissioning	WTG/OSS installation	No WTG/OSS installation work shall commence at the Project site (i.e., on or under the water) without prior review by BSEE and the USCG of a plan to be submitted by Revolution Wind that describes the schedule and process for erecting each WTG, including all planned mitigations to be implemented to minimize any adverse impacts on navigation while installation is ongoing. Appropriate Notice to Mariners submissions would accompany the plan.	Navigation and vessel traffic	BSEE and USCG
9	Construction, O&M, decommissioning	USCG reporting	Complaints: On a monthly basis during installation, Revolution Wind shall provide the USCG with a description of any complaints received (either written or oral) by boaters, fishermen, commercial vessel operators, or other mariners regarding impacts on navigation safety allegedly caused by construction vessels, crew transfer vessels, barges, or other equipment. Revolution Wind shall describe any remedial action taken in response to complaints received. Correspondence: Revolution Wind shall provide the USCG copies of any correspondence received by Revolution Wind from other federal, state, or local agencies that mention or address navigation safety issues. Maintenance schedule: Revolution Wind would provide the USCG with its planned WTG maintenance schedule, forecasted out to at least one quarter. Appropriate Notice to Mariners submissions would accompany each maintenance schedule.	Navigation and vessel traffic	BSEE and USCG
10	Construction, O&M, decommissioning	Public participation	To ensure sufficient opportunity for the public to receive information directly from the owners/operators of the wind energy facility, Revolution Wind would attend periodic meetings of the Southeastern Massachusetts and Rhode Island Port Safety and Security Forums to provide briefs on the status of construction and operations and on any problems or issues encountered with respect to navigation safety.	Navigation and vessel traffic	BOEM and BSEE
11	Construction, O&M, decommissioning	Helicopter landing platforms	If Revolution Wind's OSSs include helicopter landing platforms, those platforms would be designed and built to accommodate up to and including USCG H-60-sized rescue helicopters.	Navigation and vessel traffic; other marine uses	BOEM, BSEE, and USCG
DOD Measures Resulting from Military Aviation and Installation Assurance Siting Clearinghouse Review					
1	O&M	Fiber-optic sensing technology	Distributed fiber-optic sensing technology proposed for the Project or associated transmission cables would be reviewed by the DOD to ensure that distributed fiber-optic sensing is not used to detect sensitive data from DOD activities, to conduct any other type of surveillance of U.S. Government operations, or to otherwise pose a threat to national security.	Other marine uses – military and national security	BOEM, BSEE, and DOD

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National Historic Preservation Act (NHPA) Section 106 Mitigation Measures from the Memorandum of Agreement					
1	Construction and installation	Avoid or minimize and mitigate impacts on identified National Register of Historic Places (NRHP)–eligible cultural resources	Mitigation measures for cultural resources are drafted in the memorandum of agreement (MOA) and its historic property treatment plans attached in EIS Appendix J. Revolution Wind–committed measures identified in COP Appendix BB, *Cultural resources Avoidance, Minimization, and Mitigation Measures* (Revolution Wind 2023), would also be incorporated by BOEM into COP approval. This MOA and its requirements would be set by BOEM under NHPA Section 106 as a condition of BOEM's signing the ROD. Under the MOA, adverse effects from the Project to NRHP-eligible cultural resources, including national historic landmarks (NHLs) and traditional cultural places (TCPs), would be avoided, minimized, or mitigated in accordance with the NHPA Section 106 regulations (36 CFR 800) and in compliance with Section 110(f).	Cultural resources	BOEM and BSEE
Draft NMFS Biological Opinion Reasonable and Prudent Measures from NMFS issued June 16, 2023†			Draft NMFS Biological Opinion Reasonable and Prudent Measures were issued to BOEM for consideration on June 16, 2023. Final NMFS Biological Opinion Reasonable and Prudent Measures to be issued to BOEM for consideration on July 21, 2023.		
1	Construction and installation	Pile-driving	Effects to ESA-listed whales and sea turtles must be minimized during pile driving. This includes adherence to the mitigation measures specified in the final MMPA ITA.	ESA-listed marine mammals, sea turtles	BOEM, BSEE, and NMFS
2	Construction and installation	UXO detonation	Effects to ESA-listed whales and sea turtles must be minimized during UXO detonation. This includes adherence to the mitigation measures specified in the final MMPA ITA.	ESA-listed marine mammals, sea turtles	BOEM, BSEE, and NMFS
3	Construction and installation, O&M, decommissioning	Vessel operations	Vessels operated by Revolution Wind or under contract to Revolution Wind or its contractors must comply with the RPMs and Terms and Conditions relevant to vessel operations within the Delaware River and Delaware Bay included in the Incidental Take Statements provided with NMFS GARFO's July 19, 2022, Paulsboro Marine Terminal Biological Opinion or any subsequently issued Opinion that replace that Opinion as a result of reinitiation.	ESA-listed finfish	BOEM, BSEE, and NMFS
4	Construction and installation, O&M, decommissioning	Reporting requirements	Effects to, or interactions with, ESA-listed Atlantic sturgeon, whales, and sea turtles must be documented during all phases of the proposed action, and all incidental take must be reported to NMFS GARFO.	ESA-listed finfish, marine mammals, sea turtles	BOEM, BSEE, and NMFS
5	Construction and installation	Review of plans	All required plans must be submitted to NMFS GARFO with sufficient time for review, comment, and approval.	ESA-listed finfish, marine mammals, sea turtles	BOEM, BSEE, and NMFS
6	Construction and installation, O&M, decommissioning	On-site observation and inspection	On-site observation and inspection must be conducted to gather information on the effectiveness and implementation of measures to minimize and monitor incidental take during activities described in this Opinion, including its Incidental Take Statement.	ESA-listed finfish, marine mammals, sea turtles	BOEM, BSEE, and NMFS

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Draft NMFS Biological Opinion Terms and Conditions from NMFS issued June 16, 2023†			Draft NMFS Biological Opinion Terms and Conditions were issued to BOEM for consideration on June 16, 2023. Final NMFS Biological Opinion Terms and Conditions to be issued to BOEM for consideration on July 21, 2023.		
1	Construction and installation	Pile-driving and UXO detonation	To implement the requirements of RPM 1 and 2, the measures required by the final MMPA ITA must be incorporated into any project authorizations/approvals, and the relevant Federal agency must monitor Revolution Wind's compliance with these measures: a. BOEM must require, through an enforceable condition of their approval of Revolution Wind's Construction and Operations Plan, that Revolution Wind comply with any measures in the final MMPA ITA that are revised from, or in addition to, measures included in the proposed ITA, which already have been incorporated into the proposed action. b. NMFS OPR must ensure that all mitigation measures as prescribed in the final ITA are implemented by Revolution Wind. c. The USACE must require, through an enforceable condition of any permit issued to Revolution Wind, compliance with any measures in the final MMPA ITA that are revised from, or in addition to, measures included in the proposed ITA, which have been incorporated into the proposed action.	ESA-listed finfish, marine mammals, sea turtles	BOEM, BSEE, and NMFS
2	Construction and installation	Pile-driving	To implement the requirements of RPM 1, the following measures must be implemented by Revolution Wind: a. If any of the sound field verification (SFV; see T&C 11e below) measurements from any pile indicate that the distance to any isopleth of concern is larger than those modeled assuming 10 dB attenuation (see Tables X (whales), Y (sea turtles), Z (Atlantic sturgeon)), before any additional piles are installed Revolution Wind must: i. Identify additional noise attenuation measures (e.g., add noise attenuation device, adjust hammer operations) that are expected to reduce sound levels to the modeled distances; provide an explanation to NMFS GARFO and NMFS OPR supporting that determination; and, deploy those additional measures on any subsequent piles that are installed (e.g., if threshold distances are exceeded on pile 1 then additional measures must be deployed before installing pile 2). ii. If any of the SFV measurements indicate that the distances to evel A thresholds for ESA listed whales or PTS peak or cumulative thresholds for sea turtles are larger than the modeled distances (assuming 10 dB attenuation), the clearance and shutdown zones for subsequent piles must be increased so that they are at least the size of the distances to those thresholds as indicated by SFV. For every 1,500 m that a zone is expanded, additional PSOs must be deployed to ensure adequate and complete monitoring of the expanded shutdown and/or clearance zone. iii. If any SFV measurements to thresholds of concern for the pile installed following implementation of additional noise attenuation measures are still larger than those modeled assuming 10 dB attenuation, Revolution Wind must either install an additional noise attenuation device (e.g., additional bubble curtain) or modify the pile driving operations (i.e., reduced hammer energy) in a way that is expected to reduce noise and reduce the distance to thresholds of concern to no greater than the modeled distances (assuming 10 dB attenuation). Additionally, Revolution Wind must provide an explanation to NMFS GARFO and NMFS OPR supporting that determination and deploy those additional measures on any subsequent piles that are installed (e.g., if threshold distances are still exceeded on pile 2 the additional measures must be deployed for pile 3). iv. Following installation of the the pile with additional noise attenuation measures required by 2.a.iii, if SFV results indicate that any isopleths of concern are still larger than those modeled assuming 10 dB attenuation, before any additional piles can be installed, Revolution Wind must determine, in cooperation with NMFS GARFO/OPR, BOEM, BSEE, and USACE, what additional noise attenuation measures can be implemented. If no additional measures are identified, then pile installation must continue with implementation of the enhanced sound attenuation measures required by 2.a.iii and any expanded zone sizes (and any required additional PSOs). Additionally, Revolution Wind must continued SFV for two additional piles with enhanced sound attenuation	ESA-listed finfish, marine mammals, sea turtles	BOEM, BSEE, and NMFS

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			measures., NMFS GARFO/OPR, BOEM, BSEE, and USACE will meet as soon as possible following completion of the SFV required here to discuss whether reinitiation of this consultation is necessary. v. Following installation of the pile with additional noise attenuation measures required by 2.a.iii, if SFV results indicate that all isopleths of concern are within distances to isopleths of concern modeled assuming 10 dB attenuation, SFV must be conducted on three additional piles. If the SFV results from all piles are within the distances to isopleths of concern modeled assuming 10 dB attenuation, then Revolution Wind must continue to implement the additional sound attenuation measures and implement the original clearance and shutdown zones.		
3	Construction and installation, O&M, decommissioning	UXO detonation	To implement the requirements of RPM 2, the following measures must be implemented by Revolution Wind: a. Establish a clearance zone for sea turtles extending 500 m around any planned UXO detonation. Maintain the clearance zone for at least 60 minutes prior to any UXO detonation. This requirement expands the size of the clearance zone identified by BOEM as part of the proposed action. Revolution Wind must ensure that there is sufficient PSO coverage to reliably document sea turtle presence within the clearance zone. In the event that a PSO detects a sea turtle inside the 500 m clearance zone, detonation will be delayed until the sea turtle has not been observed for 30 minutes. b. Provide NMFS GARFO with notification of planned UXO detonation as soon as possible but at least 48 hours prior to the planned detonation, unless this 48 hour notification would create delays to the detonation that would result in imminent risk of human life or safety. This notification must include the coordinates of the planned detonation, the estimated charge size, and any other information available on the characteristics of the UXO. NMFS GARFO will provide alerts to NMFS sea turtle and marine mammal stranding network partners consistent with best practices. Notification must be provided via email to nmfs.gar.incidental-take@noaa.gov and by phone to the NMFS GARFO Protected Resources Division (978-281-9328).		BOEM, BSEE, and NMFS
4	Construction and installation, O&M, decommissioning	Vessel operations	To implement the requirements of RPM 3, the following conditions must be implemented by vessels transiting to/from the Paulsboro Marine Terminal, consistent with the terms and conditions of the July 19, 2022 Paulsboro Biological Opinion and any subsequent Opinion or amended ITS: a. No later than March 1 of each year, report the number of vessel calls to the Paulsboro Marine Terminal in the previous year by month. This report must also include the type of vessel and its draft. Reports must be filed with the USACE Philadelphia District and NMFS GARFO (nmfs.gar.incidental-take@noaa.gov). (Reference: RPM 1, Term and Condition 1 of the 2022 Paulsboro Biological Opinion) b. Report any sturgeon observed with injuries or mortalities in the Paulsboro Marine Terminal Area to NMFS within 24 hours using the form available at: https://media.fisheries.noaa.gov/2021-07/Take%20Report%20Form%2007162021.pdf?null. Submit forms to nmfs.gar.incidental-take@noaa.gov within 24 hours. (Reference: RPM 2, Term and Condition 2 of the 2022 Paulsboro Biological Opinion). c. Hold any dead sturgeon in cold storage until proper disposal procedures are discussed with NMFS GARFO. (Reference: RPM 3, Term and Condition 5 of the 2022 Paulsboro Biological Opinion). d. Complete procedures for genetic sampling of any dead Atlantic sturgeon that are over 75 cm. (Reference RPM 4, Term and Condition 6 of the 2022 Paulsboro Biological Opinion). More information on submitting genetic samples is included in Term and Condition 6a below; these instructions are consistent with the requirements of the 2022 Paulsboro Opinion. e. In the event that the 2022 Paulsboro Opinion is replaced as a result of reinitiation, or its ITS is amended, comply with the requirements of any new Incidental Take Statement relevant to vessels transiting to/from the Paulsboro Marine Terminal. NMFS GARFO will strive to provide a copy of any new Opinions or amended ITSs to BOEM, BSEE, other action agencies, and Revolution Wind within three business days of their availability.	ESA-listed finfish	BOEM, BSEE, and NMFS
5	Construction and installation	Reporting requirements	To implement the requirements of RPM 4, Revolution Wind must file a report with NMFS GARFO (nmfs.gar.incidental-take@noaa.gov) in the event that any ESA listed species is observed within the identified shutdown zone during active pile driving. This report must be filed within 48 hours of the incident and include the	ESA-listed finfish, marine	BOEM, BSEE, and NMFS

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			following: duration of pile driving prior to the detection of the animal(s), location of PSOs and any factors that impaired visibility or detection ability, time of first and last detection of the animal(s), behavioral observations of the animal(s), time the PSO called for shutdown, hammer log (number of strikes, hammer energy), time the pile driving began and stopped, and any measures implemented (e.g., reduced hammer energy) prior to shutdown. If shutdown was determined not to be feasible, the report must include an explanation for that determination and the measures that were implemented (e.g., reduced hammer energy).	mammals, sea turtles	
6	Construction and installation	Reporting requirements	To implement the requirements of RPM 4, BOEM, BSEE, USACE, and Revolution Wind must implement the following reporting requirements necessary to document the amount or extent of take that occurs during all phases of the proposed action: a. All observations or interactions with sea turtles or sturgeon that occur during the fisheries monitoring surveys must be reported within 48 hours to NMFS GARFO Protected Resources Division by email (nmfs.gar.incidental-take@noaa.gov). Take reports should reference the Revolution Wind project and include the Take Report Form available on NMFS webpage (https://media.fisheries.noaa.gov/2021-07/Take%20Report%20Form%2007162021.pdf?null). Reports of Atlantic sturgeon take must include a statement as to whether a fin clip sample for genetic sampling was taken. Fin clip samples are required in all cases with the only exception being when additional handling of the sturgeon would result in an imminent risk of injury to the fish or the PSO, we expect such incidents to be limited to capture and handling of sturgeon in extreme weather. Instructions for fin clips and associated metadata are available at: https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-take-reporting-programmatics-greater-atlantic, under the “Sturgeon Genetics Sampling” heading. b. If a North Atlantic right whale is observed at any time by PSOs or project personnel, Revolution Wind must ensure the sighting is immediately reported to NMFS. If immediate reporting is not possible, the report must be made within 24 hours of the sighting. i. The immediate report must be made to the appropriate geographic reporting line: ● If in the Northeast Region (ME to VA/NC border) call (866-755-6622). ● If in the Southeast Region (NC to FL) call (877-WHALE-HELP or 877-942-5343). ● If calling the hotline is not possible, reports can also be made to the U.S. Coast Guard via channel 16 or through the WhaleAlert app (http://www.whalealert.org/). The sighting report must include the time, date, and location (latitude/longitude) of the sighting, number of whales, animal description/certainty of sighting (provide photos/video if taken), lease area/project name, PSO/personnel name, PSO provider company (if applicable), and reporter's contact information. ii. A summary report must be sent within 24 hours to NMFS-GARFO (nmfs.gar.incidental-take@noaa.gov) and NMFS-OPR (PR.ITP.MonitoringReports@noaa.gov) with the above information and confirmation the sighting was reported to the respective hotline, the vessel/platform from which the sighting was made, activity the vessel/platform was engaged in at time of sighting, project construction and/or survey activity ongoing at time of sighting (e.g., pile driving, cable installation, HRG survey), distance from vessel/platform to sighting at time of detection, and any mitigation actions taken in response to the sighting. c. In the event of a suspected or confirmed vessel strike of any ESA listed species, including a sea turtle or sturgeon, by any project vessel in any location, including observation of any injured sea turtle/sturgeon or sea turtle/sturgeon parts, Revolution Wind or their contractors must report the incident to NMFS GARFO (nmfs.gar.incidental-take@noaa.gov; for marine mammals to the NOAA stranding hotline: Maine-Virginia, report to 866755-6622, and from North Carolina-Florida to 877-942-5343 and for sea turtles from Maine-Virginia, report to 866-755-6622, and from North Caroline-Florida to 844-732-8785 as soon as feasible. The report must include the following information: (A) Time, date, and location (latitude/longitude) of the incident; (B) Species identification (if known) or description of the animal(s) involved; (C) Vessel's speed during and leading up to the	ESA-listed finfish, marine mammals, sea turtles	BOEM, BSEE, and NMFS

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			incident; (D) Vessel's course/heading and what operations were being conducted (if applicable); (E) Status of all sound sources in use (if applicable); (F) Description of avoidance measures/requirements that were in place at the time of the strike and what additional measures were taken, if any, to avoid strike; (G) Environmental conditions (e.g., wind speed and direction, Beaufort scale, cloud cover, visibility) immediately preceding the strike; (H) Estimated size and length of animal that was struck; (I) Description of the behavior of the animal immediately preceding and following the strike; (J) Estimated fate of the animal (e.g., dead, injured but alive, injured and moving, blood or tissue observed in the water, status unknown, disappeared); and (K) To the extent practicable, photographs or video footage of the animal. d. In the event that an injured or dead whale, sea turtle, or Atlantic sturgeon is sighted, Revolution Wind or their contractor must report the incident to NMFS GARFO (nmfs.gar.incidental-take@noaa.gov). Additionally, injured or dead whales must be reported to the NOAA stranding hotline: Maine-Virginia, report to 866755-6622, and from North Carolina-Florida to 877-942-5343 and for sea turtles from Maine-Virginia, report to 866-755-6622, and from North Caroline-Florida to 844-732-8785., and BSEE (protectedspecies@bsee.gov) as soon as feasible, but no later than 24 hours from the sighting. The report must include the following information: (A) Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable); (B) Species identification (if known) or description of the animal(s) involved; (C) Condition of the animal(s) (including carcass condition if the animal is dead); (D) Observed behaviors of the animal(s), if alive; (E) If available, photographs or video footage of the animal(s); and (F) General circumstances under which the animal was discovered. Staff responding to the hotline call will provide any instructions for handling or disposing of any injured or dead animals, which may include coordination of transport to shore, particularly for injured sea turtles. e. Revolution Wind must compile and submit weekly reports during pile driving that document the pile ID, type of pile, pile diameter, start and finish time of each pile driving event, hammer log (number of strikes, max hammer energy, duration of piling) per pile, any changes to noise attenuation systems and/or hammer schedule, details on the deployment of PSOs and PAMOs, including the start and stop time of associated observation periods by the PSOs and PAMOs, and a record of all observations of marine mammals and sea turtles including time of sighting (UTC), species ID, behavior, distance from vessel to sighting at time of detection (meters), vessel/project activity, platform/vessel name, and mitigation measures taken (if any). These weekly reports must be submitted to NMFS GARFO (nmfs.gar.incidental-take@noaa.gov), BOEM, and BSEE by Revolution Wind or the PSO providers and can consist of raw data. Weekly reports are due on Wednesday for the previous week (Sunday – Saturday). f. Revolution Wind must compile and submit reports following any UXO detonation that provide details on the UXO that was detonated (e.g., charge size), location of the detonation, the start and stop of associated observation periods by the PSOs and PAMOs, details on the deployment of PSOs and PAMOs, and a record of all observations of marine mammals and sea turtles including time of sighting (UTC), species ID, behavior, distance from vessel to sighting at time of detection (meters), vessel activity, platform/vessel name, and mitigation measures taken (if any).. This must include any observations of dead or injured fish or other marine life in the post detonation monitoring period. These reports must be submitted to NMFS GARFO (nmfs.gar.incidental-take@noaa.gov), BOEM, and BSEE by Revolution Wind or the PSO providers and can consist of raw data. Reports must be submitted within one week of the detonation, with reports of dead or injured ESA listed species required to be submitted immediately, but no later than 24 hours following the observation. g. Starting in the first month that in-water activities occur (e.g., cofferdam installation, fisheries surveys), Revolution Wind must compile and submit monthly reports that include a summary of all project activities carried out in the previous month, including dates and location of any fisheries surveys carried out, vessel transits (name, type of vessel, number of transits, vessel activity, and route (this includes transits from all ports, foreign and domestic)), and number of piles installed and pile IDs, and all observations of ESA listed whales, sea turtles, and sturgeon, inclusive of any mitigation measures taken as a result of those observations. These reports must be submitted to NMFS GARFO (nmfs.gar.incidental-take@noaa.gov) and are due on the 15th of the month for the previous month.		

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			h. Revolution Wind must submit to NMFS GARFO (nmfs.gar.incidental-take@noaa.gov) an annual report describing all activities carried out to implement their Fisheries Research and Monitoring Plan. This report must include the dates and locations of all ventless trap surveys and otter trawl surveys, inclusive of a summary table of any observations and captures of ESA listed species during these surveys. The report must also summarize all acoustic telemetry and benthic monitoring activities that occurred. Each annual report is due by February 15 (i.e., the report of 2023 activities is due by February 15, 2024).		
7	O&M	Meeting requirements for sea turtle observations	To implement the requirements of RPM 4 and to facilitate monitoring of the incidental take exemption for sea turtles, BOEM, BSEE, USACE, and NMFS must meet twice annually to review sea turtle observation records. These meetings/conference calls will be held in September (to review observations through August of that year) and December (to review observations from September to November) and will use the best available information on sea turtle presence, distribution, and abundance, project vessel activity, and observations to estimate the total number of sea turtle vessel strikes in the action area that are attributable to project operations.	Sea turtles	BOEM, BSEE, and NMFS
8	Construction and installation	Review of plans	To implement RPM 5, within 10 business days of BSEE issuing a no objection to the complete Facility Design Report (FDR)/Fabrication and Installation Report (FIR) (but at least 30 calendar days prior to the initiation of pile driving) or the soonest time the relevant information is available, BOEM and/or BSEE must provide NMFS GARFO (nmfs.gar.incidental-take@noaa.gov) with the following information: number and size of foundations to be installed to support wind turbine generators and offshore substations, installation method for the sea to shore transition (i.e., casing pipe, cofferdam, no containment), the proposed construction schedule (i.e., months when pile driving is planned), and information that has become available on the ports identified for foundation fabrication and load out, WTG pre-assembly and load out, and cable staging. If at that time the amount or extent of incidental take is likely to exceed the maximum amount for each source and type of take considered in this ITS, consultation may need to be reinitiated. NMFS and BOEM will each endeavor to notify the other of the need to reinitiate consultation within 30 calendar days of BOEM's submission to NMFS, and NMFS' receipt of the requested information.	ESA-listed finfish, marine mammals, sea turtles	BOEM, BSEE, and NMFS
9	Construction and installation	Review of plans	To implement RPM 5, BOEM, BSEE and/or Revolution Wind must submit an Observer Training Plan for Trawl Surveys as soon as possible after issuance of this Opinion but no later than 7 calendar days prior to the start of trawl surveys. BOEM, BSEE, and Revolution Wind must obtain NMFS GARFO's concurrence with this plan prior to the start of any trawl surveys. As described in Section X.Y, at least one of the survey staff onboard the trawl survey vessels must have completed NMFS Northeast Fisheries Observer Program training within the last 5 years or other training in protected species identification and safe handling (inclusive of taking genetic samples from Atlantic sturgeon). If Revolution Wind will deploy non-NEFOP trained observers, BOEM, BSEE, and/or Revolution Wind must submit a plan to NMFS describing the training that will be provided to the survey observers.	ESA-listed finfish, marine mammals, sea turtles	BOEM, BSEE, and NMFS
10	Construction and installation	Review of plans	To implement RPM 5, the plans identified below must be submitted to NMFS GARFO by BOEM, BSEE, and/or Revolution Wind at nmfs.gar.incidental-take@noaa.gov. For each plan, within 45 calendar days of receipt of the plan, NMFS GARFO will provide comments to BOEM, BSEE, and Revolution Wind, including a determination as to whether the plan is consistent with the requirements outlined in this ITS and/or in Table 3.3.1 of this Opinion. If the plan is determined to be inconsistent with these requirements, BOEM, BSEE and/or Revolution Wind must resubmit a modified plan that addresses the identified issues within 30 days of the receipt of the comments but at least 15 calendar days before the start of the associated activity; at that time, BOEM, BSEE and NMFS will discuss a timeline for review and approval of the modified plan. At all times, NMFS, BOEM, and BSEE will be provided at least 3 business days for review of subsequent revisions. BOEM, BSEE and Revolution Wind must receive NMFS GARFO's concurrence with these plans before the identified activity is carried out: a. Passive Acoustic Monitoring Plan. BOEM, BSEE and/or Revolution Wind must submit this Plan to NMFS GARFO at least 180 calendar days before impact pile driving is planned. BOEM, BSEE, and Revolution Wind must obtain NMFS GARFO's concurrence with this plan prior to the start of any pile driving. The Plan must include a description of all proposed PAM equipment, address how the proposed passive acoustic monitoring will follow	ESA-listed finfish, marine mammals, sea turtles	BOEM, BSEE, and NMFS

Mitigation Number	Proposed Project Phase	Mitigation or Monitoring Measure	Description of Mitigation and Monitoring Measures Resulting from Consultations	Resource Area Mitigated	BOEM's Identification of the Anticipated Enforcing Agency*
			standardized measurement, processing methods, reporting metrics, and metadata standards for offshore wind (Van Parijs et al., 2021). The plan must describe all proposed PAM equipment, procedures, and protocols including information to support that it will be able to detect vocalizing right whales within the clearance and shutdown zones. The plan must also incorporate the following requirements: If a North Atlantic right whale (NARW) is detected via real-time PAM, data shall be submitted by BOEM, BSEE and/or Revolution Wind to nmfs.pacmdata@noaa.gov using the NMFS Passive Acoustic Reporting System Metadata and Detection data spreadsheets (https://www.fisheries.noaa.gov/resource/document/passive-acoustic-reporting-system-templates as soon as feasible but no longer than 24 hours after the detection. BOEM, BSEE, and/or Revolution Wind must submit the completed data templates to nmfs.pacmdata@noaa.gov; the full acoustic species Detection data, Metadata and GPS data records, from real-time data, must be submitted within 90 calendar days via the ISO standard metadata forms available on the NMFS Passive Acoustic Reporting System website (https://www.fisheries.noaa.gov/resource/document/passive-acoustic-reporting-system-templates). BOEM, BSEE, and/or Revolution Wind must submit the completed data templates to nmfs.pacmdata@noaa.gov; the full acoustic recordings from real-time systems must be sent to NCEI for archiving within 90 calendar days after pile-driving has ended and instruments have been pulled from the water and confirmation must be sent to NMFS GARFO. If a standardized template is available prior to the plan being submitted, NMFS will provide that template to Revolution Wind for use. b. Marine Mammal and Sea Turtle Monitoring Plan – Pile Driving and UXO Detonation. BOEM, BSEE, and/or Revolution Wind must submit this Plan to NMFS GARFO at least 180 calendar days before any pile driving for foundation installation or any UXO detonation is planned. BOEM, BSEE, and/or Revolution Wind must obtain NMFS GARFO's concurrence with this plan prior to the start of any pile driving for foundation installation or carrying out any UXO detonation. The plan must include: a description of how all relevant mitigation and monitoring requirements contained in the incidental take statement will be implemented, a pile driving installation summary and sequence of events, a description of all training protocols for all project personnel (PSOs, PAMOs, trained crew lookouts, etc.), a description of all monitoring equipment and evidence that it can be used to effectively monitor and detect ESA listed listed marine mammals and sea turtles in the identified clearance and shutdown zones , communications and reporting details, PSO and PAMO schedules, and PSO monitoring and mitigation protocols (including number and location of PSOs) for observations and documentation of sea turtles and ESA listed marine mammals during all pile driving events and UXO detonations. The plan must detail all plans and procedures for sound attenuation, including procedures for adjusting the noise attenuation system(s) and available contingency noise attenuation measures/systems if distances to modeled isopleths of concern are exceeded during SFV. Revolution Wind must also submit an NAS inspection/performance report to NMFS- GARFO (nmfs.gar.incidental-take@noaa.gov) within 72 hours of the performance test which must occur prior to the first pile installation. The plan must also describe how Revolution Wind would determine the number of sea turtles exposed to noise above the 175 dB harassment threshold during impact pile driving of WTG and OSS foundations and how Revolution Wind would determine the number of ESA listed whales exposed to noise above the Level B harassment threshold during impact pile driving of WTG and OSS foundations. c. Alternative Monitoring Plan/Night Time Pile Driving Monitoring Plan. BOEM, BSEE, and/or Revolution Wind must submit this Plan to NMFS GARFO at least 180 calendar days before impact pile driving is planned to begin. BOEM, BSEE, and Revolution Wind must obtain NMFS GARFO's concurrence with this plan prior to the start of pile driving. This plan must contain a thorough description of how Revolution Wind plans to monitor pile driving activities at night including proof of the efficacy of their night vision devices (e.g., mounted thermal/IR camera systems, hand-held or wearable night vision devices (NVDs), infrared (IR) spotlights) in detecting ESA listed marine mammals and sea turtles over the full extent of the required clearance and shutdown zones, including demonstration that the full extent of the minimum visibility zones (WTG foundations: May – November, 2300 m and December, 4,400 m; OSS foundations: May – November 1,600 m and 2,700 m December) can be effectively and reliably monitored. The Plan must identify the efficacy of the technology at detecting marine mammals and		

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			sea turtles in the clearance and shutdowns under all the various conditions anticipated during construction, including varying weather conditions, sea states, and in consideration of the use of artificial lighting. If the plan does not include a full description of the proposed technology, monitoring methodology, and data demonstrating to NMFS GARFO's satisfaction that marine mammals and sea turtles can reliably and effectively be detected within the clearance and shutdown zones for monopiles and pin piles before and during impact pile driving, nighttime pile driving (unless a pile was initiated 1.5 hours prior to civil sunset) may not occur. Additionally, this plan must contain a thorough description of how Revolution Wind plans to monitor pile driving activities during daytime when unexpected changes to lighting or weather occur during pile driving that prevent visual monitoring of the full extent of the clearance and shutdown zones. d. Sound Field Verification Plan. BOEM, BSEE, and/or Revolution Wind must submit to NMFS GARFO at least 180 calendar days before impact pile driving or UXO detonation is planned to begin. BOEM, BSEE, and Revolution Wind must obtain NMFS GARFO's concurrence with this plan prior to the start of pile driving or UXO detonation activities. The plan must describe how Revolution Wind would ensure that the first three monopile installation sites and installation scenarios (i.e., hammer energy, number of strikes) and each UXO/MEC detonation site selected for SFV are representative of the rest of the monopile installation and UXO/MEC sites. If the monitored pile locations are different than the ones used for exposure modeling, justification must be provided for why these locations are representative of the modeling. In the case that these sites are not determined to be representative of all other monopile installation sites and UXO/MEC detonation locations, Revolution Wind must include information on how additional sites would be selected for SFV. The plan must also include the piling schedule and sequence of events, communication and reporting protocols, methodology for collecting, analyzing, and preparing SFV data for submission to NMFS GARFO including instrument deployment, locations of all hydrophones including direction and distance from the pile, hydrophone sensitivity, recorder/measurement layout, and analysis methods, and a template of the interim report to be submitted. The plan must describe how the effectiveness of the sound attenuation methodology would be evaluated based on the results. The plan must also identify additional noise attenuation measures (e.g., add noise attenuation device, adjust hammer operations) that will be deployed to reduce sound levels if measured distances are greater than those modeled. i. SFV Interim Reports. Revolution Wind must provide, as soon as they are available but no later than 48 hours after the installation of each of the first three monopiles, the initial results of the SFV measurements to NMFS GARFO in an interim report. This report is required for each of the first three monopiles installed. The interim report must include data from all hydrophones deployed and include a summary of pile installation activities [pile diameter, pile weight, pile length, water depth, sediment type, hammer type, total strikes, total installation time (start time, end time)), duration of pile driving, max single strike energy, NAS deployments], pile location, recorder locations, modeled and measured distances to thresholds, received levels (rms, peak, and SEL) results from CTD casts/sound velocity profiles, signal and kurtosis rise times, pile driving plots, activity logs, weather conditions. The final results of SFV of monopile installations must be submitted as soon as possible, but no later than within 90 days following completion of pile driving of the three monopiles and UXO/MEC data to date. If there are any updates to the requirements to the contents of the interim plan, including availability of a template, this will be provided to Revolution Wind as soon as any such updates are available. e. Vessel Strike Avoidance Plan. BOEM, BSEE, and/or Revolution Wind must submit this plan to NMFS GARFO at least 180 calendar days prior to commencement of vessel use, with the exception of vessels deployed for the fisheries surveys. The plan must provide details on all relevant mitigation and monitoring measures for listed species, vessel transit protocols from all planned ports, vessel-based observer protocols for transiting vessels, proposed alternative monitoring equipment to maintain vessel strike avoidance zone in varying weather conditions, darkness, sea states, and in consideration of the use of artificial lighting. If Revolution Wind plans to implement PAM in any transit corridor to allow vessel transit above 10 knots, the plan must describe how PAM, in combination with visual observations, will be conducted to ensure the transit corridor is clear of North Atlantic right whales.		

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11	Construction and installation, O&M, decommissioning	On-site observation and inspection	To implement the requirements of RPM 6, BOEM and BSEE must exercise their authorities to assess the implementation of measures to minimize and monitor incidental take of ESA-listed species during activities described in this Opinion. If any term and condition(s) is/are not being complied with, BOEM and/or BSEE, as appropriate, must immediately take effective action to ensure prompt implementation.	ESA-listed finfish, marine mammals, sea turtles	BOEM, BSEE, and NMFS
12	Construction and installation, O&M, decommissioning	On-site observation and inspection	To implement the requirements of RPM 6, Revolution Wind must consent to on-site observation and inspections by Federal agency personnel (including NOAA personnel) during activities described in the Biological Opinion, for the purposes of evaluating the effectiveness and implementation of measures designed to minimize or monitor incidental take.	ESA-listed finfish, marine mammals, sea turtles	BOEM, BSEE, and NMFS
BOEM-proposed Mitigation and Monitoring Measures in National Marine Fisheries Service (NMFS) Biological Assessment (BA)†					
1	Construction and installation, O&M, and decommissioning	Marine debris awareness training	The Lessee would ensure that vessel operators, employees, and contractors engaged in offshore activities pursuant to the approved COP complete marine trash and debris awareness training annually. The training consists of two parts: 1) viewing a marine trash and debris training video or slide show (described below) and 2) receiving an explanation from management personnel that emphasizes their commitment to the requirements. The marine trash and debris training videos, training slide packs, and other marine debris related educational material may be obtained at https://www.bsee.gov/debris or by contacting BSEE. The training videos, slides, and related material may be downloaded directly from the website. Operators engaged in marine survey activities must continue to develop and use a marine trash and debris awareness training and certification process that reasonably assures that their employees and contractors are in fact trained. The training process must include the following elements: • Viewing of either a video or slide show by the personnel specified above • An explanation from management personnel that emphasizes their commitment to the requirements • Attendance measures (initial and annual) • Recordkeeping and the availability of records for inspection by DOI By January 31 of each year, the Lessee would submit to the DOI an annual report that describes its marine trash and debris awareness training process and certifies that the training process has been followed for the previous calendar year. The Lessee would send the reports via email to BOEM (at renewable_reporting@boem.gov) and to BSEE via TIMSWeb with a notification email (at marinedebris@bsee.gov).	Finfish and EFH, marine mammals, sea turtles	BOEM, BSEE, and USACE
2	Construction and installation and postconstruction and installation	Marine debris elimination	Materials, equipment, tools, containers, and other items used in Outer Continental Shelf (OCS) activities which could be lost or discarded overboard must be clearly marked with the vessel or facility identification. All markings must clearly identify the owner and must be durable enough to resist the effects of the environmental conditions to which they may be exposed.	Birds, Finfish and EFH, marine mammals, sea turtles	BOEM, BSEE, and USACE
3	Construction and installation and postconstruction and installation	Incorporate letter of authorization (LOA) requirements	The measures required by the final MMPA LOA for Incidental Take Regulations (ITRs) will be incorporated into COP approval, and BOEM and/or BSEE would monitor compliance with these measures.	Marine mammals	BOEM and BSEE
4	Construction and installation, postconstruction and installation monitoring	Passive acoustic monitoring (PAM) plan	BOEM, BSEE, and USACE would ensure that Revolution Wind prepares a PAM plan that describes all proposed equipment, deployment locations, detection review methodology and other procedures, and protocols related to the required use of PAM for monitoring. This plan must be submitted to NMFS, BOEM (at renewable_reporting@boem.gov), and BSEE (via TIMSWeb with a notification email at protectedspecies@bsee.gov) for review and concurrence preferably 180 days but no later than 120 days prior to the planned start of pile driving.	Finfish, marine mammals	BOEM, BSEE, USACE, and NMFS

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5	Construction, O&M, and decommissioning	Passive acoustic monitoring (PAM)	Use PAM buoys or autonomous PAM devices to record ambient noise, marine mammals, and cod vocalizations in the Lease Area before, during, and immediately after construction for up to 25 years of operation to monitor Project noise. The archival recorders must have a minimum capability of detecting and storing acoustic data on anthropogenic noise sources (such as vessel noise, pile driving, WTG operation, and whale detections), marine mammals, and cod vocalizations in the Lease Area. Monitoring would also occur during the decommissioning phase. The total number of PAM stations and array configuration will depend on the size of the zone to be monitored, the amount of noise expected in the area, and the characteristics of the signals being monitored to accomplish both monitoring during constructions, and also meet post-construction monitoring needs. Results must be provided within 90 days of construction completion and again within 90 days of the 1-year, 2-year, and 3-year anniversary of collection. The underwater acoustic monitoring must follow standardized measurement and processing methods and visualization metrics developed by the Atlantic Deepwater Ecosystem Observatory Network (ADEON) for the U.S. Mid- and South Atlantic OCS (see https://adeon.unh.edu/). At least two buoys must be independently deployed within or bordering the Lease Area or one or more buoys must be deployed in coordination with other acoustic monitoring efforts in the RI/MA and MA WEAs. As an alternative to conducting PAM in its project area, the lessee may opt to meet this monitoring requirement through an annual deposit to BOEM's Environmental Studies Program in support of its Partnership for an Offshore Wind Energy Regional Observation Network (POWERON) initiative. The lessee's contribution would cover activities within its lease area, such as the purchase of instruments, annual deployments and refurbishment, data processing, and long-term data archiving. Funding from BOEM, other partners, and potentially other lessees will support long-term PAM throughout the region which will enable broader-scale analyses on cumulative effects to marine species. Under this option, the lessee will be expected to cooperate with the POWERON team to facilitate deployment and retrieval of instruments within the project area. If necessary, the lessee may request temporary withholding of the public release of acoustic data that has been collected within its project area.	Finfish, marine mammals	BOEM, BSEE, USACE, and NMFS
6	Construction and installation	Pile driving monitoring plan	BOEM, BSEE, and USACE would ensure that Revolution Wind prepares and submits to BSEE (via TIMSWeb and notification email at protectedspecies@bsee.gov) and BOEM (at renewable_reporting@boem.gov) for review and concurrence preferably 180 days but no later than 120 days before start of pile driving. Reporting to BSEE would follow JOINT NTL 2023-N01, Appendix B. The Lessee must not conduct pile driving operations at any time when lighting or weather conditions (e.g., darkness, rain, fog, sea state) prevent visual monitoring of the full extent of the clearance and shutdown zones including not initiating pile driving earlier than 1 hour after civil sunrise or later than 1.5 hours prior to civil sunset. Pile driving at night may only occur with prior approval of an AMP. The Lessee must submit an AMP to BOEM and NMFS for review and approval at least 6 months prior to the planned start of pile-driving. This plan may include deploying additional observers, alternative monitoring technologies such as night vision, thermal, and infrared technologies, or use of PAM and must demonstrate the ability and effectiveness to maintain all clearance and shutdown zones during daytime as outlined below in Part 1 and nighttime as outlined in Part 2 to BOEM's and NMFS's satisfaction. The AMP must include two stand-alone components as described below: Part 1 – Daytime when lighting or weather (e.g., fog, rain, sea state) conditions prevent visual monitoring of the full extent of the clearance and shutdown zones. Daytime being defined as one hour after civil sunrise to 1.5 hours before civil sunset. Part 2 – Nighttime inclusive of weather conditions (e.g., fog, rain, sea state). Nighttime being defined as 1.5 hours before civil sunset to one hour after civil sunrise. If a protected marine mammal or sea turtle is observed entering or found within the shutdown zones after impact pile-driving has commenced, the Lessee would follow shutdown procedures outlined in the Protected Species Mitigation Monitoring Plan (PSMMP; Appendix B). The Lessee would notify BOEM and NMFS of any shutdown	Marine mammals, Sea turtles	BOEM, BSEE, and NMFS

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			occurrence during piling driving operations within 24 hours of the occurrence unless otherwise authorized by BOEM and NMFS. The AMP should include, but is not limited to the following information: • Identification of night vision devices (e.g., mounted thermal/IR camera systems, hand-held or wearable NVDs, IR spotlights), if proposed for use to detect protected marine mammal and sea turtle species. • The AMP must demonstrate (through empirical evidence) the capability of the proposed monitoring methodology to detect marine mammals and sea turtles within the full extent of the established clearance and shutdown zones (i.e., species can be detected at the same distances and with similar confidence) with the same effectiveness as daytime visual monitoring (i.e., same detection probability). Only devices and methods demonstrated as being capable of detecting marine mammals and sea turtles to the maximum extent of the clearance and shutdown zones will be acceptable. • Evidence and discussion of the efficacy (range and accuracy) of each device proposed for low visibility monitoring must include an assessment of the results of field studies (e.g., Thayer Mahan demonstration), as well as supporting documentation regarding the efficacy of all proposed alternative monitoring methods (e.g., best scientific data available). • Procedures and timeframes for notifying NMFS and BOEM of Revolution Wind's intent to pursue nighttime pile-driving. • Reporting procedures, contacts and timeframes. BOEM may request additional information, when appropriate, to assess the efficacy of the AMP. For mammals see Appendix B MMPA rule.		
7	Construction and installation	Protected species observers (PSO) coverage	BOEM, BSEE, and USACE would ensure that PSO coverage is sufficient to reliably detect marine mammals and sea turtles at the surface in clearance and shutdown zones to execute any pile driving delays or shutdown requirements. If, at any point prior to or during construction, the PSO coverage that is included as part of the Proposed Action is determined not to be sufficient to reliably detect ESA-listed whales and sea turtles within the clearance and shutdown zones, additional PSOs and/or platforms must be deployed. Determinations prior to construction must be based on review of the pile driving monitoring plan. Determinations during construction would be based on review of the weekly pile driving reports and other information, as appropriate.	Marine mammals, Sea turtles	BOEM, BSEE, and USACE
8	Construction and installation	Sound field verification (SVF)	NMFS, BOEM, BSEE, and USACE would ensure that if the clearance and/or shutdown zones are expanded, PSO coverage is sufficient to reliably monitor the expanded clearance and/or shutdown zones. Additional observers must be deployed on additional platforms for every 1,500 m that a clearance or shutdown zone is expanded beyond the distances modeled prior to verification. To validate the estimated sound field, SVF measurements would be conducted during pile driving of the first three monopiles installed over the course of the Project, with noise attenuation activated. A SVF plan would be submitted to NMFS, BOEM, USACE, and BSEE for review and approval preferably 180 days but no later than 120 days prior to planned start of pile driving. This plan would describe how Revolution Wind would ensure that the first three monopile installation sites selected for sound field are representative of the rest of the monopile installation sites and, in the case that they are not, how additional sites would be selected for SVF. This plan would also include methodology for collecting, analyzing, and preparing SFV data for submission to NMFS. The plan would describe how the effectiveness of the sound attenuation methodology would be evaluated based on the results. In the event that Revolution Wind obtains technical information that indicates a subsequent monopile is likely to produce larger sound fields, SFV would be conducted for those subsequent monopiles.	Marine mammals, Sea turtles, Finfish, Benthic Habitat, EFH, Invertebrates	BOEM, BSEE, NMFS, and USACE
9	Construction and installation	Shutdown zones and pre-start clearance zone adjustment	BOEM, BSEE, and NMFS may consider adjustments in the pre-start clearance and/or shutdown zones based on the initial SFV measurements. Revolution Wind will provide the initial results of each SFV measurement to BOEM,	Marine mammals	BOEM, BSEE, NMFS, and USACE

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			BSEE, and NMFS in an interim report after each monopile installation. Interim reports must be submitted as soon as they are available but no later than 48 hours after each installation. Revolution Wind will conduct an SFV to empirically determine the distances to the isopleths corresponding to Level A harassment and Level B harassment thresholds, including at the locations corresponding to the modeled distances to the Level A harassment and Level B harassment thresholds. If initial SFV measurements indicate distances to the isopleths are less than the distances predicted by modeling assuming 10-decibel (dB) attenuation, Revolution Wind may request a modification of the clearance and shutdown zones for impact pile driving. For a modification request to be considered, Revolution Wind must have conducted SFV on at least three piles to verify that zone sizes are consistently smaller than predicted by modeling. If initial SFV measurements from any foundation indicate distances to the isopleths are greater than the distances predicted by modeling, Revolution Wind would implement additional sound attenuation measures prior to conducting additional pile driving. Additional measures may include improving the efficacy of the implemented noise attenuation technology and/or modifying the piling schedule to reduce the sound source. If modeled zones cannot be achieved by these corrective actions, Revolution Wind must install an additional noise mitigation system to achieve the modelled ranges. Each sequential modification would be evaluated empirically by SFV of three additional foundations with the new sound attenuation technology. Additionally, in the event that SFV measurements continue to indicate distances to isopleths corresponding to Level A harassment and Level B harassment thresholds are consistently greater than the distances predicted by modeling, BOEM, BSEE, or NMFS may expand the relevant clearance and shutdown zones and associated monitoring measures.		
10	Construction and installation	Shutdown zones and pre-start clearance zone adjustment	BOEM, BSEE, and NMFS may consider adjustments in the pre-start clearance and/or shutdown zones based on the initial SFV measurements. Revolution Wind would provide the initial results of the SFV measurements to NMFS in an interim report after each monopile installation for the first three piles as soon as they are available but no later than 48 hours after each installation. Revolution Wind would conduct an SFV to empirically determine the distances to the isopleths corresponding to hearing injury and behavioral effects thresholds for sea turtles, including at the locations corresponding to the modeled distances to these thresholds. If initial SFV measurements indicate distances to the isopleths are less than the distances predicted by modeling assuming 10-decibel (dB) attenuation, Revolution Wind may request a modification of the clearance and shutdown zones for impact pile driving. For a modification request to be considered by NMFS, Revolution Wind must have conducted SFV on at least three piles to verify that zone sizes are consistently smaller than predicted by modeling. If initial SFV measurements indicate distances to the isopleths are greater than the distances predicted by modeling, Revolution Wind would implement additional sound attenuation measures prior to conducting additional pile driving. Additional measures may include improving the efficacy of the implemented noise attenuation technology and/or modifying the piling schedule to reduce the sound source. If modeled zones cannot be achieved by these corrective actions, Revolution Wind would install an additional noise mitigation system to achieve the modelled ranges. Each sequential modification would be evaluated empirically by SFV. Additionally, in the event that SFV measurements continue to indicate distances to isopleths corresponding to hearing injury and behavioral effects thresholds are consistently greater than the distances predicted by modeling, NMFS may expand the relevant clearance and shutdown zones and associated monitoring measures.	Sea turtles	BOEM, BSEE, NMFS, and USACE
11	Construction and installation	Monitoring zone for sea turtles	BOEM, BSEE, and USACE would ensure that Revolution Wind would monitor a 500 m clearance and shutdown zone for sea turtles for the full duration of all pile driving activities and for 30 minutes following the cessation of pile driving activities and record all observations in order to ensure that all take that occurs is documented.	Sea turtles	BOEM, BSEE, and USACE
12	Construction and installation, O&M, and conceptual decommissioning	Reporting of all North Atlantic right whale (NARW) sightings	If a NARW is observed at any time by PSOs or personnel on any Project vessels, during any Project-related activity, or during vessel transit, Revolution Wind must report the sighting information to NMFS as soon as feasible and no later than within 24 hours after conclusion of the detection event (the time, location, number of animals, closest point of approach of animals, animal behavior, activities at time of detection, vessel speed, and any mitigation measures	Marine mammals	BOEM, BSEE, USACE, and NMFS

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			implemented) via the WhaleAlert app (http://www.whalealert.org/), NMFS Right Whale Sighting Advisory System hotline (phone), and PR.ITP.MonitoringReports@noaa.gov.		
13	Construction and installation, O&M, and decommissioning	Vessel strike avoidance measures for sea turtles	Between June 1 and November 30, Revolution Wind must have a trained lookout posted on all vessel transits during all phases of the Project to observe for sea turtles. The trained lookout must communicate any sightings, in real time, to the captain so that the requirements in (e) below can be implemented. a. The trained lookout must monitor https://seaturtlesightings.org/ prior to each trip and report any observations of sea turtles in the vicinity of the planned transit to all vessel operators/captains and lookouts on duty that day. b. The trained lookout must maintain a vigilant watch and monitor a vessel strike avoidance zone (500 m) at all times to maintain minimum separation distances from ESA-listed species. Alternative monitoring technology (e.g., night vision and thermal cameras) must be available to ensure effective watch at night and in any other low-visibility conditions. If the trained lookout is a vessel crew member, this must be their designated role and primary responsibility while the vessel is transiting. Any designated crew lookouts would receive training on protected species identification, vessel strike minimization procedures, how and when to communicate with the vessel captain, and reporting requirements. c. If a sea turtle is sighted within 100 m or less of the operating vessel's forward path, the vessel operator must slow down to 4 knots (unless unsafe to do so) and then proceed away from the turtle at a speed of 4 knots or less until there is a separation distance of at least 100 m at which time the vessel may resume normal operations. If a sea turtle is sighted within 50 m of the forward path of the operating vessel, the vessel operator must shift to neutral when safe to do so wait for the turtle to pass beyond 50m and then engage engines and travel proceed away from the turtle at a speed of 4 knots until a separation distance of 100 m is observed The vessel may resume normal operations once it has passed the turtle. d. Vessel captains/operators would avoid transiting through areas of visible jellyfish aggregations or floating sargassum lines or mats. In the event that operational safety prevents avoidance of such areas, vessels must slow to 4 knots while transiting through such areas. e. All vessel crew members must be briefed in the identification of ESA-listed species of sea turtles and in regulations and best practices for avoiding vessel collisions. Reference materials must be available aboard all Project vessels for identification of sea turtles. The expectation and process for reporting of sea turtles (including live, entangled, and dead individuals) must be clearly communicated and posted in highly visible locations aboard all Project vessels, so that there is an expectation for reporting to the designated vessel contact (such as the lookout or the vessel captain), as well as a communication channel and process for crew members to do so. f. The only exception is when the safety of the vessel or crew necessitates deviation from these requirements on an emergency basis. If any such incidents occur, they must be reported to NMFS and BSEE within 24 hours. g. If a vessel is carrying a PSO or trained lookout for the purposes of maintaining watch for North Atlantic right whales, an additional lookout is not required and this PSO or trained lookout must maintain watch for whales, giant manta rays, and sea turtles.	Sea turtles	BOEM, BSEE, and USACE
14	Construction and installation, postconstruction and installation monitoring	Sampling gear	All sampling gear would be hauled out at least once every 30 days, and all gear must be removed from the water and all gear must be removed from the water and stored on land between survey seasons to minimize risk of entanglement.	Finfish, marine mammals, sea turtles, invertebrates	BOEM and BSEE
15	Construction and installation, postconstruction and installation monitoring	Lost survey gear	If any survey gear is lost, all reasonable efforts that do not compromise human safety must be undertaken to recover the gear. All lost gear must be reported to NMFS (nmfs.gar.incidental-take@noaa.gov) and BSEE (via TIMSWeb and notification email at marinedebris@bsee.gov) within 24 hours of the documented time of missing or	Finfish, marine mammals, sea	BOEM, BSEE, and NMFS

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			lost gear. This report must include information on any markings on the gear and any efforts undertaken or planned to recover the gear.	turtles, invertebrates	
16	Construction and installation, postconstruction and installation monitoring	Training	At least one of the survey staff onboard the trawl surveys and ventless trap surveys must have completed Northeast Fisheries Observer Program (NEFOP) observer training (within the last 5 years) or other training in protected species identification and safe handling (inclusive of taking genetic samples from Atlantic sturgeon). Reference materials for identification, disentanglement, safe handling, and genetic sampling procedures must be available on board each survey vessel. BOEM and BSEE would ensure that Revolution Wind prepares a training plan that addresses how this requirement would be met and that the plan is submitted to NMFS in advance of any trawl or trap surveys. This requirement is in place for any trips where gear is set or hauled.	Finfish	BOEM, BSEE, and NMFS
17	Construction and installation, postconstruction and installation monitoring	Sea turtle disentanglement	Vessels deploying fixed gear (e.g., pots/traps) would have adequate disentanglement equipment (i.e., knife and boathook) onboard. Any disentanglement would occur consistent with the Northeast Atlantic Coast STDN disentanglement guidelines (https://www.reginfo.gov/public/do/DownloadDocument?objectID=102486501) and the procedures described in *Careful Release Protocols for Sea Turtle Release with Minimal Injury* (NOAA Technical Memorandum 580; https://repository.library.noaa.gov/view/noaa/3773) (NOAA 2008).	Sea turtles	BOEM, BSEE, and NMFS
18	Construction and installation, postconstruction and installation monitoring	Sea turtle/Atlantic sturgeon identification and data collection	Any sea turtles or Atlantic sturgeon caught and/or retrieved in any fisheries' survey gear must first be identified to species or species group. Each ESA-listed species caught and/or retrieved must then be properly documented using appropriate equipment and data collection forms. Biological data, samples, and tagging must occur as outlined below. Live, uninjured animals should be returned to the water as quickly as possible after completing the required handling and documentation. a. The *Sturgeon and Sea Turtle Take Standard Operating Procedures* must be followed (NOAA 2021a; https://media.fisheries.noaa.gov/dammigration/sturgeon_&_sea_turtle_take_sops_external.pdf).). b. Survey vessels must have a passive integrated transponder (PIT) tag reader onboard capable of reading 134.2-kilohertz and 125-kilohertz encrypted tags (e.g., Biomark GPR Plus Handheld PIT Tag Reader), and this reader be used to scan any captured sea turtles and sturgeon for tags. Any recorded tags must be recorded on the take reporting form (see below). c. Genetic samples must be taken from all captured Atlantic sturgeon (alive or dead) to allow for identification of the distinct population segment (DPS) of origin of captured individuals and tracking of the amount of incidental take. This must be done in accordance with the *Procedure for Obtaining Fin Clips from Sturgeon for Genetic Analysis* (NOAA 2019; https://media.fisheries.noaa.gov/dammigration/sturgeon_genetics_sampling_revised_june_2019.pdf). i. Fin clips must be sent to a NMFS-approved laboratory capable of performing genetic analysis and assignment to DPS of origin. To the extent authorized by law, BOEM is responsible for the cost of the genetic analysis. Arrangements must be made for shipping and analysis in advance of submission of any samples; these arrangements must be confirmed in writing to NMFS within 60 days of the receipt of this incidental take statement (ITS). Results of genetic analysis, including assigned DPS of origin, must be submitted to NMFS within 6 months of the sample collection. ii. Subsamples of all fin clips and accompanying metadata forms must be held and submitted to a tissue repository (e.g., the Atlantic Coast Sturgeon Tissue Research Repository) on a quarterly basis. The Sturgeon Genetic Sample Submission Form is available for download at https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-take-reporting-programmatics-greater-atlantic. d. All captured sea turtles and Atlantic sturgeon must be documented with required measurements and photographs. The animal's condition and any marks or injuries must be described. This information must be entered as part of the record for each incidental take. A NMFS Take Report Form would be filled out	Finfish, Sea turtles	BOEM, BSEE, NMFS, and USACE

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			for each individual sturgeon and sea turtle (download at: https://media.fisheries.noaa.gov/2021-11/Sturgeon-Sea-Turtle-Take-SOPs-external-11032021.pdf).		
19	Construction and installation, postconstruction and installation monitoring	Sea turtle/Atlantic sturgeon handling and resuscitation guidelines	Any sea turtles or Atlantic sturgeon caught and retrieved in gear used in fisheries surveys must be handled and resuscitated (if unresponsive) according to established protocols and whenever at-sea conditions are safe for those handling and resuscitating the animal(s) to do so. Specifically: a. Priority must be given to the handling and resuscitation of any sea turtles or sturgeon that are captured in the gear being used, if conditions at sea are safe to do so. Handling times for these species should be minimized (i.e., kept to 15 minutes or less) to limit the amount of stress placed on the animals. b. All survey vessels must have copies of the sea turtle handling and resuscitation requirements found at 50 CFR 223.206(d)(1) prior to the commencement of any on-water activity (download at: https://media.fisheries.noaa.gov/ dammigration/sea_turtle_handling_and_resuscitation_measures.pdf). These handling and resuscitation procedures must be carried out any time a sea turtle is incidentally captured and brought onboard the vessel during the proposed actions. c. If any sea turtles that appear injured, sick, or distressed, are caught and retrieved in fisheries survey gear, survey staff must immediately contact the Greater Atlantic Region Marine Animal Hotline at 866-755-6622 for further instructions and guidance on handling the animal, and potential coordination of transfer to a rehabilitation facility. If unable to contact the hotline (e.g., due to distance from shore or lack of ability to communicate via phone), the USCG should be contacted via VHF marine radio on Channel 16. If required, hard-shelled sea turtles (i.e., non- leatherbacks) may be held on board for up to 24 hours following handling instructions provided by the Hotline, prior to transfer to a rehabilitation facility. d. Attempts must be made to resuscitate any Atlantic sturgeon that are unresponsive or comatose by providing a running source of water over the gills as described in the sturgeon resuscitation guidelines (NOAA 2020; https://media.fisheries.noaa.gov/dammigration-miss/Resuscitation-Cards-120513.pdf). e. Provided that appropriate cold storage facilities are available on the survey vessel, following the report of a dead sea turtle or sturgeon to NMFS, and if NMFS requests, any dead sea turtle or Atlantic sturgeon must be retained on board the survey vessel for transfer to an appropriately permitted partner or facility on shore as safe to do so. f. Any live sea turtles or Atlantic sturgeon caught and retrieved in gear used in any fisheries survey must ultimately be released according to established protocols and whenever at-sea conditions are safe for those releasing the animal(s) to do so.	Finfish, Sea turtles	BOEM, BSEE, NMFS, and USACE
20	Construction and installation, postconstruction and installation monitoring	Take notification	GARFO Protected Resources Division (PRD) and BSEE must be notified as soon as possible of all observed takes of sea turtles and Atlantic sturgeon occurring as a result of any fisheries survey. Specifically: a. GARFO PRD and DOI (BOEM and BSEE) must be notified within 24 hours of any interaction with a sea turtle or sturgeon (nmfs.gar.incidental- take@noaa.gov and DOI via TIMSWeb and notification email at protectedspecies@bsee.gov). The report must include at a minimum 1) survey name and applicable information (e.g., vessel name, station number); 2) GPS coordinates describing the location of the interaction (in decimal degrees); 3) gear type involved (e.g., bottom trawl, longline); 4) soak time, gear configuration, and any other pertinent gear information; 5) time and date of the interaction; and 6) identification of the animal to the species level. Additionally, the email must transmit a copy of the NMFS Take Report Form (download at: https://media.fisheries.noaa.gov/2021-07/Take%20Report%20Form%2007162021.pdf?null) and a link to or acknowledgement that a clear photograph or video of the animal was taken (multiple photographs are suggested, including at least one photograph of the head scutes). If reporting within 24 hours is not possible due to distance from shore or lack of ability to communicate via telephone, fax, or email, reports must be submitted as soon as possible; late reports must be submitted with an explanation for the delay.	Finfish, Sea turtles	BOEM, BSEE, NMFS, and USACE

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			b. At the end of each survey season, a report must be sent to NMFS that compiles all information on any observations and interactions with ESA-listed species. This report must also contain information on all survey activities that took place during the season including location of gear set, duration of soak/trawl, and total effort. The report on survey activities must be comprehensive of all activities, regardless of whether ESA-listed species were observed.		
21	Construction and installation, O&M, and decommissioning	Monthly/ annual reporting requirements	BOEM and BSEE would ensure that Revolution Wind submits regular reports (in consultation with NMFS) necessary to document the amount or extent of take that occurs during all phases of the proposed action. Details of reporting must be coordinated between Revolution Wind, NMFS, BOEM, and BSEE. All reports would be sent to: nmfs.gar.incidental- take@noaa.gov and BSEE via TIMSWeb and notification email at protectedspecies@bsee.gov.	Finfish, marine mammals, sea turtles	BOEM, BSEE, and NMFS
22	Construction and installation, O&M, and decommissioning	Vessel strike protected species observer requirements	Protected Species Observer Requirements (Construction)(Operations)(Decommissioning). The Lessee must ensure that vessel operators and crew members maintain a vigilant watch for marine mammals and sea turtles, and reduce vessel speed, alter the vessel's course, or stop the vessel as necessary to avoid striking marine mammals or sea turtles. All vessels must have a visual observer on board who is responsible for monitoring the vessel strike avoidance zone for marine mammals and sea turtles. Visual observers may be PSO or crew members, but crew members responsible for these duties must be provided sufficient training by the Lessee to distinguish marine mammals from other phenomena and must be able to identify a marine mammal as a North Atlantic right whale, other whale (defined in this context as sperm whales or baleen whales other than North Atlantic right whales), or other marine mammal. Crew members serving as visual observers must not have duties other than observing for marine mammals while the vessel is operating over 10 kts; Vessel Communication of Threatened and Endangered Species Sightings (Planning) (Construction) (Operations) (Decommissioning). The Lessee must ensure that whenever multiple Project vessels are operating, any detections of ESA-listed species (marine mammals and sea turtles) are communicated in near real time to these personnel on the other Project vessels: Protected Species Observer (PSO), vessel captains, or both. Year-round, all vessel operators must monitor, the project's Situational Awareness System, WhaleAlert, US Coast Guard VHF Channel 16, and the Right Whale Sighting Advisory System (RWSAS) for the presence of North Atlantic right whales once every 4-hour shift during project-related activities. The PSO and PAM operator monitoring teams for all activities must also monitor these systems no less than every 12 hours. If a vessel operator is alerted to a North Atlantic right whale detection within the project area, they must immediately convey this information to the PSO and PAM teams. For any UXO/MEC detonation, these systems must be monitored for 24 hours prior to blasting; Any observations of any large whale by any of the Lessee's staff or contractor, including vessel crew, must be communicated immediately to PSOs and all vessel captains to increase situational awareness.	Marine mammals	BOEM, BSEE, NMFS, and USACE
23	O&M and decommissioning	Vessel speed requirements	Between November 1st and April 30th, all vessels, regardless of size, must operate at 10 kts or less when traveling between the lease area and ports in New York, Connecticut, Rhode Island, and Massachusetts; All vessels, regardless of size, must immediately reduce speed to 10 kts or less when any large whale, mother/calf pairs, or large assemblages of non-delphinid cetaceans are observed (within 500 m) of an underway vessel; All vessels, regardless of size, must immediately reduce speed to 10 kts or less when a North Atlantic right whale is sighted, at any distance, by anyone on the vessel; If a vessel is traveling at greater than 10 knots, in addition to the required dedicated visual observer, the Lessee must monitor the transit corridor in real-time with PAM prior to and during transits. If a North Atlantic right whale is detected via visual observation or PAM within or approaching the transit corridor, all crew transfer vessels must travel at 10 kts or less for 12 hours following the detection. Each subsequent detection shall trigger a 12-hour reset. A slowdown in the transit corridor expires when there has been no further visual or acoustic detection in the transit corridor in the past 12 hours;	Marine mammals	BOEM, BSEE, NMFS, and USACE

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			All underway vessels (e.g., transiting, surveying) operating at any speed must have a dedicated visual observer on duty at all times to monitor for marine mammals within a 180° direction of the forward path of the vessel (90° port to 90° starboard) located at an appropriate vantage point for ensuring vessels are maintaining appropriate separation distances. Visual observers must be equipped with alternative monitoring technology for periods of low visibility (e.g., darkness, rain, fog, etc.). The dedicated visual observer must receive prior training on protected species detection and identification, vessel strike minimization procedures, how and when to communicate with the vessel captain, and reporting requirements in this subpart. Visual observers may be third-party observers (i.e., NMFS-approved PSOs) or crew members. Observer training related to these vessel strike avoidance measures must be conducted for all vessel operators and crew prior to the start of in-water construction activities. Confirmation of the observers' training and understanding of the Incidental Take Authorization (ITA) requirements must be documented on a training course log sheet and reported to NMFS; All vessels must maintain a minimum separation distance of 500 m from North Atlantic right whales. If underway, all vessels must steer a course away from any sighted North Atlantic right whale at 10 kts or less such that the 500-m minimum separation distance requirement is not violated. If a North Atlantic right whale is sighted within 500 m of an underway vessel, that vessel must shift the engine to neutral. Engines must not be engaged until the whale has moved outside of the vessel's path and beyond 500 m. If a whale is observed but cannot be confirmed as a species other than a North Atlantic right whale, the vessel operator must assume that it is a North Atlantic right whale and take the vessel strike avoidance measures described in this paragraph (b)(2)(xi); All vessels must maintain a minimum separation distance of 100 m from sperm whales and non-North Atlantic right whale baleen whales. If one of these species is sighted within 100 m of an underway vessel, that vessel must shift the engine to neutral. Engines must not be engaged until the whale has moved outside of the vessel's path and beyond 100 m; All vessels must, to the maximum extent practicable, attempt to maintain a minimum separation distance of 50 m from all delphinoid cetaceans and pinnipeds, with an exception made for those that approach the vessel (e.g., bow-riding dolphins). If a delphinid cetacean or pinniped is sighted within 50 m of an underway vessel, that vessel must shift the engine to neutral, with an exception made for those that approach the vessel (e.g., bow-riding dolphins). Engines must not be engaged until the animal(s) has moved outside of the vessel's path and beyond 50 m; When a marine mammal(s) is sighted while a vessel is underway, the vessel must take action as necessary to avoid violating the relevant separation distances (e.g., attempt to remain parallel to the animal's course, avoid excessive speed or abrupt changes in direction until the animal has left the area). If a marine mammal(s) is sighted within the relevant separation distance, the vessel must reduce speed and shift the engine to neutral, not engaging the engine(s) until the animal(s) is clear of the area. This does not apply to any vessel towing gear or any situation where respecting the relevant separation distance would be unsafe (i.e., any situation where the vessel is navigationally constrained); All vessels underway must not divert or alter course to approach any marine mammal. Any vessel underway must avoid speed over 10 kts or abrupt changes in course direction until the animal is out of an on a path away from the separation distances; and For in-water construction heavy machinery activities other than impact or vibratory pile driving, if a marine mammal is on a path towards or comes within 10 m of equipment, the Lessee must cease operations until the marine mammal has moved more than 10 m on a path away from the activity to avoid direct interaction with equipment.		

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BOEM-Proposed Monitoring Measures Developed in Conjunction with Cooperating Agencies					
1	O&M	Periodic underwater surveys, reporting of monofilament and other fishing gear around WTG foundations	The Lessee must monitor potential loss of fishing gear near WTG foundations by surveying at least 10% of the total installed foundations annually. Revolution Wind must report the results of the surveys to BOEM (at renewable_reporting@boem.gov) and BSEE (at marinedebris@bsee.gov) in an annual report, submitted by April 30 for the preceding calendar year. Annual reports must be submitted in Microsoft Word format. Photographic and videographic materials must be provided on a portable drive in a lossless format such as TIFF or Motion JPEG 2000. Annual reports must include survey reports that include the survey date; contact information of the operator; the location and pile identification number; photographic and/or video documentation of the survey and debris encountered; any animals sighted; and the disposition of any located debris (i.e., removed or left in place). Required data and reports may be archived, analyzed, published, and disseminated by BOEM.	Marine mammals, sea turtles, finfish	BOEM and BSEE
2	Preconstruction, Construction, O&M, and decommissioning	Long-term PAM	Long-term monitoring of ambient noise, marine mammal, and cod vocalizations in the Lease Area before, during, and following construction. Continuous recording must occur at least 30 days prior to pile driving, during foundation pile driving, initial operation, and for at least 3 full calendar years of operation to monitor for potential impacts. At least three devices must be independently deployed within the lease area to maximize spatial coverage of the project area based on 10-kilometer spacing between deployment locations or as otherwise agreed between BOEM and the Lessee. The locations of the three buoys must be coordinated with the Regional Wildlife Science Collaborative prior to the plan being submitted to BOEM and BSEE. Devices may be moved to new locations during the recording period, if existing PAM devices will be present in the lease area providing continuous recording. The archival recorders must have a minimum capability of continuously detecting and storing acoustic data on vessel noise, pile-driving, WTG operation, baleen whale vocalizations, and cod vocalizations in the lease area. No later than 180 days prior to buoy deployment, the Lessee must submit to BOEM and BSEE (renewable_reporting@boem.gov and OSWsubmittals@bsee.gov) the PAM plan, which describes all proposed equipment, deployment locations, detection review methodology, and other procedures and protocols related to the required use of PAM for monitoring. The PAM plan must detail mooring best practices, data management, storage, measurement, and data processing best practices that are required by BOEM for long-term PAM monitoring. Refer to Regional Wildlife Science Collaborative for Offshore Wind Data Management & Storage Best Practices for Long-term and Archival Passive Acoustic Monitoring (PAM) Data. Other best practices consistent with COP approval should be detailed in the plan. The long-term PAM Plan must include the proposed equipment, sample rate, mooring design, deployment locations, methods for baleen whale and cod detections, and metrics for ambient noise analysis. The long-term PAM plan must be submitted to BOEM and BSEE (at renewable_reporting@boem.gov and OSWsubmittals@bsee.gov) for review and concurrence. BOEM and BSEE will review the long-term PAM Plan and provide comments, if any, on the plan within 45 calendar days, but no later than 90 days of its submittal. The plan must satisfy all outstanding comments to BOEM's and BSEE's satisfaction. The Lessee will receive written concurrence from DOI upon acceptance of the final long-term PAM plan. If DOI does not provide comments on the long-term PAM Plan within 90 calendar days of its submittal, the Lessee may conclusively presume DOI's concurrence with the long-term PAM Plan. Long-term PAM monitoring results must be provided within 180 days of buoy collection and again within 180 days of the annual anniversaries of each the PAM device deployments. All raw data must be sent to NCEI for archiving no later than 6 months following the date of each recorder recovery. As an alternative to conducting long-term PAM in its project area, the lessee may opt to meet this monitoring requirement through an annual deposit to BOEM's Environmental Studies Program in support of its Partnership for an Offshore Wind Energy Regional Observation Network (POWERON) initiative. The lessee's contribution would	Marine Mammals, Finfish, EFH	BOEM and BSEE

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			cover activities within the area of potential effect of the project, such as the purchase of instruments, annual deployments and refurbishment, data processing, and long-term data archiving. Funding from BOEM, other partners, and potentially other lessees will support long-term PAM throughout the region which will enable broader-scale analyses on cumulative effects to marine species. Under this option, the Lessee will be expected to cooperate with the POWERON team to facilitate deployment and retrieval of instruments within the project area. If necessary, the Lessee may request temporary withholding of the public release of acoustic data that has been collected within its project area. Record long-term measurements of ambient noise, marine mammal, and cod vocalizations in the Lease Area before, during, and following construction.		
NMFS Essential Fish Habitat (EFH) Conservation Recommendations (CRs) issued June 16, 2023[3]†					
EFH Conservation Recommendations					
1-4	Planning, construction and installation, O&M, decommissioning	Recommendations to minimize adverse impacts to Atlantic cod spawning	1. To minimize adverse effects to Atlantic cod spawning aggregations in and adjacent to the project area, and to reduce the risk of adverse population level effects to this species: a. No pile driving activities in the lease area should occur between November 1 and March 31 of each year. b. No seafloor disturbing activities should occur between November 1 and March 31 of each year, within the Revolution Wind lease area and along the export cable route (RWEC-OCS) located from KP 45 to KP 56 (mile 28 to 35) which includes the locations where use of the boulder plow is currently proposed. c. No removal or detonation of unexploded ordinances (UXOs) should occur between November 1 and March 31, of each year. d. No HRG sub-bottom profiling (e.g. sparkers, boomers) survey activities should occur between November 1 and March 31, of each year, within the Revolution Wind lease area. This recommendation supersedes the October 2017 EFH consultation on the Site Assessment Plan (SAP) due to new information related to cod spawning activity in the project area. 2. To minimize impacts to Atlantic cod sensitive life stages and complex habitats on Cox Ledge: a. No more than the minimum number of turbines required to meet the power purchase agreement should be permitted. b. The largest size turbines considered in the COP (12MW) should be used to further reduce the number of turbines required for a viable project. c. Avoid UXO detonation on and adjacent to Cox Ledge to avoid adverse impacts to complex habitats and other sensitive marine resources. 3. To minimize adverse impacts to Atlantic cod spawning habitats: a. Remove the following nine (9) WTGs locations and associated inter array cables to minimize overlap with Atlantic cod spawning habitat: B36, B37, B38, B39, B44, B45, B46, B49, and B50. Turbines are numbered based on WTG labels identified in the Inspire habitat data pop-up viewer. b. Re-route the OSS-link cable connecting the two offshore substations (OSSs) to avoid crossing directly through Atlantic cod spawning and complex habitat. Specifically, the OSS-link should be routed north and east around the area of complex habitat and extend north and west outside of the lease area (and north of the spawning location) to connect to the other OSS station at the northern end of the lease.	Finfish, EFH, Benthic Habitat, Invertebrates	BOEM, BSEE and NMFS

[3] NMFS issued conservation recommendations to BOEM and USACE for the Revolution Wind project via letter on 6.16.23. As required by section 305(b)(4)(B) of the Magnuson-Stevens Act, USACE and BOEM will provide a detailed response to these conservation recommendations to NMFS regarding which measures will be adopted, partially adopted, or not adopted along with a rationale. At the time of FEIS issuance, BOEM and USACE have yet not determined which conservation recommendations each agency intends to adopt or partially adopt. As such, the full list of conservation recommendations received from NMFS is included in this document.

Mitigation Number	Proposed Project Phase	Mitigation or Monitoring Measure	Description of Mitigation and Monitoring Measures Resulting from Consultations	Resource Area Mitigated	BOEM's Identification of the Anticipated Enforcing Agency*
			4. Continue the on-going telemetry and passive acoustic survey within the lease area and expand the existing study beyond the lease area boundaries to identify the full scope of the area affected by project construction and operation and to assess individual, synergistic, and cumulative effects of the project on cod spawning activity pre-, during, and post construction. a. Provide continuous monitoring of Atlantic cod spawning aggregations between November 1 and April 30 prior to the construction of the project, during project construction, and post construction. b. Place additional receivers in pending turbine locations. Once constructed, additional receivers should be added to the turbines to increase coverage. c. Add an additional glider to the ongoing survey to increase the spatial coverage of the Revolution Wind project area. The ongoing survey should focus on increasing survey coverage (i.e. increase the number of glider tracts) within the project area to provide better resolution and detection of cod spawning activity within the project area before, during, and after construction. d. Add a third glider to expand the survey coverage outside the lease area to assess synergistic and cumulative effects of the project on the distribution of cod spawning activity. e. Data and results from this study should be made available to NMFS Habitat and Ecosystem Services Division (HESD).		
5-10	Planning, construction and installation, O&M, decommissioning	Recommendations to minimize impacts to benthic habitats	5. To minimize adverse impacts in complex habitats on Cox Ledge: a. In addition to the nine (9) turbines that overlap with cod spawning habitat, remove the following five (5) WTG and associated inter array cables to minimize impacts to complex habitats: B48, B52, B53, B61, and B62. Turbines are numbered based on WTG labels identified in the Inspire habitat data pop-up viewer. b. Removal of additional turbines beyond the 14 identified above should be selected based on the following criteria (1) adjacent to the areas already planned for removal to reduce habitat fragmentation, (2) located within complex habitats and impacts cannot be minimized through micrositing and (3) impacts to complex habitats from inter array cable connecting the turbines would be reduced. The following turbines and associated cables are consistent with these criteria and should be considered for removal: B42, B43, B54, B55, B69, and B70. Turbines are numbered based on WTG labels identified in the Inspire habitat data pop-up viewer. 6. Microsite WTGs, inter array cables and export cables (both RWEC-OCS and RWEC-RI) to avoid complex habitats. a. For any WTGs located within complex habitats that are not removed, the WTGs should be microsited outside identified complex habitats, including large boulders/habitat elements (i.e., >/= 0.5 m in diameter) and into low multibeam backscatter return areas. b. Inter-array, and export cables should be microsited to minimize impacts to complex areas and/or areas of high habitat heterogeneity (diversity of structural elements, including bathymetric features) and complexity. Cables should be microsited around all identified complex habitats, including large boulders/habitat elements (i.e., >/= 0.5 m in diameter) and into low multibeam backscatter return areas. c. Cables should be sited to avoid unexploded ordinances (UXOs) and the relocation or detonation of any UXOs. d. A WTG, inter-array and export cable (included RWEC-OCS and RWEC-RI) micrositing plan should be developed to demonstrate how long-term to permanent adverse impacts to complex habitats and benthic features will be avoided and minimized within the lease area. i. At a minimum, the micrositing plan should include: 1) depictions of the microsited WTGs and cables (i.e., include a figure depicting large boulder locations, multibeam backscatter returns, and the proposed microsited cable); 2) information describing how the microsited locations were selected (i.e., what information other than multibeam backscatter and boulder locations was used to determine the cable path); and 3) for any cables that are identified to be infeasible to be fully microsited around complex habitats and within low multibeam backscatter areas, detailed information supporting the feasibility issues encountered, calculated impact areas of large boulders	Finfish, EFH, Benthic Habitat, Invertebrates	BOEM, BSEE, and NMFS (and USACE for CRs 6, 8-10)

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			and/or medium to high multibeam backscatter area, and impact minimization measures to be used should be provided. ii. The final micrositing plan should be submitted to NMFS HESD prior to commencement of any in-water work. A copy of a redline-version of the draft plan that addresses any comments or questions submitted by BOEM (or other commenters) should also be provided to NMFS along with the final plan. 7. Re-route the current export cable alignment at the exit of the lease area to avoid impacts to complex habitats. The cable corridor should be rerouted to avoid the area of highly complex habitats where the use of a boulder plow is currently proposed (located between KP 45 to KP 56). The habitat data demonstrates that within this area of the project, complex habitats are patchy and soft bottom habitats are found in adjacent areas. The export cable should exit the lease area (referred to as Zone 4 in the EFH assessment) further north to avoid complex habitats and dense fields of large boulders >0.5 m. 8. To minimize impacts from boulder/cobble removal/relocation activities, relocate boulders and cobbles as close to the impact area as practicable, in areas immediately adjacent to existing similar complex bottom, placed in a manner that does not hinder navigation or impede commercial fishing, and avoids impacts to existing complex habitats. In order to minimize impacts to complex habitats, boulders that will be relocated using boulder "pick" methods should be relocated outside the area necessary to clear and placed along the edge of existing complex habitats such that the placement of the relocated boulders will result in a marginal expansion of complex habitats into soft-bottom habitats (i.e., boulders should be placed outside the relocation area and in an area of low multibeam backscatter return immediately adjacent to medium or high return areas) and reduce risk to navigation and fishing operations in the area. a. A boulder relocation plan should be developed that identifies where boulders will be removed from and where they will be placed. Resource agencies and the fishing industry should be consulted in preparation of the boulder relocation plan. The plan should identify all areas where a boulder plow will be used during sitepreparation. At a minimum, the plan should include: 1) a clear depiction (i.e., figures) of the location of boulder relocation activities specified by activity type (e.g., pick or plow, removal or placement) and overlaid on multibeam acoustic backscatter data; 2) a detailed methodology for each type of boulder relocation activity and technical feasibility constraints; 3) any proposed measures to minimize impacts to attached epifaunal assemblages on boulder surfaces; 4) measures taken to avoid further adverse impacts to complex habitat and fishing operations; and 5) a summary of any consultation with resources agencies and the fishing industry in development of the plan. b. The final, BOEM approved pre-construction boulder relocation plan should be submitted to NMFS HESD prior to commencement of any in-water work. A copy of a redline-version of the draft plan that addresses any comments or questions submitted by BOEM (or other commenters) should also be provided to NMFS HESD along with the final plan. c. In all offshore/nearshore areas where seafloor preparation activities include the use of boulder plows, boulder picks, jets, grapnel runs or similar methods used, post-construction acoustic surveys (e.g. multibeam backscatter and side scan sonar) capable of detecting bathymetry changes of 0.5 feet (ft.) or less, should be completed to demonstrate how the benthos were modified by seabed preparation activities and project construction. i. In areas where boulder plows are used and the berm height exceeds three ft. above the existing grade, the created berm should be restored to match that of the existing grade/pre-construction conditions. d. Data should be provided to NMFS HESD in an online viewer with preconstruction and post-construction survey data. As-built post-construction information should also be provided, including information on how, if at all, the final boulder placement differs from the boulder relocation plan and why such changes were necessary. 9. Avoid anchoring in complex habitats and areas of high habitat heterogeneity and complexity during all phases of the project including any area where large boulders (>/= 0.5 m in diameter) or medium to high multibeam backscatter returns occur.		

Mitigation Number	Proposed Project Phase	Mitigation or Monitoring Measure	Description of Mitigation and Monitoring Measures Resulting from Consultations	Resource Area Mitigated	BOEM's Identification of the Anticipated Enforcing Agency*
			a. If anchoring is necessary in complex habitats and areas of high habitat heterogeneity, extend the anchor lines to the extent practicable to minimize the number of times the anchors must be raised and lowered to reduce the amount of habitat disturbance. b. Jack-up barge locations should avoid complex habitats for WTG construction and maintenance. Where full avoidance is not feasible, the proposed locations for the jack-up barge should be selected to avoid, and in order of priority: i. Complex habitats with high density large boulders; ii. Complex habitats with medium density large boulders; iii. Complex habitats with low density large boulders; iv. Complex habitats with scattered large boulders; v. Complex habitats with no large boulders. c. For any area where large boulders or medium to high multibeam backscatter returns occur and vessels must remain stationary, dynamic positioning systems (DPS) or mid-line buoys on anchor chains should be required. d. An anchoring plan should be developed to demonstrate how anchoring will be avoided and minimized in these habitats during all phases of the project and in both state and federal waters. At a minimum, the anchoring plan to be developed should include: 1) depictions of the lease and export cable areas that clearly identify areas, using GPS location coordinates, where large boulders and/or medium to high backscatter returns occur, and either: a) DPS, or b) mid-lines buoys are required for anchoring; 2) information describing the operations and number of vessels that will be necessary to maintain vessel position using DPS or mid-line buoys within complex areas (i.e., large boulder and medium to high multibeam backscatter areas); and 3) for any complex habitat area that is identified for it to be infeasible to be fully avoid anchoring within or using midline buoys, detailed information supporting the feasibility issues encountered, calculated impact areas of large boulders and/or medium to high multibeam backscatter area, and impact minimization measures to be used should be provided. i. A copy of the anchoring plan, with complex habitat coordinates, should be provided to all vessel operators. ii. The final anchoring plan should be submitted to NMFS HESD prior to commencement of any in-water work. A copy of a redline-version of the draft plan that addresses any comments or questions submitted by BOEM (or other commenters) should also be provided to NMFS along with the final plan. iii. Data should be provided to NMFS in an online viewer with preconstruction and post-construction survey data. As-built post-construction information should also be provided, including information on how, if at all, the final anchoring differed from the anchoring plan and why such changes were necessary. 10. To minimize permanent adverse impacts to existing habitats from scour protection: a. Avoid and minimize the use of scour protection by micrositing cables (inter-array cables, RWEC-OCS and RWEC-RI) to allow for full penetration/burial, regardless of habitat type (this can be done by siting cables in appropriate substrates) i. Additional bottom surveys (e.g. sub-bottom cores) should be conducted, as necessary, to inform the micrositing of the cable and reduce the extent of soft bottom habitat conversion via placement of scour protection. ii. Should scour protection be necessary, the minimum amount of scour protection should be used to accomplish the purpose/intent of the scour protection. b. Use natural, rounded stone of consistent grain size in the entirety of any areas with complex habitat to match existing conditions. c. Avoid the use/placement of engineered stone (e.g., riprap; cut, crushed, or graded stone; etc.) or concrete mattresses within complex habitats (i.e., areas with boulders >/= 0.5m, and/or medium to high multibeam backscatter returns).		

Mitigation Number	Proposed Project Phase	Mitigation or Monitoring Measure	Description of Mitigation and Monitoring Measures Resulting from Consultations	Resource Area Mitigated	BOEM's Identification of the Anticipated Enforcing Agency*
			i. As determined through the technical feasibility analysis, if the use of engineered stone or concrete mattresses cannot be avoided in these areas, the impact should be mitigated through the addition of a natural, rounded stone veneer. At a minimum, any exposed surface layer should be designed and selected to provide three-dimensional structural complexity that creates a diversity of crevice sizes (e.g., mixed stone sizes, natural rounded stone veneer) and rounded edges (e.g., tumbled stone, or natural round stone veneer), and be sloped such that outer edges match the natural grade of the seafloor. d. Avoid the use of plastics/recycled polyesters/net material (i.e. rock-filled mesh bags, fronded mattresses) e. Develop a scour and cable protection plan for all habitat areas. At a minimum, the plan should include: 1) a clear depiction of the location and extent of proposed scour or cable protection within complex habitat (i.e., figures displaying existing areas with large boulders and/or medium to high multibeam backscatter returns and the extent of scour or cable protection proposed within each area); 2) all available habitat information for each identified area (e.g., plan view imagery, video transects); and 3) detailed information on the proposed scour or cable protection materials for each area and habitat type; f. The final scour and cable protection plan should be submitted to NMDS HESD prior commencement of any in-water work. A copy of a redline-version of the draft plan that addresses any comments or questions submitted by BOEM (or other commenters) should also be provided to NMFS HESD along with the final plan.		
11	Construction and installation	Recommendations to minimize acoustic impacts from pile driving	11. Require the use of noise mitigating measures during pile driving construction, including the use of soft start procedures and the deployment of noise dampening equipment such as bubble curtains. a. A plan outlining the noise mitigation procedures for both offshore and inshore activities should be filed with BOEM and the USACE for approval before construction commences. BOEM should provide NMFS HESD with a copy of the final plan before in-water work begins. A copy of a redline-version of the draft plan that addresses any comments or questions submitted by BOEM (or other commenters) should also be provided to NMFS HESD along with the final plan. b. The noise mitigation plan should include a process for notifying NMFS HESD within 24 hours if any evidence of a fish kill during construction activity is observed, and contingency plans to resolve issues. c. The noise mitigation plan should include passive acoustic sound verification monitoring during pile driving activities. Additional noise dampening technology should be applied should real-time monitoring indicate noise levels exceed the modeled 10 decibel attenuation levels. d. Acoustic monitoring reports that include any/all noise-related monitoring should be provided to NMFS HESD.	Finfish, Invertebrates	BOEM, BSEE, NMFS and USACE
12-18	Construction and installation	Recommendations to minimize impacts to Narragansett Bay	12. Use a land based cable corridor for routing the RWEC-RI to shore to avoid impacts to Narragansett Bay. a. Should the cable be routed through Narragansett Bay, the cable should be routed along the western side of the proposed cable corridor to minimize impacts to juvenile cod HAPC and complex bottom located along the eastern edge of the proposed cable corridor and consistent with EFH CR #6. b. Habitat maps depicting the bottom type, including complex rocky habitats (boulder density), adjacent sandy areas, and SAV should be provided to vessels/captains to ensure HAPCs are avoided. Do not use the delineations of juvenile cod HAPC provided in the EFH assessment, as they are inconsistent with the HAPC definition and do not represent all HAPC in Narragansett Bay. 13. To minimize impacts to SAV in Narragansett Bay the following should be required: a. Avoid cable installation, dredging, or other construction activities in SAV. b. Barges should not be moored in SAV or SAV habitat. c. Avoid unconfined dredging and maintain a minimum 100 ft. buffer between the edge of any SAV beds and any equipment staging or anchoring activities. d. Maps derived from updated surveys should be provided to us as well as vessels/captains to ensure SAV is avoided.	Finfish, EFH, Benthic Habitat, Invertebrates	BOEM, BSEE, NMFS and USACE

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			e. Pre- and post-construction monitoring of the SAV bed in the project area should be conducted. Updated pre-construction surveys should be conducted to ensure the SAV bed is accurately delineated prior to construction. Post construction surveys should be conducted to determine if any unanticipated impacts occurred as the result of project construction. f. Should the project unintentionally impact SAV through frac-out, mooring in the SAV bed, or other direct or indirect effects from construction of the project, compensatory mitigation should be provided for all areas of SAV impacted by construction activities including cable installation and dredging at a minimum ratio of 3:1. i. A compensatory mitigation plan that satisfies each element of a complete compensatory mitigation plan as identified in the published regulations 33 CFR Parts 325 and 332 "Compensatory Mitigation for Losses of Aquatic Resources," (Mitigation Rule) and NOAA's Mitigation Policy for Trust Resources should be required for any impacts to SAV. This plan should be included as a special condition of the permit. 14. Avoid in-water work including cable installation, seabed preparation, pile driving, HDD pit excavation, or other extractive or turbidity/sediment-generating activities from February 1 to June 30 of any given year in the nearshore waters to depths of 5 meters (m) to avoid impacts to winter flounder early life stages (eggs, larvae). 15. To minimize impacts to estuarine habitats associated with excavation of the HDD exit pits for the sea-to-shore transition, the following should be required: a. Unconfined dredging should not be permitted b. Dredged materials from HDD exit pits should be stored on a barge and used to backfill the excavated areas once construction and installation is complete. c. Detailed frac-out plans should be developed for all areas where HDD is proposed to be used. A copy of the final plan should be provided to NMFS HESD prior to construction. 16. To minimize impacts from vessel operation in Narragansett Bay: a. All vessels should float at all stages of the tide. b. All vessels should be required to follow EFH CR 9 and CR 13 to avoid anchoring in rocky and vegetated habitats. 17. To minimize impacts to shellfish from construction activities in Narragansett Bay: a. Avoid seafloor disturbance activities including cable installation, dredging, or other construction activities from May 1 to October 14 of any given year. b. A shellfish survey should be conducted prior to the commencement of dredging at the HDD exit pits to identify high densities of shellfish. i. Shellfish beds that are identified should be relocated in coordination with RI DEM prior to commencement of in-water work. c. The cable should be microsited around areas of high density shellfish beds. 18. Avoid in-water work from February 15 to June 30 of any given year to avoid impacts to anadromous fish during the upstream in-migration to their spawning grounds.		
19-21	O&M	Recommendations to address uncertainties and minimize impacts from project operation	19. Revise the Benthic Habitat Monitoring Plan to address agency concerns related to the adequacy of the proposed methods to detect changes in the existing benthic community structure of Cox Ledge, the offshore, and inshore project areas. The plan should be required to address potential changes to macrobenthic communities across and within each habitat type in the project area, including the artificial substrates to be constructed. a. The plan should include pre-construction/baseline monitoring data, which should be collected for a minimum of three years for each survey conducted. b. The plan should include post-construction monitoring of the existing, natural soft and hard bottom benthic community structure within the lease area and export cable corridor, post-construction benthic community	Finfish, EFH, Benthic Habitat, Invertebrates	BOEM, BSEE, and NMFS

Mitigation Number	Proposed Project Phase	Mitigation or Monitoring Measure	Description of Mitigation and Monitoring Measures Resulting from Consultations	Resource Area Mitigated	BOEM's Identification of the Anticipated Enforcing Agency*
			development, and invasive species (e.g., *Didemnum vexillum*) growth on: 1) constructed habitats, 2) natural habitats within the expected area of project impacts, and 3) within adjacent areas outside the area of impact. c. Post-construction multibeam backscatter and side scan survey results should be conducted and included as a component of the benthic monitoring plan. d. The monitoring plan should also include measures to evaluate: 1) physical changes to the benthic habitat from construction and boulder relocation, including changes in depth, rugosity, and slope through the collection of acoustic data (multibeam bathymetry and backscatter and side scan sonar), 2) biological changes to benthic community structure with distance from the area of impact, including areas impacted by boulder removal, cables, scour protection, and WTGs and 3) invasive species distribution and abundance with associated plans for removing/managing invasives. i. The applicant should consult with the resource agencies in the revision and refinement of this plan and give the resource agencies a minimum of 90 days to review and comment on the plan. The applicant should submit a final plan to BOEM that addresses, and includes, all resource agency comments, as well as the applicant's response to those comments. A copy of the final monitoring plan should be provided to NMFS HESD prior commencement of any in-water work. e. All data and metadata should be made available to NMFS HESD. 20. Require the development of an in situ project specific monitoring program to address uncertainties related to impacts of the operation of the Revolution Wind project on EFH and federally managed species. This monitoring recommendation is consistent with principles outlined in NOAA's Mitigation Policy for Trust Resources which highlights the use of the best available scientific information, such as results of surveys and other data collection efforts when existing information is not sufficient for the evaluation of proposed actions and mitigation, or when additional information would facilitate more effective or efficient mitigation recommendations. The project specific monitoring program should measure in situ the stressors created by project operation on the ecosystem from operational noise, electromagnetic fields (EMF), wind wake effects, and the presence of structures. Studies should also evaluate the biological effects of those stressors on commercially important species in the project area such as Atlantic cod, monkfish and ocean quahog. Monitoring plans should include the collection of baseline data and be provided to NMFS GARFO and NEFSC for review and comment within 90 days of ROD issuance. A response to NMFS comments should be provided. These monitoring studies should be developed in partnership with NMFS and other scientific institutions to aid in addressing the following questions: a. How far do effects on sound pressure, particle motion, and substrate vibration extend from the individual WTGs and the Revolution Wind Farm collectively? i. What effect do these operational noise effects have on the distribution of larvae for species with designated EFH in the project area and prey for these species (i.e. sand lance)? b. What is the spatial distribution of the EMF emissions around inter-array, OSSlink and export cables (RWEC-OCS and RWEC-RI)? i. What is the behavioral response to the altered EMF of fisheries resource species/life stages with known EMF-sensitivity? c. How far does the marine and atmospheric wind wake extend from the Revolution Wind Farm during operation? i. What are the effects on physical water column properties, primary and secondary production, and larval dispersal for species with designated EFH in the project area? d. What is the distribution, abundance, survival, growth rate, and recruitment rate of cod larvae along a distance gradient from offshore wind structures? 21. Require the implementation of preventive measures to reduce the risk of contaminant emissions or accidental release of chemicals. Such measures may include backup systems, secondary containments, closed loop systems, and/or recovery tanks.		

Mitigation Number	Proposed Project Phase	Mitigation or Monitoring Measure	Description of Mitigation and Monitoring Measures Resulting from Consultations	Resource Area Mitigated	BOEM's Identification of the Anticipated Enforcing Agency*
			a. To reduce the contaminants in the water column Al anodes should be used for the turbine rather than Zn anodes.		
22	Decommissioning	Project Decommissioning	22. The EFH consultation should be reinitiated prior to decommissioning turbines to ensure that the impact to EFH as a result of the decommissioning activities have been fully evaluated and minimized to the extent practicable. Pre-consultation coordination related to decommissioning should occur at least five years prior to proposed decommissioning.	EFH	BOEM, BSEE, NMFS and USACE
Fish and Wildlife Coordination Act Recommendations – USACE jurisdiction					
1	Construction and installation, O&M, decommissioning	In-water work	No in-water work should occur between April 1 to June 30 of any calendar year to avoid and minimize potential impacts to horseshoe crabs spawning along the beaches of the Western Passage of Narragansett Bay.	Invertebrates	NMFS and USACE
2	Construction and installation	Reduction of WTG and IAC	To minimize impacts to American lobster and Jonah crab populations, the number of turbine locations and associated inter array cables should be reduced to the greatest extent possible, consistent with EFH CRs 2-3 and 5. Data and survey results from the proposed ventless trap surveys should be provided to NMFS HESD.	Invertebrates	NMFS and USACE
3	Construction and installation, O&M, decommissioning	NOAA Fisheries scientific surveys	The project should be required to mitigate the major impacts to NOAA Fisheries scientific surveys consistent with NMFS-BOEM Federal Survey Mitigation Strategy - Northeast U.S. Region. Revolution Wind's plans to mitigate these impacts at the project and regional levels should be provided to NMFS for review and approval prior to BOEM's decision on its acceptance. Mitigation is necessary to ensure that NOAA Fisheries can continue to accurately, precisely, and timely execute our responsibilities to monitor the status and health of trust resources.	Other uses	NMFS and USACE
4	Construction and installation, O&M	Locations of boulders, berms, and protection measures	Locations of relocated boulders, created berms, and scour protection, including cable protection measures (i.e., concrete mattresses) should be provided to NMFS and the public as soon as possible to help inform marine users, including, but not limited to the fishing industry and entities conducting scientific surveys of potential gear obstructions.	Commercial Fisheries, Other uses	NMFS and USACE
BOEM-proposed Mitigation and Monitoring Measures in the NMFS EFH Assessment†					
1	Construction and installation	Bottom-disturbing restrictions	BOEM would restrict bottom-disturbing activities from January through April, with the addition of December with contingencies as described in the MMPA final rule. Revolution Wind would be required to develop an adaptive acoustic monitoring plan for spawning Atlantic cod from November through March, including restrictions on Project activities if Atlantic cod aggregations indicative of spawning are detected.	EFH, finfish	BOEM, BSEE
2	Construction and installation	Micrositing	All WTG and OSS foundations would be positioned within micrositing windows to avoid impacts to large-grained complex and complex habitats to the extent practicable.	EFH , finfish, benthic habitat, invertebrates	BOEM, BSEE, NMFS
3	Construction and installation, O&M, and decommissioning	Anchoring Plan	BOEM would require Revolution Wind to develop an anchoring plan to avoid minimize adverse impacts on benthic habitat during Project construction *and* from O&M activities throughout the life of the Project. The anchoring plan would delineate sensitive large-grained complex and complex habitats, including eelgrass and kelp beds, and identify areas where anchoring activities are restricted.	EFH , finfish, benthic habitat, invertebrates	BOEM, BSEE, NMFS
4	Construction, installation, and O&M	Live and hard bottom impact monitoring	The Lessee would develop and implement a monitoring plan for live and hard-bottom features that may be impacted by proposed activities. The monitoring plan would also include assessing the recovery time for these sensitive habitats. BOEM recommends that all monitoring reports classify substrate conditions following Coastal and Marine Ecological Classification Standard (CMECS) standards, including live bottoms (e.g., submerged aquatic	EFH, benthic habitat, and invertebrates	BOEM, BSEE, NMFS

Mitigation Number	Proposed Project Phase	Mitigation or Monitoring Measure	Description of Mitigation and Monitoring Measures Resulting from Consultations	Resource Area Mitigated	BOEM's Identification of the Anticipated Enforcing Agency*
			vegetation and corals and topographic features). The plan would also include a means of recording observations of any increased coverage of invasive species in the impacted hard-bottom areas.		
5	Construction and installation, O&M, and decommissioning	Live and hard bottom habitat mapping and avoidance	Vessel operators would be provided with maps of sensitive hard-bottom habitat in OSW project areas, as well as a proposed anchoring plan that would avoid or minimize impacts on the hard-bottom habitat to the greatest extent practicable. These plans would be provided for all anchoring activity, including construction, maintenance, and decommissioning.	EFH, benthic habitat, and invertebrates	BOEM, BSEE, NMFS
6	Construction, installation, and O&M	Scour and cable protection	To the extent technically and economically feasible, the Lessee must ensure that all materials used for scour and cable protection consist of natural or engineered stone that does not inhibit epibenthic growth. The materials selected for protective purposes should mirror the natural environment and provide similar habitat functions.	EFH , finfish, benthic habitat, invertebrates	BOEM, BSEE, NMFS
7	O&M	Post-installation cable monitoring	Revolution Wind would be required to inspect all cables after construction is completed to document exact location, burial depth, and post-installation benthic habitat conditions. Inspections must be completed within 6 months of Project commissioning, annually for the first 3 years following construction, and as needed following major storm events. Monitoring reports would be submitted to BOEM within 45 days of survey completion.	EFH , finfish, benthic habitat, invertebrates	BOEM, BSEE, NMFS
8	Construction and installation	Atlantic cod spawning monitoring plan	At least 90 days prior to inter-array cable installation (e.g., boulder relocation, pre-cut trenching, cable crossing installation, cable lay and burial) and foundation site preparation (e.g., scour protection installation), BOEM would require the Lessee to provide DOI with a plan to monitor for Atlantic cod aggregations that are indicative of spawning behavior during the above-listed activities between November 1 and March 30 of each year (Plan). The objective of the Plan is to detect Atlantic cod aggregations and avoid or minimize the above-listed activities in any area with aggregations of Atlantic cod indicative of spawning behavior, as technically and economically feasible. The Lessee must include in the Plan details on detection thresholds (e.g., density and location) of spawning Atlantic cod aggregations that would trigger the adaptive management of activities described in this paragraph, including any restrictions on activities in any area with aggregations of Atlantic cod indicative of spawning behavior, and analysis of technical and/or economic infeasibility.	Finfish and EFH	BOEM, BSEE, NMFS
BOEM-proposed Measures from the Data Collection and Site Survey Activities for Renewable Energy on the Atlantic OCS BA					
1	Construction and installation, O&M, and decommissioning	Data collection BA BMPs	BOEM and BSEE would ensure that all Project design criteria and BMPs incorporated in the Atlantic data collection consultation for offshore wind activities (Baker and Howson 2021) shall be applied to activities associated with the construction, maintenance and operations of the Project as applicable.	Finfish, marine mammals, sea turtles	BOEM and BSEE
NMFS-proposed Measures to Minimize Impacts on Benthic Habitat					
1	Construction and installation	Scour and cable protection	Revolution Wind would be required to use natural rounded stone for cable and scour protection within large-grained complex and complex habitats and avoid use of concrete mattresses where practicable. The selected materials should be designed and placed to provide three-dimensional structural complexity. To the extent technically and economically feasible, the Lessee must ensure that all materials used for these measures consist of natural or engineered stone that does not inhibit epibenthic growth and provides three-dimensional complexity in height and in interstitial spaces.	Benthic habitat	BOEM and BSEE

Mitigation Number	Proposed Project Phase	Mitigation or Monitoring Measure	Description of Mitigation and Monitoring Measures Resulting from Consultations	Resource Area Mitigated	BOEM's Identification of the Anticipated Enforcing Agency*
Other BOEM-proposed Mitigation Measures					
1	Construction, O&M	Vessel speed restriction	BOEM will require Revolution Wind to comply with NMFS's vessel strike avoidance and reporting measures included in the final MMPA ITR and ESA biological opinion.	Marine mammals, Sea turtles	BOEM and BSEE
2	Construction and installation, O&M, conceptual decommissioning	Anchoring plan	BOEM requires the applicant to develop an anchoring plan to ensure anchoring is avoided and minimized in complex habitats, near identified marine cultural resources, and identified unexploded ordnance during construction and maintenance of the Project. The anchoring plan is required to be provided for review and comment prior to BOEM approval.	Benthic habitat, EFH, invertebrates, finfish, and cultural resources	BOEM and BSEE

* At the time of preparation of this document, BOEM and BSEE are in the process of transferring enforcement authorities from BOEM to BSEE.

Table F-3. Additional Mitigation and Monitoring Measures Under Consideration

Mitigation Number	Proposed Project Phase	Mitigation or Monitoring Measure	Description of Additional Mitigation and Monitoring Measures Under Consideration	Resource Area Affected	BOEM's Identification of the Anticipated Enforcing Agency*
Additional BOEM-proposed Mitigation Measures					
1	Construction, O&M	Environmental data sharing with federally recognized tribes	No later than 90 days after COP approval, Revolution Wind must, at a minimum, contact the federally recognized tribes currently consulting on the Project in order to solicit their interest in receiving the following: reports generated as a result of the fisheries and benthic monitoring plan; reporting of all NARW sightings; injured or dead protected species reporting (turtles and NARW); NARW PAM monitoring; PSO reports (e.g., weekly pile driving reports); and pile-driving schedule and changes thereto. At a minimum, Revolution Wind should offer access to the following federally recognized tribes: Delaware Nation, Delaware Tribe of Indians, Mashantucket (Western) Pequot Tribal Nation, Mashpee Wampanoag Tribe, Mohegan Tribe of Connecticut, Narragansett Indian Tribe, Shinnecock Indian Nation, Wampanoag Tribe of Gay Head (Aquinnah). Revolution Wind must provide access to non-proprietary/non-confidential business information to the federally recognized tribes no later than 30 days after the information becomes available.	Environmental Justice	BOEM
2	Construction, installation, and decommissioning	Environmental justice outreach planning	In areas where environmental justice communities experience direct impacts from onshore construction activities relating to onshore cable emplacement and installation of onshore substation and interconnection facility infrastructure, Revolution Wind shall outreach with local communities to provide opportunities for community residents and local authorities to engage with Revolution Wind on Project activities. This engagement may be partially fulfilled through Revolution Wind's planned coordination with local authorities during construction of onshore facilities to minimize local traffic impacts (see EPM EJ-3 in Table F-1). As applicable, this engagement may also be partially fulfilled by enhanced stakeholder outreach conducted to meet requirements identified in Rhode Island Department of Environmental Management's regulations and policies regarding environmental justice focus areas related to investigation and remediation of contaminated soil and groundwater (see EPM EJ-4 in Table F-1). Additional engagement opportunities,	Environmental justice	EPA and/or RIDEM

Mitigation Number	Proposed Project Phase	Mitigation or Monitoring Measure	Description of Additional Mitigation and Monitoring Measures Under Consideration	Resource Area Affected	BOEM's Identification of the Anticipated Enforcing Agency*
			informed by coordination with applicable local and state authorities, shall be offered in a timely and locally appropriate manner, including language considerations.		
3	Construction, Installation and O&M	Visual impacts monitoring plan	Monitoring visual effects during construction and operations (daytime and nighttime).	Visual resources	BOEM and BSEE
4	Construction	Boulder relocation plan	To minimize the number of potential seafloor obstructions that may interact with bottom trawl fisheries, the Lessee must submit to BOEM a boulder relocation plan that will include the following: 1) Identification of areas of active (within last 5 years) bottom trawl fishing, areas where boulders > 2 m in diameter are anticipated to occur, and areas where boulders are expected to be relocated for Project purposes 2) Methods to minimize the quantity of seafloor obstructions from relocated boulders in areas of active bottom trawl fishing, as identified in #1 The plan must be submitted to BOEM at least 90 days prior to inter-array cable corridor preparation and cable installation (e.g., boulder relocation, pre-cut trenching, cable crossing installation, cable lay and burial) and foundation site preparation (e.g., scour protection installation).	Commercial and recreational fishing, EFH	BOEM and BSEE
5	Construction	Mobile gear–friendly cable protection measures	Cable protection measures should reflect the pre-existing conditions at the site. This mitigation measure chiefly ensures that seafloor cable protection does not introduce new hangs for mobile fishing gear. Thus, the cable protection measures should be trawl-friendly with tapered/sloped edges. If cable protection is necessary in "non-trawlable" habitat, such as rocky habitat, then the lessee should consider using materials that mirror the benthic environment.	Commercial fisheries	BOEM and BSEE
6		Shoreside seafood business analysis	In addition to the Direct Compensation Fund proposed by the Lessee, BOEM would require the Lessee to ensure that the Direct Compensation Fund includes losses to shoreside seafood support services. The Lessee shall analyze the impacts to shoreside seafood support services within the communities nearby ports listed in Table 3.9-12. The shoreside seafood business analysis would be used to further supplement funds available for settling claims of lost (unrecovered) economic activity as a result of the Revolution Wind Farm and Export Cable project. The Lessee must submit to BOEM a report that includes (1) a description of the structure of the Fund and its consistency with BOEM's draft Guidance and (2) an analysis of the impacts of the Project on shoreside businesses for review and comment. The Lessee must then submit to BOEM evidence of the implementation of the Fund, including: • A description of any implementation details not covered in the report to BOEM regarding the mechanism established to compensate for losses to commercial and for-hire recreational fishermen and related shoreside businesses resulting from all phases of the project development on the Lease Area (pre-construction, construction, operation, and decommissioning); • The Fund charter, including the governance structure, audit and public reporting procedures, and standards for paying compensatory mitigation for impacts to fishers and related shoreside businesses from lease area development; and • Documentation regarding the funding account, including the dollar amount, establishment date, financial institution, and owner of the account.	Commercial fisheries	BOEM and BSEE
7	Construction, O&M	Post-installation cable monitoring	Revolution Wind must provide BOEM with a cable monitoring report following each inter-array and export cable inspection to determine cable location, burial depths, state of the cable, and site conditions. An inspection of the inter-array cable and export cable is expected to include high-resolution geophysical (HRG) methods, such as a multi-beam bathymetric survey equipment, and is expected to identify seabed features, natural and human-made hazards, and site conditions along federal sections of the cable routing.	Benthic habitat, EFH, invertebrates, finfish, and commercial fisheries and for-hire recreational fishing	BOEM and BSEE

Mitigation Number	Proposed Project Phase	Mitigation or Monitoring Measure	Description of Additional Mitigation and Monitoring Measures Under Consideration	Resource Area Affected	BOEM's Identification of the Anticipated Enforcing Agency*
			In federal waters, the initial inter-array and export cable inspection would be carried out within 6 months of commissioning, and subsequent inspections would be carried out at years 1, 2, and every 3 thereafter and after a major storm event. Major storm events are defined as when metocean conditions at the facility meet or exceed the 1 in 50-year return period calculated in the metocean design basis, to be submitted to BOEM with the facility design report (FDR). If conditions warrant adjustment to the frequency of inspections following the Year 2 survey, a revised monitoring plan may be provided to BOEM for review. In addition to inspection, the export cable would be monitored continuously with the as-built Distributed Temperature Sensing System. If distributed temperature sensing data indicate that burial conditions have deteriorated or changed significantly and remedial actions are warranted, the distributed temperature sensing data, a seabed stability analysis, and report of remedial actions taken or scheduled must be provided to BOEM within 45 calendar days of the observations. The Distributed Temperature Sensing data, cable monitoring survey data, and cable conditions analysis for each year must be provided to BOEM as part of the annual compliance reports, required by 30 CFR 285.633(b).		
8	Construction and installation, O&M, conceptual decommissioning	Anchoring plan	BOEM requires the applicant to develop an anchoring plan to ensure anchoring is avoided and minimized in complex habitats, archaeological resources, and unexploded ordnances during construction and maintenance of the Project. The anchoring plan is required to be provided for review and comment prior to BOEM approval.	Benthic habitat, EFH, finfish, invertebrates, and cultural resources	BOEM and BSEE
9	Planning, construction and installation, O&M, decommissioning	Federal survey mitigation	There are 14 NMFS scientific surveys that overlap with wind energy development in the northeast region, and nine of these surveys overlap with the Project. As per NMFS and BOEM Survey Mitigation strategy actions 1.3.1, 1.3.2, 2.1.1, and 2.1.2 (Hare et al. 2022), within 120 calendar days of COP Approval, the Lessee must submit to BOEM a draft survey mitigation agreement between NMFS and the Lessee. The survey mitigation agreement will describe how the Lessee will mitigate the Project impacts on the nine NMFS surveys. If after consultation with NMFS NEFSC, BOEM deems the survey mitigation agreement acceptable, the mitigation will be considered required as a term and condition of the Project's COP approval. As soon as reasonably practicable, but no later than 30 days after the issuance of the Project's COP Approval, the Lessee will initiate coordination with NMFS NEFSC to develop the survey mitigation agreement described above. Mitigation activities specified under the agreement will be designed to mitigate the Project impacts on the following NMFS NEFSC surveys: (a) Spring Bottom Trawl survey; (b) Autumn Multi-species Bottom Trawl survey; (c) Ecosystem Monitoring survey; (d) NARW aerial survey; (e) Aerial marine mammal and sea turtle survey; (f) Shipboard marine mammal and sea turtle survey; (g) Atlantic surfclam and ocean quahog survey; (h) Atlantic sea scallop survey; and (i) seal survey. At a minimum, the survey mitigation agreement will describe actions needed and the means to address impacts on the affected surveys due to the preclusion of sampling platforms and impacts on statistical designs. In terms of statistical design, the project will be viewed as a discrete stratum in surveys that use a random stratified design. Other anticipated Project impacts on NMFS surveys such as changes in habitat and increased operational costs due to loss of sampling efficiencies may also be addressed in the agreement. The survey mitigation agreement will identify activities that will result in the generation of data equivalent to data generated by NMFS's affected surveys for the duration of the Project. The survey mitigation agreement will describe the implementation procedures by which the Lessee will work with NEFSC to generate, share, and manage the data required by NEFSC for each of the surveys impacted by the Project, as mutually agreed upon between the Lessee and NMFS/NEFSC. The survey mitigation agreement must also describe the Lessee's participation in the NMFS NEFSC Northeast Survey Mitigation Program to support activities that address regional-level impacts for the surveys listed above.	Commercial and recreational fishing, marine mammals, other marine uses, sea turtles	BOEM and BSEE

Mitigation Number	Proposed Project Phase	Mitigation or Monitoring Measure	Description of Additional Mitigation and Monitoring Measures Under Consideration	Resource Area Affected	BOEM's Identification of the Anticipated Enforcing Agency*
USFWS Biological Opinion Proposed Conservation Recommendations issued May 30, 2023[4]†					
1	Construction and O&M	Adopt compensatory mitigation ratios greater than 1:1	Estimated levels of collision mortality are associated with high uncertainty. Future advancements in SCRAM are expected to substantially reduce, but not eliminate, uncertainty. In addition, compensatory mitigation actions will likely be associated with their own levels of uncertainty (*e.g.*, probability of success, actual number of bird mortalities offset), and may occur later in time that the project-induced mortality. Thus, the USFWS recommends a compensatory mitigation ratio greater than 1:1, particularly given the extent of full buildout of WTGs anticipated on the OCS.	Birds	USFWS
2	O&M	Establish an Offshore Wind Adaptive Monitoring and Impact Minimization Framework to guide and coordinate monitoring, research, and avian impacts assessment coastwide.	To address USFWS concerns related to potential effects of WTG operation on listed and other species of concern, at both the project and coastwide scales, the USFWS recommends that the BOEM develop and adopt an Offshore Wind Adaptive Monitoring and Impact Minimization Framework (Framework) for flying wildlife. Many details will need to be worked out, but here the USFWS provides some basic principles for establishment, adoption, and operation of the Framework. • Establish a Framework Principals Group to consist of representatives from the BOEM, the BSEE, the USFWS, State natural resource agencies responsible for management of birds, bats, and insect, and offshore wind energy developers/operators. • Develop and adopt a written Framework foundational document specifying: o the governance structure of the Principals Group; o the geographic coverage of the Framework; o the species covered by the Framework; and o the duration of the Framework. • Establish an annual operating budget for the Framework to be funded by offshore wind energy developers/operators. • Arrange for the Principals Group to meet at least annually, and for the Framework foundational document to be updated at least every 5 years. • Provide for experts (both internal and external to the Principals Group) to regularly assess new and improved technologies and methods for estimating collision risk of covered species and measuring or detecting collisions. Adopt and deploy such methods deemed most promising by the Principals Group. • Coordinate monitoring and research across wind energy projects. Share and pool data and research results coastwide. • Provide for experts (both internal and external to the Principals Group) to regularly assess new and improved technologies and methods for minimizing collision risk of covered species. Adopt and deploy such technologies/methods deemed most promising by the Principals Group. • Provide for experts (both internal and external to the Principals Group) to periodically assess new and improved technologies and methods for evaluating indirect effects to covered species from WTG avoidance behaviors (e.g., impacts to time and energy budgets). • Periodically assess the level and type of compensatory mitigation necessary to offset any unavoidable direct and indirect effects of WTG operation on covered species. Adopt and require the levels and types of mitigation deemed appropriate by the Principals Group.	Birds and bats	USFWS

[4] The USFWS acknowledges that the manner and extent to which these recommendations are implemented are at the discretion of BOEM/BSEE.

Mitigation Number	Proposed Project Phase	Mitigation or Monitoring Measure	Description of Additional Mitigation and Monitoring Measures Under Consideration	Resource Area Affected	BOEM's Identification of the Anticipated Enforcing Agency*
			• Consider partnering with other stakeholders or cross-sector organizations to provide administrative, institutional, and technical support to the Principals Group.		
3	Construction and installation, O&M, conceptual decommissioning	Conduct a coastwide buildout analysis that considers all existing, proposed, and future offshore wind energy development on the Atlantic OCS.	The definition of "cumulative effects" at 50 CFR 402.02 excludes future Federal actions because such actions will be subject to their own consultations under section 7 of the ESA. Further, the analysis of environmental baseline conditions for each subsequent consultation would be limited to the action area of that particular project. While we can use the Status of the Species section of a biological opinion to capture the anticipated effects of completed consultations, we cannot consider additive effects of concurrent, ongoing consultations. Even this creates a situation where the effects analysis for each individual offshore wind energy project cannot fully account for synergistic effects that may occur with nearby projects and especially not full build-out of offshore wind infrastructure along the coast. Besides the two existing offshore wind energy facilities (Block Island Wind offshore Rhode Island and Coastal Virginia Offshore Wind), we understand there are 26 additional projects in various stages of development offshore the U.S. coast from Maine to Virginia. As the Department of the Interior continues moving toward the national goal of deploying 30 gigawatts of offshore wind by 2030, we anticipate still more projects beyond those 26 (*e.g.*, within the New York Bight, Central Atlantic, and Gulf of Maine). While the Service will complete a thorough assessment of potential direct and indirect effects for each individual offshore wind project, a coastwide analysis may indicate or suggest additive and/or synergistic effects among projects. Therefore, the Service recommends that BOEM analyze potential aggregate effects from WTG operation at a coastwide scale. A coastwide analysis will work in concert with the Offshore Wind Adaptive Monitoring and Impact Minimization Framework to comprehensively assess, monitor, and manage avian impacts from wind energy development along the U.S. Atlantic coast. A Programmatic consultation for wind energy development in the New York Bight is already underway and could set the stage for a full coastwide analysis. Ultimately, a coastwide programmatic Opinion may emerge as the most effective and efficient mechanism for assessing, monitoring, minimizing, and offsetting effects to listed birds from WTG operation on the OCS.	Birds	USFWS

* At the time of preparation of this document, BOEM and BSEE are in the process of transferring enforcement authorities from BOEM to BSEE.

† Mitigation measures and description are taken directly from NMFS (2023), USFWS (2023) , BOEM (2023a, 2023b, 2023c, 2023d), and have not been edited.

Table F-4. Draft NMFS Proposed Incidental Take Regulations (ITR) Pursuant to the Marine Mammal Protection Act (MMPA) issued to BOEM for consideration on June 5, 2023

Measure Number	Description of Measures that may be Required by Other Authorizations and Permits Issued to the Lessee
Draft NMFS Proposed Incidental Take Regulations (ITR) Pursuant to the Marine Mammal Protection Act (MMPA) issued to BOEM for consideration on June 5, 2023†	
General Conditions	
1	A copy of any issued LOA must be in the possession of Revolution Wind and its designees, all vessel operators, visual protected species observers (PSOs), passive acoustic monitoring (PAM) operators, pile driver operators, and any other relevant designees operating under the authority of the issued LOA;
2	Revolution Wind must conduct briefings between construction supervisors, construction crews, and the PSO and PAM team prior to the start of all construction activities, and when new personnel join the work, in order to explain responsibilities, communication procedures, marine mammal monitoring and reporting protocols, and operational procedures. An informal guide must be included with the Marine Mammal Monitoring Plan to aid personnel in identifying species if they are observed in the vicinity of the project area;

Measure Number	Description of Measures that may be Required by Other Authorizations and Permits Issued to the Lessee
3	Revolution Wind must instruct all vessel personnel regarding the authority of the PSO(s). For example, the vessel operator(s) would be required to immediately comply with any call for a shutdown by the Lead PSO. Any disagreement between the Lead PSO and the vessel operator would only be discussed after shutdown has occurred;
4	Revolution Wind must ensure that any visual observations of an ESA-listed marine mammal are communicated to PSOs and vessel captains during the concurrent use of multiple project-associated vessels (of any size; e.g., construction surveys, crew/supply transfers, etc);
5	If an individual from a species for which authorization has not been granted, or a species for which authorization has been granted but the authorized take number has been met, is observed entering or within the relevant Level B harassment zone for each specified activity, pile driving and pneumatic hammering activities, and HRG acoustic sources must be shut down immediately, unless shutdown is not practicable, or be delayed if the activity has not commenced. Impact and vibratory pile driving, pneumatic hammering, UXO/MEC detonation, and initiation of HRG acoustic sources must not commence or resume until the animal(s) has been confirmed to have left the relevant clearance zone or the observation time has elapsed with no further sightings. UXO/MEC detonations may not occur until the animal(s) has been confirmed to have left the relevant clearance zone or the observation time has elapsed with no further sightings;
6	Prior to and when conducting any in-water construction activities and vessel operations, Revolution Wind personnel (e.g., vessel operators, PSOs) must use available sources of information on North Atlantic right whale presence in or near the project area including daily monitoring of the Right Whale Sightings Advisory System, and monitoring of Coast Guard VHF Channel 16 throughout the day to receive notification of any sightings and/or information associated with any Slow Zones (i.e., Dynamic Management Areas (DMAs) and/or acoustically-triggered slow zones) to provide situational awareness for both vessel operators and PSOs; and
7	Any marine mammals observed within a clearance or shutdown zone must be allowed to remain in the area (i.e., must leave of their own volition) prior to commencing impact and vibratory pile driving activities, pneumatic hammering, or HRG surveys.
8	Revolution Wind must treat any large whale sighted by a PSO or acoustically detected by a PAM operator as if it were a North Atlantic right whale, unless a PSO or a PAM operator confirms it is another type of whale.
Vessel Strike Avoidance Measures	
1	Prior to the start of construction activities, all vessel operators and crew must receive a protected species identification training that covers, at a minimum: i) Sightings of marine mammals and other protected species known to occur or which have the potential to occur in the Revolution Wind project area; ii) Training on making observations in both good weather conditions (i.e., clear visibility, low winds, low sea states) and bad weather conditions (i.e., fog, high winds, high sea states, with glare); iii) Training on information and resources available to the project personnel regarding the applicability of Federal laws and regulations for protected species; iv) Observer training related to these vessel strike avoidance measures must be conducted for all vessel operators and crew prior to the start of in-water construction activities; and v) Confirmation of marine mammal observer training (including an understanding of the LOA requirements) must be documented on a training course log sheet and reported to NMFS.
2	All vessels must abide by the following: i) All vessel operators and crews, regardless of their vessel's size, must maintain a vigilant watch for all marine mammals and slow down, stop their vessel, or alter course, as appropriate, to avoid striking any marine mammal; ii) All vessels must have a visual observer on board who is responsible for monitoring the vessel strike avoidance zone for marine mammals. Visual observers may be PSO or crew members, but crew members responsible for these duties must be provided sufficient training by Revolution Wind to distinguish marine mammals from other phenomena and must be able to identify a marine mammal as a North Atlantic right whale, other whale (defined in this context as sperm whales or baleen whales other than North Atlantic right whales), or other marine mammal. Crew members serving as visual observers must not have duties other than observing for marine mammals while the vessel is operating over 10 knots (kns); iii) Year-round and when a vessel is in transit, all vessel operators must continuously monitor US Coast Guard VHF Channel 16, over which North Atlantic right whale sightings are broadcasted. At the onset of transiting and at least once every four hours, vessel operators and/or trained crew members must monitor the project's Situational Awareness System, WhaleAlert, and the Right Whale Sighting Advisory System (RWSAS) for the presence of North Atlantic right whales Any observations of any large whale by any Revolution Wind staff or contractors, including vessel crew, must be communicated immediately to PSOs, PAM operator, and all vessel captains to increase situational awareness. Conversely, any large whale observation or detection via a sighting network (e.g., Mysticetus) by PSOs or PAM operators must be conveyed to vessel operators and crew; iv) Any observations of any large whale by any Revolution Wind staff or contractor, including vessel crew, must be communicated immediately to PSOs and all vessel captains to increase situational awareness; v) All vessels must comply with existing NMFS vessel speed regulations, as applicable, for North Atlantic right whales; vi) In the event that any Slow Zone (designated as a DMA) is established that overlaps with an area where a project-associated vessel would operate, that vessel, regardless of size, will transit that area at 10 kns or less; vii) Between November 1st and April 30th, all vessels, regardless of size, would operate port to port (specifically from ports in New York, Connecticut, Rhode Island, and Massachusetts) at 10 kns or less, except for vessels while transiting in Narragansett Bay or Long Island Sound which have not been demonstrated by best available science to provide consistent habitat for North Atlantic right whales; viii) All vessels, regardless of size, must immediately reduce speed to 10 kns or less when any large whale, mother/calf pairs, or large assemblages of non-delphinid cetaceans are observed (within 500 m) of an underway vessel; ix) All vessels, regardless of size, must immediately reduce speed to 10 kns or less when a North Atlantic right whale is sighted, at any distance, by anyone on the vessel; x) If a vessel is traveling at greater than 10 kns, in addition to the required dedicated visual observer, Revolution Wind must monitor the transit corridor in real-time with PAM prior to and during transits. If a North Atlantic right whale is detected via visual observation or PAM within or approaching the transit corridor, all crew transfer vessels must travel at 10 kns or less for 12 hours following the detection. Each subsequent

Measure Number	Description of Measures that may be Required by Other Authorizations and Permits Issued to the Lessee
	detection triggers an additional 12-hour period at 10 kns or less. A slowdown in the transit corridor expires when there has been no further visual or acoustic detection of North Atlantic right whales in the transit corridor for 12 hours; xi) All underway vessels (e.g., transiting, surveying) operating at any speed must have a dedicated visual observer on duty at all times to monitor for marine mammals within a 180° direction of the forward path of the vessel (90° port to 90° starboard) located at an appropriate vantage point for ensuring vessels are maintaining appropriate separation distances. Visual observers must be equipped with alternative monitoring technology for periods of low visibility (e.g., darkness, rain, fog, etc.). The dedicated visual observer must receive prior training on protected species detection and identification, vessel strike minimization procedures, how and when to communicate with the vessel captain, and reporting requirements in this proposed action. Visual observers may be third-party observers (i.e., NMFS-approved PSOs) or crew members. Observer training related to these vessel strike avoidance measures must be conducted for all vessel operators and crew prior to the start of in-water construction activities; xii) All vessels must maintain a minimum separation distance of 500 m from North Atlantic right whales. If underway, all vessels must steer a course away from any sighted North Atlantic right whale at 10 kns or less such that the 500-m minimum separation distance requirement is not violated. If a North Atlantic right whale is sighted within 500 m of an underway vessel, that vessel must shift the engine to neutral. Engines must not be engaged until the whale has moved outside of the vessel's path and beyond 500 m. If a whale is observed but cannot be confirmed as a species other than a North Atlantic right whale, the vessel operator must assume that it is a North Atlantic right whale and take the vessel strike avoidance measures described herein; xiii) All vessels must maintain a minimum separation distance of 100 m from sperm whales and baleen whales other than North Atlantic right whales. If one of these species is sighted within 100 m of an underway vessel, that vessel must shift the engine to neutral. Engines must not be engaged until the whale has moved outside of the vessel's path and beyond 100 m; xiv) All vessels must, to the maximum extent practicable, attempt to maintain a minimum separation distance of 50 m from all delphinoid cetaceans and pinnipeds, with an exception made for those that approach the vessel (e.g., bow-riding dolphins). If a delphinid cetacean or pinniped is sighted within 50 m of an underway vessel, that vessel must shift the engine to neutral, with an exception made for those that approach the vessel (e.g., bow-riding dolphins). Engines must not be engaged until the animal(s) has moved outside of the vessel's path and beyond 50 m; xv) When a marine mammal(s) is sighted while a vessel is underway, the vessel must take action as necessary to avoid violating the relevant separation distances (e.g., attempt to remain parallel to the animal's course, avoid excessive speed or abrupt changes in direction until the animal has left the area). If a marine mammal(s) is sighted within the relevant separation distance, the vessel must reduce speed and shift the engine to neutral, not engaging the engine(s) until the animal(s) is clear of the area. This does not apply to any vessel towing gear or any situation where respecting the relevant separation distance would be unsafe (i.e., any situation where the vessel is navigationally constrained); xvi) All vessels underway must not divert or alter course to approach any marine mammal. Any vessel underway must avoid speed over 10 kns or abrupt changes in course direction until the animal is out of an on a path away from the separation distances; xvii) For in-water construction heavy machinery activities other than impact or vibratory pile driving, if a marine mammal is on a path towards or comes within 10 m of equipment, Revolution Wind must cease operations until the marine mammal has moved more than 10 m on a path away from the activity to avoid direct interaction with equipment; and xviii) Revolution Wind must submit a vessel strike avoidance plan 90 days prior to commencement of vessel use. The plan will, at minimum, describe how PAM, in combination with visual observations, will be conducted to ensure the transit corridor is clear of right whales. The plan will also provide details on the vessel-based observer protocols on transiting vessels.
Fisheries Monitoring Surveys	
1	Training i) All crew undertaking the fishery survey activities must receive protected species identification training prior to activities occurring; ii) [Reserved].
2	During Vessel Use i) Marine mammal monitoring must occur prior to, during, and after haul-back, and gear must not be deployed if a marine mammal is observed in the area; ii) Trawl operations must only start after 15 minutes of no marine mammal sightings within 1 nautical mile (nmi) of the sampling station; and iii) During daytime sampling for the research trawl surveys, Revolution Wind must maintain visual monitoring efforts during the entire period of time that trawl gear is in the water from deployment to retrieval. If a marine mammal is sighted before the gear is removed from the water, the vessel must slow its speed and steer away from the observed animal(s).
3	Gear-specific Best Management Practices (BMPs) i) Research trawl bottom times must be limited to 20 minutes; ii) Ventless trap surveys must utilize sinking ground lines and all lines will have breaking strength of less than 1,700 pounds and sinking groundlines. Sampling gear must be hauled at least once every 30 days, and the gear must be removed from the water at the end of each sampling season; iii) The permit number must be written clearly on buoy and any lines that go missing must be reported to NOAA Fisheries' Greater Atlantic Regional Fisheries Office (GARFO) Protected Resources Division as soon as possible; iv) If marine mammals are sighted near the proposed sampling location, trawl or ventless trap gear must be delayed until the marine mammal(s) has left the area; v) If a marine mammal is determined to be at risk of interaction with the deployed gear, all gear must be immediately removed; vi) Marine mammal monitoring must occur during daylight hours and begin prior to the deployment of any gear (e.g., trawls) and continue until all gear has been retrieved; and vii) If marine mammals are sighted in the vicinity within 15 minutes prior to gear deployment and it is determined the risks of interaction are present regarding the research gear, the sampling station must either be moved to another location or activities must be suspended until there are no marine mammal sightings for 15 minutes within 1 nm.

Measure Number	Description of Measures that may be Required by Other Authorizations and Permits Issued to the Lessee
Wind Turbine Generator (WTG) and Offshore Substation (OSS) Foundation Installation	
1	Seasonal and Daily Restrictions: i) Foundation impact pile driving activities may not occur January 1 through April 30; ii) No more than three foundation monopiles may be installed per day; iii) Revolution Wind must not initiate pile driving earlier than 1 hour after civil sunrise or later than 1.5 hours prior to civil sunset, unless Revolution Wind submits and NMFS approves an Alternative Monitoring Plan as part of the Pile Driving and Marine Mammal Monitoring Plan that reliably demonstrates the efficacy of their night vision devices; and iv) Monopiles must be no larger than 15 m in diameter, representing the larger end of the tapered 7/15 m monopile design. The minimum amount of hammer energy necessary to effectively and safely install and maintain the integrity of the piles must be used. Maximum hammer energies must not exceed 4,000 kilojoules (kJ).
2	Noise Abatement Systems. i) Revolution Wind must deploy dual noise abatement systems that are capable of achieving, at a minimum, 10-dB of sound attenuation, during all impact pile driving of foundation piles; (A) A single big bubble curtain (BBC) must not be used unless paired with another noise attenuation device; (B) A double big bubble curtain (dBBC) may be used without being paired with another noise attenuation device; ii) The bubble curtain(s) must distribute air bubbles using an air flow rate of at least 0.5 m3/(min*m). The bubble curtain(s) must surround 100 percent of the piling perimeter throughout the full depth of the water column. In the unforeseen event of a single compressor malfunction, the offshore personnel operating the bubble curtain(s) must make appropriate adjustments to the air supply and operating pressure such that the maximum possible sound attenuation performance of the bubble curtain(s) is achieved; iii) The lowest bubble ring must be in contact with the seafloor for the full circumference of the ring, and the weights attached to the bottom ring must ensure 100-percent seafloor contact; iv) No parts of the ring or other objects may prevent full seafloor contact; and v) Construction contractors must train personnel in the proper balancing of airflow to the ring. Construction contractors must submit an inspection/performance report for approval by Revolution Wind within 72 hours following the performance test. Corrections to the bubble ring(s) to meet the performance standards must occur prior to impact pile driving of monopiles. If Revolution Wind uses a noise mitigation device in addition to the BBC, Revolution Wind must maintain similar quality control measures as described here.
3	Sound Field Verification. i) Revolution Wind must perform sound field verification (SFV) during all impact pile driving of the first three monopiles and must empirically determine source levels (peak and cumulative sound exposure level), the ranges to the isopleths corresponding to the Level A harassment (PTS) and Level B harassment thresholds, and estimated transmission loss coefficients; ii) If a subsequent monopile installation location is selected that was not represented by previous three locations (i.e., substrate composition, water depth), SFV must be conducted; iii) Revolution Wind may estimate ranges to the Level A harassment and Level B harassment isopleths by extrapolating from in situ measurements conducted at several distances from the monopiles, and must measure received levels at a standard distance of 750 m from the monopiles; iv) If SFV measurements on any of the first three piles indicate that the ranges to Level A harassment and Level B harassment isopleths are larger than those modeled, assuming 10-dB attenuation, Revolution Wind must modify and/or apply additional noise attenuation measures (e.g., improve efficiency of bubble curtain(s), modify the piling schedule to reduce the source sound, install an additional noise attenuation device) before the second pile is installed. Until SFV confirms the ranges to Level A harassment and Level B harassment isopleths are less than or equal to those modeled, assuming 10-dB attenuation, the shutdown and clearance zones must be expanded to match the ranges to the Level A harassment and Level B harassment isopleths based on the SFV measurements. If the application/use of additional noise attenuation measures still does not achieve ranges less than or equal to those modeled, assuming 10-dB attenuation, and no other actions can further reduce sound levels, Revolution Wind must expand the clearance and shutdown zones according to those identified through SFV, in consultation with NMFS; v) If harassment zones are expanded beyond an additional 1,500 m, additional PSOs must be deployed on additional platforms, with each observer responsible for maintaining watch in no more than 180° and of an area with a radius no greater than 1,500 m; vi) If acoustic measurements indicate that ranges to isopleths corresponding to the Level A harassment and Level B harassment thresholds are less than the ranges predicted by modeling (assuming 10-dB attenuation), Revolution Wind may request a modification of the clearance and shutdown zones for impact pile driving of monopiles and UXO/MEC detonations. For a modification request to be considered by NMFS, Revolution Wind must have conducted SFV on three or more monopiles and on all detonated UXOs/MECs thus far to verify that zone sizes are consistently smaller than predicted by modeling (assuming 10-dB attenuation). Regardless of SFV measurements, the clearance and shutdown zones for North Atlantic right whales must not be decreased; vii) If a subsequent monopile installation location is selected that was not represented by previous locations (i.e., substrate composition, water depth), SFV must be conducted. If a subsequent UXO/MEC charge weight is encountered and/or detonation location is selected that was not representative of the previous locations (i.e., substrate composition, water depth), SFV must be conducted; viii) Revolution Wind must submit a SFV Plan at least 180 days prior to the planned start of impact pile driving and any UXO/MEC detonation activities. The plan must describe how Revolution Wind would ensure that the first three monopile foundation installation sites selected and each UXO/MEC detonation scenario (i.e., charge weight, location) selected for SFV are representative of the rest of the monopile installation sites and UXO/MEC scenarios. In the case that these sites/scenarios are not determined to be representative of all other monopile installation sites and UXO/MEC detonations, Revolution Wind must include information on how additional sites/scenarios would be selected for SFV. The plan must also include methodology for collecting, analyzing, and preparing SFV data for submission to NMFS. The plan must describe how the effectiveness of the

Measure Number	Description of Measures that may be Required by Other Authorizations and Permits Issued to the Lessee
	sound attenuation methodology would be evaluated based on the results. Revolution Wind must also provide, as soon as they are available but no later than 48 hours after each installation, the initial results of the SFV measurements to NMFS in an interim report after each monopile for the first three piles and after each UXO/MEC detonation; and ix) The SFV plan must also include how operational noise would be monitored. Revolution Wind must estimate source levels (at 10 m from the operating foundation) based on received levels measured at 50 m, 100 m, and 250 m from the pile foundation. These data must be used to identify estimated transmission loss rates. Operational parameters (e.g., direct drive/gearbox information, turbine rotation rate) as well as sea state conditions and information on nearby anthropogenic activities (e.g., vessels transiting or operating in the area) must be reported.
4	Protected Species Observer and Passive Acoustic Monitoring Use. i) Revolution Wind must have a minimum of four PSOs actively observing marine mammals before, during, and after (specific times described below) the installation of monopiles. At least four PSOs must be actively observing for marine mammals. At least two PSOs must be actively observing on the pile driving vessel while at least two PSOs must be actively observing on a secondary, PSO-dedicated vessel. At least one active PSO on each platform must have a minimum of 90 days at-sea experience working in those roles in offshore environments with no more than eighteen months elapsed since the conclusion of the at-sea experience. Concurrently, at least one acoustic PSO (i.e., passive acoustic monitoring (PAM) operator) must be actively monitoring for marine mammals before, during and after impact pile driving with PAM; and ii) All visual PSOs and PAM operators used for the Revolution Wind project must meet the requirements and qualifications described in § 217.275 (a) and (b), and (c), respectively and as applicable to the specified activity.
5	Clearance and Shutdown Zones. i) Revolution Wind must establish and implement clearance and shutdown zones (all distances to the perimeter are the radii from the center of the pile being driven) as described in the LOA for all WTG and OSS foundation installation; ii) Revolution Wind must use visual PSOs and PAM operators to monitor the area around each foundation pile before, during and after pile driving. PSOs must visually monitor clearance zones for marine mammals for a minimum of 60 minutes prior to commencing pile driving. At least one PAM operator must review data from at least 24 hours prior to pile driving and actively monitor hydrophones for 60 minutes prior to pile driving. Prior to initiating soft-start procedures, all clearance zones must be visually confirmed to be free of marine mammals for 30 minutes immediately prior to starting a soft-start of pile driving; iii) PSOs must be able to visually clear (i.e., confirm no marine mammals are present) an area that extends around the pile being driven as described in the LOA. The entire minimum visibility zone must be visible (i.e., not obscured by dark, rain, fog, etc.) for a full 30 minutes immediately prior to commencing impact pile driving (minimum visibility zone size dependent on season); iv) If a marine mammal is observed entering or within the relevant clearance zone prior to the initiation of impact pile driving activities, pile driving must be delayed and must not begin until either the marine mammal(s) has voluntarily left the specific clearance zones and have been visually or acoustically confirmed beyond that clearance zone, or, when specific time periods have elapsed with no further sightings or acoustic detections. The specific time periods are 15 minutes for small odontocetes and 30 minutes for all other marine mammal species; v) The clearance zone may only be declared clear if no confirmed North Atlantic right whale acoustic detections (in addition to visual) have occurred within the PAM clearance zone during the 60-minute monitoring period. Any large whale sighting by a PSO or detected by a PAM operator that cannot be identified by species must be treated as if it were a North Atlantic right whale; vi) If a marine mammal is observed entering or within the respective shutdown zone, as defined in the LOA, after impact pile driving has begun, the PSO must call for a temporary shutdown of impact pile driving; vii) Revolution Wind must immediately cease pile driving if a PSO calls for shutdown, unless shutdown is not practicable due to imminent risk of injury or loss of life to an individual, pile refusal, or pile instability. In this situation, Revolution Wind must reduce hammer energy to the lowest level practicable; viii) Pile driving must not restart until either the marine mammal(s) has voluntarily left the specific clearance zones and has been visually or acoustically confirmed beyond that clearance zone, or, when specific time periods have elapsed with no further sightings or acoustic detections have occurred. The specific time periods are 15 minutes for small odontocetes and 30 minutes for all other marine mammal species. In cases where these criteria are not met, pile driving may restart only if necessary to maintain pile stability at which time Revolution Wind must use the lowest hammer energy practicable to maintain stability; ix) If impact pile driving has been shut down due to the presence of a North Atlantic right whale, pile driving may not restart until the North Atlantic right whale is no longer observed or 30 minutes has elapsed since the last detection; x) Upon re-starting pile driving, soft start protocols must be followed.
6	Soft Start. i) Revolution Wind must utilize a soft start protocol for impact pile driving of monopiles by performing 4-6 strikes per minute at 10 to 20 percent of the maximum hammer energy, for a minimum of 20 minutes; ii) Soft start must occur at the beginning of monopile installation and at any time following a cessation of impact pile driving of 30 minutes or longer; and iii) If a marine mammal is detected within or about to enter the applicable clearance zones, prior to the beginning of soft-start procedures, impact pile driving must be delayed until the animal has been visually observed exiting the clearance zone or until a specific time period has elapsed with no further sightings. The specific time periods are 15 minutes for small odontocetes and 30 minutes for all other species.
Cofferdam or Casing Pipe Installation	
1	Daily Restrictions i) Revolution Wind must conduct vibratory pile driving or pneumatic hammering during daylight hours only; ii) [Reserved].
2	PSO Use. i) All visual PSOs used for the Revolution Wind project must meet the requirements and qualifications described in § 217.275 (a) and (b), as applicable to the specified activity; and

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	ii) Revolution Wind must have a minimum of two PSOs on active duty during any installation and removal of the temporary cofferdams, or casing pipes and goal posts. These PSOs would always be located at the best vantage point(s) on the vibratory pile driving platform or secondary platform in the immediate vicinity of the vibratory pile driving platform, in order to ensure that appropriate visual coverage is available for the entire visual clearance zone and as much of the Level B harassment zone, as possible.
3	Clearance and Shutdown Zones i) Revolution Wind must establish and implement clearance and shutdown zones as described in the LOA; ii) Prior to the start of pneumatic hammering or vibratory pile driving activities, at least two PSOs must monitor the clearance zone for 30 minutes, continue monitoring during pile driving and for 30 minutes post pile driving; iii) If a marine mammal is observed entering or is observed within the clearance zones, piling and hammering must not commence until the animal has exited the zone or a specific amount of time has elapsed since the last sighting. The specific amount of time is 30 minutes for large whales and 15 minutes for dolphins, porpoises, and pinnipeds; iv) If a marine mammal is observed entering or within the respective shutdown zone, as defined in the LOA, after vibratory pile driving or hammering has begun, the PSO must call for a temporary shutdown of vibratory pile driving or hammering; v) Revolution Wind must immediately cease pile driving or pneumatic hammering if a PSO calls for shutdown, unless shutdown is not practicable due to imminent risk of injury or loss of life to an individual, pile refusal, or pile instability; and vi) Pile driving must not restart until either the marine mammal(s) has voluntarily left the specific clearance zones and have been visually or acoustically confirmed beyond that clearance zone, or, when specific time periods have elapsed with no further sightings or acoustic detections have occurred. The specific time periods are 15 minutes for small odontocetes and 30 minutes for all other marine mammal species.
UXO/MEC Detonation	
1	General. i) Revolution Wind shall only detonate a maximum of 13 UXO/MECs, of varying sizes; ii) Upon encountering a UXO/MEC of concern, Revolution Wind may only resort to high-order removal (i.e., detonation) if all other means of removal are impracticable; iii) Revolution Wind must utilize a noise abatement system (e.g., bubble curtain or similar noise abatement device) around all UXO/MEC detonations and operate that system in a manner that achieves the maximum noise attenuation levels practicable.
2	Seasonal and Daily Restrictions. i) Revolution Wind must not detonate UXOs/MECs from December 1 through April 31, annually; and ii) Revolution Wind must only detonate UXO/MECs during daylight hours.
3	PSO and PAM Use. i) All visual PSOs and PAM operators used for the Revolution Wind project must meet the requirements and qualifications described in § 217.265 (a) and (b), and (c), respectively and as applicable to the specified activity; and ii) Revolution Wind must use at least 2 visual PSOs on each platform (i.e., vessels, plane) and one acoustic PSO to monitor for marine mammals in the clearance zones prior to detonation. If the clearance zone is larger than 2 km (based on charge weight), Revolution Wind must deploy a secondary PSO vessel. If the clearance is larger than 5 km (based on charge weight), an aerial survey must be conducted.
4	Clearance Zones. i) Revolution Wind must establish and implement clearance zones using both visual and acoustic monitoring, as described in the LOA; ii) Clearance zones must be fully visible for at least 60 minutes and all marine mammal(s) must be confirmed to be outside of the clearance zone for at least 30 minutes prior to detonation. PAM must also be conducted for at least 60 minutes prior to detonation and the zone must be acoustically cleared during this time; and iii) If a marine mammal is observed entering or within the clearance zone prior to denotation, the activity must be delayed. Detonation may only commence if all marine mammals have been confirmed to have voluntarily left the clearance zones and been visually confirmed to be beyond the clearance zone, or when 60 minutes have elapsed without any redetections for whales (including the North Atlantic right whale) or 15 minutes have elapsed without any redetections of delphinids, harbor porpoises, or seals.
5	Sound Field Verification. i) During each UXO/MEC detonation, Revolution Wind must empirically determine source levels (peak and cumulative sound exposure level), the ranges to the isopleths corresponding to the Level A harassment and Level B harassment thresholds, and estimated transmission loss coefficient(s); and ii) If SFV measurements on any of the detonations indicate that the ranges to Level A harassment and Level B harassment thresholds are larger than those modeled, assuming 10-dB attenuation, Revolution Wind must modify the ranges, with approval from NMFS, and/or apply additional noise attenuation measures (e.g., improve efficiency of bubble curtain(s), install an additional noise attenuation device) before the next detonation event.
HRG Surveys	
1	General.

Measure Number	Description of Measures that may be Required by Other Authorizations and Permits Issued to the Lessee
	i) All personnel with responsibilities for marine mammal monitoring must participate in joint, onboard briefings that would be led by the vessel operator and the Lead PSO, prior to the beginning of survey activities. The briefing must be repeated whenever new relevant personnel (e.g., new PSOs, acoustic source operators, relevant crew) join the survey operation before work commences; ii) Revolution Wind must deactivate acoustic sources during periods where no data is being collected, except as determined to be necessary for testing. Unnecessary use of the acoustic source(s) is prohibited; and iii) Any large whale sighted by a PSO within 1 km of the boomer, sparker, or CHIRP that cannot be identified by species must be treated as if it were a North Atlantic right whale.
2	PSO Use. i) Revolution Wind must use at least one PSO during daylight hours and two PSOs during nighttime operations, per vessel; ii) PSOs must establish and monitor the appropriate clearance and shutdown zones (i.e., radial distances from the acoustic source in-use and not from the vessel); and iii) PSOs must begin visually monitoring 30 minutes prior to the initiation of the specified acoustic source (i.e., ramp-up, if applicable), through 30 minutes after the use of the specified acoustic source has ceased.
3	Ramp-up. i) Any ramp-up activities of boomers, sparkers, and CHIRPs must only commence when visual clearance zones are fully visible (e.g., not obscured by darkness, rain, fog, etc.) and clear of marine mammals, as determined by the Lead PSO, for at least 30 minutes immediately prior to the initiation of survey activities using a specified acoustic source; ii) Prior to a ramp-up procedure starting, the operator must notify the Lead PSO of the planned start of the ramp-up. This notification time must not be less than 60 minutes prior to the planned ramp-up activities as all relevant PSOs must monitor the clearance zone for 30 minutes prior to the initiation of ramp-up; and iii) Prior to starting the survey and after receiving confirmation from the PSOs that the clearance zone is clear of any marine mammals, Revolution Wind must ramp-up sources to half power for 5 minutes and then proceed to full power, unless the source operates on a binary on/off switch in which case ramp-up is not feasible. Ramp-up activities would be delayed if a marine mammal(s) enters its respective shutdown zone. Ramp-up would only be reinitiated if the animal(s) has been observed exiting its respective shutdown zone or until additional time has elapsed with no further sighting. The specific time periods are 15 minutes for small odontocetes and seals, and 30 minutes for all other species.
4	Clearance and Shutdown Zones. i) Revolution Wind must establish and implement clearance zones as described in the LOA; ii) Revolution Wind must implement a 30 minute clearance period of the clearance zones immediately prior to the commencing of the survey or when there is more than a 30 minute break in survey activities and PSOs are not actively monitoring; iii) If a marine mammal is observed within a clearance zone during the clearance period, ramp-up would not be allowed to begin until the animal(s) has been observed voluntarily exiting its respective clearance zone or until a specific time period has elapsed with no further sighting. The specific time period is 15 minutes for small odontocetes and seals, and 30 minutes for all other species; iv) In any case when the clearance process has begun in conditions with good visibility, including via the use of night vision equipment (IR/thermal camera), and the Lead PSO has determined that the clearance zones are clear of marine mammals, survey operations would be allowed to commence (i.e., no delay is required) despite periods of inclement weather and/or loss of daylight; v) Once the survey has commenced, Revolution Wind must shut down boomers, sparkers, and CHIRPs if a marine mammal enters a respective shutdown zone; vi) In cases when the shutdown zones become obscured for brief periods due to inclement weather, survey operations would be allowed to continue (i.e., no shutdown is required) so long as no marine mammals have been detected; vii) The use of boomers, and sparkers, and CHIRPS would not be allowed to commence or resume until the animal(s) has been confirmed to have left the Level B harassment zone or until a full 15 minutes (for small odontocetes and seals) or 30 minutes (for all other marine mammals) have elapsed with no further sighting; viii) Revolution Wind must immediately shutdown any boomer, sparker, or CHIRP acoustic source if a marine mammal is sighted entering or within its respective shutdown zones. The shutdown requirement does not apply to small delphinids of the following genera: Delphinus, Stenella, Lagenorhynchus, and Tursiops. If there is uncertainty regarding the identification of a marine mammal species (i.e., whether the observed marine mammal belongs to one of the delphinid genera for which shutdown is waived), the PSOs must use their best professional judgment in making the decision to call for a shutdown. Shutdown is required if a delphinid that belongs to a genus other than those specified here is detected in the shutdown zone; ix) If a boomer, sparker, or CHIRP is shut down for reasons other than mitigation (e.g., mechanical difficulty) for less than 30 minutes, it would be allowed to be activated again without ramp-up only if: (A) PSOs have maintained constant observation and (B) no additional detections of any marine mammal occurred within the respective shutdown zones; and (C) If a boomer, sparker, or CHIRP was shut down for a period longer than 30 minutes, then all clearance and ramp-up procedures must be initiated.
5	Autonomous surface vehicle (ASV) use i) The ASV must remain with 800 m (2,635 ft) of the primary vessel while conducting survey operations; ii) Two PSOs must be stationed on the mother vessel at the best vantage points to monitor the clearance and shutdown zones around the ASV; iii) At least one PSO must monitor the output of a thermal.high-definition camera installed on the mother vessel to monitor the field-of-view around the ASV using a hand-held tablet; and iv) During periods of reduced visibility (e.g., darkness, rain, or fog), PSOs must use night-vision goggles with thermal clip-ons and a hand-held spotlight to monitor the clearance and shutdown zones around the ASV.
Section 217.275 Requirements for monitoring and reporting	

Measure Number	Description of Measures that may be Required by Other Authorizations and Permits Issued to the Lessee
1	PSO Qualifications. Revolution Wind must employ qualified, trained visual and acoustic PSOs to conduct marine mammal monitoring during activities associated with construction. PSO requirements are as follows: 1) Revolution Wind must use independent, dedicated, qualified PSOs, meaning that the PSOs must be employed by a third-party observer provider, must have no tasks other than to conduct observational effort, collect data, and communicate with and instruct relevant vessel crew with regard to the presence of protected species and mitigation requirements; 2) All PSOs must be approved by NMFS. Revolution Wind must submit PSO resumes for NMFS' review and approval at least 60 days prior to commencement of in-water construction activities requiring PSOs. Resumes must include dates of training and any prior NMFS approval, as well as dates and description of last experience, and must be accompanied by information documenting successful completion of an acceptable training course. NMFS shall be allowed three weeks to approve PSOs from the time that the necessary information is received by NMFS, after which PSOs meeting the minimum requirements will automatically be considered approved; 3) PSOs must have visual acuity in both eyes (with correction of vision being permissible) sufficient enough to discern moving targets on the water's surface with the ability to estimate the target size and distance (binocular use is allowable); 4) All PSOs must be trained in marine mammal identification and behaviors and must be able to conduct field observations and collect data according to assigned protocols. Additionally, PSOs must have the ability to work with a.ll required and relevant software and equipment necessary during observations. 5) PSOs must have sufficient writing skills to document all observations, including but not limited to: i) The number and species of marine mammals observed; ii) The dates and times of when in-water construction activities were conducted; iii) The dates and time when in-water construction activities were suspended to avoid potential incidental injury of marine mammals from construction noise within a defined shutdown zone; and iv) Marine mammal behavior. 6) All PSOs must be able to communicate orally, by radio, or in-person with Revolution Wind project personnel; 7) PSOs must have sufficient training, orientation, or experience with construction operations to provide for their own personal safety during observations; i) All PSOs must complete a Permits and Environmental Compliance Plan training and a two-day refresher session that will be held with the PSO provider and Project compliance representative(s) prior to the start of construction activities; ii) [Reserved]; 8) At least one PSO must have prior experience working as an observer. Other PSOs may substitute education (i.e., degree in biological science or related field) or training for experience; 9) One PSO for each activity (i.e., foundation installation, cofferdam or casing pipe installation and removal, HRG surveys, UXO/MEC detonation) must be designated as the "Lead PSO". The Lead PSO must have a minimum of 90 days of at-sea experience working in an offshore environment and would be required to have no more than eighteen months elapsed since the conclusion of their last at-sea experience; 10) At a minimum, at least one PSO located on each observation platform (either vessel-based or aerial-based) must have a minimum of 90 days of at-sea experience working in an offshore environment and would be required to have no more than eighteen months elapsed since the conclusion of their last at-sea experiences. Any new and/or inexperienced PSOs would be paired with an experienced PSO; 11) PSOs must monitor all clearance and shutdown zones prior to, during, and following impact pile driving, vibratory pile driving, pneumatic hammering, UXO/MEC detonations, and during HRG surveys that use boomers, sparkers, and CHIRPs (with specific monitoring durations described in § 217.275(b)(2)(iii), § 217.275(b)(3)(iv), § 217.275(b)(4)(ii), and § 217.275(b)(5)(iii). PSOs must also monitor the Level B harassment zones and document any marine mammals observed within these zones, to the extent practicable; 12) PSOs must be located on the best available vantage point(s) on the primary vessel(s) (i.e., pile driving vessel, UXO/MEC vessel, HRG survey vessel) and on other dedicated PSO vessels (e.g., additional UXO/MEC vessels) or aerial platforms, as applicable and necessary, to allow them appropriate coverage of the entire visual shutdown zone(s), clearance zone(s), and as much of the Level B harassment zone as possible. These vantage points must maintain a safe work environment; and 13) Acoustic PSOs must complete specialized training for operating passive acoustic monitoring (PAM) systems and must demonstrate familiarity with the PAM system on which they must be working. PSOs may act as both acoustic and visual observers (but not simultaneously), so long as they demonstrate that their training and experience are sufficient to perform each task.
2	PSO Requirements. 1) General. i) All PSOs must be located at the best vantage point(s) on the primary vessel, dedicated PSO vessels, and aerial platform in order to ensure 360° visual coverage of the entire clearance and shutdown zones around the vessels, and as much of the Level B harassment zone as possible; ii) During all observation periods, PSOs must use high magnification (25x) binoculars, standard handheld (7x) binoculars, and the naked eye to search continuously for marine mammals. During impact pile driving and UXO/MEC detonation events, at least one PSO on the primary pile driving or UXO/MEC vessels must be equipped with Big Eye binoculars (e.g., 25 x 150; 2.7 view angle; individual ocular focus; height control) of appropriate quality. These must be pedestal mounted on the deck at the most appropriate vantage point that provides for optimal sea surface observation and PSO safety; and iii) PSOs must not exceed four consecutive watch hours on duty at any time, must have a two-hour (minimum) break between watches, and must not exceed a combined watch schedule of more than 12 hours in a 24-hour period. 2) WTG and OSS Foundation Installation.

Measure Number	Description of Measures that may be Required by Other Authorizations and Permits Issued to the Lessee
	i) At least four PSOs must be actively observing marine mammals before, during, and after installation of foundation piles (monopiles). At least two PSOs must be stationed and observing on the pile driving vessel and at least two PSOs must be stationed on a secondary, PSO-dedicated vessel. Concurrently, at least one acoustic PSO (i.e., passive acoustic monitoring (PAM) operator) must be actively monitoring for marine mammals with PAM before, during and after impact pile driving; ii) If PSOs cannot visually monitor the minimum visibility zone at all times using the equipment described in § 217.275(b)(1)(ii), impact pile driving operations must not commence or must shutdown if they are currently active; iii) All PSOs, including PAM operators, must begin monitoring 60 minutes prior to pile driving, during, and for 30 minutes after an activity. The impact pile driving of monopiles must only commence when the minimum visibility zone is fully visible (e.g., not obscured by darkness, rain, fog, etc.) and the clearance zones are clear of marine mammals for at least 30 minutes, as determined by the Lead PSO, immediately prior to the initiation of impact pile driving; iv) For North Atlantic right whales, any visual or acoustic detection must trigger a delay to the commencement of pile driving. In the event that a large whale is sighted or acoustically detected that cannot be confirmed by species, it must be treated as if it were a North Atlantic right whale; and v) Following a shutdown, monopile installation must not recommence until the minimum visibility zone is fully visible and clear of marine mammals for 30 minutes. 3) Cofferdam or Casing Pipe Installation and Removal. i) At least two PSOs must be on active duty during all activities related to the installation and removal of cofferdams or casing pipes and goal post sheet piles; ii) These PSOs must be located at appropriate vantage points on the vibratory pile driving or pneumatic hammering platform or secondary platform in the immediate vicinity of the vibratory pile driving or pneumatic hammering platforms; iii) PSOs must ensure that there is appropriate visual coverage for the entire clearance zone and as much of the Level B harassment zone as possible; and iv) PSOs must monitor the clearance zone for the presence of marine mammals for 30 minutes before, throughout the installation of the sheet piles and casing pipes, and for 30 minutes after all vibratory pile driving or pneumatic hammering activities have ceased. Sheet pile or casing pipe installation shall only commence when visual clearance zones are fully visible (e.g., not obscured by darkness, rain, fog, etc.) and clear of marine mammals, as determined by the Lead PSO, for at least 30 minutes immediately prior to initiation of vibratory pile driving or pneumatic hammering. 4) UXO/MEC Detonations. i) At least two PSOs must be on active duty on each observing platform (i.e., vessel, plane) prior to, during, and after UXO/MEC detonations. Concurrently, at least one acoustic PSO (i.e., passive acoustic monitoring (PAM) operator) must be actively monitoring for marine mammals with PAM before, during and after UXO/MEC detonations; ii) All PSOs, including PAM operators, must begin monitoring 60 minutes prior to UXO/MEC detonation, during detonation, and for 30 minutes after detonation; and iii) Revolution Wind must ensure that clearance zones are fully (100 percent) monitored. 5) HRG Surveys. i) Between 4 and 6 PSOs must be present on every 24-hour survey vessel and 2 to 3 PSOs must be present on every 12-hour survey vessel. At least one PSO must be on active duty during HRG surveys conducted during daylight and at least two PSOs must be on activity duty during HRG surveys conducted at night; ii) During periods of low visibility (e.g., darkness, rain, fog, etc.), PSOs must use alternative technology (i.e., infrared/thermal camera) to monitor the clearance and shutdown zones; iii) PSOs on HRG vessels must begin monitoring 30 minutes prior to activating boomers, sparkers, or CHIRPs, during use of these acoustic sources, and for 30 minutes after use of these acoustic sources has ceased; iv) Any observations of marine mammals must be communicated to PSOs on all nearby survey vessels during concurrent HRG surveys; and v) During daylight hours when survey equipment is not operating, Revolution Wind must ensure that visual PSOs conduct, as rotation schedules allow, observations for comparison of sighting rates and behavior with and without use of the specified acoustic sources. Off-effort PSO monitoring must be reflected in the monthly PSO monitoring reports.
3	PAM Operator Requirements. 1) General. i) PAM operators must have completed specialized training for operating PAM systems prior to the start of monitoring activities, including identification of species-specific mysticete vocalizations (e.g., North Atlantic right whales); ii) During use of any real-time PAM system, at least one PAM operator must be designated to monitor each system by viewing data or data products that would be streamed in real-time or in near real-time to a computer workstation and monitor; iii) PAM operators may be located on a vessel or remotely on-shore but must have the appropriate equipment (i.e., computer station equipped with a data collection software system (i.e., Mysticetus or similar system) and acoustic data analysis software) available wherever they are stationed; iv) Visual PSOs must remain in contact with the PAM operator currently on duty regarding any animal detection that would be approaching or found within the applicable zones no matter where the PAM operator is stationed (i.e., onshore or on a vessel); v) The PAM operator must inform the Lead PSO on duty of animal detections approaching or within applicable ranges of interest to the pile driving activity via the data collection software system (i.e., Mysticetus or similar system) who will be responsible for requesting that the designated crewmember implement the necessary mitigation procedures (i.e., delay or shutdown); vi) PAM operators must be on watch for a maximum of four consecutive hours, followed by a break of at least two hours between watches; and

Measure Number	Description of Measures that may be Required by Other Authorizations and Permits Issued to the Lessee
	vii) A Passive Acoustic Monitoring Plan must be submitted to NMFS for review and approval at least 180 days prior to the planned start of monopile installation. The authorization to take marine mammals would be contingent upon NMFS' approval of the PAM Plan. 2) WTG and OSS Foundation Installation. i) Revolution Wind must use a minimum of one PAM operator before, during, and after impact pile driving activities. The PAM operator must assist visual PSOs in ensuring full coverage of the clearance and shutdown zones; ii) PAM operators must assist the visual PSOs in monitoring by conducting PAM activities 60 minutes prior to any impact pile driving, during, and after for 30 minutes for the appropriate size PAM clearance zone (dependent on season). The entire minimum visibility zone must be clear for at least 30 minutes, with no marine mammal detections within the visual or PAM clearance zones prior to the start of impact pile driving; iii) Any acoustic monitoring during low visibility conditions during the day would complement visual monitoring efforts and would cover an area of at least the Level B harassment zone around each monopile foundation; iv) Any visual or acoustic detection within the clearance zones must trigger a delay to the commencement of pile driving. In the event that a large whale is sighted or acoustically detected that cannot be identified by species, it must be treated as if it were a North Atlantic right whale. Following a shutdown, monopile installation shall not recommence until the minimum visibility zone is fully visible and clear of marine mammals for 30 minutes and no marine mammals have been detected acoustically within the PAM clearance zone for 30 minutes; and v) Revolution Wind must submit a Pile Driving and Marine Mammal Monitoring Plan to NMFS for review and approval at least 180 days before the start of any pile driving. The plan must include final project design related to pile driving (e.g., number and type of piles, hammer type, noise abatement systems, anticipated start date, etc.) and all information related to PAM PSO monitoring protocols for pile-driving and visual PSO protocols for all activities. 3) UXO/MEC Detonation(s). i) Revolution Wind must use a minimum of one PAM operator before, during, and after UXO/MEC detonations. The PAM operator must assist visual PSOs in ensuring full coverage of the clearance and shutdown zones; ii) PAM must be conducted for at least 60 minutes prior to detonation, during, and for 30 minutes after detonation; iii) The PAM operator must monitor to and beyond the clearance zone for large whales; and iv) Revolution Wind must prepare and submit a UXO/MEC and Marine Mammal Monitoring Plan to NMFS for review and approval at least 180 days before the start of any UXO/MEC detonations. The plan must include final project design and all information related to visual and PAM PSO monitoring protocols for UXO/MEC detonations.
4	Data Collection and Reporting. 1) Prior to initiation of project activities, Revolution Wind must demonstrate in a report submitted to NMFS (at itp.esch@noaa.gov and pr.itp.monitoringreports@noaa.gov) that all required training for Revolution Wind personnel (including the vessel crews, vessel captains, PSOs, and PAM operators) has been completed; 2) Revolution Wind must use a standardized reporting system during the effective period of the proposed regulations and LOA. All data collected related to the Revolution Wind project must be recorded using industry-standard softwares (e.g., Mysticetus or a similar software) that is installed on field laptops and/or tablets. For all monitoring efforts and marine mammal sightings, Revolution Wind must collect the following information and report it to NMFS: i) Date and time that monitored activity begins or ends; ii) Construction activities occurring during each observation period; iii) Watch status (i.e., sighting made by PSO on/off effort, opportunistic, crew, alternate vessel/platform); iv) PSO who sighted the animal; v) Time of sighting; vi) Weather parameters (e.g., wind speed, percent cloud cover, visibility); vii) Water conditions (e.g., sea state, tide state, water depth); viii) All marine mammal sightings, regardless of distance from the construction activity; ix) Species (or lowest possible taxonomic level possible); x) Pace of the animal(s); xi) Estimated number of animals (minimum/maximum/high/low/best); xii) Estimated number of animals by cohort (e.g., adults, yearlings, juveniles, calves, group composition, etc.); xiii) Description (i.e., as many distinguishing features as possible of each individual seen, including length, shape, color, pattern, scars or markings, shape and size of dorsal fin, shape of head, and blow characteristics); xiv) Description of any marine mammal behavioral observations (e.g., observed behaviors such as feeding or traveling) and observed changes in behavior, including an assessment of behavioral responses thought to have resulted from the specific activity; xv) Animal's closest distance and bearing from the pile being driven, UXO/MEC, or specified HRG equipment and estimated time entered or spent within the Level A harassment and/or Level B harassment zones;

Measure Number	Description of Measures that may be Required by Other Authorizations and Permits Issued to the Lessee
	xvi) Construction activity at time of sighting (e.g., vibratory installation/removal, impact pile driving, UXO/MEC detonation, construction survey), use of any noise attenuation device(s), and specific phase of activity (e.g., ramp-up of HRG equipment, HRG acoustic source on/off, soft start for pile driving, active pile driving, post-UXO/MEC detonation, etc.); xvii) Marine mammal occurrence in Level A harassment or Level B harassment zones; xviii) Description of any mitigation-related action implemented, or mitigation-related actions called for but not implemented, in response to the sighting (e.g., delay, shutdown, etc.) and time and location of the action; and xix) Other human activity in the area. 3) For all real-time acoustic detections of marine mammals, the following must be recorded and included in weekly, monthly, annual, and final reports: i) Location of hydrophone (latitude & longitude; in Decimal Degrees) and site name; ii) Bottom depth and depth of recording unit (in meters); iii) Recorder (model & manufacturer) and platform type (i.e., bottom-mounted, electric glider, etc.), and instrument ID of the hydrophone and recording platform (if applicable); iv) Time zone for sound files and recorded date/times in data and metadata (in relation to UTC. i.e., EST time zone is UTC-5); v) Duration of recordings (start/end dates and times; in ISO 8601 format, yyyy-mm-ddTHH:MM:SS.sssZ); vi) Deployment/retrieval dates and times (in ISO 8601 format); vii) Recording schedule (must be continuous); viii) Hydrophone and recorder sensitivity (in dB re. 1 µPa); ix) Calibration curve for each recorder; x) Bandwidth/sampling rate (in Hz); xi) Sample bit-rate of recordings; and, xii) Detection range of equipment for relevant frequency bands (in meters). 4) For each detection, the following information must be noted: i) Species identification (if possible); ii) Call type and number of calls (if known); iii) Temporal aspects of vocalization (date, time, duration, etc.; date times in ISO 8601 format); iv) Confidence of detection (detected, or possibly detected); v) Comparison with any concurrent visual sightings; vi) Location and/or directionality of call (if determined) relative to acoustic recorder or construction activities; vii) Location of recorder and construction activities at time of call; viii) Name and version of detection or sound analysis software used, with protocol reference; ix) Minimum and maximum frequencies viewed/monitored/used in detection (in Hz); and x) Name of PAM operator(s) on duty. 5) Weekly Reports. i) Revolution Wind must compile and submit weekly PSO, PAM, and sound field verification (SFV) reports to NMFS (at itp.esch@noaa.gov and PR.ITP.monitoringreports@noaa.gov) that document the daily start and stop of all pile driving, HRG survey, or UXO/MEC detonation activities, the start and stop of associated observation periods by PSOs, details on the deployment of PSOs, a record of all detections of marine mammals (acoustic and visual), any mitigation actions (or if mitigation actions could not be taken, provide reasons why), and details on the noise abatement system(s) used and its performance. Weekly reports are due on Wednesday for the previous week (Sunday – Saturday) and must include the information required under this section. The weekly report will also identify which turbines become operational and when (a map must be provided). Once all foundation pile installation is completed, weekly reports are no longer required; ii) [Reserved]. 6) Monthly Reports. i) Revolution Wind must compile and submit monthly reports to NMFS (at itp.esch@noaa.gov and PR.ITP.monitoringreports@noaa.gov) that include a summary of all information in the weekly reports, including project activities carried out in the previous month, vessel transits (number, type of vessel, and route), number of piles installed, number of UXO/MEC detonations, all detections of marine mammals, and any mitigative action taken. Monthly reports are due on the 15th of the month for the previous month. The monthly report must also identify which turbines become operational and when (a map must be provided). Once foundation installation is complete, monthly reports are no longer required; ii) [Reserved]. 7) Annual Reports.

Measure Number	Description of Measures that may be Required by Other Authorizations and Permits Issued to the Lessee
	i) Revolution Wind must submit an annual report to NMFS (at itp.esch@noaa.gov and PR.ITP.monitoringreports@noaa.gov) no later than 90 days following the end of a given calendar year. Revolution Wind must provide a final report within 30 days following resolution of comments on the draft report. The report must detail the following information and the information specified in § 217.275(d)(2)(i-xix), § 217.275(d)(3)(i-xii), and § 217.275(d)(4)(i-x): (A) The total number of marine mammals of each species/stock detected and how many were within the designated Level A harassment and Level B harassment zones with comparison to authorized take of marine mammals for the associated activity type; (B) Marine mammal detections and behavioral observations before, during, and after each activity; (C) What mitigation measures were implemented (i.e., number of shutdowns or clearance zone delays, etc) or, if no mitigative actions was taken, why not; (D) Operational details (i.e., days of impact and vibratory pile driving, days/amount of HRG survey effort, total number and charge weights related to UXO/MEC detonations, etc.); (E) SFV results; (F) Any PAM systems used; (G) The results, effectiveness, and which noise abatement systems were used during relevant activities (i.e., impact pile driving, UXO/MEC detonation); (H) Summarized information related to Situational Reporting; and (I) Any other important information relevant to the Revolution Wind project, including additional information that may be identified through the adaptive management process. ii) The final annual report must be prepared and submitted within 30 calendar days following the receipt of any comments from NMFS on the draft report. If no comments are received from NMFS within 60 calendar days of NMFS' receipt of the draft report, the report must be considered final. 8) Final Report. i) Revolution Wind must submit its draft final report to NMFS (at itp.esch@noaa.gov and PR.ITP.monitoringreports@noaa.gov) on all visual and acoustic monitoring conducted under the LOA within 90 calendar days of the completion of activities occurring under the LOA. A final report must be prepared and submitted within 30 calendar days following receipt of any NMFS comments on the draft report. If no comments are received from NMFS within 30 calendar days of NMFS' receipt of the draft report, the report shall be considered final. ii) [Reserved]. 9) Sound Field Verification Reporting. i) Revolution Wind must provide the initial results of the SFV measurements to NMFS in an interim report after each monopile foundation installation for the first three monopiles piles, and for each UXO/MEC detonation as soon as they are available, but no later than 48 hours after each installation or detonation. Revolution Wind must also provide interim reports on any subsequent SFV on foundation piles within 48 hours. The interim report must include hammer energies used during pile driving or UXO/MEC weight (including donor charge weight), peak sound pressure level (SPLpk) and (1) median, (2) mean, (3) maximum, and (4) minimum root-mean-square sound pressure level that contains 90 percent of the acoustic energy (SPLrms) and single strike sound exposure level (SELss); ii) The final results of SFV of monopile installations must be submitted as soon as possible, but no later than within 90 days following completion of impact pile driving of monopiles and UXO/MEC detonations. The final report must include, at minimum, the following: (A) Peak sound pressure level (SPLpk), root-mean-square sound pressure level that contains 90 percent of the acoustic energy (SPLrms), single strike sound exposure level (SELss), integration time for SPLrms, spectrum, and 24-hour cumulative SEL extrapolated from measurements at specified distances (e.g., 750 m). All these levels must be reported in the form of (1) median, (2) mean, (3) maximum, and (4) minimum. The SEL and SPL power spectral density and one-third octave band levels (usually calculated as decidecade band levels) at the receiver locations should be reported; (B) The sound levels reported must be in median and linear average (i.e., average in linear space), and in dB; (C) A description of depth and sediment type, as documented in the Construction and Operation Plan, at the recording and pile driving locations; (D) Hammer energies required for pile installation and the number of strikes per pile; (E) Hydrophone equipment and methods (i.e., recording device, bandwidth/sampling rate, distance from the pile where recordings were made; depth of recording device(s)); (F) Description of the SFV PAM hardware and software, including software version used, calibration data, bandwidth capability and sensitivity of hydrophone(s), any filters used in hardware or software, any limitations with the equipment, and other relevant information; (G) Description of UXO/MEC, weight, including donor charge weight, and why detonation was necessary; (H) Local environmental conditions, such as wind speed, transmission loss data collected on-site (or the sound velocity profile), baseline pre- and post-activity ambient sound levels (broadband and/or within frequencies of concern); (I) Spatial configuration of the noise attenuation device(s) relative to the pile; (J) The extents of the Level A harassment and Level B harassment zones; and (K) A description of the noise abatement system and operational parameters (e.g., bubble flow rate, distance deployed from the pile, etc.) and any action taken to adjust the noise abatement system. 10) Situational Reporting. Specific situations encountered during the development of Revolution Wind shall require immediate reporting to be undertaken. These situations and the relevant procedures are described below.

Measure Number	Description of Measures that may be Required by Other Authorizations and Permits Issued to the Lessee
	i) If a North Atlantic right whale is observed at any time by PSOs or personnel on or in the vicinity of any project vessel, or during vessel transit, Revolution Wind must immediately report sighting information to the NMFS North Atlantic Right Whale Sighting Advisory System (866) 755-6622, through the WhaleAlert app (http://www.whalealert/org/), and to the U.S. Coast Guard via channel 16, as soon as feasible but no longer than 24 hours after the sighting. Information reported must include, at a minimum: time of sighting, location, and number of North Atlantic right whales observed. ii) When an observation of a marine mammal occurs during vessel transit, the following information must be recorded: (A) Time, date, and location; (B) The vessel's activity, heading, and speed; (C) Sea state, water depth, and visibility; (D) Marine mammal identification to the best of the observer's ability (e.g., North Atlantic right whale, whale, dolphin, seal); (E) Initial distance and bearing to marine mammal from vessel and closest point of approach; and (F) Any avoidance measures taken in response to the marine mammal sighting. iii) If a North Atlantic right whale is detected via PAM, the date, time, location (i.e., latitude and longitude of recorder) of the detection as well as the recording platform that had the detection must be reported to nmfs.pacmdata@noaa.gov as soon as feasible, but no longer than 24 hours after the detection. Full detection data and metadata must be submitted monthly on the 15th of every month for the previous month via the webform on the NMFS North Atlantic right whale Passive Acoustic Reporting System website (https://www.fisheries.noaa.gov/resource/document/passive-acoustic-reporting-system-templates); iv) In the event that the personnel involved in the activities defined in § 217.270(a) discover a stranded, entangled, injured, or dead marine mammal, Revolution Wind must immediately report the observation to the NMFS Office of Protected Resources (OPR), the NMFS Greater Atlantic Stranding Coordinator for the New England/Mid-Atlantic area (866-755-6622), and the U.S. Coast Guard within 24 hours. If the injury or death was caused by a project activity, Revolution Wind must immediately cease all activities until NMFS OPR is able to review the circumstances of the incident and determine what, if any, additional measures are appropriate to ensure compliance with the terms of the LOA. NMFS may impose additional measures to minimize the likelihood of further prohibited take and ensure MMPA compliance. Revolution Wind may not resume their activities until notified by NMFS. The report must include the following information: (A) Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable); (B) Species identification (if known) or description of the animal(s) involved; (C) Condition of the animal(s) (including carcass condition if the animal is dead); (D) Observed behaviors of the animal(s), if alive; (E) If available, photographs or video footage of the animal(s); and (F) General circumstances under which the animal was discovered. v) In the event of a vessel strike of a marine mammal by any vessel associated with the Revolution Wind Offshore Wind Farm Project, Revolution Wind must immediately report the strike incident to the NMFS OPR and the GARFO within and no later than 24 hours. Revolution Wind must immediately cease all activities until NMFS OPR is able to review the circumstances of the incident and determine what, if any, additional measures are appropriate to ensure compliance with the terms of the LOA. NMFS may impose additional measures to minimize the likelihood of further prohibited take and ensure MMPA compliance. Revolution Wind may not resume their activities until notified by NMFS. The report must include the following information: (A) Time, date, and location (latitude/longitude) of the incident; (B) Species identification (if known) or description of the animal(s) involved; (C) Vessel's speed leading up to and during the incident; (D) Vessel's course/heading and what operations were being conducted (if applicable); (E) Status of all sound sources in use; (F) Description of avoidance measures/requirements that were in place at the time of the strike and what additional measures were taken, if any, to avoid strike; (G) Environmental conditions (e.g., wind speed and direction, Beaufort sea state, cloud cover, visibility) immediately preceding the strike; (H) Estimated size and length of animal that was struck; (I) Description of the behavior of the marine mammal immediately preceding and following the strike; (J) If available, description of the presence and behavior of any other marine mammals immediately preceding the strike; (K) Estimated fate of the animal (e.g., dead, injured but alive, injured and moving, blood or tissue observed in the water, status unknown, disappeared); and (L) To the extent practicable, photographs or video footage of the animal(s).

† Mitigation measures and description are taken directly from NMFS (2023) and have not been edited.

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APPENDIX G

Environmental and Physical Settings and Supplemental Information

Section 508 of the Rehabilitation Act of 1973 requires that the information in federal documents be accessible to individuals with disabilities. The Bureau of Ocean Energy Management has made every reasonable effort to ensure that the information in this document is accessible. If you have any problems accessing the information, please contact BOEM's Office of Public Affairs at boempublicaffairs@boem.gov or (202) 208-6474.

Contents

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Introduction

This appendix provides information on the environmental and physical settings of the Lease Area and information by resource or topic, as applicable, that supplements the information provided in the Revolution Wind Farm (RWF) and Revolution Wind Export Cable (RWEC) Project environmental impact statement (EIS).

Environmental and Physical Settings

This section addresses the physical, geological, and biological settings near the RWF and RWEC Project (the Project). As directed under Section 1501.12 of the Council on Environmental Quality's (CEQ's) revised National Environmental Policy Act (NEPA) regulations, this EIS incorporates, by reference, the detailed analysis provided in the Vineyard Wind final EIS in Appendix E (Bureau of Ocean Energy Management [BOEM] 2021).

For more specific environmental and physical setting information, the reader is referred to the following COP sections in the *Construction & Operations Plan Revolution Wind Farm* (COP) (VHB 2023):

- General regional setting: See Sections 4.6.7 and 4.3.1 of the COP, which describe current land uses and land cover types near the onshore Project components.
- Climate: See Section 4.2.1 of the COP, which describes current air quality near the RWF and RWEC.
- Physical oceanography and meteorology: See Section 4.2.4 of the COP, which provides detailed information on physical oceanographic conditions, including circulation, currents, and water column stratification by temperature and salinity, as well as meteorological conditions such as wind speed and direction, occurrence of storms and cyclones, and ice and fog. Few hurricanes pass through New England, but the area is subjected to frequent Nor'easters that form offshore between Georgia and New Jersey and typically reach maximum intensity in New England. These storms are usually characterized by winds from the northeast and can bring heavy precipitation, wind, storm surges, and rough seas. They primarily occur between September and April but can form any time of year. Although hurricanes are relatively infrequent in New England, wave heights up to 30 feet (9 meters [m]) were recorded south of Block Island (Scripps Buoy 44097) during Hurricane Sandy in 2012 (National Oceanic and Atmospheric Administration, National Weather Service 2012).
- Geological resources: See Section 4.2.3 of the COP, which describes the regional geological setting as well as specific marine geophysical and geotechnical site investigations conducted for the RWF in accordance with BOEM regulations at 30 Code of Federal Regulations (CFR) 585.
- Biological resources: See Sections 4.3.2 to 4.3.7 of the COP, which describe current types and status of terrestrial and marine resources near the RWF and RWEC.

Analysis of potential impacts to these resources from all offshore wind activities is provided in the EIS as part of each resource's No Action Alternative discussion. Discussion of impacts as a result of the Proposed Action references the No Action Alternative where possible to reduce replication and focus the analysis on the differences among alternatives. EPMs and any other measures that would be implemented to monitor or minimize resource impacts are discussed in EIS Appendix F.

Literature Cited

Bureau of Ocean Energy Management (BOEM). 2021. *Vineyard Wind 1 Offshore Wind Energy Project Final Environmental Impact Statement*. OCS EIS/EA BOEM 2021-0012. Available at: https://www.boem.gov/vineyard-wind. Accessed June 2021.

National Oceanic and Atmospheric Administration National Weather Service. 2012. *New England Effects from the Hurricane Sandy Hybrid Storm*. Available at: https://www.weather.gov/media/box/science/Sandy_summary_BOX.pdf. Accessed February 28, 2022.

VHB. 2023. *Construction & Operations Plan Revolution Wind Farm*. March 2023. Submitted to Bureau of Ocean Energy Management. Submitted by Revolution Wind. Available at: https://www.boem.gov/Revolution-Wind.

Avian and Bat Postconstruction Monitoring Framework

Revolution Wind, LLC (Revolution Wind) has developed a draft avian and bat postconstruction monitoring plan for the Project that summarizes the approach to monitoring; describes overarching monitoring goals and objectives; identifies the key avian species, priority questions, and data gaps unique to the region and Lease Area that would be addressed through monitoring; and describes methods and time frames for data collection, analysis, and reporting (see COP Appendix AA [Biodiversity Research Institute 2023]). Postconstruction monitoring would assess impacts of the Project with the purpose of filling select information gaps and supporting validation of the Project's avian risk assessment. Focus may be placed on improving knowledge of Endangered Species Act (ESA)–listed species occurrence and movements offshore, avian collision risk, species/species group displacement, or similar topics. Where possible, monitoring conducted by Revolution Wind would build on and align with postconstruction monitoring conducted by the other Orsted/Eversource offshore wind projects in the Northeast region. Revolution Wind would engage with federal and state agencies and environmental groups to identify appropriate monitoring options and technologies and to facilitate acceptance of the final avian and bat postconstruction monitoring plan (see COP Appendix AA [Biodiversity Research Institute 2023]).

The content of the draft *Revolution Wind Avian and Bat Post-Construction Monitoring Framework* is provided below and is a direct excerpt from the *Assessment of the Potential Effects of the Revolution Offshore Wind Farm on Birds and Bats* (COP Appendix AA [Biodiversity Research Institute 2023:231–235]). Full references supporting this excerpt's author-year citations can be found in COP Appendix AA.

Introduction

Revolution Wind LLC (Revolution Wind), a 50/50 joint venture between Orsted North America Inc. (Orsted NA) and Eversource Investment LLC (Eversource), proposes to construct and operate the RWF and the RWEC, collectively the Revolution Wind Farm Project (hereinafter referred to as the Project). The wind farm portion of the Project will be in Bureau of Ocean Energy Management (BOEM) Renewable Energy Lease Area OCS-A 0486 (Lease Area), southeast of Point Judith, Rhode Island, and east of Block Island, Rhode Island. The Project's generating capacity will range between 704 megawatts (MW) and 880 MW. This RWF Avian and Bat Post-Construction Monitoring Framework (hereafter the "Framework") focuses solely on the offshore footprint of the Project within the Lease Area, and does not apply to the offshore export cable, cable landfall, or onshore portions of the Project.

Revolution Wind has developed this Framework to outline an approach to post-construction monitoring that supports advancement of the understanding of bird and bat interactions with offshore wind farms, and other areas of uncertainty, such as the potential influence of weather conditions. The scope of monitoring is designed to meet federal requirements [30 CFR 585.626(b)(15) and 585.633(b)] and is scaled to the size and risk profile of the Project with a focus on species of conservation concern.

The intent of the Framework is to outline overarching monitoring objectives, monitoring questions, proposed monitoring elements, and reporting requirements. A detailed Avian and Bat Post-Construction Monitoring Plan (Monitoring Plan), based on this Framework, will be developed in coordination with BOEM, U.S. Fish and Wildlife Service (USFWS), and other relevant regulatory agencies prior to beginning monitoring. Where feasible, monitoring conducted at the RWF will be coordinated with monitoring at neighboring Orsted/Eversource offshore wind projects—South Fork Wind Farm (SFWF) and Sunrise Wind Farm (SRWF)—to facilitate integrated analyses across a broader geographic area.

Monitoring objectives, questions, and associated methods are summarized in Table G-AB1. Technical approaches were selected based on offshore logistical constraints, their ability to address monitoring objectives, and their effectiveness in the marine environment. Emerging technologies, such as multi-sensor radar/camera collision detection systems, are not proposed under this Framework because they have not yet been broadly deployed offshore or demonstrated to effectively reduce uncertainties related to potential impacts on birds and bats.

Table G-AB1. Monitoring Objectives, Questions, General Approaches to be Used, and Duration

Taxa	Monitoring Objective	Primary Questions	Approach	Duration
Bats	Monitor occurrence of bats	What times of year and under what environmental conditions are bats detected in the wind farm?	Acoustics	2 years
Birds	Monitor use by ESA listed birds	What times of year and under what conditions are ESA birds present in the wind farm?	Radio tags	up to 3 years
Birds	Monitor use by nocturnal migratory birds	What are the flux rates and flight heights of nocturnally migrating birds?	Radar	1-2 years
Birds	Monitor movement of marine birds around the turbines	What are the avoidance rates of marine birds?	Radar	1-2 years
Both	Document mortality	What dead or injured species are found incidentally?	Incidental observations	Project lifetime

Bat Acoustic Monitoring

The presence of bats in the marine environment has been documented in the U.S. (Hatch et al. 2013, Solick and Newman 2021). However, there remains uncertainty regarding the extent to which bats occur offshore, particularly within offshore wind farms. Acoustic detectors are commonly used to study bat movements and migration (Johnson et al. 2011). Following the approach taken at SFWF (Final Environmental Impact Statement Appendix F[1]), Orsted/Eversource would conduct bat acoustic monitoring to assess bat activity at RWF, targeting key data gaps related to species presence/composition, temporal patterns of activity, and correlation with weather and atmospheric conditions. The primary monitoring questions are: What times of year and under what environmental conditions are bats detected in the wind farm?

[1] https://www.boem.gov/renewable-energy/state-activities/south-fork

Acoustic monitoring of bat presence would be conducted for two years post-construction. A detector would first be tested onsite to determine if there is any sound interference. Contingent on a successful test, ultrasonic bat detector stations would be installed on the offshore convertor station, wind turbine platforms, and/or buoys. The specific number and location of detector stations would be selected to optimize study design goals, and would be determined in cooperation with BOEM, USFWS, and other relevant regulatory agencies. While specific timing would be dictated by logistics, detectors would likely be deployed in the early spring or late winter (March), and removed in the late fall or early winter (December) after migration, or the most appropriate period as determined in cooperation with BOEM, USFWS, and other relevant regulatory agencies. The detectors would record calls of both cave-hibernating bats, including the northern long-eared bat (Myotis septentrionalis), and migratory tree bats; the resulting information can be used to identify bats to species. All acoustic data recorded would be processed with approved software to filter out poor quality data and identify the presence of bat calls. Where information is insufficient to make a species identification, calls would be classified to one of two phonic groups: low frequency bats (LoF), or high frequency bats (HiF). The HiF group includes both migratory tree bats and cave hibernating bats. Since HiFi include the ESA-listed northern long-eared bat, they would then be manually vetted by an experienced acoustician to the highest resolution possible (e.g., species or genus).

All bat calls detected and identified would be analyzed to understand relationships with time of day, season, and weather/atmospheric conditions. The results would provide information on bat presence offshore and the conditions under which they may occur near offshore wind turbines.

Motus Tracking Network and ESA Use Study

Tracking studies indicate that at least some individual ESA-listed Piping Plovers (*Charadrius melodus*), Red Knots (*Calidris canutus rufa*), and Roseate Terns, may pass through the Rhode Island and Massachusetts lease areas (Loring et al. 2018, 2019). However, due to limited coverage of onshore automated telemetry receiving stations and low probability of detecting tags (hereafter, Motus receivers and tags) in the offshore environment (Loring et al. 2019), there remains uncertainty related to offshore movements of ESA-listed birds in New England. Revolution Wind would install offshore Motus receiver stations and contribute funding to radio-tagging efforts to address this data gap. The exact species being studied would be determined in consultation with federal agencies and would be dependent on existing, ongoing field efforts. The Motus receivers would also provide opportunistic presence/absence data on other species carrying Motus tags, such as migratory songbirds and bats. The primary monitoring questions are: What times of year and under what environmental conditions are ESA birds present in the wind farm?

Movements of radio-tagged ESA-listed birds in the vicinity of the RWF would be monitored for up to three years post-construction, during the spring, summer, and fall. Motus receivers would be installed within the wind farm to determine the presence/absence of ESA-listed species. The specific number and location of offshore receiver stations would be selected to optimize study design goals, and would be determined using a design tool currently being developed through a New York State Energy Research and Development Authority (NYSERDA) funded project[2]. If there is a need identified by USFWS and in coordination with efforts at SFWF and RWF, existing Motus receiver stations at up to two onshore

[2] https://www.briloon.org/renewable/automatedvhfguidance

locations near the RWF would be refurbished or maintained to confirm the presence and movements of radio-tagged ESA-species in areas adjacent to RWF. Funding for up to 150 Motus tags per year would be provided to researchers working with ESA-listed birds for up to three consecutive years.

ESA-listed bird presence/absence in the wind farm would be analyzed by comparing detections within the wind farm to coastal receiver towers. All detections would be analyzed to understand relationships with time of day, season, and weather.

Radar Monitoring: Nocturnal Migrants Flux and Flight Heights

Nocturnal migrants, including songbirds and shorebirds, are documented to fly offshore (Adams et al. 2015, Loring et al. 2020). Since nocturnal migration events are episodic and cannot be detected during daytime surveys, there is uncertainty on the timing and intensity of migration offshore. Radar, oriented vertically, has been used at offshore wind farms in Europe to study nocturnal migration events (Hill et al. 2014). Orsted/Eversource is considering conducting a one-to-two-year radar study across SRWF, SFWF, and RWF to record the passage rates (flux) of migrants and flight heights. The primary monitoring questions are: What are the flux rates and flight heights of nocturnally migrating birds?

Since radar approaches to monitoring birds are actively evolving and feasibility would need to be determined, a specific system and methods would be identified closer to when the projects begin operating. The results would be related to time of year and weather conditions, to increase the understanding on when nocturnal migrants may have higher collision risk.

Radar Monitoring: Marine Bird Avoidance

Marine birds, particularly loons, sea ducks, auks, and the Northern Gannet (Morus bassanus), have been documented to avoid offshore wind farms, potentially leading to displacement from habitat (Goodale and Milman 2016). However, there remains uncertainty on how birds would respond to Orsted/Eversource's large turbines that would be spaced one nautical mile apart. Based on methods used by Desholm and Kahlert (2005), Skov et al. (2018), and others, Orsted/Eversource is considering conducting a one-to-two-year cross-project (SRWF, SFWF, and RWF) radar study to collect data on macro (and potentially meso—i.e., flying between turbines) avoidance rates. These data on avoidance would support understanding of both displacement and collision vulnerability. The primary monitoring questions is: What are the avoidance rates of marine birds?

Documentation of Dead and Injured Birds and Bats

Revolution Wind, or its designated operator, would implement a reporting system to document dead or injured birds or bats found incidentally on vessels and project structures during construction, operation, and decommissioning. The location would be marked using GPS, an Incident Reporting Form would be filled out, and digital photographs taken. Any animals detected that could be ESA-listed, would have their identity confirmed by consulting biologists, and a report would be submitted to the designated staff at Revolution Wind who would then report it to BOEM, USFWS, and other relevant regulatory agencies. Carcasses with federal or research bands or tags would be reported to the U.S. Geological Survey (USGS) Bird Band Laboratory, BOEM, and USFWS.

Adaptive Monitoring

Adaptive monitoring is an important principle underlying Revolution Wind's post-construction monitoring Framework. Over the course of monitoring, Revolution Wind would work with BOEM, USFWS, and other relevant regulatory agencies, to determine the need for adjustments to monitoring approaches, consideration of new monitoring technologies, and/or additional periods of monitoring, based on an ongoing assessment of monitoring results. Potential triggers for adaptive monitoring may include, but not be limited to, equipment failure, an unexpected impact to birds or bats identified through monitoring, or new opportunities to collaborate with other projects in the region. The Monitoring Plan would include a series of potential adaptive monitoring actions, developed in coordination with BOEM, USFWS, and other relevant regulatory agencies, to be considered as appropriate.

Reporting

Revolution Wind would submit an annual report to BOEM and USFWS summarizing post-construction monitoring activities, preliminary results as available, and any proposed changes in the monitoring program. Revolution Wind would participate in an annual meeting with BOEM and USFWS to discuss the report. Data from these monitoring studies would ultimately be submitted to relevant regional databases and archives (e.g., NABat), as feasible and appropriate (Biodiversity Research Institute 2023:231–235)

Literature Cited

Biodiversity Research Institute (BRI). 2023. *Assessment of the Potential Effects of the Revolution Wind Offshore Wind Farm on Birds and Bats*. *Lease Area OCS-A-0486*. Appendix AA in *Construction and Operations Plan Revolution Wind Farm*. Portland, Maine: bri. February.

Commercial Fisheries and For-Hire Recreational Fishing

This section provides an overview of the commercial fisheries data used in EIS Section 3.9. It also provides a description of the methodological approach used to describe the dependency of fishermen on the Lease Area.

Overview of Commercial Fisheries Data Used in the Environmental Impact Statement Section 3.9

The primary source of data used for this resource was summarized vessel trip report (VTR) data provided by the National Marine Fisheries Service (NMFS) (2021a, 2022a, 2023). These data comprise annual VTR data (2008–2019) for specific geographic areas relevant to the Project showing commercial fishing revenue, trips, and number of unique vessels for each fishery management plan (FMP) fishery, species, gear, and port of landing.[3] These data were also used to analyze the distribution of commercial fishing revenue from the Lease Area across fishing vessels. In addition, the VTR data provided by NMFS (2021a) describe the activities of for-hire recreational fishing vessels, including landings by species and the number of angler trips by port.

A second source of data was the website at NMFS (2022b), which summarizes commercial fisheries data for each proposed WEA along the U.S. Atlantic Coast. These data were downloaded and used to summarize revenue at risk across all proposed offshore wind projects under the No Action Alternative.

In addition, polar histograms (Figure 3.9-3 through Figure 3.9-6) developed by BOEM based on NMFS vessel monitoring system (VMS) data provided by NMFS (2019) are included in Section 3.9.[4] From January 2014 through August 2019, VMS coverage levels ranged between 90% and 100% for the following FMP fisheries: Atlantic Herring, Bluefish, Mackerel/Squid/Butterfish, Monkfish, Northeast Multispecies (large-mesh), Northeast Multispecies (small-mesh), Atlantic Sea Scallop, Spiny Dogfish, Summer Flounder/Scup/Black Sea Bass, and Surfclam/Ocean Quahog. Average VMS coverage levels were lower for the following FMP fisheries: Northeast Skate Complex (75%), Highly Migratory Species (48%), Jonah Crab (14%), and American Lobster (11%) (NMFS 2019).

[3] NMFS requires all federally permitted commercial fishing vessels (with the exception of those vessels that only have a lobster permit) to submit a VTR for every fishing trip (50 CFR 648.7). The VTR data provide a broad census of fishing activity that encompasses the majority of commercial fisheries active near the RWF and offshore RWEC. VTRs include a single fishing location (reported in latitude and longitude coordinates) for each trip. VTR location information is only an approximation of fishing activity, particularly with respect to the use of mobile gear, because fishermen self-report only one set of coordinates for a fishing trip, despite the fact that one trip may include multiple gear tows that take place in many different locations across a much wider area. VTR instructions require that fishermen record the haulback position where most of the fishing occurred (Livermore 2017; NMFS 2020a).

A fisherman with a vessel with a federal lobster permit is only required to fill out a VTR if he or she has another federal permit. Approximately 63% of the lobster fleet fishing in statistical area 537, which encompasses most of the RI/MA WEAs, reports through VTRs (Atlantic States Marine Fisheries Commission 2018).

[4] VMS data are generated from automated transmissions from transponders that are required to be on board and operating whenever permitted vessels are fishing or transiting with the intent to harvest fish or shellfish. Data are transmitted once every 60 minutes for all FMPs except sea scallops, which are transmitted once every 30 minutes. Each transmission includes the current directional bearing and vessel speed as well as the average bearing and vessel speed since the last transmission. Using the average vessel speed, NMFS uses an algorithm to assign an assumed activity (either fishing or transiting) to each transmission.

Average Annual Revenues and Non-Disclosure Issues

In general, Section 3.9 provides information on the average annual revenue over the 2008–2019 period. However, annual data were provided only for the years for which data could be disclosed. If an annual datapoint for a given FMP, gear, or port within a given geographic area could not be disclosed because there was an insufficient number of vessels or dealers, then NMFS added the datapoint to a "non-disclosed" category. By combining all the datapoints that could not be disclosed, NMFS was able to report the annual total revenue for every year. However, this methodology for reporting non-disclosed datapoints hampers accurate estimation of average annual revenue because there were often non-disclosed data for 1 or more years, particularly if the geographic area was small or if there were relatively low levels of participation. Table G-CF1 demonstrates these issues and shows the annual data for gears as provided by NMFS for the RWEC from 2008 to 2019. It is not possible to infer whether numbers shown as zero (with a "–") denote zero revenue for the gear, or if the data were not disclosed and assigned to the "all other gear" category.

Commercial Fisheries Revenue Intensity Figures

The revenue intensity figures for commercial fisheries shown in Figures G-CF1 through G-CF13 have been developed to provide a visual representation of harvesting locations across FMP fisheries. These figures are reproduced from the Fishing Footprints webpage (NMFS 2020b) with the addition of the Lease Area and the RWEC superimposed. The figures are generally limited to those that are available for the 2016–2018 period, although an exception is made for Figure G-CF13, which summarizes the revenue intensity of all fisheries combined and which is provided for the 2013–2015 (the most recent data available on the webpage).

Table G-CF1. National Marine Fisheries Service-Greater Atlantic Regional Fisheries Office Commercial Fishing Annual Revenue ($1,000s) Data for the Lease Area

Gear	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Non-Zero Years
Dredge-clam	–	$7.8	–	–	–	$0.9	–	–	–	–	–	–	2
Dredge-scallop	$10.8	$5.6	$2.8	$14.4	–	$5.3	$8.3	$17.8	$20.6	$6.1	$4.8	$11.0	11
Dredge-scallop	$10.8	$5.6	$2.8	$14.4	–	$5.3	$8.3	$17.8	$20.6	$6.1	$4.8	$11.0	11
Gillnet-sink	$35.3	$38.7	$49.3	$38.3	$24.3	$22.9	$24.7	$20.8	$25.8	$25.8	$15.5	$15.9	12
Handline	$1.4	$1.1	$0.8	$0.8	$0.7	$0.5	$1.3	$0.5	$1.1	$1.7	$1.4	$1.4	12
Longline-bottom	–	–	–	–	–	$0.1	$0.1	–	–	–	–	–	2
Pot-lobster	$139.3	$105.5	$91.8	$70.1	$79.0	$50.8	$52.8	$55.6	$55.3	$49.8	$65.1	$89.3	12
Pot-other	$2.0	$3.2	$17.5	$21.2	$12.9	$10.5	$5.1	$6.5	$11.0	$9.5	$20.1	$15.0	12
Trawl-bottom	$115.5	$114.2	$139.7	$185.9	$263.6	$237.5	$191.6	$205.3	$187.3	$150.4	$155.1	$182.8	12
Trawl-midwater	$8.3	$43.9	$7.9	$37.9	$131.8	$100.3	$125.6	$51.6	$36.9	$0.7	–	–	10
All other gear*	$17.8	$10.6	$13.0	$12.0	$7.3	$0.1	$3.8	$27.6	$16.3	$6.5	$3.2	$19.6	12
All gear types	$341.3	$336.3	$325.5	$395.0	$519.7	$434.1	$421.7	$403.5	$374.7	$256.5	$270.0	$345.8	$0.1

Source: NMFS (2021b).

Notes: Revenue is adjusted for inflation to thousands of 2019 dollars using the GDP Implicit Price Deflator. ND = not disclosed. A "–" indicates a value equal to zero, while $0.0 indicates a value greater than zero, but less than $500.

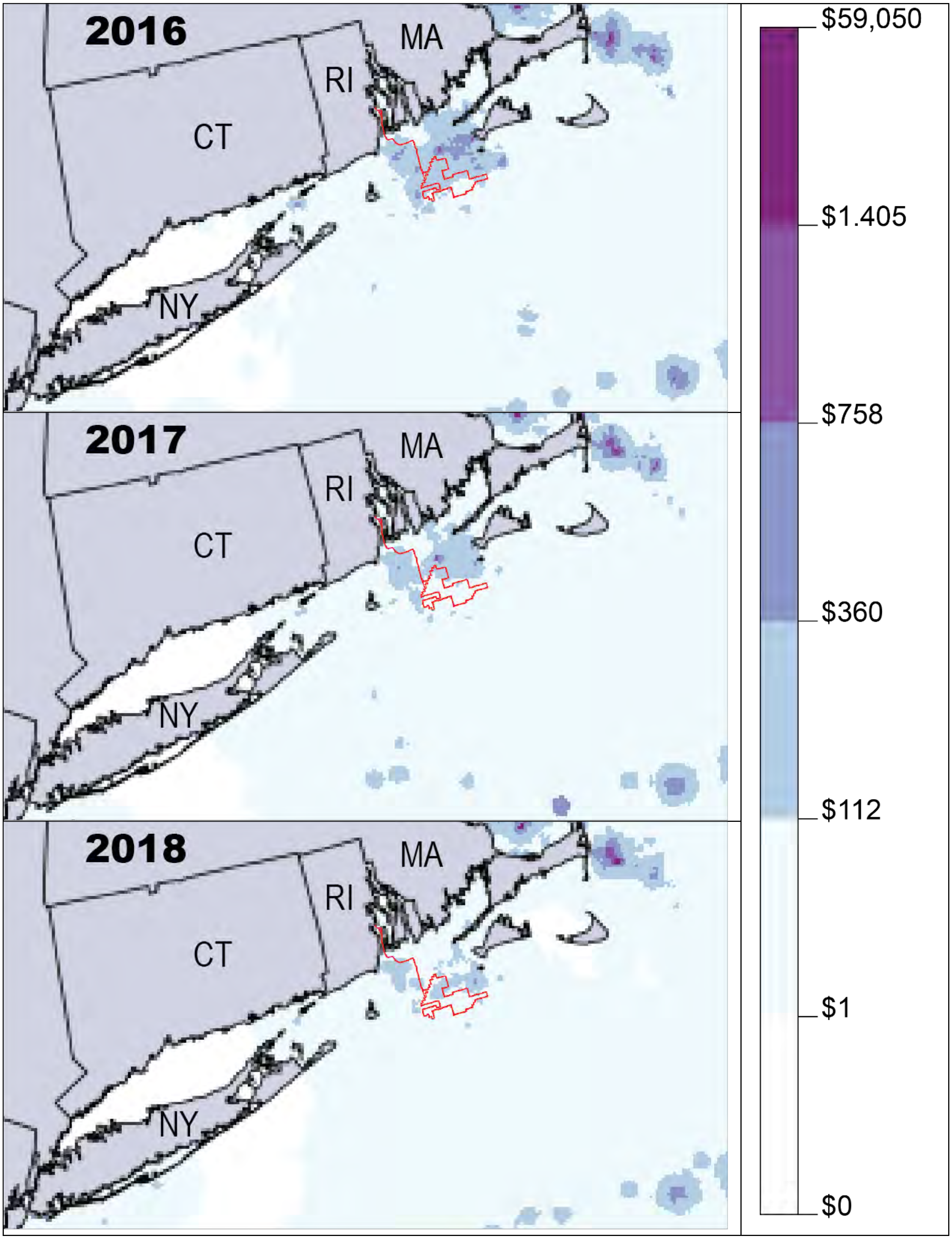

Figure G-CF1. Revenue intensity for the American Lobster FMP Fishery near the Lease Area, 2016–2018 (NMFS 2020b).

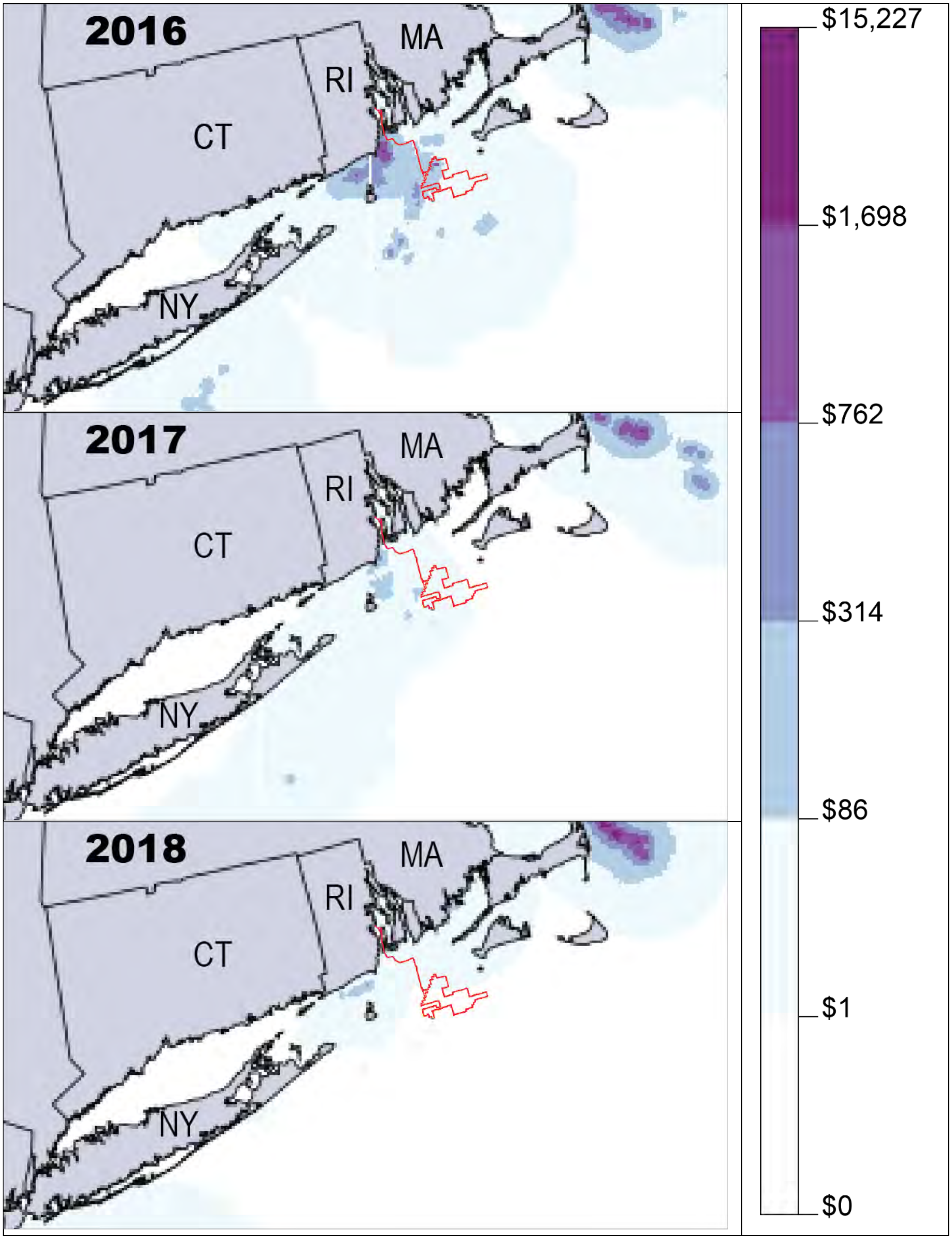

Figure G-CF2. Revenue intensity for the Atlantic Herring FMP Fishery near the Lease Area, 2016–2018 (NMFS 2020b).

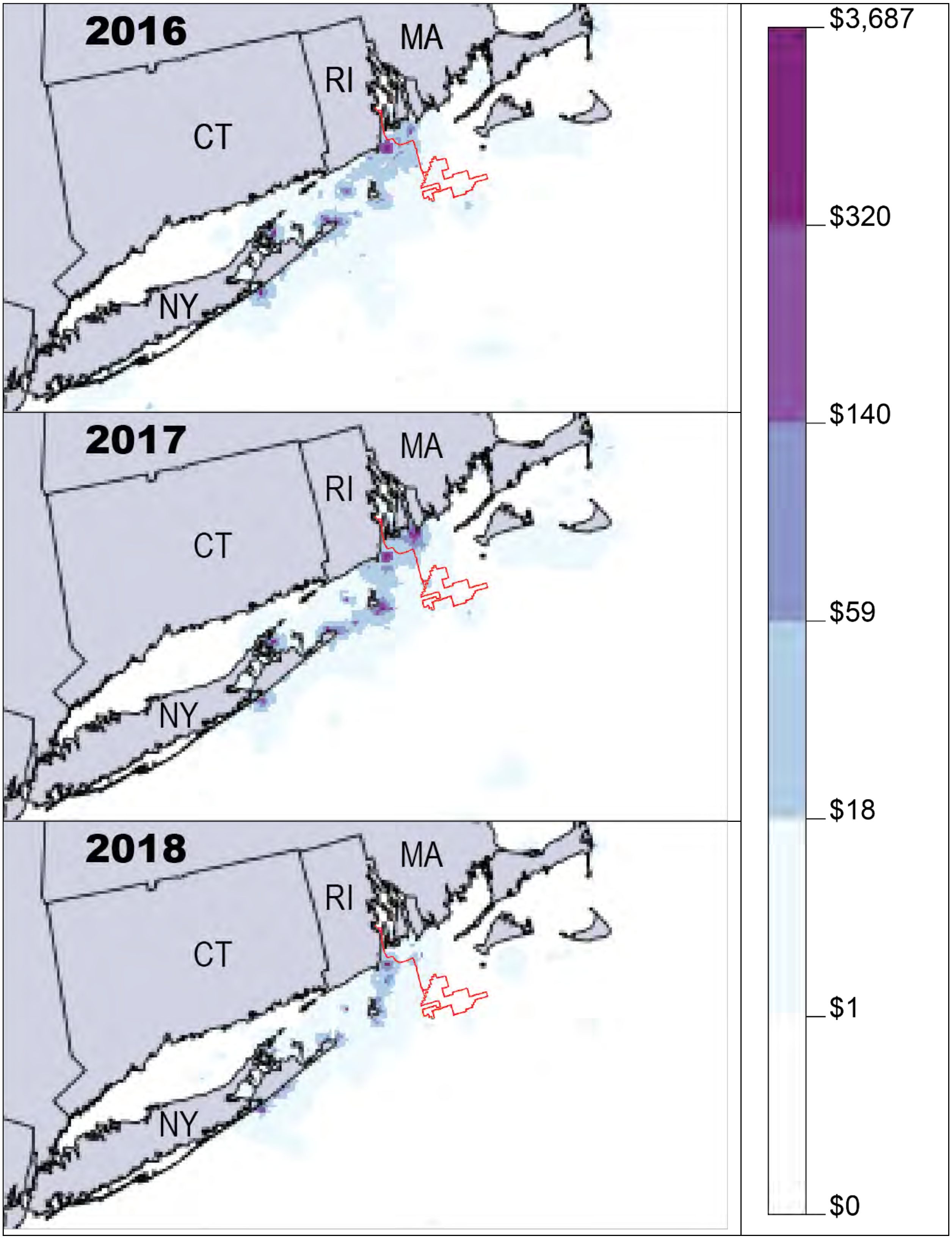

Figure G-CF3. Revenue intensity for the Bluefish FMP Fishery near the Lease Area, 2016–2018 (NMFS 2020b).

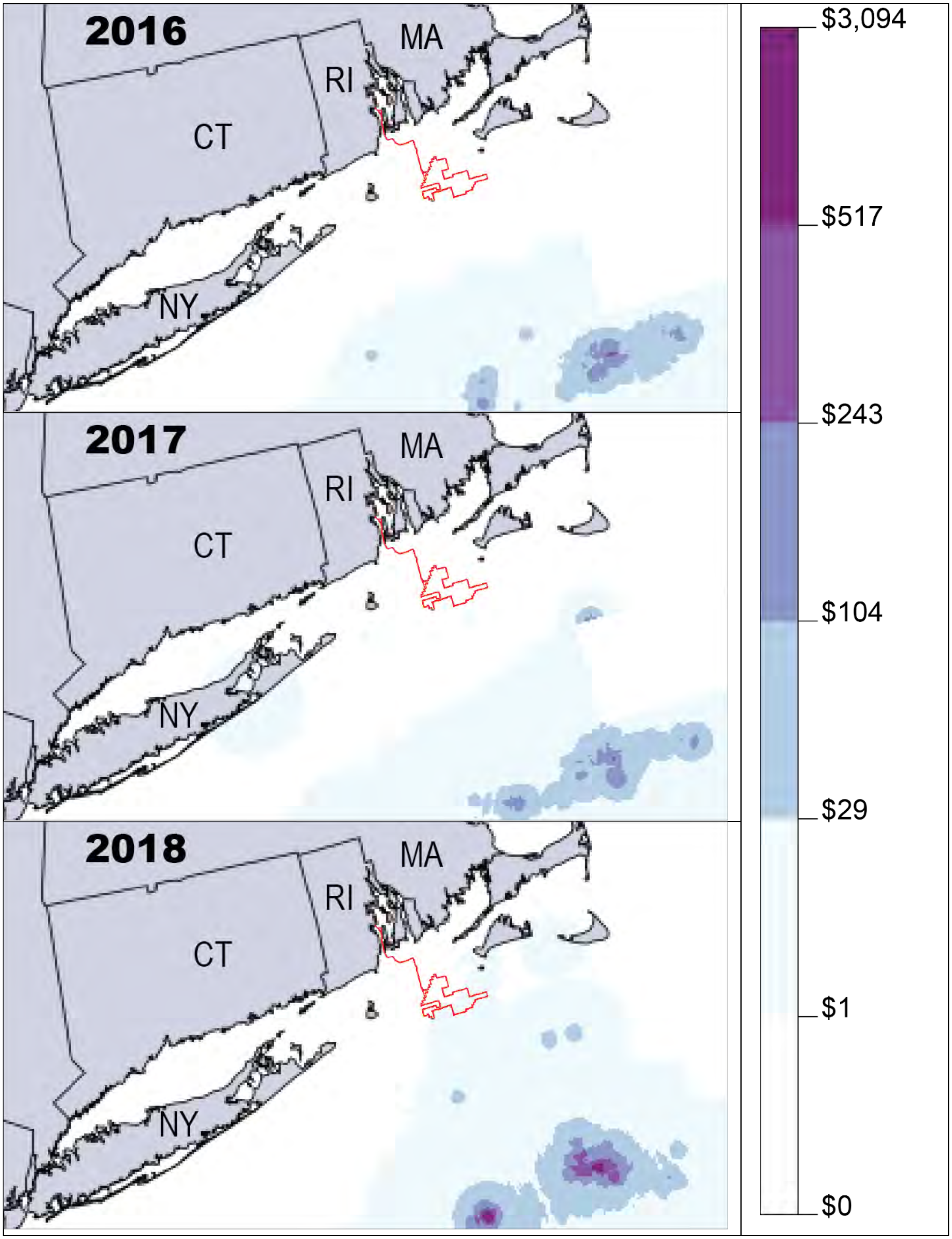

Figure G-CF4. Revenue intensity for the Golden Tilefish FMP Fishery near the Lease Area, 2016–2018 (NMFS 2020b).

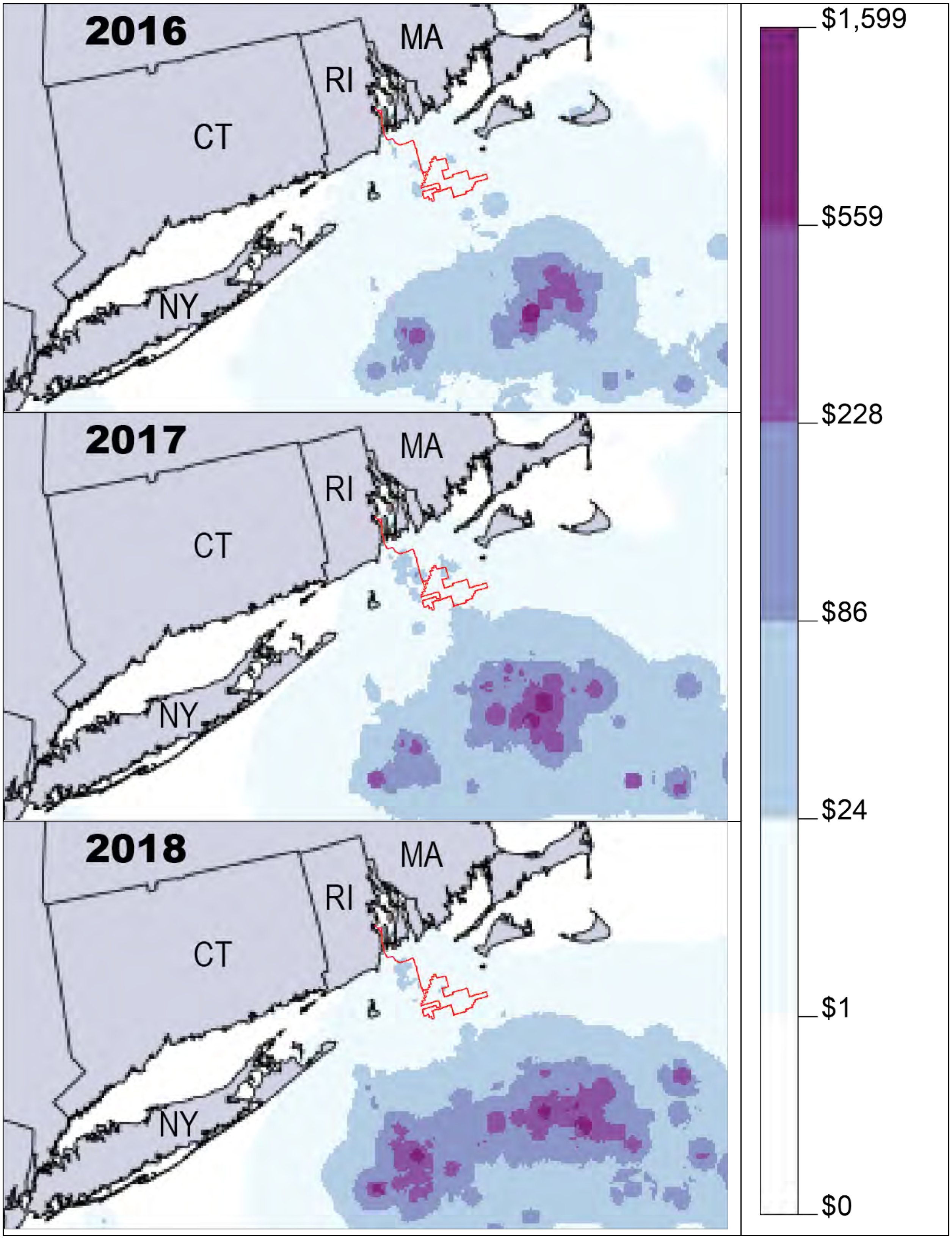

Figure G-CF5. Revenue intensity for the Jonah Crab FMP Fishery near the Lease Area, 2016–2018 (NMFS 2020b).

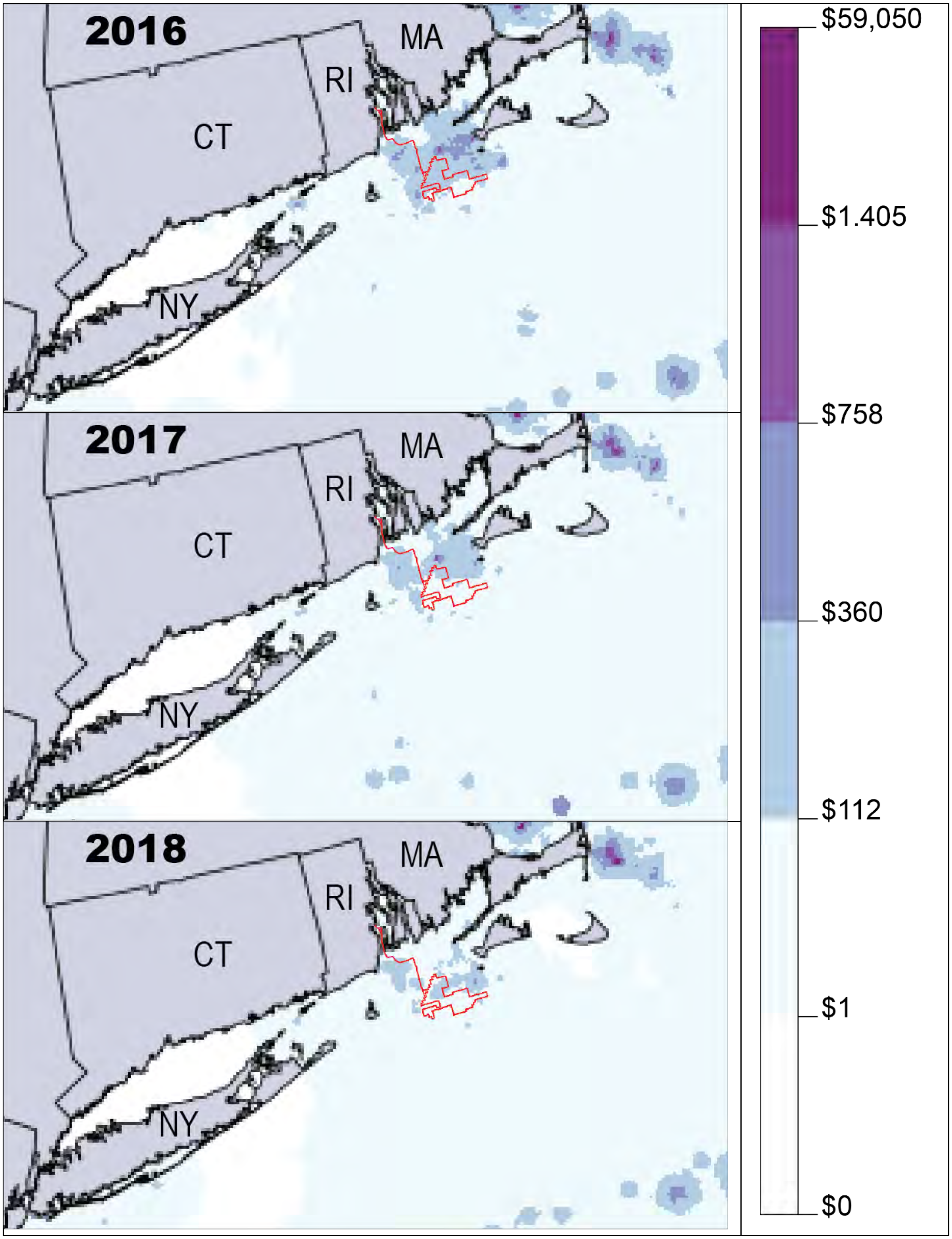

Figure G-CF6. Revenue intensity for the Mackerel/Squid/Butterfish FMP Fishery near the Lease Area, 2016–2018 (NMFS 2020b).

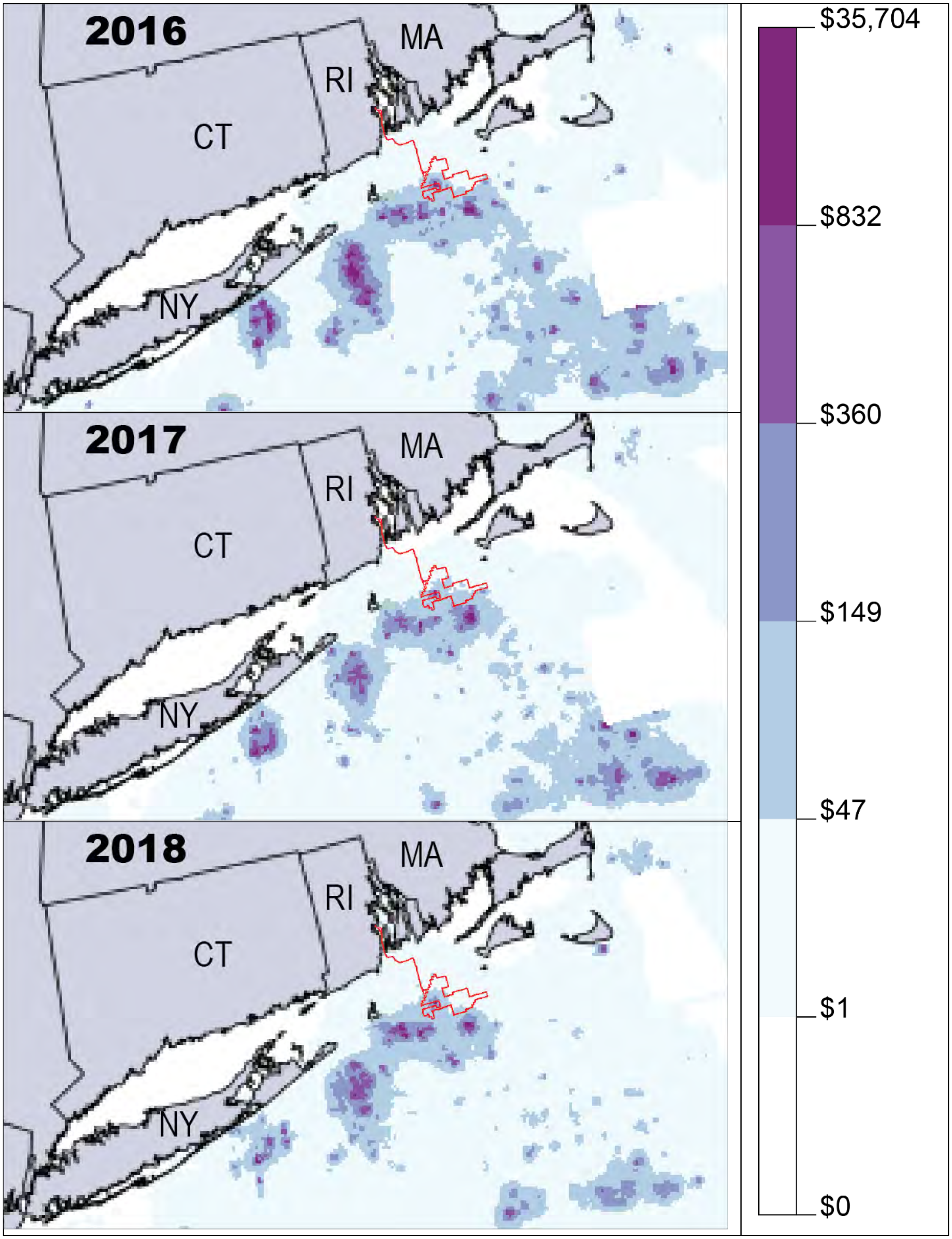

Figure G-CF7. Revenue intensity for the Monkfish FMP Fishery near the Lease Area, 2016–2018 (NMFS 2020b).

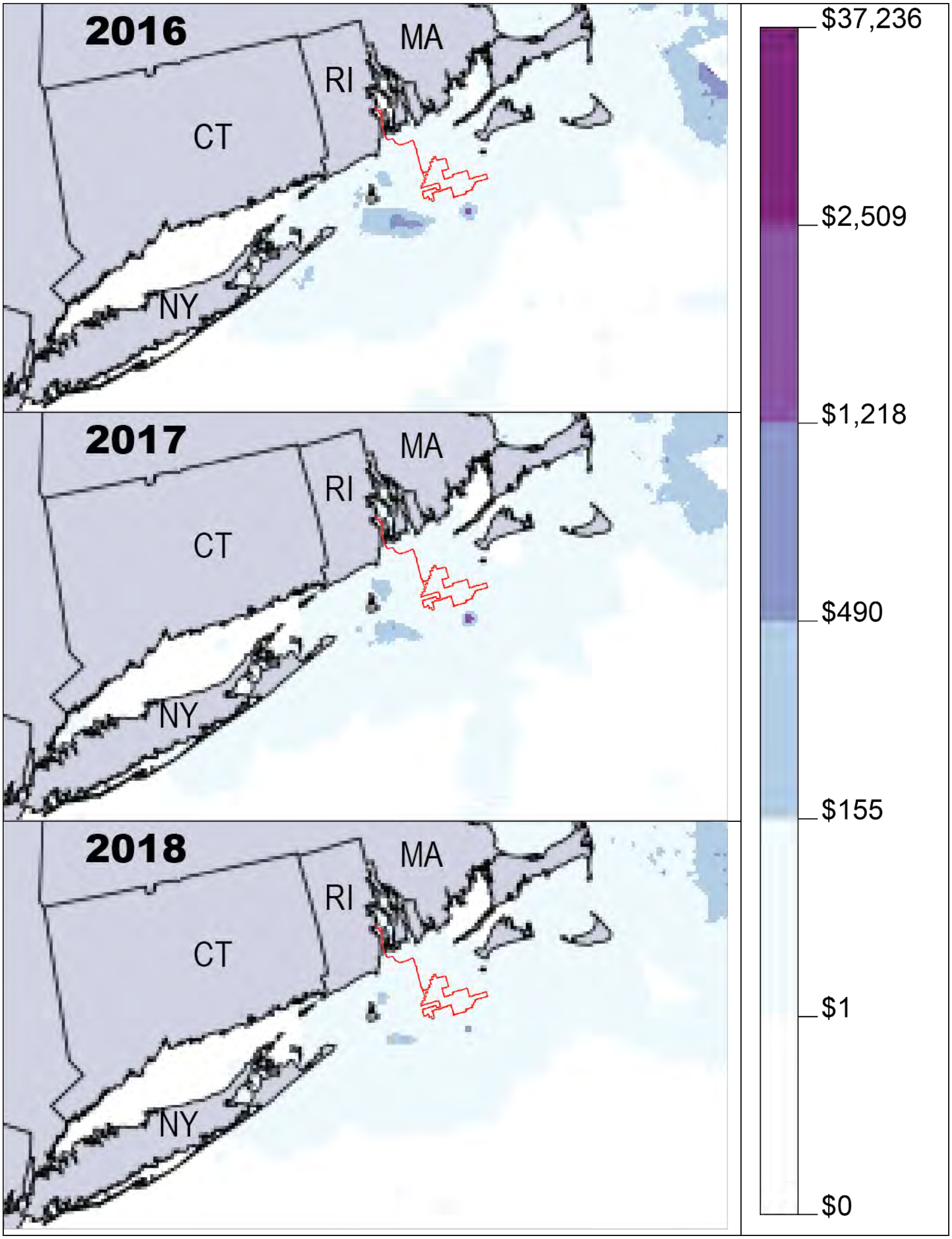

Figure G-CF8. Revenue intensity for the Northeast Multispecies (large-mesh) FMP Fishery near the Lease Area, 2016–2018 (NMFS 2020b).

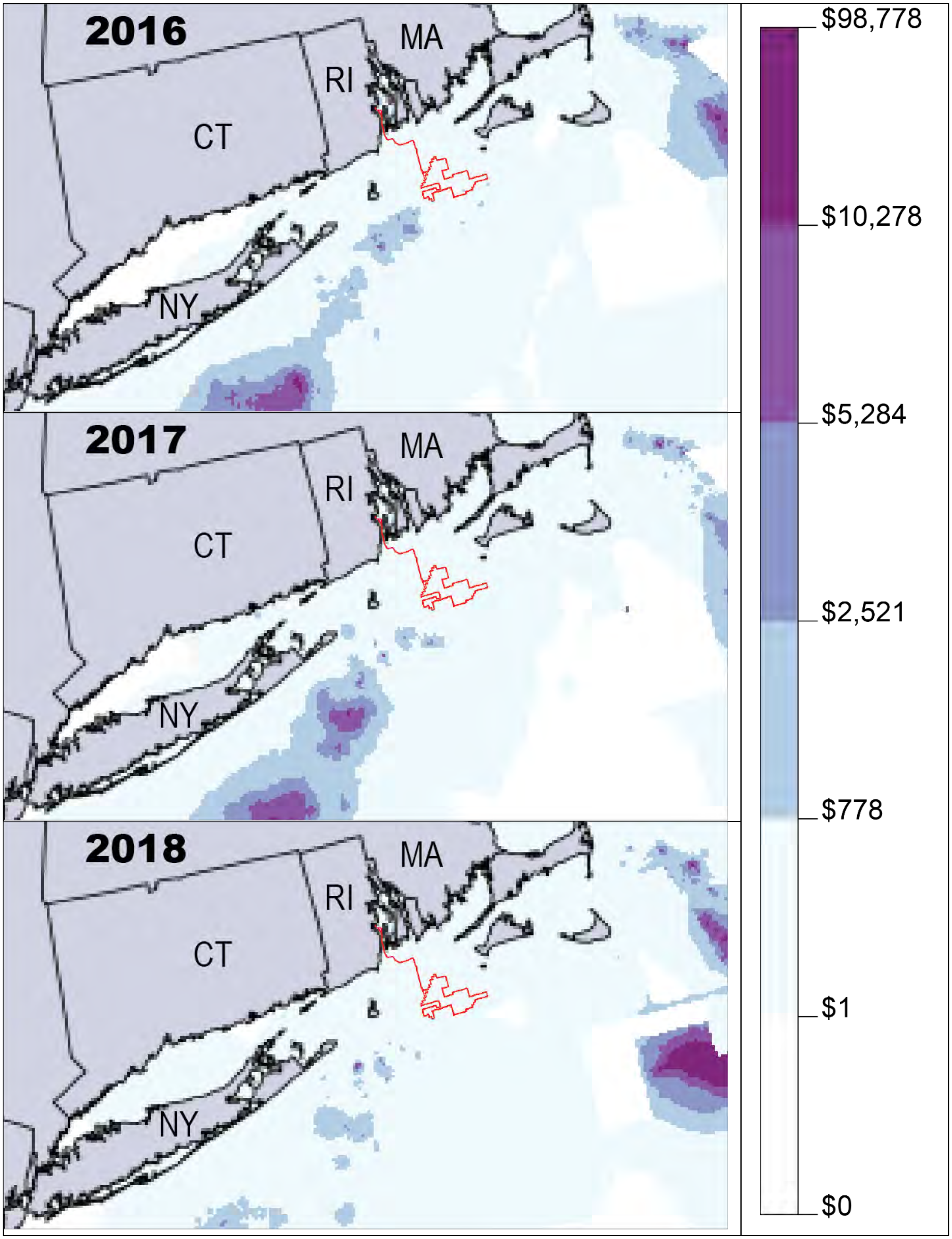

Figure G-CF9. Revenue intensity for the Atlantic Sea Scallop FMP Fishery near the Lease Area, 2016–2018 (NMFS 2020b).

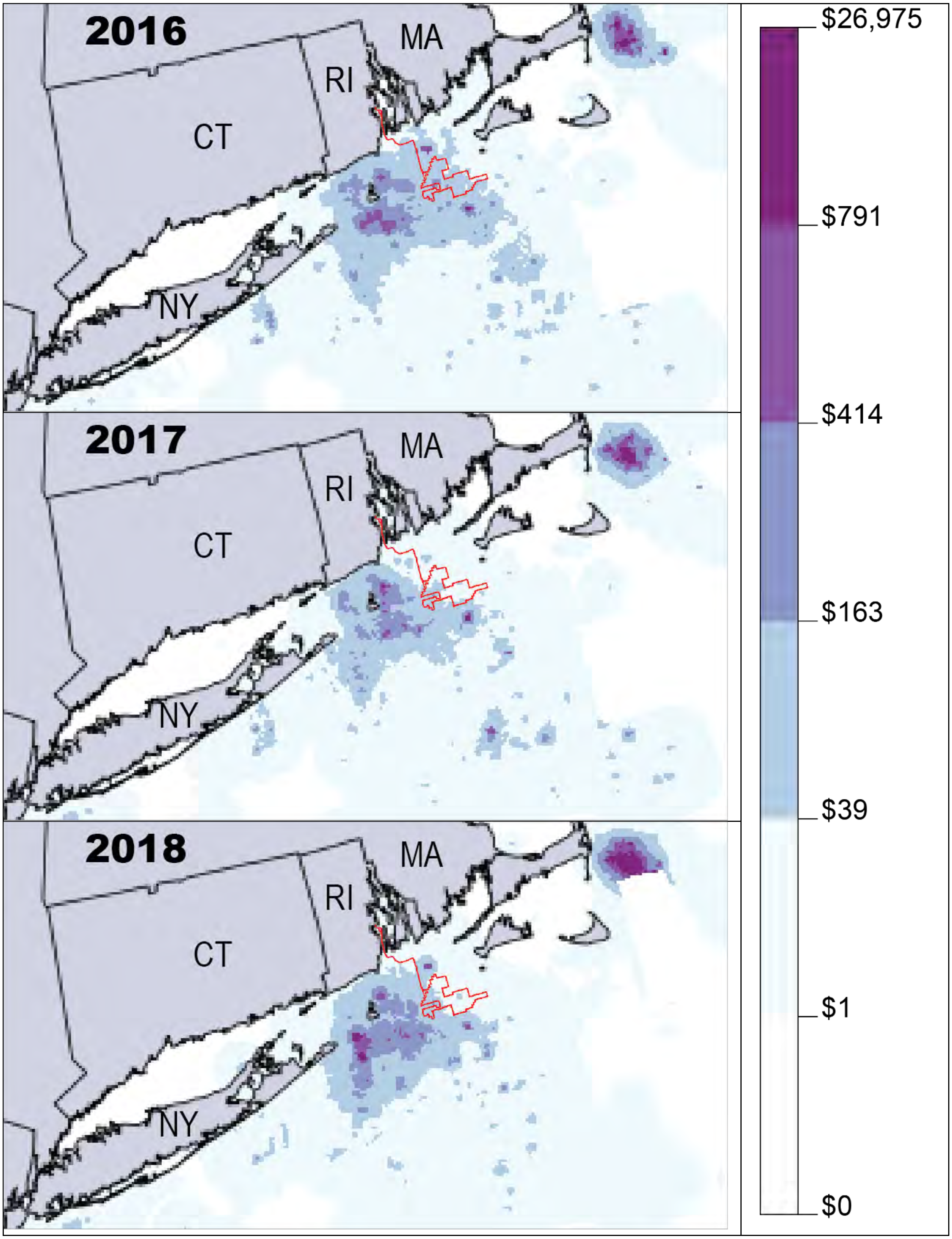

Figure G-CF10. Revenue intensity for the Northeast Skate Complex FMP Fishery near the Lease Area, 2016–2018 (NMFS 2020b).

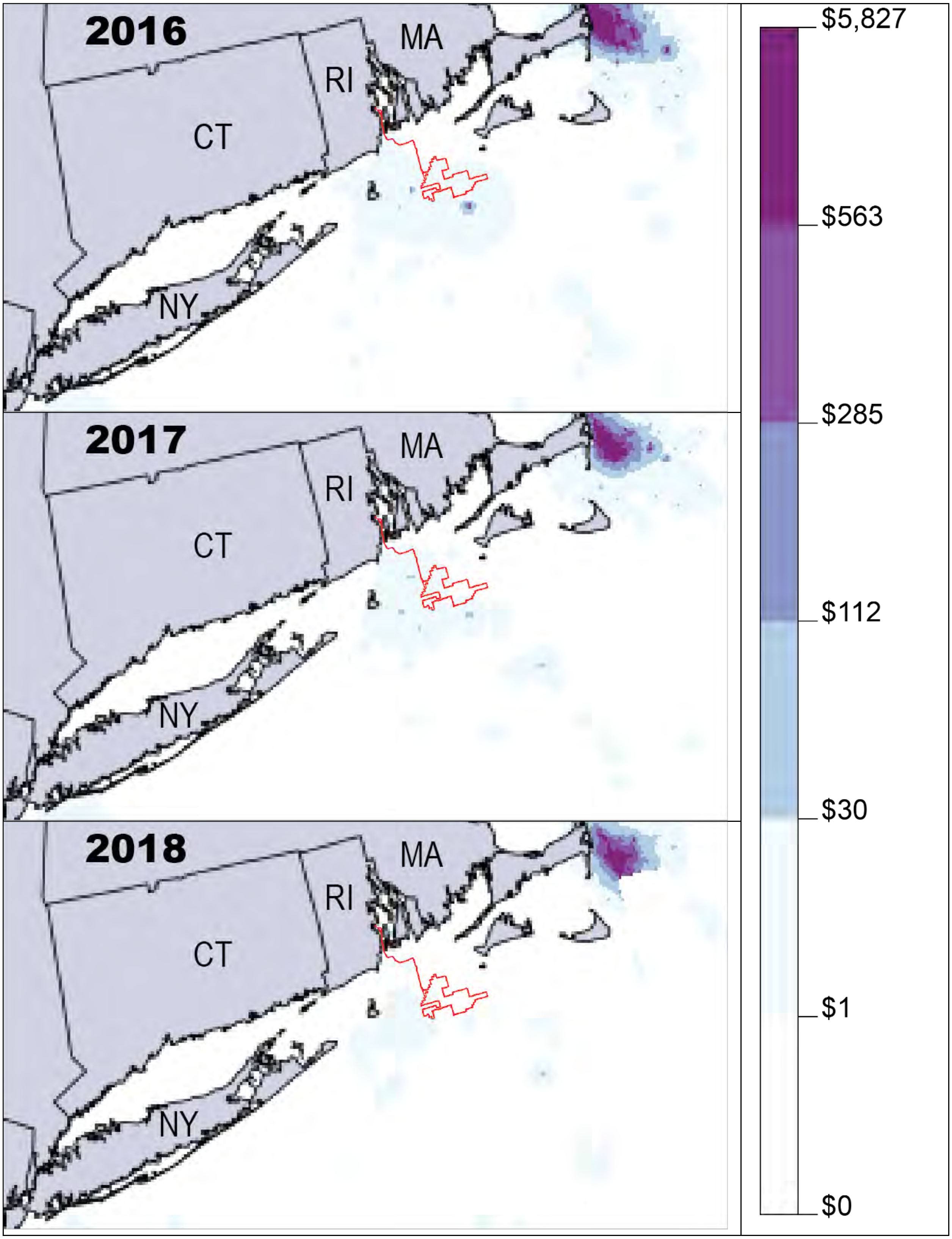

Figure G-CF11. Revenue intensity for the Spiny Dogfish FMP Fishery near the Lease Area, 2016–2018 (NMFS 2020b).

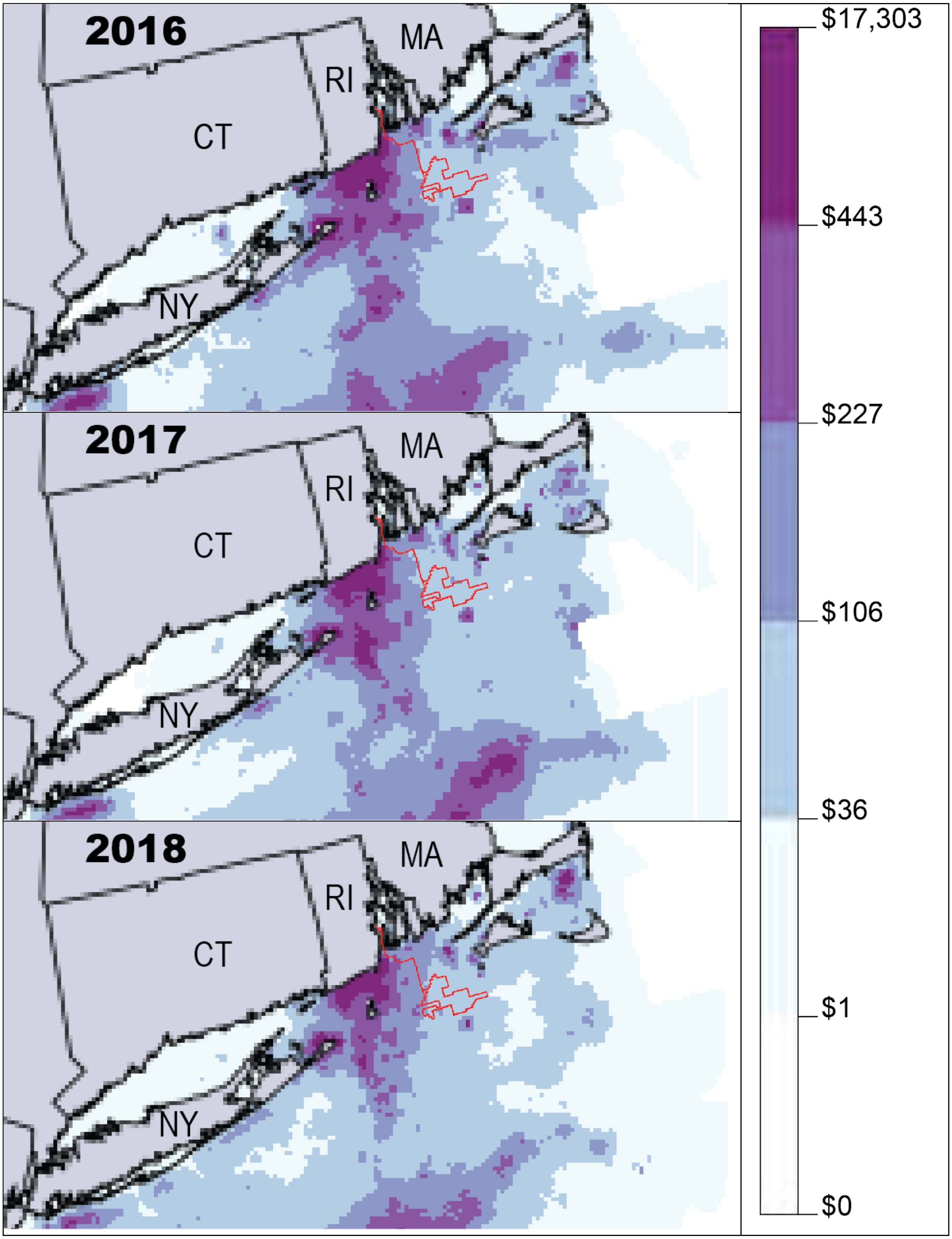

Figure G-CF12. Revenue intensity for the Summer Flounder/Scup/Black Sea Bass FMP Fishery near the Lease Area, 2016–2018 (NMFS 2020b).

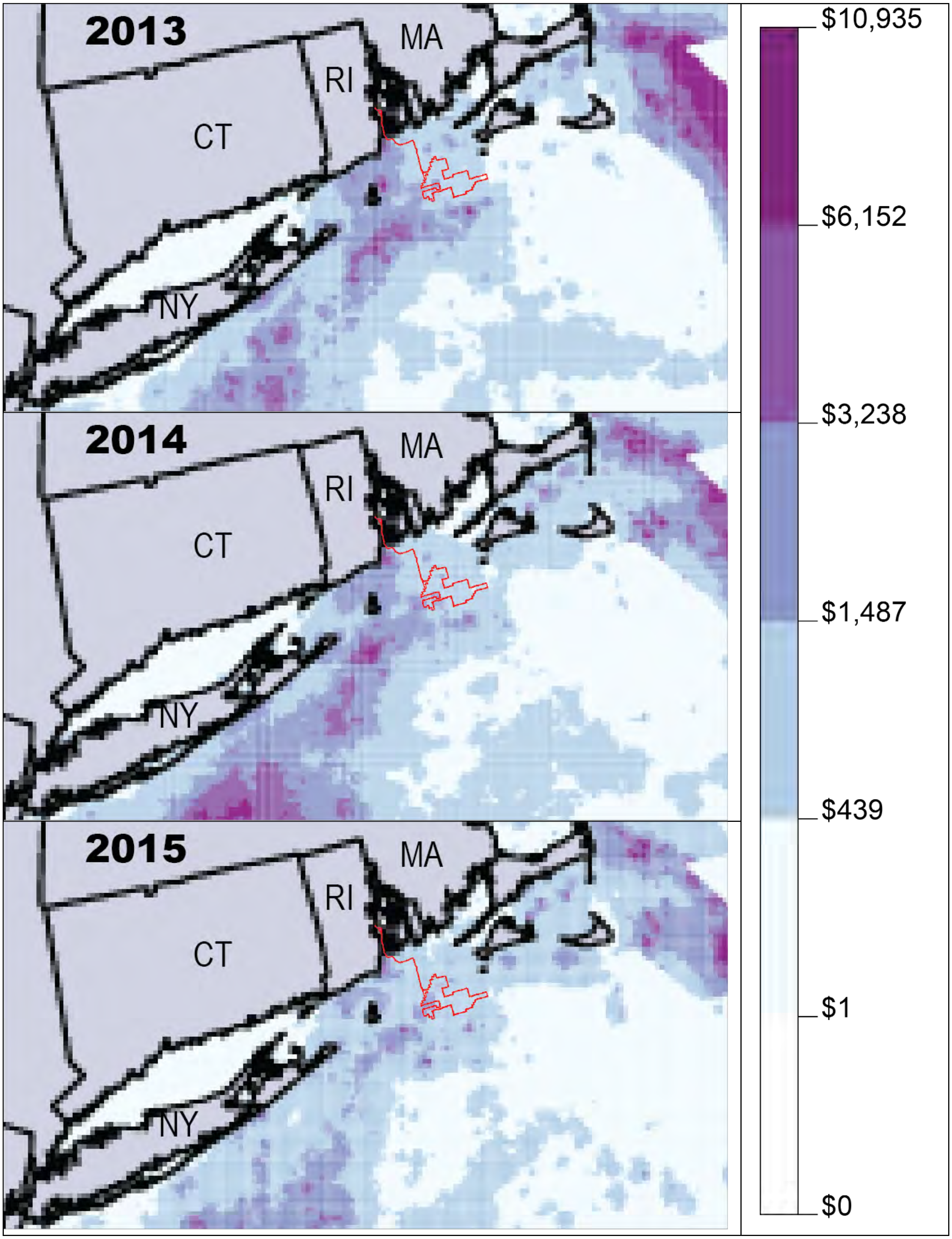

Figure G-CF13. Revenue intensity for All Fisheries Combined near the Lease Area, 2013–2015 (NMFS 2020b).

Methodology Used to Estimate Annual Future Revenue at Risk as Reported in Table 3.9-27

This section explains the methodology used to develop EIS Table 3.9-27, which estimates the annual future revenue at risk by FMP for the 2022–2030 period for offshore wind projects that have already been completed (i.e., Coastal Virginia Offshore Wind), for offshore wind projects for which construction has started (South Fork and Vineyard Wind 1), and for offshore wind projects currently scheduled to begin construction in 2023 or later. The primary data source for each offshore wind energy project is *Landing and Revenue Data for Wind Energy Lease Areas, 2008-2021* (NMFS 2022b). Using these data, annual average revenue by FMP is estimated for each lease area after adjusting for inflation to 2019 dollars using the GDP Implicit Price Deflator embedded in the data.

Each future offshore wind project is then assigned a construction start year and a construction end year based on information in Table E-1 in Appendix E (Planned Activities Scenario and Reasonably Foreseeable Future Activities and Projects) augmented with the assumption that the six lease areas in the New York Bight (i.e. OCS-A_0537, OCS-A_0538, OCS-A_0539, OCS-A_0541, OCS-A_0542, OCS-A_0544) would begin a phased-in construction process over 4 years from 2026 to 2029 and would be operational in 2030.

If the construction start year and construction end year are the same years, then it is assumed that construction begins and ends in that year and that operation begins in the following year.

Analysis of the Economic Dependency on Fishing Grounds in the Lease Area among Commercial Fishing Vessels

To analyze differences in the economic importance of fishing grounds in the Lease Area across the commercial fishing fleet, information was obtained from NMFS (2021b) on the number of federally permitted commercial fishing vessels that fished annually in the Lease Area over the 2008–2019 period, together with box plot figure summarizing the relative dependence of these vessels during that period.

The vessel-level annual revenue percentages were divided into quartiles, which were created by ordering the data from lowest to highest percentage value and then dividing the data into four groups of equal size. The first quartile represents the lowest 25% of ranked percentages while the fourth quartile represents the highest 25%. NMFS (2021b) reported the number of "outlier" vessels in the revenue distribution as a percentage of revenue. In the context of this analysis, an outlier is a vessel that derived an exceptionally high proportion of its annual revenue from the Lease Area in comparison to other vessels that fished in the area.[5]

As shown in Table G-CF2, from 2008 through 2019, an average of 288 vessels per year fished in the Lease Area, with a high of 331 vessels in 2008 and a low of 251 vessels in 2018. The average annual number of outliers was 40.5 (14% of all vessels), with a high of 47 outliers in 2016 (14.6% of all vessels) and a low of 31 outliers in 2019 (11.8% of all vessels).

[5] Technically, an outlier in a box plot distribution is an observation that is more than 1.5 times the length of the box away from either the first quartile (Q1) or third quartile (Q3). Specifically, if an observation is less than Q1 – (1.5 × IQR) or greater than Q3 + (1.5 × IQR), it is an outlier; where IQR = interquartile range = Q3 – Q1.

Table G-CF2. Number of Federally Permitted Vessels in the Lease Area (2008–2019)

Year	Number of Vessels	Number of Outliers	Number of Outliers as a Percentage of Total Vessels
2008	331	46	13.9%
2009	308	43	14.0%
2010	253	35	13.8%
2011	262	31	11.8%
2012	282	40	14.2%
2013	308	41	13.3%
2014	308	46	14.9%
2015	296	40	13.5%
2016	322	47	14.6%
2017	284	40	14.1%
2018	251	35	13.9%
2019	261	42	16.1%
Average	288	40	14.0%

Source: NMFS (2021b).

More detailed information about the distribution of the vessel-level annual revenue percentages is provided in the boxplot in Figure G-CF14. The box plot begins at the first quartile, or the value beneath which 25% of all vessel-level revenue percentages fall. A thick line within the box identifies the median, the observation at which 50% of vessel-level revenue percentages are above or beneath. The box ends at the third quartile, or the vessel-level revenue percentage beneath which 75% of observations fall. Nonparametric estimates of the minimum and maximum values are also indicated by the "whiskers" (dashed line terminating in a vertical line) that jut out from each side of the box. Any points outside of these whiskers are vessel-level revenue percentages that are considered outliers.

From 2008 through 2019, the vessel ranked as the seventy-fifth percentile vessel (i.e., the vessel in the third quartile with the greatest dependence on the Lease Area over the 12-year period) derived 0.88% of its total revenue from the Lease Area (NMFS 2021b). Of the outliers, the vessel with the greatest dependence on the Lease Area derived 38% of its total revenue from the area. Looking at individual years shown in the box plot, in 2008, one vessel derived nearly 60% of its total revenue from the Lease Area. In that same year, the vessel with the greatest percentage of dependence in the third quartile generated approximately 2.2% of its revenue from the Lease Area. Figure G-CF14 shows that in any given year the revenue percentage for the majority of outliers were below 10%.

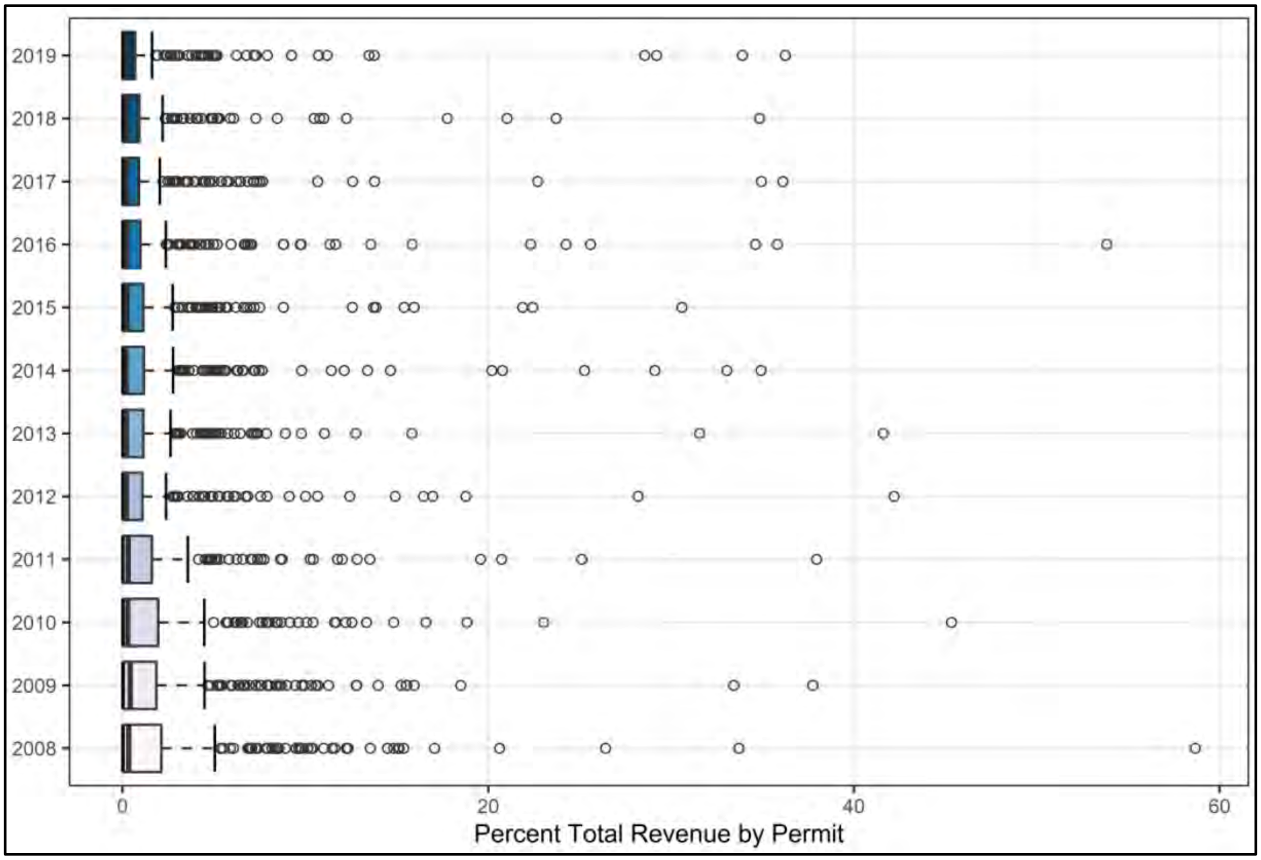

Figure G-CF14. Percentage of Total Commercial Fishing Revenue of Federally Permitted Vessels Derived from the Lease Area by Vessel, 2008–2019 (NMFS 2021b).

It is important to note that the box plot data do not provide any information about total revenues, or if there are correlations between the relative dependence on the Lease Area and total revenue of the individual vessel. To undertake this additional analysis, data would need to be requested from NMFS that would indicate the total revenue for each quartile/outlier group from within the Lease Area (i.e., the average numerator) as well as the total revenue from all areas fished (i.e., average denominator) for each quartile/outlier group.

State Vessel Trip Report Data

This section reports the landings of Rhode Island state-only permitted vessels that fished in Greater Atlantic Region Statistical Area 539, which is the statistical area most relevant to the RWEC. Landings data are reported by species, gear type, and port of landing.

Table G-CF3. Commercial Fishing Landings of Rhode Island State-only Permitted Vessels in Statistical Area 539 by Species (2009–2018)

Species	Average Annual Landings (pounds)
American lobster	33,533
Atlantic bonito	5,042

Species	Average Annual Landings (pounds)
Atlantic herring	8,839
Atlantic mackerel	1,255
Black sea bass	78,100
Bluefish	37,926
Butterfish	27,976
Cod	3,892
Conchs and welks	355,805
Conger eel	6,258
Jonah crab	6,072
Loligo squid	26,792
Menhaden	200,245
Monkfish (goosefish)	1,672
Other crab	43,442
Red hake	1,361
Rock crab	21,194
Scup	781,887
Sea robins (all species)	47,177
Silver hake	2,378
Skates (all species)	120,571
Spiny dogfish	4,144
Striped bass	119,233
Summer flounder	223,629
Tautog	26,099
Tuna, little tunny	9,347
Winter flounder	5,354
Yellowtail flounder	16
All other species	21,907
Total	**2,221,145**

Source: Developed using data from INSPIRE Environmental (2021).

Notes: Original source of data was the Atlantic Coastal Cooperative Statistics Program. Confidential information was redacted from this dataset.

Table G-CF4. Commercial Fishing Landings of Rhode Island State-only Permitted Vessels in Statistical Area 539 by Gear (2009–2018)

Gear Type	Average Annual Landings (pounds)
By hand, diving gear	4,276
By hand, no diving gear	36,608
Dip nets	6,293
Dredge	52
Gill nets	162,310
Hand line	1,794
Hook and line	388,116
Long lines	1,316
Other fixed nets	432,516
Other trawls	19,593
Otter trawls	259,353
Pots and traps, lobster	52,645
Pots and traps, other	12,824
Pots and traps	681,343
Rakes	3,241
Spears	2,574
Total	**2,064,851**

Source: Developed using data from INSPIRE Environmental (2021).

Notes: Original source of data was the Atlantic Coastal Cooperative Statistics Program. Confidential information was redacted from this dataset.

Table G-CF5. Commercial Fishing Landings of Rhode Island State-only Permitted Vessels in Statistical Area 539 by Port (2009–2018)

Port	Total Active Fishing Permits with Landings	Average Annual Landings (pounds)
Barrington	5,251	12
Bristol	196,716	61
Bristol (County)	329	5
Charlestown	26,190	38
Davisville	248	6
East Greenwich	7,056	35
Jamestown	24,367	32

Port	Total Active Fishing Permits with Landings	Average Annual Landings (pounds)
Little Compton	605,416	51
Middletown	2,183	3
Narragansett	381	6
New Shoreham	2,170	9
Newport	426,256	80
Newport (County)	11,869	4
North Kingstown	145,080	97
Point Judith	672,982	459
Portsmouth	82,392	37
Providence	27,182	13
Providence (County)	2,289	10
South Kingstown	19,535	69
Tiverton	106,842	49
Unknown	35,798	64
Wakefield	3,306	21
Warren	26,374	38
Warwick	144,786	97
Westerly	57,985	78
Total	**Not available**	**2,217,507**

Source: Developed using data from INSPIRE Environmental (2021).

Notes: Original source of data was the Atlantic Coastal Cooperative Statistics Program. Confidential information was redacted from this dataset.

Number of Affected Vessels and Trips in the Combined Lease Area and Offshore RWEC by FMP Fishery, Species, Port, and Gear under Alternatives B, C, E2, and G

This section provides estimates of the average annual number of vessels and trips in the combined Lease Area and area along the offshore RWEC that would be affected during construction under Alternatives B, C, E2, and G. Data are reported by FMP fishery, gear type, and port of landing. The estimates are based on 2008 through 2019 data from NMFS (2021a, 2022a, 2023). Vessel and trip data for all design configurations of Alternative D and for Alternative E1 could not be provided because the data were provided separately for the Lease Area and RWEC. Combining data for the two areas could result in double counting. Vessel and trip data for Alternative F could not be provided because which WTG positions would be omitted under this alternative is unknown.

Alternative B

FMP Fishery

Table G-CF6. Annual Number of Vessels and Trips in the Lease Area and along the RWEC by FMP Fishery under Alternative B

FMP Fishery	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
American Lobster	113	2,862	38%	51%
Atlantic Herring	24	172	40%	36%
Bluefish	132	1,806	36%	30%
Highly Migratory Species	34	248	26%	14%
Jonah Crab	52	996	52%	51%
Mackerel/Squid/ Butterfish	120	2,638	43%	33%
Monkfish	163	2,134	32%	25%
Northeast Multispecies (large-mesh)	103	1,177	38%	38%
Northeast Multispecies (small-mesh)	102	1,668	47%	34%
Atlantic Sea Scallop	58	407	16%	14%
Southeast Regional Office FMPs	184	3,731	40%	33%
Northeast Skate Complex	130	2,431	42%	32%
Spiny Dogfish	56	482	39%	35%
Summer Flounder/Scup/ Black Sea Bass	162	3,701	40%	31%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Total over all FMP fisheries cannot be estimated with the available data.

Species

Table G-CF7. Annual Number of Vessels and Trips in the Lease Area and along the RWEC by Species under Alternative B

Species	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
American lobster	113	2,862	38%	51%
Atlantic herring	24	172	40%	36%
Atlantic mackerel	60	316	40%	29%
Black sea bass	156	1,945	39%	31%
Bluefish	132	1,806	36%	30%
Butterfish	91	1,750	53%	37%
Cod	76	554	39%	39%
Jonah crab	52	996	52%	51%
Loligo squid	108	2,482	46%	33%
Monkfish	163	2,132	32%	25%
Red hake	82	1,170	52%	36%
Rock crab	22	447	56%	74%
Scup	156	3,140	42%	36%
Sea scallops	58	407	16%	14%
Silver hake	90	1,507	50%	36%
Skates	130	2,430	42%	32%
Spiny dogfish	56	482	39%	35%
Summer flounder	162	3,701	40%	31%
Winter flounder	65	846	46%	47%
Yellowtail flounder	59	502	45%	45%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Port

Table G-CF8. Annual Number of Vessels and Trips in the Lease Area and along the RWEC by Port under Alternative B

Port and State	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
Beaufort, NC (5 of 12 years)	*10.6*	*13*	*37%*	*28%*
Chilmark/Menemsha, MA	13.4	359	88%	89%
Fairhaven, MA (10 of 12 years)	*5.5*	*43*	*41%*	*26%*
Fall River, MA (5 of 12 years)	*5.2*	*57*	*92%*	*88%*
Hampton, VA (6 of 12 years)	*10.2*	*15*	*26%*	*18%*
Little Compton, RI	16.5	874	93%	86%
Montauk, NY	26.8	161	24%	3%
New Bedford, MA	78.5	873	28%	33%
New London, CT (7 of 12 years)	*4.9*	*39*	*29%*	*8%*
Newport News, VA (5 of 12 years)	*9.0*	*12*	*23%*	*16%*
Newport, RI	15.5	580	75%	80%
Point Judith, RI	126.5	4,846	78%	66%
Point Pleasant Beach, NJ (7 of 12 years)	*10.0*	*20*	*13%*	*2%*
Stonington, CT	11.3	49	50%	7%
Tiverton, RI (10 of 12 years)	*5.0*	*92*	*81%*	*52%*
Westport, MA	12.6	255	77%	63%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Rows using italicized font indicated that fewer the 12 years of data were available. State-level estimates for vessels and trips cannot be estimated with the available data.

CT = Connecticut, MA = Massachusetts, MD = Maryland, NC = North Carolina, NJ = New Jersey, NY = New York, RI = Rhode Island, VA = Virginia.

Gear

Table G-CF9. Annual Number of Vessels and Trips in the Lease Area and along the RWEC by Gear Type under Alternative B (2009–2018)

Gear	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
Dredge-clam (7 of 12 years)	*6*	*112*	*20%*	*8%*
Dredge-scallop	34	260	11%	16%
Gillnet-sink	45	1,143	38%	30%
Handline	41	333	21%	10%
Longline-bottom (4 of 12 years)	*3*	*9*	*16%*	*4%*
Pot-lobster†	75	2,600	53%	54%
Pot-other†	31	653	43%	28%
Trawl-bottom	133	3,646	40%	30%
Trawl-midwater (10 of 12 years)	*11*	*57*	*68%*	*37%*

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Rows using italicized font indicated that fewer the 12 years of data were available. Totals over all gears cannot be estimated with the available data.

†Pot gear has been disaggregated to Pot-Lobster and Pot-Other.

Alternative C

FMP Fishery

Table G-CF10. Annual Number of Vessels and Trips in the Lease Area and along the RWEC by FMP Fishery under Alternative C1

FMP Fishery	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
American Lobster	113	2,862	38%	51%
Atlantic Herring	24	172	40%	36%
Bluefish	132	1,806	36%	30%
Highly Migratory Species	34	248	26%	14%
Jonah Crab	52	996	52%	51%

FMP Fishery	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
Mackerel/Squid/ Butterfish	120	2,637	43%	33%
Monkfish	163	2,133	32%	25%
Northeast Multispecies (large-mesh)	103	1,177	38%	38%
Northeast Multispecies (small-mesh)	102	1,667	47%	34%
Atlantic Sea Scallop	58	406	16%	14%
Southeast Regional Office FMPs	184	3,727	40%	33%
Northeast Skate Complex	130	2,429	42%	32%
Spiny Dogfish	56	480	39%	35%
Summer Flounder/Scup/ Black Sea Bass	162	3,695	40%	31%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Total over all FMP fisheries cannot be estimated with the available data.

Table G-Table G-CF11. Annual Number of Vessels and Trips in the Lease Area and along the RWEC by FMP Fishery under Alternative C2

FMP Fishery	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
American Lobster	113	2,862	38%	51%
Atlantic Herring	24	172	40%	36%
Bluefish	132	1,806	36%	30%
Highly Migratory Species	34	248	26%	14%
Jonah Crab	52	996	52%	51%
Mackerel/Squid/ Butterfish	120	2,637	43%	33%

FMP Fishery	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
Monkfish	163	2,133	32%	25%
Northeast Multispecies (large-mesh)	103	1,177	38%	38%
Northeast Multispecies (small-mesh)	102	1,667	47%	34%
Atlantic Sea Scallop	58	406	16%	14%
Southeast Regional Office FMPs	184	3,727	40%	33%
Northeast Skate Complex	130	2,429	42%	32%
Spiny Dogfish	56	480	39%	35%
Summer Flounder/Scup/ Black Sea Bass	162	3,695	40%	31%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Total over all FMP fisheries cannot be estimated with the available data.

Species

Table G-CF12. Annual Number of Vessels and Trips in the Lease Area and along the RWEC by Species under Alternative C1

Species	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
American lobster	113	2,862	38%	51%
Atlantic herring	24	172	40%	36%
Atlantic mackerel	60	316	40%	29%
Black sea bass	156	1,944	39%	31%
Bluefish	132	1,806	36%	30%
Butterfish	91	1,750	53%	37%
Cod	76	554	39%	39%
Jonah crab	52	996	52%	51%

Species	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
Loligo squid	108	2,481	46%	33%
Monkfish	163	2,131	32%	25%
Red hake	82	1,170	52%	35%
Rock crab	22	447	56%	74%
Scup	156	3,137	42%	36%
Sea scallops	58	406	16%	14%
Silver hake	90	1,506	50%	36%
Skates	130	2,428	42%	32%
Spiny dogfish	56	480	39%	35%
Summer flounder	162	3,695	40%	31%
Winter flounder	65	845	46%	47%
Yellowtail flounder	59	502	45%	45%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Table G-CF13. Annual Number of Vessels and Trips in the Lease Area and along the RWEC by Species under Alternative C2

Species	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
American lobster	113	2,862	38%	51%
Atlantic herring	24	172	40%	36%
Atlantic mackerel	60	316	40%	29%
Black sea bass	156	1,944	39%	31%
Bluefish	132	1,806	36%	30%
Butterfish	91	1,750	53%	37%
Cod	76	554	39%	39%
Jonah crab	52	996	52%	51%
Loligo squid	108	2,481	46%	33%
Monkfish	163	2,131	32%	25%
Red hake	82	1,170	52%	35%
Rock crab	22	447	56%	74%

Species	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
Scup	156	3,137	42%	36%
Sea scallops	58	406	16%	14%
Silver hake	90	1,506	50%	36%
Skates	130	2,428	42%	32%
Spiny dogfish	56	480	39%	35%
Summer flounder	162	3,695	40%	31%
Winter flounder	65	845	46%	47%
Yellowtail flounder	59	502	45%	45%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Port

Table G-CF14. Annual Number of Vessels and Trips in the Lease Area and along the RWEC by Port under Alternative C1

Port and State	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
Beaufort, NC (5 of 12 years)	*10.6*	*13*	*37%*	*28%*
Chilmark/Menemsha, MA	13.4	356	88%	88%
Fairhaven, MA (10 of 12 years)	*5.5*	*43*	*41%*	*26%*
Fall River, MA (5 of 12 years)	*5.2*	*57*	*92%*	*88%*
Hampton, VA (6 of 12 years)	*10.2*	*15*	*26%*	*18%*
Little Compton, RI	16.5	874	93%	86%
Montauk, NY	26.8	161	24%	3%
New Bedford, MA	78.4	870	28%	33%
New London, CT (7 of 12 years)	*4.9*	*39*	*29%*	*8%*
Newport News, VA (5 of 12 years)	*9.0*	*12*	*23%*	*16%*

Port and State	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
Newport, RI	15.5	580	75%	80%
Point Judith, RI	126.4	4,845	78%	66%
Point Pleasant Beach, NJ (7 of 12 years)	*10.0*	*20*	*13%*	*2%*
Stonington, CT	11.3	49	50%	7%
Tiverton, RI (10 of 12 years)	*5.0*	*92*	*81%*	*52%*
Westport, MA	12.6	255	77%	63%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Rows using italicized font indicated that fewer the 12 years of data were available. State-level estimates for vessels and trips cannot be estimated with the available data.

CT = Connecticut, MA = Massachusetts, MD = Maryland, NC = North Carolina, NJ = New Jersey, NY = New York, RI = Rhode Island, VA = Virginia.

Table G-CF15. Annual Number of Vessels and Trips in the Lease Area and along the RWEC by Port under Alternative C2

Port and State	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
Beaufort, NC (5 of 12 years)	*10.6*	*13*	*37%*	*28%*
Chilmark/Menemsha, MA	13.4	356	88%	88%
Fairhaven, MA (10 of 12 years)	*5.5*	*43*	*41%*	*26%*
Fall River, MA (5 of 12 years)	*5.2*	*57*	*92%*	*88%*
Hampton, VA (6 of 12 years)	*10.2*	*15*	*26%*	*18%*
Little Compton, RI	16.5	874	93%	86%
Montauk, NY	26.8	161	24%	3%
New Bedford, MA	78.4	870	28%	33%
New London, CT (7 of 12 years)	*4.9*	*39*	*29%*	*8%*
Newport News, VA (5 of 12 years)	*9.0*	*12*	*23%*	*16%*

Port and State	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
Newport, RI	15.5	580	75%	80%
Point Judith, RI	126.4	4,845	78%	66%
Point Pleasant Beach, NJ (7 of 12 years)	*10.0*	*20*	*13%*	*2%*
Stonington, CT	11.3	49	50%	7%
Tiverton, RI (10 of 12 years)	*5.0*	*92*	*81%*	*52%*
Westport, MA	12.6	255	77%	63%

Source: Developed using 2008 through 2019 data from NMFS (2021a,2022a).

Notes: Rows using italicized font indicated that fewer the 12 years of data were available. State-level estimates for vessels and trips cannot be estimated with the available data.

CT = Connecticut, MA = Massachusetts, MD = Maryland, NC = North Carolina, NJ = New Jersey, NY = New York, RI = Rhode Island, VA = Virginia.

Gear

Table G-CF16. Annual Number of Vessels and Trips in the Lease Area and along the RWEC by Gear Type under Alternative C1

Gear	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
Dredge-clam (7 of 12 years)	*6*	*112*	*19%*	*8%*
Dredge-scallop	34	259	11%	16%
Gillnet-sink	45	1,141	38%	30%
Handline	41	333	21%	10%
Longline-bottom (4 of 12 years)	*3*	*9*	*16%*	*4%*
Pot-lobster†	75	2,599	53%	54%
Pot-other†	31	653	43%	28%
Trawl-bottom	133	3,640	40%	30%
Trawl-midwater (10 of 12 years)	*11*	*57*	*68%*	*37%*

Source: Developed using 2008 through 2019 data from NMFS (2021a,2022).

Notes: Rows using italicized font indicated that fewer the 12 years of data were available. Totals over all gears cannot be estimated with the available data.

†Pot gear has been disaggregated to Pot-Lobster and Pot-Other.

Table G-CF17. Annual Number of Vessels and Trips in the Lease Area and along the RWEC by Gear Type under Alternative C2

Gear	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
Dredge-clam (7 of 12 years)	*6*	*112*	*19%*	*8%*
Dredge-scallop	34	259	11%	16%
Gillnet-sink	45	1,141	38%	30%
Handline	41	333	21%	10%
Longline-bottom (4 of 12 years)	*3*	*9*	*16%*	*4%*
Pot-other†	31	653	43%	28%
Pot-lobster†	75	2,599	53%	54%
Trawl-bottom	133	3,640	40%	30%
Trawl-midwater (10 of 12 years)	*11*	*57*	*68%*	*37%*

Source: Developed using 2008 through 2019 data from NMFS (2021a2022a).

Notes: Rows using italicized font indicated that fewer the 12 years of data were available. Totals over all gears cannot be estimated with the available data.

†Pot gear has been disaggregated to Pot-Lobster and Pot-Other.

Alternative E

FMP Fishery

Table G-CF18. Annual Number of Vessels and Trips in the Lease Area and along the RWEC by FMP Fishery under Alternative E2

FMP Fishery	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
American Lobster	113	2,856	38%	50%
Atlantic Herring	24	172	40%	36%
Bluefish	132	1,805	36%	30%
Highly Migratory Species	34	248	26%	14%
Jonah Crab	52	996	52%	51%
Mackerel/Squid/ Butterfish	120	2,637	43%	33%

FMP Fishery	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
Monkfish	163	2,133	32%	25%
Northeast Multispecies (large-mesh)	103	1,176	38%	38%
Northeast Multispecies (small-mesh)	102	1,668	47%	34%
Atlantic Sea Scallop	58	406	16%	14%
Southeast Regional Office FMPs	184	3,729	40%	33%
Northeast Skate Complex	130	2,429	42%	32%
Spiny Dogfish	56	480	39%	35%
Summer Flounder/Scup/ Black Sea Bass	162	3,698	40%	31%

Source: Developed using 2008 through 2019 data from NMFS (2021a,2022a).

Notes: Total over all FMP fisheries cannot be estimated with the available data.

Species

Table G-CF19. Annual Number of Vessels and Trips in the Lease Area and along the RWEC by Species under Alternative E2

Species	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
American lobster	113	2,856	38%	50%
Atlantic herring	24	172	40%	36%
Atlantic mackerel	60	316	40%	29%
Black sea bass	156	1,944	39%	31%
Bluefish	132	1,805	36%	30%
Butterfish	91	1,750	53%	37%
Cod	76	554	39%	39%
Jonah crab	52	996	52%	51%

Species	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
Loligo squid	108	2,481	46%	33%
Monkfish	163	2,132	32%	25%
Red hake	82	1,170	52%	36%
Rock crab	22	447	56%	74%
Scup	156	3,138	42%	36%
Sea scallops	58	406	16%	14%
Silver hake	90	1,506	50%	36%
Skates	130	2,429	42%	32%
Spiny dogfish	56	480	39%	35%
Summer flounder	162	3,698	40%	31%
Winter flounder	65	845	46%	47%
Yellowtail flounder	59	502	45%	45%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Port

Table G-CF20. Annual Number of Vessels and Trips in the Lease Area and along the RWEC by Port under Alternative E2

Port and State	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
Beaufort, NC (5 of 12 years)	*10.6*	*13*	*37%*	*28%*
Chilmark/Menemsha, MA	13.4	359	88%	89%
Fairhaven, MA (10 of 12 years)	*5.5*	*43*	*41%*	*26%*
Fall River, MA (5 of 12 years)	*5.2*	*57*	*92%*	*88%*
Hampton, VA (6 of 12 years)	*10.2*	*15*	*26%*	*18%*
Little Compton, RI	16.5	874	93%	86%
Montauk, NY	26.8	161	24%	3%
New Bedford, MA	78.3	864	28%	33%

Port and State	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
New London, CT (7 of 12 years)	*4.9*	*39*	*29%*	*8%*
Newport News, VA (5 of 12 years)	*9.0*	*12*	*23%*	*16%*
Newport, RI	15.5	580	75%	80%
Point Judith, RI	126.4	4,844	78%	66%
Point Pleasant Beach, NJ (7 of 12 years)	*10.0*	*20*	*13%*	*2%*
Stonington, CT	11.3	49	50%	7%
Tiverton, RI (10 of 12 years)	*5.0*	*92*	*81%*	*52%*
Westport, MA	12.6	255	77%	63%

Source: Developed using 2008 through 2019 data from NMFS (2021a,2022a).

CT = Connecticut, MA = Massachusetts, MD = Maryland, NC = North Carolina, NJ = New Jersey, NY = New York, RI = Rhode Island, VA = Virginia.

Gear

Table G-CF21. Annual Number of Vessels and Trips in the Lease Area and along the RWEC by Gear Type under Alternative E2

Gear	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
Dredge-clam (7 of 12 years)	*6*	*112*	*20%*	*8%*
Dredge-scallop	33	259	11%	16%
Gillnet-sink	45	1,142	38%	30%
Handline	41	332	20%	10%
Longline-bottom (4 of 12 years)	*3*	*9*	*16%*	*4%*
Pot-lobster[†]	75	2,594	53%	54%
Pot-other[†]	31	650	43%	28%
Trawl-bottom	133	3,644	40%	30%
Trawl-midwater (10 of 12 years)	*11*	*56*	*68%*	*37%*

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

[†]Pot gear has been disaggregated to Pot-Lobster and Pot-Other.

Alternative G

FMP Fishery

Table G-CF22. Annual Number of Vessels and Trips in the Lease Area and along the RWEC by FMP Fishery under Alternative G

FMP Fishery	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
American Lobster	112	2,823	38%	50%
Atlantic Herring	24	173	40%	36%
Bluefish	131	1,775	35%	30%
Highly Migratory Species	33	244	26%	14%
Jonah Crab	52	988	51%	50%
Mackerel/Squid/ Butterfish	119	2,580	43%	32%
Monkfish	158	1,984	31%	24%
Northeast Multispecies (large-mesh)	100	1,102	37%	36%
Northeast Multispecies (small-mesh)	100	1,613	47%	33%
Atlantic Sea Scallop	54	337	14%	12%
Southeast Regional Office FMPs	31	110	7%	1%
Northeast Skate Complex	128	2,312	41%	30%
Spiny Dogfish	54	461	38%	34%
Summer Flounder/Scup/ Black Sea Bass	200	4,619	49%	39%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2023).

Notes: Total over all FMP fisheries cannot be estimated with the available data.

Species

Table G-CF23. Annual Number of Vessels and Trips in the Lease Area and along the RWEC by Species under Alternative G

Species	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
American lobster	112	2,823	38%	50%
Atlantic herring	24	173	40%	36%
Atlantic mackerel	59	307	39%	28%
Black sea bass	154	1,863	39%	30%
Bluefish	131	1,775	35%	30%
Butterfish	90	1,722	53%	36%
Cod	74	514	38%	36%
Jonah crab	52	988	51%	50%
Loligo squid	107	2,427	46%	32%
Monkfish	158	1,982	31%	24%
Red hake	81	1,132	51%	34%
Rock crab	21	445	54%	73%
Scup	154	3,031	41%	34%
Sea scallops	54	337	14%	12%
Silver hake	89	1,457	50%	35%
Skates	128	2,311	41%	30%
Spiny dogfish	54	461	38%	34%
Summer flounder	160	3,569	39%	30%
Winter flounder	64	796	45%	44%
Yellowtail flounder	58	448	44%	40%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2023).

Port

Table G-CF24. Annual Number of Vessels and Trips in the Lease Area and along the RWEC by Port under Alternative G

Port and State	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
Beaufort, NC	*13.4*	*17*	*47%*	*37%*
Chilmark/Menemsha, MA	15.5	417	101%	103%
Fairhaven, MA	*5.5*	*51*	*41%*	*31%*
Fall River, MA	*4.6*	*67*	*80%*	*103%*
Hampton, VA	*14.4*	*20*	*38%*	*23%*
Little Compton, RI	17.8	907	100%	89%
Montauk, NY	28.9	166	26%	4%
New Bedford, MA	87.5	918	32%	35%
New London, CT	*4.9*	*39*	*29%*	*8%*
Newport News, VA	*12.8*	*17*	*32%*	*22%*
Newport, RI	16.9	630	82%	87%
Point Judith, RI	144.2	5,300	89%	72%
Point Pleasant Beach, NJ	*11.0*	*22*	*14%*	*2%*
Stonington, CT	12.8	61	57%	9%
Tiverton, RI	*4.9*	*79*	*79%*	*45%*
Westport, MA	14.1	305	86%	75%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2023).

Notes: State-level estimates for vessels and trips cannot be estimated with the available data.

CT = Connecticut, MA = Massachusetts, MD = Maryland, NC = North Carolina, NJ = New Jersey, NY = New York, RI = Rhode Island, VA = Virginia.

Gear

Table G-CF25. Annual Number of Vessels and Trips in the Lease Area and along the RWEC by Gear under Alternative G

Gear	Average Annual Number of Vessels	Average Annual Number of Trips	Average Annual Number of Vessels as a Percentage of Total Vessels in the RFA	Average Annual Number of Trips as a Percentage of Total Trips in the RFA
Dredge-clam (7 of 12 years)	*6*	*99*	*19%*	*7%*
Dredge-scallop	30	212	10%	13%
Gillnet-sink	44	1,093	35%	26%
Handline	40	319	20%	9%
Longline-bottom (4 of 12 years)	*3*	*9*	*16%*	*4%*
Pot-lobster†	74	2,576	51%	52%
Pot-other†	31	572	42%	25%
Trawl-bottom	132	3,556	40%	28%
Trawl-midwater (10 of 12 years)	*11*	*57*	*69%*	*38%*

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2023).

†Pot gear has been disaggregated to Pot-Lobster and Pot-Other.

Estimated Annual Commercial Fishing Revenue Exposed in the Combined Lease Area and Offshore RWEC by FMP Fishery, Port, and Gear under Alternatives C, D, E, and G

This section provides estimates of the annual commercial fishing revenue at risk in the combined Lease Area and area along the offshore RWEC during construction under all design configurations of Alternatives C, D, E, and G. Data are reported by FMP fishery, gear type, and port of landing. The estimates are based on 2008 through 2019 data from NMFS (2021a, 2022a, 2023). Revenue at risk data for Alternative F could not be provided because which WTG positions would be omitted under this alternative is unknown.

Alternative C

FMP Fishery

Table G-CF26. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by FMP Fishery under Alternative C1

FMP Fishery	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue at Risk as a Percentage of Total in the Mid-Atlantic and New England Regions	Average Annual Revenue at Risk as a Percentage of Total Revenue in the RFA
American Lobster	$462.9	$261.8	0.28%	3.36%
Atlantic Herring	$267.1	$100.9	0.39%	3.37%
Bluefish	$17.0	$8.6	0.67%	1.47%
Highly Migratory Species	$6.8	$2.2	0.10%	0.98%
Jonah Crab	$37.8	$21.4	0.22%	0.36%
Mackerel/Squid/ Butterfish	$296.6	$136.4	0.26%	0.88%
Monkfish	$179.0	$97.9	0.48%	1.30%
Northeast Multispecies (large-mesh)	$112.3	$48.9	0.07%	2.05%
Northeast Multispecies (small-mesh)	$189.0	$71.1	0.63%	2.52%
Atlantic Sea Scallop	$367.9	$143.7	0.03%	0.29%
Northeast Skate Complex	$160.5	$102.1	1.37%	2.85%
Spiny Dogfish	$35.2	$15.2	0.51%	6.22%
Summer Flounder/Scup/ Black Sea Bass	$126.3	$80.5	0.20%	0.73%
Other FMPs, non-disclosed species and non-FMP fisheries	$550.4	$235.4	0.25%	0.70%
All FMP and non-FMP fisheries	$1,610.9	$1,326.0	0.14%	0.92%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

The “Other FMPs, non-disclosed species, and non-FMP fisheries” category includes revenue from three FMP fisheries: Surfclam/Ocean Quahog, Red Crab, and River Herring. In addition, it includes revenue from species in FMP fisheries for which data could not be disclosed due to confidentiality restrictions, and revenue earned by federally permitted vessels operating in fisheries that are not federally managed.

Table G-CF27. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by FMP Fishery under Alternative C2

FMP Fishery	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue at Risk as a Percentage of Total in the Mid-Atlantic and New England Regions	Average Annual Revenue at Risk as a Percentage of Total Revenue in the RFA
American Lobster	$428.1	$246.0	0.26%	3.15%
Atlantic Herring	$261.1	$99.2	0.38%	3.31%
Bluefish	$16.8	$8.5	0.67%	1.46%
Highly Migratory Species	$6.6	$2.1	0.09%	0.95%
Jonah Crab	$36.0	$20.3	0.21%	0.35%
Mackerel/Squid/ Butterfish	$279.7	$130.7	0.25%	0.85%
Monkfish	$166.4	$92.6	0.45%	1.23%
Northeast Multispecies (large-mesh)	$109.3	$47.1	0.06%	1.97%
Northeast Multispecies (small-mesh)	$185.3	$69.2	0.61%	2.45%
Atlantic Sea Scallop	$354.5	$138.1	0.03%	0.28%
Northeast Skate Complex	$152.3	$97.0	1.30%	2.71%
Spiny Dogfish	$34.6	$14.7	0.49%	6.03%
Summer Flounder/Scup/ Black Sea Bass	$121.9	$77.8	0.20%	0.71%
Other FMPs, non-disclosed species and non-FMP fisheries	$534.3	$227.5	0.24%	0.67%
All FMP and non-FMP fisheries	$1,546.5	$1,270.8	0.13%	0.88%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

The “Other FMPs, non-disclosed species, and non-FMP fisheries” category includes revenue from three FMP fisheries: Surfclam/Ocean Quahog, Red Crab, and River Herring. In addition, it includes revenue from species in FMP fisheries for which data could not be disclosed due to confidentiality restrictions, and revenue earned by federally permitted vessels operating in fisheries that are not federally managed.

Port

Table G-CF28. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Port under Alternative C1

Port and State	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue as a Percentage of Total Revenue in the Mid-Atlantic and New England Regions*	Average Annual Revenue as a Percentage of Total Revenue in the RFA[†]
Beaufort, NC	*$5.0*	*$2.4*	*0.09%*	*0.28%*
Chilmark/Menemsha, MA	*$23.4*	*$14.3*	*3.04%*	*3.41%*
Fairhaven, MA	*$27.1*	*$14.4*	*0.13%*	*1.00%*
Fall River, MA	*$17.6*	*$8.9*	*0.78%*	*2.00%*
Hampton, VA	*$7.1*	*$3.5*	*0.02%*	*0.22%*
Little Compton, RI	$192.5	$131.8	6.62%	6.79%
Montauk, NY	$38.4	$17.0	0.09%	0.14%
New Bedford, MA	$566.0	$340.1	0.09%	0.70%
New London, CT	*$21.5*	*$9.8*	*0.15%*	*0.37%*
Newport News, VA	*$15.3*	*$3.8*	*0.01%*	*0.22%*
Newport, RI	$188.0	$104.1	1.17%	3.61%
Point Judith, RI	$712.4	$547.3	1.19%	1.99%
Point Pleasant Beach, NJ	*$15.6*	*$4.5*	*0.01%*	*0.05%*
Stonington, CT	$20.2	$7.0	0.07%	0.22%
Tiverton, RI	*$15.0*	*$6.4*	*0.56%*	*0.98%*
Westport, MA	$107.0	$58.2	4.46%	4.98%
Revenues by Port State[‡]				
All Connecticut ports	$41.7	$12.7	0.07%	0.22%
All Massachusetts ports	$653.4	$432.3	0.09%	0.76%
All New Jersey ports	*$15.6*	*$6.5*	*0.00%*	*0.03%*
All New York ports	$38.4	$17.0	0.05%	0.09%
All Rhode Island ports	$935.5	$790.0	1.15%	2.34%
Ports in all other states	*$22.3*	*$7.6*	*0.01%*	*0.18%*

Port and State	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue as a Percentage of Total Revenue in the Mid-Atlantic and New England Regions*	Average Annual Revenue as a Percentage of Total Revenue in the RFA†
Confidential port data‡‡	$141.2	$65.2	0.14%	1.17%
Total	**$1,610.9**	**$1,331.3**	**0.14%**	**0.93%**

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

Ports shown in *italics* indicate that fewer than 12 years but more than 4 years of data were used to calculate the estimates. Otherwise, estimates are based on 12 years of data.

CT = Connecticut, MA = Massachusetts, MD = Maryland, NC = North Carolina, NJ = New Jersey, NY = New York, RI = Rhode Island, VA = Virginia.

* See Table 3.9-4 in Section 3.9 for Mid-Atlantic and New England fisheries data by port and state.

† See Table 3.9-8 in Section 3.9 for RFA fisheries data by port state.

‡ Revenues by Port State includes all of the revenues by the ports listed above, as well as revenues of other ports within the state that were reported by NMFS, but which had 4 or fewer years of data and were not included in the table.

‡‡ Includes data for all ports that were withheld by NMFS to protect the confidentiality of individual vessels and/or buyers.

Table G-CF29. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Port under Alternative C2

Port and State	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue as a Percentage of Total Revenue in the Mid-Atlantic and New England Regions*	Average Annual Revenue as a Percentage of Total Revenue in the RFA†
Beaufort, NC	*$4.7*	*$2.2*	*0.08%*	*0.26%*
Chilmark/Menemsha, MA	*$20.9*	*$12.6*	*2.67%*	*2.99%*
Fairhaven, MA	*$25.6*	*$13.7*	*0.12%*	*0.95%*
Fall River, MA	*$17.1*	*$8.7*	*0.77%*	*1.95%*
Hampton, VA	*$6.6*	*$3.2*	*0.02%*	*0.21%*
Little Compton, RI	$186.3	$126.9	6.37%	6.54%
Montauk, NY	$36.1	$16.1	0.09%	0.14%
New Bedford, MA	$549.2	$325.4	0.09%	0.67%
New London, CT	*$20.7*	*$9.5*	*0.14%*	*0.35%*
Newport News, VA	*$14.6*	*$3.6*	*0.01%*	*0.21%*
Newport, RI	$184.1	$100.9	1.13%	3.50%
Point Judith, RI	$691.4	$531.0	1.15%	1.93%

Port and State	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue as a Percentage of Total Revenue in the Mid-Atlantic and New England Regions*	Average Annual Revenue as a Percentage of Total Revenue in the RFA†
Point Pleasant Beach, NJ	*$14.0*	*$4.1*	*0.01%*	*0.05%*
Stonington, CT	$19.4	$6.6	0.06%	0.21%
Tiverton, RI	*$14.3*	*$6.1*	*0.53%*	*0.94%*
Westport, MA	$87.8	$49.5	3.79%	4.23%
Revenues by Port State‡				
All Connecticut ports	$40.0	$12.2	0.07%	0.21%
All Massachusetts ports	$626.2	$406.3	0.08%	0.72%
All New Jersey ports	*$15.3*	*$6.1*	*0.00%*	*0.03%*
All New York ports	$36.1	$16.1	0.05%	0.09%
All Rhode Island ports	$912.6	$765.2	1.11%	2.27%
Ports in all other states	*$21.2*	*$7.1*	*0.01%*	*0.16%*
Confidential port data‡‡	$138.0	$62.8	0.14%	1.13%
Total	**$1,546.5**	**$1,275.9**	**0.13%**	**0.89%**

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

Ports shown in *italics* indicate that fewer than 12 years but more than 4 years of data were used to calculate the estimates. Otherwise, estimates are based on 12 years of data.

CT = Connecticut, MA = Massachusetts, MD = Maryland, NC = North Carolina, NJ = New Jersey, NY = New York, RI = Rhode Island, VA = Virginia.

* See Table 3.9-4 in Section 3.9 for Mid-Atlantic and New England fisheries data by port and state.

† See Table 3.9-8 in Section 3.9 for RFA fisheries data by port state.

‡ Revenues by Port State includes all of the revenues by the ports listed above, as well as revenues of other ports within the state that were reported by NMFS, but which had 4 or fewer years of data and were not included in the table.

‡‡ Includes data for all ports that were withheld by NMFS to protect the confidentiality of individual vessels and/or buyers.

Gear

Table G-CF30. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Gear Type under Alternative C1

Gear Type	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the Mid-Atlantic and New England Regions	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the RFA
Dredge-clam	$388.3	$114.0	0.19%	0.55%
Dredge-scallop	$370.1	$144.2	0.03%	0.30%
Gillnet-sink	$260.6	$178.9	0.60%	1.86%
Handline	$12.3	$3.2	0.07%	0.24%
Pot†	$482.2	$319.1	0.28%	1.98%
Trawl-bottom	$621.2	$467.3	0.25%	1.09%
Trawl-midwater	$187.1	$96.0	0.51%	4.09%
All other gear*	$282.2	$66.7	0.14%	2.50%
All gear types	$1,611.0	$1,389.5	0.15%	0.96%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

† Pot gear combines pot-lobster and pot-other.

* Includes revenue from federally permitted vessels using longline gear, seine gear, other gillnet gear, and unspecified gear, as well as listed gear for years when they were not disclosed.

Table G-CF31. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Gear Type under Alternative C2

Gear Type	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the Mid-Atlantic and New England Regions	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the RFA
Dredge-clam	$381.6	$111.3	0.18%	0.53%
Dredge-scallop	$356.6	$138.6	0.03%	0.29%
Gillnet-sink	$241.8	$170.2	0.57%	1.77%
Handline	$11.3	$3.1	0.07%	0.23%
Pot†	$445.6	$299.4	0.26%	1.86%
Trawl-bottom	$596.7	$451.2	0.24%	1.05%
Trawl-midwater	$182.1	$94.3	0.50%	4.02%

Gear Type	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the Mid-Atlantic and New England Regions	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the RFA
All other gear*	$275.9	$64.8	0.14%	2.43%
All gear types	$1,546.5	$1,333.0	0.14%	0.92%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

† Pot gear combines pot-lobster and pot-other.

* Includes revenue from federally permitted vessels using longline gear, seine gear, other gillnet gear, and unspecified gear, as well as listed gear for years when they were not disclosed.

Alternative D

FMP Fishery

Table G-CF32. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by FMP Fishery under Alternative D1

FMP Fishery	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue at Risk as a Percentage of Total in the Mid-Atlantic and New England Regions	Average Annual Revenue at Risk as a Percentage of Total Revenue in the RFA
American Lobster	$492.7	$274.2	0.29%	3.52%
Atlantic Herring	$270.5	$101.8	0.39%	3.40%
Bluefish	$17.0	$8.6	0.67%	1.47%
Highly Migratory Species	$6.6	$2.1	0.10%	0.97%
Jonah Crab	$38.4	$22.0	0.23%	0.37%
Mackerel/Squid/ Butterfish	$306.4	$139.7	0.27%	0.91%
Monkfish	$186.9	$98.4	0.48%	1.31%
Northeast Multispecies (large-mesh)	$113.1	$48.8	0.07%	2.04%
Northeast Multispecies (small-mesh)	$190.7	$71.6	0.64%	2.53%
Atlantic Sea Scallop	$338.6	$136.5	0.03%	0.27%
Northeast Skate Complex	$166.5	$104.5	1.40%	2.92%

FMP Fishery	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue at Risk as a Percentage of Total in the Mid-Atlantic and New England Regions	Average Annual Revenue at Risk as a Percentage of Total Revenue in the RFA
Spiny Dogfish	$35.2	$15.3	0.51%	6.27%
Summer Flounder/Scup/ Black Sea Bass	$127.4	$81.5	0.20%	0.74%
Other FMPs, non-disclosed species and non-FMP fisheries	$567.3	$238.2	0.25%	0.71%
All FMP and non-FMP Fisheries	$1,632.7	$1,343.1	0.14%	0.93%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

The "Other FMPs, non-disclosed species, and non-FMP fisheries" category includes revenue from three FMP fisheries: Surfclam/Ocean Quahog, Red Crab, and River Herring. In addition, it includes revenue from species in FMP fisheries for which data could not be disclosed due to confidentiality restrictions, and revenue earned by federally permitted vessels operating in fisheries that are not federally managed.

Table G-CF33. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by FMP Fishery under Alternative D2

FMP Fishery	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue at Risk as a Percentage of Total in the Mid-Atlantic and New England Regions	Average Annual Revenue at Risk as a Percentage of Total Revenue in the RFA
American Lobster	$496.8	$272.5	0.29%	3.49%
Atlantic Herring	$271.7	$102.3	0.39%	3.42%
Bluefish	$17.2	$8.7	0.68%	1.49%
Highly Migratory Species	$6.9	$2.2	0.10%	0.99%
Jonah Crab	$39.6	$22.5	0.23%	0.38%
Mackerel/Squid/ Butterfish	$305.4	$140.2	0.27%	0.91%
Monkfish	$201.8	$104.1	0.51%	1.38%
Northeast Multispecies (large-mesh)	$115.9	$51.5	0.07%	2.16%

FMP Fishery	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue at Risk as a Percentage of Total in the Mid-Atlantic and New England Regions	Average Annual Revenue at Risk as a Percentage of Total Revenue in the RFA
Northeast Multispecies (small-mesh)	$192.5	$73.5	0.65%	2.60%
Atlantic Sea Scallop	$371.8	$147.5	0.03%	0.30%
Northeast Skate Complex	$168.7	$106.1	1.42%	2.96%
Spiny Dogfish	$35.7	$15.5	0.52%	6.36%
Summer Flounder/Scup/ Black Sea Bass	$130.8	$83.0	0.21%	0.75%
Other FMPs, non-disclosed species and non-FMP fisheries	$571.6	$242.6	0.26%	0.72%
All FMP and non-FMP Fisheries	$1,662.1	$1,372.2	0.14%	0.95%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

The "Other FMPs, non-disclosed species, and non-FMP fisheries" category includes revenue from three FMP fisheries: Surfclam/Ocean Quahog, Red Crab, and River Herring. In addition, it includes revenue from species in FMP fisheries for which data could not be disclosed due to confidentiality restrictions, and revenue earned by federally permitted vessels operating in fisheries that are not federally managed.

Table G-CF34. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by FMP Fishery under Alternative D3

FMP Fishery	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue at Risk as a Percentage of Total in the Mid-Atlantic and New England Regions	Average Annual Revenue at Risk as a Percentage of Total Revenue in the RFA
American Lobster	$479.9	$268.5	0.29%	3.44%
Atlantic Herring	$260.1	$97.7	0.38%	3.26%
Bluefish	$16.3	$8.5	0.66%	1.45%
Highly Migratory Species	$6.8	$2.1	0.10%	0.97%
Jonah Crab	$37.8	$21.8	0.23%	0.37%
Mackerel/Squid/ Butterfish	$308.8	$138.1	0.27%	0.90%

FMP Fishery	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue at Risk as a Percentage of Total in the Mid-Atlantic and New England Regions	Average Annual Revenue at Risk as a Percentage of Total Revenue in the RFA
Monkfish	$205.9	$107.1	0.52%	1.42%
Northeast Multispecies (large-mesh)	$112.5	$50.0	0.07%	2.09%
Northeast Multispecies (small-mesh)	$167.1	$66.5	0.59%	2.36%
Atlantic Sea Scallop	$405.1	$152.1	0.03%	0.31%
Northeast Skate Complex	$170.3	$106.4	1.43%	2.97%
Spiny Dogfish	$31.5	$14.3	0.48%	5.87%
Summer Flounder/Scup/ Black Sea Bass	$127.6	$79.9	0.20%	0.73%
Other FMPs, non-disclosed species and non-FMP fisheries	$530.9	$235.3	0.25%	0.70%
All FMP and non-FMP Fisheries	$1,631.0	$1,348.4	0.14%	0.94%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

The “Other FMPs, non-disclosed species, and non-FMP fisheries” category includes revenue from three FMP fisheries: Surfclam/Ocean Quahog, Red Crab, and River Herring. In addition, it includes revenue from species in FMP fisheries for which data could not be disclosed due to confidentiality restrictions, and revenue earned by federally permitted vessels operating in fisheries that are not federally managed.

Table G-CF35. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by FMP Fishery under Alternative D1+D2

FMP Fishery	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue at Risk as a Percentage of Total in the Mid-Atlantic and New England Regions	Average Annual Revenue at Risk as a Percentage of Total Revenue in the RFA
American Lobster	$481.8	$262.8	0.28%	3.37%
Atlantic Herring	$268.8	$101.2	0.39%	3.38%
Bluefish	$17.0	$8.6	0.67%	1.47%

FMP Fishery	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue at Risk as a Percentage of Total in the Mid-Atlantic and New England Regions	Average Annual Revenue at Risk as a Percentage of Total Revenue in the RFA
Highly Migratory Species	$6.6	$2.1	0.10%	0.96%
Jonah Crab	$37.4	$21.3	0.22%	0.36%
Mackerel/Squid/ Butterfish	$287.3	$134.6	0.26%	0.87%
Monkfish	$178.6	$92.5	0.45%	1.23%
Northeast Multispecies (large-mesh)	$112.1	$47.8	0.07%	2.00%
Northeast Multispecies (small-mesh)	$189.9	$70.8	0.63%	2.51%
Atlantic Sea Scallop	$294.9	$127.0	0.02%	0.26%
Northeast Skate Complex	$159.3	$99.8	1.34%	2.79%
Spiny Dogfish	$35.1	$15.1	0.51%	6.19%
Summer Flounder/Scup/ Black Sea Bass	$124.8	$80.3	0.20%	0.73%
Other FMPs, non-disclosed species and non-FMP fisheries	$564.3	$232.8	0.25%	0.69%
All FMP and non-FMP fisheries	$1,587.0	$1,296.5	0.14%	0.90%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

The “Other FMPs, non-disclosed species, and non-FMP fisheries” category includes revenue from three FMP fisheries: Surfclam/Ocean Quahog, Red Crab, and River Herring. In addition, it includes revenue from species in FMP fisheries for which data could not be disclosed due to confidentiality restrictions, and revenue earned by federally permitted vessels operating in fisheries that are not federally managed.

Table G-CF36. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by FMP Fishery under Alternative D1+D3

FMP Fishery	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue at Risk as a Percentage of Total in the Mid-Atlantic and New England Regions	Average Annual Revenue at Risk as a Percentage of Total Revenue in the RFA
American Lobster	$464.9	$258.8	0.28%	3.32%
Atlantic Herring	$257.1	$96.6	0.37%	3.23%
Bluefish	$16.2	$8.3	0.65%	1.43%
Highly Migratory Species	$6.4	$2.1	0.09%	0.93%
Jonah Crab	$35.5	$20.7	0.22%	0.35%
Mackerel/Squid/ Butterfish	$290.7	$132.5	0.26%	0.86%
Monkfish	$182.8	$95.5	0.46%	1.27%
Northeast Multispecies (large-mesh)	$108.7	$46.2	0.06%	1.94%
Northeast Multispecies (small-mesh)	$164.5	$63.8	0.57%	2.26%
Atlantic Sea Scallop	$328.3	$131.5	0.03%	0.26%
Northeast Skate Complex	$160.9	$100.1	1.34%	2.80%
Spiny Dogfish	$31.0	$13.9	0.47%	5.69%
Summer Flounder/Scup/ Black Sea Bass	$121.6	$77.2	0.19%	0.70%
Other FMPs, non-disclosed species and non-FMP fisheries	$523.6	$225.4	0.24%	0.67%
All FMP and non-FMP Fisheries	$1,556.0	$1,272.7	0.13%	0.88%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

The “Other FMPs, non-disclosed species, and non-FMP fisheries” category includes revenue from three FMP fisheries: Surfclam/Ocean Quahog, Red Crab, and River Herring. In addition, it includes revenue from species in FMP fisheries for which data could not be disclosed due to confidentiality restrictions, and revenue earned by federally permitted vessels operating in fisheries that are not federally managed.

Table G-CF37. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by FMP Fishery under Alternative D2+D3

FMP Fishery	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue at Risk as a Percentage of Total in the Mid-Atlantic and New England Regions	Average Annual Revenue at Risk as a Percentage of Total Revenue in the RFA
American Lobster	$468.9	$257.1	0.28%	3.30%
Atlantic Herring	$258.3	$97.1	0.37%	3.24%
Bluefish	$16.3	$8.4	0.66%	1.44%
Highly Migratory Species	$6.7	$2.1	0.10%	0.96%
Jonah Crab	$36.8	$21.1	0.22%	0.36%
Mackerel/Squid/ Butterfish	$289.7	$133.0	0.26%	0.86%
Monkfish	$197.7	$101.2	0.49%	1.35%
Northeast Multispecies (large-mesh)	$111.4	$49.0	0.07%	2.05%
Northeast Multispecies (small-mesh)	$166.3	$65.8	0.58%	2.33%
Atlantic Sea Scallop	$367.0	$142.5	0.03%	0.29%
Northeast Skate Complex	$163.1	$101.8	1.37%	2.84%
Spiny Dogfish	$31.4	$14.1	0.47%	5.78%
Summer Flounder/Scup/ Black Sea Bass	$124.9	$78.7	0.20%	0.72%
Other FMPs, non-disclosed species and non-FMP fisheries	$528.0	$229.9	0.24%	0.68%
All FMP and non-FMP Fisheries	$1,585.3	$1,301.8	0.14%	0.90%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

The “Other FMPs, non-disclosed species, and non-FMP fisheries” category includes revenue from three FMP fisheries: Surfclam/Ocean Quahog, Red Crab, and River Herring. In addition, it includes revenue from species in FMP fisheries for which data could not be disclosed due to confidentiality restrictions, and revenue earned by federally permitted vessels operating in fisheries that are not federally managed.

Table G-CF38. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by FMP Fishery under Alternative D1+D2+D3

FMP Fishery	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue at Risk as a Percentage of Total in the Mid-Atlantic and New England Regions	Average Annual Revenue at Risk as a Percentage of Total Revenue in the RFA
American Lobster	$454.0	$247.4	0.27%	3.17%
Atlantic Herring	$255.4	$96.0	0.37%	3.21%
Bluefish	$16.1	$8.3	0.65%	1.42%
Highly Migratory Species	$6.4	$2.0	0.09%	0.93%
Jonah Crab	$34.5	$20.0	0.21%	0.34%
Mackerel/Squid/ Butterfish	$271.7	$127.4	0.25%	0.83%
Monkfish	$174.6	$89.7	0.44%	1.19%
Northeast Multispecies (large-mesh)	$107.6	$45.2	0.06%	1.89%
Northeast Multispecies (small-mesh)	$163.7	$63.1	0.56%	2.24%
Atlantic Sea Scallop	$290.1	$121.9	0.02%	0.25%
Northeast Skate Complex	$153.7	$95.5	1.28%	2.67%
Spiny Dogfish	$30.9	$13.7	0.46%	5.60%
Summer Flounder/Scup/ Black Sea Bass	$118.9	$75.9	0.19%	0.69%
Other FMPs, non-disclosed species and non-FMP fisheries	$520.7	$220.0	0.23%	0.65%
All FMP and non-FMP Fisheries	$1,510.3	$1,226.1	0.13%	0.85%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

The "Other FMPs, non-disclosed species, and non-FMP fisheries" category includes revenue from three FMP fisheries: Surfclam/Ocean Quahog, Red Crab, and River Herring. In addition, it includes revenue from species in FMP fisheries for which data could not be disclosed due to confidentiality restrictions, and revenue earned by federally permitted vessels operating in fisheries that are not federally managed.

Port

Table G-CF39. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Port under Alternative D1

Port and State	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue as a Percentage of Total Revenue in the Mid-Atlantic and New England Regions*	Average Annual Revenue as a Percentage of Total Revenue in the RFA[†]
Beaufort, NC	*$5.1*	*$2.5*	*0.09%*	*0.29%*
Chilmark/Menemsha, MA	$26.4	$16.0	3.40%	3.82%
Fairhaven, MA	*$27.7*	*$14.6*	*0.13%*	*1.01%*
Fall River, MA	*$18.0*	*$9.0*	*0.79%*	*2.02%*
Hampton, VA	*$7.2*	*$3.6*	*0.02%*	*0.23%*
Little Compton, RI	$203.7	$135.0	6.78%	6.96%
Montauk, NY	$39.6	$17.2	0.09%	0.15%
New Bedford, MA	$579.7	$340.3	0.09%	0.70%
New London, CT	*$21.9*	*$10.0*	*0.15%*	*0.37%*
Newport News, VA	*$15.5*	*$3.9*	*0.01%*	*0.23%*
Newport, RI	$188.3	$105.1	1.18%	3.65%
Point Judith, RI	$719.1	$552.4	1.20%	2.01%
Point Pleasant Beach, NJ	*$16.3*	*$4.6*	*0.01%*	*0.05%*
Stonington, CT	$20.4	$7.0	0.07%	0.22%
Tiverton, RI	*$14.0*	*$6.2*	*0.54%*	*0.95%*
Westport, MA	$115.5	$62.3	4.77%	5.33%
Revenue by Port State[‡]				
All Connecticut ports	$42.3	$12.8	0.08%	0.22%
All Massachusetts ports	$666.7	$438.4	0.09%	0.77%
All New Jersey ports	$16.3	$6.6	0.00%	0.03%
All New York ports	$39.6	$17.3	0.05%	0.09%
All Rhode Island ports	$943.7	$799.2	1.16%	2.37%
Ports in all other states	*$22.7*	*$7.8*	*0.01%*	*0.18%*

Port and State	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue as a Percentage of Total Revenue in the Mid-Atlantic and New England Regions*	Average Annual Revenue as a Percentage of Total Revenue in the RFA†
Confidential port data‡‡	*$143.4*	*$66.5*	*0.14%*	*1.19%*
Total	**$1,632.7**	**$1,348.6**	**0.14%**	**0.94%**

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

Ports shown in *italics* indicate that fewer than 12 years but more than 4 years of data were used to calculate the estimates. Otherwise, estimates are based on 12 years of data.

CT = Connecticut, MA = Massachusetts, MD = Maryland, NC = North Carolina, NJ = New Jersey, NY = New York, RI = Rhode Island, VA = Virginia.

* See Table 3.9-4 in Section 3.9 for Mid-Atlantic and New England fisheries data by port and state.

† See Table 3.9-8 in Section 3.9 for RFA fisheries data by port state.

‡ Revenues by Port State includes all of the revenues by the ports listed above, as well as revenues of other ports within the state that were reported by NMFS, but which had 4 or fewer years of data and were not included in the table.

‡‡ Includes data for all ports that were withheld by NMFS to protect the confidentiality of individual vessels and/or buyers.

Table G-CF40. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Port under Alternative D2

Port and State	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue as a Percentage of Total Revenue in the Mid-Atlantic and New England Regions*	Average Annual Revenue as a Percentage of Total Revenue in the RFA†
Beaufort, NC	*$5.1*	*$2.5*	*0.09%*	*0.29%*
Chilmark/Menemsha, MA	$26.1	$13.9	2.95%	3.31%
Fairhaven, MA	*$19.3*	*$8.9*	*0.08%*	*0.62%*
Fall River, MA	$18.0	$9.1	0.80%	2.03%
Hampton, VA	*$7.7*	*$3.7*	*0.03%*	*0.24%*
Little Compton, RI	$218.9	$142.0	7.13%	7.32%
Montauk, NY	$39.9	$18.0	0.10%	0.15%
New Bedford, MA	$574.6	$346.6	0.09%	0.71%
New London, CT	*$21.9*	*$10.1*	*0.15%*	*0.38%*
Newport News, VA	*$15.6*	*$3.9*	*0.01%*	*0.23%*
Newport, RI	$192.8	$107.5	1.21%	3.73%
Point Judith, RI	$734.9	$567.4	1.23%	2.06%

Port and State	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue as a Percentage of Total Revenue in the Mid-Atlantic and New England Regions*	Average Annual Revenue as a Percentage of Total Revenue in the RFA†
Point Pleasant Beach, NJ	*$16.4*	*$4.7*	*0.02%*	*0.05%*
Revenue by Port State‡				
Stonington, CT	$21.1	$7.3	0.07%	0.23%
Tiverton, RI	*$17.0*	*$7.7*	*0.67%*	*1.18%*
Westport, MA	$117.3	$65.9	5.05%	5.63%
All Connecticut ports	$43.1	$13.2	0.08%	0.23%
All Massachusetts ports	$659.9	$440.7	0.09%	0.78%
All New Jersey ports	*$16.4*	*$6.7*	*0.00%*	*0.03%*
All New York ports	$39.9	$18.0	0.06%	0.10%
All Rhode Island ports	$987.7	$824.1	1.20%	2.44%
Ports in all other states	*$23.3*	*$8.0*	*0.01%*	*0.18%*
Confidential port data‡‡	$144.3	$67.1	0.15%	1.21%
Total	**$1,662.1**	**$1,377.8**	**0.14%**	**0.96%**

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

Ports shown in *italics* indicate that fewer than 12 years but more than 4 years of data were used to calculate the estimates. Otherwise, estimates are based on 12 years of data. Vessels with 4 or fewer years of reported data are shown with an ND (non-disclosed) for average revenues and for percentages of other areas.

CT = Connecticut, MA = Massachusetts, MD = Maryland, NC = North Carolina, NJ = New Jersey, NY = New York, RI = Rhode Island, VA = Virginia.

* See Table 3.9-4 in Section 3.9 for Mid-Atlantic and New England fisheries data by port and state.

† See Table 3.9-8 in Section 3.9 for RFA fisheries data by port state.

‡ Revenues by Port State includes all of the revenues by the ports listed above, as well as revenues of other ports within the state that were reported by NMFS, but which had 4 or fewer years of data and were not included in the table.

‡‡ Includes data for all ports that were withheld by NMFS to protect the confidentiality of individual vessels and/or buyers.

Table G-CF41. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Port under Alternative D3

Port and State	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue as a Percentage of Total Revenue in the Mid-Atlantic and New England Regions*	Average Annual Revenue as a Percentage of Total Revenue in the RFA†
Beaufort, NC	*$9.5*	*$4.7*	*0.18%*	*0.54%*
Chilmark/Menemsha, MA	$56.1	$33.0	7.00%	7.86%
Fairhaven, MA	*$56.4*	*$29.6*	*0.26%*	*2.06%*
Fall River, MA	*$24.0*	*$11.0*	*0.97%*	*2.47%*
Hampton, VA	*$14.9*	*$6.9*	*0.05%*	*0.44%*
Little Compton, RI	$373.4	$243.2	12.21%	12.53%
Montauk, NY	$75.3	$32.8	0.18%	0.28%
New Bedford, MA	$1,028.6	$659.0	0.17%	1.36%
New London, CT	*$37.7*	*$17.5*	*0.26%*	*0.65%*
Newport News, VA	*$27.5*	*$7.0*	*0.02%*	*0.41%*
Newport, RI	$282.5	$158.6	1.78%	5.51%
Point Judith, RI	$1,147.4	$872.8	1.89%	3.17%
Point Pleasant Beach, NJ	*$29.5*	*$7.2*	*0.02%*	*0.08%*
Stonington, CT	$37.5	$13.0	0.13%	0.41%
Tiverton, RI	*$33.6*	*$13.7*	*1.20%*	*2.11%*
Westport, MA	$221.6	$123.4	9.45%	10.55%
Revenue by Port State‡				
All Connecticut ports	$75.2	$23.2	0.14%	0.40%
All Massachusetts ports	$1,211.6	$852.7	0.17%	1.50%
All New Jersey ports	*$31.7*	*$9.4*	*0.01%*	*0.05%*
All New York ports	$75.3	$32.9	0.10%	0.18%
All Rhode Island ports	$1,589.1	$1,287.0	1.87%	3.81%
Ports in all other states	*$42.4*	*$14.7*	*0.01%*	*0.34%*
Confidential port data‡‡	$218.9	$104.9	0.23%	1.88%

Port and State	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue as a Percentage of Total Revenue in the Mid-Atlantic and New England Regions*	Average Annual Revenue as a Percentage of Total Revenue in the RFA†
Total	**$2,830.8**	**$2,324.7**	**0.24%**	**1.62%**

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

Ports shown in *italics* indicate that fewer than 12 years but more than 4 years of data were used to calculate the estimates. Otherwise, estimates are based on 12 years of data. Vessels with 4 or fewer years of reported data are shown with an ND (non-disclosed) for average revenues and for percentages of other areas.

CT = Connecticut, MA = Massachusetts, MD = Maryland, NC = North Carolina, NJ = New Jersey, NY = New York, RI = Rhode Island, VA = Virginia.

* See Table 3.9-4 in Section 3.9 for Mid-Atlantic and New England fisheries data by port and state.

† See Table 3.9-8 in Section 3.9 for RFA fisheries data by port state.

‡ Revenues by Port State includes all of the revenues by the ports listed above, as well as revenues of other ports within the state that were reported by NMFS, but which had 4 or fewer years of data and were not included in the table.

‡‡ Includes data for all ports that were withheld by NMFS to protect the confidentiality of individual vessels and/or buyers..

Table G-CF42. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Port under Alternative D1+D2

Port and State	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue as a Percentage of Total Revenue in the Mid-Atlantic and New England Regions*	Average Annual Revenue as a Percentage of Total Revenue in the RFA†
Beaufort, NC	*$4.8*	*$2.3*	*0.09%*	*0.27%*
Chilmark/Menemsha, MA	$23.3	$12.9	2.75%	3.08%
Fairhaven, MA	*$17.2*	*$8.1*	*0.07%*	*0.56%*
Fall River, MA	*$17.8*	*$8.9*	*0.78%*	*2.00%*
Hampton, VA	*$6.7*	*$3.3*	*0.02%*	*0.21%*
Little Compton, RI	$202.8	$133.7	6.71%	6.89%
Montauk, NY	$36.7	$16.4	0.09%	0.14%
New Bedford, MA	$558.1	$317.5	0.08%	0.65%
New London, CT	*$21.1*	*$9.8*	*0.15%*	*0.36%*
Newport News, VA	*$14.9*	*$3.7*	*0.01%*	*0.22%*
Newport, RI	$187.1	$103.7	1.17%	3.60%
Point Judith, RI	$707.4	$545.6	1.18%	1.98%

Port and State	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue as a Percentage of Total Revenue in the Mid-Atlantic and New England Regions*	Average Annual Revenue as a Percentage of Total Revenue in the RFA†
Point Pleasant Beach, NJ	*$15.9*	*$4.5*	*0.01%*	*0.05%*
Stonington, CT	$20.0	$6.7	0.07%	0.21%
Tiverton, RI	*$13.6*	*$6.7*	*0.58%*	*1.02%*
Westport, MA	$111.8	$61.0	4.68%	5.22%
Revenue by Port State‡				
All Connecticut ports	$41.1	$12.4	0.07%	0.21%
All Massachusetts ports	$631.2	$404.8	0.08%	0.71%
All New Jersey ports	*$15.9*	*$6.5*	*0.00%*	*0.03%*
All New York ports	$36.7	$16.4	0.05%	0.09%
All Rhode Island ports	$934.8	$789.5	1.15%	2.34%
Ports in all other states	*$21.7*	*$7.4*	*0.01%*	*0.17%*
Confidential port data‡‡	$142.1	$64.7	0.14%	1.16%
Total	**$1,587.0**	**$1,301.8**	**0.14%**	**0.90%**

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

Ports shown in *italics* indicate that fewer than 12 years but more than 4 years of data were used to calculate the estimates. Otherwise, estimates are based on 12 years of data. Vessels with 4 or fewer years of reported data are shown with an ND (non-disclosed) for average revenues and for percentages of other areas.

CT = Connecticut, MA = Massachusetts, MD = Maryland, NC = North Carolina, NJ = New Jersey, NY = New York, RI = Rhode Island, VA = Virginia.

* See Table 3.9-4 in Section 3.9 for Mid-Atlantic and New England fisheries data by port and state.

† See Table 3.9-8 in Section 3.9 for RFA fisheries data by port state.

‡ Revenues by Port State includes all of the revenues by the ports listed above, as well as revenues of other ports within the state that were reported by NMFS, but which had 4 or fewer years of data and were not included in the table.

‡‡ Includes data for all ports that were withheld by NMFS to protect the confidentiality of individual vessels and/or buyers.

Table G-CF43. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Port under Alternative D1+D3

Port and State	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue as a Percentage of Total Revenue in the Mid-Atlantic and New England Regions*	Average Annual Revenue as a Percentage of Total Revenue in the RFA†
Beaufort, NC	*$4.9*	*$2.4*	*0.09%*	*0.27%*

Port and State	**Peak Annual Revenue ($1,000s)**	**Average Annual Revenue ($1,000s)**	**Average Annual Revenue as a Percentage of Total Revenue in the Mid-Atlantic and New England Regions***	**Average Annual Revenue as a Percentage of Total Revenue in the RFA[†]**
Chilmark/Menemsha, MA	$25.8	$15.7	3.33%	3.74%
Fairhaven, MA	*$27.1*	*$14.3*	*0.13%*	*0.99%*
Fall River, MA	*$17.3*	*$10.2*	*0.90%*	*2.30%*
Hampton, VA	*$6.9*	*$3.4*	*0.02%*	*0.22%*
Little Compton, RI	$196.9	$128.4	6.45%	6.62%
Montauk, NY	$37.6	$16.3	0.09%	0.14%
New Bedford, MA	$536.9	$324.2	0.09%	0.67%
New London, CT	*$20.2*	*$9.4*	*0.14%*	*0.35%*
Newport News, VA	*$14.0*	*$3.6*	*0.01%*	*0.21%*
Newport, RI	$180.8	$101.2	1.14%	3.51%
Point Judith, RI	$671.3	$517.2	1.12%	1.88%
Point Pleasant Beach, NJ	*$15.6*	*$4.3*	*0.01%*	*0.05%*
Stonington, CT	$19.2	$6.5	0.06%	0.21%
Tiverton, RI	*$13.6*	*$6.3*	*0.54%*	*0.96%*
Westport, MA	$110.7	$60.4	4.63%	5.17%
Revenue by Port State[‡]				
All Connecticut ports	$39.5	$12.0	0.07%	0.21%
All Massachusetts ports	$620.7	$419.4	0.08%	0.74%
All New Jersey ports	*$15.6*	*$6.3*	*0.00%*	*0.03%*
All New York ports	$37.6	$16.3	0.05%	0.09%
All Rhode Island ports	$887.8	$752.7	1.09%	2.23%
Ports in all other states	*$21.0*	*$7.4*	*0.01%*	*0.17%*
Confidential port data[‡‡]	$132.2	$63.3	0.14%	1.14%
Total	**$1,553.2**	**$1,277.4**	**0.13%**	**0.89%**

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

Ports shown in *italics* indicate that fewer than 12 years but more than 4 years of data were used to calculate the estimates. Otherwise, estimates are based on 12 years of data. Vessels with 4 or fewer years of reported data are shown with an ND (non-disclosed) for average revenues and for percentages of other areas.

CT = Connecticut, MA = Massachusetts, MD = Maryland, NC = North Carolina, NJ = New Jersey, NY = New York, RI = Rhode Island, VA = Virginia.

* See Table 3.9-4 in Section 3.9 for Mid-Atlantic and New England fisheries data by port and state.

† See Table 3.9-8 in Section 3.9 for RFA fisheries data by port state.

‡ Revenues by Port State includes all of the revenues by the ports listed above, as well as revenues of other ports within the state that were reported by NMFS, but which had 4 or fewer years of data and were not included in the table.

‡‡ Includes data for all ports that were withheld by NMFS to protect the confidentiality of individual vessels and/or buyers.

Table G-CF44. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Port under Alternative D2+D3

Port and State	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue as a Percentage of Total Revenue in the Mid-Atlantic and New England Regions*	Average Annual Revenue as a Percentage of Total Revenue in the RFA†
Beaufort, NC	*$4.9*	*$2.4*	*0.09%*	*0.28%*
Chilmark/Menemsha, MA	$25.5	$13.6	2.88%	3.23%
Fairhaven, MA	*$18.7*	*$8.6*	*0.08%*	*0.60%*
Fall River, MA	*$17.4*	*$10.3*	*0.91%*	*2.31%*
Hampton, VA	*$7.5*	*$3.6*	*0.02%*	*0.23%*
Little Compton, RI	$212.0	$135.4	6.79%	6.98%
Montauk, NY	$37.9	$17.0	0.09%	0.14%
New Bedford, MA	$531.7	$330.5	0.09%	0.68%
New London, CT	*$20.2*	*$9.5*	*0.14%*	*0.35%*
Newport News, VA	*$14.1*	*$3.6*	*0.01%*	*0.21%*
Newport, RI	$185.3	$103.6	1.16%	3.60%
Point Judith, RI	$687.1	$532.2	1.16%	1.93%
Point Pleasant Beach, NJ	*$15.6*	*$4.4*	*0.01%*	*0.05%*
Stonington, CT	$20.0	$6.9	0.07%	0.22%
Tiverton, RI	*$16.6*	*$7.0*	*0.61%*	*1.08%*
Westport, MA	$112.5	$63.9	4.90%	5.47%
Revenue by Port State‡				
All Connecticut ports	$40.2	$12.4	0.07%	0.21%
All Massachusetts ports	$613.9	$421.7	0.08%	0.74%
All New Jersey ports	*$15.6*	*$6.4*	*0.00%*	*0.03%*
All New York ports	$37.9	$17.0	0.05%	0.09%
All Rhode Island ports	$933.2	$777.6	1.13%	2.30%

Port and State	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue as a Percentage of Total Revenue in the Mid-Atlantic and New England Regions*	Average Annual Revenue as a Percentage of Total Revenue in the RFA†
Ports in all other states	*$21.6*	*$7.5*	*0.01%*	*0.17%*
Confidential port data‡‡	$133.1	$64.0	0.14%	1.15%
Total	**$1,582.5**	**$1,306.6**	**0.14%**	**0.91%**

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

Ports shown in *italics* indicate that fewer than 12 years but more than 4 years of data were used to calculate the estimates. Otherwise, estimates are based on 12 years of data. Vessels with 4 or fewer years of reported data are shown with an ND (non-disclosed) for average revenues and for percentages of other areas.

CT = Connecticut, MA = Massachusetts, MD = Maryland, NC = North Carolina, NJ = New Jersey, NY = New York, RI = Rhode Island, VA = Virginia.

* See Table 3.9-4 in Section 3.9 for Mid-Atlantic and New England fisheries data by port and state.

† See Table 3.9-8 in Section 3.9 for RFA fisheries data by port state.

‡ Revenues by Port State includes all of the revenues by the ports listed above, as well as revenues of other ports within the state that were reported by NMFS, but which had 4 or fewer years of data and were not included in the table.

‡‡ Includes data for all ports that were withheld by NMFS to protect the confidentiality of individual vessels and/or buyers..

Table G-CF45. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Port under Alternative D1+D2+D3

Port and State	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue as a Percentage of Total Revenue in the Mid-Atlantic and New England Regions*	Average Annual Revenue as a Percentage of Total Revenue in the RFA†
Beaufort, NC	*$4.6*	*$2.2*	*0.08%*	*0.26%*
Chilmark/Menemsha, MA	$22.7	*$12.6*	*2.68%*	*3.00%*
Fairhaven, MA	*$16.6*	*$7.8*	*0.07%*	*0.54%*
Fall River, MA	*$17.1*	*$10.1*	*0.89%*	*2.26%*
Hampton, VA	*$6.5*	*$3.2*	*0.02%*	*0.21%*
Little Compton, RI	$195.9	$127.1	6.38%	6.55%
Montauk, NY	$34.7	$15.5	0.08%	0.13%
New Bedford, MA	$515.3	$301.4	0.08%	0.62%
New London, CT	*$19.4*	*$9.1*	*0.14%*	*0.34%*
Newport News, VA	*$13.5*	*$3.4*	*0.01%*	*0.20%*
Newport, RI	$179.5	$99.7	1.12%	3.46%

Port and State	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue as a Percentage of Total Revenue in the Mid-Atlantic and New England Regions*	Average Annual Revenue as a Percentage of Total Revenue in the RFA[†]
Point Judith, RI	$659.7	$510.4	1.11%	1.85%
Point Pleasant Beach, NJ	*$15.1*	*$4.2*	*0.01%*	*0.05%*
Revenue by Port State[‡]				
Stonington, CT	$18.8	$6.3	0.06%	0.20%
Tiverton, RI	*$12.9*	*$6.0*	*0.52%*	*0.92%*
Westport, MA	$107.0	$59.1	4.53%	5.06%
All Connecticut ports	$38.2	$11.6	0.07%	0.20%
All Massachusetts ports	$585.2	$385.8	0.08%	0.68%
All New Jersey ports	*$15.3*	*$6.2*	*0.00%*	*0.03%*
All New York ports	$34.7	$15.5	0.05%	0.08%
All Rhode Island ports	$878.8	$743.0	1.08%	2.20%
Ports in all other states	*$20.0*	*$7.0*	*0.01%*	*0.16%*
Confidential port data[‡‡]	$130.8	$61.6	0.13%	1.11%
Total	**$1,507.5**	**$1,230.6**	**0.13%**	**0.86%**

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

Ports shown in *italics* indicate that fewer than 12 years but more than 4 years of data were used to calculate the estimates. Otherwise, estimates are based on 12 years of data. Vessels with 4 or fewer years of reported data are shown with an ND (non-disclosed) for average revenues and for percentages of other areas.

CT = Connecticut, MA = Massachusetts, MD = Maryland, NC = North Carolina, NJ = New Jersey, NY = New York, RI = Rhode Island, VA = Virginia.

* See Table 3.9-4 in Section 3.9 for Mid-Atlantic and New England fisheries data by port and state.

[†] See Table 3.9-8 in Section 3.9 for RFA fisheries data by port state.

[‡] Revenues by Port State includes all of the revenues by the ports listed above, as well as revenues of other ports within the state that were reported by NMFS, but which had 4 or fewer years of data and were not included in the table.

[‡‡] Includes data for all ports that were withheld by NMFS to protect the confidentiality of individual vessels and/or buyers.

Gear

Table G-CF46. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Gear Type under Alternative D1

Gear Type	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the Mid-Atlantic and New England Regions	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the RFA
Dredge-clam	$369.2	$94.1	0.15%	0.45%
Dredge-scallop	$339.9	$136.8	0.03%	0.28%
Gillnet-sink	$268.6	$180.1	0.60%	1.87%
Handline	$14.8	$3.4	0.07%	0.25%
Pot	$514.2	$333.0	0.29%	2.07%
Trawl-bottom	$631.3	$474.3	0.25%	1.10%
Trawl-midwater	$189.8	$97.1	0.51%	4.13%
All other gear*	$283.8	$79.6	0.17%	2.99%
All gear types	$1,632.7	$1,398.5	0.15%	0.97%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row. Pot gear combines pot-lobster and pot-other.

* Includes revenue from federally permitted vessels using longline gear, seine gear, other gillnet gear, and unspecified gear, as well as listed gear for years when they were not disclosed.

Table G-CF47. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Gear Type under Alternative D2

Gear Type	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the Mid-Atlantic and New England Regions	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the RFA
Dredge-clam	$371.2	$95.7	0.16%	0.46%
Dredge-scallop	$378.4	$148.0	0.03%	0.31%
Gillnet-sink	$271.9	$187.2	0.62%	1.95%
Handline	$15.5	$3.6	0.08%	0.27%
Pot†	$518.8	$332.6	0.29%	2.07%
Trawl-bottom	$643.8	$482.6	0.26%	1.12%
Trawl-midwater	$190.6	$97.5	0.51%	4.15%
All other gear*	$287.8	$81.1	0.17%	3.04%

Gear Type	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the Mid-Atlantic and New England Regions	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the RFA
All gear types	$1,662.1	$1,428.3	0.15%	0.99%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

† Pot gear combines pot-lobster and pot-other.

* Includes revenue from federally permitted vessels using longline gear, seine gear, other gillnet gear, and unspecified gear, as well as listed gear for years when they were not disclosed.

Table G-CF48. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Gear Type under Alternative D3

Gear Type	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the Mid-Atlantic and New England Regions	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the RFA
Dredge-clam	$335.5	$102.8	0.17%	0.49%
Dredge-scallop	$412.9	$152.7	0.03%	0.32%
Gillnet-sink	$282.2	$191.9	0.64%	2.00%
Handline	$15.6	$3.7	0.08%	0.27%
Pot†	$502.1	$326.9	0.28%	2.03%
Trawl-bottom	$620.6	$463.4	0.25%	1.08%
Trawl-midwater	$182.1	$92.4	0.49%	3.93%
All other gear*	$272.1	$88.4	0.19%	3.32%
All gear types	$1,631.0	$1,422.2	0.15%	0.98%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

†Pot gear combines pot-lobster and pot-other.

* Includes revenue from federally permitted vessels using longline gear, seine gear, other gillnet gear, and unspecified gear, as well as listed gear for years when they were not disclosed.

Table G-CF49. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC during Project Construction by Gear Type under Alternative D1+D2

Gear Type	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the Mid-Atlantic and New England Regions	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the RFA
Dredge-clam	$368.1	$92.8	0.15%	0.45%
Dredge-scallop	$299.9	$127.1	0.03%	0.26%
Gillnet-sink	$248.9	$169.9	0.57%	1.77%
Handline	$14.6	$3.4	0.07%	0.24%
Pot†	$501.8	$320.3	0.28%	1.99%
Trawl-bottom	$616.3	$464.8	0.25%	1.08%
Trawl-midwater	$188.6	$96.5	0.51%	4.11%
All other gear*	$283.3	$76.5	0.16%	2.87%
All gear types	$1,587.0	$1,351.2	0.14%	0.94%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

† Pot gear combines pot-lobster and pot-other.

* Includes revenue from federally permitted vessels using longline gear, seine gear, other gillnet gear, and unspecified gear, as well as listed gear for years when they were not disclosed.

Table G-CF50. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Gear Type under Alternative D1+D3

Gear Type	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the Mid-Atlantic and New England Regions	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the RFA
Dredge-clam	$332.4	$99.4	0.16%	0.48%
Dredge-scallop	$334.3	$131.9	0.03%	0.27%
Gillnet-sink	$259.2	$174.7	0.58%	1.82%
Handline	$14.8	$3.4	0.07%	0.25%
Pot†	$485.1	$314.6	0.27%	1.96%
Trawl-bottom	$590.9	$445.6	0.24%	1.04%
Trawl-midwater	$180.1	$91.4	0.48%	3.89%
All other gear*	$267.6	$83.4	0.18%	3.13%

Gear Type	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the Mid-Atlantic and New England Regions	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the RFA
All gear types	$1,556.0	$1,344.3	0.14%	0.93%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

† Pot gear combines pot-lobster and pot-other.

* Includes revenue from federally permitted vessels using longline gear, seine gear, other gillnet gear, and unspecified gear, as well as listed gear for years when they were not disclosed.

Table G-CF51. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Gear Type under Alternative D2+D3

Gear Type	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the Mid-Atlantic and New England Regions	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the RFA
Dredge-clam	$334.4	$101.2	0.17%	0.49%
Dredge-scallop	$373.6	$143.0	0.03%	0.30%
Gillnet-sink	$263.5	$181.7	0.61%	1.89%
Handline	$15.4	$3.6	0.08%	0.26%
Pot†	$489.7	$314.2	0.27%	1.95%
Trawl-bottom	$603.4	$453.9	0.24%	1.05%
Trawl-midwater	$180.9	$91.8	0.48%	3.91%
All other gear*	$271.6	$85.1	0.18%	3.19%
All gear types	$1,585.3	$1,374.5	0.14%	0.95%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

† Pot gear combines pot-lobster and pot-other.

* Includes revenue from federally permitted vessels using longline gear, seine gear, other gillnet gear, and unspecified gear, as well as listed gear for years when they were not disclosed.

Table G-CF52. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Gear Type under Alternative D1+D2+D3

Gear Type	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the Mid-Atlantic and New England Regions	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the RFA
Dredge-clam	$331.3	$97.8	0.16%	0.47%
Dredge-scallop	$295.1	$122.1	0.02%	0.25%
Gillnet-sink	$239.5	$164.5	0.55%	1.71%
Handline	$14.5	$3.3	0.07%	0.24%
Pot†	$472.7	$301.9	0.26%	1.88%
Trawl-bottom	$575.9	$436.1	0.23%	1.01%
Trawl-midwater	$178.9	$90.8	0.48%	3.87%
All other gear*	$267.1	$80.1	0.17%	3.00%
All gear types	$1,510.3	$1,296.6	0.14%	0.90%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

† Pot gear combines pot-lobster and pot-other.

* Includes revenue from federally permitted vessels using longline gear, seine gear, other gillnet gear, and unspecified gear, as well as listed gear for years when they were not disclosed.

Alternative E

FMP Fishery

Table G-CF53. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by FMP Fishery under Alternative E1

FMP Fishery	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue at Risk as a Percentage of Total in the Mid-Atlantic and New England Regions	Average Annual Revenue at Risk as a Percentage of Total Revenue in the RFA
American Lobster	$344.9	$189.3	0.20%	2.43%
Atlantic Herring	$206.4	$83.9	0.32%	2.80%
Bluefish	$15.8	$8.0	0.63%	1.37%
Highly Migratory Species	$5.9	$1.9	0.08%	0.86%
Jonah Crab	$26.2	$15.4	0.16%	0.26%
Mackerel/Squid/Butterfish	$236.6	$111.8	0.22%	0.72%

FMP Fishery	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue at Risk as a Percentage of Total in the Mid-Atlantic and New England Regions	Average Annual Revenue at Risk as a Percentage of Total Revenue in the RFA
Monkfish	$173.3	$89.0	0.43%	1.18%
Northeast Multispecies (large-mesh)	$100.6	$42.9	0.06%	1.80%
Northeast Multispecies (small-mesh)	$124.4	$55.2	0.49%	1.95%
Atlantic Sea Scallop	$373.4	$134.1	0.03%	0.27%
Northeast Skate Complex	$131.9	$82.9	1.11%	2.32%
Spiny Dogfish	$26.2	$11.5	0.39%	4.70%
Summer Flounder/Scup/Black Sea Bass	$103.2	$65.3	0.16%	0.59%
Other FMPs, non-disclosed species and non-FMP fisheries	$356.0	$169.3	0.18%	0.50%
All FMP and non-FMP Fisheries	$1,309.5	$1,060.5	0.11%	0.74%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

The “Other FMPs, non-disclosed species, and non-FMP fisheries” category includes revenue from three FMP fisheries: Surfclam/Ocean Quahog, Red Crab, and River Herring. In addition, it includes revenue from species in FMP fisheries for which data could not be disclosed due to confidentiality restrictions, and revenue earned by federally permitted vessels operating in fisheries that are not federally managed.

Table G-CF54. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by FMP Fishery under Alternative E2

FMP Fishery	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue at Risk as a Percentage of Total in the Mid-Atlantic and New England Regions	Average Annual Revenue at Risk as a Percentage of Total Revenue in the RFA
American Lobster	$413.9	$225.9	0.24%	2.90%
Atlantic Herring	$218.6	$86.1	0.33%	2.87%
Bluefish	$15.1	$8.0	0.62%	1.36%
Highly Migratory Species	$6.4	$2.0	0.09%	0.90%
Jonah Crab	$29.9	$17.9	0.19%	0.31%

FMP Fishery	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue at Risk as a Percentage of Total in the Mid-Atlantic and New England Regions	Average Annual Revenue at Risk as a Percentage of Total Revenue in the RFA
Mackerel/Squid/Butterfish	$265.8	$120.7	0.23%	0.78%
Monkfish	$194.6	$99.7	0.48%	1.33%
Northeast Multispecies (large-mesh)	$103.1	$44.6	0.06%	1.87%
Northeast Multispecies (small-mesh)	$112.0	$51.2	0.45%	1.81%
Atlantic Sea Scallop	$394.8	$142.9	0.03%	0.29%
Northeast Skate Complex	$155.8	$94.9	1.27%	2.65%
Spiny Dogfish	$25.7	$11.9	0.40%	4.89%
Summer Flounder/Scup/Black Sea Bass	$113.7	$70.0	0.18%	0.64%
Other FMPs, non-disclosed species and non-FMP fisheries	$371.8	$191.5	0.20%	0.57%
All FMP and non-FMP Fisheries	$1,438.2	$1,167.3	0.12%	0.81%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

The "Other FMPs, non-disclosed species, and non-FMP fisheries" category includes revenue from three FMP fisheries: Surfclam/Ocean Quahog, Red Crab, and River Herring. In addition, it includes revenue from species in FMP fisheries for which data could not be disclosed due to confidentiality restrictions, and revenue earned by federally permitted vessels operating in fisheries that are not federally managed.

Port

Table G-CF55. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Port under Alternative E1

Port and State	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue as a Percentage of Total Revenue in the Mid-Atlantic and New England Regions*	Average Annual Revenue as a Percentage of Total Revenue in the RFA†
Beaufort, NC	*$4.0*	*$1.9*	*0.07%*	*0.22%*

Port and State	**Peak Annual Revenue ($1,000s)**	**Average Annual Revenue ($1,000s)**	**Average Annual Revenue as a Percentage of Total Revenue in the Mid-Atlantic and New England Regions***	**Average Annual Revenue as a Percentage of Total Revenue in the RFA†**
Chilmark/Menemsha, MA	*$19.7*	*$11.2*	*2.37%*	*2.66%*
Fairhaven, MA	*$23.5*	*$12.2*	*0.11%*	*0.85%*
Fall River, MA	*$14.5*	*$6.9*	*0.60%*	*1.54%*
Hampton, VA	*$6.3*	*$2.9*	*0.02%*	*0.19%*
Little Compton, RI	$179.9	$107.4	5.39%	5.54%
Montauk, NY	$32.4	$14.8	0.08%	0.12%
New Bedford, MA	$372.5	$261.0	0.07%	0.54%
New London, CT	*$16.6*	*$7.8*	*0.12%*	*0.29%*
Newport News, VA	*$8.2*	*$2.3*	*0.01%*	*0.13%*
Newport, RI	$153.0	$88.5	1.00%	3.07%
Point Judith, RI	$573.4	$445.1	0.97%	1.62%
Point Pleasant Beach, NJ	*$9.2*	*$2.8*	*0.01%*	*0.03%*
Stonington, CT	$16.7	$5.4	0.05%	0.17%
Tiverton, RI	*$15.1*	*$5.5*	*0.48%*	*0.84%*
Westport, MA	$70.1	$41.9	3.21%	3.58%
Revenues by Port State‡				
All Connecticut ports	$33.3	$9.9	0.06%	0.17%
All Massachusetts ports	$466.8	$330.6	0.07%	0.58%
All New Jersey ports	*$14.9*	*$4.8*	*0.00%*	*0.02%*
All New York ports	$32.4	$14.8	0.05%	0.08%
All Rhode Island ports	$808.5	$646.9	0.94%	1.92%
Ports in all other states	*$14.5*	*$5.7*	*0.00%*	*0.13%*
Confidential port data‡‡	$101.4	$51.7	0.11%	0.93%
Total	**$1,309.5**	**$1,064.4**	**0.11%**	**0.74%**

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

Ports shown in *italics* indicate that fewer than 12 years but more than 4 years of data were used to calculate the estimates. Otherwise, estimates are based on 12 years of data.

CT = Connecticut, MA = Massachusetts, MD = Maryland, NC = North Carolina, NJ = New Jersey, NY = New York, RI = Rhode Island, VA = Virginia.

* See Table 3.9-4 in Section 3.9 for Mid-Atlantic and New England fisheries data by port and state.

† See Table 3.9-8 in Section 3.9 for RFA fisheries data by port state.

‡ Revenues by Port State includes all of the revenues by the ports listed above, as well as revenues of other ports within the state that were reported by NMFS, but which had 4 or fewer years of data and were not included in the table.

‡‡ Includes data for all ports that were withheld by NMFS to protect the confidentiality of individual vessels and/or buyers.

Table G-CF56. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Port under Alternative E2

Port and State	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue as a Percentage of Total Revenue in the Mid-Atlantic and New England Regions*	Average Annual Revenue as a Percentage of Total Revenue in the RFA†
Beaufort, NC	*$4.6*	*$2.3*	*0.09%*	*0.26%*
Chilmark/Menemsha, MA‡	*$26.4*	*$15.5*	*3.29%*	*3.69%*
Fairhaven, MA	*$26.7*	*$14.0*	*0.12%*	*0.97%*
Fall River, MA	*$15.7*	*$7.3*	*0.64%*	*1.64%*
Hampton, VA	*$7.3*	*$3.4*	*0.02%*	*0.22%*
Little Compton, RI	$197.6	$120.7	6.06%	6.22%
Montauk, NY	$35.9	$16.0	0.09%	0.13%
New Bedford, MA	$402.1	$299.6	0.08%	0.62%
New London, CT	*$17.3*	*$8.2*	*0.12%*	*0.31%*
Newport News, VA	*$11.1*	*$3.0*	*0.01%*	*0.18%*
Newport, RI	$166.7	$95.6	1.07%	3.32%
Point Judith, RI	$589.0	$460.0	1.00%	1.67%
Point Pleasant Beach, NJ	*$13.4*	*$3.6*	*0.01%*	*0.04%*
Stonington, CT	$17.4	$6.0	0.06%	0.19%
Tiverton, RI	*$16.5*	*$6.1*	*0.53%*	*0.94%*
Westport, MA	$101.4	$58.8	4.51%	5.03%
Revenues by Port State‡				
All Connecticut ports	$34.7	$10.8	0.06%	0.18%
All Massachusetts ports	$532.5	$392.4	0.08%	0.69%
All New Jersey ports	*$15.3*	*$5.6*	*0.00%*	*0.03%*

Port and State	**Peak Annual Revenue ($1,000s)**	**Average Annual Revenue ($1,000s)**	**Average Annual Revenue as a Percentage of Total Revenue in the Mid-Atlantic and New England Regions***	**Average Annual Revenue as a Percentage of Total Revenue in the RFA†**
All New York ports	$35.9	$16.0	0.05%	0.09%
All Rhode Island ports	$837.5	$682.7	0.99%	2.02%
Ports in all other states	*$18.4*	*$6.8*	*0.01%*	*0.16%*
Confidential port data‡‡	$109.6	$57.7	0.12%	1.04%
Total	**$1,438.2**	**$1,172.0**	**0.12%**	**0.81%**

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

Ports shown in *italics* indicate that fewer than 12 years but more than 4 years of data were used to calculate the estimates. Otherwise, estimates are based on 12 years of data.

CT = Connecticut, MA = Massachusetts, MD = Maryland, NC = North Carolina, NJ = New Jersey, NY = New York, RI = Rhode Island, VA = Virginia.

* See Table 3.9-4 in Section 3.9 for Mid-Atlantic and New England fisheries data by port and state.

† See Table 3.9-8 in Section 3.9 for RFA fisheries data by port state.

‡ Revenues by Port State includes all of the revenues by the ports listed above, as well as revenues of other ports within the state that were reported by NMFS, but which had 4 or fewer years of data and were not included in the table.

‡‡ Includes data for all ports that were withheld by NMFS to protect the confidentiality of individual vessels and/or buyers.

Gear

Table G-CF57. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Gear Type under Alternative E1

Gear Type	**Peak Annual Revenue ($1,000s)**	**Average Annual Revenue ($1,000s)**	**Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the Mid-Atlantic and New England Regions**	**Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the RFA**
Dredge-clam	$189.3	$55.9	0.09%	0.27%
Dredge-scallop	$380.8	$134.8	0.03%	0.28%
Gillnet-sink	$236.5	$161.4	0.54%	1.68%
Handline	$13.7	$3.3	0.07%	0.24%
Pot†	$357.8	$231.0	0.20%	1.44%
Trawl-bottom	$494.3	$380.3	0.20%	0.88%
Trawl-midwater	$152.4	$75.9	0.40%	3.23%
All other gear*	$184.1	$53.9	0.11%	2.02%

Gear Type	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the Mid-Atlantic and New England Regions	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the RFA
All gear types	$1,309.5	$1,096.4	0.11%	0.76%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

† Pot gear combines pot-lobster and pot-other.

Gear types shown in *italics* indicate that fewer than 12 years but more than 4 years of data were used to calculate the estimates. Otherwise, estimates are based on 12 years of data.

* Includes revenue from federally permitted vessels using longline gear, seine gear, other gillnet gear, and unspecified gear, as well as listed gear for years when they were not disclosed.

Table G-CF58. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Gear Type under Alternative E2

Gear Type	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the Mid-Atlantic and New England Regions	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the RFA
Dredge-clam	$207.3	$78.1	0.13%	0.37%
Dredge-scallop	$402.5	$143.6	0.03%	0.30%
Gillnet-sink	$264.0	$178.9	0.60%	1.86%
Handline	$15.3	$3.6	0.08%	0.26%
Pot†	$432.2	$276.3	0.24%	1.72%
Trawl-bottom	$541.9	$398.6	0.21%	0.93%
Trawl-midwater	$156.2	$79.5	0.42%	3.39%
All other gear*	$230.2	$54.6	0.12%	2.05%
All gear types	$1,438.2	$1,213.1	0.13%	0.84%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

† Pot gear combines pot-lobster and pot-other.

Gear types shown in *italics* indicate that fewer than 12 years but more than 4 years of data were used to calculate the estimates. Otherwise, estimates are based on 12 years of data.

* Includes revenue from federally permitted vessels using longline gear, seine gear, other gillnet gear, and unspecified gear, as well as listed gear for years when they were not disclosed.

Alternative G

FMP Fishery

Table G-CF59. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by FMP Fishery under Alternative G

FMP Fishery	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue at Risk as a Percentage of Total in the Mid-Atlantic and New England Regions	Average Annual Revenue at Risk as a Percentage of Total Revenue in the RFA
American Lobster	$446.6	$253.5	0.27%	3.25%
Atlantic Herring	$269.8	$104.3	0.40%	3.48%
Bluefish	$17.8	$8.9	0.69%	1.52%
Highly Migratory Species	$5.1	$1.8	0.08%	0.83%
Jonah Crab	$35.5	$20.8	0.22%	0.35%
Mackerel/Squid/Butterfish	$289.6	$135.5	0.26%	0.88%
Monkfish	$155.3	$88.1	0.43%	1.17%
Northeast Multispecies (large-mesh)	$79.6	$38.6	0.05%	1.61%
Northeast Multispecies (small-mesh)	$174.4	$62.0	0.55%	2.20%
Atlantic Sea Scallop	$315.6	$115.1	0.02%	0.23%
Northeast Skate Complex	$150.7	$96.6	1.30%	2.70%
Spiny Dogfish	$32.2	$14.1	0.48%	5.79%
Summer Flounder/Scup/Black Sea Bass	$248.8	$162.8	0.41%	1.48%
Other FMPs, non-disclosed species and non-FMP fisheries	$188.5	$38.9	0.04%	0.12%
All FMP and non-FMP Fisheries	$1,503.1	$1,141.0	0.12%	0.79%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a, 2023).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

The “Other FMPs, non-disclosed species, and non-FMP fisheries” category includes revenue from three FMP fisheries: Surfclam/Ocean Quahog, Red Crab, and River Herring. In addition, it includes revenue from species in FMP fisheries for which data could not be disclosed due to confidentiality restrictions, and revenue earned by federally permitted vessels operating in fisheries that are not federally managed.

Port

Table G-CF60. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Port under Alternative G

Port and State	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue as a Percentage of Total Revenue in the Mid-Atlantic and New England Regions*	Average Annual Revenue as a Percentage of Total Revenue in the RFA[†]
Beaufort, NC	*$9.7*	*$3.1*	*0.12%*	*0.36%*
Chilmark/Menemsha, MA[‡]	$25.3	$15.2	3.22%	3.61%
Fairhaven, MA	*$27.5*	*$16.3*	*0.14%*	*1.13%*
Fall River, MA	*$24.2*	*$11.3*	*1.00%*	*2.54%*
Hampton, VA	*$6.8*	*$3.0*	*0.02%*	*0.19%*
Little Compton, RI	$184.1	$124.0	6.22%	6.39%
Montauk, NY	$36.6	$15.4	0.08%	0.13%
New Bedford, MA	$547.8	$319.0	0.08%	0.66%
New London, CT	*$20.0*	*$8.3*	*0.12%*	*0.31%*
Newport News, VA	*$14.6*	*$3.3*	*0.01%*	*0.19%*
Newport, RI	$181.5	$99.5	1.12%	3.45%
Point Judith, RI	$650.7	$500.1	1.09%	1.82%
Point Pleasant Beach, NJ	*$15.0*	*$3.3*	*0.01%*	*0.04%*
Stonington, CT	$18.5	$6.8	0.07%	0.21%
Tiverton, RI	*$14.2*	*$6.1*	*0.53%*	*0.93%*
Westport, MA	$104.0	$59.7	4.57%	5.10%
Revenues by Port State[‡]				
All Connecticut ports	$38.5	$12.9	0.08%	0.22%
All Massachusetts ports	$686.1	$443.7	0.09%	0.78%
All New Jersey ports	$18.0	$4.9	0.00%	0.03%
All New York ports	$37.9	$15.7	0.05%	0.09%
All Rhode Island ports	$942.4	$753.5	1.09%	2.23%

Port and State	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue as a Percentage of Total Revenue in the Mid-Atlantic and New England Regions*	Average Annual Revenue as a Percentage of Total Revenue in the RFA†
Ports in all other states	*$44.4*	*$13.6*	*0.01%*	*0.31%*
Total	**$1,503.7**	**$1,244.3**	**0.13%**	**0.86%**

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a, 2023).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

Ports shown in *italics* indicate that fewer than 12 years but more than 4 years of data were used to calculate the estimates. Otherwise, estimates are based on 12 years of data.

CT = Connecticut, MA = Massachusetts, MD = Maryland, NC = North Carolina, NJ = New Jersey, NY = New York, RI = Rhode Island, VA = Virginia.

* See Table 3.9-4 in Section 3.9 for Mid-Atlantic and New England fisheries data by port and state.

† See Table 3.9-8 in Section 3.9 for RFA fisheries data by port state.

‡ Revenues by Port State includes all of the revenues by the ports listed above, as well as revenues of other ports within the state that were reported by NMFS, but which had 4 or fewer years of data and were not included in the table.

Gear

Table G-CF61. Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Gear Type under Alternative G

Gear Type	Peak Annual Revenue ($1,000s)	Average Annual Revenue ($1,000s)	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the Mid-Atlantic and New England Regions	Average Annual Revenue in the Lease Area as a Percentage of Total Landings in the RFA
Dredge-clam	*$167.2*	*$62.5*	*0.13%*	*0.38%*
Dredge-scallop	$306.4	$106.6	0.03%	0.30%
Gillnet-sink	$247.9	$163.7	0.60%	1.86%
Handline	$13.2	$3.3	0.08%	0.26%
Pot†	$465.8	$306.0	0.24%	1.72%
Trawl-bottom	$591.9	$441.8	0.21%	0.93%
Trawl-midwater	*$184.7*	*$95.6*	*0.42%*	*3.39%*
All other gear*	$407.3	$116.1	0.12%	2.05%
All gear types	$1,503.7	$1,295.6	0.13%	0.84%

Source: Developed using 2008 through 2019 data from NMFS (2021a, 2022a, 2023).

Notes: Revenue is adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. Peak annual revenue is calculated independently for all rows including the total row.

† Pot gear combines pot-lobster and pot-other.

Gear types shown in *italics* indicate that fewer than 12 years but more than 4 years of data were used to calculate the estimates. Otherwise, estimates are based on 12 years of data.

* Includes revenue from federally permitted vessels using longline gear, seine gear, other gillnet gear, and unspecified gear, as well as listed gear for years when they were not disclosed.

Comparison of Estimated Annual Commercial Fishing Revenue Exposed (2008–2019 and 2008–2021)

This section compares the estimated annual revenue at risk in the 1) Lease Area and 2) Lease Area and along the RWEC under Alternative G based on the data for two different time periods: 2008–2019 and 2008–2021.

Table G-CF62. Comparison of Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by FMP Fishery under Alternative G Based on Data for 2008–2019 and 2008–2021

FMP Fishery	Average Annual Revenue from 2008–2019 ($1,000's)	Average Annual Revenue from 2008–2021 ($1,000s)	Absolute Difference ($1,000s)	Percentage Difference
American Lobster	$253.5	$258.2	$4.7	1.8%
Atlantic Herring	$104.3	$89.7	($14.6)	-14.0%
Bluefish	$8.9	$8.7	($0.1)	-1.3%
Highly Migratory Species	$1.8	$1.7	($0.1)	-4.4%
Jonah Crab	$20.8	$19.9	($0.9)	-4.4%
Mackerel/Squid/Butterfish	$135.5	$136.1	$0.6	0.5%
Monkfish	$88.1	$80.4	($7.7)	-8.8%
Northeast Multispecies (large-mesh)	$38.6	$34.1	($4.5)	-11.7%
Northeast Multispecies (small-mesh)	$62.0	$84.1	$22.1	35.7%
Atlantic Sea Scallop	$115.1	$110.3	($4.8)	-4.1%
Northeast Skate Complex	$96.6	$91.2	($5.3)	-5.5%
Spiny Dogfish	$14.1	$12.3	($1.9)	-13.1%
Summer Flounder/Scup/Black Sea Bass	$162.8	$169.5	$6.7	4.1%

FMP Fishery	Average Annual Revenue from 2008–2019 ($1,000's)	Average Annual Revenue from 2008–2021 ($1,000s)	Absolute Difference ($1,000s)	Percentage Difference
Other FMPs, non-disclosed species and non-FMP fisheries	$38.9	$40.3	$1.4	3.5%
All FMP and non-FMP Fisheries	**$1,141.0**	**$1,136.5**	**($4.5)**	**-0.4%**

Source: Developed using data from NMFS (2023).

Notes: Revenues are adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. *Absolute Difference* is calculated by subtracting the *Annual Average for 2008–2019* from *Annual Average for 2008–2021.* The percentage difference is calculated as *Absolute Difference ÷ Annual Average for 2008–2019.*

Table G-CF63. Comparison of Average Annual Commercial Fishing Landings in the Lease Area and along the RWEC by Species under Alternative G Based on Data for 2008–2019 and 2008–2021

Species	Average Annual Landings from 2008–2019 (pounds)	Average Annual Revenue from 2008–2021 (pounds)	Absolute Difference (pounds)	Percentage Difference
American lobster	48,245	48,508	263	0.5%
Atlantic herring	842,128	777,828	-64,300	-7.6%
Atlantic mackerel	77,828	72,325	-5,502	-7.1%
Black sea bass	5,985	6,719	734	12.3%
Bluefish	12,851	12,701	-150	-1.2%
Butterfish	22,051	25,852	3,800	17.2%
Cod	4,271	3,990	-280	-6.6%
Jonah crab	28,192	27,251	-941	-3.3%
Loligo squid	82,281	80,526	-1,755	-2.1%
Monkfish	56,696	56,143	-553	-1.0%
Red hake	20,120	20,622	501	2.5%
Rock crab	5,442	5,203	-239	-4.4%
Scup	88,003	91,133	3,130	3.6%
Sea scallops	11,604	11,596	-8	-0.1%
Silver hake	100,234	128,859	28,624	28.6%
Skates	433,208	419,330	-13,879	-3.2%
Spiny dogfish	60,495	56,646	-3,850	-6.4%
Summer flounder	21,765	22,896	1,130	5.2%

Species	**Average Annual Landings from 2008–2019 (pounds)**	**Average Annual Revenue from 2008–2021 (pounds)**	**Absolute Difference (pounds)**	**Percentage Difference**
Winter flounder	5,378	5,166	-211	-3.9%
Yellowtail flounder	5,678	5,247	-430	-7.6%

Source: Developed using data from NMFS (2023).

Notes: *Absolute Difference* is calculated by subtracting the *Annual Average for 2008–2019* from *Annual Average for 2008–2021.* The percentage difference is calculated as *Absolute Difference ÷ Annual Average for 2008–2019.*

Table G-CF64. Comparison of Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Port under Alternative G Based on Data for 2008–2019 and 2008–2021

Port and State	**Average Annual Revenue from 2008–2019 ($1,000s)**	**Average Annual Revenue from 2008–2021 ($1,000s)**	**Absolute Difference ($1,000s)**	**Percentage Difference**
Beaufort, NC	*$3.1*	*$3.4*	*$0.4*	*11.8%*
Chilmark/Menemsha, MA	$15.2	$15.0	-$0.1	-0.9%
Fairhaven, MA	$16.3	$16.3	–	–
Fall River, MA	*$11.3*	*$11.3*	–	–
Hampton, VA	*$3.0*	*$3.1*	*$0.1*	*3.4%*
Little Compton, RI	$124.0	$118.0	-$6.0	-4.9%
Montauk, NY	$15.4	$14.7	-$0.7	-4.3%
New Bedford, MA	$319.0	$289.5	-$29.5	-9.2%
New London, CT	*$8.3*	*$7.8*	*-$0.5*	*-6.3%*
Newport News, VA	*$3.3*	*$3.5*	*$0.2*	*7.1%*
Newport, RI	$99.5	$95.5	-$4.0	-4.1%
Point Judith, RI	$500.1	$533.8	$33.7	6.7%
Point Pleasant Beach, NJ	$3.3	$2.9	-$0.3	-9.5%
Stonington, CT	$6.8	$6.9	$0.1	1.5%
Tiverton, RI	*$6.1*	*$6.1*	–	–
Westport, MA	$59.7	$58.6	-$1.1	-1.8%
Revenues by Port State*				
All Connecticut ports	$12.9	$12.4	-$0.5	-3.8%

Port and State	Average Annual Revenue from 2008–2019 ($1,000s)	Average Annual Revenue from 2008–2021 ($1,000s)	Absolute Difference ($1,000s)	Percentage Difference
All Massachusetts ports	$443.6	$407.8	-$35.9	-8.1%
All New Jersey ports	$4.9	$4.5	-$0.3	-7.2%
All New York ports	$15.7	$15.0	-$0.7	-4.5%
All Rhode Island ports	$753.6	$773.6	$20.1	2.7%
Ports in all other states	*$13.6*	*$15.3*	*$1.7*	*12.6%*
Total	**$1,244.3**	**$1,228.6**	**($15.7)**	**-1.3%**

Source: Developed using data from NMFS (2023).

Notes: Revenues are adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. *Absolute Difference* is calculated by subtracting the *Annual Average for 2008–2019* from *Annual Average for 2008–2021.* The percentage difference is calculated as *Absolute Difference ÷ Annual Average for 2008–2019.* Revenues are adjusted for inflation to 2019 dollars.

Ports shown in *italics* indicate that landings did not occur in the port or state in all years. Averages are calculated based on the number of years landings were reported.

CT = Connecticut, MA = Massachusetts, MD = Maryland, NC = North Carolina, NJ = New Jersey, NY = New York, RI = Rhode Island, VA = Virginia.

* Revenues by Port State includes all of the revenues by the ports listed above, as well as revenues of other ports within the state that were reported by NMFS, but which had 4 or fewer years of data and were not included in the table.

Table G-CF65. Comparison of Estimated Annual Commercial Fishing Revenue Exposed in the Lease Area and along the RWEC by Gear Type under Alternative G Based on Data for 2008–2019 and 2008–2021

Gear	Average Annual Revenue from 2008–2019 ($1,000s)	Average Annual Revenue from 2008–2021 ($1,000s)	Absolute Difference	Percentage Difference
Dredge-clam	*$68.3*	*$68.3*	–	–
Dredge-scallop	$122.3	$119.2	-$3.1	-2.6%
Gillnet-sink	$175.6	$163.4	-$12.3	-7.0%
Handline	$3.6	$3.6	-$0.1	-2.0%
Pot gear[†]	$332.3	$352.5	$20.2	6.1%
Trawl-bottom	$487.9	$519.6	$31.7	6.5%
Trawl-midwater	$103.2	$103.2	–	–
*All other gear**	*$111.8*	*$100.7*	*-$11.2*	*-10.0%*
All gear types	**$1,405.0**	**$1,430.2**	**$25.2**	**1.8%**

Source: Developed using data from NMFS (2023).

Notes: Revenues are adjusted for inflation to 2019 dollars using the GDP Implicit Price Deflator. *Absolute Difference* is calculated by subtracting the *Annual Average for 2008–2019* from *Annual Average for 2008–2021.* The percentage difference is calculated as *Absolute Difference ÷ Annual Average for 2008–2019.*

† Pot gear combines pot-lobster and pot-other.

Gear types shown in *italics* indicate there were multiple years for which data were not reported, and averages were calculated by summing all years and dividing by non-zero years. Otherwise, averages are based on all year of data.

* Includes revenue from federally permitted vessels using longline gear, seine gear, other gillnet gear, and unspecified gear, as well as listed gear for years when gears were not disclosed.

Annual Commercial Fishing Revenue in the Entire Lease Area and Lease Area under Alternative G by State of Landing

This section shows the commercial fishing revenue in the entire Lease Area (Figure 1.1-2) and the Lease Area under Alternative G (Figure 2.1-22) by state of landing for each year from 2008 to 2021. In addition, the section compares the average annual commercial fishing revenue in the separate entire Lease Area and the Lease Area under Alternative G by state of landing based on the data for two different time periods: 2008–2019 and 2008–2021.

Table G-CF66. Comparison of Average Annual Commercial Fishing Revenue in the Entire Lease Area by State Based on Data for 2008–2019 and 2008–2021

State of Landing	CT ($1,000s)	MA ($1,000s)	ME ($1,000s)	NC ($1,000s)	NJ ($1,000s)	NY ($1,000s)	RI ($1,000s)	VA ($1,000s)	All Other States ($1,000s)	All States ($1,000s)
2008	$22.5	$568.8	–	–	–	$27.6	$748.6	–	$1.0	$1,368.6
2009	$4.2	$628.5	–	–	$0.9	$10.4	$689.6	–	–	$1,333.7
2010	$1.5	$356.8	–	–	$0.0	$14.3	$438.4	–	$3.5	$814.5
2011	$6.6	$511.2	–	–	$1.2	$13.7	$554.9	$0.3	$0.1	$1,088.0
2012	$10.6	$269.9	–	$0.5	$1.8	$11.1	$642.6	$1.1	–	$937.5
2013	$12.9	$397.9	$10.9	$1.8	$0.9	$12.6	$580.9	$24.7	$0.1	$1,042.6
2014	$8.9	$573.8	–	$3.2	$3.6	$15.4	$726.4	$2.0	$3.2	$1,336.5
2015	$23.8	$673.7	$1.6	$0.9	$8.5	$16.1	$603.5	$3.7	$0.1	$1,331.9
2016	$38.4	$666.5	$5.4	$14.0	$3.5	$39.1	$605.6	$2.6	–	$1,375.1
2017	$11.3	$264.3	–	$2.8	$17.6	$20.3	$408.3	$8.4	$0.4	$733.4
2018	$4.0	$191.7	–	$5.1	$0.7	$10.8	$432.6	$6.0	–	$650.8
2019	$11.5	$409.4	–	$5.5	$3.0	$10.8	$647.7	$3.4	$0.6	$1,091.9
2020	$4.8	$241.2	–	$6.9	$3.6	$9.2	$723.6	$5.3	$0.5	$995.2
2021	$12.9	$195.3	–	$9.2	$1.1	$13.1	$728.2	$12.7	$0.0	$972.5
Average 2008–2019	$13.0	$459.4	$6.0	$4.2	$3.8	$16.9	$589.9	$5.8	$1.1	$1,092.0
Average 2008–2021	$12.4	$424.9	$6.0	$5.0	$3.6	$16.0	$609.4	$6.4	$1.0	$1,076.6

Source: Developed using data from NMFS (2022b).

Notes: The column labeled *All Other States* includes data for listed states that could not be disclosed for confidentiality. Because data have been withheld for confidentiality, average annual revenues for each state are estimated by summing over all non-zero years and dividing by the number of non-zero years. Data are adjusted for inflation to 2019 dollars.

Table G-CF67. Comparison of Average Annual Commercial Fishing Revenue in the Lease Area by State under Alternative G Based on Data for 2008–2019 and 2008–2021

State of Landing	CT ($1,000s)	MA ($1,000s)	ME ($1,000s)	NC ($1,000s)	NJ ($1,000s)	NY ($1,000s)	RI ($1,000s)	VA ($1,000s)	All Other States ($1,000s)	All States ($1,000s)
2008	$18.8	$469.5	$0.0	–	$0.8	$17.8	$529.2	–	–	$1,036.1
2009	$2.8	$504.8	–	–	$0.7	$7.6	$472.2	–	–	$988.2
2010	$1.1	$289.7	–	–	$0.0	$10.5	$300.7	$2.3	–	$604.3
2011	$5.4	$385.3	–	$0.1	$0.9	$10.3	$394.8	$0.2	–	$797.0
2012	$7.9	$228.1	–	$0.4	$1.3	$8.2	$494.0	$0.8	–	$740.7
2013	$10.1	$319.7	$8.9	$1.3	$0.6	$9.2	$406.9	$20.7	$0.1	$777.5
2014	$6.6	$467.0	$2.0	$2.6	$2.6	$12.0	$551.8	$1.6	–	$1,046.3
2015	$17.6	$584.4	$1.2	$0.7	$6.7	$13.1	$454.6	$2.9	$0.0	$1,081.3
2016	$31.1	$552.2	$4.3	$11.9	$2.5	$31.3	$476.9	$2.0	–	$1,112.2
2017	$9.5	$214.9	–	$2.2	$14.6	$16.1	$316.4	$6.2	$0.3	$580.3
2018	$3.1	$160.9	–	$3.8	$0.6	$8.1	$336.7	$4.8	–	$518.0
2019	$9.1	$353.5	–	$4.4	$2.1	$8.6	$521.6	$2.7	$2.2	$904.3
2020	$3.7	$183.5	–	$5.7	$2.7	$7.3	$582.6	$4.3	$1.0	$790.8
2021	$10.8	$156.0	–	$7.6	$0.8	$10.3	$605.3	$10.2	$7.6	$808.5
Average 2008–2019	$10.3	$377.5	$3.3	$3.1	$2.8	$12.7	$438.0	$4.4	$0.7	$848.9
Average 2008–2021	$9.8	$347.8	$3.3	$3.7	$2.6	$12.2	$460.3	$4.9	$1.9	$841.8

Source: Developed using data from NMFS (2023).

Notes: The column labeled *All Other States* includes data for listed states that could not be disclosed for confidentiality. Because data have been withheld for confidentiality, average annual revenues for each state are estimated by summing over all non-zero years and dividing by the number of non-zero years. Data are adjusted for inflation to 2019 dollars.

CT = Connecticut, MA = Massachusetts, ME = Maine, NC = North Carolina, NJ = New Jersey, NY = New York, RI = Rhode Island, VA = Virginia.

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Demographics, Employment, and Economics

This section provides a summary of the assumptions and methodologies used to generate estimates of the employment impacts of the Project under the alternatives assessed.

Assumptions Regarding Local Hiring Practices and Local and U.S. Suppliers of Wind Farm Components

This section contains two subsections that describe a) the assumptions regarding the local hiring practices of Revolution Wind, and b) the ability of local and U.S. manufacturing industries to meet the demands of offshore wind projects.

Local Hiring Practices

Revolution Wind documents many of its assumptions relating to local hiring practices in Table ES-1 of the COP and provides additional information in Section 4.6.1 of the COP (VHB 2023). These are summarized in the bulleted list below and provide guidance for the assessment of the economic impacts of the Project and alternatives:

- Where possible, local workers would be hired to meet labor needs for Project construction, operations and maintenance (O&M), and decommissioning.
- The onshore facilities construction schedule would be designed to minimize impacts to the local community during the summer tourist season, generally between Memorial Day and Labor Day.
- The Project would be constructed using multiple ports for fabrication and pre-commissioning and could use locations in different states throughout the geographic analysis area.
- Revolution Wind would hire local workers to the extent practical for RWF, RWEC, and interconnection facility management, fabrication, and construction.
- Non-local construction personnel typically include mariners, export cable manufacturing personnel, and other specialists who may temporarily relocate during the construction and decommissioning.
- Population impacts to the communities in the geographic analysis area could result mainly from the short-term influx of construction personnel. The total population change is assumed to equal the total number of non-local construction workers plus any accompanying family members. Due to the short duration of construction activities,[6] however, it is unlikely that non-local workers would relocate families to the area.

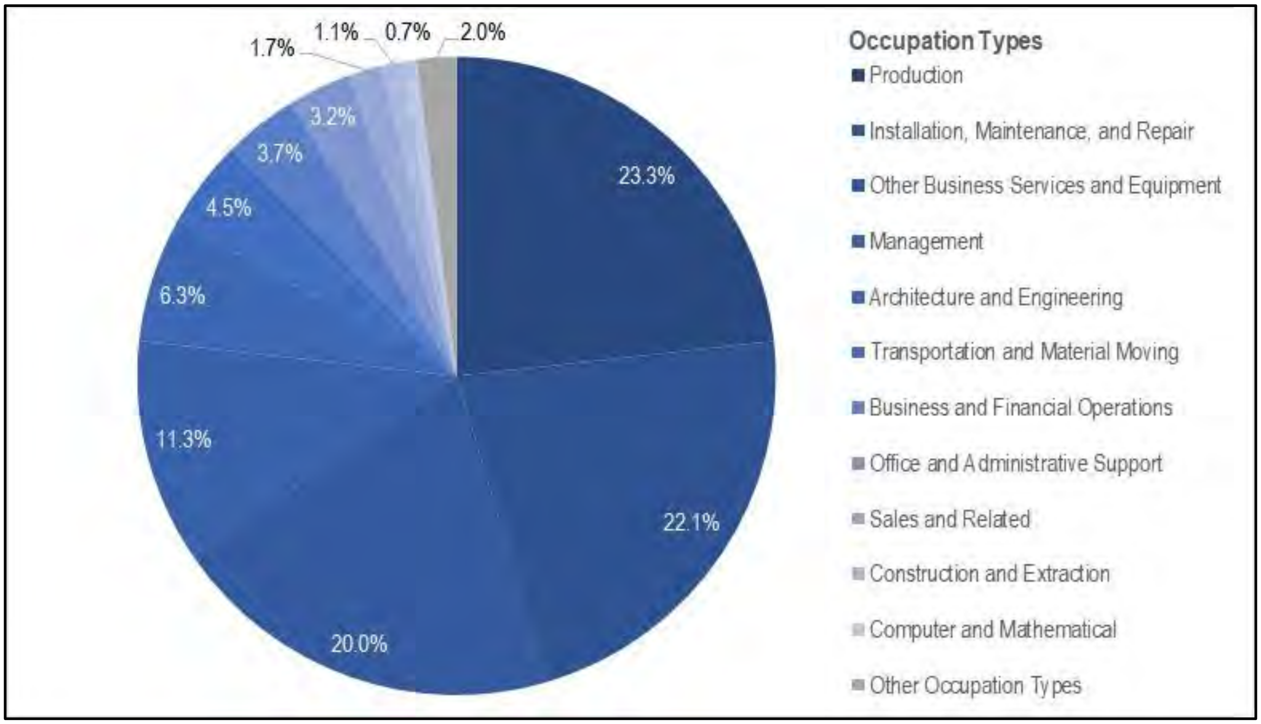
[6] Revolution Wind lists the expected duration of various components of construction, installation, and commissioning of the Project in Sections 3.3 and 3.4 of the COP (VHB 2023). It is assumed that the actual construction work on the Project would be completed within a 2-year window. Final engineering, design, and manufacturing of Project components would begin prior to actual construction and installation.

Assumptions Regarding the Ability of "Local Suppliers" to Meet Project Demands for Specialized Project Components

Several recent studies describe the offshore wind industry in the United States as being in its early developmental stages, and that as it currently exists, a relatively large share of the capital expenditures (CapEx) of the Project and the resulting jobs and income for offshore wind projects are likely to leak out to economies outside both the geographic analysis area and the United States as a whole. In its study for the U.S. Department of Energy, Navigant Consulting, Inc. (2013:x) states that because of the lack of U.S. demand for offshore components, "no domestic manufacturing facilities are currently serving the offshore wind market." More recently, AECOM (2017:3-42) in its white paper, *Evaluating Benefits of Offshore Wind Energy Projects in NEPA*, developed for BOEM, states the following:

> At each phase of offshore wind energy development, there is the potential to generate economic benefits locally, regionally, nationally, and/or internationally, depending on the extent to which these geographic areas can deliver the materials and skills necessary to develop offshore wind energy. Imported materials and services into the particular region being assessed represent lost opportunities for local production and employment. As the offshore wind energy industry advances in the U.S., more opportunities for domestic value can be created along the value chain and for supporting services. Supporting services could include consulting services, financial services, education and training, and research and development.

From a more quantitative perspective, BVG Associates Limited (BVG) (2017) concludes that for offshore projects constructed before 2022, the United States as a whole can expect to realize a minimum of 35% of the total expected jobs needed to meet U.S. demand, including jobs in the supply chain, development, and construction. In addition, BVG concludes that there is a high probability that United States–based jobs could be between 50% and 63% of offshore wind–related jobs by 2022. The BVG report also estimates the numbers of jobs by occupational type that can be expected in the future with offshore wind development. Figure G-DEM1 summarizes the major occupational types that are expected to increase as a result of offshore wind projects as projected by BVG (2017).



Source: Developed from data provided by BVG (2017).

Figure G-DEM1. Expected occupational categories for offshore wind development.

A March 2020 report by the American Wind Energy Association (2020) appears somewhat more conservative and assumes in its baseline scenario that by 2025, U.S. offshore wind installations will reach 2,000 MW per year with domestic content reaching 21% of the total capital expenditure. By 2030, it expects domestic content to increase to 45% in its baseline scenario.

Based on the economic impact methodology used, which is described in the next section, it is estimated that the local share of CapEx for the RWF would range from approximately 20% to 30% of pre-tax CapEx, whereas the local share for operating expenditures (OpEx) (excluding local taxes, lease payments, and finance charges) is estimated at 40% to 50% of total OpEx (excluding local taxes, lease payments, and finance charges).

Methodology Used to Estimate Employment and Value-Added Impacts of Alternatives Included in the Environmental Impact Statement

This section describes the methodology used to generate estimates of the economic impacts (jobs and value added) of the Project and included alternatives. The first section describes the estimates of economic impacts of the Project as estimated in the COP, and the second section describes the methodology used to assess the impacts of permutations of the Project required for the EIS that were not included in the COP.

Economics Impacts of the Project as Estimated in the Construction and Operations Plan

In the COP and Appendix CC to the COP, Hamilton and Nubbe (2020), using the Jobs and Economic Development Impacts Offshore Wind Model (JEDI-OWM) developed by the National Renewable Energy

Laboratory (NREL 2017), provide an economic impact analysis summarizing estimates of jobs, earnings, output, and value added that are expected to result from a "Baseline Project" with a nameplate capacity of 712 megawatts (MW) that uses 89 wind turbine generators (WTGs), each with a capacity to generate 8 MW of power. In COP Appendix CC, Hamilton and Nubbe (2020) state that the "primary source for the model inputs was DWW Rev I who provided capital and operating budgets including costs, employment, and percent local data that are specific to the Project." Although the COP and Appendix CC summarize Baseline Project impacts, very few of the project-specific inputs provided to Hamilton and Nubbe (2020) for use in its modeling exercise were actually specified. Two key confidential inputs[7] were included in Appendix CC—specifically, the total expected capital expenditures (Total CapEx) for the Project and the total local expenditure for O&M (Local OpEx). Table DEM-1 summarizes the "local" jobs and investment impacts of the Baseline Project in Rhode Island and Connecticut as estimated by Hamilton and Nubbe (2020).

Table G-DEM1. Summary of Jobs and Investment Impacts in Rhode Island and Connecticut for the Baseline Project

Project Phase	Impact Category	Jobs	Earnings ($ millions)	Output ($ millions)	Value Added ($ millions)
Construction	Direct	1,440	$124.40	$148.80	$130.10
	Indirect	1,623	$123.00	$497.40	$205.80
	Induced	793	$51.10	$137.60	$81.10
	Total	**3,856**	**$298.50**	**$783.90**	**$417.00**
Operations	Direct	58	$4.90	$4.90	$4.90
	Indirect	18	$1.50	$51.40	$47.50
	Induced	156	$10.80	$29.30	$17.60
	Total	**233**	**$17.20**	**$85.70**	**$70.00**

Source: Hamilton and Nubbe (2020).

Note that the impacts of the Baseline Project (712-MW capacity using 89 8-MW WTGs) during construction aggregate impacts over the entire construction period. Construction job figures are in job years, which are full-time equivalent (FTE) jobs multiplied by the number of construction years. Operations jobs are FTEs for a period of 1 year.

Northern Economics—the contracted economic analysts for this EIS—have developed similar estimates using the same JEDI-OWM for an identically sized project using confidential inputs for Total CapEx and Total Local OpEx that were documented in Appendix CC, but without the additional inputs that were supplied to Hamilton and Nubbe (2020) from Revolution Wind. These results are provided in Table G-DEM2, and Table G-DEM3 presents a percentage-based comparison of the two set of results. An examination of the tables indicates that there are differences in the two sets of tables—the additional inputs supplied by Revolution Wind to Hamilton and Nubbe (2020) are important for directly estimating Project impacts.

[7] These key inputs are considered confidential and therefore cannot be specified in the EIS.

Table G-DEM2. Summary of Jobs and Investment Impacts in Rhode Island and Connecticut for the Baseline Project as Developed by Northern Economics

Project Phase	Impact Category	Jobs	Earnings ($ millions)	Output ($ millions)	Value Added ($ millions)
Construction	Direct	1,185	$56.52	$222.28	$84.95
	Indirect	2,016	$146.37	$574.85	$224.00
	Induced	1,376	$86.84	$237.76	$145.13
	Total	**4,577**	**$289.73**	**$1,034.89**	**$454.09**
Operations	Direct	42	$4.32	$4.32	$4.32
	Indirect	99	$7.70	$26.35	$11.45
	Induced	40	$2.74	$7.71	$4.04
	Total	181	$14.76	$38.38	$19.81

Source: Developed by Northern Economics using information in COP Appendix CC (Hamilton and Nubbe 2020).

Note that the impacts of the Baseline Project (712-MW capacity using 89 8-MW WTGs) during construction summarize impacts over the entire construction period. Construction job figures are in job years, which are full-time equivalent (FTE) jobs multiplied by the number of construction years. Operations jobs are FTEs for a period of 1 year.

Table G-DEM3. Percentage-Based Comparison of Jobs and Economic Development Impacts Offshore Wind Model Results

Project Phase	Impact Category	Jobs in Table G-DEM2 as a Percentage of Jobs in Table G-DEM1 (%)	Earnings in Table G-DEM2 as a Percentage of Earnings in Table G-DEM1 (%)	Output in Table G-DEM2 as a Percentage of Output in Table G-DEM1 (%)	Value Added in Table G-DEM2 as a Percentage of Value Added in Table G-DEM1 (%)
Construction	Direct	82%	45%	149%	65%
	Indirect	124%	119%	116%	109%
	Induced	174%	170%	173%	179%
	Total	**119%**	**97%**	**132%**	**109%**
Operations	Direct	71%	88%	88%	88%
	Indirect	71%	88%	88%	88%
	Induced	541%	513%	51%	24%
	Total	25%	25%	26%	23%

Source: Developed by Northern Economics.

Notwithstanding differences in the two sets of results, the full analysis of the economic impacts of the RWF requires estimates for the Baseline Project as well as estimates of economic impacts for the Project if larger WTGs are used (i.e., 10-MW or 12-MW WTGs) and/or if the Project capacity increased to its maximum capacity of 880 MW. In addition, because there is a suite of alternatives that could constrain the number of WTG positions that can be used (i.e., Alternatives C, D, and E), it will be necessary to estimate economic impacts under a much wider range of Project configurations than the single configuration provided in the COP.

Therefore, a methodology that builds on the results developed by Hamilton and Nubbe (2020) but allows the flexibility to estimate impacts under different configurations is required. This methodology is summarized below.

Methodology to Estimate Project Permutations while Incorporating Information from Hamilton and Nubbe (2020)

The methodology developed to estimate Project permutations relies on the fact that the JEDI-OWM is essentially a scalable model—if the number of WTGs increases relative to the baseline and all other Project inputs are held constant, then the economic impacts generally change proportionally regardless of the starting values.

Assume for example that rather than the Baseline Project of 712 MW using 89 8-MW WTGs, a larger project of 800 MW using 100 8-MW turbines is assessed. In this case, the only change is the number of WTGs used in the Project, which increase by 12.4% from 89 to 100. The WTGs used are assumed to have the same unit cost as the monopile foundations on which they are installed. Similarly, assuming the spacing of the WTGs remains constant, the total length of the inter-array cable would also be expected to increase by an amount that approaches 12.4%. Table G-DEM4 shows the percentage differences between the 800-MW project and the 712-MW project as estimated by Northern Economics. Based on the built-in scalability of the JEDI-OWM model, it assumed that if Hamilton and Nubbe (2020) were to run the same comparison, changing only the total Project capacity by changing the number of WTGs and holding all $-per-kilowatt ratios constant, the results would be remarkably similar as those shown below.

Table G-DEM4. Percentage-Based Comparison of Northern Economics JEDI-OWM Model Results between an 800-MW Project and a 712-MW Project

Project Phase	Impact Category	Jobs with the 800-MW Project as a Percentage of Jobs in Table G-DEM2 (%)	Earnings with the 800-MW Project as a Percentage of Earnings in Table G-DEM2 (%)	Output with the 800-MW Project as a Percentage of Output in Table G-DEM2 (%)	Value Added with the 800-MW Project as a Percentage of Value Added in Table G-DEM2 (%)
Construction	Direct	110.8%	109.0%	106.6%	108.4%
	Indirect	109.8%	110.3%	110.9%	110.3%
	Induced	111.0%	111.2%	111.1%	111.1%
	Total	**110.4%**	**110.3%**	**110.0%**	**110.2%**

Operations	Direct	112.4%	112.4%	112.4%	112.4%
	Indirect	112.4%	112.4%	112.4%	112.4%
	Induced	112.4%	112.4%	112.4%	112.4%
	Total	**112.4%**	**112.4%**	**112.4%**	**112.4%**

Based on the results above, economic impacts of Project permutations will be estimated using the following steps:

1. Estimate the economic impacts of the Project permutation by making appropriate changes to Northern Economics' Baseline Project inputs
2. Estimate the percentage change of the permutation against the Northern Economic Baseline Project impacts.
3. Apply this percentage change to the Baseline Project impacts estimated by Hamilton and Nubbe (2020).

Other Assumptions Used to Estimate Impacts of Project Permutations

In addition to the scaling methodology described above, the following assumptions are also used in the estimates of economic impacts.

Assumptions Regarding the Minimum Project Size If Larger Capacity Wind Turbine Generators are Used

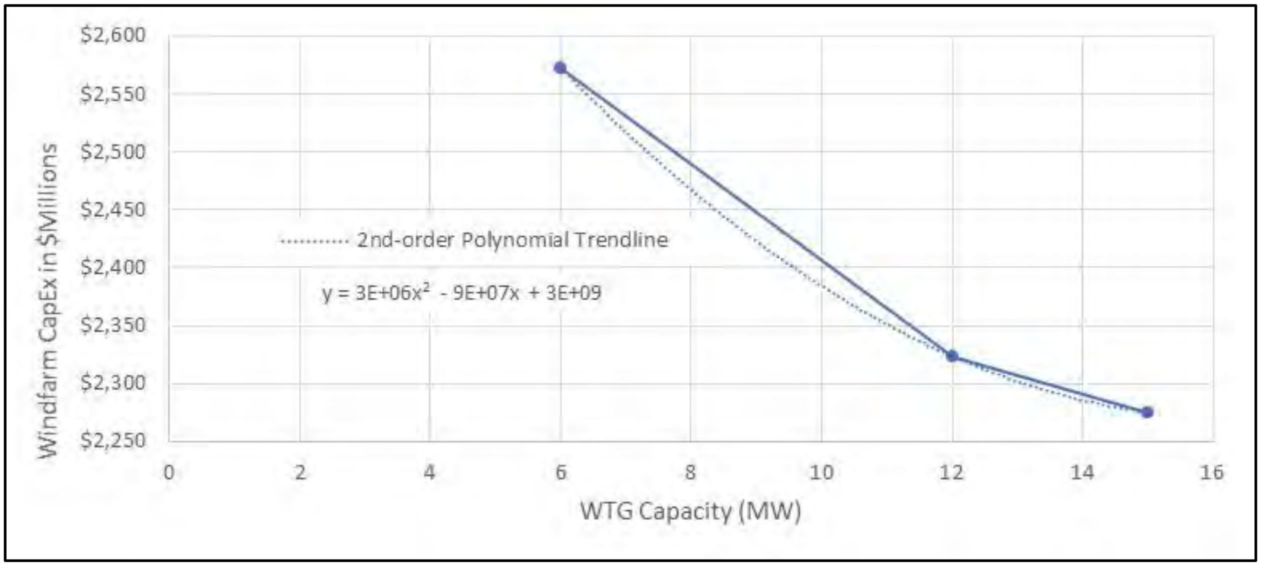
Hamilton and Nubbe (2020) do not explicitly state why they assumed a 712-MW project as opposed to a 704-MW project, which would match the Project's existing power purchase agreement (PPA) and the minimum project listed in the project design envelope (PDE), as reported in EIS Appendix D. Note that a 712-MW project with 89 8-MW WTGs exceeds the PPA by one full 8-MW WTG. Therefore, it is assumed that excess capacity would be built by an amount equal to one WTG in excess of the number of WTGs nominally needed to meet the 704-MW PPA. Thus, if 10-MW WTGs are used, 71 WTGs (with a total capacity of 710 MW) would nominally be able meet the 704-MW PPA. It is assumed, however, that one additional WTG would be installed for a total of 720 MW—the extra WTG would provide greater reliability for customers of the Project. Similarly, if 12-MW WTGs are used, 63 WTGs would nominally meet the PPA capacity with 708 MW. Adding one additional WTG (64 in total) would result in a Project capacity of 720 MW and provide greater reliability.[8]

Assumptions Regarding the Relative Project Capital Costs when Higher Capacity Wind Turbine Generators Are Used

Information regarding the comparative capital costs of offshore wind projects that use smaller or larger WTGs are not readily available, although it is generally assumed and reported that use of larger WTGs generally results in lower overall capital costs and greater overall project efficiency. An updated version of the JEDI-OWM (Release 2021-2) has been made available (NREL 2021), which enables users to

[8] The Project developer has confirmed that the assumption is reasonable.

estimate project capital cost using a choice of three WTG capacities: 6 MW, 12 MW, or 15 MW.[9] Figure G-DEM2 shows hypothetical capital cost of a 720-MW project with three alternative assumptions regarding the size of the WTGs. Moving from the use of 6-MW WTGs to the use of 12-MW WTGs results in a nominal CapEx reduction of approximately $250 million or 10% of total CapEx. Using 15-MW WTGs rather than 12-MW WTGs results in a smaller (2%) CapEx reduction. The 2nd order polynomial trendline shown in the figure was used to estimate CapEx savings for similar size projects using different sizes of WTGs ranging from 6 to 16 MW.



Source: Developed by Northern Economics using JEDI-OWM Release 2021-2 (NREL 2021) and the RWF Project location.

Note: Reviewers should not assume the Project capital costs shown here reflect actual estimates of the Project capital costs for Revolution Wind.

Figure G-DEM2. Hypothetical capital cost estimates of a 720-MW wind farm with three WTG sizes.

Assumptions Regarding the Maximum Capacity Limits

The PDE summarized in EIS Appendix D states that the maximum capacity of the Project is 880 MW. The PDE also indicates that WTGs ranging from 8 to 12 MW would be considered, but no more than 100 WTGs would be used. If 100 8-MW WTGs are used, then the largest project that could be built is 800 MW. An 880-MW project could be built using 88 10-MW WTGs, but if 12-MW WTGs are used, then 73 WTGs achieve a project capacity of 876 MW; using 71 12-MW WTGs results in a project that exceeds the maximum project capacity by 8 MW (i.e., project capacity would be 888 MW, and thus would not be developed).

Based on guidance from Revolution Wind (Roll 2021) indicating that they would not exceed the 880-MW maximum capacity of the Project established in the PDE, it is presumed that the maximum project size that would be developed if 12-MW WTGs are used would comprise 73 WTGs with a total capacity of 876 MW. Similarly, if 14-MW WTGs are authorized as in Alternative F, the largest project that would be

[9] Although JEDI-OWM Release 2021-2 includes this built-in capital cost comparison feature, the model does not yet appear to include built-in local economic impact coefficients linked to multipliers that enable the user to generate economic impacts in terms of jobs, earnings, and value added. In addition, NREL has not yet published a user guide for the newer version of the JEDI-OWM.

developed would use 62 14-MW WTGs for a total capacity of 868 MW, noting that adding an additional 14-MW turbine results in 882 MW of total capacity project, which would exceed the Project's maximum capacity of 880 MW (see EIS Appendix D).

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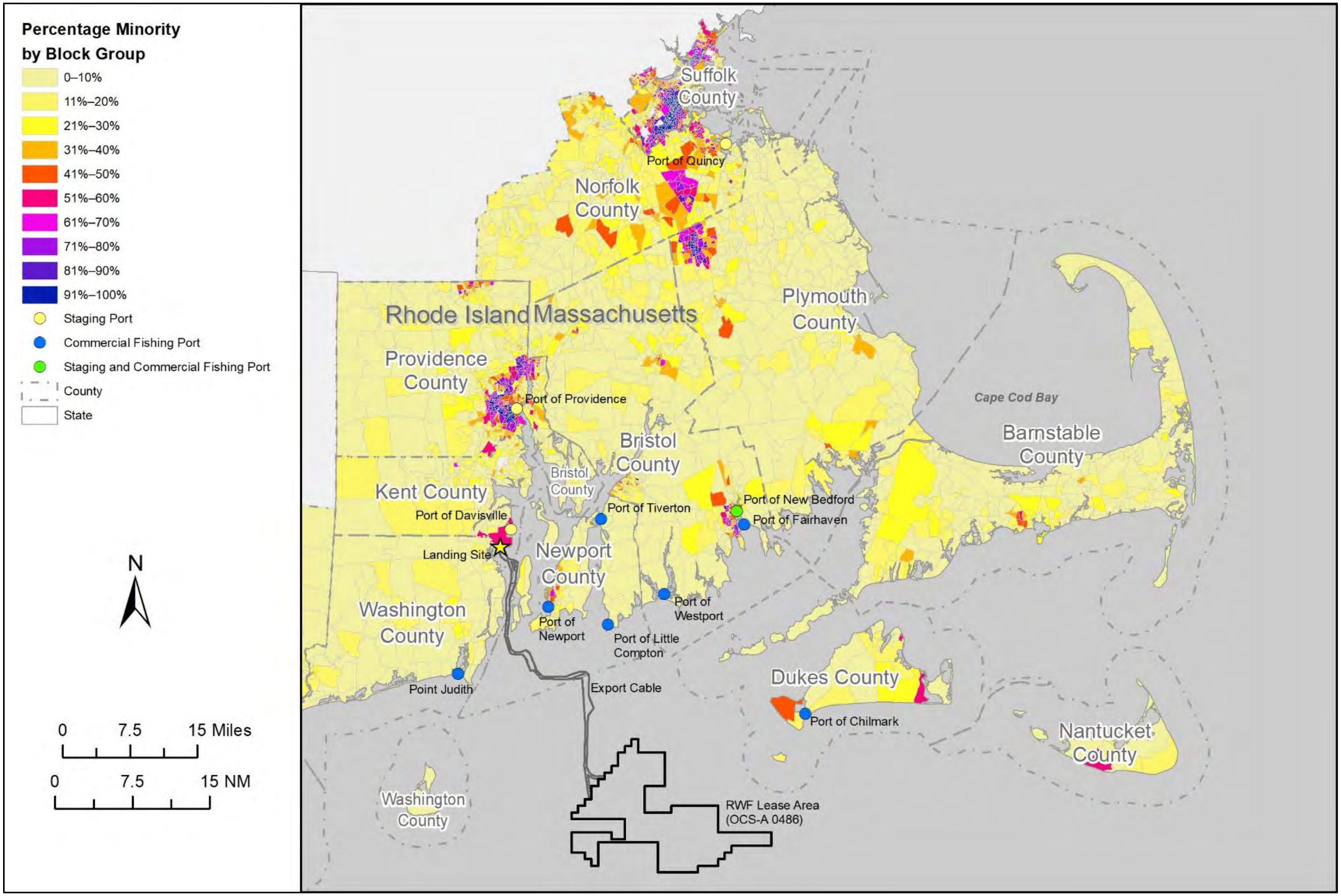
Environmental Justice

This section provides maps displaying the environmental justice characteristics of the counties and cities/towns in the geographical analysis area. The geographical analysis area includes counties that contain or are adjacent to ports that may be used for Project construction staging, O&M, or decommissioning; contain major ports that commercial fisheries that could be affected by the Project; that contain the Project landing site and onshore transmission cable; or for which some portion of the county lies within the visual study area. Minority and low-income percentages are based on 2015-2019 American Community Survey 5-year summary file data obtained from EPA's Environmental Justice Screening and Mapping Tool (EJScreen), an environmental justice screening and mapping tool (EPA 2021).

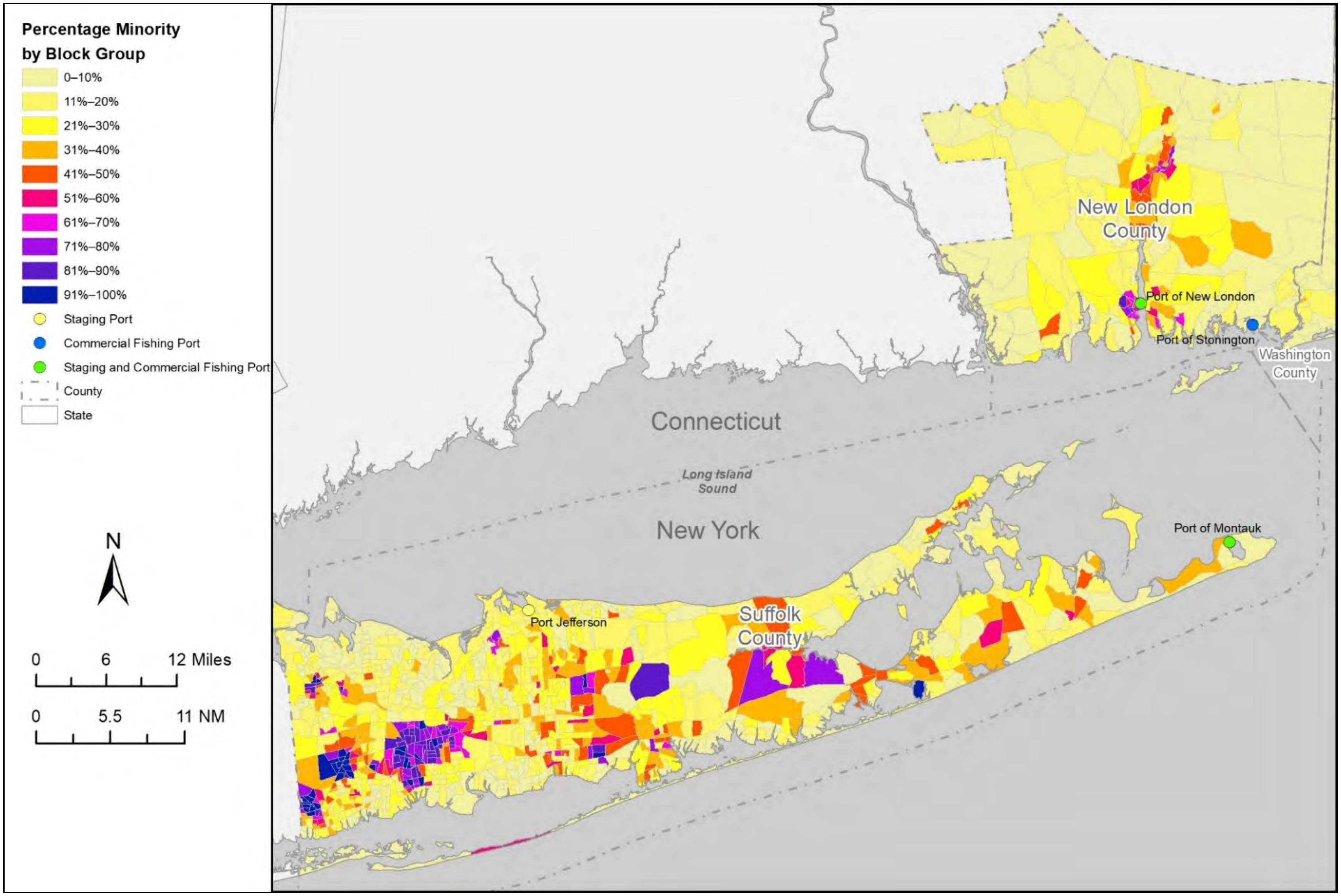
Figures G-EJ1 though G-EJ6 show minority population percentages by census block group, whereas Figures G-EJ7 through G-12 show low-income population percentages by census block group. Figures G-EJ13 though G-EJ18 show the locations of block groups that have been determined to be potential environmental justice areas of concern because of concentrations of minority or low-income populations (see Section 3.12.1 for additional details).

Tables G-EJ1 through G-EJ28 provide additional information about the identity of the block groups determined to be potential environmental justice areas of concern. The tables list the multi-digit identifier of each of these block groups. The block group identifiers are organized by county and sub-county name (city, town, or census designated place). Each identifier listed in the tables include the census tract (CT) code and census block group (BG) code as reported by the U.S. Census Bureau in the online mapping tool available at https://tigerweb.geo.census.gov/tigerweb/ (U.S. Census Bureau 2021). The fully specified identifiers for census block groups include the two-digit code for the state and three-digit code for the county. The captions for the tables include these codes. Each block group is categorized based on whether it is a potential environmental justice concern because of its minority population, low-income population, or both.



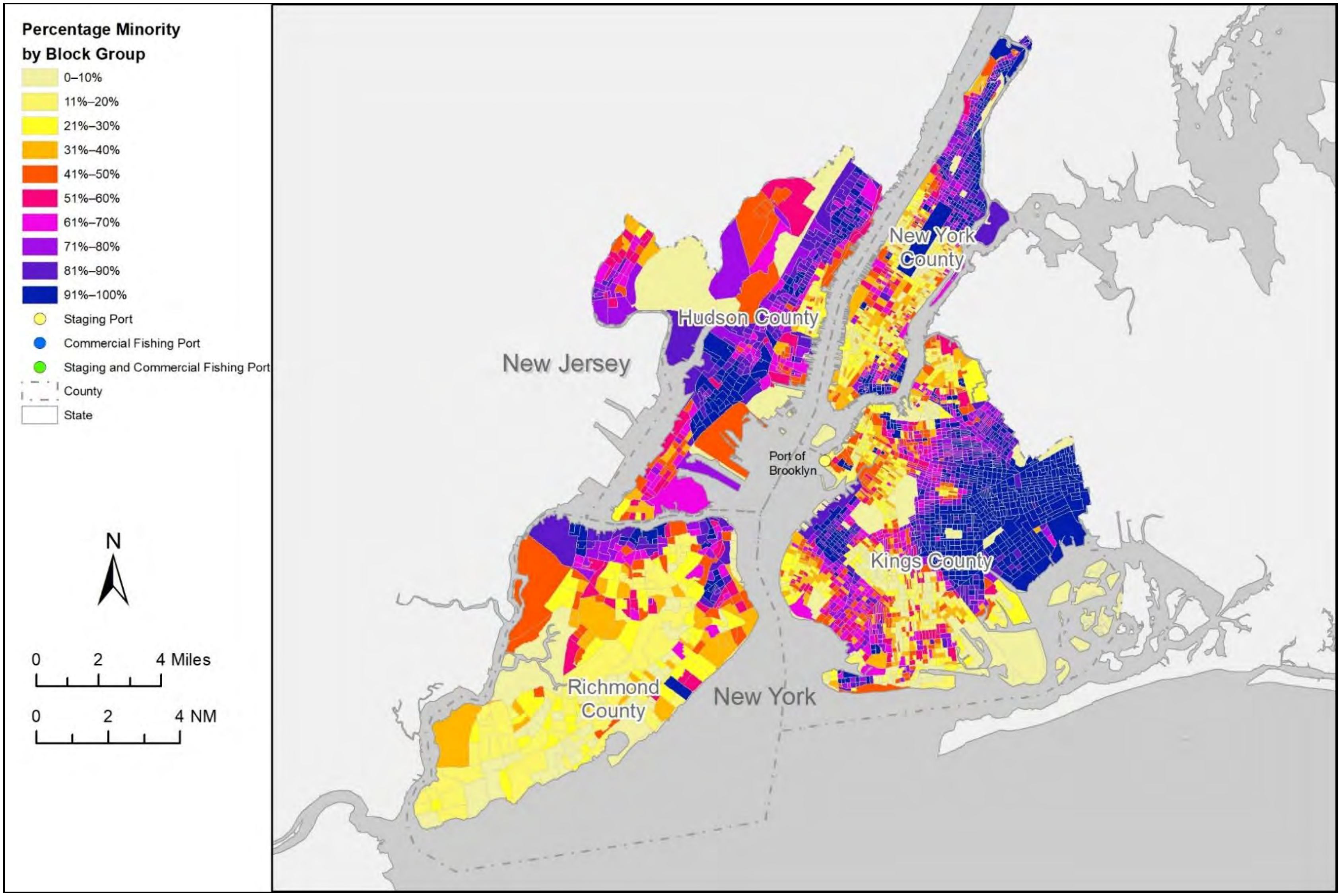
Source: Developed from information in EPA (2021).

Figure G-EJ1. Distribution of minority populations by census block group in potentially affected counties in Rhode Island and Massachusetts.



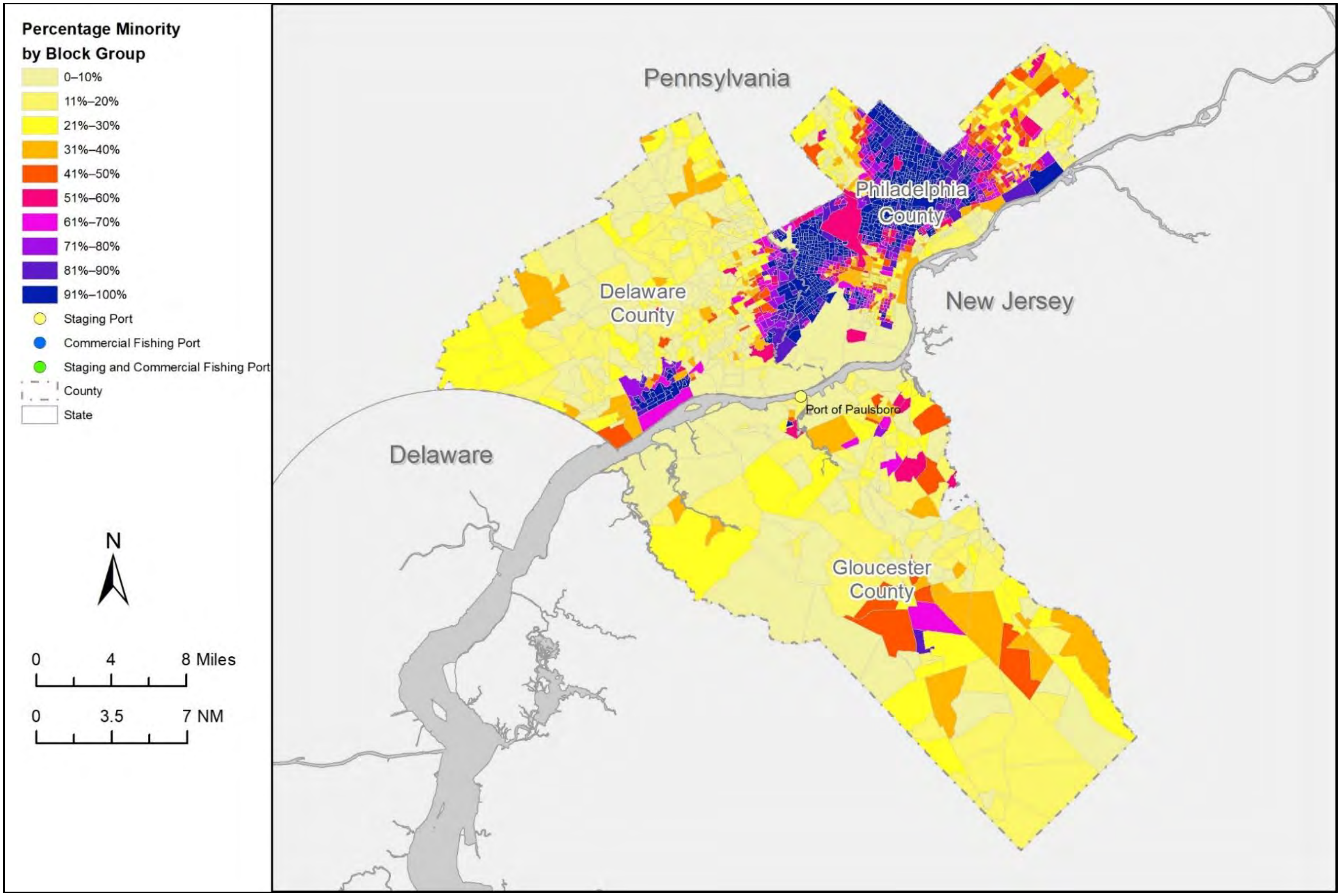
Source: Developed from information in EPA (2021).

Figure G-EJ2. Distribution of minority populations by census block group in New London County, Connecticut, and Suffolk County, New York.



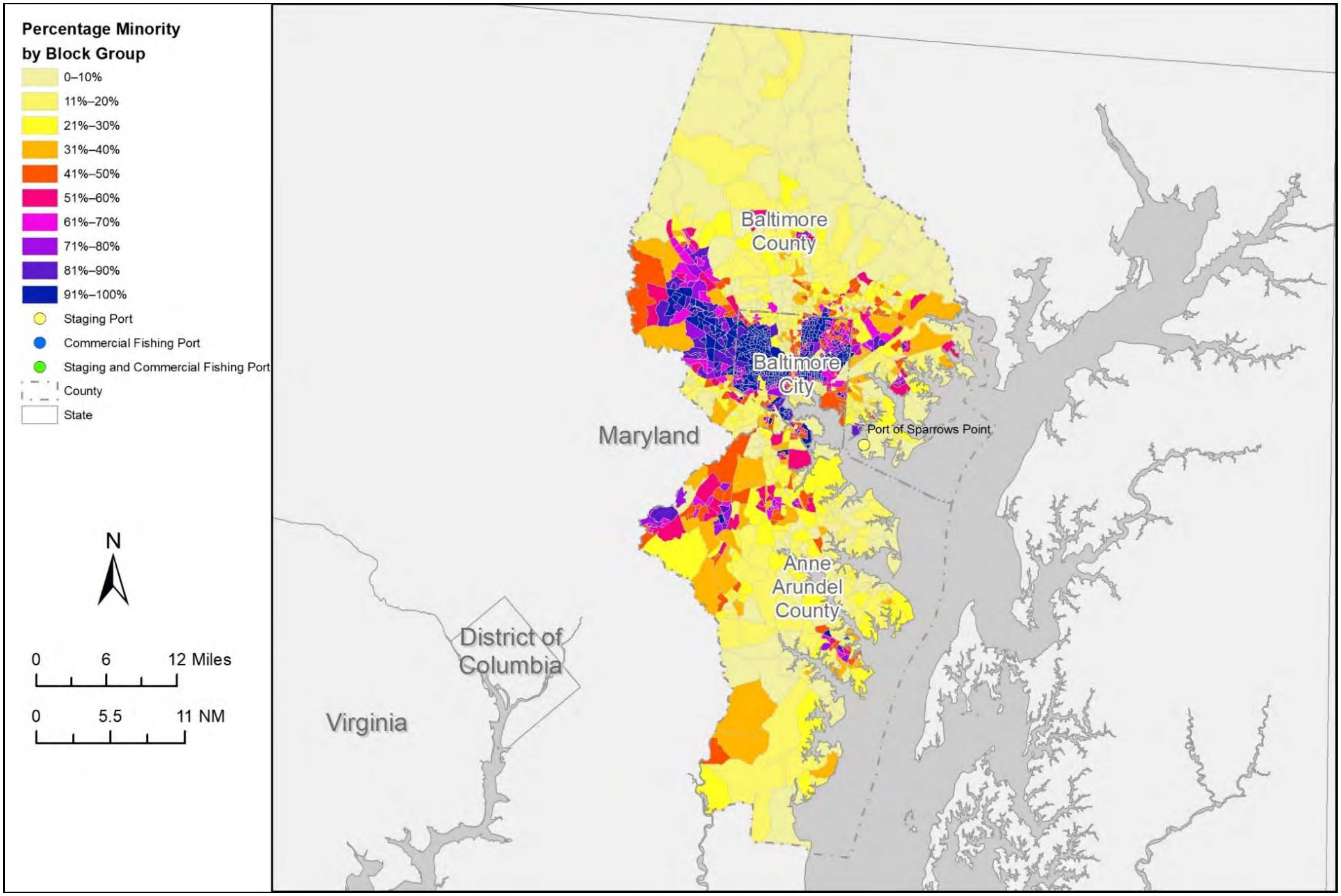
Source: Developed from information in EPA (2021).

Figure G-EJ3. Distribution of minority populations by census block group in Kings County (Brooklyn), New York; Richmond County, New York; New York County, New York; and Hudson County, New Jersey.



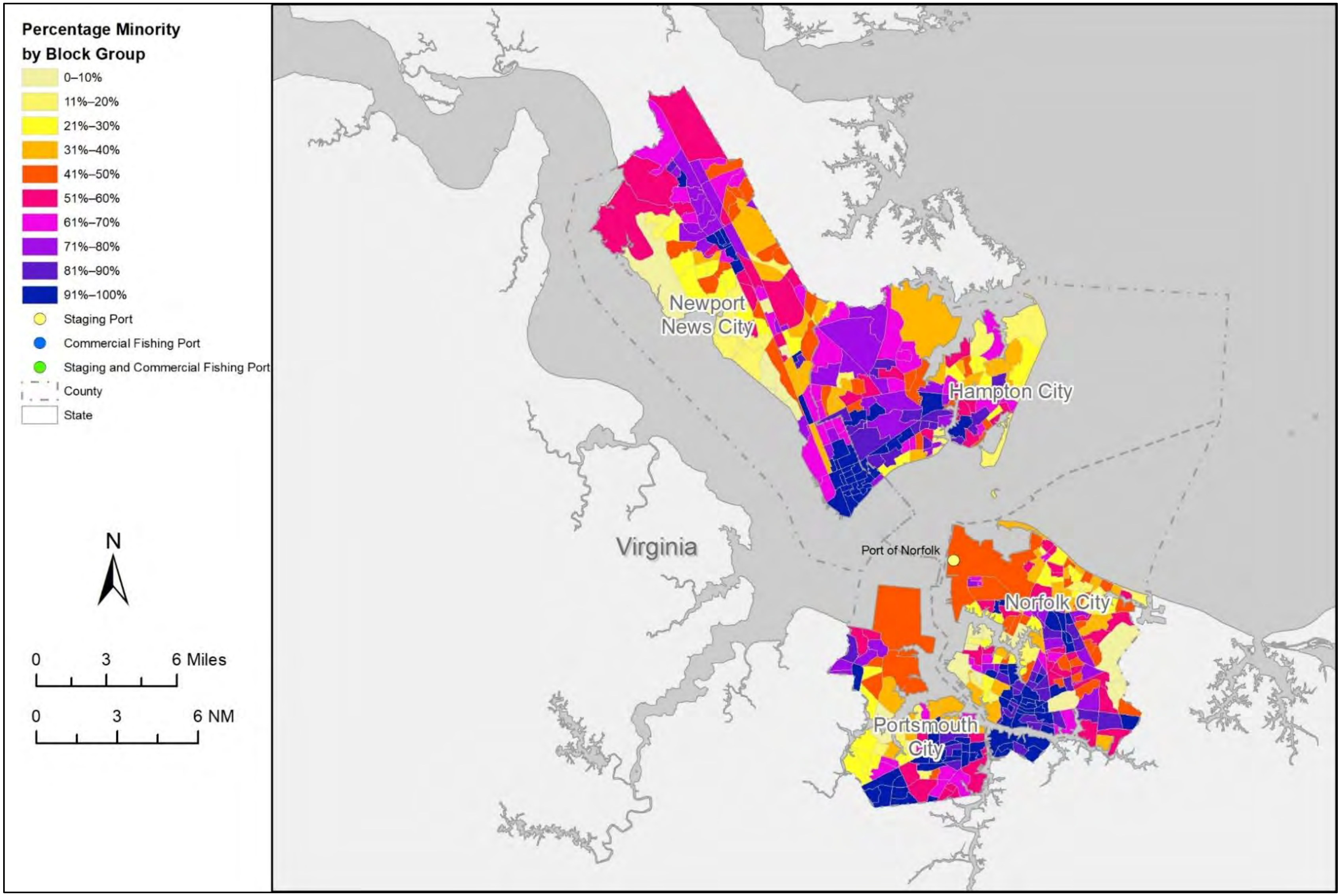
Source: Developed from information in EPA (2021).

Figure G-EJ4. Distribution of minority populations by census block group in Gloucester County, New Jersey; Philadelphia County, Pennsylvania; and Delaware County, Pennsylvania.



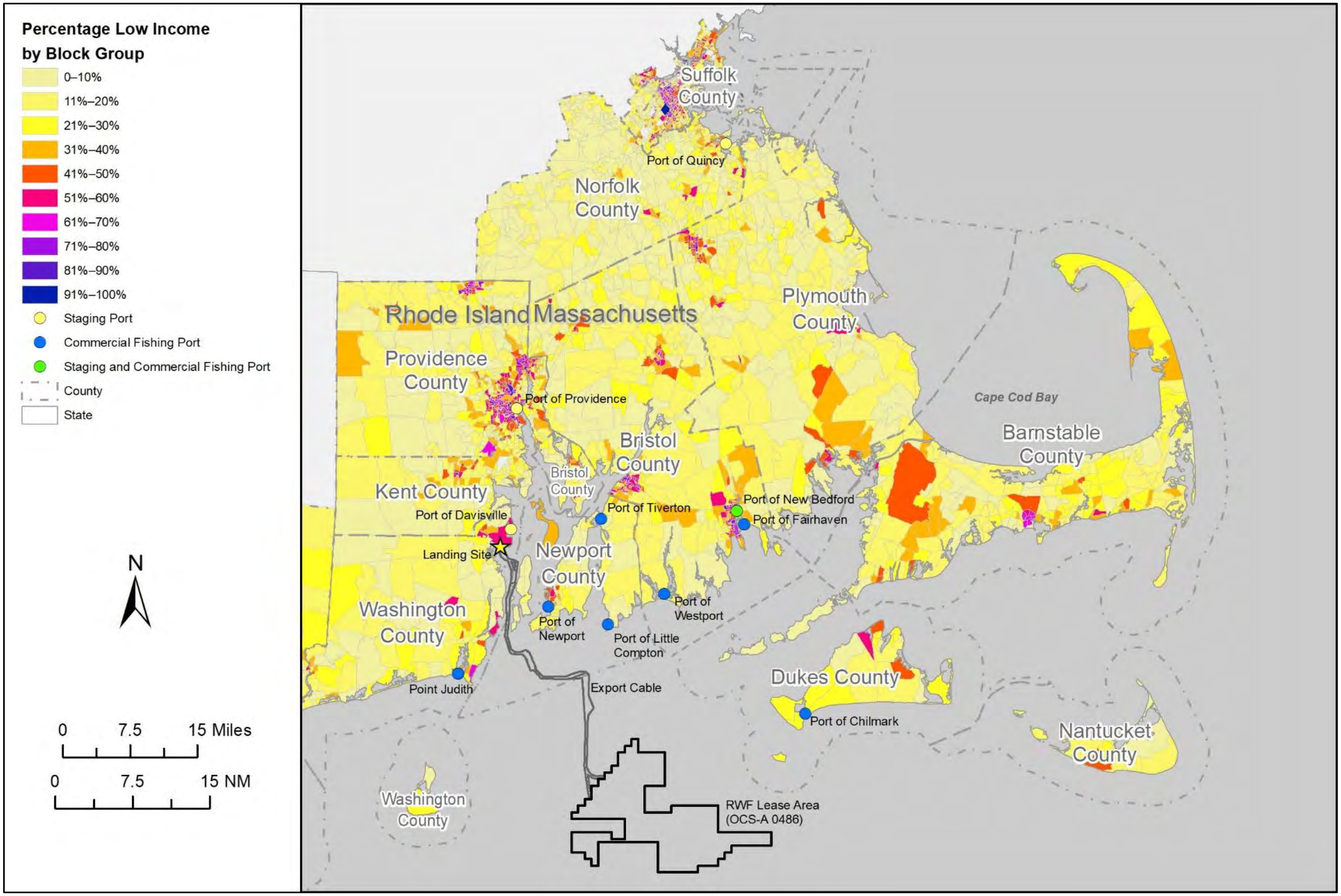
Source: Developed from information in EPA (2021).

Figure G-EJ5. Distribution of minority populations by census block group in Baltimore County, Baltimore City, and Anne Arundel County, Maryland.



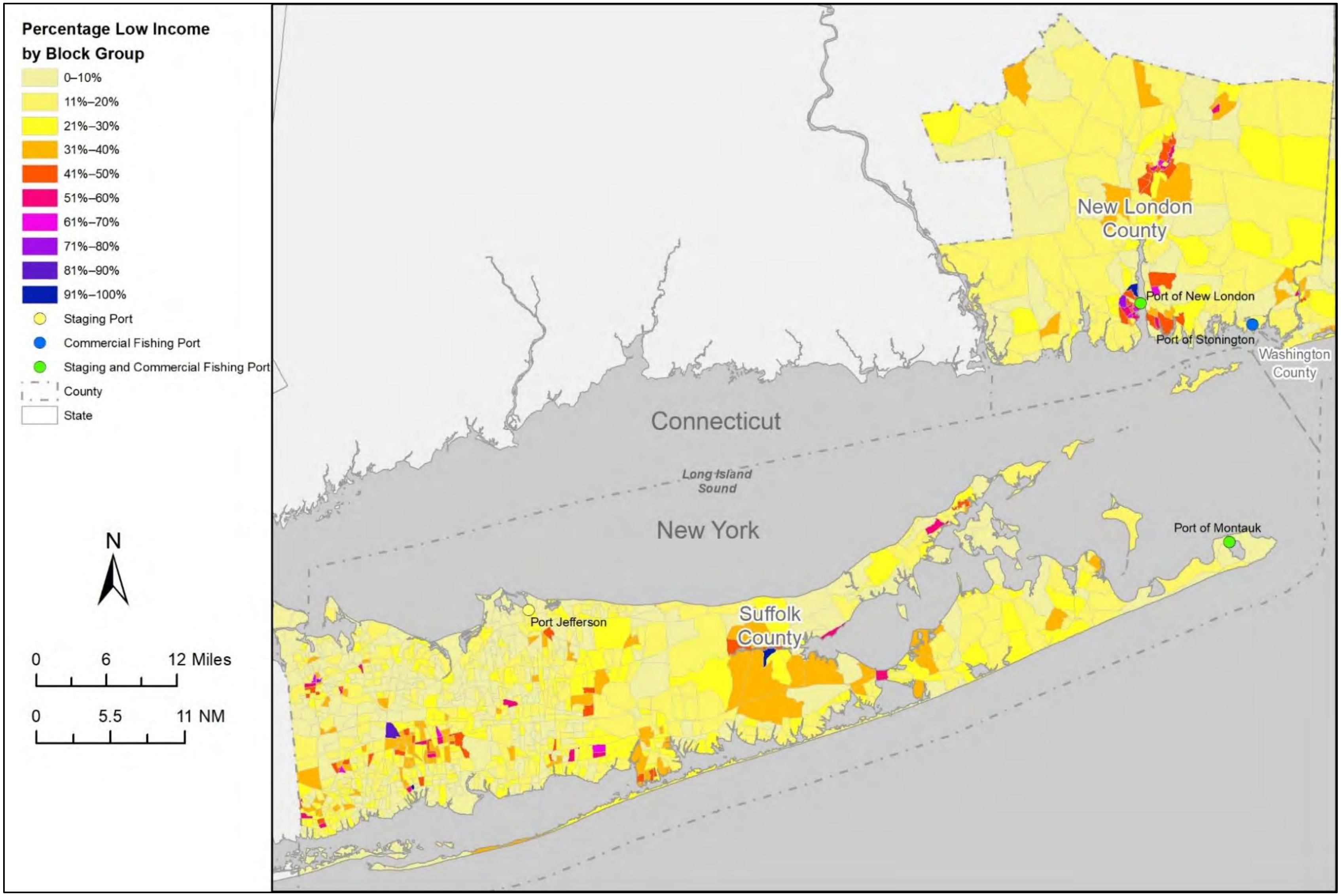
Source: Developed from information in EPA (2021).

Figure G-EJ6. Distribution of minority populations by census block group in the cities of Norfolk, Portsmouth, Newport News, and Hampton, Virginia.



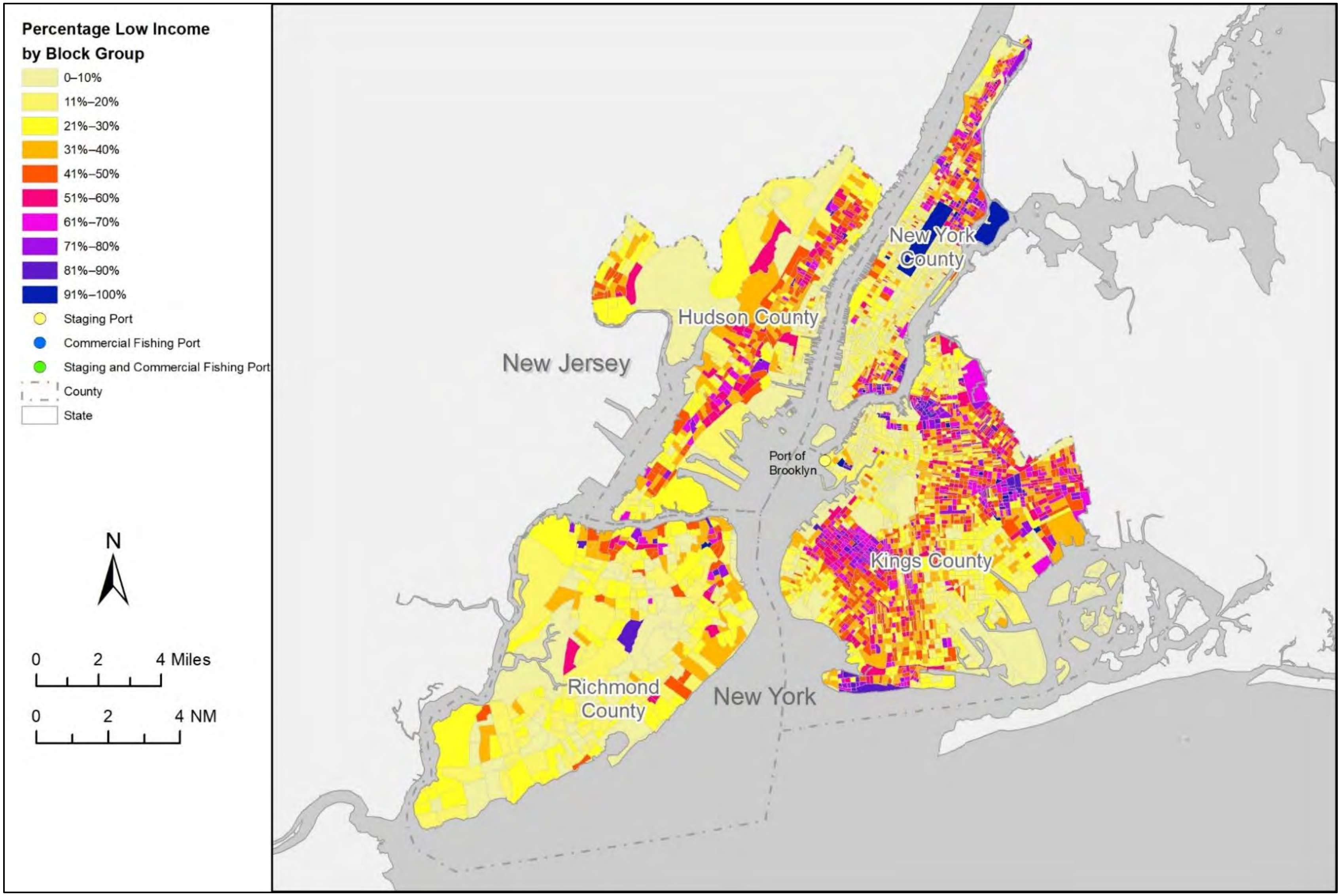
Source: Developed from information in EPA (2021).

Figure G-EJ7. Distribution of low-income populations by census block group in potentially affected counties in Rhode Island and Massachusetts.



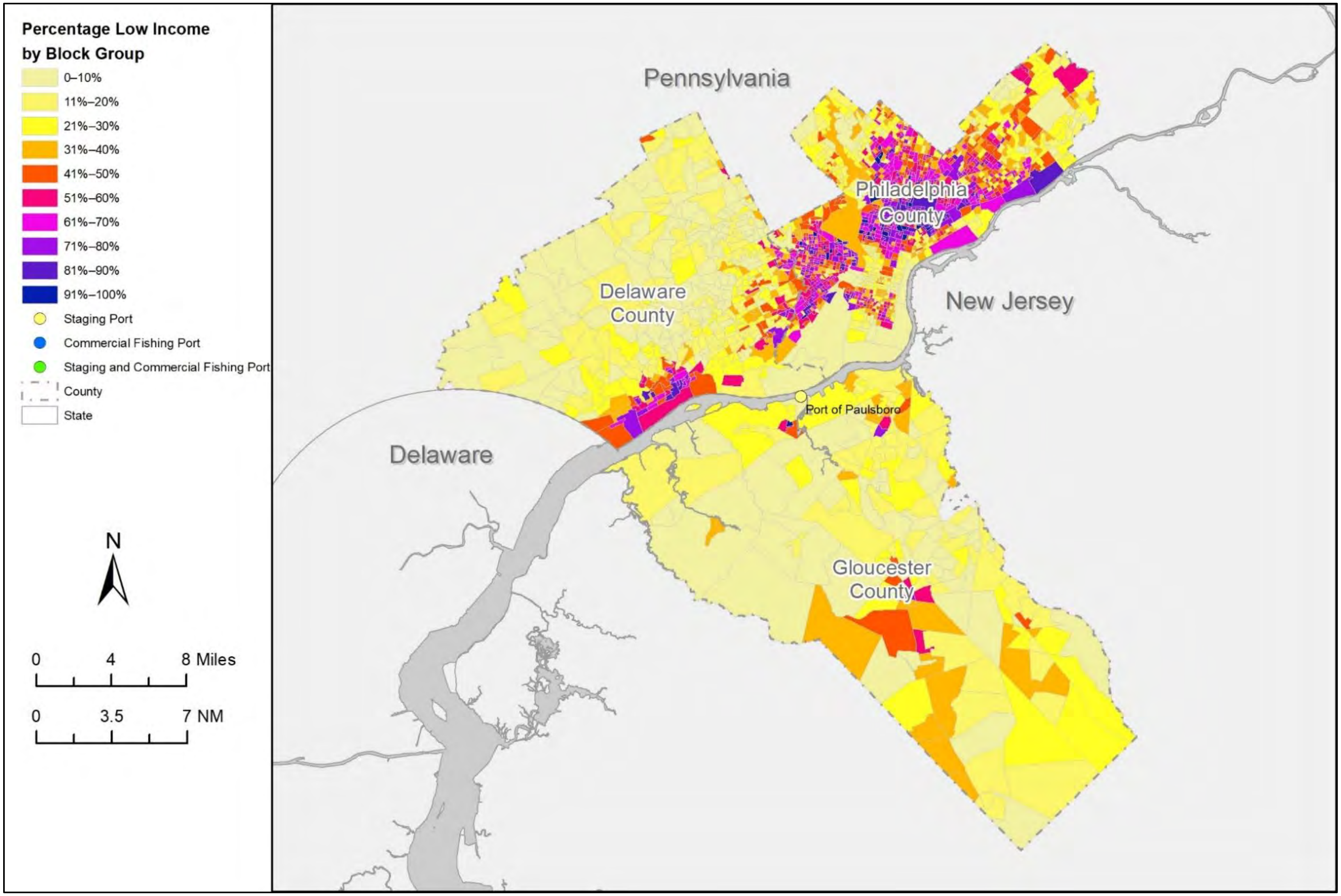
Source: Developed from information in EPA (2021).

Figure G-EJ8. Distribution of low-income populations by census block group in New London County, Connecticut and Suffolk County, New York.



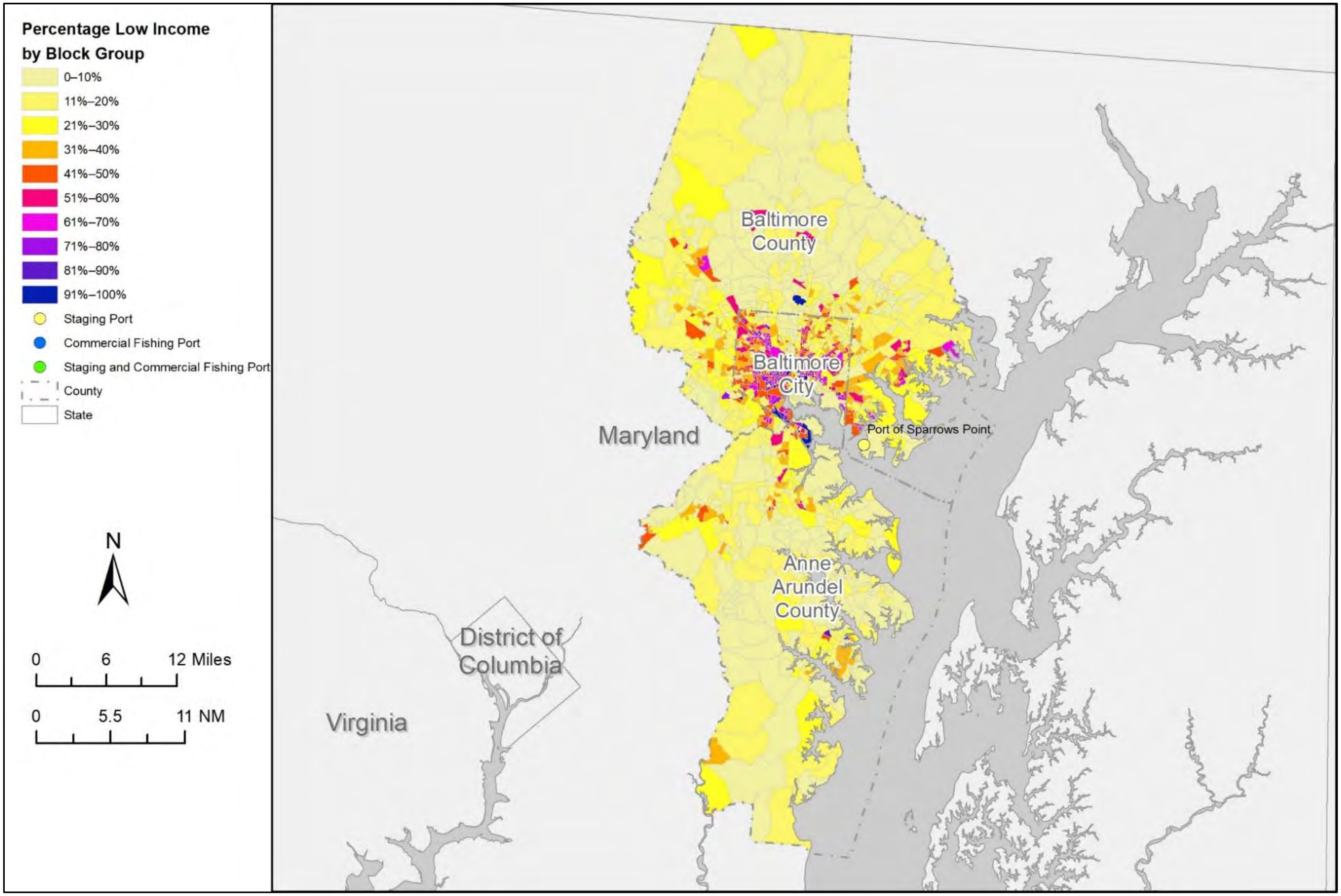
Source: Developed from information in EPA (2021).

Figure G-EJ9. Distribution of low-income populations by census block group in Kings County (Brooklyn), New York; Richmond County, New York; New York County, New York; and Hudson County, New Jersey.



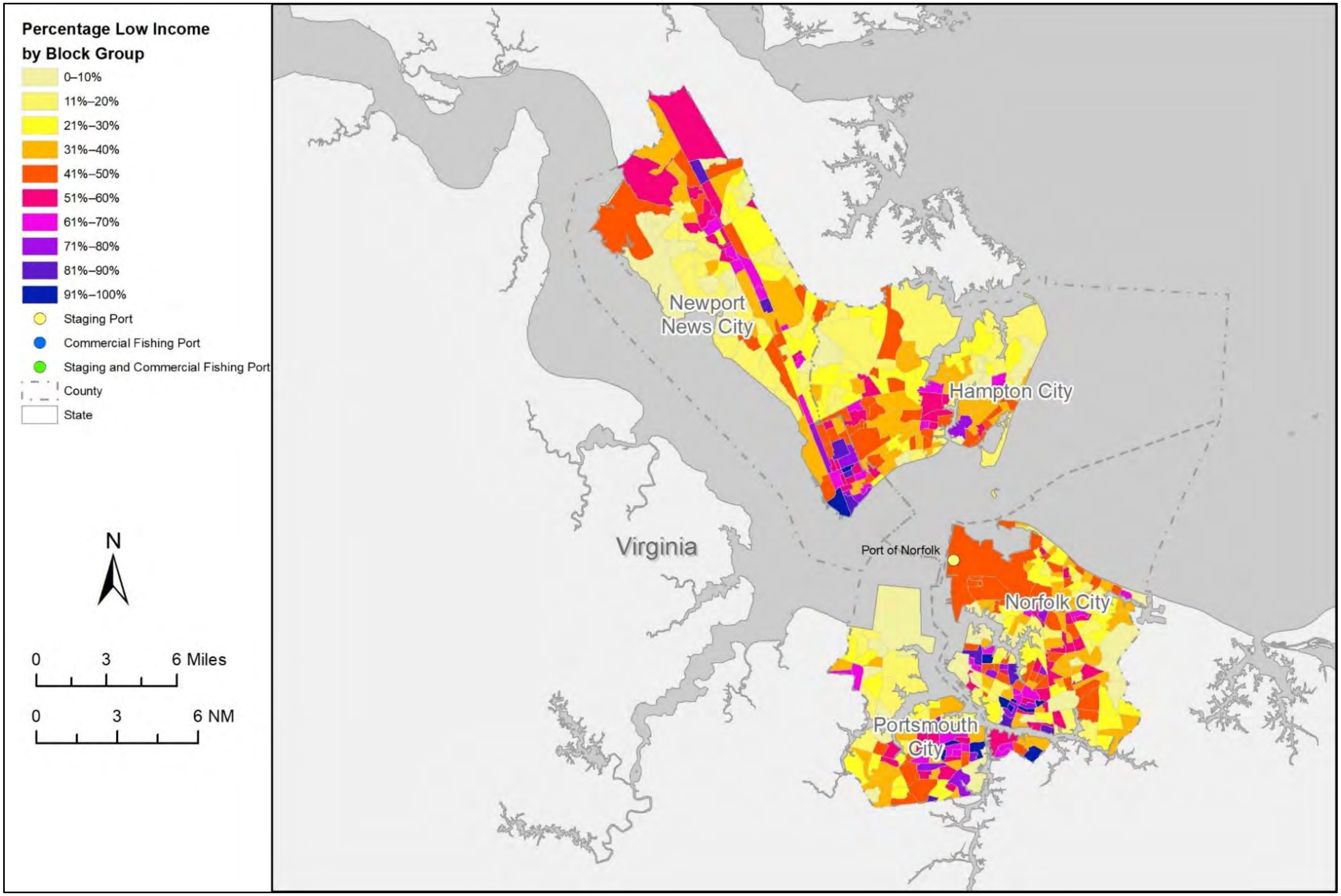
Source: Developed from information in EPA (2021).

Figure G-EJ10. Distribution of low-income populations by census block group in Gloucester County, New Jersey; Philadelphia County, Pennsylvania; and Delaware County, Pennsylvania.



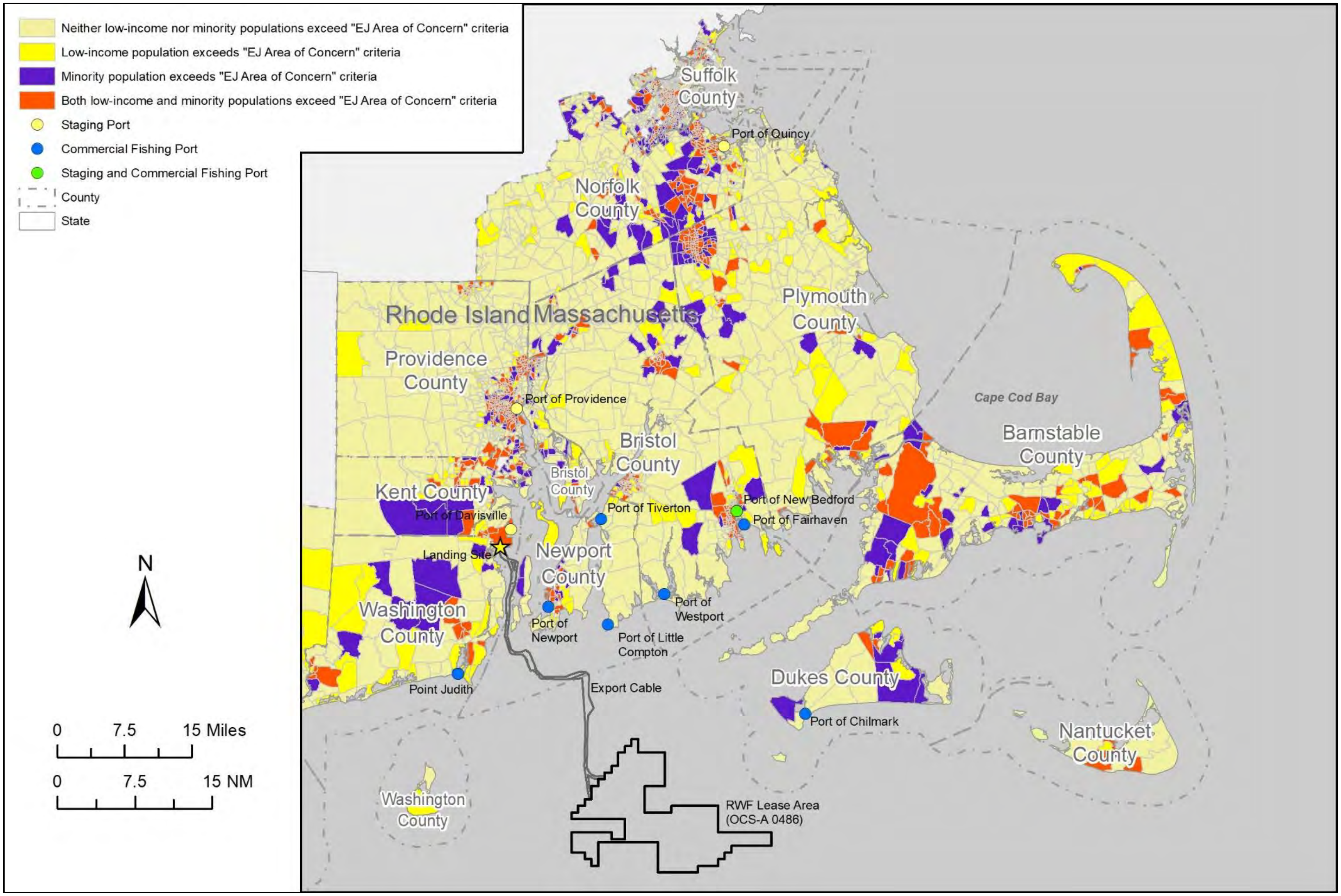
Source: Developed from information in EPA (2021).

Figure G-EJ11. Distribution of low-income populations by census block group in Baltimore County, Baltimore City, and Anne Arundel County, Maryland.



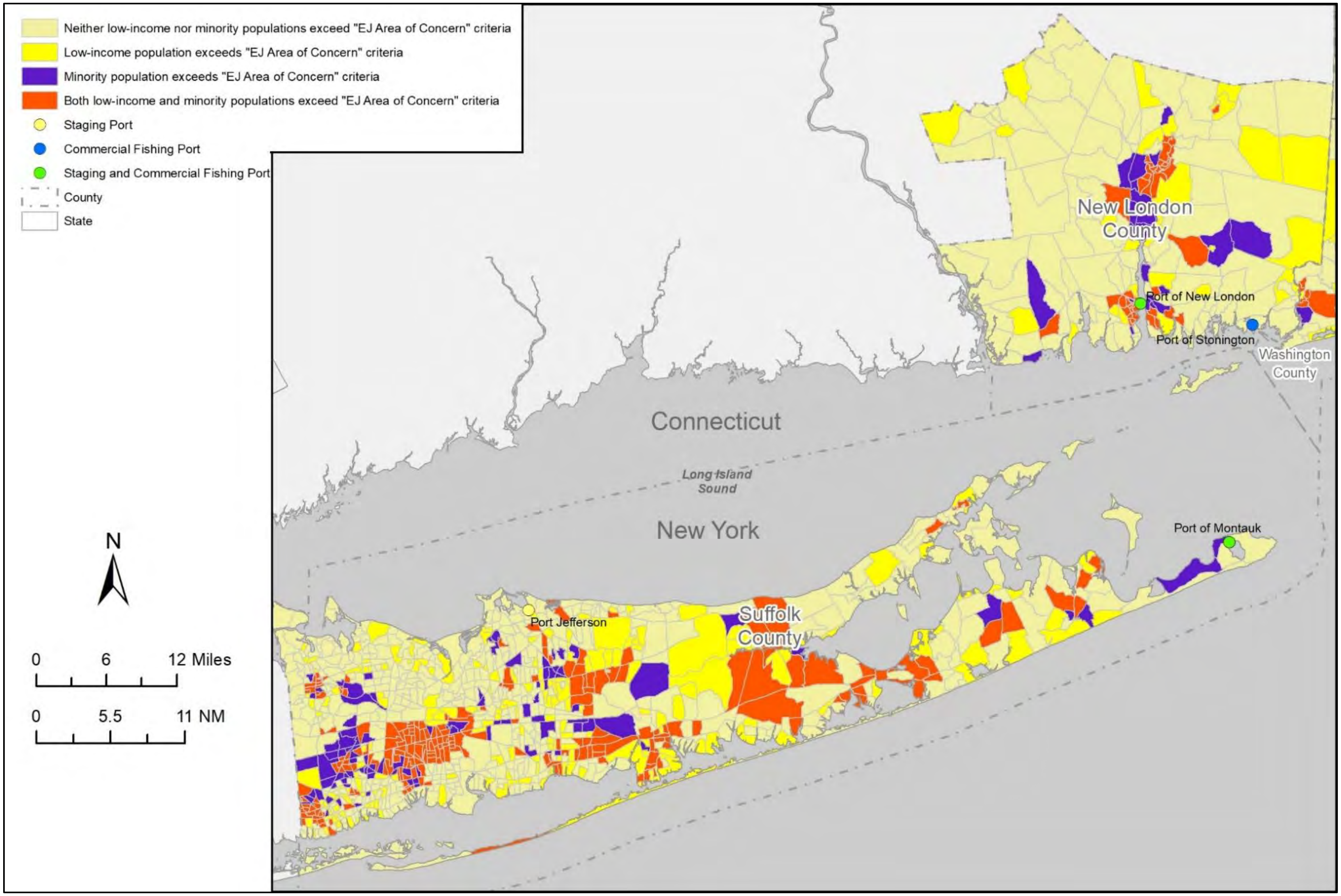
Source: Developed from information in EPA (2021).

Figure G-EJ12. Distribution of low-income populations by census block group in the cities of Norfolk, Portsmouth, Newport News, and Hampton, Virginia.



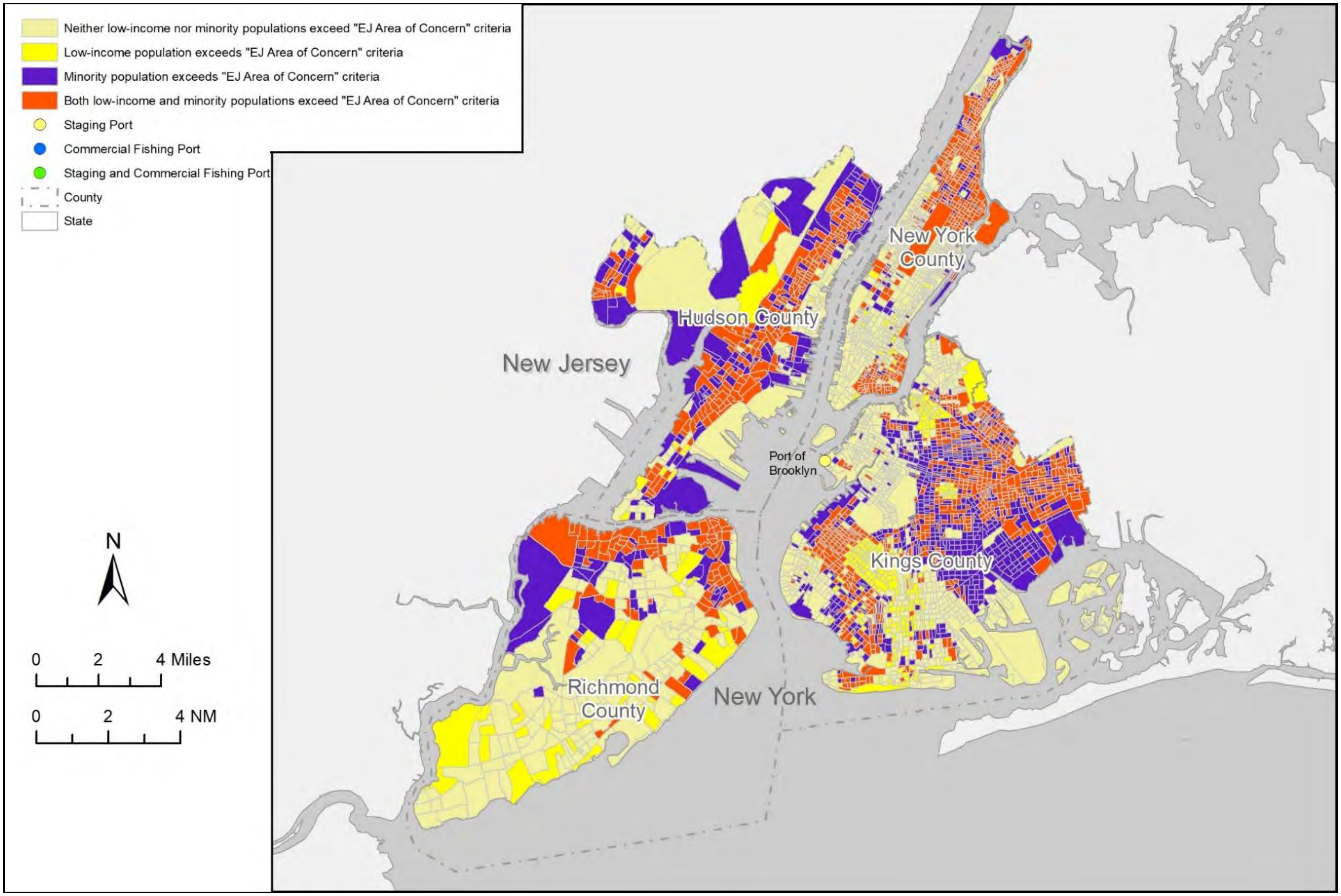
Source: Developed from information in EPA (2021).

Figure G-EJ13. Census block groups that are potential environmental justice areas of concern in Rhode Island and Massachusetts.



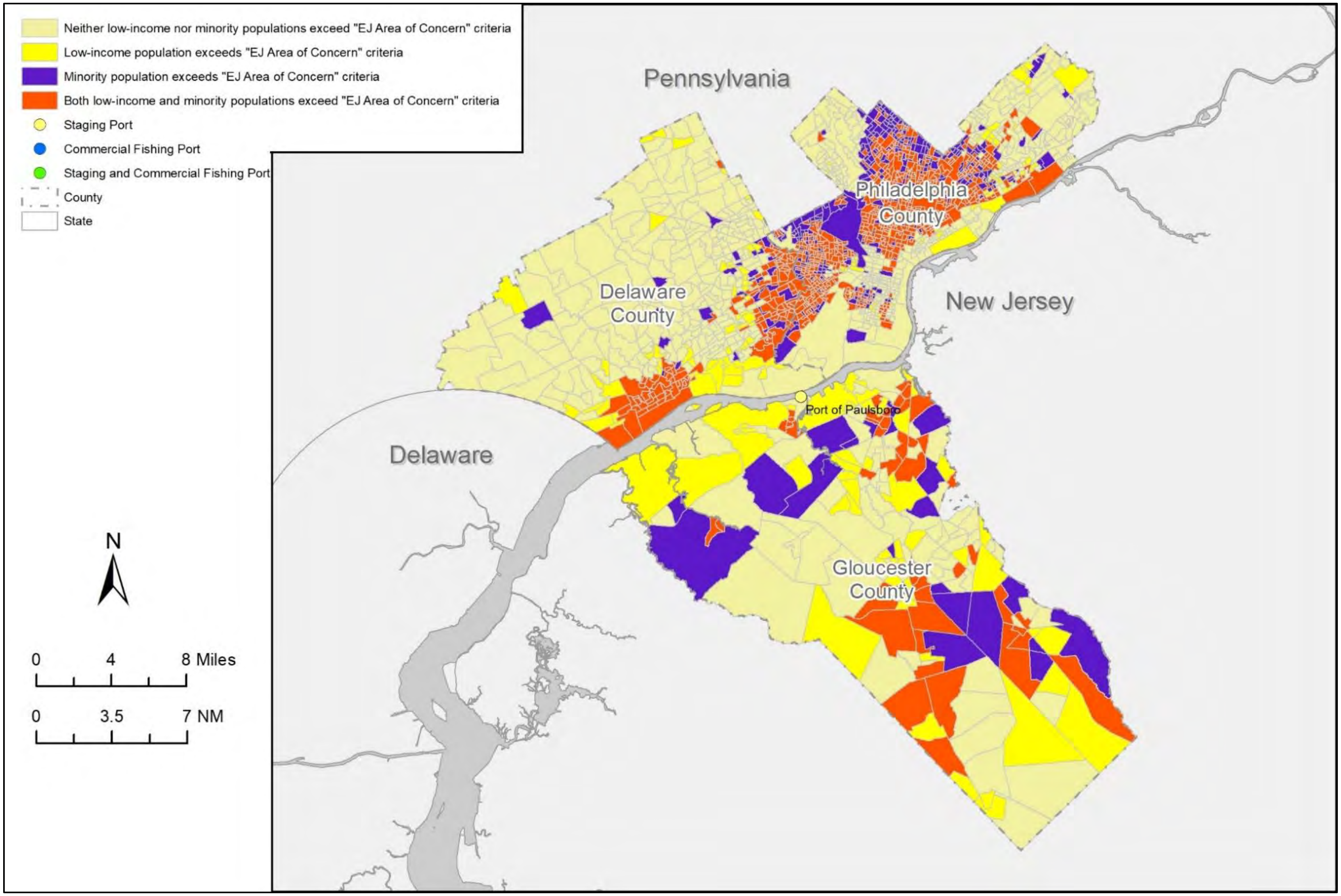
Source: Developed from information in EPA (2021).

Figure G-EJ14. Census block groups that are potential environmental justice areas of concern in New London County, Connecticut and Suffolk County, New York.



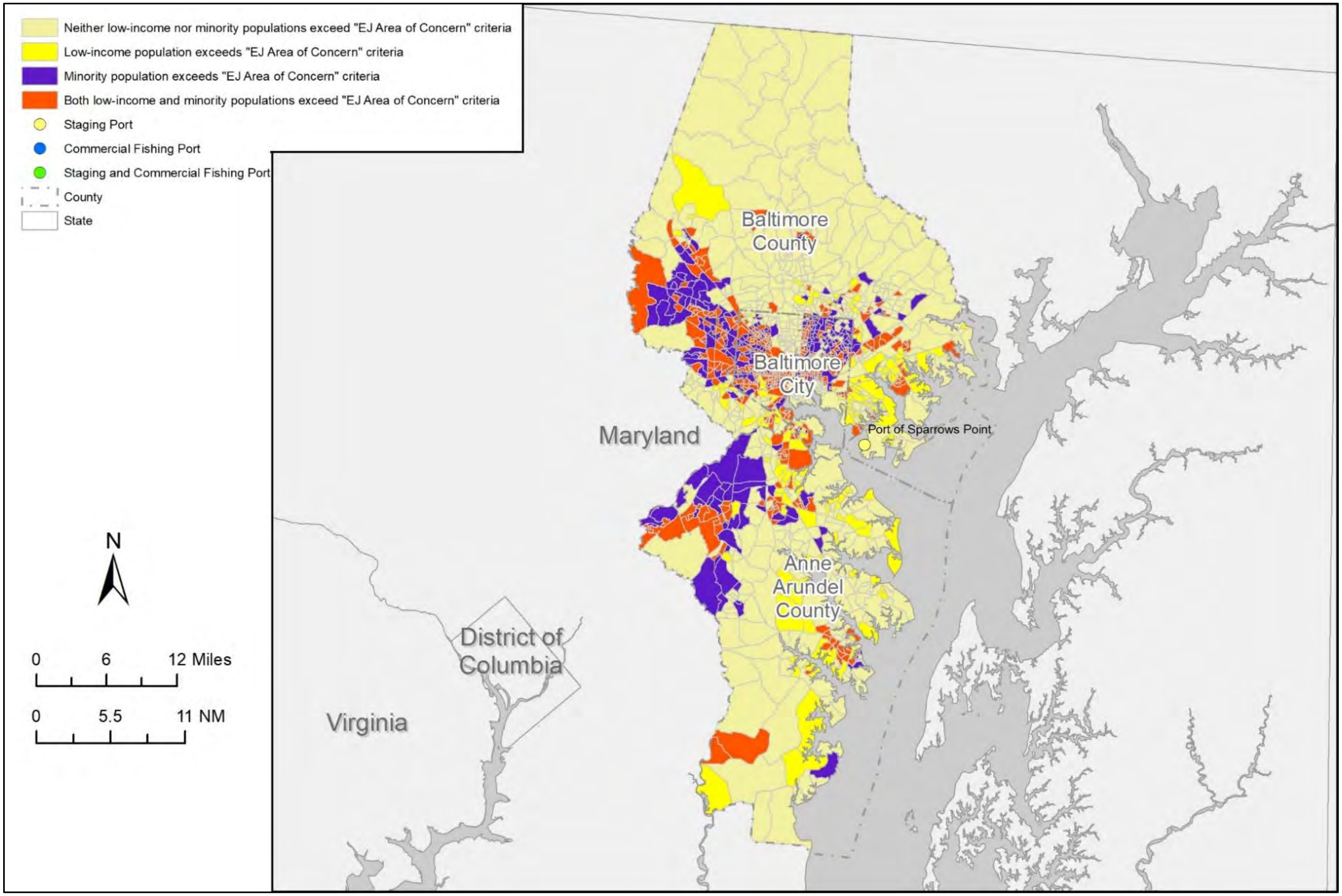
Source: Developed from information in EPA (2021).

Figure G-EJ15. Census block groups that are potential environmental justice areas of concern in Kings County (Brooklyn), New York; Richmond County, New York; New York County, New York; and Hudson County, New Jersey.



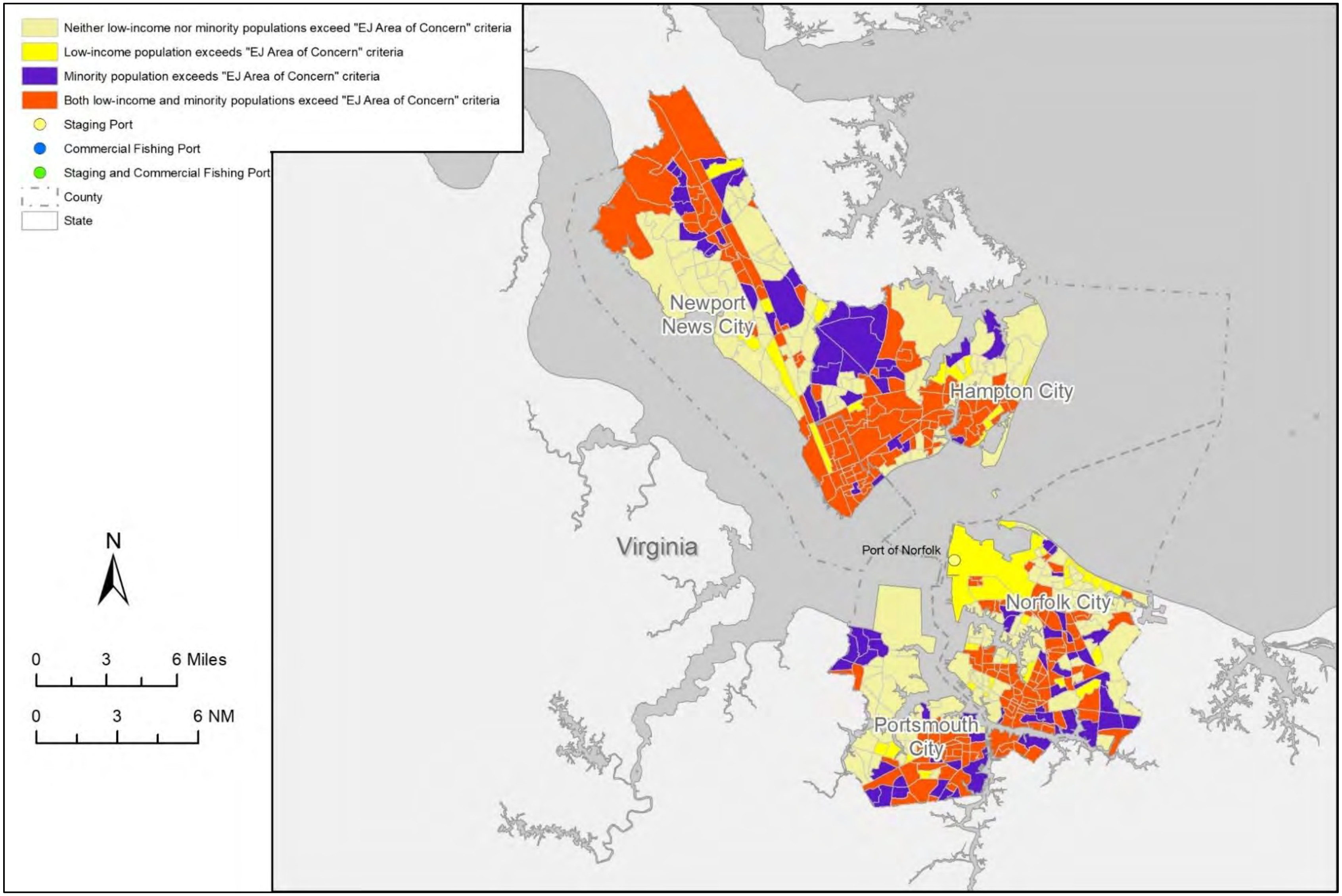
Source: Developed from information in EPA (2021).

Figure G-EJ26. Census block groups that are potential environmental justice areas of concern in Gloucester County, New Jersey; Philadelphia County, Pennsylvania; and Delaware County, Pennsylvania.



Source: Developed from information in EPA (2021).

Figure G-EJ17. Census block groups that are potential environmental justice areas of concern in Baltimore County, Baltimore City, and Anne Arundel County, Maryland.



Source: Developed from information in EPA (2021).

Figure G-EJ18. Census block groups that are potential environmental justice areas of concern in the cities of Norfolk, Portsmouth, Newport News, and Hampton, Virginia.

Table G-EJ1. Census Tracts (CT) and Block Groups (BG) in Suffolk County, Massachusetts (County ID 25-023) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.

Census Tract & Block Group ID	Place Name	Category
CT 1 BG 1	Boston	1
CT 2.01 BG 1	Boston	2
CT 2.02 BG 3	Boston	3
CT 2.02 BG 4	Boston	1
CT 3.01 BG 1	Boston	3
CT 4.01 BG 4	Boston	2
CT 4.02 BG 1	Boston	2
CT 4.02 BG 2	Boston	2
CT 5.02 BG 3	Boston	2
CT 5.03 BG 1	Boston	2
CT 5.04 BG 2	Boston	2
CT 5.04 BG 4	Boston	2
CT 6.01 BG 1	Boston	2
CT 6.02 BG 1	Boston	2
CT 6.02 BG 2	Boston	2
CT 6.02 BG 3	Boston	1
CT 7.01 BG 2	Boston	1
CT 7.01 BG 4	Boston	2
CT 7.01 BG 5	Boston	2
CT 7.03 BG 1	Boston	1
CT 7.03 BG 2	Boston	2
CT 7.04 BG 3	Boston	2
CT 7.04 BG 4	Boston	1
CT 8.02 BG 1	Boston	2
CT 8.02 BG 2	Boston	2
CT 8.02 BG 3	Boston	3
CT 8.02 BG 5	Boston	2
CT 8.03 BG 1	Boston	2
CT 8.03 BG 2	Boston	2
CT 101.03 BG 2	Boston	3
CT 101.03 BG 3	Boston	2
CT 101.04 BG 3	Boston	2
CT 102.03 BG 1	Boston	2
CT 102.03 BG 2	Boston	2
CT 102.03 BG 3	Boston	2
CT 102.04 BG 1	Boston	2
CT 102.04 BG 3	Boston	1
CT 103 BG 1	Boston	2
CT 104.03 BG 1	Boston	1
CT 104.03 BG 2	Boston	2
CT 104.04 BG 1	Boston	2
CT 104.04 BG 2	Boston	2
CT 104.04 BG 3	Boston	2
CT 104.05 BG 1	Boston	2
CT 104.05 BG 2	Boston	2
CT 104.05 BG 3	Boston	1
CT 105 BG 1	Boston	2
CT 105 BG 2	Boston	2
CT 105 BG 3	Boston	3
CT 203.01 BG 1	Boston	2
CT 303 BG 2	Boston	2
CT 303 BG 3	Boston	2
CT 402 BG 1	Boston	1
CT 403 BG 1	Boston	1
CT 408.01 BG 1	Boston	1
CT 408.01 BG 2	Boston	1

Census Tract & Block Group ID	Place Name	Category
CT 501.01 BG 1	Boston	1
CT 501.01 BG 2	Boston	1
CT 501.01 BG 3	Boston	1
CT 502 BG 1	Boston	1
CT 502 BG 2	Boston	1
CT 502 BG 3	Boston	1
CT 502 BG 4	Boston	1
CT 503 BG 1	Boston	1
CT 503 BG 2	Boston	1
CT 504 BG 1	Boston	1
CT 504 BG 2	Boston	1
CT 505 BG 1	Boston	1
CT 506 BG 1	Boston	1
CT 506 BG 2	Boston	3
CT 507 BG 1	Boston	1
CT 507 BG 2	Boston	1
CT 507 BG 3	Boston	1
CT 509.01 BG 1	Boston	1
CT 509.01 BG 2	Boston	1
CT 509.01 BG 3	Boston	1
CT 510 BG 2	Boston	1
CT 511.01 BG 1	Boston	1
CT 511.01 BG 2	Boston	1
CT 511.01 BG 3	Boston	3
CT 511.01 BG 4	Boston	1
CT 512 BG 2	Boston	1
CT 607 BG 1	Boston	1
CT 607 BG 2	Boston	1
CT 610 BG 2	Boston	1
CT 610 BG 3	Boston	1
CT 611.01 BG 1	Boston	1
CT 611.01 BG 2	Boston	1

Census Tract & Block Group ID	Place Name	Category
CT 701.01 BG 2	Boston	1
CT 701.01 BG 3	Boston	1
CT 701.01 BG 5	Boston	3
CT 701.01 BG 6	Boston	2
CT 701.01 BG 7	Boston	1
CT 702 BG 1	Boston	1
CT 702 BG 2	Boston	1
CT 702 BG 3	Boston	2
CT 704.02 BG 1	Boston	1
CT 705 BG 2	Boston	1
CT 705 BG 3	Boston	2
CT 705 BG 4	Boston	1
CT 707 BG 1	Boston	3
CT 708 BG 1	Boston	3
CT 709 BG 1	Boston	2
CT 709 BG 2	Boston	1
CT 711.01 BG 2	Boston	2
CT 711.01 BG 3	Boston	1
CT 712.01 BG 1	Boston	2
CT 712.01 BG 2	Boston	1
CT 801 BG 1	Boston	1
CT 801 BG 2	Boston	1
CT 803 BG 1	Boston	1
CT 804.01 BG 1	Boston	1
CT 804.01 BG 2	Boston	1
CT 805 BG 1	Boston	1
CT 805 BG 2	Boston	1
CT 806.01 BG 1	Boston	1
CT 806.01 BG 2	Boston	1
CT 806.01 BG 3	Boston	1
CT 808.01 BG 1	Boston	1
CT 808.01 BG 2	Boston	1

Census Tract & Block Group ID	Place Name	Category
CT 809 BG 1	Boston	1
CT 809 BG 2	Boston	2
CT 809 BG 3	Boston	2
CT 810.01 BG 1	Boston	1
CT 810.01 BG 2	Boston	1
CT 810.01 BG 3	Boston	1
CT 810.01 BG 4	Boston	1
CT 811 BG 1	Boston	1
CT 811 BG 2	Boston	1
CT 812 BG 1	Boston	1
CT 812 BG 2	Boston	1
CT 813 BG 1	Boston	1
CT 813 BG 2	Boston	1
CT 813 BG 3	Boston	1
CT 814 BG 1	Boston	1
CT 814 BG 2	Boston	1
CT 814 BG 3	Boston	1
CT 815 BG 1	Boston	1
CT 815 BG 2	Boston	1
CT 817 BG 1	Boston	1
CT 817 BG 2	Boston	1
CT 817 BG 3	Boston	1
CT 817 BG 4	Boston	1
CT 817 BG 5	Boston	1
CT 818 BG 1	Boston	1
CT 818 BG 2	Boston	1
CT 818 BG 3	Boston	1
CT 819 BG 1	Boston	1
CT 819 BG 2	Boston	1
CT 819 BG 3	Boston	1
CT 819 BG 4	Boston	1
CT 820 BG 1	Boston	1

Census Tract & Block Group ID	Place Name	Category
CT 820 BG 2	Boston	3
CT 820 BG 3	Boston	1
CT 821 BG 1	Boston	1
CT 821 BG 2	Boston	1
CT 821 BG 3	Boston	1
CT 901 BG 1	Boston	1
CT 901 BG 2	Boston	1
CT 901 BG 3	Boston	1
CT 901 BG 4	Boston	1
CT 901 BG 5	Boston	1
CT 902 BG 1	Boston	1
CT 902 BG 2	Boston	1
CT 902 BG 3	Boston	1
CT 903 BG 1	Boston	1
CT 903 BG 2	Boston	1
CT 903 BG 3	Boston	1
CT 904 BG 1	Boston	1
CT 904 BG 2	Boston	1
CT 904 BG 3	Boston	1
CT 904 BG 4	Boston	3
CT 906 BG 1	Boston	1
CT 906 BG 2	Boston	1
CT 907 BG 3	Boston	2
CT 909.01 BG 1	Boston	1
CT 909.01 BG 2	Boston	1
CT 910.01 BG 1	Boston	3
CT 911 BG 4	Boston	3
CT 912 BG 1	Boston	3
CT 912 BG 2	Boston	1
CT 913 BG 1	Boston	1
CT 913 BG 2	Boston	1
CT 914 BG 1	Boston	1

Census Tract & Block Group ID	Place Name	Category
CT 914 BG 2	Boston	3
CT 915 BG 1	Boston	1
CT 915 BG 2	Boston	3
CT 915 BG 3	Boston	1
CT 916 BG 1	Boston	1
CT 916 BG 2	Boston	1
CT 916 BG 3	Boston	1
CT 917 BG 1	Boston	1
CT 917 BG 2	Boston	3
CT 917 BG 3	Boston	1
CT 918 BG 1	Boston	1
CT 918 BG 2	Boston	3
CT 918 BG 3	Boston	1
CT 919 BG 1	Boston	1
CT 919 BG 2	Boston	3
CT 919 BG 3	Boston	1
CT 919 BG 4	Boston	3
CT 920 BG 1	Boston	1
CT 920 BG 2	Boston	3
CT 920 BG 3	Boston	3
CT 920 BG 4	Boston	1
CT 921.01 BG 1	Boston	3
CT 921.01 BG 2	Boston	1
CT 921.01 BG 4	Boston	1
CT 921.01 BG 5	Boston	1
CT 922 BG 1	Boston	3
CT 922 BG 2	Boston	3
CT 922 BG 3	Boston	3
CT 922 BG 4	Boston	1
CT 923 BG 1	Boston	3
CT 923 BG 2	Boston	1
CT 923 BG 3	Boston	1

Census Tract & Block Group ID	Place Name	Category
CT 923 BG 4	Boston	3
CT 924 BG 1	Boston	1
CT 924 BG 2	Boston	1
CT 924 BG 3	Boston	1
CT 924 BG 4	Boston	1
CT 924 BG 5	Boston	1
CT 1001 BG 1	Boston	1
CT 1001 BG 2	Boston	3
CT 1001 BG 3	Boston	1
CT 1001 BG 4	Boston	3
CT 1001 BG 5	Boston	1
CT 1001 BG 6	Boston	1
CT 1001 BG 7	Boston	1
CT 1002 BG 1	Boston	1
CT 1002 BG 2	Boston	1
CT 1002 BG 3	Boston	1
CT 1003 BG 1	Boston	1
CT 1003 BG 2	Boston	3
CT 1003 BG 3	Boston	1
CT 1003 BG 4	Boston	1
CT 1004 BG 1	Boston	1
CT 1004 BG 2	Boston	3
CT 1004 BG 3	Boston	3
CT 1004 BG 4	Boston	1
CT 1005 BG 1	Boston	1
CT 1005 BG 2	Boston	3
CT 1005 BG 3	Boston	1
CT 1005 BG 4	Boston	1
CT 1005 BG 5	Boston	1
CT 1006.01 BG 1	Boston	1
CT 1006.01 BG 2	Boston	1
CT 1006.01 BG 3	Boston	3

Census Tract & Block Group ID	Place Name	Category
CT 1006.01 BG 4	Boston	3
CT 1008 BG 1	Boston	3
CT 1008 BG 4	Boston	3
CT 1009 BG 1	Boston	3
CT 1009 BG 2	Boston	1
CT 1009 BG 3	Boston	3
CT 1009 BG 4	Boston	3
CT 1009 BG 5	Boston	3
CT 1010.01 BG 1	Boston	3
CT 1010.01 BG 2	Boston	1
CT 1010.01 BG 3	Boston	3
CT 1010.01 BG 4	Boston	1
CT 1010.01 BG 5	Boston	1
CT 1010.01 BG 6	Boston	3
CT 1010.02 BG 1	Boston	1
CT 1010.02 BG 2	Boston	1
CT 1010.02 BG 3	Boston	3
CT 1011.01 BG 1	Boston	1
CT 1011.01 BG 2	Boston	3
CT 1011.01 BG 3	Boston	1
CT 1011.02 BG 1	Boston	3
CT 1011.02 BG 2	Boston	1
CT 1011.02 BG 3	Boston	3
CT 1011.02 BG 4	Boston	1
CT 1101.03 BG 2	Boston	1
CT 1101.03 BG 3	Boston	1
CT 1101.03 BG 4	Boston	1
CT 1101.03 BG 7	Boston	1
CT 1102.01 BG 1	Boston	1
CT 1103.01 BG 1	Boston	3
CT 1104.01 BG 1	Boston	1
CT 1104.03 BG 1	Boston	1

Census Tract & Block Group ID	Place Name	Category
CT 1105.01 BG 1	Boston	2
CT 1105.02 BG 1	Boston	1
CT 1105.02 BG 2	Boston	3
CT 1201.04 BG 2	Boston	1
CT 1202.01 BG 2	Boston	1
CT 1203.01 BG 1	Boston	3
CT 1203.01 BG 2	Boston	1
CT 1203.01 BG 3	Boston	3
CT 1204 BG 2	Boston	3
CT 1204 BG 5	Boston	2
CT 1205 BG 1	Boston	1
CT 1205 BG 2	Boston	3
CT 1205 BG 3	Boston	1
CT 1207 BG 1	Boston	3
CT 1301 BG 2	Boston	3
CT 1304.04 BG 1	Boston	3
CT 1304.06 BG 1	Boston	1
CT 1304.06 BG 2	Boston	1
CT 1401.02 BG 1	Boston	3
CT 1401.02 BG 2	Boston	3
CT 1401.02 BG 4	Boston	3
CT 1401.05 BG 1	Boston	3
CT 1401.05 BG 2	Boston	3
CT 1401.06 BG 1	Boston	1
CT 1401.06 BG 2	Boston	1
CT 1401.07 BG 1	Boston	3
CT 1401.07 BG 2	Boston	3
CT 1402.01 BG 1	Boston	3
CT 1402.01 BG 2	Boston	3
CT 1402.02 BG 1	Boston	3
CT 1402.02 BG 2	Boston	1
CT 1402.02 BG 3	Boston	3

Census Tract & Block Group ID	Place Name	Category
CT 1402.02 BG 4	Boston	3
CT 1403 BG 1	Boston	1
CT 1403 BG 2	Boston	1
CT 1403 BG 3	Boston	1
CT 1403 BG 4	Boston	3
CT 1403 BG 5	Boston	1
CT 1403 BG 6	Boston	1
CT 1404 BG 1	Boston	1
CT 1404 BG 2	Boston	3
CT 1404 BG 3	Boston	3
CT 1404 BG 4	Boston	1
CT 1404 BG 5	Boston	3
CT 1404 BG 6	Boston	1
CT 1404 BG 7	Boston	3
CT 1601.01 BG 1	Chelsea	1
CT 1601.01 BG 2	Chelsea	1
CT 1601.01 BG 3	Chelsea	1
CT 1601.01 BG 4	Chelsea	3
CT 1601.01 BG 5	Chelsea	1
CT 1602 BG 1	Chelsea	1
CT 1602 BG 2	Chelsea	1
CT 1602 BG 3	Chelsea	1
CT 1603 BG 2	Chelsea	1
CT 1604 BG 1	Chelsea	1
CT 1604 BG 2	Chelsea	1
CT 1605.01 BG 1	Chelsea	1
CT 1605.01 BG 2	Chelsea	1
CT 1605.01 BG 3	Chelsea	3
CT 1605.01 BG 4	Chelsea	1
CT 1605.01 BG 5	Chelsea	1
CT 1605.02 BG 1	Chelsea	1
CT 1605.02 BG 2	Chelsea	1
CT 1605.02 BG 3	Chelsea	1
CT 1606.01 BG 1	Chelsea	1
CT 1606.01 BG 2	Chelsea	3
CT 1606.02 BG 1	Chelsea	1
CT 1606.02 BG 2	Chelsea	3
CT 1606.02 BG 3	Chelsea	3
CT 1606.02 BG 4	Chelsea	1
CT 1606.02 BG 5	Chelsea	3
CT 1701 BG 1	Revere	2
CT 1701 BG 3	Revere	2
CT 1701 BG 4	Revere	1
CT 1701 BG 5	Revere	3
CT 1701 BG 6	Revere	3
CT 1701 BG 7	Revere	1
CT 1702 BG 1	Revere	2
CT 1702 BG 2	Revere	2
CT 1702 BG 3	Revere	1
CT 1703 BG 1	Revere	3
CT 1703 BG 2	Revere	3
CT 1703 BG 6	Revere	2
CT 1704 BG 1	Revere	2
CT 1704 BG 2	Revere	1
CT 1704 BG 3	Revere	1
CT 1704 BG 4	Revere	2
CT 1705.01 BG 1	Revere	2
CT 1705.01 BG 2	Revere	2
CT 1705.02 BG 2	Revere	2
CT 1706.01 BG 4	Revere	1
CT 1707.01 BG 1	Revere	2
CT 1707.01 BG 2	Revere	3
CT 1707.02 BG 1	Revere	1
CT 1707.02 BG 2	Revere	3

Census Tract & Block Group ID	Place Name	Category
CT 1707.02 BG 3	Revere	3
CT 1707.02 BG 4	Revere	3
CT 1707.02 BG 5	Revere	2
CT 1708 BG 1	Revere	1
CT 1708 BG 2	Revere	2
CT 1708 BG 3	Revere	2
CT 1708 BG 4	Revere	2
CT 1801.01 BG 3	Winthrop	2
CT 9801.01 BG 1	Boston	1
CT 9803 BG 1	Boston	1
CT 9811 BG 4	Boston	1
CT 9901.01 BG 0	No place name	3

Table G-EJ2. Census Tracts (CT) and Block Groups (BG) in Norfolk County, Massachusetts (County ID 25-023) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.

Census Tract & Block Group ID	Place Name	Category
CT 4001 BG 1	Brookline	1
CT 4001 BG 2	Brookline	1
CT 4001 BG 3	Brookline	1
CT 4001 BG 4	Brookline	1
CT 4002 BG 1	Brookline	1
CT 4002 BG 2	Brookline	1
CT 4002 BG 3	Brookline	1
CT 4003 BG 2	Brookline	1
CT 4003 BG 3	Brookline	3
CT 4004 BG 1	Brookline	2
CT 4005 BG 1	Brookline	2
CT 4005 BG 2	Brookline	2
CT 4006 BG 1	Brookline	2
CT 4006 BG 2	Brookline	3
CT 4006 BG 3	Brookline	1
CT 4007 BG 1	Brookline	3
CT 4007 BG 2	Brookline	1
CT 4008 BG 1	Brookline	1
CT 4008 BG 2	Brookline	2
CT 4008 BG 3	Brookline	1
CT 4009 BG 1	Brookline	1
CT 4009 BG 2	Brookline	1
CT 4009 BG 3	Brookline	2
CT 4010 BG 1	Brookline	3
CT 4010 BG 3	Brookline	1
CT 4011 BG 1	Brookline	1
CT 4011 BG 2	Brookline	1
CT 4011 BG 3	Brookline	3
CT 4012 BG 1	Brookline	3
CT 4012 BG 2	Brookline	3
CT 4012 BG 3	Brookline	3
CT 4012 BG 4	Brookline	1
CT 4021.01 BG 2	Dedham	3
CT 4021.01 BG 3	Dedham	1
CT 4021.01 BG 4	Dedham	2
CT 4021.02 BG 1	Dedham	2

Census Tract & Block Group ID	Place Name	Category
CT 4021.02 BG 2	Dedham	3
CT 4021.02 BG 3	Dedham	1
CT 4021.02 BG 4	Dedham	1
CT 4022 BG 1	Dedham	3
CT 4022 BG 2	Dedham	1
CT 4024 BG 1	Dedham	1
CT 4024 BG 2	Dedham	3
CT 4025 BG 1	Dedham	1
CT 4031 BG 4	Needham	3
CT 4034 BG 3	Needham	1
CT 4035 BG 1	Needham	1
CT 4035 BG 2	Needham	1
CT 4041 BG 1	Wellesley	3
CT 4041 BG 2	Wellesley	1
CT 4041 BG 3	Wellesley	3
CT 4042.01 BG 4	Wellesley	2
CT 4042.02 BG 3	Wellesley	3
CT 4043.01 BG 4	Wellesley	3
CT 4043.01 BG 5	Wellesley	1
CT 4043.02 BG 1	Wellesley	3
CT 4044 BG 1	Wellesley	2
CT 4044 BG 5	Wellesley	3
CT 4051 BG 1	No place name	3
CT 4061.01 BG 1	Medfield	2
CT 4071 BG 2	Millis-Clicquot	2
CT 4081.02 BG 2	No place name	2
CT 4081.02 BG 3	No place name	2
CT 4091.01 BG 3	No place name	3
CT 4101 BG 2	No place name	2
CT 4104 BG 4	Foxborough	1
CT 4104 BG 5	Foxborough	1
CT 4111 BG 1	No place name	2

Census Tract & Block Group ID	Place Name	Category
CT 4111 BG 2	No place name	1
CT 4112 BG 3	No place name	1
CT 4113.02 BG 1	No place name	2
CT 4113.02 BG 3	Walpole	2
CT 4121 BG 2	No place name	2
CT 4123 BG 1	No place name	3
CT 4131 BG 4	Norwood	2
CT 4131 BG 5	Norwood	1
CT 4132 BG 2	Norwood	2
CT 4132 BG 3	Norwood	1
CT 4132 BG 4	Norwood	2
CT 4134.01 BG 1	Norwood	2
CT 4134.02 BG 1	Norwood	3
CT 4134.02 BG 2	Norwood	3
CT 4135 BG 1	Norwood	3
CT 4135 BG 2	Norwood	1
CT 4135 BG 3	Norwood	1
CT 4141 BG 2	Sharon	2
CT 4141 BG 3	No place name	3
CT 4141 BG 4	No place name	3
CT 4142 BG 2	No place name	3
CT 4142 BG 3	No place name	3
CT 4151.02 BG 2	No place name	1
CT 4151.02 BG 3	No place name	3
CT 4151.02 BG 4	No place name	2
CT 4151.02 BG 5	No place name	2
CT 4152 BG 2	No place name	3
CT 4161.01 BG 4	Milton	2
CT 4162 BG 1	Milton	3
CT 4162 BG 2	Milton	3
CT 4162 BG 4	Milton	3
CT 4162 BG 5	Milton	3

Census Tract & Block Group ID	Place Name	Category
CT 4162 BG 6	Milton	3
CT 4162 BG 7	Milton	3
CT 4163 BG 2	Milton	1
CT 4163 BG 5	Milton	1
CT 4164 BG 1	Milton	3
CT 4164 BG 7	Milton	3
CT 4171 BG 1	Quincy	1
CT 4171 BG 2	Quincy	1
CT 4171 BG 3	Quincy	1
CT 4171 BG 4	Quincy	3
CT 4171 BG 5	Quincy	1
CT 4172 BG 1	Quincy	1
CT 4172 BG 2	Quincy	1
CT 4172 BG 3	Quincy	1
CT 4172 BG 4	Quincy	1
CT 4172 BG 5	Quincy	1
CT 4172 BG 6	Quincy	3
CT 4172 BG 7	Quincy	1
CT 4173 BG 1	Quincy	2
CT 4173 BG 2	Quincy	3
CT 4174 BG 2	Quincy	1
CT 4174 BG 3	Quincy	2
CT 4175.01 BG 1	Quincy	3
CT 4175.01 BG 2	Quincy	1
CT 4175.01 BG 3	Quincy	1
CT 4175.01 BG 4	Quincy	1
CT 4175.02 BG 1	Quincy	1
CT 4175.02 BG 2	Quincy	1
CT 4175.02 BG 3	Quincy	1
CT 4175.02 BG 4	Quincy	1
CT 4176.01 BG 1	Quincy	2
CT 4176.01 BG 2	Quincy	3

Census Tract & Block Group ID	Place Name	Category
CT 4176.01 BG 3	Quincy	1
CT 4176.01 BG 4	Quincy	1
CT 4176.02 BG 2	Quincy	1
CT 4176.02 BG 3	Quincy	1
CT 4177.01 BG 2	Quincy	1
CT 4177.01 BG 3	Quincy	3
CT 4177.01 BG 4	Quincy	2
CT 4177.02 BG 2	Quincy	1
CT 4177.02 BG 3	Quincy	2
CT 4178.01 BG 3	Quincy	2
CT 4178.01 BG 5	Quincy	2
CT 4178.02 BG 1	Quincy	1
CT 4178.02 BG 2	Quincy	1
CT 4179.01 BG 1	Quincy	1
CT 4179.01 BG 2	Quincy	1
CT 4179.01 BG 3	Quincy	1
CT 4179.01 BG 4	Quincy	1
CT 4179.01 BG 5	Quincy	1
CT 4179.02 BG 1	Quincy	1
CT 4179.02 BG 2	Quincy	1
CT 4179.02 BG 3	Quincy	1
CT 4180.02 BG 1	Quincy	1
CT 4180.02 BG 2	Quincy	2
CT 4180.02 BG 3	Quincy	2
CT 4180.02 BG 4	Quincy	1
CT 4180.02 BG 5	Quincy	1
CT 4180.03 BG 1	Quincy	1
CT 4180.04 BG 1	Quincy	1
CT 4180.04 BG 2	Quincy	1
CT 4180.04 BG 3	Quincy	1
CT 4181.01 BG 1	Quincy	1
CT 4181.01 BG 2	Quincy	1

Census Tract & Block Group ID	Place Name	Category
CT 4181.01 BG 3	Quincy	1
CT 4181.02 BG 1	Quincy	1
CT 4181.02 BG 2	Quincy	1
CT 4182 BG 1	Quincy	1
CT 4182 BG 2	Quincy	1
CT 4182 BG 3	Quincy	2
CT 4182 BG 4	Quincy	3
CT 4191 BG 1	Braintree	3
CT 4191 BG 2	Braintree	2
CT 4191 BG 4	Braintree	1
CT 4192 BG 1	Braintree	2
CT 4192 BG 2	Braintree	2
CT 4193 BG 1	Braintree	1
CT 4193 BG 2	Braintree	2
CT 4193 BG 3	Braintree	2
CT 4193 BG 4	Braintree	3
CT 4194 BG 3	Braintree	1
CT 4195 BG 2	Braintree	3
CT 4197 BG 1	Braintree	3
CT 4198 BG 1	Braintree	3
CT 4198 BG 2	Braintree	1
CT 4201 BG 1	Randolph	1
CT 4201 BG 2	Randolph	1
CT 4201 BG 3	Randolph	3
CT 4201 BG 4	Randolph	1
CT 4201 BG 5	Randolph	1
CT 4202.01 BG 1	Randolph	3
CT 4202.01 BG 2	Randolph	1
CT 4202.02 BG 1	Randolph	3
CT 4202.02 BG 2	Randolph	1
CT 4202.02 BG 3	Randolph	1
CT 4203.01 BG 1	Randolph	1

Census Tract & Block Group ID	Place Name	Category
CT 4203.01 BG 2	Randolph	1
CT 4203.01 BG 3	Randolph	1
CT 4203.01 BG 4	Randolph	3
CT 4203.02 BG 1	Randolph	1
CT 4203.02 BG 2	Randolph	1
CT 4203.02 BG 3	Randolph	3
CT 4203.02 BG 4	Randolph	1
CT 4203.02 BG 5	Randolph	1
CT 4211 BG 1	Holbrook	1
CT 4211 BG 3	Holbrook	3
CT 4211 BG 4	Holbrook	2
CT 4212 BG 1	Holbrook	3
CT 4212 BG 4	Holbrook	1
CT 4212 BG 5	Holbrook	1
CT 4221 BG 4	Weymouth	2
CT 4222 BG 2	Weymouth	2
CT 4222 BG 5	Weymouth	1
CT 4222 BG 6	Weymouth	2
CT 4223.02 BG 2	Weymouth	3
CT 4223.02 BG 3	Weymouth	1
CT 4224 BG 1	Weymouth	2
CT 4224 BG 2	Weymouth	2
CT 4224 BG 5	Weymouth	1
CT 4225.01 BG 1	Weymouth	2
CT 4225.01 BG 2	Weymouth	2
CT 4225.01 BG 4	Weymouth	2
CT 4225.02 BG 2	Weymouth	1
CT 4225.02 BG 3	Weymouth	1
CT 4225.02 BG 4	Weymouth	2
CT 4226 BG 1	Weymouth	2
CT 4226 BG 2	Weymouth	2
CT 4226 BG 3	Weymouth	2

Census Tract & Block Group ID	Place Name	Category
CT 4226 BG 5	Weymouth	2
CT 4227 BG 1	Weymouth	2
CT 4227 BG 2	Weymouth	2
CT 4228 BG 1	Weymouth	2
CT 4228 BG 3	Weymouth	2
CT 4228 BG 4	Weymouth	2
CT 4231 BG 1	No place name	2
CT 4231 BG 2	No place name	2
CT 4401 BG 1	No place name	2
CT 4421.01 BG 1	Franklin	2
CT 4422.02 BG 1	Franklin	2
CT 4422.02 BG 2	Franklin	2
CT 4431.01 BG 2	No place name	2
CT 4431.01 BG 4	No place name	2
CT 4431.02 BG 5	No place name	2
CT 4561.01 BG 1	No place name	3
CT 4561.01 BG 2	No place name	3
CT 4561.02 BG 1	No place name	2
CT 4561.02 BG 2	No place name	3
CT 4561.02 BG 3	No place name	1
CT 4562 BG 1	No place name	1
CT 4562 BG 2	No place name	3
CT 4563.01 BG 1	No place name	1
CT 4563.01 BG 2	No place name	1
CT 4563.02 BG 1	No place name	2
CT 4563.02 BG 2	No place name	1
CT 4563.02 BG 3	No place name	2
CT 4563.02 BG 4	No place name	1
CT 4564.01 BG 1	No place name	3
CT 4564.01 BG 2	No place name	2
CT 4564.02 BG 1	No place name	3
CT 4564.02 BG 2	No place name	2
CT 4564.02 BG 4	No place name	3
CT 4571 BG 1	No place name	3
CT 4571 BG 2	No place name	3
CT 4571 BG 3	No place name	2
CT 4571 BG 4	No place name	2
CT 4572 BG 1	Needham	3
CT 4572 BG 4	Needham	3

Table G-EJ3. Census Tracts (CT) and Block Groups (BG) in Plymouth County, Massachusetts (County ID 25-023) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.

Census Tract & Block Group ID	Place Name	Category
CT 5001.01 BG 3	Hull	2
CT 5021.01 BG 4	Rockland	2
CT 5021.02 BG 3	Rockland	1
CT 5031.02 BG 3	Hanover	2
CT 5031.02 BG 5	Hanover	2
CT 5031.02 BG 6	Hanover	2
CT 5051.01 BG 4	Scituate	3
CT 5052 BG 1	Scituate	2
CT 5052 BG 2	Scituate	2
CT 5061.01 BG 3	Marshfield	2

Census Tract & Block Group ID	Place Name	Category
CT 5061.02 BG 1	Marshfield	2
CT 5061.02 BG 3	Marshfield	1
CT 5061.02 BG 4	Marshfield	2
CT 5062.02 BG 1	Marshfield	2
CT 5062.03 BG 1	Marshfield	2
CT 5062.04 BG 2	Marshfield	2
CT 5081.02 BG 1	Pembroke	2
CT 5091.01 BG 3	Kingston	2
CT 5091.02 BG 1	Kingston	2
CT 5101 BG 1	Brockton	1
CT 5101 BG 2	Brockton	3
CT 5101 BG 3	Brockton	3
CT 5101 BG 4	Brockton	1
CT 5102 BG 1	Brockton	3
CT 5102 BG 2	Brockton	3
CT 5102 BG 3	Brockton	3
CT 5102 BG 4	Brockton	1
CT 5103 BG 1	Brockton	1
CT 5103 BG 2	Brockton	1
CT 5103 BG 3	Brockton	1
CT 5104 BG 1	Brockton	1
CT 5104 BG 2	Brockton	1
CT 5104 BG 3	Brockton	1
CT 5104 BG 4	Brockton	1
CT 5105.01 BG 1	Brockton	1
CT 5105.01 BG 2	Brockton	1
CT 5105.02 BG 1	Brockton	1
CT 5105.02 BG 2	Brockton	1
CT 5105.02 BG 3	Brockton	1
CT 5105.02 BG 4	Brockton	1
CT 5105.02 BG 5	Brockton	1
CT 5105.03 BG 1	Brockton	1
CT 5105.03 BG 2	Brockton	1
CT 5105.03 BG 3	Brockton	3
CT 5106 BG 1	Brockton	1
CT 5106 BG 2	Brockton	3
CT 5106 BG 3	Brockton	3
CT 5107 BG 1	Brockton	1
CT 5107 BG 2	Brockton	1
CT 5107 BG 3	Brockton	3
CT 5107 BG 4	Brockton	1
CT 5107 BG 5	Brockton	1
CT 5107 BG 6	Brockton	1
CT 5108 BG 1	Brockton	1
CT 5108 BG 2	Brockton	1
CT 5108 BG 3	Brockton	1
CT 5108 BG 4	Brockton	1
CT 5108 BG 5	Brockton	1
CT 5108 BG 6	Brockton	1
CT 5109 BG 1	Brockton	1
CT 5109 BG 2	Brockton	1
CT 5109 BG 3	Brockton	1
CT 5110 BG 1	Brockton	1
CT 5110 BG 2	Brockton	1
CT 5111 BG 1	Brockton	3
CT 5111 BG 2	Brockton	1
CT 5111 BG 3	Brockton	3
CT 5111 BG 4	Brockton	1
CT 5111 BG 5	Brockton	3
CT 5111 BG 6	Brockton	3
CT 5112 BG 1	Brockton	1
CT 5112 BG 2	Brockton	3
CT 5112 BG 3	Brockton	1
CT 5112 BG 4	Brockton	3

Census Tract & Block Group ID	Place Name	Category
CT 5112 BG 5	Brockton	1
CT 5113.01 BG 1	Brockton	1
CT 5113.01 BG 2	Brockton	3
CT 5113.01 BG 3	Brockton	1
CT 5113.01 BG 4	Brockton	1
CT 5113.01 BG 5	Brockton	3
CT 5113.02 BG 1	East Bridgewater	1
CT 5113.02 BG 2	Brockton	3
CT 5113.02 BG 3	Brockton	1
CT 5113.02 BG 4	Brockton	1
CT 5114 BG 1	Brockton	1
CT 5114 BG 2	Brockton	1
CT 5114 BG 3	Brockton	1
CT 5114 BG 4	Brockton	1
CT 5115 BG 1	Brockton	1
CT 5115 BG 2	Brockton	1
CT 5115 BG 3	Brockton	1
CT 5115 BG 4	Brockton	1
CT 5116 BG 1	Brockton	1
CT 5116 BG 2	Brockton	1
CT 5116 BG 3	Brockton	1
CT 5116 BG 4	Brockton	3
CT 5116 BG 5	Brockton	3
CT 5116 BG 6	Brockton	1
CT 5116 BG 7	Brockton	2
CT 5117.01 BG 1	Brockton	3
CT 5117.01 BG 2	Brockton	3
CT 5117.01 BG 3	Brockton	3
CT 5117.01 BG 4	Brockton	3
CT 5117.01 BG 5	Brockton	3
CT 5117.02 BG 1	Brockton	3
CT 5117.02 BG 2	Brockton	3

Census Tract & Block Group ID	Place Name	Category
CT 5201 BG 1	Abington	2
CT 5202.01 BG 1	Abington	3
CT 5202.01 BG 2	Abington	1
CT 5202.02 BG 1	Abington	2
CT 5211.01 BG 2	Whitman	2
CT 5211.02 BG 1	Whitman	2
CT 5211.02 BG 2	Whitman	2
CT 5212.01 BG 3	Whitman	2
CT 5221.02 BG 4	Hanson	2
CT 5231 BG 1	East Bridgewater	1
CT 5232.01 BG 1	East Bridgewater	2
CT 5232.02 BG 1	East Bridgewater	2
CT 5232.02 BG 2	East Bridgewater	1
CT 5241.01 BG 3	West Bridgewater	2
CT 5241.02 BG 1	West Bridgewater	2
CT 5251.01 BG 1	Bridgewater	3
CT 5251.01 BG 2	Bridgewater	3
CT 5251.01 BG 3	Bridgewater	2
CT 5251.01 BG 4	Bridgewater	2
CT 5251.04 BG 3	Bridgewater	2
CT 5252.03 BG 2	Bridgewater	2
CT 5252.03 BG 3	Bridgewater	1
CT 5252.04 BG 1	Bridgewater	3
CT 5253 BG 1	Bridgewater	3
CT 5301 BG 2	Plymouth	1
CT 5302 BG 1	Plymouth	2
CT 5302 BG 2	Plymouth	2
CT 5302 BG 3	Plymouth	2
CT 5303 BG 2	Plymouth	1
CT 5303 BG 3	Plymouth	2
CT 5303 BG 4	Plymouth	2
CT 5305 BG 1	Plymouth	2

Census Tract & Block Group ID	Place Name	Category
CT 5305 BG 3	Plymouth	1
CT 5305 BG 5	Plymouth	2
CT 5306 BG 1	Plymouth	3
CT 5308.01 BG 2	Plymouth	2
CT 5308.02 BG 5	Plymouth	2
CT 5309.01 BG 4	Plymouth	2
CT 5401.01 BG 2	Lakeville	2
CT 5423 BG 1	Middleborough	2
CT 5423 BG 2	Middleborough	2
CT 5423 BG 4	Middleborough	1
CT 5423 BG 5	Middleborough	2
CT 5423 BG 6	Middleborough	2
CT 5441 BG 1	Carver	3
CT 5441 BG 4	Carver	2
CT 5442 BG 1	Carver	2
CT 5442 BG 3	Carver	2
CT 5442 BG 4	Carver	2

Census Tract & Block Group ID	Place Name	Category
CT 5451 BG 1	Wareham	1
CT 5451 BG 2	Wareham	2
CT 5451 BG 4	Wareham	2
CT 5452 BG 1	Wareham	3
CT 5452 BG 2	Wareham	3
CT 5452 BG 3	Wareham	1
CT 5452 BG 4	Wareham	1
CT 5453 BG 1	Wareham	1
CT 5453 BG 3	Wareham	2
CT 5453 BG 4	Wareham	2
CT 5454 BG 1	Wareham	1
CT 5454 BG 2	Wareham	2
CT 5454 BG 5	Wareham	1
CT 5601 BG 4	Mattapoisett	1
CT 5611 BG 4	Marion	2
CT 5611 BG 5	Marion	1
CT 5612 BG 1	Bridgewater	1

Table G-EJ4. Census Tracts (CT) and Block Groups (BG) in Bristol County, Massachusetts (County ID 25-005) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.

Census Tract & Block Group ID	Place Name	Category
CT 6002.02 BG 2	Easton	3
CT 6002.02 BG 3	Easton	2
CT 6002.03 BG 2	Easton	3
CT 6101 BG 3	Mansfield	3
CT 6102.03 BG 3	Mansfield	3
CT 6102.04 BG 3	Mansfield	3
CT 6122 BG 2	Raynham	3

Census Tract & Block Group ID	Place Name	Category
CT 6131 BG 1	Taunton	2
CT 6131 BG 2	Taunton	3
CT 6131 BG 3	Taunton	2
CT 6131 BG 4	Taunton	3
CT 6133 BG 2	Taunton	3
CT 6134 BG 2	Taunton	1
CT 6136 BG 1	Taunton	1

Census Tract & Block Group ID	Place Name	Category
CT 6136 BG 2	Taunton	2
CT 6137 BG 2	Taunton	1
CT 6138 BG 1	Taunton	1
CT 6138 BG 2	Taunton	1
CT 6138 BG 3	Taunton	1
CT 6138 BG 4	Taunton	1
CT 6139.01 BG 2	Taunton	1
CT 6139.02 BG 1	Taunton	3
CT 6139.02 BG 2	Taunton	1
CT 6140 BG 1	Taunton	1
CT 6140 BG 2	Taunton	1
CT 6141.01 BG 1	Taunton	3
CT 6141.01 BG 2	Taunton	1
CT 6141.01 BG 3	Taunton	1
CT 6141.02 BG 1	Taunton	2
CT 6301.01 BG 1	North Attleborough	3
CT 6301.01 BG 2	North Attleborough	1
CT 6301.02 BG 2	North Attleborough	2
CT 6301.02 BG 3	North Attleborough	2
CT 6302 BG 4	North Attleborough	1
CT 6303 BG 3	North Attleborough	2
CT 6304 BG 3	North Attleborough	3
CT 6311 BG 1	Attleboro	3
CT 6311 BG 3	Attleboro	1
CT 6311 BG 4	Attleboro	2
CT 6311 BG 5	Attleboro	3
CT 6312 BG 3	Attleboro	1
CT 6312 BG 5	Attleboro	3

Census Tract & Block Group ID	Place Name	Category
CT 6313 BG 3	Attleboro	2
CT 6314 BG 1	Attleboro	1
CT 6314 BG 2	Attleboro	3
CT 6315 BG 1	Attleboro	3
CT 6315 BG 2	Attleboro	2
CT 6316 BG 1	Attleboro	1
CT 6316 BG 2	Attleboro	3
CT 6316 BG 3	Attleboro	1
CT 6317 BG 1	Attleboro	1
CT 6317 BG 2	Attleboro	2
CT 6322 BG 2	Seekonk	2
CT 6401 BG 1	Fall River	1
CT 6401 BG 2	Fall River	1
CT 6401 BG 4	Fall River	1
CT 6401 BG 5	Tiverton	2
CT 6402 BG 1	Fall River	2
CT 6402 BG 2	Fall River	2
CT 6402 BG 3	Fall River	1
CT 6402 BG 4	Fall River	2
CT 6402 BG 5	Fall River	1
CT 6403 BG 1	Fall River	1
CT 6403 BG 2	Fall River	1
CT 6403 BG 3	Fall River	1
CT 6404 BG 1	Fall River	2
CT 6404 BG 2	Fall River	1
CT 6404 BG 3	Fall River	2
CT 6405 BG 1	Fall River	2
CT 6405 BG 2	Fall River	1
CT 6405 BG 3	Fall River	3
CT 6405 BG 4	Fall River	3
CT 6405 BG 5	Fall River	1
CT 6406 BG 1	Fall River	2

Census Tract & Block Group ID	Place Name	Category
CT 6406 BG 2	Fall River	1
CT 6406 BG 3	Fall River	1
CT 6406 BG 4	Fall River	1
CT 6407 BG 1	Fall River	2
CT 6407 BG 2	Fall River	1
CT 6408 BG 1	Fall River	1
CT 6408 BG 2	Fall River	2
CT 6409.01 BG 1	Fall River	1
CT 6409.01 BG 2	Fall River	2
CT 6409.01 BG 3	Fall River	1
CT 6409.01 BG 4	Fall River	1
CT 6409.01 BG 5	Fall River	1
CT 6410 BG 1	Fall River	1
CT 6410 BG 2	Fall River	1
CT 6410 BG 3	Fall River	1
CT 6411.01 BG 1	Fall River	1
CT 6411.01 BG 2	Fall River	1
CT 6412 BG 1	Fall River	1
CT 6412 BG 2	Fall River	2
CT 6413 BG 1	Fall River	1
CT 6413 BG 2	Fall River	1
CT 6413 BG 3	Fall River	1
CT 6413 BG 4	Fall River	1
CT 6413 BG 5	Fall River	1
CT 6414 BG 1	Fall River	1
CT 6414 BG 2	Fall River	1
CT 6414 BG 3	Fall River	1
CT 6415 BG 1	Fall River	1
CT 6415 BG 2	Fall River	2
CT 6416 BG 2	Fall River	2
CT 6417 BG 2	Fall River	2
CT 6417 BG 3	Fall River	2

Census Tract & Block Group ID	Place Name	Category
CT 6417 BG 4	Fall River	1
CT 6418 BG 1	Fall River	3
CT 6418 BG 3	Fall River	2
CT 6419 BG 1	Fall River	1
CT 6419 BG 2	Fall River	1
CT 6420 BG 1	Fall River	2
CT 6420 BG 2	Fall River	1
CT 6420 BG 3	Fall River	1
CT 6421 BG 2	Fall River	1
CT 6421 BG 3	Fall River	3
CT 6422 BG 1	Fall River	2
CT 6422 BG 2	Fall River	1
CT 6422 BG 3	Fall River	1
CT 6422 BG 4	Fall River	2
CT 6424 BG 1	Fall River	1
CT 6442 BG 5	Somerset	2
CT 6451.01 BG 3	Swansea	2
CT 6451.02 BG 3	Swansea	2
CT 6461.01 BG 2	Westport	2
CT 6461.01 BG 3	Westport	2
CT 6501.02 BG 1	New Bedford	1
CT 6501.02 BG 2	New Bedford	2
CT 6501.02 BG 3	New Bedford	1
CT 6502.01 BG 3	New Bedford	1
CT 6502.02 BG 1	New Bedford	2
CT 6503 BG 1	New Bedford	3
CT 6503 BG 2	New Bedford	1
CT 6503 BG 3	New Bedford	1
CT 6504 BG 1	New Bedford	2
CT 6504 BG 2	New Bedford	2
CT 6504 BG 3	New Bedford	1
CT 6505 BG 1	New Bedford	2

Census Tract & Block Group ID	Place Name	Category
CT 6505 BG 2	New Bedford	2
CT 6505 BG 3	New Bedford	1
CT 6506 BG 1	New Bedford	1
CT 6506 BG 2	New Bedford	1
CT 6506 BG 3	New Bedford	1
CT 6507 BG 1	New Bedford	1
CT 6507 BG 2	New Bedford	1
CT 6508 BG 1	New Bedford	1
CT 6508 BG 2	New Bedford	1
CT 6508 BG 3	New Bedford	1
CT 6508 BG 4	New Bedford	1
CT 6509 BG 1	New Bedford	1
CT 6509 BG 2	New Bedford	1
CT 6509 BG 3	New Bedford	1
CT 6510.01 BG 1	New Bedford	1
CT 6510.02 BG 1	New Bedford	3
CT 6510.02 BG 2	New Bedford	1
CT 6511 BG 1	New Bedford	1
CT 6511 BG 2	New Bedford	1
CT 6511 BG 3	New Bedford	1
CT 6511 BG 4	New Bedford	2
CT 6512 BG 1	New Bedford	1
CT 6512 BG 2	New Bedford	1
CT 6513 BG 1	New Bedford	1
CT 6513 BG 2	New Bedford	1
CT 6514 BG 1	New Bedford	1
CT 6514 BG 2	New Bedford	1
CT 6514 BG 3	New Bedford	1
CT 6514 BG 4	New Bedford	1
CT 6515 BG 1	New Bedford	1
CT 6515 BG 2	New Bedford	1
CT 6515 BG 3	New Bedford	1

Census Tract & Block Group ID	Place Name	Category
CT 6515 BG 4	New Bedford	1
CT 6516 BG 1	New Bedford	1
CT 6516 BG 2	New Bedford	1
CT 6516 BG 3	New Bedford	3
CT 6516 BG 4	New Bedford	1
CT 6517 BG 1	New Bedford	1
CT 6517 BG 2	New Bedford	1
CT 6518 BG 1	New Bedford	1
CT 6518 BG 2	New Bedford	1
CT 6519 BG 1	New Bedford	1
CT 6519 BG 2	New Bedford	1
CT 6520 BG 1	New Bedford	1
CT 6520 BG 2	New Bedford	1
CT 6520 BG 3	New Bedford	1
CT 6521 BG 1	New Bedford	1
CT 6521 BG 3	New Bedford	1
CT 6523 BG 1	New Bedford	2
CT 6523 BG 2	New Bedford	1
CT 6524 BG 1	New Bedford	1
CT 6524 BG 2	New Bedford	1
CT 6525 BG 1	New Bedford	1
CT 6525 BG 2	New Bedford	1
CT 6526 BG 1	New Bedford	1
CT 6526 BG 2	New Bedford	1
CT 6527 BG 1	New Bedford	1
CT 6527 BG 2	New Bedford	1
CT 6527 BG 3	New Bedford	1
CT 6527 BG 4	New Bedford	1
CT 6528 BG 1	New Bedford	2
CT 6528 BG 3	New Bedford	1
CT 6531.01 BG 3	Dartmouth	2
CT 6531.02 BG 2	Dartmouth	3

Census Tract & Block Group ID	Place Name	Category
CT 6533.01 BG 3	Dartmouth	2
CT 6541 BG 3	Acushnet	3
CT 6541 BG 4	Acushnet	2
CT 6542 BG 1	Acushnet	2
CT 6542 BG 2	Acushnet	2
CT 6542 BG 3	Acushnet	1
CT 6552 BG 1	Fairhaven	3
CT 6552 BG 2	Fairhaven	2

Census Tract & Block Group ID	Place Name	Category
CT 6552 BG 3	Fairhaven	1
CT 6552 BG 4	Fairhaven	2
CT 6552 BG 5	Fairhaven	1
CT 6553 BG 1	Fairhaven	2
CT 6553 BG 3	Fairhaven	2
CT 6554 BG 4	Fairhaven	2
CT 9855 BG 1	Dartmouth	3

Table G-EJ5. Census Tracts (CT) and Block Groups (BG) in Barnstable County, Massachusetts (County ID 25-001) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.

Census Tract & Block Group ID	Place Name	Category
CT 101 BG 1	Provincetown	2
CT 101 BG 2	Provincetown	1
CT 101 BG 3	Provincetown	3
CT 101 BG 4	Provincetown	1
CT 102.06 BG 1	Wellfleet	2
CT 102.06 BG 2	Wellfleet	1
CT 102.06 BG 3	Wellfleet	2
CT 102.08 BG 2	Truro	2
CT 102.08 BG 3	Truro	2
CT 103.04 BG 2	Eastham	2
CT 103.04 BG 3	Eastham	3
CT 103.06 BG 1	Eastham	1
CT 103.06 BG 2	Eastham	1
CT 104 BG 2	Orleans	1
CT 105 BG 1	Orleans	2
CT 106 BG 3	Chatham	1
CT 107 BG 4	Chatham	2

Census Tract & Block Group ID	Place Name	Category
CT 108 BG 1	Brewster	2
CT 108 BG 5	Brewster	2
CT 109 BG 2	Brewster	3
CT 110.02 BG 3	Harwich	2
CT 110.02 BG 4	Harwich	1
CT 112 BG 1	Harwich	2
CT 112 BG 2	Harwich	1
CT 112 BG 3	Harwich	2
CT 112 BG 4	Harwich	2
CT 113 BG 1	Dennis	2
CT 114 BG 4	Dennis	1
CT 115 BG 1	Dennis	1
CT 115 BG 2	Dennis	2
CT 115 BG 4	Dennis	2
CT 115 BG 5	Dennis	1
CT 116 BG 1	Dennis	1
CT 116 BG 2	Dennis	2

Census Tract & Block Group ID	Place Name	Category
CT 116 BG 3	Dennis	2
CT 117 BG 1	Dennis	1
CT 117 BG 3	Dennis	2
CT 118.02 BG 1	Yarmouth	2
CT 118.02 BG 3	Yarmouth	2
CT 118.02 BG 4	Yarmouth	1
CT 120.01 BG 2	Yarmouth	2
CT 120.01 BG 4	Yarmouth	2
CT 120.02 BG 1	Yarmouth	1
CT 121.01 BG 1	Yarmouth	3
CT 121.01 BG 2	Yarmouth	3
CT 121.01 BG 3	Yarmouth	2
CT 121.01 BG 4	Yarmouth	1
CT 121.01 BG 5	Yarmouth	2
CT 121.02 BG 1	Yarmouth	1
CT 121.02 BG 2	Yarmouth	3
CT 121.02 BG 3	Yarmouth	2
CT 121.02 BG 4	Yarmouth	1
CT 125.02 BG 1	Barnstable	3
CT 125.02 BG 2	Barnstable	1
CT 125.02 BG 3	Barnstable	3
CT 125.02 BG 4	Barnstable	1
CT 126.01 BG 1	Barnstable	1
CT 126.01 BG 2	Barnstable	1
CT 126.02 BG 1	Barnstable	1
CT 126.02 BG 2	Barnstable	1
CT 126.02 BG 3	Barnstable	1
CT 126.02 BG 4	Barnstable	3
CT 127 BG 1	Barnstable	2
CT 127 BG 2	Barnstable	2
CT 127 BG 4	Barnstable	3
CT 128 BG 2	Barnstable	2

Census Tract & Block Group ID	Place Name	Category
CT 129 BG 1	Barnstable	3
CT 130.02 BG 3	Barnstable	3
CT 131 BG 1	Barnstable	2
CT 133 BG 1	Sandwich	1
CT 135 BG 4	Sandwich	3
CT 136 BG 2	Sandwich	2
CT 136 BG 3	Sandwich	3
CT 137 BG 4	Bourne	3
CT 138 BG 1	Bourne	3
CT 138 BG 2	Bourne	3
CT 138 BG 3	Bourne	3
CT 139 BG 1	Bourne	2
CT 139 BG 3	Bourne	1
CT 140.02 BG 3	Bourne	2
CT 140.02 BG 4	Bourne	1
CT 141 BG 1	Bourne	1
CT 144.02 BG 1	Falmouth	3
CT 144.02 BG 2	Falmouth	3
CT 144.02 BG 3	Falmouth	3
CT 145 BG 1	Falmouth	2
CT 145 BG 2	Falmouth	2
CT 145 BG 3	Falmouth	1
CT 146 BG 2	Falmouth	1
CT 146 BG 3	Falmouth	1
CT 146 BG 4	Falmouth	3
CT 147 BG 1	Falmouth	3
CT 147 BG 2	Falmouth	2
CT 147 BG 3	Falmouth	1
CT 148 BG 1	Falmouth	1
CT 148 BG 3	Falmouth	1
CT 148 BG 4	Falmouth	3
CT 149 BG 3	Falmouth	1

Census Tract & Block Group ID	Place Name	Category
CT 150.01 BG 1	Mashpee	1
CT 150.01 BG 2	Mashpee	3
CT 150.02 BG 1	Mashpee	1
CT 150.02 BG 2	Mashpee	1
CT 151 BG 1	Mashpee	3
CT 153 BG 1	Barnstable	1
CT 153 BG 2	Barnstable	1
CT 153 BG 3	Barnstable	1

Table G-EJ6. Census Tracts (CT) and Block Groups (BG) in Nantucket County, Massachusetts (County ID 25-019) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.

Census Tract & Block Group ID	Place Name	Category
CT 9501 BG 1	Nantucket	2
CT 9501 BG 2	Nantucket	1
CT 9502 BG 1	Nantucket	3
CT 9502 BG 2	Nantucket	1
CT 9502 BG 4	Nantucket	1
CT 9504 BG 2	Nantucket	1

Table G-EJ7. Census Tracts (CT) and Block Groups (BG) in Dukes County, Massachusetts (County ID 25-007) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.

Census Tract & Block Group ID	Place Name	Category
CT 2001 BG 1	Tisbury	2
CT 2001 BG 2	Tisbury	3
CT 2001 BG 4	Tisbury	1
CT 2001 BG 5	Tisbury	1
CT 2002 BG 1	Oak Bluffs	2
CT 2002 BG 2	Oak Bluffs	3
CT 2002 BG 3	Oak Bluffs	3
CT 2002 BG 4	Oak Bluffs	2
CT 2002 BG 5	Oak Bluffs	2
CT 2003 BG 2	Edgartown	3
CT 2003 BG 3	Edgartown	3
CT 2003 BG 4	Edgartown	2
CT 2004 BG 5	Aquinnah	3

Table G-EJ8. Census Tracts (CT) and Block Groups (BG) in Providence County, Rhode Island (County ID 44-007) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.

Census Tract & Block Group ID	Place Name	Category
CT 1.01 BG 1	Providence	1
CT 1.01 BG 2	Providence	1
CT 1.01 BG 3	Providence	1
CT 1.01 BG 4	Providence	3
CT 1.02 BG 1	Providence	1
CT 1.02 BG 2	Providence	1
CT 1.02 BG 3	Providence	1
CT 1.02 BG 4	Providence	1
CT 10 BG 1	Providence	1
CT 10 BG 2	Providence	1
CT 101.02 BG 2	East Providence	2
CT 102 BG 2	East Providence	2
CT 102 BG 3	East Providence	3
CT 102 BG 4	East Providence	3
CT 102 BG 5	East Providence	2
CT 102 BG 6	East Providence	1
CT 102 BG 7	East Providence	3
CT 103 BG 1	East Providence	2
CT 104 BG 1	East Providence	2
CT 104 BG 2	East Providence	3
CT 104 BG 5	East Providence	2
CT 105.01 BG 1	East Providence	2
CT 105.02 BG 3	East Providence	2
CT 105.02 BG 4	East Providence	3
CT 106 BG 1	East Providence	2
CT 106 BG 6	East Providence	2
CT 107.02 BG 4	East Providence	2
CT 108 BG 1	Central Falls	1

Census Tract & Block Group ID	Place Name	Category
CT 108 BG 2	Central Falls	1
CT 108 BG 3	Central Falls	1
CT 109 BG 1	Central Falls	1
CT 109 BG 2	Central Falls	1
CT 109 BG 3	Central Falls	1
CT 11 BG 1	Providence	1
CT 11 BG 2	Providence	2
CT 11 BG 3	Providence	2
CT 110 BG 1	Central Falls	1
CT 110 BG 2	Central Falls	1
CT 110 BG 3	Central Falls	1
CT 111 BG 1	Central Falls	1
CT 111 BG 2	Central Falls	1
CT 112 BG 5	Cumberland	2
CT 115 BG 4	Lincoln	2
CT 117.01 BG 2	Lincoln	2
CT 117.02 BG 1	Lincoln	2
CT 118 BG 2	North Providence	2
CT 118 BG 3	North Providence	2
CT 118 BG 4	North Providence	1
CT 119.01 BG 2	North Providence	3
CT 12 BG 1	Providence	1
CT 12 BG 2	Providence	1
CT 12 BG 3	Providence	1
CT 120 BG 2	North Providence	2
CT 120 BG 4	North Providence	2
CT 121.04 BG 2	North Providence	2
CT 123 BG 1	Johnston	2

Census Tract & Block Group ID	Place Name	Category
CT 124.01 BG 1	Johnston	3
CT 125 BG 1	Johnston	2
CT 126.02 BG 2	Smithfield	2
CT 129 BG 1	Burrillville	2
CT 13 BG 1	Providence	1
CT 13 BG 2	Providence	1
CT 13 BG 3	Providence	1
CT 13 BG 4	Providence	1
CT 130.02 BG 4	Burrillville	2
CT 131.01 BG 2	Glocester	2
CT 135 BG 2	Cranston	1
CT 135 BG 3	Cranston	2
CT 135 BG 4	Cranston	1
CT 135 BG 5	Cranston	3
CT 136 BG 2	Warwick	1
CT 137.01 BG 1	Cranston	3
CT 137.01 BG 2	Cranston	3
CT 137.01 BG 4	Cranston	2
CT 137.02 BG 1	Cranston	2
CT 137.02 BG 2	Cranston	2
CT 14 BG 1	Providence	1
CT 14 BG 2	Providence	1
CT 14 BG 3	Providence	3
CT 14 BG 4	Providence	1
CT 14 BG 5	Providence	1
CT 140 BG 2	Cranston	2
CT 140 BG 3	Cranston	1
CT 140 BG 4	Cranston	3
CT 141 BG 1	Cranston	1
CT 141 BG 2	Cranston	1
CT 141 BG 3	Cranston	2
CT 141 BG 4	Cranston	3

Census Tract & Block Group ID	Place Name	Category
CT 142 BG 2	Cranston	1
CT 145.02 BG 3	Cranston	2
CT 147 BG 1	Cranston	3
CT 147 BG 2	Cranston	1
CT 147 BG 3	Cranston	1
CT 147 BG 4	Cranston	2
CT 147 BG 5	Cranston	2
CT 147 BG 6	Cranston	3
CT 148 BG 3	Cranston	2
CT 15 BG 1	Providence	1
CT 15 BG 2	Providence	1
CT 15 BG 3	Providence	3
CT 150 BG 1	Pawtucket	3
CT 150 BG 2	Pawtucket	1
CT 151 BG 1	Pawtucket	1
CT 151 BG 2	Pawtucket	1
CT 151 BG 3	Pawtucket	1
CT 152 BG 1	Pawtucket	1
CT 152 BG 2	Pawtucket	1
CT 153 BG 1	Pawtucket	1
CT 153 BG 2	Pawtucket	2
CT 154 BG 1	Pawtucket	1
CT 154 BG 2	Pawtucket	1
CT 155 BG 2	Pawtucket	1
CT 155 BG 3	Pawtucket	1
CT 155 BG 4	Pawtucket	3
CT 156 BG 1	Pawtucket	1
CT 156 BG 3	Pawtucket	2
CT 159 BG 1	Pawtucket	3
CT 159 BG 2	Pawtucket	2
CT 159 BG 3	Pawtucket	3
CT 159 BG 4	Pawtucket	2

Census Tract & Block Group ID	Place Name	Category
CT 16 BG 1	Providence	1
CT 16 BG 2	Providence	1
CT 16 BG 3	Providence	1
CT 16 BG 4	Providence	1
CT 16 BG 5	Providence	1
CT 16 BG 6	Providence	1
CT 16 BG 7	Providence	3
CT 160 BG 1	Pawtucket	1
CT 160 BG 2	Pawtucket	1
CT 160 BG 3	Pawtucket	3
CT 161 BG 1	Pawtucket	1
CT 161 BG 2	Pawtucket	3
CT 161 BG 3	Pawtucket	1
CT 161 BG 4	Pawtucket	1
CT 163 BG 1	Pawtucket	3
CT 163 BG 2	Pawtucket	3
CT 164 BG 1	Pawtucket	1
CT 164 BG 2	Pawtucket	1
CT 164 BG 3	Pawtucket	1
CT 165 BG 2	Pawtucket	2
CT 166 BG 1	Pawtucket	1
CT 167 BG 1	Pawtucket	1
CT 167 BG 2	Pawtucket	1
CT 168 BG 3	Pawtucket	2
CT 17 BG 1	Providence	3
CT 17 BG 2	Providence	1
CT 17 BG 3	Providence	1
CT 170 BG 4	Pawtucket	3
CT 171 BG 1	Pawtucket	3
CT 171 BG 2	Pawtucket	3
CT 171 BG 3	Pawtucket	1
CT 171 BG 4	Pawtucket	2

Census Tract & Block Group ID	Place Name	Category
CT 173 BG 1	Woonsocket	2
CT 173 BG 2	Woonsocket	2
CT 174 BG 1	Woonsocket	1
CT 174 BG 2	Woonsocket	2
CT 174 BG 3	Woonsocket	1
CT 175 BG 2	Woonsocket	2
CT 175 BG 3	Woonsocket	2
CT 176 BG 1	Woonsocket	1
CT 176 BG 2	Woonsocket	1
CT 178 BG 1	Woonsocket	2
CT 178 BG 2	Woonsocket	2
CT 178 BG 3	Woonsocket	1
CT 179 BG 1	Woonsocket	2
CT 179 BG 2	Woonsocket	2
CT 179 BG 3	Woonsocket	2
CT 18 BG 1	Providence	1
CT 18 BG 2	Providence	1
CT 18 BG 3	Providence	1
CT 18 BG 4	Providence	1
CT 18 BG 5	Providence	1
CT 18 BG 6	Providence	1
CT 180 BG 1	Woonsocket	1
CT 180 BG 2	Woonsocket	1
CT 180 BG 3	Woonsocket	2
CT 181 BG 1	Woonsocket	1
CT 181 BG 2	Woonsocket	1
CT 182 BG 2	Woonsocket	2
CT 183 BG 1	Woonsocket	1
CT 184 BG 1	Woonsocket	2
CT 184 BG 3	Woonsocket	1
CT 184 BG 5	Woonsocket	1
CT 185 BG 1	Woonsocket	2

Census Tract & Block Group ID	Place Name	Category
CT 19 BG 1	Providence	1
CT 19 BG 2	Providence	1
CT 19 BG 3	Providence	1
CT 19 BG 4	Providence	3
CT 19 BG 5	Providence	1
CT 19 BG 6	Providence	1
CT 2 BG 1	Providence	3
CT 2 BG 2	Providence	1
CT 2 BG 3	Providence	1
CT 2 BG 4	Providence	1
CT 2 BG 5	Providence	1
CT 20 BG 1	Providence	1
CT 20 BG 2	Providence	1
CT 20 BG 3	Providence	1
CT 20 BG 4	Providence	3
CT 21.01 BG 1	Providence	1
CT 21.01 BG 2	Providence	3
CT 21.01 BG 3	Providence	1
CT 21.02 BG 1	Providence	3
CT 21.02 BG 2	Providence	1
CT 21.02 BG 3	Providence	1
CT 21.02 BG 4	Providence	1
CT 21.02 BG 5	Providence	3
CT 22 BG 1	Providence	1
CT 22 BG 2	Providence	1
CT 22 BG 3	Providence	1
CT 22 BG 4	Providence	1
CT 23 BG 1	Providence	2
CT 23 BG 4	Providence	2
CT 23 BG 5	Providence	3
CT 23 BG 6	Providence	3
CT 24 BG 1	Providence	2
CT 24 BG 2	Providence	1
CT 24 BG 4	Providence	1
CT 25 BG 1	Providence	1
CT 25 BG 2	Providence	3
CT 26 BG 1	Providence	1
CT 26 BG 2	Providence	1
CT 26 BG 3	Providence	1
CT 27 BG 1	Providence	1
CT 27 BG 2	Providence	1
CT 27 BG 3	Providence	1
CT 27 BG 4	Providence	2
CT 28 BG 1	Providence	1
CT 28 BG 2	Providence	1
CT 28 BG 3	Providence	1
CT 28 BG 4	Providence	1
CT 29 BG 1	Providence	3
CT 29 BG 2	Providence	1
CT 29 BG 3	Providence	1
CT 29 BG 4	Providence	1
CT 29 BG 5	Providence	1
CT 3 BG 1	Providence	1
CT 3 BG 2	Providence	1
CT 3 BG 3	Providence	1
CT 3 BG 4	Providence	1
CT 3 BG 5	Providence	1
CT 3 BG 6	Providence	3
CT 31 BG 2	Providence	1
CT 31 BG 3	Providence	1
CT 31 BG 5	Providence	1
CT 32 BG 1	Providence	2
CT 32 BG 4	Providence	3
CT 33 BG 4	Providence	2

Census Tract & Block Group ID	Place Name	Category
CT 35 BG 2	Providence	2
CT 35 BG 3	Providence	3
CT 36.01 BG 1	Providence	1
CT 36.02 BG 1	Providence	3
CT 36.02 BG 3	Providence	2
CT 37 BG 1	Providence	1
CT 37 BG 2	Providence	1
CT 37 BG 3	Providence	2
CT 37 BG 4	Providence	2
CT 4 BG 1	Providence	1
CT 4 BG 2	Providence	1
CT 4 BG 3	Providence	1
CT 4 BG 4	Providence	1

Census Tract & Block Group ID	Place Name	Category
CT 5 BG 1	Providence	1
CT 5 BG 2	Providence	1
CT 5 BG 3	Providence	1
CT 6 BG 1	Providence	3
CT 6 BG 2	Providence	1
CT 7 BG 1	Providence	1
CT 7 BG 2	Providence	1
CT 7 BG 3	Providence	1
CT 8 BG 1	Providence	3
CT 8 BG 2	Providence	1
CT 8 BG 3	Providence	1
CT 9 BG 1	Providence	1
CT 9 BG 2	Providence	1

Table G-EJ9. Census Tracts (CT) and Block Groups (BG) in Bristol County, Rhode Island (County ID 44-001) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.

Census Tract & Block Group ID	Place Name	Category
CT 301 BG 1	Barrington	2
CT 301 BG 2	Barrington	3
CT 301 BG 3	Barrington	3
CT 301 BG 4	Barrington	1
CT 302 BG 2	Barrington	3
CT 303 BG 1	Barrington	3
CT 304 BG 2	Barrington	3
CT 305 BG 1	Warren	1
CT 305 BG 2	Warren	2
CT 305 BG 3	Warren	2
CT 306.01 BG 1	Warren	2

Census Tract & Block Group ID	Place Name	Category
CT 306.02 BG 1	Warren	2
CT 306.02 BG 3	Warren	2
CT 306.02 BG 4	Warren	2
CT 307 BG 1	Bristol	2
CT 307 BG 2	Bristol	2
CT 307 BG 3	Bristol	1
CT 307 BG 4	Bristol	1
CT 308 BG 1	Bristol	1
CT 308 BG 3	Bristol	1
CT 309.01 BG 1	Bristol	1
CT 309.02 BG 1	Bristol	3

Census Tract & Block Group ID	Place Name	Category
CT 309.02 BG 3	Bristol	2
CT 309.02 BG 4	Bristol	1

Table G-EJ10. Census Tracts (CT) and Block Groups (BG) in Kent County, Rhode Island (County ID 44-003) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.

Census Tract & Block Group ID	Place Name	Category
CT 201.01 BG 1	West Warwick	1
CT 201.01 BG 3	West Warwick	3
CT 201.02 BG 1	West Warwick	2
CT 201.02 BG 2	West Warwick	1
CT 201.02 BG 3	West Warwick	2
CT 202 BG 1	West Warwick	1
CT 202 BG 2	West Warwick	1
CT 202 BG 3	West Warwick	1
CT 203 BG 1	West Warwick	1
CT 203 BG 2	West Warwick	2
CT 203 BG 3	West Warwick	2
CT 203 BG 4	West Warwick	1
CT 203 BG 5	West Warwick	2
CT 204 BG 3	West Warwick	1
CT 205 BG 1	West Warwick	3
CT 205 BG 2	West Warwick	1
CT 206.01 BG 1	Coventry	2
CT 206.02 BG 1	Coventry	2
CT 206.02 BG 2	Coventry	1
CT 206.03 BG 1	Coventry	2
CT 206.04 BG 1	Coventry	2
CT 206.04 BG 2	Coventry	2
CT 207.03 BG 2	Coventry	2
CT 208 BG 1	West Greenwich	3
CT 208 BG 2	West Greenwich	3
CT 209.01 BG 1	East Greenwich	1
CT 209.01 BG 3	East Greenwich	2
CT 209.03 BG 1	East Greenwich	3
CT 209.03 BG 2	East Greenwich	1
CT 209.03 BG 3	East Greenwich	3
CT 210.01 BG 1	Warwick	1
CT 210.01 BG 2	Warwick	3
CT 210.02 BG 1	Warwick	3
CT 210.02 BG 3	Warwick	3
CT 210.02 BG 4	Warwick	1
CT 211 BG 3	Warwick	1
CT 211 BG 4	Warwick	1
CT 212 BG 2	Warwick	1
CT 212 BG 3	Warwick	1
CT 213 BG 1	Warwick	1
CT 213 BG 3	Warwick	3
CT 213 BG 4	Warwick	3
CT 214.01 BG 1	Warwick	1
CT 214.01 BG 3	Warwick	3
CT 214.02 BG 1	Warwick	2
CT 214.02 BG 2	Warwick	1

Census Tract & Block Group ID	Place Name	Category
CT 214.02 BG 3	Warwick	1
CT 215.01 BG 2	Warwick	2
CT 215.01 BG 3	Warwick	2
CT 215.02 BG 1	Warwick	3
CT 215.02 BG 3	Warwick	3
CT 215.02 BG 4	Warwick	1
CT 216 BG 1	Warwick	3
CT 217 BG 2	Warwick	2
CT 217 BG 3	Warwick	3
CT 217 BG 4	Warwick	1
CT 217 BG 5	Warwick	1
CT 218 BG 1	Warwick	3
CT 219.01 BG 1	Warwick	1
CT 219.01 BG 2	Warwick	3
CT 219.01 BG 3	Warwick	2

Census Tract & Block Group ID	Place Name	Category
CT 219.02 BG 1	Warwick	3
CT 219.02 BG 3	Warwick	3
CT 219.03 BG 3	Warwick	1
CT 220 BG 2	Warwick	2
CT 220 BG 3	Warwick	2
CT 221 BG 1	Warwick	1
CT 221 BG 2	Warwick	3
CT 222.01 BG 1	Warwick	3
CT 222.01 BG 4	Warwick	3
CT 222.01 BG 5	Warwick	2
CT 222.02 BG 2	Warwick	1
CT 222.02 BG 3	Warwick	3
CT 223 BG 2	Warwick	1
CT 223 BG 3	Warwick	1
CT 223 BG 4	Warwick	2

Table G-EJ11. Census Tracts (CT) and Block Groups (BG) in Washington County, Rhode Island (County ID 44-009) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.

Census Tract & Block Group ID	Place Name	Category
CT 415 BG 1	New Shoreham	2
CT 501.02 BG 2	North Kingstown	2
CT 501.03 BG 1	North Kingstown	1
CT 501.03 BG 2	North Kingstown	1
CT 501.03 BG 3	North Kingstown	1
CT 501.03 BG 4	North Kingstown	2
CT 501.03 BG 5	North Kingstown	2
CT 503.01 BG 2	North Kingstown	3
CT 503.01 BG 3	North Kingstown	2

Census Tract & Block Group ID	Place Name	Category
CT 503.02 BG 2	North Kingstown	3
CT 503.02 BG 3	North Kingstown	1
CT 504.02 BG 1	North Kingstown	2
CT 505 BG 3	Exeter	3
CT 506 BG 1	Richmond	3
CT 506 BG 3	Richmond	3
CT 507 BG 1	Hopkinton	2
CT 507 BG 3	Hopkinton	2
CT 507 BG 4	Hopkinton	2

Census Tract & Block Group ID	Place Name	Category
CT 507 BG 6	Hopkinton	3
CT 508.01 BG 1	Westerly	1
CT 508.01 BG 2	Westerly	1
CT 508.01 BG 3	Westerly	1
CT 508.01 BG 4	Westerly	2
CT 508.01 BG 5	Westerly	1
CT 508.02 BG 1	Westerly	1
CT 508.02 BG 2	Westerly	3
CT 509.01 BG 2	Westerly	1
CT 509.02 BG 1	Westerly	2
CT 509.02 BG 2	Westerly	2
CT 510 BG 4	Westerly	2
CT 510 BG 5	Westerly	2
CT 511.01 BG 2	Charlestown	2
CT 511.02 BG 1	Charlestown	2
CT 512.01 BG 1	South Kingstown	1
CT 512.01 BG 2	South Kingstown	1

Census Tract & Block Group ID	Place Name	Category
CT 512.02 BG 2	South Kingstown	1
CT 512.02 BG 3	South Kingstown	1
CT 512.02 BG 4	South Kingstown	2
CT 513.02 BG 5	South Kingstown	2
CT 513.02 BG 6	South Kingstown	2
CT 513.05 BG 2	South Kingstown	2
CT 513.06 BG 1	South Kingstown	3
CT 513.06 BG 3	South Kingstown	1
CT 514 BG 1	South Kingstown	1
CT 515.02 BG 2	Narragansett	2
CT 515.03 BG 2	Narragansett	1
CT 515.03 BG 3	Narragansett	2
CT 515.04 BG 1	Narragansett	2
CT 515.04 BG 2	Narragansett	2
CT 515.04 BG 3	Narragansett	2
CT 515.04 BG 4	Narragansett	1

Table G-EJ12. Census Tracts (CT) and Block Groups (BG) in Newport County, Rhode Island (County ID 44-005) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.

Census Tract & Block Group ID	Place Name	Category
CT 401.01 BG 1	Portsmouth	1
CT 401.03 BG 3	Portsmouth	2
CT 401.03 BG 4	Portsmouth	3
CT 402 BG 1	Middletown	1
CT 403.02 BG 1	Middletown	3
CT 403.02 BG 2	Middletown	1
CT 403.03 BG 1	Middletown	3
CT 403.03 BG 2	Middletown	1

Census Tract & Block Group ID	Place Name	Category
CT 403.04 BG 1	Middletown	3
CT 403.04 BG 2	Middletown	2
CT 404 BG 2	Middletown	2
CT 404 BG 3	Middletown	2
CT 405 BG 1	Newport	1
CT 405 BG 2	Newport	1
CT 405 BG 3	Newport	1
CT 406 BG 1	Newport	3

Census Tract & Block Group ID	Place Name	Category
CT 406 BG 2	Newport	1
CT 406 BG 3	Newport	2
CT 406 BG 4	Newport	1
CT 407 BG 2	Newport	1
CT 408 BG 1	Newport	1
CT 409 BG 1	Un-named area	2
CT 409 BG 3	Newport	2
CT 410 BG 1	Newport	1
CT 410 BG 2	Newport	2

Census Tract & Block Group ID	Place Name	Category
CT 411 BG 1	Newport	1
CT 411 BG 2	Newport	2
CT 411 BG 3	Newport	2
CT 412 BG 1	Newport	1
CT 413 BG 1	Jamestown	3
CT 413 BG 2	Jamestown	3
CT 416.01 BG 1	Tiverton	2
CT 416.01 BG 2	Tiverton	2

Table G-EJ13. Census Tracts (CT) and Block Groups (BG) in New London County, Connecticut (County ID 09-011) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.

Census Tract & Block Group ID	Place Name	Category
CT 6601.02 BG 1	Old Lyme	2
CT 6601.02 BG 4	Old Lyme	3
CT 6903 BG 1	New London	3
CT 6903 BG 2	New London	1
CT 6903 BG 3	New London	1
CT 6903 BG 4	New London	1
CT 6904 BG 1	New London	1
CT 6904 BG 2	New London	1
CT 6905 BG 1	New London	1
CT 6905 BG 2	New London	1
CT 6907 BG 1	New London	1
CT 6908 BG 1	New London	1
CT 6908 BG 2	New London	1
CT 6908 BG 3	New London	1
CT 6909 BG 4	New London	3
CT 6934 BG 1	Waterford	1

Census Tract & Block Group ID	Place Name	Category
CT 6934 BG 2	Waterford	2
CT 6934 BG 3	Waterford	2
CT 6952.01 BG 1	Montville	1
CT 6952.01 BG 2	Montville	2
CT 6961 BG 1	Norwich	2
CT 6961 BG 2	Norwich	1
CT 6961 BG 3	Norwich	1
CT 6961 BG 4	Norwich	3
CT 6962 BG 2	Norwich	3
CT 6963 BG 2	Norwich	2
CT 6964 BG 1	Norwich	1
CT 6964 BG 2	Norwich	1
CT 6964 BG 3	Norwich	1
CT 6964 BG 4	Norwich	1
CT 6964 BG 5	Norwich	1
CT 6965 BG 1	Norwich	3

Census Tract & Block Group ID	Place Name	Category
CT 6965 BG 2	Norwich	1
CT 6965 BG 3	Norwich	1
CT 6966 BG 1	Norwich	3
CT 6966 BG 2	Norwich	3
CT 6967 BG 1	Norwich	1
CT 6967 BG 2	Norwich	1
CT 6967 BG 3	Norwich	1
CT 6968 BG 1	Norwich	1
CT 6968 BG 2	Norwich	1
CT 6970 BG 1	Norwich	1
CT 6970 BG 2	Norwich	1
CT 7001 BG 3	Preston	2
CT 7011 BG 1	Ledyard	3
CT 7011 BG 2	Ledyard	2
CT 7011 BG 3	Ledyard	1
CT 7012 BG 2	Ledyard	2
CT 7021 BG 1	Groton	2
CT 7023 BG 2	Groton	3
CT 7024 BG 1	Groton	3
CT 7024 BG 2	Groton	3
CT 7024 BG 3	Groton	1
CT 7025 BG 1	Groton	1
CT 7025 BG 2	Groton	1
CT 7027 BG 1	Groton	1
CT 7027 BG 2	Groton	3
CT 7027 BG 3	Groton	2
CT 7028 BG 1	Groton	1
CT 7051.02 BG 2	Stonington	2
CT 7051.02 BG 3	Stonington	2
CT 7051.02 BG 4	Stonington	2

Census Tract & Block Group ID	Place Name	Category
CT 7071 BG 1	North Stonington	3
CT 7071 BG 3	North Stonington	2
CT 7081 BG 2	Voluntown	2
CT 7091 BG 2	Griswold	2
CT 7092 BG 1	Griswold	2
CT 7092 BG 2	Griswold	2
CT 7092 BG 3	Griswold	1
CT 7092 BG 4	Griswold	2
CT 7092 BG 5	Griswold	2
CT 7111 BG 2	Sprague	2
CT 7141.01 BG 3	Colchester	2
CT 7141.03 BG 3	Colchester	2
CT 7161.01 BG 1	East Lyme	1
CT 7161.01 BG 3	East Lyme	3
CT 8701 BG 5	Lebanon	2
CT 8702 BG 1	Groton	2
CT 8702 BG 3	Groton	3
CT 8702 BG 4	Groton	1
CT 8703 BG 1	New London	1
CT 8703 BG 2	New London	1
CT 8703 BG 3	New London	2
CT 8703 BG 4	New London	1
CT 8705.01 BG 1	Montville	3
CT 8705.01 BG 2	Montville	3
CT 8705.01 BG 3	Montville	3
CT 8705.02 BG 1	Montville	3
CT 8705.02 BG 2	Montville	2
CT 8707.04 BG 2	East Lyme	2
CT 9800 BG 1	Groton	3

Table G-EJ14. Census Tracts (CT) and Block Groups (BG) in Suffolk County, New York (County ID 36-103) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.

Census Tract & Block Group ID	Place Name	Category
CT 1102 BG 2	Huntington	2
CT 1102 BG 5	Huntington	2
CT 1103 BG 3	Huntington	2
CT 1106 BG 3	Huntington	2
CT 1108.03 BG 2	Huntington	2
CT 1109.02 BG 1	Huntington	3
CT 1109.02 BG 2	Huntington	1
CT 1110.01 BG 2	Huntington	2
CT 1110.02 BG 1	Huntington	1
CT 1110.02 BG 3	Huntington	1
CT 1110.02 BG 4	Huntington	1
CT 1111 BG 1	Huntington	1
CT 1111 BG 2	Huntington	3
CT 1111 BG 3	Huntington	1
CT 1111 BG 4	Huntington	1
CT 1111 BG 5	Huntington	2
CT 1112.01 BG 1	Huntington	1
CT 1112.01 BG 2	Huntington	1
CT 1112.02 BG 1	Huntington	1
CT 1112.02 BG 2	Huntington	1
CT 1112.02 BG 3	Huntington	3
CT 1114.02 BG 1	Huntington	2
CT 1115.03 BG 2	Huntington	1
CT 1115.03 BG 3	Huntington	2
CT 1115.05 BG 2	Huntington	1
CT 1115.05 BG 3	Huntington	1
CT 1115.05 BG 4	Huntington	3
CT 1115.06 BG 1	Huntington	3
CT 1115.06 BG 2	Huntington	1
CT 1117.01 BG 1	Huntington	2
CT 1117.01 BG 2	Huntington	2
CT 1117.01 BG 3	Huntington	2
CT 1117.01 BG 4	Huntington	2
CT 1117.04 BG 1	Huntington	2
CT 1118.01 BG 1	Huntington	3
CT 1118.01 BG 4	Huntington	3
CT 1120.01 BG 1	Huntington	2
CT 1120.02 BG 3	Huntington	2
CT 1121.03 BG 2	Huntington	2
CT 1121.03 BG 3	Huntington	2
CT 1121.04 BG 1	Huntington	3
CT 1122.04 BG 3	Huntington	2
CT 1122.1 BG 2	Huntington	1
CT 1122.1 BG 3	Huntington	3
CT 1122.12 BG 1	Huntington	3
CT 1122.13 BG 1	Huntington	3
CT 1122.13 BG 2	Huntington	3
CT 1122.13 BG 3	Huntington	3
CT 1122.14 BG 1	Huntington	1
CT 1122.14 BG 4	Huntington	3
CT 1223 BG 1	Babylon	3
CT 1223 BG 2	Babylon	2
CT 1224.03 BG 1	Babylon	3
CT 1224.03 BG 2	Babylon	3
CT 1224.04 BG 1	Babylon	3
CT 1224.05 BG 1	Babylon	3

Census Tract & Block Group ID	Place Name	Category
CT 1224.05 BG 2	Babylon	3
CT 1224.06 BG 1	Babylon	1
CT 1224.06 BG 2	Babylon	1
CT 1224.06 BG 3	Babylon	1
CT 1225.01 BG 1	Babylon	1
CT 1225.01 BG 2	Babylon	1
CT 1225.01 BG 3	Babylon	1
CT 1225.02 BG 1	Babylon	3
CT 1225.02 BG 2	Babylon	3
CT 1225.02 BG 3	Babylon	3
CT 1226.01 BG 1	Babylon	3
CT 1226.01 BG 3	Babylon	3
CT 1226.02 BG 1	Babylon	1
CT 1226.02 BG 2	Babylon	2
CT 1226.03 BG 1	Babylon	3
CT 1226.03 BG 3	Babylon	2
CT 1226.03 BG 4	Babylon	3
CT 1227.04 BG 1	Babylon	1
CT 1227.04 BG 2	Babylon	3
CT 1227.05 BG 1	Babylon	1
CT 1227.05 BG 2	Babylon	3
CT 1227.06 BG 1	Babylon	2
CT 1227.06 BG 2	Babylon	1
CT 1227.07 BG 1	Babylon	2
CT 1228.01 BG 1	Babylon	1
CT 1228.01 BG 2	Babylon	1
CT 1228.01 BG 4	Babylon	3
CT 1228.02 BG 1	Babylon	3
CT 1228.02 BG 2	Babylon	3
CT 1229.01 BG 2	Babylon	2
CT 1229.01 BG 4	Babylon	3
CT 1229.02 BG 3	Babylon	2

Census Tract & Block Group ID	Place Name	Category
CT 1230.01 BG 2	Babylon	3
CT 1230.01 BG 3	Babylon	2
CT 1230.01 BG 4	Babylon	3
CT 1230.02 BG 2	Babylon	1
CT 1230.02 BG 3	Babylon	1
CT 1231.01 BG 1	Babylon	2
CT 1231.01 BG 2	Babylon	2
CT 1231.02 BG 3	Babylon	3
CT 1232.01 BG 1	Babylon	1
CT 1232.02 BG 1	Babylon	3
CT 1232.02 BG 2	Babylon	1
CT 1232.02 BG 3	Babylon	1
CT 1232.02 BG 4	Babylon	3
CT 1233.01 BG 1	Babylon	1
CT 1233.01 BG 2	Babylon	1
CT 1233.01 BG 3	Babylon	1
CT 1233.01 BG 4	Babylon	1
CT 1233.01 BG 5	Babylon	3
CT 1233.01 BG 6	Babylon	1
CT 1233.02 BG 1	Babylon	1
CT 1234.01 BG 1	Babylon	3
CT 1234.01 BG 2	Babylon	2
CT 1234.01 BG 3	Babylon	2
CT 1234.02 BG 1	Babylon	2
CT 1234.02 BG 2	Babylon	3
CT 1234.02 BG 3	Babylon	2
CT 1234.02 BG 5	Babylon	2
CT 1235 BG 1	Babylon	1
CT 1235 BG 2	Babylon	1
CT 1235 BG 3	Babylon	2
CT 1235 BG 4	Babylon	1
CT 1237.01 BG 1	Babylon	1

Census Tract & Block Group ID	Place Name	Category
CT 1237.01 BG 2	Babylon	1
CT 1237.01 BG 3	Babylon	1
CT 1237.01 BG 4	Babylon	1
CT 1237.02 BG 1	Babylon	1
CT 1237.02 BG 2	Babylon	1
CT 1237.02 BG 3	Babylon	1
CT 1238.01 BG 1	Babylon	2
CT 1238.02 BG 1	Babylon	2
CT 1238.02 BG 2	Babylon	1
CT 1239 BG 1	Babylon	2
CT 1239 BG 2	Babylon	3
CT 1239 BG 3	Babylon	2
CT 1239 BG 5	Babylon	1
CT 1240.01 BG 2	Babylon	2
CT 1240.02 BG 1	Babylon	3
CT 1241.01 BG 1	Babylon	2
CT 1241.01 BG 2	Babylon	1
CT 1241.02 BG 1	Babylon	2
CT 1242 BG 1	Babylon	2
CT 1242 BG 3	Babylon	2
CT 1242 BG 4	Babylon	2
CT 1243 BG 2	Babylon	1
CT 1243 BG 3	Babylon	2
CT 1243 BG 5	Babylon	2
CT 1244.01 BG 1	Babylon	2
CT 1245 BG 3	Babylon	3
CT 1246.01 BG 3	Babylon	2
CT 1246.02 BG 3	Babylon	2
CT 1246.02 BG 4	Babylon	2
CT 1347.02 BG 3	Smithtown	2
CT 1347.02 BG 4	Smithtown	2
CT 1347.03 BG 2	Smithtown	2
CT 1347.04 BG 2	Smithtown	2
CT 1349.02 BG 2	Smithtown	2
CT 1349.04 BG 4	Smithtown	2
CT 1349.06 BG 1	Smithtown	2
CT 1349.06 BG 4	Smithtown	2
CT 1350.03 BG 3	Smithtown	2
CT 1350.05 BG 2	Smithtown	2
CT 1353.01 BG 3	Smithtown	2
CT 1354.02 BG 3	Smithtown	3
CT 1354.03 BG 1	Smithtown	2
CT 1354.03 BG 3	Smithtown	3
CT 1456.02 BG 1	Islip	1
CT 1456.02 BG 2	Islip	1
CT 1456.02 BG 3	Islip	1
CT 1456.03 BG 1	Islip	1
CT 1456.03 BG 2	Islip	1
CT 1456.03 BG 3	Islip	1
CT 1456.04 BG 1	Islip	1
CT 1456.04 BG 2	Islip	1
CT 1456.05 BG 1	Islip	1
CT 1456.05 BG 2	Islip	1
CT 1457.01 BG 1	Islip	2
CT 1457.01 BG 2	Islip	2
CT 1457.01 BG 3	Islip	1
CT 1457.01 BG 4	Islip	2
CT 1457.02 BG 1	Islip	1
CT 1457.02 BG 2	Islip	1
CT 1457.02 BG 3	Islip	1
CT 1457.03 BG 1	Islip	3
CT 1457.03 BG 2	Islip	1
CT 1457.03 BG 3	Islip	1
CT 1457.04 BG 1	Islip	3

Census Tract & Block Group ID	Place Name	Category
CT 1457.04 BG 2	Islip	1
CT 1457.04 BG 3	Islip	1
CT 1457.04 BG 4	Islip	3
CT 1458.03 BG 1	Islip	1
CT 1458.03 BG 2	Islip	2
CT 1458.03 BG 3	Islip	2
CT 1458.04 BG 1	Islip	3
CT 1458.04 BG 2	Islip	1
CT 1458.05 BG 1	Islip	2
CT 1458.05 BG 2	Islip	1
CT 1458.08 BG 2	Islip	2
CT 1459.01 BG 1	Islip	1
CT 1459.01 BG 2	Islip	1
CT 1459.02 BG 1	Islip	1
CT 1459.02 BG 2	Islip	3
CT 1459.02 BG 3	Islip	1
CT 1459.02 BG 4	Islip	1
CT 1459.03 BG 1	Islip	1
CT 1459.03 BG 2	Islip	2
CT 1459.03 BG 3	Islip	3
CT 1459.03 BG 4	Islip	1
CT 1460.01 BG 1	Islip	1
CT 1460.01 BG 2	Islip	1
CT 1460.02 BG 1	Islip	1
CT 1460.02 BG 2	Islip	1
CT 1460.02 BG 3	Islip	1
CT 1460.03 BG 1	Islip	3
CT 1460.03 BG 2	Islip	3
CT 1460.03 BG 3	Islip	1
CT 1460.03 BG 4	Islip	1
CT 1461.02 BG 1	Islip	1
CT 1461.03 BG 2	Islip	1

Census Tract & Block Group ID	Place Name	Category
CT 1461.05 BG 1	Islip	1
CT 1461.05 BG 2	Islip	1
CT 1461.05 BG 3	Islip	1
CT 1461.06 BG 1	Islip	1
CT 1461.06 BG 2	Islip	1
CT 1462.01 BG 1	Islip	1
CT 1462.01 BG 2	Islip	1
CT 1462.02 BG 1	Islip	1
CT 1462.02 BG 2	Islip	1
CT 1462.03 BG 1	Islip	1
CT 1462.03 BG 2	Islip	1
CT 1462.03 BG 3	Islip	1
CT 1462.04 BG 1	Islip	1
CT 1462.04 BG 2	Islip	1
CT 1462.04 BG 3	Islip	1
CT 1462.06 BG 1	Islip	1
CT 1463 BG 1	Islip	1
CT 1463 BG 2	Islip	1
CT 1464.03 BG 1	Islip	1
CT 1464.03 BG 2	Islip	1
CT 1464.03 BG 3	Islip	1
CT 1464.04 BG 1	Islip	1
CT 1464.04 BG 2	Islip	1
CT 1466.04 BG 1	Islip	1
CT 1466.04 BG 2	Islip	2
CT 1466.04 BG 3	Islip	3
CT 1466.06 BG 2	Islip	2
CT 1466.07 BG 1	Islip	2
CT 1466.08 BG 1	Islip	1
CT 1466.13 BG 1	Islip	2
CT 1466.15 BG 3	Islip	3
CT 1467.03 BG 1	Islip	1

Census Tract & Block Group ID	Place Name	Category
CT 1467.03 BG 2	Islip	3
CT 1467.04 BG 1	Islip	2
CT 1468 BG 1	Islip	2
CT 1468 BG 4	Islip	2
CT 1469.01 BG 3	Islip	2
CT 1469.01 BG 4	Islip	2
CT 1469.02 BG 2	Islip	2
CT 1472 BG 1	Islip	1
CT 1472 BG 2	Islip	1
CT 1472 BG 4	Islip	1
CT 1472 BG 5	Islip	1
CT 1473 BG 1	Islip	1
CT 1473 BG 2	Islip	3
CT 1473 BG 3	Islip	3
CT 1473 BG 4	Islip	3
CT 1473 BG 5	Islip	1
CT 1474.01 BG 4	Islip	1
CT 1475.01 BG 2	Islip	2
CT 1475.01 BG 5	Islip	2
CT 1476.02 BG 3	Islip	2
CT 1477.01 BG 2	Islip	2
CT 1477.02 BG 4	Islip	2
CT 1478.02 BG 1	Islip	2
CT 1479.01 BG 2	Islip	2
CT 1479.01 BG 3	Islip	2
CT 1479.02 BG 1	Islip	2
CT 1580.02 BG 3	Brookhaven	2
CT 1580.02 BG 4	Brookhaven	2
CT 1580.07 BG 1	Brookhaven	3
CT 1580.07 BG 2	Brookhaven	1
CT 1580.07 BG 3	Brookhaven	3
CT 1580.07 BG 4	Brookhaven	3

Census Tract & Block Group ID	Place Name	Category
CT 1580.11 BG 3	Brookhaven	2
CT 1581.02 BG 2	Brookhaven	3
CT 1581.03 BG 1	Brookhaven	1
CT 1581.03 BG 2	Brookhaven	2
CT 1581.07 BG 1	Brookhaven	2
CT 1581.08 BG 1	Brookhaven	3
CT 1581.11 BG 2	Brookhaven	1
CT 1581.12 BG 1	Brookhaven	3
CT 1581.12 BG 2	Brookhaven	2
CT 1581.15 BG 3	Brookhaven	2
CT 1581.16 BG 1	Brookhaven	3
CT 1581.16 BG 2	Brookhaven	3
CT 1582.02 BG 2	Brookhaven	1
CT 1582.02 BG 5	Brookhaven	2
CT 1582.06 BG 2	Brookhaven	2
CT 1583.04 BG 2	Brookhaven	1
CT 1583.06 BG 2	Brookhaven	2
CT 1583.08 BG 1	Brookhaven	2
CT 1583.08 BG 2	Brookhaven	1
CT 1583.08 BG 4	Brookhaven	1
CT 1583.09 BG 1	Brookhaven	1
CT 1583.09 BG 2	Brookhaven	1
CT 1583.1 BG 1	Brookhaven	2
CT 1583.1 BG 2	Brookhaven	2
CT 1583.15 BG 1	Brookhaven	3
CT 1583.15 BG 2	Brookhaven	2
CT 1583.19 BG 2	Brookhaven	1
CT 1583.19 BG 3	Brookhaven	3
CT 1583.2 BG 4	Brookhaven	3
CT 1583.21 BG 1	Brookhaven	1
CT 1583.21 BG 3	Brookhaven	3
CT 1583.21 BG 4	Brookhaven	3

Census Tract & Block Group ID	Place Name	Category
CT 1583.23 BG 2	Brookhaven	2
CT 1584.01 BG 1	Brookhaven	2
CT 1584.02 BG 2	Brookhaven	2
CT 1584.03 BG 1	Brookhaven	2
CT 1584.03 BG 2	Brookhaven	2
CT 1584.05 BG 2	Brookhaven	2
CT 1584.07 BG 2	Brookhaven	2
CT 1584.07 BG 4	Brookhaven	1
CT 1584.09 BG 1	Brookhaven	1
CT 1584.09 BG 2	Brookhaven	2
CT 1584.1 BG 2	Brookhaven	2
CT 1584.1 BG 3	Brookhaven	2
CT 1585.02 BG 2	Brookhaven	2
CT 1585.02 BG 3	Brookhaven	2
CT 1585.05 BG 3	Brookhaven	1
CT 1585.07 BG 1	Brookhaven	3
CT 1585.07 BG 2	Brookhaven	2
CT 1585.08 BG 1	Brookhaven	3
CT 1585.09 BG 1	Brookhaven	2
CT 1585.09 BG 2	Brookhaven	3
CT 1585.09 BG 3	Brookhaven	2
CT 1585.1 BG 2	Brookhaven	2
CT 1585.1 BG 3	Brookhaven	2
CT 1585.1 BG 4	Brookhaven	2
CT 1585.11 BG 3	Brookhaven	1
CT 1586.04 BG 1	Brookhaven	2
CT 1586.04 BG 2	Brookhaven	1
CT 1586.05 BG 2	Brookhaven	3
CT 1586.07 BG 1	Brookhaven	3
CT 1586.07 BG 2	Brookhaven	2
CT 1586.08 BG 1	Brookhaven	2
CT 1586.08 BG 2	Brookhaven	3

Census Tract & Block Group ID	Place Name	Category
CT 1586.08 BG 3	Brookhaven	2
CT 1586.09 BG 3	Brookhaven	3
CT 1587.04 BG 1	Brookhaven	2
CT 1587.04 BG 2	Brookhaven	2
CT 1587.04 BG 3	Brookhaven	2
CT 1587.04 BG 4	Brookhaven	1
CT 1587.05 BG 1	Brookhaven	1
CT 1587.05 BG 2	Brookhaven	1
CT 1587.05 BG 3	Brookhaven	1
CT 1587.08 BG 1	Brookhaven	2
CT 1587.08 BG 2	Brookhaven	1
CT 1587.08 BG 3	Brookhaven	1
CT 1587.1 BG 1	Brookhaven	1
CT 1587.1 BG 3	Brookhaven	2
CT 1587.1 BG 4	Brookhaven	3
CT 1587.11 BG 2	Brookhaven	2
CT 1587.11 BG 3	Brookhaven	1
CT 1587.12 BG 1	Brookhaven	3
CT 1587.12 BG 2	Brookhaven	1
CT 1587.12 BG 5	Brookhaven	2
CT 1588.02 BG 3	Brookhaven	2
CT 1588.03 BG 3	Brookhaven	3
CT 1588.04 BG 1	Brookhaven	1
CT 1588.04 BG 2	Brookhaven	3
CT 1588.04 BG 3	Brookhaven	2
CT 1588.04 BG 4	Brookhaven	2
CT 1588.04 BG 5	Brookhaven	2
CT 1589 BG 1	Brookhaven	2
CT 1589 BG 2	Brookhaven	1
CT 1589 BG 4	Brookhaven	1
CT 1589 BG 5	Brookhaven	1
CT 1590 BG 1	Brookhaven	1

Census Tract & Block Group ID	Place Name	Category
CT 1590 BG 2	Brookhaven	1
CT 1590 BG 3	Brookhaven	2
CT 1591.02 BG 1	Brookhaven	1
CT 1591.02 BG 3	Brookhaven	1
CT 1591.02 BG 4	Brookhaven	1
CT 1591.02 BG 5	Brookhaven	2
CT 1591.03 BG 1	Brookhaven	1
CT 1591.03 BG 2	Brookhaven	1
CT 1591.03 BG 3	Brookhaven	1
CT 1591.03 BG 4	Brookhaven	1
CT 1591.05 BG 2	Brookhaven	1
CT 1591.05 BG 3	Brookhaven	1
CT 1591.05 BG 4	Brookhaven	2
CT 1591.06 BG 1	Brookhaven	1
CT 1591.06 BG 2	Brookhaven	1
CT 1591.06 BG 3	Brookhaven	3
CT 1591.07 BG 1	Brookhaven	2
CT 1591.07 BG 3	Brookhaven	2
CT 1591.08 BG 1	Brookhaven	3
CT 1591.08 BG 2	Brookhaven	3
CT 1591.08 BG 3	Brookhaven	2
CT 1591.08 BG 5	Brookhaven	3
CT 1592.01 BG 1	Brookhaven	2
CT 1592.01 BG 2	Brookhaven	2
CT 1592.03 BG 3	Brookhaven	2
CT 1592.04 BG 1	Brookhaven	1
CT 1592.04 BG 3	Brookhaven	2
CT 1594.04 BG 1	Brookhaven	1
CT 1594.04 BG 2	Brookhaven	2
CT 1594.04 BG 3	Brookhaven	1
CT 1594.04 BG 4	Brookhaven	1
CT 1594.04 BG 5	Brookhaven	1
CT 1594.06 BG 3	Brookhaven	1
CT 1594.07 BG 2	Brookhaven	2
CT 1594.08 BG 1	Brookhaven	1
CT 1594.1 BG 1	Brookhaven	2
CT 1594.1 BG 2	Brookhaven	1
CT 1594.11 BG 2	Brookhaven	2
CT 1594.12 BG 2	Brookhaven	2
CT 1594.12 BG 4	Brookhaven	2
CT 1595.05 BG 1	Brookhaven	2
CT 1595.05 BG 2	Brookhaven	1
CT 1595.05 BG 3	Brookhaven	2
CT 1595.05 BG 4	Brookhaven	2
CT 1595.05 BG 5	Brookhaven	3
CT 1595.06 BG 1	Brookhaven	1
CT 1595.06 BG 2	Brookhaven	1
CT 1595.06 BG 3	Brookhaven	1
CT 1595.06 BG 4	Brookhaven	1
CT 1595.08 BG 1	Brookhaven	2
CT 1595.08 BG 3	Brookhaven	2
CT 1595.08 BG 4	Brookhaven	1
CT 1595.09 BG 1	Brookhaven	2
CT 1595.09 BG 2	Brookhaven	2
CT 1595.09 BG 3	Brookhaven	1
CT 1595.1 BG 1	Brookhaven	1
CT 1595.1 BG 2	Brookhaven	2
CT 1595.11 BG 1	Brookhaven	1
CT 1595.11 BG 2	Brookhaven	1
CT 1595.11 BG 3	Brookhaven	1
CT 1595.12 BG 1	Brookhaven	2
CT 1596.01 BG 4	Brookhaven	2
CT 1596.02 BG 2	Brookhaven	2
CT 1697.01 BG 3	Riverhead	2

Census Tract & Block Group ID	Place Name	Category
CT 1697.04 BG 1	Riverhead	2
CT 1697.04 BG 2	Riverhead	3
CT 1697.04 BG 3	Riverhead	1
CT 1697.04 BG 4	Riverhead	2
CT 1697.04 BG 5	Riverhead	2
CT 1697.04 BG 6	Riverhead	2
CT 1698 BG 1	Riverhead	1
CT 1698 BG 2	Riverhead	1
CT 1698 BG 3	Riverhead	1
CT 1698 BG 4	Riverhead	1
CT 1699.01 BG 1	Riverhead	2
CT 1699.01 BG 2	Riverhead	1
CT 1699.02 BG 3	Riverhead	2
CT 1700.02 BG 4	Southold	2
CT 1701.01 BG 1	Southold	1
CT 1701.01 BG 2	Southold	2
CT 1702.01 BG 2	Southold	2
CT 1702.01 BG 3	Southold	1
CT 1702.02 BG 5	Southold	2
CT 1904.01 BG 1	Southampton	3
CT 1904.01 BG 2	Southampton	1
CT 1904.01 BG 3	Southampton	2
CT 1904.01 BG 4	Southampton	1
CT 1904.01 BG 5	Southampton	2
CT 1904.01 BG 6	Southampton	1
CT 1904.01 BG 7	Southampton	1
CT 1904.02 BG 1	Southampton	1
CT 1904.03 BG 2	Southampton	1
CT 1904.03 BG 3	Southampton	1
CT 1905.02 BG 1	Southampton	1
CT 1905.02 BG 3	Southampton	2
CT 1905.03 BG 2	Southampton	2

Census Tract & Block Group ID	Place Name	Category
CT 1905.03 BG 4	Southampton	2
CT 1906.01 BG 2	Southampton	2
CT 1906.01 BG 4	Southampton	1
CT 1906.03 BG 1	Southampton	1
CT 1906.03 BG 2	Southampton	1
CT 1906.03 BG 3	Southampton	1
CT 1906.04 BG 2	Southampton	2
CT 1907.04 BG 1	Southampton	1
CT 1907.04 BG 3	Southampton	2
CT 1907.04 BG 4	Southampton	1
CT 1907.04 BG 5	Southampton	2
CT 1907.05 BG 1	Shinnecock Reservation	1
CT 1907.05 BG 2	Southampton	1
CT 1907.05 BG 3	Southampton	1
CT 1907.05 BG 4	Southampton	1
CT 1907.06 BG 1	Southampton	2
CT 1907.06 BG 5	Southampton	1
CT 1907.07 BG 2	Southampton	2
CT 1907.07 BG 4	Southampton	3
CT 1908 BG 2	Southampton	1
CT 2009.01 BG 2	East Hampton	2
CT 2009.02 BG 2	East Hampton	1
CT 2009.02 BG 3	East Hampton	3
CT 2009.02 BG 4	East Hampton	2
CT 2009.02 BG 7	East Hampton	2
CT 2010.01 BG 2	East Hampton	2
CT 2010.01 BG 4	East Hampton	1
CT 2010.01 BG 5	East Hampton	1
CT 2010.03 BG 1	East Hampton	1
CT 2010.03 BG 4	East Hampton	2
CT 2010.03 BG 5	East Hampton	3
CT 2010.04 BG 2	East Hampton	3

Census Tract & Block Group ID	Place Name	Category
CT 2010.04 BG 4	East Hampton	3
CT 2011 BG 1	Islip	1
CT 2011 BG 2	Islip	1
CT 2011 BG 3	Islip	1
CT 2011 BG 4	Islip	1

Table G-EJ15. Census Tracts (CT) and Block Groups (BG) in New York County, New York (County ID 36-061) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.

Census Tract & Block Group ID	Place Name	Category
CT 10.02 BG 1	Manhattan	1
CT 10.02 BG 2	Manhattan	1
CT 10.02 BG 3	Manhattan	1
CT 101 BG 1	Manhattan	3
CT 110 BG 6	Manhattan	2
CT 111 BG 1	Manhattan	3
CT 111 BG 2	Manhattan	2
CT 113 BG 1	Manhattan	1
CT 115 BG 1	Manhattan	3
CT 115 BG 2	Manhattan	1
CT 117 BG 1	Manhattan	3
CT 118 BG 5	Manhattan	2
CT 119 BG 1	Manhattan	1
CT 119 BG 2	Manhattan	1
CT 12 BG 1	Manhattan	1
CT 12 BG 2	Manhattan	2
CT 121 BG 2	Manhattan	2
CT 121 BG 6	Manhattan	1
CT 124 BG 6	Manhattan	1
CT 125 BG 2	Manhattan	3
CT 127 BG 1	Manhattan	2
CT 127 BG 2	Manhattan	3
CT 127 BG 3	Manhattan	1
CT 129 BG 1	Manhattan	2
CT 131 BG 1	Manhattan	1
CT 132 BG 3	Manhattan	3
CT 132 BG 5	Manhattan	3
CT 132 BG 7	Manhattan	3
CT 133 BG 1	Manhattan	2
CT 133 BG 2	Manhattan	1
CT 133 BG 4	Manhattan	3
CT 133 BG 5	Manhattan	3
CT 134 BG 3	Manhattan	2
CT 134 BG 9	Manhattan	1
CT 135 BG 1	Manhattan	1
CT 135 BG 2	Manhattan	1
CT 137 BG 2	Manhattan	2
CT 137 BG 5	Manhattan	3
CT 139 BG 2	Manhattan	3
CT 139 BG 3	Manhattan	1
CT 139 BG 5	Manhattan	1
CT 14.02 BG 1	Manhattan	1
CT 14.02 BG 2	Manhattan	1
CT 143 BG 1	Manhattan	1

Census Tract & Block Group ID	Place Name	Category
CT 145 BG 2	Manhattan	3
CT 146.02 BG 4	Manhattan	2
CT 149 BG 4	Manhattan	2
CT 15.01 BG 3	Manhattan	2
CT 151 BG 1	Manhattan	1
CT 151 BG 2	Manhattan	1
CT 151 BG 3	Manhattan	1
CT 152 BG 1	Manhattan	1
CT 152 BG 2	Manhattan	1
CT 152 BG 3	Manhattan	3
CT 154 BG 9	Manhattan	3
CT 156.01 BG 2	Manhattan	1
CT 156.02 BG 1	Manhattan	1
CT 16 BG 1	Manhattan	1
CT 16 BG 2	Manhattan	1
CT 16 BG 3	Manhattan	1
CT 16 BG 4	Manhattan	1
CT 16 BG 5	Manhattan	1
CT 162 BG 1	Manhattan	1
CT 162 BG 2	Manhattan	1
CT 162 BG 3	Manhattan	1
CT 162 BG 4	Manhattan	1
CT 162 BG 5	Manhattan	1
CT 164 BG 1	Manhattan	1
CT 164 BG 2	Manhattan	1
CT 164 BG 3	Manhattan	1
CT 164 BG 4	Manhattan	1
CT 166 BG 1	Manhattan	1
CT 166 BG 2	Manhattan	1
CT 166 BG 3	Manhattan	1
CT 166 BG 4	Manhattan	1
CT 166 BG 5	Manhattan	1
CT 166 BG 6	Manhattan	1
CT 168 BG 1	Manhattan	1
CT 168 BG 2	Manhattan	1
CT 168 BG 3	Manhattan	1
CT 169 BG 4	Manhattan	2
CT 170 BG 1	Manhattan	1
CT 170 BG 2	Manhattan	1
CT 170 BG 3	Manhattan	1
CT 170 BG 4	Manhattan	3
CT 170 BG 5	Manhattan	1
CT 172 BG 1	Manhattan	1
CT 172 BG 2	Manhattan	1
CT 172 BG 3	Manhattan	1
CT 172 BG 4	Manhattan	1
CT 172 BG 5	Manhattan	1
CT 173 BG 2	Manhattan	1
CT 173 BG 4	Manhattan	3
CT 174.01 BG 1	Manhattan	1
CT 174.01 BG 2	Manhattan	1
CT 174.01 BG 3	Manhattan	3
CT 174.02 BG 1	Manhattan	1
CT 175 BG 3	Manhattan	2
CT 177 BG 1	Manhattan	1
CT 177 BG 2	Manhattan	3
CT 177 BG 4	Manhattan	1
CT 177 BG 7	Manhattan	1
CT 178 BG 1	Manhattan	1
CT 178 BG 2	Manhattan	1
CT 178 BG 3	Manhattan	1
CT 179 BG 6	Manhattan	1
CT 18 BG 1	Manhattan	1
CT 18 BG 2	Manhattan	1

Census Tract & Block Group ID	Place Name	Category
CT 18 BG 3	Manhattan	3
CT 18 BG 4	Manhattan	1
CT 18 BG 5	Manhattan	1
CT 18 BG 6	Manhattan	1
CT 18 BG 7	Manhattan	1
CT 180 BG 1	Manhattan	1
CT 180 BG 2	Manhattan	1
CT 180 BG 3	Manhattan	1
CT 180 BG 4	Manhattan	1
CT 181 BG 4	Manhattan	3
CT 182 BG 1	Manhattan	1
CT 182 BG 2	Manhattan	1
CT 182 BG 3	Manhattan	1
CT 182 BG 4	Manhattan	1
CT 182 BG 5	Manhattan	1
CT 184 BG 1	Manhattan	1
CT 184 BG 2	Manhattan	1
CT 184 BG 3	Manhattan	1
CT 184 BG 4	Manhattan	1
CT 186 BG 1	Manhattan	1
CT 186 BG 2	Manhattan	1
CT 186 BG 3	Manhattan	1
CT 187 BG 5	Manhattan	1
CT 188 BG 1	Manhattan	1
CT 188 BG 2	Manhattan	1
CT 188 BG 3	Manhattan	1
CT 188 BG 4	Manhattan	1
CT 189 BG 2	Manhattan	3
CT 189 BG 3	Manhattan	1
CT 189 BG 4	Manhattan	1
CT 189 BG 5	Manhattan	1
CT 189 BG 6	Manhattan	1

Census Tract & Block Group ID	Place Name	Category
CT 190 BG 1	Manhattan	1
CT 191 BG 3	Manhattan	2
CT 191 BG 5	Manhattan	3
CT 191 BG 6	Manhattan	1
CT 192 BG 1	Manhattan	1
CT 192 BG 2	Manhattan	1
CT 192 BG 3	Manhattan	1
CT 193 BG 1	Manhattan	3
CT 193 BG 2	Manhattan	1
CT 193 BG 3	Manhattan	1
CT 193 BG 4	Manhattan	1
CT 193 BG 5	Manhattan	1
CT 193 BG 6	Manhattan	1
CT 194 BG 1	Manhattan	1
CT 194 BG 2	Manhattan	3
CT 194 BG 3	Manhattan	1
CT 194 BG 4	Manhattan	1
CT 195 BG 3	Manhattan	2
CT 195 BG 4	Manhattan	1
CT 195 BG 5	Manhattan	2
CT 196 BG 1	Manhattan	1
CT 196 BG 2	Manhattan	1
CT 196 BG 3	Manhattan	1
CT 197.01 BG 1	Manhattan	1
CT 197.02 BG 1	Manhattan	1
CT 198 BG 1	Manhattan	3
CT 199 BG 3	Manhattan	2
CT 199 BG 5	Manhattan	2
CT 2.01 BG 1	Manhattan	1
CT 2.01 BG 2	Manhattan	1
CT 2.02 BG 1	Manhattan	1
CT 2.02 BG 2	Manhattan	1

Census Tract & Block Group ID	Place Name	Category
CT 2.02 BG 3	Manhattan	1
CT 2.02 BG 4	Manhattan	1
CT 2.02 BG 5	Manhattan	1
CT 20 BG 1	Manhattan	1
CT 20 BG 2	Manhattan	1
CT 20 BG 3	Manhattan	1
CT 200 BG 1	Manhattan	3
CT 200 BG 2	Manhattan	3
CT 201.02 BG 1	Manhattan	1
CT 201.02 BG 2	Manhattan	1
CT 201.02 BG 3	Manhattan	3
CT 201.02 BG 4	Manhattan	3
CT 203 BG 1	Manhattan	1
CT 206 BG 1	Manhattan	1
CT 206 BG 2	Manhattan	1
CT 207.01 BG 1	Manhattan	1
CT 207.01 BG 2	Manhattan	3
CT 208 BG 1	Manhattan	1
CT 208 BG 2	Manhattan	3
CT 208 BG 3	Manhattan	3
CT 209.01 BG 1	Manhattan	1
CT 209.01 BG 2	Manhattan	1
CT 210 BG 1	Manhattan	1
CT 210 BG 2	Manhattan	1
CT 210 BG 3	Manhattan	1
CT 210 BG 4	Manhattan	1
CT 211 BG 1	Manhattan	1
CT 211 BG 3	Manhattan	1
CT 211 BG 4	Manhattan	1
CT 211 BG 5	Manhattan	1
CT 211 BG 6	Manhattan	3
CT 211 BG 7	Manhattan	1

Census Tract & Block Group ID	Place Name	Category
CT 212 BG 1	Manhattan	1
CT 212 BG 2	Manhattan	3
CT 212 BG 3	Manhattan	3
CT 212 BG 4	Manhattan	3
CT 213.03 BG 1	Manhattan	1
CT 213.03 BG 2	Manhattan	1
CT 213.03 BG 3	Manhattan	1
CT 213.03 BG 4	Manhattan	1
CT 214 BG 1	Manhattan	1
CT 214 BG 2	Manhattan	3
CT 215 BG 1	Manhattan	1
CT 215 BG 2	Manhattan	1
CT 216 BG 1	Manhattan	3
CT 216 BG 2	Manhattan	1
CT 216 BG 3	Manhattan	1
CT 216 BG 4	Manhattan	3
CT 216 BG 5	Manhattan	1
CT 218 BG 1	Manhattan	3
CT 218 BG 2	Manhattan	1
CT 218 BG 3	Manhattan	1
CT 218 BG 4	Manhattan	1
CT 219 BG 1	Manhattan	1
CT 219 BG 2	Manhattan	1
CT 219 BG 3	Manhattan	1
CT 219 BG 4	Manhattan	1
CT 22.01 BG 1	Manhattan	1
CT 22.01 BG 2	Manhattan	1
CT 22.01 BG 3	Manhattan	1
CT 22.01 BG 4	Manhattan	1
CT 22.02 BG 1	Manhattan	2
CT 220 BG 1	Manhattan	1
CT 220 BG 2	Manhattan	1

Census Tract & Block Group ID	Place Name	Category
CT 220 BG 3	Manhattan	1
CT 220 BG 4	Manhattan	3
CT 220 BG 5	Manhattan	1
CT 221.02 BG 1	Manhattan	1
CT 221.02 BG 2	Manhattan	3
CT 222 BG 1	Manhattan	1
CT 222 BG 2	Manhattan	1
CT 223.01 BG 1	Manhattan	1
CT 223.01 BG 2	Manhattan	1
CT 223.01 BG 3	Manhattan	1
CT 223.01 BG 4	Manhattan	1
CT 223.02 BG 1	Manhattan	1
CT 224 BG 1	Manhattan	1
CT 224 BG 2	Manhattan	1
CT 224 BG 3	Manhattan	1
CT 224 BG 4	Manhattan	1
CT 225 BG 1	Manhattan	1
CT 225 BG 2	Manhattan	1
CT 225 BG 3	Manhattan	1
CT 225 BG 4	Manhattan	1
CT 225 BG 5	Manhattan	1
CT 226 BG 1	Manhattan	1
CT 226 BG 2	Manhattan	1
CT 226 BG 3	Manhattan	1
CT 227 BG 1	Manhattan	1
CT 227 BG 2	Manhattan	1
CT 227 BG 3	Manhattan	1
CT 228 BG 1	Manhattan	1
CT 228 BG 2	Manhattan	1
CT 228 BG 3	Manhattan	3
CT 228 BG 4	Manhattan	3
CT 229 BG 1	Manhattan	1
CT 229 BG 2	Manhattan	1
CT 229 BG 3	Manhattan	1
CT 229 BG 4	Manhattan	1
CT 229 BG 5	Manhattan	1
CT 230 BG 1	Manhattan	1
CT 230 BG 2	Manhattan	1
CT 230 BG 3	Manhattan	1
CT 230 BG 4	Manhattan	1
CT 230 BG 5	Manhattan	1
CT 231 BG 1	Manhattan	1
CT 231 BG 2	Manhattan	1
CT 231 BG 3	Manhattan	1
CT 232 BG 1	Manhattan	1
CT 232 BG 2	Manhattan	1
CT 232 BG 3	Manhattan	1
CT 232 BG 4	Manhattan	1
CT 233 BG 1	Manhattan	1
CT 233 BG 2	Manhattan	1
CT 233 BG 3	Manhattan	1
CT 234 BG 1	Manhattan	1
CT 234 BG 2	Manhattan	1
CT 235.01 BG 1	Manhattan	1
CT 235.01 BG 2	Manhattan	1
CT 235.01 BG 3	Manhattan	1
CT 235.01 BG 4	Manhattan	1
CT 235.02 BG 1	Manhattan	1
CT 236 BG 1	Manhattan	1
CT 236 BG 2	Manhattan	3
CT 236 BG 3	Manhattan	1
CT 236 BG 4	Manhattan	1
CT 237 BG 1	Manhattan	1
CT 237 BG 2	Manhattan	1

Census Tract & Block Group ID	Place Name	Category
CT 237 BG 3	Manhattan	1
CT 238.01 BG 1	Manhattan	3
CT 238.02 BG 1	Manhattan	3
CT 238.02 BG 2	Manhattan	1
CT 239 BG 1	Manhattan	1
CT 239 BG 2	Manhattan	1
CT 24 BG 1	Manhattan	1
CT 24 BG 2	Manhattan	1
CT 240 BG 1	Manhattan	1
CT 241 BG 1	Manhattan	3
CT 241 BG 2	Manhattan	3
CT 241 BG 3	Manhattan	1
CT 241 BG 4	Manhattan	3
CT 241 BG 5	Manhattan	1
CT 242 BG 1	Manhattan	1
CT 242 BG 2	Manhattan	1
CT 242 BG 3	Manhattan	1
CT 243.01 BG 1	Manhattan	1
CT 243.01 BG 2	Manhattan	1
CT 243.01 BG 3	Manhattan	1
CT 243.02 BG 1	Manhattan	1
CT 243.02 BG 2	Manhattan	1
CT 243.02 BG 3	Manhattan	1
CT 245 BG 1	Manhattan	1
CT 245 BG 2	Manhattan	3
CT 245 BG 3	Manhattan	3
CT 245 BG 4	Manhattan	1
CT 245 BG 5	Manhattan	1
CT 245 BG 6	Manhattan	1
CT 245 BG 7	Manhattan	1
CT 247 BG 1	Manhattan	3
CT 247 BG 2	Manhattan	1
CT 247 BG 3	Manhattan	1
CT 247 BG 4	Manhattan	1
CT 247 BG 5	Manhattan	1
CT 249 BG 1	Manhattan	1
CT 25 BG 1	Manhattan	1
CT 25 BG 2	Manhattan	1
CT 25 BG 3	Manhattan	1
CT 251 BG 1	Manhattan	1
CT 251 BG 2	Manhattan	1
CT 253 BG 1	Manhattan	1
CT 253 BG 2	Manhattan	1
CT 253 BG 3	Manhattan	1
CT 253 BG 4	Manhattan	1
CT 253 BG 5	Manhattan	1
CT 253 BG 6	Manhattan	1
CT 255 BG 1	Manhattan	1
CT 255 BG 2	Manhattan	1
CT 255 BG 3	Manhattan	1
CT 255 BG 4	Manhattan	3
CT 257 BG 1	Manhattan	1
CT 257 BG 2	Manhattan	3
CT 257 BG 3	Manhattan	3
CT 259 BG 1	Manhattan	1
CT 259 BG 2	Manhattan	1
CT 26.01 BG 1	Manhattan	1
CT 26.01 BG 2	Manhattan	1
CT 26.02 BG 1	Manhattan	1
CT 26.02 BG 2	Manhattan	2
CT 261 BG 1	Manhattan	1
CT 261 BG 2	Manhattan	1
CT 261 BG 3	Manhattan	1
CT 261 BG 4	Manhattan	1

Census Tract & Block Group ID	Place Name	Category
CT 261 BG 5	Manhattan	1
CT 261 BG 6	Manhattan	3
CT 261 BG 7	Manhattan	1
CT 263 BG 1	Manhattan	1
CT 263 BG 2	Manhattan	1
CT 263 BG 3	Manhattan	1
CT 263 BG 4	Manhattan	1
CT 263 BG 5	Manhattan	1
CT 265 BG 1	Manhattan	1
CT 265 BG 2	Manhattan	1
CT 265 BG 3	Manhattan	3
CT 265 BG 4	Manhattan	3
CT 265 BG 5	Manhattan	1
CT 267 BG 1	Manhattan	2
CT 269 BG 1	Manhattan	1
CT 269 BG 2	Manhattan	1
CT 269 BG 3	Manhattan	3
CT 269 BG 4	Manhattan	1
CT 269 BG 5	Manhattan	1
CT 269 BG 6	Manhattan	1
CT 27 BG 1	Manhattan	1
CT 271 BG 1	Manhattan	1
CT 271 BG 2	Manhattan	1
CT 271 BG 3	Manhattan	1
CT 271 BG 4	Manhattan	1
CT 271 BG 5	Manhattan	2
CT 277 BG 1	Manhattan	1
CT 277 BG 2	Manhattan	1
CT 277 BG 3	Manhattan	1
CT 277 BG 4	Manhattan	1
CT 279 BG 1	Manhattan	2
CT 279 BG 2	Manhattan	1

Census Tract & Block Group ID	Place Name	Category
CT 279 BG 3	Manhattan	1
CT 279 BG 4	Manhattan	1
CT 279 BG 5	Manhattan	3
CT 279 BG 6	Manhattan	1
CT 279 BG 7	Manhattan	1
CT 28 BG 1	Manhattan	1
CT 28 BG 2	Manhattan	1
CT 28 BG 3	Manhattan	1
CT 28 BG 4	Manhattan	1
CT 283 BG 1	Manhattan	3
CT 283 BG 2	Manhattan	3
CT 283 BG 3	Manhattan	1
CT 283 BG 4	Manhattan	1
CT 285 BG 1	Manhattan	1
CT 285 BG 2	Manhattan	1
CT 285 BG 3	Manhattan	1
CT 285 BG 4	Manhattan	1
CT 287 BG 2	Manhattan	1
CT 287 BG 3	Manhattan	1
CT 29 BG 1	Manhattan	1
CT 29 BG 2	Manhattan	1
CT 29 BG 3	Manhattan	1
CT 29 BG 4	Manhattan	1
CT 291 BG 1	Manhattan	1
CT 291 BG 2	Manhattan	1
CT 291 BG 3	Manhattan	1
CT 291 BG 4	Manhattan	1
CT 291 BG 5	Manhattan	1
CT 291 BG 6	Manhattan	1
CT 291 BG 7	Manhattan	1
CT 293 BG 1	Manhattan	1
CT 293 BG 2	Manhattan	1

Census Tract & Block Group ID	Place Name	Category
CT 293 BG 3	Manhattan	1
CT 293 BG 4	Manhattan	1
CT 293 BG 5	Manhattan	1
CT 295 BG 2	Manhattan	1
CT 295 BG 3	Manhattan	1
CT 295 BG 4	Manhattan	3
CT 297 BG 1	Manhattan	3
CT 299 BG 1	Manhattan	1
CT 299 BG 2	Manhattan	1
CT 30.01 BG 2	Manhattan	2
CT 30.01 BG 3	Manhattan	1
CT 30.01 BG 4	Manhattan	3
CT 30.02 BG 2	Manhattan	1
CT 303 BG 1	Manhattan	1
CT 303 BG 2	Manhattan	1
CT 307 BG 1	Manhattan	3
CT 307 BG 3	Manhattan	2
CT 309 BG 1	Manhattan	1
CT 309 BG 2	Manhattan	1
CT 309 BG 3	Manhattan	1
CT 309 BG 4	Manhattan	3
CT 32 BG 3	Manhattan	2
CT 32 BG 5	Manhattan	2
CT 34 BG 1	Manhattan	2
CT 34 BG 2	Manhattan	1
CT 34 BG 3	Manhattan	2
CT 34 BG 4	Manhattan	2
CT 36.01 BG 1	Manhattan	1
CT 36.01 BG 2	Manhattan	3
CT 36.01 BG 3	Manhattan	1
CT 36.02 BG 2	Manhattan	1
CT 38 BG 1	Manhattan	2

Census Tract & Block Group ID	Place Name	Category
CT 38 BG 3	Manhattan	3
CT 40 BG 4	Manhattan	1
CT 41 BG 2	Manhattan	3
CT 41 BG 3	Manhattan	1
CT 41 BG 4	Manhattan	1
CT 41 BG 5	Manhattan	1
CT 41 BG 6	Manhattan	1
CT 43 BG 2	Manhattan	1
CT 48 BG 5	Manhattan	3
CT 48 BG 6	Manhattan	2
CT 56 BG 1	Manhattan	2
CT 6 BG 1	Manhattan	1
CT 6 BG 2	Manhattan	1
CT 6 BG 3	Manhattan	1
CT 6 BG 4	Manhattan	1
CT 6 BG 5	Manhattan	1
CT 6 BG 6	Manhattan	1
CT 62 BG 1	Manhattan	1
CT 62 BG 2	Manhattan	3
CT 64 BG 4	Manhattan	2
CT 64 BG 5	Manhattan	3
CT 64 BG 6	Manhattan	2
CT 66 BG 2	Manhattan	1
CT 66 BG 7	Manhattan	1
CT 66 BG 8	Manhattan	2
CT 66 BG 9	Manhattan	1
CT 68 BG 4	Manhattan	2
CT 68 BG 5	Manhattan	3
CT 72 BG 2	Manhattan	2
CT 72 BG 4	Manhattan	2
CT 74 BG 1	Manhattan	3
CT 76 BG 1	Manhattan	3

Census Tract & Block Group ID	Place Name	Category
CT 78 BG 6	Manhattan	3
CT 78 BG 7	Manhattan	2
CT 8 BG 1	Manhattan	1
CT 8 BG 2	Manhattan	1
CT 8 BG 3	Manhattan	1
CT 8 BG 4	Manhattan	1
CT 8 BG 5	Manhattan	1
CT 8 BG 6	Manhattan	1
CT 81 BG 2	Manhattan	2
CT 83 BG 3	Manhattan	1

Census Tract & Block Group ID	Place Name	Category
CT 84 BG 2	Manhattan	3
CT 88 BG 5	Manhattan	1
CT 89 BG 3	Manhattan	1
CT 91 BG 3	Manhattan	2
CT 93 BG 1	Manhattan	2
CT 93 BG 6	Manhattan	1
CT 97 BG 2	Manhattan	1
CT 97 BG 3	Manhattan	3
CT 97 BG 4	Manhattan	1

Table G-EJ16. Census Tracts (CT) and Block Groups (BG) in Kings County, New York (County ID 36-047) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.

Census Tract & Block Group ID	Place Name	Category
CT 100 BG 1	Brooklyn	1
CT 100 BG 2	Brooklyn	1
CT 100 BG 3	Brooklyn	1
CT 100 BG 4	Brooklyn	1
CT 1004 BG 1	Brooklyn	3
CT 1006 BG 1	Brooklyn	3
CT 1006 BG 2	Brooklyn	3
CT 1008 BG 1	Brooklyn	3
CT 1008 BG 2	Brooklyn	3
CT 101 BG 1	Brooklyn	3
CT 101 BG 2	Brooklyn	3
CT 101 BG 3	Brooklyn	1
CT 1010 BG 1	Brooklyn	3
CT 1010 BG 2	Brooklyn	3
CT 1012 BG 1	Brooklyn	3
CT 1012 BG 2	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 1014 BG 1	Brooklyn	3
CT 1014 BG 2	Brooklyn	3
CT 1016 BG 1	Brooklyn	3
CT 1018 BG 1	Brooklyn	3
CT 102 BG 1	Brooklyn	1
CT 102 BG 2	Brooklyn	1
CT 102 BG 3	Brooklyn	1
CT 1020 BG 1	Brooklyn	3
CT 1022 BG 1	Brooklyn	3
CT 1024 BG 1	Brooklyn	3
CT 1026 BG 1	Brooklyn	3
CT 1028 BG 1	Brooklyn	3
CT 1028 BG 2	Brooklyn	3
CT 1034 BG 1	Brooklyn	1
CT 104 BG 1	Brooklyn	1
CT 104 BG 2	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 104 BG 3	Brooklyn	1
CT 1058.01 BG 1	Brooklyn	1
CT 1058.01 BG 2	Brooklyn	1
CT 1058.01 BG 3	Brooklyn	1
CT 1058.04 BG 1	Brooklyn	3
CT 1058.04 BG 2	Brooklyn	2
CT 1058.04 BG 3	Brooklyn	3
CT 1058.04 BG 4	Brooklyn	1
CT 106 BG 1	Brooklyn	1
CT 106 BG 2	Brooklyn	1
CT 106 BG 3	Brooklyn	1
CT 1070 BG 1	Brooklyn	3
CT 1078 BG 1	Brooklyn	1
CT 1078 BG 2	Brooklyn	3
CT 1078 BG 3	Brooklyn	3
CT 1078 BG 4	Brooklyn	3
CT 108 BG 1	Brooklyn	1
CT 108 BG 2	Brooklyn	1
CT 108 BG 3	Brooklyn	1
CT 1098 BG 1	Brooklyn	3
CT 1098 BG 2	Brooklyn	1
CT 110 BG 1	Brooklyn	1
CT 110 BG 2	Brooklyn	1
CT 1104 BG 1	Brooklyn	3
CT 1104 BG 2	Brooklyn	1
CT 1104 BG 3	Brooklyn	1
CT 1104 BG 4	Brooklyn	3
CT 1106 BG 1	Brooklyn	1
CT 1106 BG 2	Brooklyn	1
CT 1110 BG 1	Brooklyn	1
CT 1110 BG 2	Brooklyn	1
CT 1116 BG 1	Brooklyn	1
CT 1116 BG 2	Brooklyn	3

Census Tract & Block Group ID	Place Name	Category
CT 1118 BG 1	Brooklyn	1
CT 1118 BG 2	Brooklyn	1
CT 112 BG 1	Brooklyn	1
CT 112 BG 2	Brooklyn	2
CT 112 BG 3	Brooklyn	1
CT 112 BG 4	Brooklyn	1
CT 1120 BG 1	Brooklyn	1
CT 1120 BG 2	Brooklyn	1
CT 1122 BG 1	Brooklyn	1
CT 1122 BG 2	Brooklyn	1
CT 1124 BG 1	Brooklyn	3
CT 1124 BG 2	Brooklyn	3
CT 1124 BG 3	Brooklyn	3
CT 1126 BG 1	Brooklyn	1
CT 1126 BG 2	Brooklyn	1
CT 1126 BG 3	Brooklyn	3
CT 1128 BG 1	Brooklyn	1
CT 1128 BG 2	Brooklyn	3
CT 1128 BG 3	Brooklyn	1
CT 1130 BG 1	Brooklyn	1
CT 1130 BG 2	Brooklyn	1
CT 1130 BG 3	Brooklyn	1
CT 1130 BG 4	Brooklyn	3
CT 1132 BG 1	Brooklyn	3
CT 1132 BG 2	Brooklyn	3
CT 1134 BG 1	Brooklyn	1
CT 1134 BG 2	Brooklyn	1
CT 1134 BG 3	Brooklyn	1
CT 114 BG 1	Brooklyn	1
CT 114 BG 2	Brooklyn	2
CT 114 BG 3	Brooklyn	1
CT 1142.01 BG 1	Brooklyn	1
CT 1142.01 BG 2	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 1142.02 BG 1	Brooklyn	1
CT 1142.02 BG 2	Brooklyn	3
CT 1144 BG 1	Brooklyn	1
CT 1144 BG 2	Brooklyn	1
CT 1144 BG 3	Brooklyn	3
CT 1144 BG 4	Brooklyn	1
CT 1146 BG 1	Brooklyn	1
CT 1146 BG 2	Brooklyn	1
CT 1150 BG 1	Brooklyn	1
CT 1150 BG 2	Brooklyn	1
CT 1150 BG 3	Brooklyn	1
CT 1152 BG 1	Brooklyn	3
CT 1152 BG 2	Brooklyn	1
CT 1152 BG 3	Brooklyn	1
CT 1156 BG 1	Brooklyn	3
CT 1156 BG 2	Brooklyn	1
CT 1156 BG 3	Brooklyn	1
CT 1156 BG 4	Brooklyn	3
CT 1158 BG 1	Brooklyn	1
CT 1158 BG 2	Brooklyn	3
CT 1158 BG 3	Brooklyn	3
CT 116 BG 1	Brooklyn	1
CT 116 BG 2	Brooklyn	1
CT 116 BG 3	Brooklyn	1
CT 1160 BG 1	Brooklyn	1
CT 1160 BG 2	Brooklyn	1
CT 1160 BG 3	Brooklyn	1
CT 1162 BG 1	Brooklyn	3
CT 1162 BG 2	Brooklyn	1
CT 1162 BG 3	Brooklyn	1
CT 1164 BG 1	Brooklyn	1
CT 1164 BG 2	Brooklyn	3
CT 1164 BG 3	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 1166 BG 1	Brooklyn	3
CT 1166 BG 2	Brooklyn	1
CT 1166 BG 3	Brooklyn	1
CT 1168 BG 1	Brooklyn	3
CT 1168 BG 2	Brooklyn	3
CT 1170 BG 1	Brooklyn	1
CT 1170 BG 2	Brooklyn	1
CT 1172.01 BG 1	Brooklyn	3
CT 1172.01 BG 2	Brooklyn	1
CT 1172.02 BG 1	Brooklyn	3
CT 1172.02 BG 2	Brooklyn	3
CT 1174 BG 1	Brooklyn	1
CT 1174 BG 2	Brooklyn	1
CT 1176.01 BG 1	Brooklyn	3
CT 1176.01 BG 2	Brooklyn	1
CT 1176.02 BG 1	Brooklyn	1
CT 1176.02 BG 2	Brooklyn	1
CT 1178 BG 1	Brooklyn	1
CT 118 BG 1	Brooklyn	1
CT 118 BG 2	Brooklyn	1
CT 1182.01 BG 1	Brooklyn	3
CT 1182.01 BG 2	Brooklyn	3
CT 1182.02 BG 1	Brooklyn	1
CT 1182.02 BG 2	Brooklyn	1
CT 1184 BG 1	Brooklyn	1
CT 1184 BG 2	Brooklyn	3
CT 1184 BG 3	Brooklyn	1
CT 1186 BG 1	Brooklyn	3
CT 1186 BG 2	Brooklyn	3
CT 1188 BG 1	Brooklyn	3
CT 1188 BG 2	Brooklyn	1
CT 1188 BG 3	Brooklyn	1
CT 1190 BG 1	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 1190 BG 2	Brooklyn	1
CT 1192 BG 1	Brooklyn	1
CT 1192 BG 2	Brooklyn	3
CT 1192 BG 3	Brooklyn	1
CT 1194 BG 1	Brooklyn	3
CT 1194 BG 2	Brooklyn	1
CT 1194 BG 3	Brooklyn	1
CT 1196 BG 1	Brooklyn	1
CT 1196 BG 2	Brooklyn	1
CT 1196 BG 3	Brooklyn	1
CT 1196 BG 4	Brooklyn	1
CT 1198 BG 1	Brooklyn	1
CT 1198 BG 2	Brooklyn	1
CT 1198 BG 3	Brooklyn	1
CT 120 BG 1	Brooklyn	1
CT 1200 BG 1	Brooklyn	1
CT 1200 BG 2	Brooklyn	1
CT 1202 BG 1	Brooklyn	1
CT 1202 BG 2	Brooklyn	1
CT 1208 BG 1	Brooklyn	3
CT 1208 BG 2	Brooklyn	1
CT 1208 BG 3	Brooklyn	1
CT 1208 BG 4	Brooklyn	3
CT 1208 BG 5	Brooklyn	1
CT 121 BG 2	Brooklyn	1
CT 1210 BG 1	Brooklyn	1
CT 1210 BG 2	Brooklyn	1
CT 1214 BG 1	Brooklyn	1
CT 1214 BG 2	Brooklyn	1
CT 122 BG 1	Brooklyn	1
CT 122 BG 2	Brooklyn	1
CT 122 BG 3	Brooklyn	1
CT 1220 BG 1	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 1220 BG 2	Brooklyn	1
CT 1237 BG 1	Brooklyn	2
CT 1237 BG 2	Brooklyn	2
CT 1237 BG 3	Brooklyn	2
CT 126 BG 1	Brooklyn	1
CT 126 BG 2	Brooklyn	1
CT 126 BG 3	Brooklyn	1
CT 127 BG 3	Brooklyn	1
CT 128.01 BG 1	Brooklyn	1
CT 129.01 BG 1	Brooklyn	3
CT 13 BG 2	Brooklyn	2
CT 130 BG 1	Brooklyn	1
CT 130 BG 2	Brooklyn	2
CT 130 BG 4	Brooklyn	1
CT 131 BG 4	Brooklyn	3
CT 132 BG 1	Brooklyn	1
CT 132 BG 2	Brooklyn	1
CT 136 BG 3	Brooklyn	2
CT 138 BG 2	Brooklyn	3
CT 141 BG 1	Brooklyn	3
CT 143 BG 1	Brooklyn	3
CT 143 BG 3	Brooklyn	3
CT 145 BG 1	Brooklyn	3
CT 15 BG 1	Brooklyn	3
CT 15 BG 2	Brooklyn	1
CT 15 BG 3	Brooklyn	3
CT 152 BG 3	Brooklyn	3
CT 1522 BG 1	Brooklyn	3
CT 1522 BG 2	Brooklyn	3
CT 153 BG 1	Brooklyn	3
CT 160 BG 1	Brooklyn	3
CT 160 BG 2	Brooklyn	3
CT 160 BG 3	Brooklyn	3

Census Tract & Block Group ID	Place Name	Category
CT 161 BG 1	Brooklyn	3
CT 163 BG 1	Brooklyn	3
CT 164 BG 1	Brooklyn	3
CT 170 BG 1	Brooklyn	3
CT 170 BG 3	Brooklyn	3
CT 172 BG 1	Brooklyn	3
CT 172 BG 2	Brooklyn	3
CT 176 BG 1	Brooklyn	3
CT 176 BG 2	Brooklyn	2
CT 178 BG 1	Brooklyn	1
CT 178 BG 2	Brooklyn	3
CT 179 BG 1	Brooklyn	1
CT 179 BG 2	Brooklyn	3
CT 179 BG 3	Brooklyn	3
CT 18 BG 1	Brooklyn	3
CT 180 BG 1	Brooklyn	3
CT 180 BG 2	Brooklyn	3
CT 181 BG 1	Brooklyn	3
CT 181 BG 2	Brooklyn	3
CT 182 BG 1	Brooklyn	1
CT 182 BG 2	Brooklyn	3
CT 184 BG 1	Brooklyn	3
CT 184 BG 2	Brooklyn	3
CT 185.01 BG 1	Brooklyn	3
CT 185.01 BG 2	Brooklyn	1
CT 185.01 BG 3	Brooklyn	1
CT 185.01 BG 4	Brooklyn	1
CT 186 BG 1	Brooklyn	1
CT 187 BG 1	Brooklyn	1
CT 188 BG 2	Brooklyn	3
CT 190 BG 1	Brooklyn	1
CT 190 BG 2	Brooklyn	1
CT 190 BG 3	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 191 BG 1	Brooklyn	2
CT 191 BG 3	Brooklyn	3
CT 192 BG 1	Brooklyn	2
CT 192 BG 2	Brooklyn	1
CT 193 BG 1	Brooklyn	2
CT 193 BG 2	Brooklyn	3
CT 193 BG 3	Brooklyn	3
CT 193 BG 4	Brooklyn	3
CT 194 BG 1	Brooklyn	1
CT 194 BG 2	Brooklyn	1
CT 195 BG 2	Brooklyn	3
CT 195 BG 3	Brooklyn	3
CT 196 BG 1	Brooklyn	1
CT 196 BG 2	Brooklyn	2
CT 196 BG 3	Brooklyn	1
CT 197 BG 1	Brooklyn	3
CT 197 BG 4	Brooklyn	3
CT 198 BG 1	Brooklyn	3
CT 198 BG 2	Brooklyn	2
CT 199 BG 3	Brooklyn	3
CT 2 BG 1	Brooklyn	1
CT 20 BG 1	Brooklyn	1
CT 20 BG 2	Brooklyn	1
CT 200 BG 1	Brooklyn	1
CT 200 BG 2	Brooklyn	3
CT 201 BG 1	Brooklyn	3
CT 201 BG 4	Brooklyn	3
CT 202 BG 1	Brooklyn	3
CT 203 BG 1	Brooklyn	3
CT 203 BG 2	Brooklyn	3
CT 205 BG 2	Brooklyn	3
CT 205 BG 3	Brooklyn	3
CT 206 BG 1	Brooklyn	3

Census Tract & Block Group ID	Place Name	Category
CT 208 BG 1	Brooklyn	1
CT 208 BG 2	Brooklyn	3
CT 208 BG 3	Brooklyn	1
CT 210 BG 1	Brooklyn	1
CT 210 BG 2	Brooklyn	1
CT 210 BG 3	Brooklyn	1
CT 211 BG 1	Brooklyn	3
CT 211 BG 2	Brooklyn	3
CT 212 BG 1	Brooklyn	1
CT 212 BG 2	Brooklyn	1
CT 212 BG 3	Brooklyn	1
CT 213 BG 1	Brooklyn	3
CT 213 BG 2	Brooklyn	3
CT 213 BG 3	Brooklyn	3
CT 214 BG 1	Brooklyn	2
CT 214 BG 2	Brooklyn	1
CT 215 BG 2	Brooklyn	1
CT 215 BG 3	Brooklyn	3
CT 215 BG 4	Brooklyn	3
CT 216 BG 1	Brooklyn	2
CT 216 BG 2	Brooklyn	2
CT 216 BG 3	Brooklyn	2
CT 217 BG 1	Brooklyn	3
CT 217 BG 2	Brooklyn	3
CT 218 BG 1	Brooklyn	2
CT 218 BG 2	Brooklyn	2
CT 218 BG 3	Brooklyn	2
CT 219 BG 1	Brooklyn	3
CT 219 BG 2	Brooklyn	3
CT 219 BG 3	Brooklyn	3
CT 22 BG 1	Brooklyn	1
CT 22 BG 2	Brooklyn	3
CT 22 BG 3	Brooklyn	3

Census Tract & Block Group ID	Place Name	Category
CT 220 BG 1	Brooklyn	2
CT 220 BG 2	Brooklyn	2
CT 220 BG 3	Brooklyn	2
CT 220 BG 4	Brooklyn	2
CT 221 BG 1	Brooklyn	1
CT 221 BG 2	Brooklyn	3
CT 221 BG 3	Brooklyn	3
CT 222 BG 1	Brooklyn	2
CT 222 BG 2	Brooklyn	2
CT 222 BG 3	Brooklyn	2
CT 224 BG 1	Brooklyn	2
CT 224 BG 2	Brooklyn	2
CT 224 BG 3	Brooklyn	2
CT 224 BG 4	Brooklyn	2
CT 226 BG 1	Brooklyn	1
CT 226 BG 2	Brooklyn	1
CT 227 BG 1	Brooklyn	3
CT 227 BG 2	Brooklyn	3
CT 227 BG 3	Brooklyn	3
CT 227 BG 4	Brooklyn	3
CT 228 BG 1	Brooklyn	1
CT 228 BG 2	Brooklyn	2
CT 228 BG 3	Brooklyn	2
CT 229 BG 1	Brooklyn	3
CT 229 BG 2	Brooklyn	3
CT 229 BG 3	Brooklyn	1
CT 229 BG 4	Brooklyn	3
CT 23 BG 1	Brooklyn	1
CT 23 BG 2	Brooklyn	1
CT 23 BG 3	Brooklyn	1
CT 230 BG 1	Brooklyn	2
CT 230 BG 2	Brooklyn	2
CT 230 BG 3	Brooklyn	2

Census Tract & Block Group ID	Place Name	Category
CT 231 BG 1	Brooklyn	3
CT 231 BG 2	Brooklyn	3
CT 231 BG 3	Brooklyn	3
CT 232 BG 1	Brooklyn	2
CT 232 BG 2	Brooklyn	2
CT 232 BG 3	Brooklyn	2
CT 232 BG 4	Brooklyn	2
CT 232 BG 5	Brooklyn	2
CT 233 BG 2	Brooklyn	1
CT 234 BG 1	Brooklyn	2
CT 234 BG 2	Brooklyn	2
CT 234 BG 3	Brooklyn	2
CT 235 BG 1	Brooklyn	2
CT 235 BG 2	Brooklyn	2
CT 236 BG 1	Brooklyn	2
CT 236 BG 2	Brooklyn	2
CT 236 BG 3	Brooklyn	2
CT 236 BG 4	Brooklyn	2
CT 238 BG 1	Brooklyn	2
CT 238 BG 2	Brooklyn	2
CT 238 BG 3	Brooklyn	2
CT 240 BG 1	Brooklyn	2
CT 240 BG 2	Brooklyn	2
CT 240 BG 3	Brooklyn	2
CT 241 BG 2	Brooklyn	1
CT 242 BG 1	Brooklyn	2
CT 242 BG 2	Brooklyn	2
CT 243 BG 1	Brooklyn	3
CT 243 BG 2	Brooklyn	3
CT 243 BG 3	Brooklyn	3
CT 244 BG 1	Brooklyn	2
CT 244 BG 2	Brooklyn	2
CT 244 BG 3	Brooklyn	2

Census Tract & Block Group ID	Place Name	Category
CT 245 BG 1	Brooklyn	3
CT 245 BG 2	Brooklyn	1
CT 245 BG 3	Brooklyn	3
CT 245 BG 4	Brooklyn	3
CT 246 BG 2	Brooklyn	1
CT 246 BG 3	Brooklyn	2
CT 247 BG 1	Brooklyn	1
CT 247 BG 2	Brooklyn	1
CT 248 BG 1	Brooklyn	3
CT 248 BG 2	Brooklyn	3
CT 249 BG 1	Brooklyn	3
CT 249 BG 2	Brooklyn	3
CT 249 BG 3	Brooklyn	3
CT 250 BG 1	Brooklyn	1
CT 250 BG 2	Brooklyn	1
CT 251 BG 1	Brooklyn	1
CT 251 BG 2	Brooklyn	1
CT 251 BG 3	Brooklyn	3
CT 252 BG 1	Brooklyn	3
CT 252 BG 2	Brooklyn	2
CT 252 BG 3	Brooklyn	3
CT 252 BG 4	Brooklyn	3
CT 253 BG 1	Brooklyn	1
CT 253 BG 2	Brooklyn	1
CT 253 BG 3	Brooklyn	1
CT 254 BG 1	Brooklyn	3
CT 254 BG 3	Brooklyn	1
CT 255 BG 1	Brooklyn	1
CT 255 BG 2	Brooklyn	1
CT 256 BG 1	Brooklyn	1
CT 256 BG 2	Brooklyn	1
CT 257 BG 1	Brooklyn	1
CT 257 BG 2	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 257 BG 3	Brooklyn	3
CT 258 BG 1	Brooklyn	1
CT 258 BG 2	Brooklyn	1
CT 259.01 BG 1	Brooklyn	1
CT 259.02 BG 1	Brooklyn	1
CT 260 BG 1	Brooklyn	1
CT 260 BG 2	Brooklyn	1
CT 260 BG 3	Brooklyn	3
CT 261 BG 1	Brooklyn	1
CT 261 BG 2	Brooklyn	3
CT 261 BG 3	Brooklyn	1
CT 261 BG 4	Brooklyn	1
CT 261 BG 5	Brooklyn	3
CT 262 BG 1	Brooklyn	1
CT 262 BG 2	Brooklyn	1
CT 263 BG 1	Brooklyn	1
CT 264 BG 1	Brooklyn	1
CT 264 BG 2	Brooklyn	3
CT 264 BG 3	Brooklyn	1
CT 264 BG 4	Brooklyn	3
CT 265 BG 1	Brooklyn	3
CT 265 BG 2	Brooklyn	3
CT 265 BG 3	Brooklyn	3
CT 265 BG 4	Brooklyn	3
CT 266 BG 1	Brooklyn	1
CT 266 BG 2	Brooklyn	1
CT 266 BG 3	Brooklyn	1
CT 267 BG 1	Brooklyn	1
CT 267 BG 2	Brooklyn	3
CT 267 BG 3	Brooklyn	3
CT 267 BG 4	Brooklyn	3
CT 268 BG 1	Brooklyn	1
CT 268 BG 2	Brooklyn	3

Census Tract & Block Group ID	Place Name	Category
CT 268 BG 3	Brooklyn	3
CT 268 BG 4	Brooklyn	2
CT 269 BG 1	Brooklyn	3
CT 269 BG 2	Brooklyn	3
CT 269 BG 3	Brooklyn	3
CT 270 BG 2	Brooklyn	2
CT 271 BG 1	Brooklyn	3
CT 271 BG 2	Brooklyn	3
CT 272 BG 1	Brooklyn	3
CT 272 BG 2	Brooklyn	1
CT 273 BG 1	Brooklyn	3
CT 273 BG 2	Brooklyn	3
CT 273 BG 3	Brooklyn	1
CT 274 BG 1	Brooklyn	3
CT 274 BG 2	Brooklyn	2
CT 275 BG 1	Brooklyn	1
CT 275 BG 2	Brooklyn	3
CT 275 BG 3	Brooklyn	3
CT 275 BG 4	Brooklyn	3
CT 276 BG 1	Brooklyn	1
CT 276 BG 2	Brooklyn	1
CT 276 BG 3	Brooklyn	1
CT 277 BG 1	Brooklyn	1
CT 277 BG 2	Brooklyn	3
CT 277 BG 3	Brooklyn	1
CT 277 BG 4	Brooklyn	1
CT 278 BG 2	Brooklyn	3
CT 279 BG 1	Brooklyn	1
CT 279 BG 2	Brooklyn	3
CT 279 BG 3	Brooklyn	3
CT 279 BG 4	Brooklyn	3
CT 280 BG 1	Brooklyn	3
CT 280 BG 2	Brooklyn	3

Census Tract & Block Group ID	Place Name	Category
CT 281 BG 1	Brooklyn	1
CT 281 BG 2	Brooklyn	1
CT 281 BG 3	Brooklyn	1
CT 282 BG 1	Brooklyn	3
CT 282 BG 2	Brooklyn	1
CT 282 BG 3	Brooklyn	2
CT 283 BG 1	Brooklyn	1
CT 283 BG 2	Brooklyn	1
CT 283 BG 3	Brooklyn	1
CT 284 BG 1	Brooklyn	3
CT 284 BG 2	Brooklyn	2
CT 284 BG 3	Brooklyn	1
CT 285.01 BG 1	Brooklyn	1
CT 285.02 BG 1	Brooklyn	1
CT 286 BG 2	Brooklyn	2
CT 286 BG 3	Brooklyn	1
CT 286 BG 4	Brooklyn	1
CT 286 BG 5	Brooklyn	1
CT 287 BG 1	Brooklyn	3
CT 287 BG 2	Brooklyn	1
CT 287 BG 3	Brooklyn	1
CT 288 BG 1	Brooklyn	1
CT 288 BG 2	Brooklyn	1
CT 288 BG 3	Brooklyn	1
CT 289 BG 1	Brooklyn	3
CT 289 BG 2	Brooklyn	3
CT 289 BG 3	Brooklyn	3
CT 289 BG 4	Brooklyn	1
CT 29.01 BG 1	Brooklyn	1
CT 29.01 BG 2	Brooklyn	1
CT 290 BG 1	Brooklyn	2
CT 290 BG 3	Brooklyn	3
CT 291 BG 1	Brooklyn	3

Census Tract & Block Group ID	Place Name	Category
CT 291 BG 2	Brooklyn	1
CT 291 BG 3	Brooklyn	3
CT 292 BG 1	Brooklyn	1
CT 292 BG 2	Brooklyn	3
CT 293 BG 1	Brooklyn	1
CT 293 BG 2	Brooklyn	1
CT 293 BG 3	Brooklyn	3
CT 293 BG 4	Brooklyn	3
CT 294 BG 1	Brooklyn	1
CT 295 BG 1	Brooklyn	3
CT 295 BG 2	Brooklyn	3
CT 295 BG 3	Brooklyn	3
CT 295 BG 4	Brooklyn	3
CT 296 BG 1	Brooklyn	2
CT 296 BG 2	Brooklyn	3
CT 296 BG 3	Brooklyn	3
CT 296 BG 4	Brooklyn	1
CT 297 BG 1	Brooklyn	3
CT 297 BG 2	Brooklyn	1
CT 297 BG 3	Brooklyn	3
CT 298 BG 1	Brooklyn	3
CT 298 BG 2	Brooklyn	3
CT 298 BG 3	Brooklyn	2
CT 299 BG 1	Brooklyn	1
CT 299 BG 2	Brooklyn	1
CT 300 BG 1	Brooklyn	1
CT 300 BG 2	Brooklyn	1
CT 301 BG 1	Brooklyn	1
CT 301 BG 2	Brooklyn	1
CT 301 BG 3	Brooklyn	3
CT 302 BG 1	Brooklyn	3
CT 302 BG 2	Brooklyn	3
CT 302 BG 3	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 303 BG 1	Brooklyn	3
CT 303 BG 2	Brooklyn	1
CT 303 BG 3	Brooklyn	1
CT 304 BG 1	Brooklyn	3
CT 304 BG 2	Brooklyn	2
CT 304 BG 3	Brooklyn	1
CT 305 BG 1	Brooklyn	3
CT 305 BG 2	Brooklyn	3
CT 305 BG 3	Brooklyn	3
CT 305 BG 4	Brooklyn	3
CT 306 BG 1	Brooklyn	1
CT 307 BG 1	Brooklyn	1
CT 307 BG 2	Brooklyn	1
CT 307 BG 3	Brooklyn	1
CT 309 BG 1	Brooklyn	1
CT 309 BG 2	Brooklyn	3
CT 31 BG 1	Brooklyn	3
CT 31 BG 2	Brooklyn	3
CT 31 BG 3	Brooklyn	3
CT 311 BG 1	Brooklyn	1
CT 311 BG 2	Brooklyn	1
CT 311 BG 3	Brooklyn	3
CT 313 BG 1	Brooklyn	1
CT 313 BG 2	Brooklyn	3
CT 313 BG 3	Brooklyn	1
CT 313 BG 4	Brooklyn	3
CT 314 BG 4	Brooklyn	3
CT 315 BG 1	Brooklyn	3
CT 315 BG 2	Brooklyn	3
CT 315 BG 3	Brooklyn	3
CT 315 BG 4	Brooklyn	3
CT 317.01 BG 1	Brooklyn	3
CT 317.01 BG 2	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 317.01 BG 3	Brooklyn	3
CT 317.02 BG 1	Brooklyn	1
CT 317.02 BG 2	Brooklyn	3
CT 317.02 BG 3	Brooklyn	3
CT 319 BG 1	Brooklyn	1
CT 319 BG 2	Brooklyn	2
CT 319 BG 3	Brooklyn	1
CT 321 BG 1	Brooklyn	1
CT 321 BG 2	Brooklyn	3
CT 321 BG 3	Brooklyn	3
CT 321 BG 4	Brooklyn	3
CT 323 BG 1	Brooklyn	3
CT 323 BG 2	Brooklyn	3
CT 323 BG 3	Brooklyn	3
CT 325 BG 1	Brooklyn	3
CT 325 BG 2	Brooklyn	1
CT 325 BG 3	Brooklyn	1
CT 326 BG 1	Brooklyn	1
CT 326 BG 2	Brooklyn	1
CT 326 BG 3	Brooklyn	1
CT 326 BG 4	Brooklyn	1
CT 326 BG 5	Brooklyn	1
CT 327 BG 1	Brooklyn	3
CT 327 BG 2	Brooklyn	3
CT 327 BG 3	Brooklyn	1
CT 328 BG 1	Brooklyn	3
CT 328 BG 2	Brooklyn	1
CT 328 BG 3	Brooklyn	1
CT 328 BG 4	Brooklyn	3
CT 329 BG 1	Brooklyn	2
CT 329 BG 2	Brooklyn	1
CT 329 BG 3	Brooklyn	1
CT 329 BG 4	Brooklyn	3

Census Tract & Block Group ID	Place Name	Category
CT 33 BG 2	Brooklyn	3
CT 330 BG 1	Brooklyn	1
CT 330 BG 2	Brooklyn	3
CT 330 BG 3	Brooklyn	1
CT 331 BG 1	Brooklyn	2
CT 331 BG 2	Brooklyn	2
CT 333 BG 2	Brooklyn	2
CT 333 BG 3	Brooklyn	2
CT 335 BG 1	Brooklyn	2
CT 335 BG 2	Brooklyn	2
CT 335 BG 3	Brooklyn	2
CT 337 BG 1	Brooklyn	1
CT 337 BG 2	Brooklyn	2
CT 339 BG 1	Brooklyn	1
CT 339 BG 2	Brooklyn	1
CT 339 BG 3	Brooklyn	1
CT 339 BG 4	Brooklyn	3
CT 34 BG 2	Brooklyn	3
CT 340 BG 1	Brooklyn	1
CT 340 BG 2	Brooklyn	2
CT 341 BG 1	Brooklyn	3
CT 341 BG 2	Brooklyn	3
CT 341 BG 3	Brooklyn	1
CT 342 BG 1	Brooklyn	1
CT 342 BG 2	Brooklyn	1
CT 342 BG 3	Brooklyn	1
CT 342 BG 4	Brooklyn	2
CT 343 BG 1	Brooklyn	1
CT 343 BG 2	Brooklyn	3
CT 343 BG 3	Brooklyn	3
CT 345 BG 1	Brooklyn	1
CT 345 BG 2	Brooklyn	1
CT 347 BG 1	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 347 BG 2	Brooklyn	3
CT 347 BG 3	Brooklyn	1
CT 348 BG 1	Brooklyn	1
CT 348 BG 2	Brooklyn	1
CT 349 BG 1	Brooklyn	1
CT 349 BG 2	Brooklyn	1
CT 349 BG 3	Brooklyn	3
CT 349 BG 4	Brooklyn	1
CT 35 BG 2	Brooklyn	3
CT 350 BG 1	Brooklyn	2
CT 351 BG 1	Brooklyn	1
CT 351 BG 2	Brooklyn	1
CT 351 BG 3	Brooklyn	1
CT 352 BG 1	Brooklyn	2
CT 353 BG 1	Brooklyn	1
CT 353 BG 2	Brooklyn	1
CT 353 BG 3	Brooklyn	3
CT 355 BG 1	Brooklyn	1
CT 355 BG 2	Brooklyn	1
CT 355 BG 3	Brooklyn	1
CT 356.02 BG 1	Brooklyn	2
CT 357 BG 1	Brooklyn	1
CT 359 BG 1	Brooklyn	1
CT 359 BG 2	Brooklyn	1
CT 359 BG 3	Brooklyn	1
CT 359 BG 4	Brooklyn	1
CT 360.01 BG 1	Brooklyn	2
CT 360.01 BG 2	Brooklyn	2
CT 360.01 BG 3	Brooklyn	2
CT 360.02 BG 1	Brooklyn	2
CT 360.02 BG 2	Brooklyn	2
CT 361 BG 1	Brooklyn	1
CT 361 BG 2	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 361 BG 3	Brooklyn	1
CT 362 BG 1	Brooklyn	2
CT 362 BG 2	Brooklyn	1
CT 363 BG 1	Brooklyn	1
CT 363 BG 2	Brooklyn	1
CT 363 BG 3	Brooklyn	1
CT 363 BG 4	Brooklyn	1
CT 364 BG 1	Brooklyn	2
CT 365.01 BG 1	Brooklyn	1
CT 365.01 BG 2	Brooklyn	3
CT 365.02 BG 1	Brooklyn	1
CT 366 BG 1	Brooklyn	1
CT 366 BG 2	Brooklyn	2
CT 366 BG 3	Brooklyn	1
CT 367 BG 1	Brooklyn	3
CT 367 BG 2	Brooklyn	3
CT 369 BG 1	Brooklyn	1
CT 369 BG 2	Brooklyn	1
CT 369 BG 3	Brooklyn	1
CT 369 BG 4	Brooklyn	1
CT 370 BG 1	Brooklyn	2
CT 370 BG 3	Brooklyn	3
CT 371 BG 1	Brooklyn	3
CT 371 BG 2	Brooklyn	3
CT 371 BG 3	Brooklyn	3
CT 371 BG 4	Brooklyn	1
CT 371 BG 5	Brooklyn	1
CT 373 BG 1	Brooklyn	1
CT 373 BG 2	Brooklyn	1
CT 373 BG 3	Brooklyn	1
CT 373 BG 4	Brooklyn	1
CT 374.01 BG 2	Brooklyn	2
CT 374.02 BG 1	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 374.02 BG 2	Brooklyn	2
CT 374.02 BG 3	Brooklyn	2
CT 374.02 BG 4	Brooklyn	2
CT 375 BG 1	Brooklyn	3
CT 375 BG 2	Brooklyn	1
CT 375 BG 3	Brooklyn	3
CT 377 BG 1	Brooklyn	1
CT 377 BG 2	Brooklyn	1
CT 377 BG 3	Brooklyn	3
CT 377 BG 4	Brooklyn	3
CT 379 BG 1	Brooklyn	3
CT 379 BG 2	Brooklyn	1
CT 379 BG 3	Brooklyn	3
CT 381 BG 1	Brooklyn	3
CT 381 BG 2	Brooklyn	1
CT 381 BG 3	Brooklyn	3
CT 381 BG 4	Brooklyn	1
CT 382 BG 1	Brooklyn	1
CT 382 BG 2	Brooklyn	1
CT 382 BG 3	Brooklyn	1
CT 383 BG 1	Brooklyn	3
CT 383 BG 2	Brooklyn	1
CT 383 BG 3	Brooklyn	3
CT 383 BG 4	Brooklyn	3
CT 385 BG 1	Brooklyn	3
CT 385 BG 2	Brooklyn	3
CT 385 BG 3	Brooklyn	1
CT 385 BG 4	Brooklyn	3
CT 386 BG 1	Brooklyn	3
CT 386 BG 2	Brooklyn	3
CT 387 BG 1	Brooklyn	3
CT 387 BG 2	Brooklyn	1
CT 387 BG 3	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 387 BG 4	Brooklyn	3
CT 388 BG 3	Brooklyn	2
CT 389 BG 1	Brooklyn	3
CT 389 BG 2	Brooklyn	3
CT 389 BG 3	Brooklyn	1
CT 39 BG 1	Brooklyn	3
CT 390 BG 1	Brooklyn	2
CT 391 BG 1	Brooklyn	1
CT 391 BG 2	Brooklyn	1
CT 393 BG 1	Brooklyn	3
CT 393 BG 2	Brooklyn	3
CT 393 BG 3	Brooklyn	1
CT 394 BG 1	Brooklyn	2
CT 394 BG 2	Brooklyn	2
CT 395 BG 1	Brooklyn	3
CT 395 BG 2	Brooklyn	1
CT 395 BG 3	Brooklyn	1
CT 396 BG 2	Brooklyn	2
CT 397 BG 1	Brooklyn	1
CT 397 BG 2	Brooklyn	1
CT 397 BG 3	Brooklyn	1
CT 398 BG 1	Brooklyn	3
CT 398 BG 2	Brooklyn	1
CT 399 BG 1	Brooklyn	1
CT 399 BG 2	Brooklyn	3
CT 399 BG 3	Brooklyn	1
CT 400 BG 2	Brooklyn	3
CT 400 BG 3	Brooklyn	1
CT 401 BG 1	Brooklyn	1
CT 401 BG 2	Brooklyn	1
CT 401 BG 3	Brooklyn	1
CT 402 BG 1	Brooklyn	3
CT 402 BG 2	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 403 BG 1	Brooklyn	1
CT 403 BG 2	Brooklyn	3
CT 403 BG 3	Brooklyn	1
CT 404 BG 1	Brooklyn	3
CT 404 BG 2	Brooklyn	1
CT 405 BG 1	Brooklyn	1
CT 405 BG 2	Brooklyn	1
CT 406 BG 1	Brooklyn	1
CT 406 BG 2	Brooklyn	1
CT 406 BG 3	Brooklyn	3
CT 408 BG 1	Brooklyn	3
CT 408 BG 2	Brooklyn	3
CT 408 BG 3	Brooklyn	3
CT 409 BG 1	Brooklyn	1
CT 409 BG 2	Brooklyn	3
CT 409 BG 3	Brooklyn	1
CT 410 BG 1	Brooklyn	2
CT 410 BG 2	Brooklyn	2
CT 411 BG 1	Brooklyn	1
CT 411 BG 2	Brooklyn	1
CT 411 BG 3	Brooklyn	3
CT 412 BG 1	Brooklyn	2
CT 413 BG 1	Brooklyn	1
CT 413 BG 2	Brooklyn	3
CT 413 BG 3	Brooklyn	1
CT 414.01 BG 1	Brooklyn	2
CT 414.02 BG 2	Brooklyn	2
CT 415 BG 1	Brooklyn	3
CT 415 BG 2	Brooklyn	3
CT 415 BG 3	Brooklyn	1
CT 416 BG 1	Brooklyn	2
CT 416 BG 2	Brooklyn	2
CT 417 BG 1	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 417 BG 2	Brooklyn	1
CT 417 BG 3	Brooklyn	1
CT 417 BG 4	Brooklyn	1
CT 418 BG 1	Brooklyn	2
CT 418 BG 2	Brooklyn	2
CT 419 BG 1	Brooklyn	1
CT 419 BG 2	Brooklyn	1
CT 419 BG 3	Brooklyn	1
CT 420 BG 1	Brooklyn	2
CT 421 BG 1	Brooklyn	1
CT 421 BG 2	Brooklyn	1
CT 421 BG 3	Brooklyn	1
CT 421 BG 4	Brooklyn	3
CT 422 BG 1	Brooklyn	2
CT 423 BG 1	Brooklyn	1
CT 423 BG 3	Brooklyn	3
CT 424 BG 1	Brooklyn	3
CT 424 BG 3	Brooklyn	1
CT 425 BG 1	Brooklyn	3
CT 425 BG 2	Brooklyn	3
CT 425 BG 3	Brooklyn	3
CT 426 BG 1	Brooklyn	1
CT 426 BG 2	Brooklyn	1
CT 426 BG 3	Brooklyn	3
CT 427 BG 1	Brooklyn	1
CT 427 BG 2	Brooklyn	1
CT 427 BG 3	Brooklyn	1
CT 427 BG 4	Brooklyn	1
CT 428 BG 1	Brooklyn	1
CT 429 BG 1	Brooklyn	1
CT 429 BG 2	Brooklyn	1
CT 429 BG 3	Brooklyn	3
CT 429 BG 4	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 43 BG 1	Brooklyn	3
CT 430 BG 2	Brooklyn	1
CT 430 BG 3	Brooklyn	1
CT 431 BG 1	Brooklyn	1
CT 431 BG 2	Brooklyn	3
CT 431 BG 3	Brooklyn	1
CT 431 BG 4	Brooklyn	1
CT 432 BG 1	Brooklyn	3
CT 432 BG 2	Brooklyn	1
CT 432 BG 3	Brooklyn	3
CT 433 BG 1	Brooklyn	1
CT 433 BG 2	Brooklyn	3
CT 433 BG 3	Brooklyn	1
CT 434 BG 1	Brooklyn	2
CT 434 BG 3	Brooklyn	1
CT 435 BG 1	Brooklyn	1
CT 435 BG 2	Brooklyn	3
CT 435 BG 3	Brooklyn	1
CT 436 BG 2	Brooklyn	1
CT 437 BG 1	Brooklyn	1
CT 437 BG 2	Brooklyn	3
CT 437 BG 3	Brooklyn	1
CT 437 BG 4	Brooklyn	1
CT 438 BG 1	Brooklyn	2
CT 438 BG 2	Brooklyn	2
CT 439 BG 1	Brooklyn	1
CT 439 BG 2	Brooklyn	1
CT 439 BG 3	Brooklyn	1
CT 440 BG 3	Brooklyn	2
CT 441 BG 1	Brooklyn	1
CT 441 BG 2	Brooklyn	1
CT 441 BG 3	Brooklyn	3
CT 442 BG 2	Brooklyn	2

Census Tract & Block Group ID	Place Name	Category
CT 443 BG 1	Brooklyn	1
CT 443 BG 2	Brooklyn	3
CT 443 BG 3	Brooklyn	3
CT 443 BG 4	Brooklyn	1
CT 444 BG 3	Brooklyn	2
CT 445 BG 1	Brooklyn	3
CT 445 BG 2	Brooklyn	1
CT 445 BG 3	Brooklyn	1
CT 446 BG 1	Brooklyn	3
CT 446 BG 2	Brooklyn	3
CT 447 BG 1	Brooklyn	1
CT 447 BG 2	Brooklyn	1
CT 448 BG 2	Brooklyn	2
CT 449 BG 1	Brooklyn	1
CT 449 BG 2	Brooklyn	1
CT 449 BG 4	Brooklyn	2
CT 450 BG 1	Brooklyn	2
CT 453 BG 1	Brooklyn	1
CT 453 BG 2	Brooklyn	2
CT 454 BG 1	Brooklyn	2
CT 456 BG 1	Brooklyn	2
CT 460 BG 2	Brooklyn	1
CT 460 BG 3	Brooklyn	1
CT 462.01 BG 1	Brooklyn	2
CT 462.01 BG 2	Brooklyn	2
CT 462.02 BG 1	Brooklyn	2
CT 462.02 BG 2	Brooklyn	2
CT 464 BG 1	Brooklyn	2
CT 464 BG 2	Brooklyn	2
CT 468 BG 1	Brooklyn	2
CT 470 BG 1	Brooklyn	2
CT 470 BG 2	Brooklyn	2
CT 472 BG 1	Brooklyn	2

Census Tract & Block Group ID	Place Name	Category
CT 472 BG 2	Brooklyn	2
CT 474 BG 1	Brooklyn	2
CT 476 BG 1	Brooklyn	2
CT 476 BG 2	Brooklyn	2
CT 476 BG 3	Brooklyn	2
CT 478 BG 1	Brooklyn	2
CT 478 BG 3	Brooklyn	2
CT 480 BG 1	Brooklyn	2
CT 480 BG 2	Brooklyn	2
CT 482 BG 1	Brooklyn	1
CT 482 BG 2	Brooklyn	1
CT 482 BG 3	Brooklyn	1
CT 482 BG 4	Brooklyn	2
CT 484 BG 1	Brooklyn	2
CT 484 BG 2	Brooklyn	2
CT 484 BG 3	Brooklyn	2
CT 485 BG 1	Brooklyn	1
CT 486 BG 1	Brooklyn	1
CT 486 BG 2	Brooklyn	1
CT 486 BG 3	Brooklyn	1
CT 488 BG 2	Brooklyn	1
CT 489 BG 1	Brooklyn	1
CT 489 BG 2	Brooklyn	1
CT 489 BG 3	Brooklyn	1
CT 49 BG 1	Brooklyn	3
CT 490 BG 1	Brooklyn	3
CT 490 BG 3	Brooklyn	2
CT 491 BG 1	Brooklyn	3
CT 491 BG 2	Brooklyn	3
CT 491 BG 3	Brooklyn	1
CT 491 BG 4	Brooklyn	1
CT 492 BG 1	Brooklyn	1
CT 492 BG 2	Brooklyn	3

Census Tract & Block Group ID	Place Name	Category
CT 492 BG 3	Brooklyn	2
CT 493 BG 1	Brooklyn	1
CT 493 BG 4	Brooklyn	1
CT 493 BG 5	Brooklyn	1
CT 494 BG 1	Brooklyn	3
CT 494 BG 2	Brooklyn	1
CT 494 BG 3	Brooklyn	2
CT 495 BG 3	Brooklyn	3
CT 496 BG 1	Brooklyn	1
CT 496 BG 2	Brooklyn	3
CT 496 BG 3	Brooklyn	3
CT 498 BG 1	Brooklyn	3
CT 498 BG 2	Brooklyn	3
CT 498 BG 3	Brooklyn	3
CT 500 BG 3	Brooklyn	3
CT 503 BG 2	Brooklyn	1
CT 504 BG 3	Brooklyn	1
CT 505 BG 1	Brooklyn	1
CT 505 BG 3	Brooklyn	1
CT 506 BG 1	Brooklyn	1
CT 506 BG 2	Brooklyn	3
CT 506 BG 3	Brooklyn	1
CT 506 BG 4	Brooklyn	3
CT 507 BG 1	Brooklyn	2
CT 508.01 BG 1	Brooklyn	3
CT 508.01 BG 2	Brooklyn	1
CT 508.03 BG 1	Brooklyn	1
CT 508.04 BG 1	Brooklyn	3
CT 508.04 BG 2	Brooklyn	3
CT 508.04 BG 3	Brooklyn	1
CT 509 BG 1	Brooklyn	2
CT 509 BG 2	Brooklyn	2
CT 510.01 BG 1	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 510.01 BG 2	Brooklyn	1
CT 510.02 BG 1	Brooklyn	3
CT 510.02 BG 2	Brooklyn	1
CT 510.02 BG 3	Brooklyn	1
CT 511 BG 1	Brooklyn	1
CT 511 BG 3	Brooklyn	1
CT 512 BG 1	Brooklyn	3
CT 512 BG 2	Brooklyn	3
CT 512 BG 3	Brooklyn	1
CT 512 BG 4	Brooklyn	3
CT 513 BG 2	Brooklyn	1
CT 513 BG 3	Brooklyn	3
CT 513 BG 4	Brooklyn	1
CT 514 BG 1	Brooklyn	3
CT 514 BG 2	Brooklyn	1
CT 514 BG 3	Brooklyn	3
CT 514 BG 4	Brooklyn	1
CT 516.01 BG 1	Brooklyn	3
CT 516.01 BG 2	Brooklyn	3
CT 516.01 BG 3	Brooklyn	1
CT 516.02 BG 1	Brooklyn	3
CT 516.02 BG 2	Brooklyn	3
CT 518 BG 1	Brooklyn	3
CT 518 BG 2	Brooklyn	3
CT 518 BG 3	Brooklyn	1
CT 520 BG 1	Brooklyn	3
CT 520 BG 2	Brooklyn	1
CT 520 BG 3	Brooklyn	1
CT 523 BG 1	Brooklyn	1
CT 523 BG 2	Brooklyn	1
CT 523 BG 3	Brooklyn	2
CT 523 BG 4	Brooklyn	1
CT 523 BG 5	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 525 BG 1	Brooklyn	2
CT 525 BG 2	Brooklyn	2
CT 526 BG 1	Brooklyn	3
CT 526 BG 3	Brooklyn	1
CT 527 BG 1	Brooklyn	3
CT 527 BG 3	Brooklyn	1
CT 527 BG 4	Brooklyn	1
CT 527 BG 5	Brooklyn	3
CT 527 BG 6	Brooklyn	3
CT 527 BG 7	Brooklyn	1
CT 528 BG 2	Brooklyn	3
CT 529 BG 2	Brooklyn	2
CT 529 BG 3	Brooklyn	2
CT 53 BG 2	Brooklyn	3
CT 530 BG 1	Brooklyn	1
CT 530 BG 2	Brooklyn	2
CT 530 BG 3	Brooklyn	2
CT 531 BG 1	Brooklyn	2
CT 531 BG 2	Brooklyn	2
CT 531 BG 3	Brooklyn	2
CT 531 BG 4	Brooklyn	2
CT 532 BG 1	Brooklyn	3
CT 533 BG 1	Brooklyn	2
CT 533 BG 2	Brooklyn	2
CT 533 BG 3	Brooklyn	2
CT 533 BG 4	Brooklyn	2
CT 533 BG 5	Brooklyn	2
CT 534 BG 1	Brooklyn	2
CT 534 BG 2	Brooklyn	2
CT 534 BG 3	Brooklyn	2
CT 534 BG 4	Brooklyn	1
CT 535 BG 1	Brooklyn	2
CT 535 BG 2	Brooklyn	2

Census Tract & Block Group ID	Place Name	Category
CT 535 BG 3	Brooklyn	2
CT 535 BG 4	Brooklyn	2
CT 537 BG 1	Brooklyn	2
CT 537 BG 2	Brooklyn	2
CT 538 BG 1	Brooklyn	2
CT 538 BG 3	Brooklyn	2
CT 539 BG 1	Brooklyn	2
CT 539 BG 2	Brooklyn	2
CT 542 BG 1	Brooklyn	2
CT 542 BG 2	Brooklyn	2
CT 542 BG 3	Brooklyn	2
CT 543 BG 2	Brooklyn	3
CT 544 BG 1	Brooklyn	2
CT 544 BG 2	Brooklyn	3
CT 544 BG 3	Brooklyn	2
CT 545 BG 1	Brooklyn	2
CT 545 BG 2	Brooklyn	2
CT 545 BG 3	Brooklyn	2
CT 545 BG 5	Brooklyn	1
CT 545 BG 6	Brooklyn	2
CT 546 BG 2	Brooklyn	2
CT 546 BG 3	Brooklyn	2
CT 547 BG 1	Brooklyn	2
CT 547 BG 2	Brooklyn	2
CT 547 BG 3	Brooklyn	2
CT 551 BG 1	Brooklyn	3
CT 551 BG 2	Brooklyn	1
CT 551 BG 4	Brooklyn	3
CT 552 BG 2	Brooklyn	2
CT 553 BG 2	Brooklyn	3
CT 554 BG 1	Brooklyn	2
CT 554 BG 2	Brooklyn	2
CT 554 BG 3	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 556 BG 1	Brooklyn	2
CT 556 BG 2	Brooklyn	2
CT 556 BG 3	Brooklyn	3
CT 560 BG 2	Brooklyn	2
CT 562 BG 2	Brooklyn	2
CT 563 BG 2	Brooklyn	2
CT 566 BG 1	Brooklyn	3
CT 566 BG 2	Brooklyn	3
CT 570 BG 4	Brooklyn	3
CT 572 BG 1	Brooklyn	1
CT 572 BG 2	Brooklyn	1
CT 574 BG 1	Brooklyn	3
CT 574 BG 2	Brooklyn	3
CT 576 BG 1	Brooklyn	3
CT 576 BG 2	Brooklyn	3
CT 578 BG 1	Brooklyn	1
CT 578 BG 2	Brooklyn	3
CT 579 BG 1	Brooklyn	3
CT 579 BG 2	Brooklyn	1
CT 58 BG 3	Brooklyn	1
CT 580 BG 1	Brooklyn	1
CT 580 BG 2	Brooklyn	3
CT 582 BG 1	Brooklyn	3
CT 582 BG 2	Brooklyn	1
CT 582 BG 3	Brooklyn	2
CT 586 BG 1	Brooklyn	1
CT 586 BG 2	Brooklyn	3
CT 590 BG 1	Brooklyn	1
CT 592 BG 2	Brooklyn	3
CT 594.01 BG 1	Brooklyn	3
CT 594.01 BG 2	Brooklyn	2
CT 594.01 BG 4	Brooklyn	3
CT 594.01 BG 5	Brooklyn	2

Census Tract & Block Group ID	Place Name	Category
CT 598 BG 1	Brooklyn	2
CT 60 BG 1	Brooklyn	3
CT 60 BG 2	Brooklyn	3
CT 606 BG 2	Brooklyn	3
CT 608 BG 1	Brooklyn	2
CT 608 BG 2	Brooklyn	2
CT 610.03 BG 1	Brooklyn	3
CT 610.03 BG 2	Brooklyn	1
CT 610.04 BG 1	Brooklyn	2
CT 610.04 BG 2	Brooklyn	2
CT 610.04 BG 4	Brooklyn	2
CT 610.04 BG 5	Brooklyn	2
CT 62 BG 2	Brooklyn	2
CT 626 BG 1	Brooklyn	3
CT 626 BG 2	Brooklyn	1
CT 650 BG 1	Brooklyn	3
CT 650 BG 2	Brooklyn	1
CT 66 BG 2	Brooklyn	2
CT 670 BG 1	Brooklyn	3
CT 670 BG 2	Brooklyn	3
CT 672 BG 1	Brooklyn	3
CT 674 BG 1	Brooklyn	1
CT 674 BG 2	Brooklyn	3
CT 676 BG 1	Brooklyn	3
CT 676 BG 2	Brooklyn	3
CT 678 BG 1	Brooklyn	3
CT 678 BG 2	Brooklyn	3
CT 68 BG 1	Brooklyn	1
CT 68 BG 2	Brooklyn	2
CT 68 BG 4	Brooklyn	1
CT 680 BG 1	Brooklyn	3
CT 680 BG 2	Brooklyn	3
CT 682 BG 1	Brooklyn	3

Census Tract & Block Group ID	Place Name	Category
CT 682 BG 2	Brooklyn	3
CT 686 BG 1	Brooklyn	3
CT 688 BG 1	Brooklyn	3
CT 688 BG 2	Brooklyn	3
CT 690 BG 1	Brooklyn	3
CT 690 BG 2	Brooklyn	3
CT 692 BG 1	Brooklyn	3
CT 692 BG 2	Brooklyn	3
CT 696.01 BG 2	Brooklyn	3
CT 696.02 BG 2	Brooklyn	3
CT 70 BG 1	Brooklyn	3
CT 71 BG 2	Brooklyn	3
CT 71 BG 3	Brooklyn	1
CT 71 BG 4	Brooklyn	1
CT 72 BG 1	Brooklyn	1
CT 720 BG 1	Brooklyn	3
CT 722 BG 1	Brooklyn	3
CT 722 BG 2	Brooklyn	3
CT 724 BG 1	Brooklyn	3
CT 724 BG 2	Brooklyn	3
CT 726 BG 1	Brooklyn	3
CT 728 BG 1	Brooklyn	3
CT 728 BG 2	Brooklyn	3
CT 730 BG 1	Brooklyn	3
CT 730 BG 2	Brooklyn	3
CT 732 BG 1	Brooklyn	3
CT 732 BG 2	Brooklyn	3
CT 734 BG 1	Brooklyn	3
CT 734 BG 2	Brooklyn	3
CT 736 BG 1	Brooklyn	1
CT 736 BG 2	Brooklyn	3
CT 736 BG 3	Brooklyn	1
CT 738 BG 1	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 738 BG 2	Brooklyn	3
CT 738 BG 3	Brooklyn	1
CT 74 BG 1	Brooklyn	1
CT 74 BG 2	Brooklyn	1
CT 74 BG 3	Brooklyn	1
CT 74 BG 4	Brooklyn	1
CT 740 BG 1	Brooklyn	3
CT 740 BG 2	Brooklyn	3
CT 742 BG 1	Brooklyn	3
CT 742 BG 2	Brooklyn	3
CT 76 BG 1	Brooklyn	1
CT 76 BG 2	Brooklyn	1
CT 76 BG 3	Brooklyn	1
CT 762 BG 1	Brooklyn	1
CT 762 BG 2	Brooklyn	1
CT 762 BG 3	Brooklyn	2
CT 764 BG 1	Brooklyn	3
CT 764 BG 2	Brooklyn	1
CT 764 BG 3	Brooklyn	3
CT 766 BG 1	Brooklyn	3
CT 768 BG 1	Brooklyn	2
CT 768 BG 2	Brooklyn	2
CT 770 BG 1	Brooklyn	3
CT 770 BG 2	Brooklyn	1
CT 772 BG 1	Brooklyn	3
CT 774 BG 1	Brooklyn	1
CT 774 BG 2	Brooklyn	3
CT 776 BG 1	Brooklyn	3
CT 776 BG 2	Brooklyn	3
CT 776 BG 3	Brooklyn	3
CT 78 BG 1	Brooklyn	1
CT 78 BG 2	Brooklyn	1
CT 78 BG 3	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 78 BG 4	Brooklyn	1
CT 780 BG 1	Brooklyn	3
CT 780 BG 2	Brooklyn	3
CT 782 BG 1	Brooklyn	3
CT 782 BG 2	Brooklyn	1
CT 784 BG 1	Brooklyn	3
CT 784 BG 2	Brooklyn	3
CT 786 BG 1	Brooklyn	1
CT 786 BG 2	Brooklyn	1
CT 786 BG 3	Brooklyn	3
CT 788 BG 1	Brooklyn	1
CT 788 BG 2	Brooklyn	1
CT 788 BG 3	Brooklyn	3
CT 790 BG 1	Brooklyn	3
CT 790 BG 2	Brooklyn	1
CT 790 BG 3	Brooklyn	3
CT 790 BG 4	Brooklyn	3
CT 792 BG 1	Brooklyn	1
CT 792 BG 2	Brooklyn	3
CT 792 BG 3	Brooklyn	1
CT 794 BG 1	Brooklyn	1
CT 794 BG 2	Brooklyn	1
CT 796.01 BG 1	Brooklyn	3
CT 796.01 BG 2	Brooklyn	3
CT 796.02 BG 1	Brooklyn	1
CT 796.02 BG 2	Brooklyn	3
CT 798.01 BG 1	Brooklyn	3
CT 798.01 BG 2	Brooklyn	3
CT 798.02 BG 1	Brooklyn	1
CT 798.02 BG 2	Brooklyn	3
CT 798.02 BG 3	Brooklyn	3
CT 80 BG 1	Brooklyn	3
CT 80 BG 2	Brooklyn	3

Census Tract & Block Group ID	Place Name	Category
CT 80 BG 3	Brooklyn	1
CT 800 BG 1	Brooklyn	3
CT 800 BG 2	Brooklyn	3
CT 800 BG 3	Brooklyn	3
CT 802 BG 1	Brooklyn	1
CT 802 BG 2	Brooklyn	3
CT 802 BG 3	Brooklyn	3
CT 804 BG 1	Brooklyn	1
CT 804 BG 2	Brooklyn	3
CT 804 BG 3	Brooklyn	3
CT 806 BG 1	Brooklyn	1
CT 806 BG 2	Brooklyn	3
CT 808 BG 1	Brooklyn	1
CT 810 BG 1	Brooklyn	3
CT 810 BG 2	Brooklyn	1
CT 814 BG 1	Brooklyn	1
CT 814 BG 2	Brooklyn	3
CT 816 BG 1	Brooklyn	3
CT 816 BG 2	Brooklyn	1
CT 818 BG 1	Brooklyn	3
CT 818 BG 2	Brooklyn	3
CT 818 BG 3	Brooklyn	3
CT 82 BG 1	Brooklyn	3
CT 82 BG 2	Brooklyn	1
CT 82 BG 3	Brooklyn	1
CT 820 BG 1	Brooklyn	1
CT 820 BG 2	Brooklyn	1
CT 820 BG 3	Brooklyn	1
CT 822 BG 1	Brooklyn	3
CT 822 BG 2	Brooklyn	1
CT 822 BG 3	Brooklyn	1
CT 822 BG 4	Brooklyn	1
CT 824 BG 1	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 824 BG 2	Brooklyn	3
CT 824 BG 3	Brooklyn	3
CT 824 BG 4	Brooklyn	3
CT 826 BG 1	Brooklyn	3
CT 826 BG 2	Brooklyn	3
CT 826 BG 3	Brooklyn	3
CT 826 BG 4	Brooklyn	3
CT 828 BG 1	Brooklyn	1
CT 828 BG 2	Brooklyn	3
CT 828 BG 3	Brooklyn	3
CT 830 BG 1	Brooklyn	3
CT 830 BG 2	Brooklyn	3
CT 830 BG 3	Brooklyn	3
CT 830 BG 4	Brooklyn	1
CT 832 BG 1	Brooklyn	3
CT 832 BG 2	Brooklyn	3
CT 834 BG 1	Brooklyn	3
CT 834 BG 2	Brooklyn	3
CT 836 BG 1	Brooklyn	3
CT 836 BG 2	Brooklyn	3
CT 838 BG 1	Brooklyn	3
CT 838 BG 2	Brooklyn	3
CT 84 BG 1	Brooklyn	1
CT 84 BG 2	Brooklyn	1
CT 84 BG 3	Brooklyn	1
CT 840 BG 1	Brooklyn	3
CT 840 BG 2	Brooklyn	3
CT 846 BG 1	Brooklyn	3
CT 846 BG 2	Brooklyn	3
CT 848 BG 1	Brooklyn	3
CT 848 BG 2	Brooklyn	3
CT 85 BG 1	Brooklyn	1
CT 85 BG 2	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 85 BG 3	Brooklyn	1
CT 850 BG 1	Brooklyn	3
CT 854 BG 1	Brooklyn	1
CT 854 BG 2	Brooklyn	3
CT 856 BG 1	Brooklyn	3
CT 856 BG 2	Brooklyn	3
CT 856 BG 3	Brooklyn	3
CT 858 BG 1	Brooklyn	3
CT 858 BG 2	Brooklyn	3
CT 860 BG 1	Brooklyn	1
CT 860 BG 2	Brooklyn	3
CT 860 BG 3	Brooklyn	3
CT 862 BG 1	Brooklyn	3
CT 862 BG 2	Brooklyn	1
CT 862 BG 3	Brooklyn	1
CT 864 BG 1	Brooklyn	3
CT 864 BG 2	Brooklyn	3
CT 866 BG 1	Brooklyn	3
CT 866 BG 2	Brooklyn	1
CT 866 BG 3	Brooklyn	3
CT 868 BG 1	Brooklyn	3
CT 868 BG 2	Brooklyn	1
CT 868 BG 3	Brooklyn	1
CT 870 BG 1	Brooklyn	1
CT 870 BG 2	Brooklyn	1
CT 870 BG 3	Brooklyn	3
CT 872 BG 1	Brooklyn	1
CT 872 BG 2	Brooklyn	3
CT 872 BG 3	Brooklyn	1
CT 874.01 BG 1	Brooklyn	1
CT 874.01 BG 2	Brooklyn	1
CT 876 BG 1	Brooklyn	1
CT 876 BG 2	Brooklyn	3

Census Tract & Block Group ID	Place Name	Category
CT 878 BG 1	Brooklyn	1
CT 878 BG 2	Brooklyn	3
CT 878 BG 3	Brooklyn	3
CT 88 BG 1	Brooklyn	3
CT 88 BG 2	Brooklyn	3
CT 880 BG 1	Brooklyn	3
CT 880 BG 2	Brooklyn	3
CT 880 BG 3	Brooklyn	3
CT 882 BG 1	Brooklyn	3
CT 882 BG 2	Brooklyn	3
CT 882 BG 3	Brooklyn	3
CT 882 BG 4	Brooklyn	3
CT 884 BG 1	Brooklyn	1
CT 884 BG 2	Brooklyn	3
CT 884 BG 3	Brooklyn	1
CT 886 BG 1	Brooklyn	1
CT 886 BG 2	Brooklyn	1
CT 886 BG 3	Brooklyn	1
CT 888 BG 1	Brooklyn	1
CT 888 BG 2	Brooklyn	3
CT 888 BG 3	Brooklyn	1
CT 890 BG 1	Brooklyn	1
CT 890 BG 2	Brooklyn	1
CT 890 BG 3	Brooklyn	1
CT 890 BG 4	Brooklyn	1
CT 890 BG 5	Brooklyn	3
CT 890 BG 6	Brooklyn	1
CT 892 BG 1	Brooklyn	3
CT 892 BG 2	Brooklyn	1
CT 892 BG 3	Brooklyn	1
CT 892 BG 4	Brooklyn	1
CT 894 BG 1	Brooklyn	3
CT 894 BG 2	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 894 BG 3	Brooklyn	1
CT 894 BG 4	Brooklyn	1
CT 896 BG 1	Brooklyn	3
CT 896 BG 2	Brooklyn	3
CT 896 BG 3	Brooklyn	1
CT 898 BG 1	Brooklyn	3
CT 898 BG 2	Brooklyn	1
CT 90 BG 1	Brooklyn	1
CT 90 BG 2	Brooklyn	1
CT 900 BG 1	Brooklyn	3
CT 900 BG 2	Brooklyn	1
CT 900 BG 3	Brooklyn	1
CT 900 BG 4	Brooklyn	1
CT 900 BG 5	Brooklyn	1
CT 900 BG 6	Brooklyn	1
CT 900 BG 7	Brooklyn	1
CT 902 BG 1	Brooklyn	1
CT 902 BG 2	Brooklyn	1
CT 902 BG 3	Brooklyn	1
CT 902 BG 4	Brooklyn	3
CT 902 BG 5	Brooklyn	1
CT 906 BG 1	Brooklyn	1
CT 906 BG 2	Brooklyn	1
CT 906 BG 3	Brooklyn	1
CT 908 BG 1	Brooklyn	1
CT 908 BG 2	Brooklyn	1
CT 908 BG 3	Brooklyn	1
CT 910 BG 1	Brooklyn	1
CT 910 BG 2	Brooklyn	1
CT 910 BG 3	Brooklyn	1
CT 910 BG 4	Brooklyn	1
CT 912 BG 1	Brooklyn	1
CT 912 BG 2	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 912 BG 3	Brooklyn	1
CT 916 BG 1	Brooklyn	1
CT 916 BG 2	Brooklyn	1
CT 916 BG 3	Brooklyn	3
CT 916 BG 4	Brooklyn	1
CT 918 BG 1	Brooklyn	1
CT 918 BG 2	Brooklyn	3
CT 92 BG 1	Brooklyn	1
CT 92 BG 2	Brooklyn	1
CT 92 BG 3	Brooklyn	1
CT 920 BG 1	Brooklyn	1
CT 920 BG 2	Brooklyn	1
CT 920 BG 3	Brooklyn	3
CT 922 BG 1	Brooklyn	3
CT 922 BG 2	Brooklyn	1
CT 924 BG 1	Brooklyn	1
CT 924 BG 2	Brooklyn	1
CT 924 BG 3	Brooklyn	1
CT 928 BG 1	Brooklyn	3
CT 928 BG 2	Brooklyn	3
CT 930 BG 1	Brooklyn	3
CT 930 BG 2	Brooklyn	3
CT 932 BG 1	Brooklyn	3
CT 934 BG 1	Brooklyn	3
CT 934 BG 2	Brooklyn	3
CT 936 BG 1	Brooklyn	3
CT 936 BG 2	Brooklyn	3
CT 938 BG 1	Brooklyn	3
CT 938 BG 2	Brooklyn	3
CT 94 BG 1	Brooklyn	1
CT 94 BG 2	Brooklyn	1
CT 94 BG 3	Brooklyn	1
CT 944.01 BG 1	Brooklyn	3

Census Tract & Block Group ID	Place Name	Category
CT 944.01 BG 2	Brooklyn	3
CT 944.01 BG 3	Brooklyn	3
CT 944.01 BG 4	Brooklyn	3
CT 944.02 BG 1	Brooklyn	1
CT 946 BG 1	Brooklyn	3
CT 946 BG 2	Brooklyn	3
CT 946 BG 3	Brooklyn	3
CT 950 BG 1	Brooklyn	3
CT 950 BG 2	Brooklyn	3
CT 954 BG 1	Brooklyn	3
CT 954 BG 2	Brooklyn	3
CT 954 BG 3	Brooklyn	3
CT 956 BG 1	Brooklyn	3
CT 956 BG 2	Brooklyn	3
CT 958 BG 1	Brooklyn	3
CT 958 BG 2	Brooklyn	3
CT 96 BG 1	Brooklyn	1
CT 96 BG 2	Brooklyn	1
CT 96 BG 3	Brooklyn	1
CT 96 BG 4	Brooklyn	1
CT 962 BG 1	Brooklyn	3
CT 964 BG 1	Brooklyn	3
CT 964 BG 2	Brooklyn	3
CT 966 BG 1	Brooklyn	3
CT 966 BG 2	Brooklyn	3
CT 968 BG 1	Brooklyn	3
CT 968 BG 2	Brooklyn	3
CT 970 BG 1	Brooklyn	3
CT 970 BG 2	Brooklyn	3
CT 974 BG 1	Brooklyn	1
CT 974 BG 2	Brooklyn	3
CT 98 BG 1	Brooklyn	1
CT 98 BG 2	Brooklyn	1

Census Tract & Block Group ID	Place Name	Category
CT 98 BG 3	Brooklyn	1
CT 98 BG 4	Brooklyn	1
CT 982 BG 1	Brooklyn	1
CT 982 BG 2	Brooklyn	1
CT 984 BG 1	Brooklyn	3
CT 986 BG 1	Brooklyn	3
CT 986 BG 2	Brooklyn	3
CT 988 BG 1	Brooklyn	3
CT 988 BG 2	Brooklyn	3
CT 990 BG 1	Brooklyn	3
CT 992 BG 1	Brooklyn	3
CT 994 BG 1	Brooklyn	3
CT 996 BG 1	Brooklyn	3
CT 996 BG 2	Brooklyn	3
CT 998 BG 1	Brooklyn	3
CT 998 BG 2	Brooklyn	3

Table G-EJ17. Census Tracts (CT) and Block Groups (BG) in Richmond County, New York (County ID 36-085) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.

Census Tract & Block Group ID	Place Name	Category
CT 105 BG 1	Staten Island	1
CT 105 BG 4	Staten Island	1
CT 105 BG 5	Staten Island	3
CT 11 BG 1	Staten Island	1
CT 11 BG 2	Staten Island	1
CT 11 BG 3	Staten Island	1
CT 112.01 BG 2	Staten Island	2
CT 112.02 BG 2	Staten Island	1
CT 112.02 BG 3	Staten Island	3
CT 112.02 BG 4	Staten Island	1
CT 114.01 BG 2	Staten Island	1
CT 121 BG 2	Staten Island	1
CT 125 BG 1	Staten Island	1
CT 125 BG 2	Staten Island	1
CT 128.04 BG 2	Staten Island	2
CT 128.05 BG 1	Staten Island	2
CT 128.06 BG 2	Staten Island	2
CT 128.06 BG 3	Staten Island	1
CT 132.03 BG 2	Staten Island	1
CT 132.04 BG 3	Staten Island	2
CT 133.01 BG 1	Staten Island	1
CT 133.02 BG 1	Staten Island	1
CT 133.02 BG 2	Staten Island	1
CT 133.02 BG 3	Staten Island	1
CT 134 BG 1	Staten Island	1
CT 138 BG 3	Staten Island	2
CT 138 BG 4	Staten Island	2
CT 141 BG 1	Staten Island	3
CT 141 BG 2	Staten Island	3
CT 146.04 BG 2	Staten Island	2
CT 151 BG 1	Staten Island	1
CT 151 BG 2	Staten Island	2
CT 151 BG 3	Staten Island	3
CT 156.02 BG 1	Staten Island	2

Census Tract & Block Group ID	Place Name	Category
CT 156.03 BG 1	Staten Island	2
CT 156.03 BG 2	Staten Island	2
CT 169.01 BG 2	Staten Island	2
CT 17 BG 1	Staten Island	1
CT 17 BG 2	Staten Island	1
CT 170.07 BG 2	Staten Island	3
CT 170.09 BG 1	Staten Island	2
CT 170.1 BG 2	Staten Island	2
CT 170.1 BG 3	Staten Island	2
CT 170.12 BG 3	Staten Island	2
CT 173 BG 1	Staten Island	3
CT 173 BG 2	Staten Island	1
CT 176 BG 3	Staten Island	2
CT 181 BG 1	Staten Island	2
CT 187.01 BG 1	Staten Island	3
CT 187.02 BG 1	Staten Island	3
CT 187.02 BG 3	Staten Island	3
CT 187.02 BG 4	Staten Island	1
CT 189.01 BG 2	Staten Island	2
CT 189.02 BG 1	Staten Island	1
CT 189.02 BG 3	Staten Island	1
CT 198 BG 4	Staten Island	2
CT 20.01 BG 1	Staten Island	1
CT 20.02 BG 2	Staten Island	2
CT 201 BG 1	Staten Island	3
CT 201 BG 2	Staten Island	3
CT 207 BG 1	Staten Island	1
CT 207 BG 2	Staten Island	1
CT 207 BG 3	Staten Island	3
CT 207 BG 4	Staten Island	1
CT 208.01 BG 1	Staten Island	2
CT 208.01 BG 3	Staten Island	2

Census Tract & Block Group ID	Place Name	Category
CT 208.03 BG 1	Staten Island	2
CT 21 BG 1	Staten Island	1
CT 21 BG 2	Staten Island	3
CT 21 BG 3	Staten Island	1
CT 213 BG 1	Staten Island	1
CT 213 BG 2	Staten Island	1
CT 213 BG 3	Staten Island	1
CT 213 BG 4	Staten Island	1
CT 213 BG 5	Staten Island	1
CT 223 BG 1	Staten Island	1
CT 223 BG 2	Staten Island	1
CT 226 BG 1	Staten Island	2
CT 231 BG 1	Staten Island	1
CT 231 BG 2	Staten Island	1
CT 239 BG 1	Staten Island	1
CT 239 BG 2	Staten Island	1
CT 247 BG 1	Staten Island	1
CT 247 BG 2	Staten Island	3
CT 248 BG 3	Staten Island	2
CT 27 BG 1	Staten Island	1
CT 273.01 BG 1	Staten Island	1
CT 273.01 BG 2	Staten Island	3
CT 273.02 BG 2	Staten Island	2
CT 277.02 BG 2	Staten Island	1
CT 277.02 BG 3	Staten Island	3
CT 277.05 BG 1	Staten Island	2
CT 277.05 BG 2	Staten Island	2
CT 277.06 BG 1	Staten Island	3
CT 277.06 BG 2	Staten Island	1
CT 277.06 BG 3	Staten Island	3
CT 29 BG 1	Staten Island	1
CT 29 BG 2	Staten Island	1

Census Tract & Block Group ID	Place Name	Category
CT 29 BG 3	Staten Island	1
CT 29 BG 4	Staten Island	3
CT 291.02 BG 1	Staten Island	3
CT 291.02 BG 2	Staten Island	3
CT 291.03 BG 1	Staten Island	2
CT 291.03 BG 3	Staten Island	1
CT 291.04 BG 1	Staten Island	3
CT 291.04 BG 4	Staten Island	1
CT 3 BG 1	Staten Island	1
CT 3 BG 2	Staten Island	1
CT 303.01 BG 1	Staten Island	3
CT 303.01 BG 2	Staten Island	3
CT 303.02 BG 1	Staten Island	3
CT 303.02 BG 2	Staten Island	3
CT 303.02 BG 3	Staten Island	1
CT 303.02 BG 4	Staten Island	3
CT 319.01 BG 1	Staten Island	1
CT 319.01 BG 2	Staten Island	3
CT 319.02 BG 1	Staten Island	1
CT 319.02 BG 2	Staten Island	1
CT 319.02 BG 3	Staten Island	1
CT 323 BG 1	Staten Island	1
CT 33 BG 1	Staten Island	1
CT 33 BG 2	Staten Island	3
CT 36 BG 1	Staten Island	3
CT 36 BG 2	Staten Island	1
CT 39 BG 1	Staten Island	2
CT 39 BG 2	Staten Island	3
CT 40 BG 1	Staten Island	1
CT 40 BG 2	Staten Island	1
CT 40 BG 3	Staten Island	1
CT 40 BG 4	Staten Island	3

Census Tract & Block Group ID	Place Name	Category
CT 40 BG 5	Staten Island	3
CT 40 BG 6	Staten Island	1
CT 40 BG 7	Staten Island	1
CT 50 BG 2	Staten Island	1
CT 50 BG 3	Staten Island	1
CT 59 BG 1	Staten Island	2
CT 59 BG 2	Staten Island	2
CT 6 BG 1	Staten Island	1
CT 6 BG 2	Staten Island	1
CT 64 BG 2	Staten Island	2
CT 64 BG 3	Staten Island	1
CT 7 BG 1	Staten Island	1
CT 7 BG 2	Staten Island	1
CT 7 BG 3	Staten Island	1
CT 7 BG 4	Staten Island	1
CT 70 BG 1	Staten Island	2
CT 70 BG 2	Staten Island	3
CT 70 BG 3	Staten Island	2
CT 74 BG 1	Staten Island	1
CT 74 BG 2	Staten Island	1
CT 75 BG 1	Staten Island	1
CT 75 BG 2	Staten Island	3
CT 75 BG 3	Staten Island	1
CT 77 BG 1	Staten Island	1
CT 8 BG 1	Staten Island	1
CT 8 BG 2	Staten Island	1
CT 8 BG 3	Staten Island	3
CT 81 BG 1	Staten Island	1
CT 81 BG 2	Staten Island	3
CT 81 BG 3	Staten Island	1
CT 9 BG 1	Staten Island	1
CT 9 BG 2	Staten Island	1

Census Tract & Block Group ID	Place Name	Category
CT 97 BG 1	Staten Island	1
CT 97 BG 2	Staten Island	3
CT 97 BG 3	Staten Island	3

Table G-EJ18. Census Tracts (CT) and Block Groups (BG) in Hudson County, New Jersey (County ID 34-017) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.

Census Tract & Block Group ID	Place Name	Category
CT 1 BG 1	Jersey City	1
CT 1 BG 2	Jersey City	1
CT 1 BG 3	Jersey City	3
CT 10 BG 1	Jersey City	3
CT 10 BG 2	Jersey City	1
CT 101 BG 1	Bayonne	1
CT 101 BG 2	Bayonne	1
CT 101 BG 3	Bayonne	1
CT 101 BG 4	Bayonne	3
CT 102 BG 3	Bayonne	1
CT 103 BG 1	Bayonne	2
CT 103 BG 2	Bayonne	2
CT 103 BG 3	Bayonne	1
CT 104 BG 1	Bayonne	3
CT 104 BG 2	Bayonne	3
CT 104 BG 3	Bayonne	3
CT 105 BG 1	Bayonne	3
CT 105 BG 2	Bayonne	2
CT 105 BG 4	Bayonne	3
CT 106 BG 2	Bayonne	1
CT 106 BG 3	Bayonne	1
CT 106 BG 4	Bayonne	1
CT 107 BG 2	Bayonne	1
CT 107 BG 3	Bayonne	2
CT 108 BG 1	Bayonne	3
CT 108 BG 2	Bayonne	3
CT 108 BG 3	Bayonne	2
CT 109 BG 1	Bayonne	1
CT 11 BG 1	Jersey City	3
CT 11 BG 2	Jersey City	3
CT 11 BG 3	Jersey City	3
CT 110 BG 1	Bayonne	1
CT 111 BG 1	Bayonne	1
CT 111 BG 2	Bayonne	1
CT 111 BG 3	Bayonne	1
CT 112 BG 1	Bayonne	2
CT 112 BG 2	Bayonne	3
CT 113 BG 1	Bayonne	1
CT 113 BG 2	Bayonne	1
CT 113 BG 3	Bayonne	3
CT 114 BG 1	Bayonne	3
CT 115 BG 1	Bayonne	3
CT 116 BG 1	Bayonne	2
CT 116 BG 2	Bayonne	3
CT 116 BG 4	Bayonne	3
CT 12.01 BG 1	Jersey City	1

Census Tract & Block Group ID	Place Name	Category
CT 12.02 BG 1	Jersey City	1
CT 123 BG 1	Kearny	3
CT 123 BG 2	Kearny	1
CT 125 BG 1	Kearny	3
CT 125 BG 3	Kearny	3
CT 126 BG 1	Kearny	3
CT 126 BG 2	Kearny	3
CT 126 BG 3	Kearny	1
CT 127 BG 1	Kearny	3
CT 127 BG 3	Kearny	3
CT 127 BG 5	Kearny	3
CT 128 BG 1	Kearny	3
CT 128 BG 2	Kearny	3
CT 128 BG 3	Kearny	1
CT 129 BG 1	Kearny	3
CT 129 BG 2	Kearny	1
CT 13 BG 1	Jersey City	1
CT 13 BG 2	Jersey City	1
CT 130 BG 1	Kearny	3
CT 130 BG 2	Kearny	1
CT 130 BG 3	Kearny	3
CT 131 BG 1	Kearny	1
CT 132 BG 1	Kearny	1
CT 132 BG 2	Kearny	1
CT 132 BG 3	Kearny	1
CT 133 BG 1	Kearny	3
CT 133 BG 2	Kearny	1
CT 133 BG 3	Kearny	3
CT 134 BG 1	East Newark	1
CT 134 BG 2	East Newark	1
CT 135 BG 1	Harrison	1
CT 135 BG 2	Harrison	1
CT 135 BG 3	Harrison	2
CT 136 BG 1	Harrison	1
CT 136 BG 2	Harrison	1
CT 137 BG 1	Harrison	1
CT 137 BG 2	Harrison	1
CT 138 BG 1	Harrison	3
CT 139 BG 1	Harrison	3
CT 139 BG 2	Harrison	3
CT 14 BG 1	Jersey City	1
CT 14 BG 2	Jersey City	1
CT 140 BG 1	North Bergen	1
CT 140 BG 2	North Bergen	3
CT 140 BG 3	North Bergen	3
CT 140 BG 4	North Bergen	1
CT 141.01 BG 1	North Bergen	3
CT 141.01 BG 2	North Bergen	3
CT 141.02 BG 1	North Bergen	3
CT 141.02 BG 2	North Bergen	3
CT 141.02 BG 3	North Bergen	3
CT 141.02 BG 4	North Bergen	3
CT 142 BG 1	North Bergen	1
CT 142 BG 2	North Bergen	3
CT 142 BG 3	North Bergen	1
CT 142 BG 4	North Bergen	1
CT 143 BG 1	North Bergen	3
CT 143 BG 2	North Bergen	3
CT 143 BG 3	North Bergen	1
CT 143 BG 4	North Bergen	3
CT 144 BG 1	North Bergen	3
CT 144 BG 2	North Bergen	3
CT 144 BG 3	North Bergen	3
CT 144 BG 4	North Bergen	3

Census Tract & Block Group ID	Place Name	Category
CT 144 BG 5	North Bergen	1
CT 145.01 BG 1	North Bergen	1
CT 145.01 BG 2	North Bergen	1
CT 145.01 BG 3	North Bergen	1
CT 145.02 BG 1	North Bergen	1
CT 145.02 BG 2	North Bergen	1
CT 145.02 BG 3	North Bergen	1
CT 146 BG 1	North Bergen	3
CT 146 BG 2	North Bergen	3
CT 147 BG 1	North Bergen	1
CT 147 BG 2	North Bergen	3
CT 147 BG 3	North Bergen	1
CT 148 BG 1	North Bergen	3
CT 148 BG 2	North Bergen	1
CT 148 BG 3	North Bergen	1
CT 149 BG 1	North Bergen	3
CT 149 BG 2	North Bergen	3
CT 150.01 BG 1	Guttenberg	3
CT 150.02 BG 1	Guttenberg	1
CT 150.02 BG 2	Guttenberg	1
CT 150.02 BG 3	Guttenberg	1
CT 151 BG 1	Guttenberg	1
CT 151 BG 2	Guttenberg	3
CT 152.01 BG 1	West New York	3
CT 152.01 BG 2	West New York	3
CT 152.02 BG 1	West New York	1
CT 152.02 BG 2	West New York	3
CT 152.02 BG 3	West New York	1
CT 152.02 BG 4	West New York	1
CT 153 BG 1	West New York	1
CT 153 BG 2	West New York	1
CT 153 BG 3	West New York	1

Census Tract & Block Group ID	Place Name	Category
CT 155 BG 1	West New York	3
CT 155 BG 2	West New York	1
CT 155 BG 3	West New York	1
CT 156 BG 1	West New York	1
CT 156 BG 2	West New York	1
CT 157 BG 1	West New York	1
CT 157 BG 2	West New York	1
CT 158.01 BG 1	West New York	3
CT 158.01 BG 2	West New York	3
CT 158.02 BG 1	West New York	3
CT 158.02 BG 2	West New York	1
CT 158.02 BG 3	West New York	1
CT 159 BG 1	West New York	1
CT 159 BG 2	West New York	1
CT 159 BG 3	West New York	1
CT 159 BG 4	West New York	1
CT 160 BG 1	West New York	3
CT 160 BG 2	West New York	1
CT 161 BG 1	Union City	1
CT 161 BG 2	Union City	1
CT 162 BG 1	Union City	1
CT 162 BG 2	Union City	1
CT 162 BG 3	Union City	1
CT 163 BG 1	Union City	3
CT 163 BG 2	Union City	1
CT 163 BG 3	Union City	1
CT 164 BG 1	Union City	1
CT 164 BG 2	Union City	1
CT 164 BG 3	Union City	1
CT 165 BG 1	Union City	1
CT 165 BG 2	Union City	1
CT 165 BG 3	Union City	3

Census Tract & Block Group ID	Place Name	Category
CT 166 BG 1	Union City	1
CT 166 BG 2	Union City	1
CT 167 BG 1	Union City	1
CT 168 BG 1	Union City	1
CT 168 BG 2	Union City	1
CT 168 BG 3	Union City	1
CT 169 BG 1	Union City	1
CT 169 BG 2	Union City	1
CT 17.01 BG 1	Jersey City	1
CT 17.01 BG 2	Jersey City	1
CT 170 BG 1	Union City	1
CT 170 BG 2	Union City	1
CT 170 BG 3	Union City	1
CT 171 BG 1	Union City	3
CT 171 BG 2	Union City	1
CT 171 BG 3	Union City	1
CT 171 BG 4	Union City	1
CT 172 BG 1	Union City	1
CT 172 BG 2	Union City	1
CT 173 BG 1	Union City	1
CT 174 BG 1	Union City	1
CT 174 BG 2	Union City	1
CT 175 BG 1	Union City	1
CT 175 BG 2	Union City	1
CT 176 BG 1	Union City	1
CT 176 BG 2	Union City	1
CT 177 BG 1	Union City	1
CT 177 BG 2	Union City	1
CT 178 BG 1	Union City	3
CT 178 BG 2	Union City	1
CT 178 BG 3	Union City	1
CT 178 BG 4	Union City	1

Census Tract & Block Group ID	Place Name	Category
CT 18 BG 1	Jersey City	1
CT 18 BG 2	Jersey City	1
CT 180 BG 1	Weehawken	1
CT 180 BG 2	Weehawken	3
CT 181 BG 1	Weehawken	3
CT 181 BG 2	Weehawken	1
CT 182 BG 2	Weehawken	1
CT 184 BG 3	Hoboken	2
CT 185 BG 4	Hoboken	3
CT 187.02 BG 4	Hoboken	2
CT 19 BG 1	Jersey City	1
CT 190 BG 3	Hoboken	1
CT 190 BG 4	Hoboken	1
CT 193 BG 2	Hoboken	2
CT 198 BG 1	Secaucus	3
CT 199 BG 1	Secaucus	3
CT 199 BG 3	Secaucus	1
CT 2 BG 1	Jersey City	1
CT 2 BG 2	Jersey City	3
CT 2 BG 3	Jersey City	1
CT 20 BG 1	Jersey City	3
CT 20 BG 2	Jersey City	1
CT 20 BG 3	Jersey City	1
CT 200 BG 4	Secaucus	2
CT 201 BG 1	Secaucus	3
CT 22 BG 1	Jersey City	3
CT 23 BG 2	Jersey City	3
CT 27 BG 1	Jersey City	1
CT 27 BG 2	Jersey City	1
CT 27 BG 3	Jersey City	1
CT 28 BG 1	Jersey City	1
CT 28 BG 3	Jersey City	3

Census Tract & Block Group ID	Place Name	Category
CT 28 BG 4	Jersey City	3
CT 28 BG 5	Jersey City	1
CT 29 BG 1	Jersey City	3
CT 29 BG 2	Jersey City	2
CT 29 BG 3	Jersey City	1
CT 3 BG 1	Jersey City	1
CT 3 BG 2	Jersey City	1
CT 3 BG 3	Jersey City	3
CT 30 BG 1	Jersey City	1
CT 30 BG 2	Jersey City	3
CT 31 BG 1	Jersey City	1
CT 31 BG 2	Jersey City	1
CT 31 BG 3	Jersey City	3
CT 324 BG 1	West New York	1
CT 324 BG 2	West New York	1
CT 324 BG 3	West New York	1
CT 324 BG 4	West New York	1
CT 35 BG 2	Jersey City	1
CT 4 BG 1	Jersey City	3
CT 4 BG 2	Jersey City	1
CT 40 BG 1	Jersey City	3
CT 40 BG 2	Jersey City	3
CT 40 BG 3	Jersey City	3
CT 40 BG 4	Jersey City	3
CT 41.01 BG 1	Jersey City	3
CT 41.01 BG 2	Jersey City	3
CT 41.01 BG 3	Jersey City	1
CT 41.01 BG 4	Jersey City	3
CT 41.02 BG 1	Jersey City	1
CT 41.02 BG 2	Jersey City	3
CT 42 BG 1	Jersey City	1
CT 42 BG 2	Jersey City	1

Census Tract & Block Group ID	Place Name	Category
CT 42 BG 3	Jersey City	3
CT 43 BG 1	Jersey City	3
CT 43 BG 2	Jersey City	1
CT 44 BG 1	Jersey City	1
CT 45 BG 1	Jersey City	1
CT 45 BG 2	Jersey City	1
CT 45 BG 3	Jersey City	1
CT 46 BG 1	Jersey City	1
CT 46 BG 2	Jersey City	1
CT 47 BG 1	Jersey City	3
CT 47 BG 2	Jersey City	1
CT 48 BG 1	Jersey City	1
CT 48 BG 2	Jersey City	1
CT 48 BG 3	Jersey City	1
CT 49 BG 1	Jersey City	3
CT 49 BG 2	Jersey City	1
CT 49 BG 3	Jersey City	1
CT 49 BG 4	Jersey City	3
CT 5 BG 1	Jersey City	1
CT 5 BG 2	Jersey City	1
CT 5 BG 3	Jersey City	1
CT 52 BG 1	Jersey City	1
CT 52 BG 2	Jersey City	3
CT 53 BG 1	Jersey City	1
CT 53 BG 2	Jersey City	1
CT 54 BG 1	Jersey City	3
CT 54 BG 2	Jersey City	1
CT 54 BG 3	Jersey City	1
CT 55 BG 1	Jersey City	1
CT 56 BG 1	Jersey City	1
CT 56 BG 2	Jersey City	3
CT 56 BG 3	Jersey City	3

Census Tract & Block Group ID	Place Name	Category
CT 58.01 BG 1	Jersey City	1
CT 58.01 BG 2	Jersey City	1
CT 58.01 BG 3	Jersey City	1
CT 58.01 BG 4	Jersey City	1
CT 59 BG 1	Jersey City	3
CT 59 BG 2	Jersey City	3
CT 59 BG 3	Jersey City	3
CT 59 BG 4	Jersey City	3
CT 59 BG 5	Jersey City	1
CT 6 BG 1	Jersey City	3
CT 6 BG 2	Jersey City	1
CT 6 BG 3	Jersey City	1
CT 6 BG 4	Jersey City	3
CT 60 BG 1	Jersey City	1
CT 60 BG 2	Jersey City	1
CT 61 BG 1	Jersey City	3
CT 61 BG 2	Jersey City	1
CT 61 BG 3	Jersey City	1
CT 61 BG 4	Jersey City	3
CT 62 BG 1	Jersey City	1
CT 62 BG 2	Jersey City	1
CT 63 BG 1	Jersey City	1
CT 63 BG 2	Jersey City	3
CT 63 BG 3	Jersey City	1
CT 64 BG 1	Jersey City	3
CT 65 BG 1	Jersey City	1
CT 65 BG 2	Jersey City	1
CT 66 BG 1	Jersey City	3
CT 67 BG 1	Jersey City	1
CT 67 BG 2	Jersey City	1

Census Tract & Block Group ID	Place Name	Category
CT 67 BG 3	Jersey City	1
CT 68 BG 1	Jersey City	3
CT 68 BG 2	Jersey City	1
CT 69 BG 1	Jersey City	2
CT 7 BG 2	Jersey City	1
CT 7 BG 3	Jersey City	3
CT 70 BG 1	Jersey City	1
CT 70 BG 2	Jersey City	3
CT 70 BG 3	Jersey City	3
CT 71 BG 1	Jersey City	1
CT 71 BG 2	Jersey City	3
CT 71 BG 3	Jersey City	1
CT 72 BG 2	Jersey City	3
CT 73 BG 1	Jersey City	3
CT 75 BG 1	Jersey City	3
CT 75 BG 2	Jersey City	3
CT 75 BG 4	Jersey City	3
CT 76 BG 1	Jersey City	3
CT 76 BG 2	Jersey City	3
CT 77 BG 2	Jersey City	3
CT 77 BG 3	Jersey City	3
CT 77 BG 4	Jersey City	3
CT 78 BG 1	Jersey City	1
CT 8 BG 1	Jersey City	1
CT 8 BG 2	Jersey City	1
CT 9.02 BG 1	Jersey City	3
CT 9.02 BG 2	Jersey City	3
CT 9.02 BG 3	Jersey City	3
CT 9.02 BG 4	Jersey City	1

Table G-EJ19. Census Tracts (CT) and Block Groups (BG) in Gloucester County, New Jersey (County ID 34-015) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.

Census Tract & Block Group ID	Place Name	Category
CT 5001 BG 1	Westville	2
CT 5001 BG 2	Westville	2
CT 5001 BG 3	Westville	1
CT 5001 BG 4	Westville	1
CT 5002.01 BG 2	West Deptford	2
CT 5002.02 BG 2	West Deptford	2
CT 5002.02 BG 3	West Deptford	2
CT 5002.02 BG 4	West Deptford	1
CT 5002.03 BG 2	West Deptford	2
CT 5002.03 BG 3	West Deptford	2
CT 5002.04 BG 1	West Deptford	3
CT 5002.04 BG 3	West Deptford	3
CT 5002.05 BG 2	West Deptford	2
CT 5002.05 BG 3	West Deptford	2
CT 5003 BG 1	National Park	2
CT 5003 BG 3	National Park	2
CT 5004 BG 2	Paulsboro	1
CT 5004 BG 3	Paulsboro	1
CT 5004 BG 4	Paulsboro	1
CT 5004 BG 5	Paulsboro	1
CT 5004 BG 6	Paulsboro	1
CT 5004 BG 7	Paulsboro	2
CT 5005 BG 3	Greenwich	2
CT 5005 BG 4	Greenwich	2
CT 5005 BG 5	Greenwich	2
CT 5006 BG 1	East Greenwich	3
CT 5006 BG 2	East Greenwich	2
CT 5006 BG 3	East Greenwich	3
CT 5007.01 BG 1	Mantua	2
CT 5007.01 BG 2	Mantua	2
CT 5007.01 BG 3	Mantua	2
CT 5007.01 BG 5	Mantua	2
CT 5010.01 BG 1	Woodbury	3
CT 5010.01 BG 2	Woodbury	1
CT 5010.02 BG 1	Woodbury	1
CT 5010.02 BG 2	Woodbury	3
CT 5010.02 BG 3	Woodbury	1
CT 5010.03 BG 1	Woodbury	1
CT 5010.03 BG 2	Woodbury	3
CT 5010.03 BG 3	Woodbury	1
CT 5011.01 BG 1	Deptford	1
CT 5011.01 BG 2	Deptford	1
CT 5011.01 BG 3	Deptford	2
CT 5011.02 BG 1	Deptford	3
CT 5011.02 BG 2	Deptford	1
CT 5011.03 BG 2	Deptford	2
CT 5011.03 BG 3	Deptford	3
CT 5011.04 BG 1	Deptford	1
CT 5011.04 BG 3	Deptford	1
CT 5011.05 BG 1	Deptford	1
CT 5011.06 BG 1	Deptford	1
CT 5011.06 BG 2	Deptford	2
CT 5011.06 BG 3	Deptford	1
CT 5011.07 BG 2	Deptford	1
CT 5011.07 BG 3	Deptford	2
CT 5012.04 BG 1	Washington	2

Census Tract & Block Group ID	Place Name	Category
CT 5012.05 BG 1	Washington	2
CT 5012.06 BG 2	Washington	1
CT 5012.06 BG 3	Washington	2
CT 5012.08 BG 3	Washington	2
CT 5012.09 BG 1	Washington	1
CT 5012.09 BG 3	Washington	3
CT 5012.12 BG 1	Washington	1
CT 5012.13 BG 3	Washington	3
CT 5013.01 BG 2	Pitman	2
CT 5013.01 BG 3	Pitman	2
CT 5013.02 BG 1	Pitman	2
CT 5013.03 BG 1	Pitman	3
CT 5013.03 BG 2	Pitman	2
CT 5013.03 BG 3	Pitman	2
CT 5014.02 BG 1	Glassboro	1
CT 5014.02 BG 2	Glassboro	2
CT 5014.02 BG 3	Glassboro	2
CT 5014.03 BG 2	Glassboro	1
CT 5014.04 BG 1	Glassboro	3
CT 5014.04 BG 2	Glassboro	2
CT 5014.05 BG 1	Glassboro	1
CT 5014.05 BG 2	Glassboro	1
CT 5014.06 BG 1	Glassboro	1
CT 5014.06 BG 2	Glassboro	2
CT 5015 BG 1	Clayton	1
CT 5015 BG 2	Clayton	2
CT 5015 BG 4	Clayton	1
CT 5015 BG 6	Clayton	3
CT 5016.03 BG 3	Monroe	1
CT 5016.04 BG 1	Monroe	2

Census Tract & Block Group ID	Place Name	Category
CT 5016.04 BG 2	Monroe	2
CT 5016.04 BG 3	Monroe	3
CT 5016.04 BG 4	Monroe	1
CT 5016.04 BG 5	Monroe	1
CT 5016.05 BG 1	Monroe	3
CT 5016.05 BG 2	Monroe	1
CT 5016.05 BG 3	Monroe	2
CT 5016.06 BG 1	Monroe	3
CT 5016.06 BG 2	Monroe	2
CT 5016.06 BG 4	Monroe	1
CT 5016.08 BG 1	Monroe	3
CT 5016.08 BG 2	Monroe	1
CT 5016.09 BG 1	Monroe	3
CT 5016.09 BG 2	Monroe	3
CT 5017.02 BG 1	Franklin	2
CT 5017.03 BG 3	Franklin	2
CT 5017.03 BG 4	Franklin	1
CT 5017.04 BG 1	Franklin	1
CT 5017.04 BG 2	Franklin	2
CT 5017.04 BG 3	Franklin	1
CT 5018 BG 1	Newfield	2
CT 5018 BG 2	Newfield	2
CT 5019 BG 2	Elk	1
CT 5019 BG 3	Elk	2
CT 5022 BG 2	Woolwich	3
CT 5023 BG 1	Swedesboro	1
CT 5023 BG 2	Swedesboro	1
CT 5024 BG 2	Logan	2
CT 5024 BG 3	Logan	3

Table G-EJ20. Census Tracts (CT) and Block Groups (BG) in Philadelphia County, Pennsylvania (County ID 42-101) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.

Census Tract & Block Group ID	Place Name	Category
CT 100 BG 1	Philadelphia	1
CT 100 BG 2	Philadelphia	1
CT 100 BG 3	Philadelphia	3
CT 100 BG 4	Philadelphia	3
CT 101 BG 1	Philadelphia	3
CT 101 BG 2	Philadelphia	3
CT 101 BG 3	Philadelphia	1
CT 101 BG 4	Philadelphia	1
CT 101 BG 5	Philadelphia	1
CT 101 BG 6	Philadelphia	3
CT 101 BG 7	Philadelphia	1
CT 102 BG 1	Philadelphia	1
CT 102 BG 2	Philadelphia	1
CT 102 BG 3	Philadelphia	1
CT 103 BG 1	Philadelphia	1
CT 103 BG 2	Philadelphia	3
CT 104 BG 1	Philadelphia	1
CT 104 BG 2	Philadelphia	1
CT 104 BG 3	Philadelphia	1
CT 104 BG 4	Philadelphia	1
CT 105 BG 1	Philadelphia	1
CT 105 BG 2	Philadelphia	1
CT 105 BG 3	Philadelphia	1
CT 106 BG 1	Philadelphia	1
CT 106 BG 2	Philadelphia	1
CT 107 BG 1	Philadelphia	1
CT 107 BG 2	Philadelphia	1
CT 107 BG 3	Philadelphia	1
CT 107 BG 4	Philadelphia	1
CT 108 BG 1	Philadelphia	1

Census Tract & Block Group ID	Place Name	Category
CT 108 BG 2	Philadelphia	3
CT 108 BG 3	Philadelphia	1
CT 108 BG 4	Philadelphia	1
CT 108 BG 5	Philadelphia	1
CT 109 BG 1	Philadelphia	1
CT 109 BG 2	Philadelphia	1
CT 109 BG 3	Philadelphia	1
CT 110 BG 1	Philadelphia	1
CT 110 BG 2	Philadelphia	1
CT 110 BG 3	Philadelphia	1
CT 110 BG 4	Philadelphia	1
CT 111 BG 1	Philadelphia	1
CT 111 BG 2	Philadelphia	1
CT 111 BG 3	Philadelphia	1
CT 111 BG 4	Philadelphia	1
CT 111 BG 5	Philadelphia	1
CT 112 BG 1	Philadelphia	1
CT 112 BG 2	Philadelphia	3
CT 112 BG 3	Philadelphia	1
CT 112 BG 4	Philadelphia	1
CT 112 BG 5	Philadelphia	1
CT 112 BG 6	Philadelphia	3
CT 112 BG 7	Philadelphia	1
CT 113 BG 1	Philadelphia	3
CT 113 BG 2	Philadelphia	1
CT 113 BG 3	Philadelphia	1
CT 114 BG 1	Philadelphia	3
CT 114 BG 2	Philadelphia	3
CT 114 BG 3	Philadelphia	1
CT 114 BG 4	Philadelphia	1

Census Tract & Block Group ID	Place Name	Category
CT 114 BG 5	Philadelphia	3
CT 114 BG 6	Philadelphia	3
CT 115 BG 1	Philadelphia	3
CT 115 BG 2	Philadelphia	3
CT 115 BG 3	Philadelphia	3
CT 115 BG 4	Philadelphia	1
CT 117 BG 1	Philadelphia	3
CT 118 BG 1	Philadelphia	3
CT 118 BG 2	Philadelphia	1
CT 118 BG 3	Philadelphia	1
CT 118 BG 4	Philadelphia	3
CT 118 BG 5	Philadelphia	1
CT 118 BG 6	Philadelphia	3
CT 119 BG 1	Philadelphia	1
CT 119 BG 2	Philadelphia	1
CT 119 BG 3	Philadelphia	1
CT 119 BG 4	Philadelphia	3
CT 119 BG 5	Philadelphia	3
CT 120 BG 1	Philadelphia	3
CT 120 BG 2	Philadelphia	3
CT 121 BG 1	Philadelphia	3
CT 121 BG 2	Philadelphia	3
CT 122.01 BG 1	Philadelphia	1
CT 122.01 BG 2	Philadelphia	1
CT 122.03 BG 1	Philadelphia	1
CT 122.04 BG 1	Philadelphia	3
CT 122.04 BG 2	Philadelphia	3
CT 13 BG 3	Philadelphia	3
CT 13 BG 4	Philadelphia	3
CT 131 BG 1	Philadelphia	1
CT 131 BG 2	Philadelphia	3
CT 132 BG 1	Philadelphia	1
CT 132 BG 2	Philadelphia	1
CT 133 BG 2	Philadelphia	1
CT 135 BG 4	Philadelphia	3

Census Tract & Block Group ID	Place Name	Category
CT 137 BG 1	Philadelphia	1
CT 137 BG 2	Philadelphia	1
CT 137 BG 3	Philadelphia	1
CT 137 BG 4	Philadelphia	3
CT 137 BG 5	Philadelphia	3
CT 138 BG 1	Philadelphia	1
CT 138 BG 2	Philadelphia	1
CT 139 BG 1	Philadelphia	1
CT 139 BG 2	Philadelphia	1
CT 139 BG 3	Philadelphia	3
CT 140 BG 1	Philadelphia	1
CT 140 BG 2	Philadelphia	1
CT 140 BG 3	Philadelphia	1
CT 141 BG 1	Philadelphia	1
CT 141 BG 2	Philadelphia	1
CT 144 BG 1	Philadelphia	1
CT 144 BG 3	Philadelphia	1
CT 145 BG 1	Philadelphia	1
CT 145 BG 2	Philadelphia	1
CT 146 BG 1	Philadelphia	1
CT 146 BG 2	Philadelphia	3
CT 146 BG 3	Philadelphia	1
CT 147 BG 1	Philadelphia	1
CT 147 BG 2	Philadelphia	1
CT 148 BG 1	Philadelphia	1
CT 149 BG 1	Philadelphia	1
CT 149 BG 2	Philadelphia	1
CT 149 BG 3	Philadelphia	1
CT 149 BG 4	Philadelphia	1
CT 149 BG 5	Philadelphia	1
CT 149 BG 6	Philadelphia	1
CT 151.01 BG 1	Philadelphia	1
CT 151.01 BG 2	Philadelphia	1
CT 151.02 BG 1	Philadelphia	1
CT 151.02 BG 2	Philadelphia	1

Census Tract & Block Group ID	Place Name	Category
CT 151.02 BG 3	Philadelphia	1
CT 152 BG 1	Philadelphia	1
CT 152 BG 2	Philadelphia	1
CT 152 BG 3	Philadelphia	1
CT 152 BG 4	Philadelphia	1
CT 152 BG 5	Philadelphia	3
CT 153 BG 1	Philadelphia	2
CT 153 BG 2	Philadelphia	1
CT 153 BG 3	Philadelphia	1
CT 153 BG 4	Philadelphia	1
CT 156 BG 1	Philadelphia	1
CT 156 BG 2	Philadelphia	1
CT 157 BG 1	Philadelphia	3
CT 157 BG 2	Philadelphia	1
CT 157 BG 3	Philadelphia	1
CT 160 BG 2	Philadelphia	2
CT 160 BG 7	Philadelphia	2
CT 161 BG 2	Philadelphia	1
CT 161 BG 3	Philadelphia	3
CT 161 BG 4	Philadelphia	1
CT 162 BG 1	Philadelphia	1
CT 162 BG 2	Philadelphia	1
CT 162 BG 3	Philadelphia	1
CT 163 BG 1	Philadelphia	1
CT 163 BG 2	Philadelphia	1
CT 163 BG 3	Philadelphia	3
CT 163 BG 4	Philadelphia	1
CT 164 BG 1	Philadelphia	1
CT 164 BG 2	Philadelphia	1
CT 164 BG 3	Philadelphia	3
CT 164 BG 4	Philadelphia	1
CT 165 BG 1	Philadelphia	1
CT 165 BG 2	Philadelphia	1
CT 165 BG 3	Philadelphia	1
CT 166 BG 1	Philadelphia	1

Census Tract & Block Group ID	Place Name	Category
CT 166 BG 2	Philadelphia	1
CT 167.01 BG 1	Philadelphia	1
CT 167.01 BG 2	Philadelphia	1
CT 167.01 BG 3	Philadelphia	1
CT 167.02 BG 1	Philadelphia	1
CT 167.02 BG 2	Philadelphia	1
CT 167.02 BG 3	Philadelphia	1
CT 167.02 BG 4	Philadelphia	1
CT 168 BG 1	Philadelphia	3
CT 168 BG 2	Philadelphia	1
CT 168 BG 3	Philadelphia	1
CT 168 BG 4	Philadelphia	1
CT 168 BG 5	Philadelphia	1
CT 168 BG 6	Philadelphia	1
CT 169.01 BG 1	Philadelphia	1
CT 169.01 BG 2	Philadelphia	1
CT 169.01 BG 3	Philadelphia	1
CT 169.02 BG 1	Philadelphia	1
CT 169.02 BG 2	Philadelphia	1
CT 169.02 BG 3	Philadelphia	1
CT 169.02 BG 4	Philadelphia	1
CT 170 BG 1	Philadelphia	3
CT 170 BG 2	Philadelphia	1
CT 170 BG 3	Philadelphia	1
CT 171 BG 1	Philadelphia	1
CT 171 BG 2	Philadelphia	1
CT 171 BG 3	Philadelphia	3
CT 171 BG 4	Philadelphia	1
CT 172.01 BG 1	Philadelphia	1
CT 172.01 BG 2	Philadelphia	1
CT 172.01 BG 3	Philadelphia	3
CT 172.02 BG 1	Philadelphia	1
CT 172.02 BG 2	Philadelphia	1
CT 172.02 BG 3	Philadelphia	1
CT 172.02 BG 4	Philadelphia	1

Census Tract & Block Group ID	Place Name	Category
CT 173 BG 1	Philadelphia	1
CT 173 BG 2	Philadelphia	1
CT 174 BG 1	Philadelphia	1
CT 174 BG 2	Philadelphia	1
CT 175 BG 1	Philadelphia	1
CT 175 BG 2	Philadelphia	1
CT 175 BG 3	Philadelphia	1
CT 175 BG 4	Philadelphia	1
CT 175 BG 5	Philadelphia	1
CT 175 BG 6	Philadelphia	1
CT 176.01 BG 1	Philadelphia	1
CT 176.01 BG 2	Philadelphia	1
CT 176.01 BG 3	Philadelphia	1
CT 176.01 BG 4	Philadelphia	1
CT 176.01 BG 5	Philadelphia	1
CT 176.02 BG 1	Philadelphia	1
CT 176.02 BG 2	Philadelphia	1
CT 176.02 BG 3	Philadelphia	1
CT 177.01 BG 1	Philadelphia	1
CT 177.01 BG 2	Philadelphia	1
CT 177.01 BG 3	Philadelphia	1
CT 177.02 BG 1	Philadelphia	1
CT 177.02 BG 2	Philadelphia	1
CT 177.02 BG 3	Philadelphia	1
CT 177.02 BG 4	Philadelphia	1
CT 177.02 BG 5	Philadelphia	1
CT 178 BG 1	Philadelphia	1
CT 178 BG 2	Philadelphia	1
CT 178 BG 3	Philadelphia	1
CT 178 BG 4	Philadelphia	1
CT 178 BG 5	Philadelphia	1
CT 178 BG 6	Philadelphia	1
CT 178 BG 7	Philadelphia	1
CT 179 BG 1	Philadelphia	1
CT 179 BG 2	Philadelphia	2

Census Tract & Block Group ID	Place Name	Category
CT 179 BG 3	Philadelphia	1
CT 179 BG 4	Philadelphia	2
CT 179 BG 5	Philadelphia	1
CT 180.02 BG 1	Philadelphia	2
CT 180.02 BG 3	Philadelphia	2
CT 180.02 BG 4	Philadelphia	2
CT 188 BG 1	Philadelphia	1
CT 188 BG 2	Philadelphia	1
CT 188 BG 3	Philadelphia	1
CT 188 BG 4	Philadelphia	1
CT 188 BG 5	Philadelphia	1
CT 188 BG 6	Philadelphia	1
CT 188 BG 7	Philadelphia	1
CT 19 BG 3	Philadelphia	3
CT 190 BG 1	Philadelphia	1
CT 190 BG 2	Philadelphia	1
CT 190 BG 3	Philadelphia	1
CT 190 BG 4	Philadelphia	3
CT 190 BG 5	Philadelphia	1
CT 191 BG 1	Philadelphia	1
CT 191 BG 2	Philadelphia	1
CT 191 BG 3	Philadelphia	1
CT 191 BG 4	Philadelphia	3
CT 191 BG 5	Philadelphia	1
CT 191 BG 6	Philadelphia	1
CT 192 BG 1	Philadelphia	1
CT 192 BG 2	Philadelphia	1
CT 192 BG 3	Philadelphia	1
CT 192 BG 4	Philadelphia	1
CT 192 BG 5	Philadelphia	1
CT 192 BG 6	Philadelphia	1
CT 195.01 BG 1	Philadelphia	1
CT 195.01 BG 2	Philadelphia	1
CT 195.01 BG 3	Philadelphia	1
CT 195.02 BG 1	Philadelphia	1

Census Tract & Block Group ID	Place Name	Category
CT 195.02 BG 2	Philadelphia	1
CT 195.02 BG 3	Philadelphia	1
CT 197 BG 1	Philadelphia	1
CT 197 BG 2	Philadelphia	1
CT 197 BG 3	Philadelphia	1
CT 197 BG 4	Philadelphia	1
CT 197 BG 5	Philadelphia	1
CT 197 BG 6	Philadelphia	1
CT 198 BG 1	Philadelphia	1
CT 198 BG 2	Philadelphia	1
CT 198 BG 3	Philadelphia	1
CT 198 BG 4	Philadelphia	1
CT 198 BG 5	Philadelphia	1
CT 198 BG 6	Philadelphia	1
CT 199 BG 1	Philadelphia	1
CT 199 BG 2	Philadelphia	1
CT 199 BG 3	Philadelphia	1
CT 199 BG 4	Philadelphia	1
CT 2 BG 1	Philadelphia	1
CT 20 BG 1	Philadelphia	1
CT 20 BG 2	Philadelphia	3
CT 200 BG 1	Philadelphia	1
CT 200 BG 2	Philadelphia	1
CT 201.01 BG 1	Philadelphia	1
CT 201.01 BG 2	Philadelphia	1
CT 201.01 BG 3	Philadelphia	1
CT 201.02 BG 1	Philadelphia	3
CT 201.02 BG 2	Philadelphia	3
CT 201.02 BG 3	Philadelphia	3
CT 201.02 BG 4	Philadelphia	3
CT 202 BG 1	Philadelphia	1
CT 202 BG 2	Philadelphia	1
CT 202 BG 3	Philadelphia	1
CT 202 BG 4	Philadelphia	1
CT 202 BG 5	Philadelphia	3

Census Tract & Block Group ID	Place Name	Category
CT 202 BG 6	Philadelphia	1
CT 203 BG 1	Philadelphia	1
CT 203 BG 2	Philadelphia	1
CT 204 BG 1	Philadelphia	1
CT 204 BG 2	Philadelphia	1
CT 204 BG 3	Philadelphia	3
CT 204 BG 4	Philadelphia	1
CT 205 BG 1	Philadelphia	1
CT 205 BG 2	Philadelphia	1
CT 206 BG 1	Philadelphia	3
CT 207 BG 4	Philadelphia	3
CT 208 BG 1	Philadelphia	3
CT 21 BG 1	Philadelphia	1
CT 21 BG 2	Philadelphia	3
CT 213 BG 5	Philadelphia	2
CT 214 BG 3	Philadelphia	2
CT 218 BG 2	Philadelphia	1
CT 218 BG 3	Philadelphia	3
CT 22 BG 2	Philadelphia	3
CT 22 BG 3	Philadelphia	1
CT 236 BG 2	Philadelphia	3
CT 237 BG 1	Philadelphia	1
CT 237 BG 2	Philadelphia	3
CT 237 BG 3	Philadelphia	3
CT 237 BG 4	Philadelphia	3
CT 238 BG 1	Philadelphia	3
CT 238 BG 2	Philadelphia	3
CT 238 BG 3	Philadelphia	3
CT 238 BG 4	Philadelphia	3
CT 238 BG 5	Philadelphia	3
CT 239 BG 1	Philadelphia	1
CT 239 BG 2	Philadelphia	3
CT 24 BG 5	Philadelphia	3
CT 240 BG 1	Philadelphia	3
CT 240 BG 2	Philadelphia	3

Census Tract & Block Group ID	Place Name	Category
CT 240 BG 3	Philadelphia	1
CT 240 BG 4	Philadelphia	1
CT 241 BG 1	Philadelphia	1
CT 242 BG 1	Philadelphia	3
CT 242 BG 2	Philadelphia	1
CT 242 BG 3	Philadelphia	1
CT 242 BG 4	Philadelphia	3
CT 243 BG 1	Philadelphia	1
CT 243 BG 2	Philadelphia	1
CT 243 BG 3	Philadelphia	3
CT 243 BG 4	Philadelphia	3
CT 244 BG 1	Philadelphia	1
CT 244 BG 2	Philadelphia	1
CT 244 BG 3	Philadelphia	1
CT 245 BG 1	Philadelphia	1
CT 245 BG 2	Philadelphia	1
CT 245 BG 3	Philadelphia	1
CT 245 BG 4	Philadelphia	1
CT 246 BG 1	Philadelphia	1
CT 246 BG 2	Philadelphia	1
CT 246 BG 3	Philadelphia	1
CT 247 BG 1	Philadelphia	1
CT 247 BG 2	Philadelphia	1
CT 247 BG 3	Philadelphia	3
CT 247 BG 4	Philadelphia	1
CT 247 BG 5	Philadelphia	3
CT 248 BG 1	Philadelphia	3
CT 248 BG 2	Philadelphia	1
CT 249 BG 1	Philadelphia	1
CT 249 BG 2	Philadelphia	1
CT 249 BG 3	Philadelphia	1
CT 249 BG 4	Philadelphia	1
CT 25 BG 3	Philadelphia	3
CT 25 BG 4	Philadelphia	1
CT 252 BG 1	Philadelphia	1

Census Tract & Block Group ID	Place Name	Category
CT 252 BG 2	Philadelphia	1
CT 252 BG 3	Philadelphia	3
CT 252 BG 4	Philadelphia	3
CT 252 BG 5	Philadelphia	1
CT 252 BG 6	Philadelphia	1
CT 252 BG 7	Philadelphia	1
CT 253 BG 1	Philadelphia	1
CT 253 BG 2	Philadelphia	3
CT 253 BG 3	Philadelphia	3
CT 253 BG 4	Philadelphia	3
CT 253 BG 5	Philadelphia	1
CT 254 BG 1	Philadelphia	3
CT 254 BG 2	Philadelphia	3
CT 254 BG 3	Philadelphia	3
CT 254 BG 4	Philadelphia	3
CT 255 BG 1	Philadelphia	3
CT 255 BG 2	Philadelphia	3
CT 255 BG 3	Philadelphia	3
CT 256 BG 1	Philadelphia	3
CT 257 BG 1	Philadelphia	3
CT 258 BG 1	Philadelphia	3
CT 259 BG 1	Philadelphia	3
CT 259 BG 2	Philadelphia	3
CT 259 BG 3	Philadelphia	1
CT 259 BG 4	Philadelphia	3
CT 259 BG 5	Philadelphia	3
CT 259 BG 6	Philadelphia	1
CT 260 BG 1	Philadelphia	3
CT 260 BG 2	Philadelphia	1
CT 260 BG 3	Philadelphia	3
CT 261 BG 1	Philadelphia	3
CT 261 BG 2	Philadelphia	1
CT 261 BG 3	Philadelphia	1
CT 262 BG 1	Philadelphia	3
CT 262 BG 2	Philadelphia	3

Census Tract & Block Group ID	Place Name	Category
CT 262 BG 3	Philadelphia	3
CT 262 BG 4	Philadelphia	3
CT 263.01 BG 1	Philadelphia	3
CT 263.01 BG 2	Philadelphia	3
CT 263.01 BG 3	Philadelphia	3
CT 263.01 BG 4	Philadelphia	3
CT 263.02 BG 1	Philadelphia	3
CT 263.02 BG 2	Philadelphia	1
CT 263.02 BG 3	Philadelphia	3
CT 263.02 BG 4	Philadelphia	3
CT 264 BG 1	Philadelphia	3
CT 264 BG 2	Philadelphia	3
CT 264 BG 3	Philadelphia	1
CT 264 BG 4	Philadelphia	3
CT 264 BG 5	Philadelphia	3
CT 264 BG 6	Philadelphia	3
CT 264 BG 7	Philadelphia	3
CT 265 BG 1	Philadelphia	3
CT 265 BG 2	Philadelphia	1
CT 265 BG 3	Philadelphia	1
CT 265 BG 4	Philadelphia	1
CT 265 BG 5	Philadelphia	3
CT 265 BG 6	Philadelphia	3
CT 266 BG 1	Philadelphia	1
CT 266 BG 2	Philadelphia	1
CT 266 BG 3	Philadelphia	3
CT 266 BG 4	Philadelphia	1
CT 266 BG 5	Philadelphia	1
CT 266 BG 6	Philadelphia	3
CT 266 BG 7	Philadelphia	1
CT 266 BG 8	Philadelphia	3
CT 267 BG 1	Philadelphia	3
CT 267 BG 2	Philadelphia	3
CT 267 BG 3	Philadelphia	3
CT 267 BG 4	Philadelphia	1

Census Tract & Block Group ID	Place Name	Category
CT 267 BG 5	Philadelphia	3
CT 267 BG 6	Philadelphia	3
CT 267 BG 7	Philadelphia	3
CT 268 BG 1	Philadelphia	1
CT 268 BG 2	Philadelphia	1
CT 268 BG 3	Philadelphia	3
CT 268 BG 4	Philadelphia	3
CT 269 BG 1	Philadelphia	3
CT 269 BG 2	Philadelphia	3
CT 27.01 BG 1	Philadelphia	3
CT 27.01 BG 2	Philadelphia	1
CT 27.01 BG 3	Philadelphia	1
CT 27.02 BG 3	Philadelphia	2
CT 270 BG 1	Philadelphia	3
CT 270 BG 2	Philadelphia	3
CT 271 BG 1	Philadelphia	3
CT 271 BG 2	Philadelphia	1
CT 271 BG 3	Philadelphia	3
CT 272 BG 1	Philadelphia	3
CT 272 BG 2	Philadelphia	3
CT 272 BG 3	Philadelphia	1
CT 273 BG 1	Philadelphia	3
CT 273 BG 2	Philadelphia	1
CT 273 BG 3	Philadelphia	1
CT 273 BG 4	Philadelphia	3
CT 273 BG 5	Philadelphia	3
CT 274.01 BG 1	Philadelphia	1
CT 274.01 BG 2	Philadelphia	1
CT 274.01 BG 3	Philadelphia	1
CT 274.02 BG 1	Philadelphia	3
CT 274.02 BG 2	Philadelphia	3
CT 274.02 BG 3	Philadelphia	3
CT 274.02 BG 4	Philadelphia	1
CT 274.02 BG 5	Philadelphia	1
CT 275 BG 1	Philadelphia	3

Census Tract & Block Group ID	Place Name	Category
CT 275 BG 2	Philadelphia	3
CT 275 BG 3	Philadelphia	1
CT 275 BG 4	Philadelphia	1
CT 276 BG 1	Philadelphia	1
CT 276 BG 2	Philadelphia	3
CT 276 BG 3	Philadelphia	1
CT 276 BG 4	Philadelphia	1
CT 277 BG 1	Philadelphia	1
CT 277 BG 2	Philadelphia	1
CT 277 BG 3	Philadelphia	1
CT 277 BG 4	Philadelphia	3
CT 277 BG 5	Philadelphia	3
CT 277 BG 6	Philadelphia	1
CT 278 BG 1	Philadelphia	3
CT 278 BG 2	Philadelphia	1
CT 278 BG 3	Philadelphia	3
CT 278 BG 4	Philadelphia	1
CT 279.01 BG 1	Philadelphia	3
CT 279.01 BG 2	Philadelphia	1
CT 279.01 BG 3	Philadelphia	3
CT 279.01 BG 4	Philadelphia	1
CT 279.02 BG 1	Philadelphia	1
CT 279.02 BG 2	Philadelphia	1
CT 28.01 BG 1	Philadelphia	1
CT 28.01 BG 2	Philadelphia	1
CT 28.01 BG 3	Philadelphia	3
CT 28.02 BG 1	Philadelphia	1
CT 280 BG 1	Philadelphia	1
CT 280 BG 2	Philadelphia	1
CT 280 BG 3	Philadelphia	1
CT 280 BG 4	Philadelphia	1
CT 281 BG 1	Philadelphia	3
CT 281 BG 2	Philadelphia	1
CT 281 BG 3	Philadelphia	1
CT 282 BG 1	Philadelphia	1

Census Tract & Block Group ID	Place Name	Category
CT 282 BG 2	Philadelphia	1
CT 282 BG 3	Philadelphia	1
CT 283 BG 1	Philadelphia	1
CT 283 BG 2	Philadelphia	1
CT 283 BG 3	Philadelphia	3
CT 283 BG 4	Philadelphia	1
CT 283 BG 5	Philadelphia	3
CT 283 BG 6	Philadelphia	1
CT 283 BG 7	Philadelphia	1
CT 284 BG 1	Philadelphia	1
CT 284 BG 2	Philadelphia	1
CT 284 BG 3	Philadelphia	1
CT 284 BG 4	Philadelphia	3
CT 285 BG 1	Philadelphia	1
CT 286 BG 1	Philadelphia	1
CT 286 BG 2	Philadelphia	1
CT 286 BG 3	Philadelphia	1
CT 286 BG 4	Philadelphia	3
CT 286 BG 5	Philadelphia	1
CT 286 BG 6	Philadelphia	1
CT 287 BG 1	Philadelphia	1
CT 287 BG 2	Philadelphia	1
CT 288 BG 1	Philadelphia	1
CT 288 BG 2	Philadelphia	1
CT 288 BG 3	Philadelphia	1
CT 289.01 BG 1	Philadelphia	1
CT 289.01 BG 2	Philadelphia	1
CT 289.01 BG 3	Philadelphia	1
CT 289.02 BG 1	Philadelphia	1
CT 289.02 BG 2	Philadelphia	1
CT 289.02 BG 3	Philadelphia	1
CT 289.02 BG 4	Philadelphia	1
CT 289.02 BG 5	Philadelphia	1
CT 29 BG 1	Philadelphia	2
CT 290 BG 1	Philadelphia	1

Census Tract & Block Group ID	Place Name	Category
CT 290 BG 2	Philadelphia	1
CT 290 BG 3	Philadelphia	1
CT 290 BG 4	Philadelphia	1
CT 291 BG 1	Philadelphia	1
CT 291 BG 2	Philadelphia	1
CT 291 BG 3	Philadelphia	1
CT 291 BG 4	Philadelphia	3
CT 292 BG 1	Philadelphia	3
CT 292 BG 2	Philadelphia	1
CT 292 BG 3	Philadelphia	3
CT 293 BG 1	Philadelphia	1
CT 293 BG 2	Philadelphia	1
CT 294 BG 1	Philadelphia	1
CT 294 BG 2	Philadelphia	1
CT 294 BG 3	Philadelphia	1
CT 298 BG 1	Philadelphia	1
CT 298 BG 2	Philadelphia	1
CT 298 BG 3	Philadelphia	3
CT 298 BG 4	Philadelphia	1
CT 298 BG 5	Philadelphia	1
CT 299 BG 1	Philadelphia	1
CT 299 BG 2	Philadelphia	1
CT 299 BG 3	Philadelphia	1
CT 299 BG 4	Philadelphia	1
CT 30.01 BG 1	Philadelphia	1
CT 30.01 BG 3	Philadelphia	3
CT 30.01 BG 4	Philadelphia	1
CT 30.01 BG 5	Philadelphia	1
CT 30.02 BG 1	Philadelphia	3
CT 30.02 BG 2	Philadelphia	1
CT 30.02 BG 3	Philadelphia	3
CT 30.02 BG 4	Philadelphia	1
CT 300 BG 1	Philadelphia	1
CT 300 BG 2	Philadelphia	1
CT 300 BG 3	Philadelphia	1

Census Tract & Block Group ID	Place Name	Category
CT 300 BG 4	Philadelphia	1
CT 300 BG 5	Philadelphia	1
CT 300 BG 6	Philadelphia	1
CT 300 BG 7	Philadelphia	1
CT 301 BG 1	Philadelphia	1
CT 301 BG 2	Philadelphia	1
CT 301 BG 4	Philadelphia	3
CT 301 BG 5	Philadelphia	1
CT 302 BG 1	Philadelphia	1
CT 302 BG 2	Philadelphia	3
CT 302 BG 3	Philadelphia	3
CT 302 BG 4	Philadelphia	3
CT 302 BG 5	Philadelphia	1
CT 305.01 BG 1	Philadelphia	1
CT 305.01 BG 2	Philadelphia	1
CT 305.01 BG 3	Philadelphia	1
CT 305.02 BG 1	Philadelphia	3
CT 305.02 BG 2	Philadelphia	1
CT 305.02 BG 3	Philadelphia	1
CT 305.02 BG 4	Philadelphia	1
CT 305.02 BG 5	Philadelphia	3
CT 306 BG 2	Philadelphia	3
CT 306 BG 3	Philadelphia	3
CT 306 BG 4	Philadelphia	3
CT 306 BG 5	Philadelphia	3
CT 306 BG 6	Philadelphia	3
CT 306 BG 7	Philadelphia	3
CT 307 BG 1	Philadelphia	1
CT 307 BG 2	Philadelphia	1
CT 307 BG 3	Philadelphia	3
CT 308 BG 3	Philadelphia	1
CT 308 BG 4	Philadelphia	3
CT 309 BG 1	Philadelphia	1
CT 309 BG 2	Philadelphia	1
CT 309 BG 3	Philadelphia	1

Census Tract & Block Group ID	Place Name	Category
CT 31 BG 1	Philadelphia	3
CT 31 BG 2	Philadelphia	1
CT 31 BG 3	Philadelphia	1
CT 31 BG 4	Philadelphia	1
CT 31 BG 5	Philadelphia	1
CT 31 BG 6	Philadelphia	3
CT 310 BG 1	Philadelphia	3
CT 310 BG 2	Philadelphia	3
CT 310 BG 4	Philadelphia	3
CT 310 BG 5	Philadelphia	1
CT 310 BG 6	Philadelphia	3
CT 310 BG 7	Philadelphia	3
CT 311.01 BG 1	Philadelphia	1
CT 311.01 BG 2	Philadelphia	1
CT 311.01 BG 3	Philadelphia	3
CT 311.01 BG 4	Philadelphia	1
CT 311.02 BG 1	Philadelphia	3
CT 311.02 BG 2	Philadelphia	1
CT 311.02 BG 3	Philadelphia	1
CT 311.02 BG 4	Philadelphia	1
CT 312 BG 1	Philadelphia	1
CT 312 BG 2	Philadelphia	1
CT 312 BG 3	Philadelphia	1
CT 313 BG 1	Philadelphia	1
CT 313 BG 2	Philadelphia	1
CT 313 BG 3	Philadelphia	3
CT 313 BG 4	Philadelphia	1
CT 313 BG 5	Philadelphia	1
CT 313 BG 6	Philadelphia	1
CT 314.01 BG 1	Philadelphia	1
CT 314.01 BG 2	Philadelphia	1
CT 314.01 BG 3	Philadelphia	1
CT 314.01 BG 4	Philadelphia	1
CT 314.01 BG 5	Philadelphia	1
CT 314.02 BG 1	Philadelphia	1

Census Tract & Block Group ID	Place Name	Category
CT 314.02 BG 2	Philadelphia	1
CT 314.02 BG 3	Philadelphia	1
CT 315.01 BG 3	Philadelphia	2
CT 315.02 BG 1	Philadelphia	1
CT 315.02 BG 2	Philadelphia	2
CT 316 BG 2	Philadelphia	2
CT 316 BG 3	Philadelphia	1
CT 316 BG 5	Philadelphia	2
CT 316 BG 7	Philadelphia	3
CT 317 BG 1	Philadelphia	3
CT 317 BG 2	Philadelphia	3
CT 317 BG 3	Philadelphia	1
CT 317 BG 4	Philadelphia	3
CT 317 BG 5	Philadelphia	1
CT 318 BG 1	Philadelphia	3
CT 318 BG 2	Philadelphia	1
CT 318 BG 3	Philadelphia	1
CT 318 BG 4	Philadelphia	3
CT 319 BG 1	Philadelphia	1
CT 319 BG 2	Philadelphia	3
CT 319 BG 3	Philadelphia	2
CT 319 BG 4	Philadelphia	1
CT 319 BG 5	Philadelphia	3
CT 32 BG 1	Philadelphia	1
CT 32 BG 2	Philadelphia	1
CT 32 BG 3	Philadelphia	1
CT 32 BG 4	Philadelphia	1
CT 32 BG 5	Philadelphia	3
CT 32 BG 6	Philadelphia	1
CT 320 BG 1	Philadelphia	2
CT 320 BG 3	Philadelphia	3
CT 320 BG 4	Philadelphia	1
CT 320 BG 5	Philadelphia	3
CT 320 BG 6	Philadelphia	3
CT 320 BG 7	Philadelphia	2

Census Tract & Block Group ID	Place Name	Category
CT 321 BG 1	Philadelphia	1
CT 321 BG 2	Philadelphia	1
CT 321 BG 3	Philadelphia	2
CT 323 BG 1	Philadelphia	1
CT 323 BG 2	Philadelphia	1
CT 325 BG 1	Philadelphia	3
CT 325 BG 3	Philadelphia	1
CT 325 BG 4	Philadelphia	2
CT 326 BG 1	Philadelphia	1
CT 326 BG 3	Philadelphia	3
CT 326 BG 4	Philadelphia	3
CT 326 BG 5	Philadelphia	3
CT 326 BG 6	Philadelphia	2
CT 329 BG 1	Philadelphia	1
CT 329 BG 3	Philadelphia	1
CT 329 BG 4	Philadelphia	2
CT 33 BG 1	Philadelphia	1
CT 33 BG 2	Philadelphia	1
CT 33 BG 3	Philadelphia	1
CT 33 BG 4	Philadelphia	1
CT 33 BG 5	Philadelphia	2
CT 33 BG 6	Philadelphia	1
CT 330 BG 1	Philadelphia	3
CT 330 BG 3	Philadelphia	2
CT 330 BG 4	Philadelphia	1
CT 330 BG 6	Philadelphia	1
CT 331.02 BG 1	Philadelphia	2
CT 331.02 BG 2	Philadelphia	2
CT 334 BG 3	Philadelphia	1
CT 334 BG 4	Philadelphia	3
CT 335 BG 1	Philadelphia	1
CT 335 BG 2	Philadelphia	1
CT 335 BG 3	Philadelphia	3
CT 336 BG 2	Philadelphia	2
CT 336 BG 3	Philadelphia	2

Census Tract & Block Group ID	Place Name	Category
CT 336 BG 4	Philadelphia	2
CT 337.01 BG 1	Philadelphia	1
CT 337.01 BG 3	Philadelphia	1
CT 337.02 BG 2	Philadelphia	2
CT 338 BG 1	Philadelphia	2
CT 338 BG 3	Philadelphia	2
CT 339 BG 2	Philadelphia	1
CT 340 BG 2	Philadelphia	3
CT 345.01 BG 1	Philadelphia	2
CT 345.02 BG 3	Philadelphia	1
CT 346 BG 1	Philadelphia	1
CT 347.01 BG 1	Philadelphia	3
CT 348.02 BG 1	Philadelphia	3
CT 349 BG 1	Philadelphia	3
CT 349 BG 2	Philadelphia	3
CT 349 BG 4	Philadelphia	2
CT 356.01 BG 4	Philadelphia	2
CT 357.01 BG 1	Philadelphia	2
CT 357.01 BG 2	Philadelphia	3
CT 357.02 BG 1	Philadelphia	2
CT 357.02 BG 2	Philadelphia	2
CT 358 BG 1	Philadelphia	3
CT 358 BG 3	Philadelphia	2
CT 36 BG 1	Philadelphia	3
CT 36 BG 2	Philadelphia	1
CT 36 BG 3	Philadelphia	1
CT 36 BG 4	Philadelphia	1
CT 361 BG 1	Philadelphia	3
CT 364 BG 1	Philadelphia	2
CT 365.01 BG 3	Philadelphia	3
CT 369 BG 3	Philadelphia	2
CT 37.01 BG 1	Philadelphia	1
CT 37.01 BG 2	Philadelphia	1
CT 37.01 BG 3	Philadelphia	1
CT 37.01 BG 4	Philadelphia	1

Census Tract & Block Group ID	Place Name	Category
CT 37.01 BG 5	Philadelphia	3
CT 37.02 BG 1	Philadelphia	1
CT 37.02 BG 2	Philadelphia	1
CT 37.02 BG 3	Philadelphia	1
CT 372 BG 4	Philadelphia	1
CT 373 BG 3	Philadelphia	3
CT 375 BG 1	Philadelphia	3
CT 375 BG 2	Philadelphia	3
CT 376 BG 1	Philadelphia	1
CT 377 BG 1	Philadelphia	1
CT 377 BG 2	Philadelphia	1
CT 377 BG 3	Philadelphia	1
CT 378 BG 2	Philadelphia	2
CT 380 BG 2	Philadelphia	2
CT 381 BG 1	Philadelphia	2
CT 381 BG 2	Philadelphia	1
CT 382 BG 1	Philadelphia	1
CT 382 BG 3	Philadelphia	1
CT 383 BG 1	Philadelphia	1
CT 383 BG 2	Philadelphia	1
CT 383 BG 3	Philadelphia	1
CT 389 BG 1	Philadelphia	1
CT 389 BG 2	Philadelphia	3
CT 389 BG 3	Philadelphia	1
CT 39.01 BG 1	Philadelphia	2
CT 39.01 BG 4	Philadelphia	3
CT 390 BG 1	Philadelphia	1
CT 390 BG 2	Philadelphia	3
CT 390 BG 3	Philadelphia	1
CT 390 BG 4	Philadelphia	1
CT 390 BG 5	Philadelphia	1
CT 390 BG 6	Philadelphia	3
CT 390 BG 7	Philadelphia	1
CT 390 BG 8	Philadelphia	1
CT 40.01 BG 3	Philadelphia	2
CT 41.01 BG 1	Philadelphia	1
CT 41.01 BG 2	Philadelphia	1
CT 41.01 BG 3	Philadelphia	1
CT 41.01 BG 4	Philadelphia	1
CT 41.02 BG 1	Philadelphia	1
CT 41.02 BG 2	Philadelphia	1
CT 41.02 BG 3	Philadelphia	2
CT 41.02 BG 4	Philadelphia	2
CT 42.02 BG 2	Philadelphia	1
CT 5 BG 1	Philadelphia	3
CT 54 BG 1	Philadelphia	3
CT 55 BG 1	Philadelphia	1
CT 55 BG 2	Philadelphia	3
CT 55 BG 3	Philadelphia	3
CT 56 BG 1	Philadelphia	1
CT 60 BG 1	Philadelphia	1
CT 60 BG 2	Philadelphia	1
CT 60 BG 3	Philadelphia	1
CT 60 BG 4	Philadelphia	1
CT 60 BG 5	Philadelphia	3
CT 61 BG 1	Philadelphia	1
CT 61 BG 2	Philadelphia	1
CT 62 BG 1	Philadelphia	3
CT 62 BG 2	Philadelphia	1
CT 62 BG 3	Philadelphia	1
CT 62 BG 4	Philadelphia	1
CT 63 BG 1	Philadelphia	1
CT 63 BG 2	Philadelphia	1
CT 63 BG 3	Philadelphia	1
CT 63 BG 4	Philadelphia	1
CT 64 BG 1	Philadelphia	1
CT 64 BG 2	Philadelphia	1
CT 64 BG 3	Philadelphia	1
CT 65 BG 1	Philadelphia	1
CT 65 BG 2	Philadelphia	1

Census Tract & Block Group ID	Place Name	Category
CT 65 BG 3	Philadelphia	1
CT 65 BG 4	Philadelphia	1
CT 65 BG 5	Philadelphia	3
CT 65 BG 6	Philadelphia	1
CT 66 BG 1	Philadelphia	1
CT 66 BG 2	Philadelphia	1
CT 66 BG 3	Philadelphia	1
CT 66 BG 4	Philadelphia	1
CT 67 BG 1	Philadelphia	3
CT 67 BG 2	Philadelphia	3
CT 67 BG 3	Philadelphia	1
CT 67 BG 4	Philadelphia	1
CT 67 BG 5	Philadelphia	1
CT 67 BG 6	Philadelphia	3
CT 67 BG 7	Philadelphia	1
CT 69 BG 1	Philadelphia	1
CT 69 BG 2	Philadelphia	1
CT 69 BG 3	Philadelphia	1
CT 7 BG 3	Philadelphia	3
CT 70 BG 1	Philadelphia	1
CT 70 BG 2	Philadelphia	1
CT 70 BG 3	Philadelphia	1
CT 70 BG 4	Philadelphia	3
CT 70 BG 5	Philadelphia	1
CT 71.01 BG 1	Philadelphia	1
CT 71.01 BG 2	Philadelphia	1
CT 71.01 BG 3	Philadelphia	1
CT 71.02 BG 1	Philadelphia	1
CT 71.02 BG 2	Philadelphia	1
CT 71.02 BG 3	Philadelphia	1
CT 71.02 BG 4	Philadelphia	1
CT 71.02 BG 5	Philadelphia	1
CT 72 BG 1	Philadelphia	1
CT 72 BG 2	Philadelphia	1
CT 72 BG 3	Philadelphia	1

Census Tract & Block Group ID	Place Name	Category
CT 72 BG 4	Philadelphia	1
CT 72 BG 5	Philadelphia	3
CT 72 BG 6	Philadelphia	1
CT 73 BG 1	Philadelphia	1
CT 73 BG 2	Philadelphia	1
CT 73 BG 3	Philadelphia	3
CT 73 BG 4	Philadelphia	1
CT 74 BG 1	Philadelphia	1
CT 74 BG 2	Philadelphia	1
CT 74 BG 3	Philadelphia	1
CT 74 BG 4	Philadelphia	1
CT 74 BG 5	Philadelphia	1
CT 77 BG 1	Philadelphia	1
CT 77 BG 2	Philadelphia	1
CT 78 BG 1	Philadelphia	1
CT 78 BG 2	Philadelphia	1
CT 78 BG 3	Philadelphia	1
CT 79 BG 1	Philadelphia	3
CT 79 BG 3	Philadelphia	3
CT 79 BG 4	Philadelphia	3
CT 80 BG 1	Philadelphia	3
CT 80 BG 2	Philadelphia	3
CT 80 BG 3	Philadelphia	3
CT 80 BG 4	Philadelphia	1
CT 81.01 BG 1	Philadelphia	1
CT 81.01 BG 2	Philadelphia	1
CT 81.01 BG 3	Philadelphia	1
CT 81.02 BG 1	Philadelphia	1
CT 81.02 BG 2	Philadelphia	1
CT 81.02 BG 3	Philadelphia	1
CT 81.02 BG 4	Philadelphia	1
CT 81.02 BG 5	Philadelphia	1
CT 82 BG 1	Philadelphia	1
CT 82 BG 2	Philadelphia	1
CT 82 BG 3	Philadelphia	1

Census Tract & Block Group ID	Place Name	Category
CT 82 BG 4	Philadelphia	3
CT 82 BG 5	Philadelphia	3
CT 82 BG 6	Philadelphia	3
CT 82 BG 7	Philadelphia	1
CT 83.01 BG 1	Philadelphia	1
CT 83.01 BG 2	Philadelphia	3
CT 83.01 BG 3	Philadelphia	1
CT 83.02 BG 1	Philadelphia	1
CT 83.02 BG 2	Philadelphia	1
CT 83.02 BG 3	Philadelphia	1
CT 83.02 BG 4	Philadelphia	3
CT 84 BG 1	Philadelphia	1
CT 84 BG 2	Philadelphia	1
CT 84 BG 3	Philadelphia	3
CT 84 BG 4	Philadelphia	1
CT 84 BG 5	Philadelphia	1
CT 84 BG 6	Philadelphia	3
CT 85 BG 1	Philadelphia	1
CT 85 BG 2	Philadelphia	1
CT 85 BG 3	Philadelphia	3
CT 85 BG 4	Philadelphia	1
CT 85 BG 5	Philadelphia	1
CT 85 BG 6	Philadelphia	1
CT 85 BG 7	Philadelphia	1
CT 86.01 BG 1	Philadelphia	3
CT 86.02 BG 1	Philadelphia	1
CT 86.02 BG 2	Philadelphia	1
CT 86.02 BG 3	Philadelphia	3
CT 87.01 BG 2	Philadelphia	1
CT 87.01 BG 3	Philadelphia	1
CT 87.02 BG 1	Philadelphia	1
CT 88.01 BG 1	Philadelphia	2
CT 88.01 BG 2	Philadelphia	1
CT 88.02 BG 1	Philadelphia	1
CT 88.02 BG 2	Philadelphia	1

Census Tract & Block Group ID	Place Name	Category
CT 88.02 BG 3	Philadelphia	2
CT 88.02 BG 4	Philadelphia	2
CT 90 BG 2	Philadelphia	2
CT 90 BG 3	Philadelphia	2
CT 90 BG 4	Philadelphia	2
CT 91 BG 1	Philadelphia	3
CT 91 BG 2	Philadelphia	3
CT 91 BG 3	Philadelphia	1
CT 92 BG 1	Philadelphia	1
CT 92 BG 2	Philadelphia	1
CT 93 BG 1	Philadelphia	1
CT 93 BG 2	Philadelphia	1
CT 93 BG 3	Philadelphia	1
CT 93 BG 4	Philadelphia	1
CT 93 BG 5	Philadelphia	1
CT 94 BG 1	Philadelphia	1
CT 94 BG 2	Philadelphia	1
CT 94 BG 3	Philadelphia	3
CT 94 BG 4	Philadelphia	1
CT 95 BG 1	Philadelphia	1
CT 95 BG 2	Philadelphia	1
CT 95 BG 3	Philadelphia	3
CT 95 BG 4	Philadelphia	1
CT 96 BG 1	Philadelphia	1
CT 96 BG 2	Philadelphia	1
CT 96 BG 3	Philadelphia	1
CT 96 BG 4	Philadelphia	1
CT 96 BG 5	Philadelphia	3
CT 98.01 BG 1	Philadelphia	3
CT 98.01 BG 2	Philadelphia	1
CT 98.02 BG 1	Philadelphia	3
CT 98.02 BG 2	Philadelphia	3
CT 98.02 BG 3	Philadelphia	1
CT 9800 BG 1	Philadelphia	3
CT 9891 BG 1	Philadelphia	1

Table G-EJ21. Census Tracts (CT) and Block Groups (BG) in Delaware County, Pennsylvania (County ID 42-045) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.

Census Tract & Block Group ID	Place Name	Category
CT 4003.01 BG 1	Upper Darby	1
CT 4003.01 BG 2	Upper Darby	1
CT 4003.01 BG 3	Upper Darby	1
CT 4003.01 BG 4	Upper Darby	1
CT 4003.02 BG 1	Upper Darby	1
CT 4003.02 BG 2	Upper Darby	1
CT 4003.02 BG 3	Upper Darby	1
CT 4004.01 BG 1	Upper Darby	1
CT 4004.01 BG 2	Upper Darby	1
CT 4004.01 BG 3	Upper Darby	1
CT 4004.02 BG 1	Upper Darby	1
CT 4004.02 BG 2	Upper Darby	1
CT 4004.02 BG 3	Upper Darby	1
CT 4004.02 BG 4	Upper Darby	1
CT 4005 BG 1	Upper Darby	1
CT 4005 BG 2	Upper Darby	3
CT 4005 BG 3	Upper Darby	1
CT 4005 BG 4	Upper Darby	1
CT 4006 BG 1	Upper Darby	1
CT 4006 BG 2	Upper Darby	2
CT 4006 BG 3	Upper Darby	3
CT 4006 BG 4	Upper Darby	3
CT 4006 BG 5	Upper Darby	1
CT 4007 BG 1	Upper Darby	1
CT 4007 BG 2	Upper Darby	1
CT 4007 BG 3	Upper Darby	3
CT 4007 BG 4	Upper Darby	1
CT 4008.01 BG 1	Upper Darby	1
CT 4008.02 BG 1	Upper Darby	1
CT 4008.02 BG 3	Upper Darby	3

Census Tract & Block Group ID	Place Name	Category
CT 4010 BG 2	Upper Darby	3
CT 4011.01 BG 1	Upper Darby	3
CT 4011.01 BG 3	Upper Darby	2
CT 4011.03 BG 2	Upper Darby	3
CT 4011.04 BG 1	Upper Darby	2
CT 4012 BG 2	Upper Darby	2
CT 4012 BG 3	Upper Darby	2
CT 4012 BG 4	Upper Darby	2
CT 4013.01 BG 1	Upper Darby	3
CT 4013.02 BG 1	Upper Darby	2
CT 4014.01 BG 1	Upper Darby	2
CT 4014.01 BG 2	Upper Darby	2
CT 4014.02 BG 2	Upper Darby	3
CT 4014.02 BG 3	Upper Darby	2
CT 4014.02 BG 4	Upper Darby	1
CT 4015.01 BG 2	Upper Darby	2
CT 4015.02 BG 1	Upper Darby	1
CT 4015.02 BG 3	Upper Darby	1
CT 4016 BG 1	Upper Darby	1
CT 4016 BG 2	Upper Darby	1
CT 4017 BG 1	East Lansdowne	1
CT 4018 BG 1	Lansdowne	3
CT 4018 BG 2	Lansdowne	1
CT 4018 BG 3	Lansdowne	1
CT 4019 BG 1	Lansdowne	1
CT 4019 BG 3	Lansdowne	1
CT 4019 BG 4	Lansdowne	3
CT 4019 BG 5	Lansdowne	1
CT 4020 BG 1	Lansdowne	1
CT 4020 BG 2	Lansdowne	3

Census Tract & Block Group ID	Place Name	Category
CT 4021 BG 1	Yeadon	1
CT 4021 BG 2	Yeadon	1
CT 4021 BG 3	Yeadon	3
CT 4021 BG 4	Yeadon	1
CT 4022 BG 1	Yeadon	1
CT 4022 BG 2	Yeadon	1
CT 4023 BG 1	Yeadon	1
CT 4023 BG 2	Yeadon	1
CT 4023 BG 3	Yeadon	1
CT 4024 BG 1	Darby	1
CT 4024 BG 2	Darby	1
CT 4024 BG 3	Darby	1
CT 4025 BG 1	Darby	1
CT 4025 BG 2	Darby	1
CT 4025 BG 3	Darby	1
CT 4026 BG 1	Darby	1
CT 4026 BG 2	Darby	1
CT 4027 BG 1	Colwyn	1
CT 4027 BG 2	Colwyn	1
CT 4028 BG 1	Sharon Hill	1
CT 4028 BG 2	Sharon Hill	1
CT 4028 BG 3	Sharon Hill	3
CT 4028 BG 4	Sharon Hill	3
CT 4028 BG 5	Sharon Hill	1
CT 4029 BG 1	Darby	1
CT 4029 BG 2	Darby	1
CT 4029 BG 3	Darby	1
CT 4030.01 BG 2	Darby	2
CT 4030.02 BG 1	Darby	2
CT 4030.02 BG 2	Darby	2
CT 4031.01 BG 1	Collingdale	1
CT 4031.01 BG 2	Collingdale	1
CT 4031.01 BG 3	Collingdale	1
CT 4031.03 BG 1	Collingdale	1
CT 4031.03 BG 2	Collingdale	3

Census Tract & Block Group ID	Place Name	Category
CT 4031.04 BG 1	Collingdale	1
CT 4031.04 BG 2	Collingdale	1
CT 4032 BG 1	Aldan	3
CT 4032 BG 4	Aldan	1
CT 4033 BG 1	Clifton Heights	2
CT 4033 BG 2	Clifton Heights	1
CT 4033 BG 3	Clifton Heights	1
CT 4033 BG 4	Clifton Heights	2
CT 4033 BG 5	Clifton Heights	3
CT 4034.01 BG 2	Folcroft	1
CT 4034.02 BG 1	Folcroft	1
CT 4034.02 BG 2	Folcroft	1
CT 4035.01 BG 3	Glenolden	2
CT 4035.02 BG 1	Glenolden	2
CT 4035.02 BG 2	Glenolden	1
CT 4036.01 BG 3	Norwood	2
CT 4036.01 BG 4	Norwood	2
CT 4037.01 BG 1	Tinicum	2
CT 4037.02 BG 1	Tinicum	2
CT 4037.02 BG 2	Tinicum	2
CT 4038 BG 3	Prospect Park	3
CT 4038 BG 5	Prospect Park	2
CT 4039.01 BG 2	Ridley Park	2
CT 4040.04 BG 3	Ridley	2
CT 4041.01 BG 4	Ridley	2
CT 4041.02 BG 3	Ridley	2
CT 4041.02 BG 4	Ridley	1
CT 4041.03 BG 1	Ridley	2
CT 4041.03 BG 2	Ridley	2
CT 4043 BG 1	Eddystone	2
CT 4043 BG 2	Eddystone	1
CT 4043 BG 3	Eddystone	2
CT 4044 BG 1	Chester	3
CT 4044 BG 2	Chester	1
CT 4045 BG 1	Chester	1

Census Tract & Block Group ID	Place Name	Category
CT 4045 BG 2	Chester	1
CT 4045 BG 3	Chester	1
CT 4045 BG 4	Chester	1
CT 4046 BG 1	Chester	1
CT 4046 BG 2	Chester	1
CT 4046 BG 3	Chester	3
CT 4047 BG 1	Chester	1
CT 4047 BG 2	Chester	1
CT 4048 BG 1	Chester	1
CT 4048 BG 2	Chester	1
CT 4048 BG 3	Chester	1
CT 4049 BG 1	Chester	1
CT 4049 BG 2	Chester	1
CT 4050 BG 1	Chester	1
CT 4050 BG 2	Chester	1
CT 4050 BG 3	Chester	1
CT 4051 BG 1	Chester	1
CT 4051 BG 2	Chester	1
CT 4052 BG 1	Chester	1
CT 4052 BG 2	Chester	1
CT 4052 BG 3	Chester	1
CT 4053 BG 1	Chester	1
CT 4053 BG 2	Chester	1
CT 4054 BG 1	Chester	1
CT 4054 BG 2	Chester	1
CT 4061 BG 1	Parkside	2
CT 4061 BG 2	Parkside	2
CT 4062.02 BG 4	Brookhaven	2
CT 4063 BG 1	Upland	1
CT 4063 BG 2	Upland	1
CT 4063 BG 3	Upland	1
CT 4064.01 BG 1	Chester	1
CT 4064.01 BG 2	Chester	1
CT 4064.02 BG 1	Chester	1
CT 4064.02 BG 2	Chester	1
CT 4065 BG 1	Trainer	1
CT 4065 BG 2	Trainer	1
CT 4066 BG 1	Marcus Hook	2
CT 4066 BG 2	Marcus Hook	1
CT 4067 BG 1	Lower Chichester	2
CT 4067 BG 2	Lower Chichester	2
CT 4068.01 BG 1	Upper Chichester	2
CT 4068.01 BG 3	Upper Chichester	2
CT 4068.02 BG 2	Upper Chichester	1
CT 4068.02 BG 3	Upper Chichester	2
CT 4068.02 BG 4	Upper Chichester	2
CT 4068.03 BG 4	Upper Chichester	2
CT 4069.03 BG 2	Aston	2
CT 4074.01 BG 4	Nether Providence	3
CT 4075.01 BG 1	Media	2
CT 4077 BG 2	Springfield	1
CT 4078.06 BG 1	Springfield	3
CT 4079.03 BG 1	Upper Providence	3
CT 4085 BG 1	Haverford	3
CT 4088 BG 1	Haverford	2
CT 4088 BG 5	Haverford	2
CT 4096.02 BG 1	Radnor	1
CT 4096.02 BG 3	Radnor	2
CT 4098.02 BG 2	Radnor	2
CT 4098.03 BG 2	Radnor	2
CT 4098.03 BG 5	Radnor	2
CT 4099.02 BG 1	Newtown	2
CT 4101 BG 3	Thornbury	2
CT 4103.01 BG 2	Concord	3
CT 4105 BG 1	Millbourne	1
CT 4105 BG 2	Upper Darby	1
CT 4105 BG 3	Upper Darby	1
CT 4105 BG 4	Upper Darby	1
CT 4105 BG 5	Upper Darby	1
CT 4107 BG 1	Chester	1

Census Tract & Block Group ID	Place Name	Category
CT 4107 BG 2	Chester	1
CT 4107 BG 3	Chester	1
CT 4107 BG 4	Chester	1
CT 4107 BG 5	Chester	1
CT 4108 BG 2	Nether Providence	2
CT 4108 BG 7	Nether Providence	3

Table G-EJ22. Census Tracts (CT) and Block Groups (BG) in Baltimore County, Maryland (County ID 24-005) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.

Census Tract & Block Group ID	Place Name	Category
CT 4001 BG 1	Catonsville	3
CT 4001 BG 3	Catonsville	2
CT 4002 BG 1	Catonsville	2
CT 4004 BG 2	Catonsville	2
CT 4006 BG 2	Catonsville	1
CT 4006 BG 3	Catonsville	2
CT 4007.01 BG 2	Catonsville	3
CT 4008 BG 1	Catonsville	1
CT 4008 BG 2	Catonsville	2
CT 4009 BG 1	Catonsville	3
CT 4010 BG 1	Catonsville	2
CT 4011.01 BG 1	Woodlawn	1
CT 4011.01 BG 2	Woodlawn	3
CT 4011.01 BG 3	Woodlawn	1
CT 4011.01 BG 4	Woodlawn	1
CT 4011.02 BG 1	Woodlawn	1
CT 4012 BG 1	Woodlawn	3
CT 4012 BG 2	Woodlawn	3
CT 4013.01 BG 1	Woodlawn	1
CT 4013.01 BG 2	Woodlawn	3
CT 4013.01 BG 3	Woodlawn	1
CT 4013.02 BG 1	Woodlawn	1
CT 4013.02 BG 2	Woodlawn	3
CT 4015.04 BG 1	Woodlawn	3
CT 4015.04 BG 2	Woodlawn	3
CT 4015.04 BG 3	Woodlawn	1
CT 4015.05 BG 1	Woodlawn	1
CT 4015.05 BG 2	Woodlawn	1
CT 4015.05 BG 3	Woodlawn	1
CT 4015.06 BG 1	Woodlawn	3
CT 4015.06 BG 2	Woodlawn	3
CT 4015.06 BG 3	Woodlawn	3
CT 4015.07 BG 1	Woodlawn	1
CT 4015.07 BG 2	Woodlawn	1
CT 4015.07 BG 3	Woodlawn	1
CT 4015.07 BG 4	Woodlawn	1
CT 4022.01 BG 1	Un-named Area	3
CT 4022.01 BG 2	Un-named Area	1
CT 4023.02 BG 1	Milford Mill	3
CT 4023.02 BG 2	Milford Mill	1
CT 4023.03 BG 1	Milford Mill	1
CT 4023.03 BG 2	Milford Mill	3
CT 4023.03 BG 3	Milford Mill	3
CT 4023.03 BG 4	Milford Mill	1
CT 4023.03 BG 5	Milford Mill	3
CT 4023.04 BG 1	Lochearn	1

Census Tract & Block Group ID	Place Name	Category
CT 4023.04 BG 2	Lochearn	3
CT 4023.04 BG 3	Lochearn	1
CT 4023.05 BG 1	Lochearn	1
CT 4023.05 BG 2	Lochearn	1
CT 4023.06 BG 1	Milford Mill	1
CT 4023.06 BG 2	Milford Mill	1
CT 4023.07 BG 1	Milford Mill	1
CT 4023.07 BG 2	Milford Mill	3
CT 4023.07 BG 3	Milford Mill	1
CT 4024.03 BG 1	Lochearn	1
CT 4024.03 BG 2	Lochearn	3
CT 4024.04 BG 1	Lochearn	1
CT 4024.04 BG 2	Lochearn	3
CT 4024.04 BG 3	Lochearn	1
CT 4024.05 BG 1	Woodlawn	3
CT 4024.05 BG 2	Lochearn	1
CT 4024.06 BG 1	Milford Mill	3
CT 4024.06 BG 2	Milford Mill	1
CT 4024.06 BG 3	Milford Mill	1
CT 4024.07 BG 1	Milford Mill	3
CT 4024.07 BG 2	Milford Mill	1
CT 4025.03 BG 1	Randallstown	1
CT 4025.03 BG 2	Randallstown	3
CT 4025.03 BG 3	Randallstown	1
CT 4025.04 BG 1	Randallstown	3
CT 4025.04 BG 2	Randallstown	3
CT 4025.05 BG 1	Randallstown	3
CT 4025.05 BG 2	Randallstown	1
CT 4025.06 BG 1	Randallstown	3
CT 4025.06 BG 2	Randallstown	3
CT 4025.09 BG 1	Owings Mills	3
CT 4025.09 BG 2	Owings Mills	1
CT 4025.09 BG 3	Owings Mills	3
CT 4026.02 BG 1	Randallstown	1
CT 4026.02 BG 2	Randallstown	1

Census Tract & Block Group ID	Place Name	Category
CT 4026.03 BG 1	Randallstown	3
CT 4026.03 BG 2	Owings Mills	3
CT 4026.03 BG 3	Randallstown	3
CT 4026.04 BG 1	Randallstown	3
CT 4026.04 BG 2	Randallstown	3
CT 4026.04 BG 3	Randallstown	1
CT 4031 BG 1	Lochearn	3
CT 4031 BG 2	Lochearn	3
CT 4032.01 BG 1	Lochearn	1
CT 4032.01 BG 2	Lochearn	1
CT 4032.02 BG 1	Lochearn	3
CT 4033 BG 1	Lochearn	3
CT 4033 BG 2	Lochearn	3
CT 4034.02 BG 1	Pikesville	1
CT 4034.02 BG 2	Pikesville	3
CT 4034.02 BG 3	Pikesville	1
CT 4034.02 BG 4	Pikesville	1
CT 4036.02 BG 1	Towson	1
CT 4037.01 BG 3	Garrison	1
CT 4037.01 BG 5	Garrison	3
CT 4037.02 BG 2	Garrison	3
CT 4041.01 BG 2	Owings Mills	3
CT 4041.02 BG 1	Owings Mills	3
CT 4041.02 BG 2	Owings Mills	1
CT 4042.01 BG 1	Reisterstown	3
CT 4042.01 BG 2	Reisterstown	1
CT 4042.01 BG 3	Reisterstown	3
CT 4042.02 BG 1	Owings Mills	1
CT 4042.02 BG 2	Owings Mills	1
CT 4042.02 BG 3	Owings Mills	1
CT 4042.02 BG 4	Owings Mills	1
CT 4044.02 BG 2	Un-named Area	1
CT 4044.03 BG 1	Reisterstown	3
CT 4044.03 BG 2	Reisterstown	1
CT 4044.04 BG 1	Reisterstown	1

Census Tract & Block Group ID	Place Name	Category
CT 4045.01 BG 1	Reisterstown	2
CT 4045.01 BG 4	Reisterstown	3
CT 4045.02 BG 1	Reisterstown	1
CT 4045.02 BG 3	Reisterstown	1
CT 4046 BG 2	Un-named Area	2
CT 4083.04 BG 2	Un-named Area	1
CT 4085.03 BG 2	Cockeysville	1
CT 4085.06 BG 1	Cockeysville	1
CT 4085.06 BG 2	Cockeysville	1
CT 4085.07 BG 1	Cockeysville	3
CT 4085.07 BG 2	Cockeysville	1
CT 4085.07 BG 3	Cockeysville	3
CT 4113.03 BG 1	Perry Hall	1
CT 4113.06 BG 1	Perry Hall	1
CT 4113.06 BG 3	Perry Hall	3
CT 4113.07 BG 2	White Marsh	3
CT 4113.09 BG 3	Un-named Area	3
CT 4114.07 BG 4	Carney	1
CT 4114.08 BG 1	Carney	1
CT 4114.08 BG 2	Perry Hall	1
CT 4114.1 BG 3	Perry Hall	3
CT 4201 BG 1	Dundalk	2
CT 4203.01 BG 1	Dundalk	2
CT 4203.02 BG 1	Dundalk	2
CT 4203.02 BG 2	Dundalk	2
CT 4203.03 BG 1	Dundalk	2
CT 4204.01 BG 1	Dundalk	2
CT 4204.01 BG 2	Dundalk	1
CT 4204.01 BG 3	Dundalk	2
CT 4204.02 BG 1	Dundalk	2
CT 4205 BG 1	Dundalk	2
CT 4205 BG 2	Dundalk	1
CT 4206 BG 1	Dundalk	2
CT 4206 BG 2	Dundalk	2
CT 4206 BG 3	Dundalk	2

Census Tract & Block Group ID	Place Name	Category
CT 4207.01 BG 1	Dundalk	2
CT 4207.02 BG 1	Dundalk	2
CT 4208 BG 1	Dundalk	2
CT 4208 BG 3	Dundalk	2
CT 4209 BG 1	Dundalk	2
CT 4209 BG 2	Dundalk	2
CT 4209 BG 3	Dundalk	2
CT 4210 BG 1	Dundalk	2
CT 4211.01 BG 1	Dundalk	2
CT 4211.01 BG 2	Dundalk	2
CT 4211.02 BG 2	Dundalk	2
CT 4212 BG 1	Dundalk	2
CT 4212 BG 2	Dundalk	2
CT 4213 BG 1	Dundalk	1
CT 4213 BG 2	Dundalk	1
CT 4213 BG 3	Dundalk	1
CT 4301.01 BG 1	Baltimore Highlands	1
CT 4301.01 BG 2	Baltimore Highlands	1
CT 4301.04 BG 2	Baltimore Highlands	2
CT 4302 BG 1	Lansdowne	2
CT 4302 BG 3	Lansdowne	2
CT 4303 BG 1	Lansdowne	2
CT 4303 BG 2	Lansdowne	1
CT 4303 BG 3	Lansdowne	2
CT 4303 BG 4	Lansdowne	1
CT 4304 BG 3	Arbutus	2
CT 4308 BG 1	Arbutus	2
CT 4308 BG 2	Arbutus	2
CT 4309 BG 1	Arbutus	1
CT 4309 BG 2	Arbutus	1
CT 4309 BG 3	Arbutus	1
CT 4401 BG 1	Parkville	2
CT 4402 BG 1	Overlea	1
CT 4403 BG 1	Overlea	1
CT 4404 BG 1	Overlea	1

Census Tract & Block Group ID	Place Name	Category
CT 4404 BG 2	Overlea	2
CT 4404 BG 3	Overlea	3
CT 4404 BG 4	Overlea	2
CT 4405 BG 2	Overlea	2
CT 4407.01 BG 1	Rossville	1
CT 4407.01 BG 2	Rossville	1
CT 4407.01 BG 3	Rossville	1
CT 4407.02 BG 1	Rossville	1
CT 4408 BG 1	Rossville	3
CT 4409 BG 1	Rosedale	1
CT 4409 BG 2	Rosedale	1
CT 4410 BG 1	Rosedale	3
CT 4410 BG 2	Rosedale	1
CT 4411.01 BG 2	Rosedale	2
CT 4411.02 BG 1	Rosedale	1
CT 4411.02 BG 4	Rosedale	2
CT 4501 BG 3	Rosedale	2
CT 4502 BG 2	Essex	2
CT 4503 BG 1	Essex	2
CT 4503 BG 2	Essex	2
CT 4504 BG 2	Essex	2
CT 4505.01 BG 1	Essex	2
CT 4505.01 BG 2	Essex	2
CT 4505.01 BG 3	Essex	2
CT 4505.03 BG 1	Essex	1
CT 4505.03 BG 2	Essex	1
CT 4505.03 BG 3	Essex	1
CT 4505.04 BG 1	Essex	2
CT 4505.04 BG 2	Essex	1
CT 4505.04 BG 3	Essex	1
CT 4508 BG 1	Essex	2
CT 4508 BG 2	Essex	1
CT 4508 BG 3	Essex	1
CT 4509 BG 1	Essex	2
CT 4509 BG 2	Essex	2

Census Tract & Block Group ID	Place Name	Category
CT 4511 BG 1	Essex	1
CT 4512 BG 2	Middle River	2
CT 4513 BG 1	Middle River	1
CT 4513 BG 2	Middle River	2
CT 4514.01 BG 1	Middle River	1
CT 4514.01 BG 2	Middle River	1
CT 4514.02 BG 2	Middle River	1
CT 4514.02 BG 3	Middle River	1
CT 4515 BG 1	Middle River	2
CT 4515 BG 2	Middle River	1
CT 4515 BG 3	Middle River	2
CT 4516 BG 1	Middle River	2
CT 4518.01 BG 1	Un-named Area	2
CT 4518.01 BG 4	Un-named Area	1
CT 4518.02 BG 3	Middle River	2
CT 4521 BG 2	Edgemere	2
CT 4521 BG 3	Edgemere	2
CT 4523 BG 1	Dundalk	1
CT 4523 BG 2	Dundalk	2
CT 4524 BG 1	Dundalk	2
CT 4524 BG 2	Dundalk	2
CT 4525 BG 2	Dundalk	2
CT 4903.01 BG 1	Towson	1
CT 4903.01 BG 2	Towson	2
CT 4903.02 BG 1	Towson	3
CT 4906.05 BG 1	Towson	2
CT 4906.05 BG 2	Towson	3
CT 4908 BG 2	Towson	2
CT 4909 BG 1	Towson	2
CT 4909 BG 2	Towson	2
CT 4909 BG 3	Towson	2
CT 4911 BG 1	Towson	3
CT 4911 BG 2	Towson	1
CT 4912.02 BG 1	Towson	2
CT 4913 BG 2	Towson	1

Census Tract & Block Group ID	Place Name	Category
CT 4914.01 BG 1	Parkville	1
CT 4914.01 BG 2	Parkville	1
CT 4914.01 BG 3	Parkville	1
CT 4914.02 BG 1	Parkville	3
CT 4914.02 BG 2	Parkville	1
CT 4915 BG 1	Parkville	2
CT 4915 BG 3	Parkville	1
CT 4916 BG 1	Parkville	2
CT 4916 BG 2	Parkville	2
CT 4916 BG 3	Parkville	3
CT 4917.01 BG 2	Carney	1
CT 4919 BG 1	Carney	2
CT 4920.01 BG 1	Parkville	3
CT 4920.02 BG 3	Parkville	1
CT 4921.01 BG 1	Parkville	2
CT 4922 BG 2	Carney	2
CT 4923 BG 1	Essex	2
CT 4923 BG 2	Essex	2
CT 4924.01 BG 1	Randallstown	3
CT 4924.01 BG 2	Owings Mills	3
CT 4924.02 BG 1	Owings Mills	3
CT 4924.02 BG 2	Owings Mills	3
CT 4925 BG 2	Catonsville	1
CT 4926 BG 1	Carney	3
CT 4926 BG 2	Carney	2
CT 4926 BG 3	Carney	1

Table G-EJ23. Census Tracts (CT) and Block Groups (BG) in the City of Baltimore, Maryland (County ID 24-510) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.
Note that Baltimore is an independent city in Maryland and is considered the equivalent of a county.

Census Tract & Block Group ID	Place Name	Category
CT 1001 BG 1	Baltimore	1
CT 1001 BG 2	Baltimore	1
CT 1001 BG 3	Baltimore	3
CT 1001 BG 4	Baltimore	1
CT 1002 BG 1	Baltimore	1
CT 1002 BG 2	Baltimore	1
CT 1002 BG 3	Baltimore	1
CT 1003 BG 1	Baltimore	3
CT 1101 BG 2	Baltimore	3
CT 1102 BG 2	Baltimore	2
CT 1201 BG 4	Baltimore	1
CT 1202.02 BG 2	Baltimore	1
CT 1202.02 BG 3	Baltimore	1
CT 1202.02 BG 4	Baltimore	2
CT 1202.02 BG 5	Baltimore	3
CT 1203 BG 1	Baltimore	3
CT 1203 BG 2	Baltimore	3
CT 1203 BG 3	Baltimore	1
CT 1203 BG 4	Baltimore	1
CT 1204 BG 1	Baltimore	1
CT 1204 BG 2	Baltimore	1
CT 1205 BG 1	Baltimore	3
CT 1205 BG 2	Baltimore	1
CT 1206 BG 1	Baltimore	3
CT 1206 BG 2	Baltimore	1
CT 1206 BG 3	Baltimore	1

Census Tract & Block Group ID	Place Name	Category
CT 1207 BG 2	Baltimore	2
CT 1301 BG 1	Baltimore	3
CT 1301 BG 2	Baltimore	1
CT 1301 BG 3	Baltimore	3
CT 1301 BG 4	Baltimore	1
CT 1302 BG 1	Baltimore	3
CT 1302 BG 2	Baltimore	3
CT 1302 BG 3	Baltimore	1
CT 1302 BG 4	Baltimore	1
CT 1303 BG 1	Baltimore	3
CT 1303 BG 2	Baltimore	1
CT 1303 BG 3	Baltimore	1
CT 1304 BG 1	Baltimore	1
CT 1304 BG 2	Baltimore	1
CT 1304 BG 3	Baltimore	1
CT 1307 BG 1	Baltimore	2
CT 1308.03 BG 1	Baltimore	2
CT 1308.05 BG 1	Baltimore	3
CT 1401 BG 2	Baltimore	3
CT 1401 BG 3	Baltimore	1
CT 1402 BG 1	Baltimore	1
CT 1402 BG 2	Baltimore	3
CT 1402 BG 3	Baltimore	1
CT 1402 BG 4	Baltimore	1
CT 1403 BG 1	Baltimore	1
CT 1403 BG 2	Baltimore	1
CT 1403 BG 3	Baltimore	3
CT 1403 BG 4	Baltimore	3
CT 1501 BG 1	Baltimore	1
CT 1501 BG 2	Baltimore	1
CT 1501 BG 3	Baltimore	1
CT 1502 BG 1	Baltimore	3
CT 1502 BG 2	Baltimore	1
CT 1502 BG 3	Baltimore	1
CT 1503 BG 1	Baltimore	1

Census Tract & Block Group ID	Place Name	Category
CT 1503 BG 2	Baltimore	3
CT 1503 BG 3	Baltimore	1
CT 1504 BG 1	Baltimore	1
CT 1504 BG 2	Baltimore	1
CT 1504 BG 3	Baltimore	1
CT 1505 BG 1	Baltimore	1
CT 1505 BG 2	Baltimore	1
CT 1506 BG 1	Baltimore	1
CT 1506 BG 2	Baltimore	1
CT 1506 BG 3	Baltimore	1
CT 1506 BG 4	Baltimore	1
CT 1506 BG 5	Baltimore	1
CT 1507.01 BG 1	Baltimore	1
CT 1507.01 BG 2	Baltimore	3
CT 1507.01 BG 3	Baltimore	1
CT 1507.02 BG 1	Baltimore	3
CT 1507.02 BG 2	Baltimore	3
CT 1507.02 BG 3	Baltimore	1
CT 1508 BG 1	Baltimore	1
CT 1508 BG 2	Baltimore	1
CT 1508 BG 3	Baltimore	1
CT 1508 BG 4	Baltimore	3
CT 1508 BG 5	Baltimore	1
CT 1508 BG 6	Baltimore	3
CT 1509 BG 1	Baltimore	1
CT 1509 BG 2	Baltimore	3
CT 1509 BG 3	Baltimore	3
CT 1509 BG 4	Baltimore	3
CT 1510 BG 1	Baltimore	1
CT 1510 BG 2	Baltimore	1
CT 1510 BG 3	Baltimore	1
CT 1510 BG 4	Baltimore	3
CT 1510 BG 5	Baltimore	3
CT 1510 BG 6	Baltimore	1
CT 1510 BG 7	Baltimore	1

Census Tract & Block Group ID	Place Name	Category
CT 1511 BG 1	Baltimore	3
CT 1511 BG 2	Baltimore	1
CT 1511 BG 3	Baltimore	3
CT 1511 BG 4	Baltimore	3
CT 1511 BG 5	Baltimore	1
CT 1511 BG 6	Baltimore	3
CT 1512 BG 1	Baltimore	1
CT 1512 BG 2	Baltimore	1
CT 1512 BG 3	Baltimore	1
CT 1512 BG 4	Baltimore	1
CT 1512 BG 5	Baltimore	1
CT 1513 BG 1	Baltimore	1
CT 1513 BG 2	Baltimore	1
CT 1513 BG 3	Baltimore	1
CT 1513 BG 4	Baltimore	1
CT 1513 BG 5	Baltimore	1
CT 1601 BG 1	Baltimore	1
CT 1601 BG 2	Baltimore	1
CT 1601 BG 3	Baltimore	1
CT 1601 BG 4	Baltimore	1
CT 1602 BG 1	Baltimore	3
CT 1602 BG 2	Baltimore	1
CT 1602 BG 3	Baltimore	1
CT 1603 BG 1	Baltimore	1
CT 1603 BG 2	Baltimore	1
CT 1604 BG 1	Baltimore	1
CT 1604 BG 2	Baltimore	1
CT 1604 BG 3	Baltimore	1
CT 1604 BG 4	Baltimore	1
CT 1605 BG 1	Baltimore	1
CT 1605 BG 2	Baltimore	1
CT 1605 BG 3	Baltimore	1
CT 1605 BG 4	Baltimore	1
CT 1605 BG 5	Baltimore	3
CT 1606 BG 1	Baltimore	1
CT 1606 BG 2	Baltimore	1
CT 1606 BG 3	Baltimore	1
CT 1606 BG 4	Baltimore	1
CT 1606 BG 5	Baltimore	3
CT 1607 BG 1	Baltimore	1
CT 1607 BG 2	Baltimore	1
CT 1607 BG 3	Baltimore	1
CT 1607 BG 4	Baltimore	1
CT 1607 BG 5	Baltimore	3
CT 1607 BG 6	Baltimore	1
CT 1607 BG 7	Baltimore	1
CT 1608.01 BG 1	Baltimore	3
CT 1608.01 BG 2	Baltimore	1
CT 1608.01 BG 3	Baltimore	3
CT 1608.01 BG 4	Baltimore	3
CT 1608.02 BG 1	Baltimore	1
CT 1608.02 BG 2	Baltimore	1
CT 1608.02 BG 3	Baltimore	1
CT 1701 BG 1	Baltimore	1
CT 1701 BG 2	Baltimore	1
CT 1702 BG 1	Baltimore	1
CT 1702 BG 2	Baltimore	1
CT 1702 BG 3	Baltimore	1
CT 1703 BG 1	Baltimore	1
CT 1703 BG 2	Baltimore	1
CT 1801 BG 1	Baltimore	1
CT 1801 BG 2	Baltimore	1
CT 1802 BG 1	Baltimore	1
CT 1802 BG 2	Baltimore	1
CT 1803 BG 1	Baltimore	3
CT 1803 BG 2	Baltimore	1
CT 1901 BG 1	Baltimore	1
CT 1901 BG 2	Baltimore	1
CT 1901 BG 3	Baltimore	1
CT 1902 BG 1	Baltimore	3

Census Tract & Block Group ID	Place Name	Category
CT 1902 BG 2	Baltimore	1
CT 1903 BG 1	Baltimore	1
CT 1903 BG 2	Baltimore	1
CT 1903 BG 3	Baltimore	1
CT 1903 BG 4	Baltimore	1
CT 2001 BG 1	Baltimore	1
CT 2001 BG 2	Baltimore	1
CT 2002 BG 1	Baltimore	1
CT 2002 BG 2	Baltimore	1
CT 2002 BG 3	Baltimore	1
CT 2002 BG 4	Baltimore	1
CT 2002 BG 5	Baltimore	1
CT 2003 BG 1	Baltimore	1
CT 2003 BG 2	Baltimore	1
CT 2004 BG 1	Baltimore	1
CT 2004 BG 2	Baltimore	1
CT 2005 BG 1	Baltimore	1
CT 2005 BG 2	Baltimore	3
CT 2005 BG 3	Baltimore	1
CT 2005 BG 4	Baltimore	1
CT 2005 BG 5	Baltimore	1
CT 2006 BG 1	Baltimore	2
CT 2006 BG 2	Baltimore	1
CT 2006 BG 3	Baltimore	1
CT 2007.01 BG 1	Baltimore	1
CT 2007.01 BG 2	Baltimore	1
CT 2007.01 BG 3	Baltimore	1
CT 2007.01 BG 4	Baltimore	3
CT 2007.01 BG 5	Baltimore	1
CT 2007.02 BG 1	Baltimore	1
CT 2007.02 BG 2	Baltimore	1
CT 2008 BG 1	Baltimore	1
CT 2008 BG 2	Baltimore	1
CT 2008 BG 3	Baltimore	1
CT 2101 BG 1	Baltimore	1

Census Tract & Block Group ID	Place Name	Category
CT 2101 BG 2	Baltimore	1
CT 2102 BG 1	Baltimore	1
CT 2102 BG 2	Baltimore	1
CT 2301 BG 2	Baltimore	1
CT 2501.01 BG 1	Baltimore	1
CT 2501.01 BG 2	Baltimore	3
CT 2501.02 BG 1	Baltimore	1
CT 2501.02 BG 2	Baltimore	1
CT 2501.03 BG 1	Baltimore	1
CT 2501.03 BG 4	Baltimore	3
CT 2502.03 BG 1	Baltimore	1
CT 2502.03 BG 2	Baltimore	1
CT 2502.04 BG 1	Baltimore	1
CT 2502.04 BG 2	Baltimore	1
CT 2502.05 BG 1	Baltimore	2
CT 2502.05 BG 2	Baltimore	1
CT 2502.05 BG 4	Baltimore	1
CT 2502.05 BG 5	Baltimore	3
CT 2502.06 BG 1	Baltimore	2
CT 2502.07 BG 1	Baltimore	1
CT 2502.07 BG 2	Baltimore	1
CT 2503.01 BG 1	Baltimore	3
CT 2503.01 BG 2	Baltimore	1
CT 2503.03 BG 1	Baltimore	2
CT 2503.03 BG 2	Baltimore	1
CT 2503.03 BG 3	Baltimore	2
CT 2504.01 BG 1	Baltimore	2
CT 2504.01 BG 3	Baltimore	1
CT 2504.02 BG 1	Baltimore	3
CT 2504.02 BG 2	Baltimore	1
CT 2504.02 BG 3	Baltimore	3
CT 2504.02 BG 4	Baltimore	1
CT 2505 BG 2	Baltimore	1
CT 2505 BG 3	Baltimore	2
CT 2505 BG 4	Baltimore	3

Census Tract & Block Group ID	Place Name	Category
CT 2505 BG 5	Baltimore	2
CT 2601.01 BG 1	Baltimore	3
CT 2601.01 BG 2	Baltimore	3
CT 2601.01 BG 3	Baltimore	3
CT 2601.01 BG 4	Baltimore	3
CT 2601.01 BG 5	Baltimore	3
CT 2601.02 BG 1	Baltimore	3
CT 2601.02 BG 2	Baltimore	1
CT 2601.02 BG 3	Baltimore	1
CT 2601.02 BG 4	Baltimore	3
CT 2601.02 BG 5	Baltimore	3
CT 2602.01 BG 1	Baltimore	1
CT 2602.01 BG 2	Baltimore	3
CT 2602.01 BG 3	Baltimore	1
CT 2602.01 BG 4	Baltimore	1
CT 2602.02 BG 1	Baltimore	2
CT 2602.02 BG 2	Baltimore	3
CT 2602.02 BG 3	Baltimore	1
CT 2602.02 BG 4	Baltimore	1
CT 2602.03 BG 1	Baltimore	1
CT 2602.03 BG 2	Baltimore	3
CT 2603.01 BG 1	Baltimore	1
CT 2603.01 BG 2	Baltimore	3
CT 2603.01 BG 3	Baltimore	1
CT 2603.01 BG 4	Baltimore	1
CT 2603.01 BG 5	Baltimore	1
CT 2603.02 BG 1	Baltimore	3
CT 2603.02 BG 2	Baltimore	1
CT 2603.02 BG 3	Baltimore	1
CT 2603.02 BG 4	Baltimore	1
CT 2603.02 BG 5	Baltimore	3
CT 2603.02 BG 6	Baltimore	1
CT 2603.03 BG 1	Baltimore	1
CT 2604.01 BG 1	Baltimore	1
CT 2604.01 BG 2	Baltimore	1

Census Tract & Block Group ID	Place Name	Category
CT 2604.01 BG 3	Baltimore	2
CT 2604.02 BG 1	Baltimore	3
CT 2604.02 BG 2	Baltimore	1
CT 2604.03 BG 1	Baltimore	1
CT 2604.04 BG 2	Baltimore	3
CT 2604.04 BG 3	Baltimore	1
CT 2605.01 BG 1	Baltimore	1
CT 2605.01 BG 2	Baltimore	2
CT 2606.04 BG 1	Baltimore	1
CT 2606.04 BG 2	Baltimore	3
CT 2606.04 BG 3	Baltimore	1
CT 2606.05 BG 1	Baltimore	1
CT 2606.05 BG 2	Baltimore	2
CT 2606.05 BG 3	Baltimore	1
CT 2606.05 BG 4	Baltimore	2
CT 2606.05 BG 5	Baltimore	2
CT 2607 BG 1	Baltimore	3
CT 2607 BG 2	Baltimore	1
CT 2608 BG 1	Baltimore	1
CT 2608 BG 2	Baltimore	1
CT 2610 BG 1	Baltimore	3
CT 2610 BG 2	Baltimore	1
CT 2610 BG 3	Baltimore	1
CT 2701.01 BG 2	Baltimore	3
CT 2701.02 BG 1	Baltimore	3
CT 2701.02 BG 2	Baltimore	1
CT 2701.02 BG 3	Baltimore	3
CT 2701.02 BG 4	Baltimore	3
CT 2702 BG 1	Baltimore	3
CT 2702 BG 3	Baltimore	3
CT 2703.01 BG 2	Baltimore	3
CT 2703.01 BG 3	Baltimore	1
CT 2703.01 BG 4	Baltimore	3
CT 2703.02 BG 2	Baltimore	3
CT 2704.01 BG 1	Baltimore	3

Census Tract & Block Group ID	Place Name	Category
CT 2704.01 BG 3	Baltimore	1
CT 2704.01 BG 4	Baltimore	3
CT 2704.02 BG 1	Baltimore	3
CT 2704.02 BG 3	Baltimore	3
CT 2704.02 BG 4	Baltimore	3
CT 2705.01 BG 1	Baltimore	3
CT 2705.01 BG 4	Baltimore	3
CT 2705.02 BG 1	Baltimore	3
CT 2705.02 BG 2	Baltimore	3
CT 2705.02 BG 3	Baltimore	3
CT 2706 BG 2	Baltimore	3
CT 2706 BG 3	Baltimore	1
CT 2706 BG 4	Baltimore	3
CT 2706 BG 5	Baltimore	1
CT 2706 BG 6	Baltimore	3
CT 2707.01 BG 1	Baltimore	3
CT 2707.02 BG 1	Baltimore	1
CT 2707.02 BG 2	Baltimore	3
CT 2707.03 BG 3	Baltimore	3
CT 2708.01 BG 1	Baltimore	1
CT 2708.01 BG 2	Baltimore	3
CT 2708.01 BG 3	Baltimore	3
CT 2708.01 BG 4	Baltimore	3
CT 2708.02 BG 1	Baltimore	3
CT 2708.02 BG 2	Baltimore	3
CT 2708.02 BG 3	Baltimore	3
CT 2708.02 BG 4	Baltimore	1
CT 2708.02 BG 5	Baltimore	3
CT 2708.03 BG 1	Baltimore	3
CT 2708.03 BG 2	Baltimore	3
CT 2708.03 BG 3	Baltimore	3
CT 2708.04 BG 1	Baltimore	3
CT 2708.04 BG 2	Baltimore	1
CT 2708.04 BG 4	Baltimore	3
CT 2708.05 BG 1	Baltimore	3
CT 2708.05 BG 2	Baltimore	1
CT 2708.05 BG 3	Baltimore	1
CT 2708.05 BG 4	Baltimore	3
CT 2708.05 BG 5	Baltimore	3
CT 2709.01 BG 1	Baltimore	3
CT 2709.01 BG 2	Baltimore	3
CT 2709.01 BG 3	Baltimore	3
CT 2709.02 BG 1	Baltimore	1
CT 2709.02 BG 2	Baltimore	3
CT 2709.02 BG 3	Baltimore	3
CT 2709.03 BG 1	Baltimore	3
CT 2709.03 BG 2	Baltimore	3
CT 2709.03 BG 3	Baltimore	3
CT 2710.01 BG 1	Baltimore	1
CT 2710.01 BG 2	Baltimore	1
CT 2710.01 BG 3	Baltimore	1
CT 2710.02 BG 1	Baltimore	1
CT 2710.02 BG 2	Baltimore	3
CT 2710.02 BG 3	Baltimore	1
CT 2710.02 BG 4	Baltimore	1
CT 2710.02 BG 5	Baltimore	1
CT 2711.01 BG 1	Baltimore	1
CT 2716 BG 1	Baltimore	1
CT 2716 BG 2	Baltimore	1
CT 2716 BG 3	Baltimore	1
CT 2716 BG 4	Baltimore	3
CT 2716 BG 5	Baltimore	1
CT 2716 BG 6	Baltimore	1
CT 2717 BG 1	Baltimore	1
CT 2717 BG 2	Baltimore	1
CT 2717 BG 3	Baltimore	3
CT 2717 BG 4	Baltimore	3
CT 2717 BG 5	Baltimore	3
CT 2717 BG 6	Baltimore	3
CT 2718.01 BG 1	Baltimore	3

Census Tract & Block Group ID	Place Name	Category
CT 2718.01 BG 2	Baltimore	1
CT 2718.01 BG 3	Baltimore	1
CT 2718.02 BG 1	Baltimore	1
CT 2718.02 BG 2	Baltimore	1
CT 2718.02 BG 3	Baltimore	1
CT 2718.02 BG 4	Baltimore	1
CT 2719 BG 2	Baltimore	3
CT 2719 BG 3	Baltimore	3
CT 2719 BG 4	Baltimore	1
CT 2719 BG 5	Baltimore	3
CT 2720.03 BG 2	Baltimore	3
CT 2720.03 BG 5	Baltimore	3
CT 2720.04 BG 2	Baltimore	2
CT 2720.05 BG 2	Baltimore	2
CT 2720.06 BG 1	Baltimore	1
CT 2720.07 BG 1	Baltimore	1
CT 2720.07 BG 2	Baltimore	2
CT 2720.07 BG 3	Baltimore	1
CT 2801.01 BG 1	Baltimore	3
CT 2801.01 BG 2	Baltimore	1
CT 2801.01 BG 3	Baltimore	1
CT 2801.02 BG 1	Baltimore	1
CT 2801.02 BG 2	Baltimore	1
CT 2801.02 BG 3	Baltimore	3
CT 2801.02 BG 4	Baltimore	3
CT 2801.02 BG 5	Baltimore	3
CT 2801.02 BG 6	Baltimore	3
CT 2802 BG 1	Baltimore	1
CT 2802 BG 2	Baltimore	1
CT 2802 BG 3	Baltimore	3
CT 2802 BG 4	Baltimore	3
CT 2802 BG 5	Baltimore	3
CT 2802 BG 6	Baltimore	3
CT 2803.01 BG 1	Baltimore	3
CT 2803.01 BG 2	Baltimore	3

Census Tract & Block Group ID	Place Name	Category
CT 2803.01 BG 3	Baltimore	1
CT 2803.02 BG 1	Baltimore	3
CT 2803.02 BG 2	Baltimore	3
CT 2804.01 BG 1	Baltimore	1
CT 2804.01 BG 2	Baltimore	3
CT 2804.01 BG 3	Baltimore	1
CT 2804.01 BG 4	Baltimore	3
CT 2804.01 BG 5	Baltimore	3
CT 2804.02 BG 1	Baltimore	3
CT 2804.02 BG 2	Baltimore	1
CT 2804.03 BG 1	Baltimore	1
CT 2804.03 BG 2	Baltimore	1
CT 2804.03 BG 3	Baltimore	1
CT 2804.03 BG 4	Baltimore	3
CT 2804.03 BG 5	Baltimore	3
CT 2804.04 BG 1	Baltimore	1
CT 2804.04 BG 2	Baltimore	3
CT 2805 BG 1	Baltimore	1
CT 2805 BG 2	Baltimore	1
CT 2805 BG 3	Baltimore	1
CT 2805 BG 4	Baltimore	1
CT 301 BG 1	Baltimore	1
CT 301 BG 2	Baltimore	1
CT 302 BG 1	Baltimore	1
CT 401 BG 2	Baltimore	3
CT 402 BG 1	Baltimore	1
CT 601 BG 1	Baltimore	1
CT 601 BG 2	Baltimore	1
CT 601 BG 4	Baltimore	3
CT 602 BG 1	Baltimore	1
CT 602 BG 3	Baltimore	1
CT 602 BG 4	Baltimore	3
CT 602 BG 5	Baltimore	1
CT 603 BG 1	Baltimore	3
CT 604 BG 1	Baltimore	3

Census Tract & Block Group ID	Place Name	Category
CT 604 BG 2	Baltimore	3
CT 701 BG 1	Baltimore	1
CT 701 BG 2	Baltimore	1
CT 702 BG 1	Baltimore	1
CT 702 BG 2	Baltimore	1
CT 702 BG 3	Baltimore	1
CT 702 BG 4	Baltimore	1
CT 702 BG 5	Baltimore	3
CT 703 BG 1	Baltimore	1
CT 703 BG 2	Baltimore	1
CT 704 BG 1	Baltimore	1
CT 704 BG 2	Baltimore	1
CT 704 BG 3	Baltimore	1
CT 801.01 BG 2	Baltimore	3
CT 801.01 BG 3	Baltimore	1
CT 801.01 BG 4	Baltimore	3
CT 801.02 BG 1	Baltimore	1
CT 801.02 BG 2	Baltimore	1
CT 802 BG 1	Baltimore	3
CT 802 BG 2	Baltimore	1
CT 802 BG 3	Baltimore	1
CT 803.01 BG 1	Baltimore	1
CT 803.01 BG 2	Baltimore	1
CT 803.01 BG 3	Baltimore	1
CT 803.02 BG 1	Baltimore	1
CT 803.02 BG 2	Baltimore	1
CT 803.02 BG 3	Baltimore	1
CT 803.02 BG 4	Baltimore	1
CT 804 BG 1	Baltimore	1
CT 804 BG 2	Baltimore	1
CT 805 BG 1	Baltimore	1
CT 805 BG 2	Baltimore	3
CT 805 BG 3	Baltimore	1
CT 806 BG 1	Baltimore	1
CT 806 BG 2	Baltimore	1
CT 806 BG 3	Baltimore	3
CT 806 BG 4	Baltimore	3
CT 807 BG 1	Baltimore	1
CT 807 BG 2	Baltimore	1
CT 808 BG 1	Baltimore	1
CT 808 BG 2	Baltimore	1
CT 901 BG 1	Baltimore	1
CT 901 BG 2	Baltimore	3
CT 901 BG 4	Baltimore	1
CT 901 BG 5	Baltimore	1
CT 902 BG 1	Baltimore	3
CT 902 BG 2	Baltimore	3
CT 903 BG 1	Baltimore	3
CT 903 BG 2	Baltimore	1
CT 903 BG 3	Baltimore	3
CT 903 BG 4	Baltimore	1
CT 904 BG 1	Baltimore	1
CT 904 BG 2	Baltimore	1
CT 905 BG 1	Baltimore	3
CT 905 BG 2	Baltimore	1
CT 906 BG 1	Baltimore	1
CT 906 BG 2	Baltimore	1
CT 906 BG 3	Baltimore	1
CT 906 BG 4	Baltimore	3
CT 907 BG 1	Baltimore	1
CT 907 BG 2	Baltimore	1
CT 907 BG 3	Baltimore	1
CT 907 BG 4	Baltimore	1
CT 908 BG 1	Baltimore	1
CT 908 BG 2	Baltimore	1
CT 908 BG 3	Baltimore	1
CT 908 BG 4	Baltimore	1
CT 908 BG 5	Baltimore	1
CT 909 BG 1	Baltimore	1
CT 909 BG 2	Baltimore	1

Census Tract & Block Group ID	Place Name	Category
CT 909 BG 3	Baltimore	1
CT 909 BG 4	Baltimore	1

Table G-EJ24. Census Tracts (CT) and Block Groups (BG) in Anne Arundel County, Maryland (County ID 24-003) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.

Census Tract & Block Group ID	Place Name	Category
CT 7011.01 BG 1	Riva	2
CT 7011.01 BG 3	Edgewater	2
CT 7011.02 BG 2	Edgewater	2
CT 7011.02 BG 3	Edgewater	1
CT 7011.02 BG 4	Edgewater	2
CT 7013 BG 3	Un-named Area	1
CT 7014 BG 1	Un-named Area	2
CT 7021 BG 2	Herald Harbor	2
CT 7021 BG 3	Crownsville	2
CT 7022.05 BG 2	Crofton	3
CT 7022.06 BG 1	Crofton	3
CT 7022.06 BG 2	Crofton	3
CT 7022.08 BG 1	Crofton	3
CT 7024.02 BG 1	Parole	2
CT 7025 BG 1	Annapolis Neck	2
CT 7025 BG 2	Annapolis	1
CT 7025 BG 3	Annapolis	1
CT 7025 BG 4	Annapolis Neck	2
CT 7026.01 BG 1	Annapolis Neck	2
CT 7026.01 BG 5	Annapolis	1
CT 7026.02 BG 3	Annapolis Neck	3
CT 7027.01 BG 1	Parole	1
CT 7061.01 BG 2	Annapolis	2
CT 7061.01 BG 3	Annapolis	1
CT 7063.01 BG 1	Annapolis Neck	3
CT 7063.01 BG 2	Annapolis	1
CT 7063.02 BG 1	Annapolis	2
CT 7063.02 BG 2	Annapolis	2
CT 7064.01 BG 1	Annapolis	1
CT 7064.01 BG 2	Annapolis	1
CT 7064.01 BG 3	Annapolis	1
CT 7064.02 BG 1	Annapolis	1
CT 7064.02 BG 2	Annapolis	1
CT 7065 BG 1	Annapolis	1
CT 7065 BG 2	Annapolis	1
CT 7065 BG 3	Annapolis	1
CT 7066 BG 5	Annapolis	1
CT 7067 BG 1	Naval Academy	1
CT 7070.01 BG 1	Shady Side	2
CT 7070.01 BG 3	Shady Side	3
CT 7080.04 BG 1	Un-named Area	2
CT 7080.04 BG 3	Un-named Area	1
CT 7302.03 BG 1	Glen Burnie	2
CT 7302.03 BG 2	Glen Burnie	1
CT 7302.03 BG 3	Glen Burnie	1
CT 7302.03 BG 4	Glen Burnie	1

Census Tract & Block Group ID	Place Name	Category
CT 7302.04 BG 1	Glen Burnie	3
CT 7302.04 BG 2	Glen Burnie	1
CT 7302.04 BG 3	Glen Burnie	1
CT 7304.01 BG 1	Glen Burnie	3
CT 7304.01 BG 2	Glen Burnie	2
CT 7304.02 BG 1	Glen Burnie	1
CT 7304.02 BG 2	Glen Burnie	2
CT 7304.02 BG 3	Glen Burnie	2
CT 7305.02 BG 1	Glen Burnie	2
CT 7305.02 BG 2	Glen Burnie	1
CT 7305.02 BG 3	Glen Burnie	3
CT 7305.04 BG 1	Glen Burnie	3
CT 7305.04 BG 2	Glen Burnie	1
CT 7305.04 BG 3	Glen Burnie	3
CT 7305.05 BG 1	Glen Burnie	1
CT 7305.05 BG 2	Glen Burnie	1
CT 7305.06 BG 1	Glen Burnie	1
CT 7305.06 BG 2	Glen Burnie	1
CT 7305.06 BG 3	Glen Burnie	1
CT 7307 BG 3	Severna Park	2
CT 7307 BG 5	Severna Park	2
CT 7309.01 BG 3	Un-named Area	2
CT 7310.03 BG 1	Cape St. Claire	2
CT 7310.04 BG 1	Cape St. Claire	2
CT 7311.02 BG 1	Arnold	2
CT 7311.04 BG 2	Arnold	2
CT 7312.02 BG 2	Lake Shore	2
CT 7312.03 BG 4	Severna Park	3
CT 7312.03 BG 5	Severna Park	3
CT 7312.04 BG 1	Pasadena	2
CT 7313.03 BG 1	Lake Shore	2
CT 7313.03 BG 4	Un-named Area	2

Census Tract & Block Group ID	Place Name	Category
CT 7313.06 BG 1	Un-named Area	2
CT 7313.07 BG 1	Lake Shore	2
CT 7313.07 BG 2	Lake Shore	2
CT 7313.08 BG 2	Riviera Beach	2
CT 7313.09 BG 1	Riviera Beach	2
CT 7313.09 BG 3	Riviera Beach	2
CT 7313.1 BG 1	Pasadena	2
CT 7313.1 BG 3	Pasadena	2
CT 7313.11 BG 3	Pasadena	2
CT 7401.02 BG 1	Un-named Area	3
CT 7401.02 BG 2	Severn	3
CT 7401.03 BG 1	Severn	3
CT 7401.03 BG 2	Severn	3
CT 7401.03 BG 3	Severn	3
CT 7401.03 BG 4	Severn	3
CT 7401.04 BG 1	Severn	3
CT 7401.04 BG 2	Severn	1
CT 7401.04 BG 3	Severn	1
CT 7401.05 BG 1	Severn	1
CT 7401.05 BG 2	Severn	1
CT 7402.01 BG 2	Severn	1
CT 7402.01 BG 3	Severn	3
CT 7402.01 BG 4	Glen Burnie	1
CT 7402.03 BG 2	Severn	3
CT 7403.03 BG 1	Severn	2
CT 7403.03 BG 2	Severn	3
CT 7403.04 BG 1	Odenton	3
CT 7403.05 BG 1	Odenton	1
CT 7403.05 BG 2	Odenton	1
CT 7403.05 BG 3	Severn	1
CT 7403.05 BG 4	Odenton	3
CT 7404 BG 1	Jessup	3

Census Tract & Block Group ID	Place Name	Category
CT 7405 BG 1	Maryland City	3
CT 7405 BG 2	Maryland City	3
CT 7405 BG 3	Maryland City	1
CT 7406.01 BG 1	Fort Meade	3
CT 7406.01 BG 2	Fort Meade	3
CT 7406.01 BG 3	Fort Meade	1
CT 7406.01 BG 4	Fort Meade	1
CT 7406.02 BG 1	Fort Meade	1
CT 7406.02 BG 2	Fort Meade	1
CT 7406.03 BG 2	Fort Meade	1
CT 7407.01 BG 1	Odenton	1
CT 7407.01 BG 2	Odenton	3
CT 7407.02 BG 1	Odenton	3
CT 7407.02 BG 2	Un-named Area	3
CT 7409 BG 1	Odenton	1
CT 7409 BG 2	Odenton	2
CT 7409 BG 3	Odenton	3
CT 7501.01 BG 1	Brooklyn Park	1
CT 7501.01 BG 2	Brooklyn Park	2
CT 7501.01 BG 3	Brooklyn Park	1
CT 7501.01 BG 4	Brooklyn Park	1
CT 7501.02 BG 1	Brooklyn Park	1
CT 7501.02 BG 2	Brooklyn Park	2
CT 7502.01 BG 1	Brooklyn Park	3
CT 7502.01 BG 2	Brooklyn Park	1
CT 7502.02 BG 1	Brooklyn Park	2
CT 7502.02 BG 2	Brooklyn Park	1
CT 7502.03 BG 1	Brooklyn Park	2

Census Tract & Block Group ID	Place Name	Category
CT 7503 BG 2	Linthicum	2
CT 7508.01 BG 3	Ferndale	2
CT 7508.03 BG 1	Ferndale	1
CT 7508.03 BG 2	Ferndale	2
CT 7508.03 BG 3	Ferndale	1
CT 7508.03 BG 4	Ferndale	1
CT 7508.03 BG 5	Ferndale	1
CT 7508.04 BG 1	Ferndale	1
CT 7508.04 BG 2	Ferndale	2
CT 7509 BG 1	Glen Burnie	2
CT 7509 BG 2	Glen Burnie	1
CT 7510 BG 1	Glen Burnie	2
CT 7510 BG 2	Glen Burnie	1
CT 7510 BG 3	Glen Burnie	2
CT 7511.02 BG 1	Glen Burnie	1
CT 7511.02 BG 2	Glen Burnie	2
CT 7511.03 BG 1	Glen Burnie	2
CT 7511.03 BG 3	Glen Burnie	2
CT 7511.03 BG 4	Glen Burnie	2
CT 7512 BG 3	Un-named Area	3
CT 7514 BG 1	Severn	3
CT 7514 BG 2	Un-named Area	3
CT 7515 BG 1	Maryland City	3
CT 7515 BG 2	Maryland City	1
CT 7515 BG 3	Maryland City	1
CT 7515 BG 4	Maryland City	1
CT 7516 BG 2	Crownsville	2
CT 9800 BG 1	Un-named Area	3

Table G-EJ25. Census Tracts (CT) and Block Groups (BG) in Norfolk, Virginia (County ID 51-710) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.
Note that Norfolk is an independent city in Virginia and is considered the equivalent of a county.

Census Tract & Block Group ID	Place Name	Category
CT 1 BG 1	Norfolk	2
CT 1 BG 2	Norfolk	2
CT 11 BG 1	Norfolk	1
CT 11 BG 2	Norfolk	1
CT 12 BG 2	Norfolk	1
CT 13 BG 1	Norfolk	3
CT 13 BG 2	Norfolk	1
CT 14 BG 1	Norfolk	1
CT 14 BG 2	Norfolk	2
CT 15 BG 2	Norfolk	3
CT 16 BG 1	Norfolk	1
CT 16 BG 2	Norfolk	1
CT 17 BG 2	Norfolk	3
CT 2.01 BG 1	Norfolk	2
CT 2.01 BG 2	Norfolk	2
CT 2.02 BG 2	Norfolk	2
CT 2.02 BG 3	Norfolk	2
CT 24 BG 3	Norfolk	2
CT 25 BG 1	Norfolk	1
CT 25 BG 2	Norfolk	1
CT 26 BG 1	Norfolk	1
CT 26 BG 2	Norfolk	1
CT 27 BG 1	Norfolk	1
CT 27 BG 2	Norfolk	1
CT 27 BG 3	Norfolk	1
CT 28 BG 2	Norfolk	2
CT 29 BG 1	Norfolk	1

Census Tract & Block Group ID	Place Name	Category
CT 29 BG 2	Norfolk	1
CT 29 BG 3	Norfolk	1
CT 29 BG 4	Norfolk	1
CT 3 BG 2	Norfolk	3
CT 3 BG 3	Norfolk	3
CT 30 BG 1	Norfolk	2
CT 31 BG 1	Norfolk	3
CT 31 BG 2	Norfolk	1
CT 31 BG 3	Norfolk	1
CT 32 BG 1	Norfolk	1
CT 32 BG 2	Norfolk	1
CT 32 BG 3	Norfolk	1
CT 33 BG 1	Norfolk	1
CT 33 BG 2	Norfolk	1
CT 34 BG 1	Norfolk	1
CT 34 BG 2	Norfolk	1
CT 35.01 BG 1	Norfolk	1
CT 35.01 BG 2	Norfolk	1
CT 35.01 BG 3	Norfolk	1
CT 35.01 BG 4	Norfolk	1
CT 37 BG 1	Norfolk	2
CT 38 BG 1	Norfolk	2
CT 4 BG 3	Norfolk	2
CT 40.02 BG 4	Norfolk	2
CT 41 BG 1	Norfolk	1
CT 42 BG 1	Norfolk	1
CT 42 BG 2	Norfolk	1

Census Tract & Block Group ID	Place Name	Category
CT 43 BG 1	Norfolk	1
CT 43 BG 2	Norfolk	1
CT 43 BG 3	Norfolk	1
CT 43 BG 4	Norfolk	1
CT 44 BG 1	Norfolk	1
CT 44 BG 2	Norfolk	3
CT 44 BG 3	Norfolk	1
CT 45 BG 1	Norfolk	3
CT 46 BG 1	Norfolk	1
CT 46 BG 2	Norfolk	1
CT 47 BG 1	Norfolk	3
CT 47 BG 2	Norfolk	1
CT 48 BG 1	Norfolk	1
CT 49 BG 2	Norfolk	3
CT 5 BG 1	Norfolk	1
CT 5 BG 4	Norfolk	2
CT 50 BG 1	Norfolk	1
CT 50 BG 2	Norfolk	1
CT 50 BG 3	Norfolk	1
CT 51 BG 1	Norfolk	3
CT 51 BG 2	Norfolk	1
CT 51 BG 3	Norfolk	1
CT 55 BG 1	Norfolk	1
CT 55 BG 2	Norfolk	1
CT 55 BG 3	Norfolk	1
CT 56.02 BG 2	Norfolk	1
CT 57.01 BG 1	Norfolk	1
CT 57.01 BG 2	Norfolk	1
CT 57.01 BG 3	Norfolk	1
CT 57.02 BG 1	Norfolk	1
CT 57.02 BG 2	Norfolk	3
CT 58 BG 1	Norfolk	1

Census Tract & Block Group ID	Place Name	Category
CT 58 BG 2	Norfolk	1
CT 58 BG 3	Norfolk	3
CT 59.01 BG 1	Norfolk	3
CT 59.01 BG 2	Norfolk	1
CT 59.01 BG 3	Norfolk	1
CT 59.02 BG 1	Norfolk	3
CT 59.02 BG 2	Norfolk	3
CT 59.02 BG 4	Norfolk	1
CT 59.03 BG 1	Norfolk	1
CT 6 BG 1	Norfolk	3
CT 6 BG 3	Norfolk	1
CT 60 BG 1	Norfolk	1
CT 60 BG 2	Norfolk	1
CT 61 BG 1	Norfolk	1
CT 61 BG 2	Norfolk	3
CT 61 BG 3	Norfolk	1
CT 61 BG 4	Norfolk	3
CT 61 BG 5	Norfolk	2
CT 62 BG 1	Norfolk	3
CT 62 BG 2	Norfolk	2
CT 64 BG 1	Norfolk	3
CT 64 BG 2	Norfolk	1
CT 65.01 BG 1	Norfolk	2
CT 65.01 BG 2	Norfolk	2
CT 65.02 BG 2	Norfolk	1
CT 66.05 BG 2	Norfolk	1
CT 66.06 BG 1	Norfolk	1
CT 66.06 BG 3	Norfolk	1
CT 66.07 BG 1	Norfolk	3
CT 66.07 BG 2	Norfolk	2
CT 69.01 BG 1	Norfolk	3
CT 69.01 BG 2	Norfolk	3

Census Tract & Block Group ID	Place Name	Category
CT 69.01 BG 3	Norfolk	3
CT 69.02 BG 1	Norfolk	1
CT 70.01 BG 1	Norfolk	1
CT 70.02 BG 1	Norfolk	1
CT 70.02 BG 2	Norfolk	3
CT 8 BG 2	Norfolk	1
CT 9.01 BG 1	Norfolk	2
CT 9.02 BG 1	Norfolk	2

Table G-EJ26. Census Tracts (CT) and Block Groups (BG) in Newport News, Virginia (County ID 51-700) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.
Note that Newport News is an independent city in Virginia and is considered the equivalent of a county.

Census Tract & Block Group ID	Place Name	Category
CT 301 BG 1	Newport News	1
CT 301 BG 2	Newport News	1
CT 301 BG 3	Newport News	1
CT 303 BG 1	Newport News	1
CT 303 BG 2	Newport News	3
CT 303 BG 3	Newport News	1
CT 303 BG 4	Newport News	1
CT 303 BG 5	Newport News	1
CT 303 BG 6	Newport News	1
CT 303 BG 7	Newport News	3
CT 304 BG 1	Newport News	1
CT 304 BG 2	Newport News	1
CT 304 BG 3	Newport News	1
CT 304 BG 4	Newport News	1
CT 305 BG 1	Newport News	1
CT 305 BG 2	Newport News	1
CT 306 BG 1	Newport News	1
CT 306 BG 2	Newport News	1
CT 306 BG 3	Newport News	1
CT 308 BG 1	Newport News	1
CT 308 BG 2	Newport News	1
CT 308 BG 3	Newport News	1
CT 309 BG 1	Newport News	1
CT 309 BG 2	Newport News	1
CT 311 BG 1	Newport News	1
CT 311 BG 2	Newport News	1
CT 312 BG 1	Newport News	2
CT 312 BG 2	Newport News	1
CT 313 BG 1	Newport News	1
CT 313 BG 2	Newport News	1
CT 313 BG 3	Newport News	1
CT 313 BG 4	Newport News	1
CT 314 BG 3	Newport News	3
CT 314 BG 4	Newport News	1
CT 315 BG 1	Newport News	2
CT 316.01 BG 2	Newport News	1
CT 316.01 BG 3	Newport News	1
CT 316.02 BG 1	Newport News	1
CT 317.01 BG 1	Newport News	1
CT 317.01 BG 2	Newport News	2

Census Tract & Block Group ID	Place Name	Category
CT 319.02 BG 1	Newport News	3
CT 319.02 BG 3	Newport News	1
CT 320.06 BG 1	Newport News	1
CT 320.06 BG 2	Newport News	1
CT 320.06 BG 3	Newport News	1
CT 320.07 BG 1	Newport News	3
CT 320.07 BG 2	Newport News	3
CT 321.13 BG 1	Newport News	1
CT 321.17 BG 2	Newport News	2
CT 321.23 BG 1	Newport News	1
CT 321.23 BG 2	Newport News	3
CT 321.23 BG 3	Newport News	2
CT 321.24 BG 1	Newport News	1
CT 321.24 BG 2	Newport News	3
CT 321.26 BG 1	Newport News	1
CT 321.26 BG 2	Newport News	1
CT 321.27 BG 1	Newport News	2
CT 321.27 BG 2	Newport News	3
CT 321.27 BG 3	Newport News	1
CT 321.28 BG 1	Newport News	3
CT 321.28 BG 2	Newport News	1
CT 321.29 BG 1	Newport News	3
CT 321.29 BG 2	Newport News	1

Census Tract & Block Group ID	Place Name	Category
CT 321.31 BG 1	Newport News	3
CT 321.31 BG 3	Newport News	1
CT 321.32 BG 4	Newport News	3
CT 322.11 BG 3	Newport News	3
CT 322.12 BG 1	Newport News	1
CT 322.12 BG 2	Newport News	3
CT 322.12 BG 3	Newport News	1
CT 322.23 BG 1	Newport News	3
CT 322.23 BG 2	Newport News	3
CT 322.23 BG 3	Newport News	3
CT 322.24 BG 1	Newport News	1
CT 322.24 BG 2	Newport News	1
CT 322.24 BG 3	Newport News	3
CT 322.24 BG 4	Newport News	3
CT 322.25 BG 1	Newport News	1
CT 322.25 BG 2	Newport News	1
CT 322.26 BG 1	Newport News	1
CT 322.26 BG 2	Newport News	1
CT 323 BG 2	Newport News	1
CT 323 BG 3	Newport News	1
CT 324 BG 1	Newport News	1
CT 324 BG 2	Newport News	1

Table G-EJ27. Census Tracts (CT) and Block Groups (BG) in Hampton, Virginia (County ID 51-650) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.
Note that Hampton is an independent city in Virginia and is considered the equivalent of a county.

Census Tract & Block Group ID	Place Name	Category
CT 101.03 BG 1	Hampton	3

Census Tract & Block Group ID	Place Name	Category
CT 101.03 BG 3	Hampton	3

Census Tract & Block Group ID	Place Name	Category
CT 101.04 BG 2	Hampton	2
CT 101.04 BG 4	Hampton	1
CT 101.04 BG 5	Hampton	1
CT 103.04 BG 1	Hampton	3
CT 103.04 BG 2	Hampton	3
CT 103.04 BG 3	Hampton	3
CT 103.06 BG 2	Hampton	1
CT 103.06 BG 3	Hampton	1
CT 103.07 BG 1	Hampton	3
CT 103.07 BG 2	Hampton	3
CT 103.09 BG 2	Hampton	3
CT 103.09 BG 3	Hampton	1
CT 103.1 BG 1	Hampton	3
CT 103.11 BG 1	Hampton	1
CT 103.11 BG 2	Hampton	3
CT 103.13 BG 1	Hampton	3
CT 103.13 BG 2	Hampton	1
CT 103.13 BG 3	Hampton	3
CT 103.13 BG 4	Hampton	1
CT 103.14 BG 1	Hampton	3
CT 103.14 BG 2	Hampton	1
CT 104 BG 1	Hampton	1
CT 104 BG 2	Hampton	1
CT 104 BG 3	Hampton	1
CT 104 BG 4	Hampton	1
CT 104 BG 5	Hampton	2
CT 105.01 BG 1	Hampton	1
CT 105.01 BG 2	Hampton	1
CT 105.01 BG 3	Hampton	1
CT 105.02 BG 1	Hampton	1
CT 105.02 BG 2	Hampton	1
CT 106.01 BG 1	Hampton	1
CT 106.01 BG 2	Hampton	1
CT 106.02 BG 1	Hampton	1
CT 106.02 BG 2	Hampton	1
CT 107.01 BG 1	Hampton	2
CT 107.01 BG 2	Hampton	1
CT 107.02 BG 1	Hampton	2
CT 107.02 BG 2	Hampton	1
CT 107.03 BG 2	Hampton	2
CT 108 BG 1	Hampton	1
CT 108 BG 2	Hampton	1
CT 109 BG 1	Hampton	1
CT 110 BG 1	Hampton	2
CT 110 BG 2	Hampton	1
CT 110 BG 3	Hampton	1
CT 112 BG 1	Hampton	1
CT 112 BG 2	Hampton	2
CT 112 BG 3	Hampton	2
CT 113 BG 1	Hampton	1
CT 113 BG 2	Hampton	1
CT 114 BG 1	Hampton	1
CT 114 BG 2	Hampton	3
CT 116 BG 1	Hampton	1
CT 116 BG 2	Hampton	1
CT 116 BG 3	Hampton	1
CT 118 BG 1	Hampton	1
CT 118 BG 2	Hampton	1
CT 118 BG 3	Hampton	1
CT 118 BG 5	Hampton	1
CT 118 BG 6	Hampton	3
CT 119 BG 1	Hampton	1
CT 119 BG 2	Hampton	3
CT 119 BG 3	Hampton	1

Census Tract & Block Group ID	Place Name	Category
CT 120 BG 1	Hampton	1
CT 120 BG 2	Hampton	1

Table G-EJ28. Census Tracts (CT) and Block Groups (BG) in Portsmouth, Virginia (County ID 51-740) that are Potential Environmental Justice Areas of Concern due to Concentrations of Minority and/or Low-Income Populations

Category 1—low-income percentage exceeds the percentage for the county; Category 2—minority population exceeds the percentage for the county; Category 3—both low-income and minority populations exceed the percentages for the county.
Note that Portsmouth is an independent city in Virginia and is considered the equivalent of a county.

Census Tract & Block Group ID	Place Name	Category
CT 2103 BG 1	Portsmouth	3
CT 2103 BG 2	Portsmouth	2
CT 2105 BG 1	Portsmouth	1
CT 2106 BG 2	Portsmouth	2
CT 2109 BG 1	Portsmouth	3
CT 2111 BG 1	Portsmouth	1
CT 2111 BG 2	Portsmouth	1
CT 2114 BG 1	Portsmouth	1
CT 2114 BG 2	Portsmouth	1
CT 2115 BG 1	Portsmouth	1
CT 2115 BG 2	Portsmouth	1
CT 2116 BG 3	Portsmouth	2
CT 2117 BG 1	Portsmouth	3
CT 2117 BG 2	Portsmouth	1
CT 2117 BG 3	Portsmouth	1
CT 2118 BG 1	Portsmouth	1
CT 2118 BG 2	Portsmouth	1
CT 2118 BG 3	Portsmouth	1
CT 2118 BG 4	Portsmouth	1
CT 2119 BG 1	Portsmouth	1
CT 2119 BG 2	Portsmouth	3
CT 2120 BG 1	Portsmouth	1
CT 2120 BG 2	Portsmouth	1
CT 2121 BG 1	Portsmouth	1
CT 2121 BG 2	Portsmouth	1
CT 2123 BG 1	Portsmouth	1
CT 2123 BG 2	Portsmouth	3
CT 2123 BG 3	Portsmouth	3
CT 2123 BG 4	Portsmouth	1
CT 2124 BG 1	Portsmouth	1
CT 2124 BG 2	Portsmouth	3
CT 2124 BG 3	Portsmouth	1
CT 2125 BG 1	Portsmouth	1
CT 2126 BG 1	Portsmouth	1
CT 2126 BG 2	Portsmouth	2
CT 2127.01 BG 1	Portsmouth	1
CT 2127.01 BG 2	Portsmouth	3
CT 2127.01 BG 3	Portsmouth	3
CT 2127.01 BG 4	Portsmouth	3
CT 2127.02 BG 1	Portsmouth	3
CT 2127.02 BG 2	Portsmouth	1
CT 2128.01 BG 2	Portsmouth	1
CT 2128.01 BG 3	Portsmouth	3
CT 2129 BG 2	Portsmouth	2
CT 2129 BG 3	Portsmouth	2
CT 2131.01 BG 1	Portsmouth	1

Census Tract & Block Group ID	Place Name	Category
CT 2131.01 BG 2	Portsmouth	1
CT 2131.01 BG 3	Portsmouth	3
CT 2131.03 BG 3	Portsmouth	3
CT 2131.03 BG 4	Portsmouth	3
CT 2131.03 BG 5	Portsmouth	3

Census Tract & Block Group ID	Place Name	Category
CT 2131.04 BG 1	Portsmouth	3
CT 2131.04 BG 2	Portsmouth	3
CT 2132 BG 1	Portsmouth	3
CT 2132 BG 2	Portsmouth	1
CT 9801 BG 1	Portsmouth	3

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Electromagnetic Fields

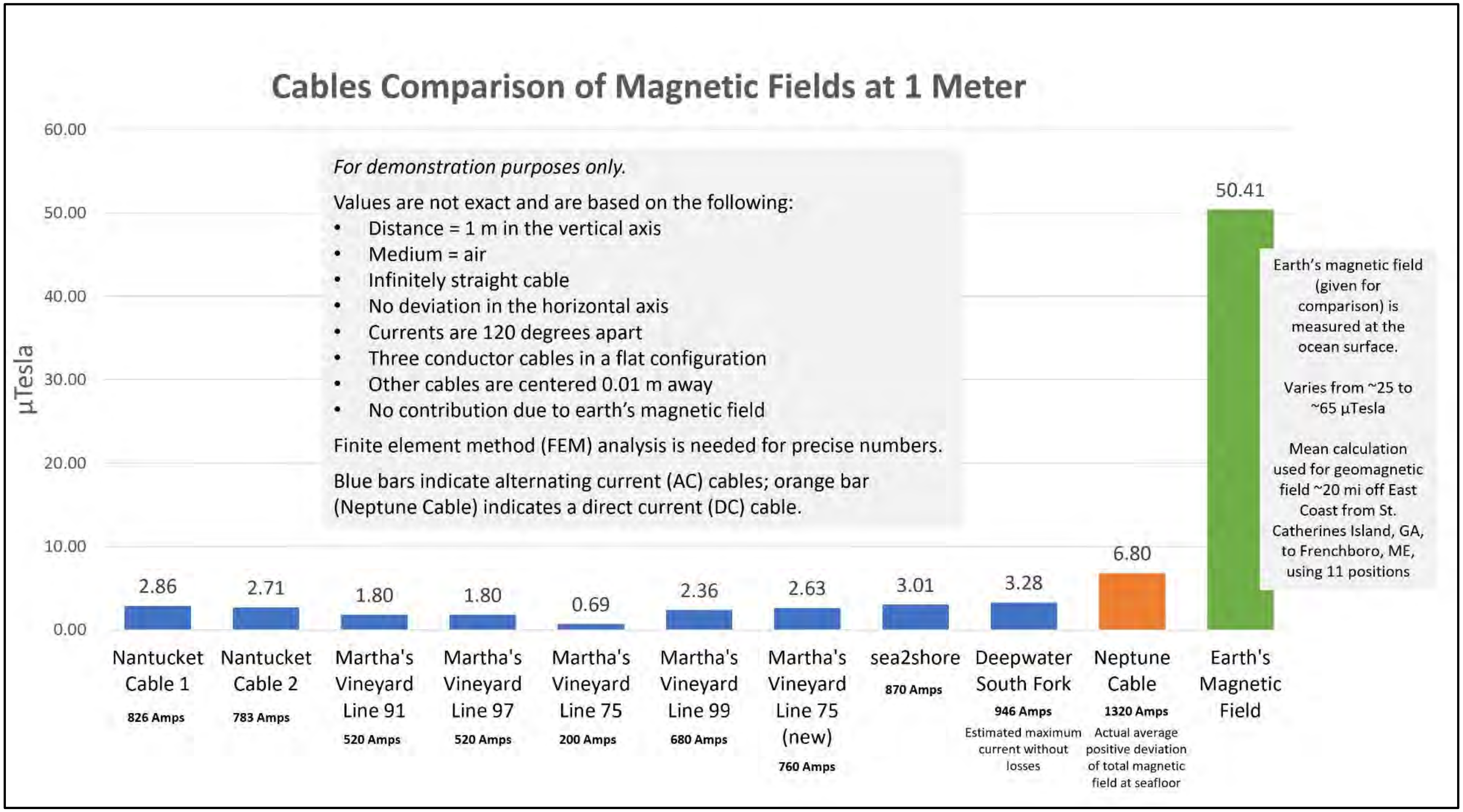

Figure G-EMF1. Comparison of electromagnetic fields produced by offshore wind farm transmission cables to the Earth's background magnetic field.

Overview of Sound and Marine Mammal Hearing

Underwater noise can be described through a source-path-receiver model. An acoustic source emits sound energy that radiates outward and travels through the water and the seafloor as pressure waves, which is the most relevant component of sound to marine mammals. The sound level decreases with increasing distance from the acoustic source as the sound pressure waves spread out under the influence of the surrounding environment. The amount by which the sound levels decrease between a source and receiver is called transmission loss (Richardson et al. 1995). The amount of transmission loss that occurs depends on the source-receiver separation, frequency of the sound, properties of the water column, and properties of the seafloor layers. Underwater sound levels are expressed in decibels, which is a logarithmic ratio relative to a fixed reference pressure of 1 micropascal (equal to 10-6 pascals or 10-11 bar).

Underwater sound can be produced by biological and physical oceanographic sources, as well as anthropogenic sources. A brief overview of acoustic units and the propagation of underwater sound can be found in Appendix J (Underwater Sound and Acoustic Modeling Results) of the *Ocean Wind 1 Offshore Wind Farm Final Environmental Impact Statement* (BOEM 2023). Biological sounds include vocalizations made by marine mammals and physical oceanographic sounds, including wind and wave activity, rain, sea ice, and undersea earthquakes. Anthropogenic (human-introduced) sounds include shipping and other vessel traffic, military activities, marine construction, oil and gas exploration, and more. Some of these natural and anthropogenic sounds are present everywhere in the ocean all of the time; therefore, background sound in the ocean is commonly referred to as “ambient noise” (DOSITS 2019). The efficiency of underwater sound propagation allows marine mammals to use underwater sound as a primary method of communication, navigation, prey detection (i.e., foraging), and predator avoidance (Richardson et al. 1995; Southall et al. 2007; OSPAR Commission 2009). Anthropogenic noise has gained recognition as an important stressor for marine mammals because of their reliance on underwater hearing for maintenance of these critical biological functions (Richardson et al. 1995; Ketten 1998). Underwater noise generated by human activities can often be detected by marine mammals many kilometers from the source. With decreasing distance from a noise source, potential acoustic impacts can result in mortality, non-auditory injury, permanent or temporary hearing loss, behavioral changes, and acoustic masking. All of these effects have the potential to induce impacts on marine mammals (OSPAR Commission 2009; Erbe 2013).

Auditory masking occurs when sound signals used or produced by marine mammals overlap in time, space, and frequency with another sound source (Richardson et al. 1995). Masking can reduce communication space, limit the detection of relevant biological cues, and reduce echolocation effectiveness. A growing body of literature is focused on improving the framework for assessing the potential for masking of animal communication by anthropogenic noise and understanding the resulting effects. More research is needed to understand the process of masking, the risk of masking by anthropogenic activities, the ecological significance of masking, and what anti-masking strategies are used by marine animals and their degree of effectiveness before masking can be incorporated into regulation strategies or mitigation approaches (Erbe et al. 2016). The potential for masking can be assessed qualitatively by comparing the frequencies of anthropogenic sources with the frequencies at which marine mammal vocalizations are made and the hearing ranges of marine mammal species.

Marine mammals are acoustically diverse, with wide variations in ear anatomy, hearing frequency range, and amplitude sensitivity (Ketten 1991). An animal's sensitivity to sound likely depends on the presence and level of sound in certain frequency bands and the range of frequencies to which the animal is most sensitive (Richardson et al. 1995). In general, larger species, such as baleen whales, are believed to hear better at lower frequency ranges than smaller species, such as porpoises and dolphins. Hearing abilities are generally only well understood for smaller species for which audiograms (plots of hearing threshold at different sound frequencies) have been developed based on captive behavioral studies (reactions to sound or behavioral audiograms), and electrophysiological experiments (measuring auditory evoked potentials) on captive or stranded animals (Erbe et al. 2012). Audiograms have been obtained in some toothed whale (odontocetes) and pinniped species (Southall et al. 2007; Finneran 2015), while direct measurements of baleen whale (mysticetes) hearing are lacking (Ridgway and Carder 2001). Baleen whale hearing sensitivities have therefore been estimated based on anatomy, modeling, vocalizations, taxonomy, and behavioral response studies (Houser et al. 2001; Ketten and Mountain 2011, 2014 in Southall et al. 2019; Cranford and Krysl 2015; Richardson et al. 1995; Wartzok and Ketten 1999; Au and Hastings 2008; Dahlheim and Ljungblad 1990; Reichmuth 2007).

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Visual Resources

Visual resources impacts associated with the RWF were evaluated and determined based on information and findings associated with the RWF visual impact assessment (VIA) (EDR 2023) and the application of BOEM's Assessment of *Seascape, Landscape, and Visual Impacts of Offshore Wind Energy Developments on the Outer Continental Shelf of the United States* methodology (Sullivan 2021), also known as seascape, landscape, and visual impacts assessment (SLVIA). At the request of BOEM, the SLVIA methodology for determination of impacts to key observation points (KOPs) (comprising the VIA component of the SLVIA) and impacts to character areas (ocean [OCA], seascapes [SCA] and landscapes [LCA]) (comprising the seascape and landscape impacts assessment [SLIA] component of the SLVIA) was applied (Sullivan 2021:29–33) to previously documented evaluation and impact methodologies associated with the RWF VIA.

The SLVIA impact methodology was cross walked with the RWF VIA to extract previously documented existing views and proposed Project visual conditions and information associated with the Proposed Action (Tables G-VIS1a through G-VIS2e). KOP information and character area information associated with the 2021 VIA was also extracted and applied to Alternatives B, C, D, E, and G (Alternative F has not been evaluated) and compiled in Tables G-VIS1a through G-VIS10c to provide a consistent baseline of information related to determination of impacts associated with KOPs and character areas in relation to the Proposed Action for comparison purposes. EIS Tables 3.20-2 through 3.20-4 provide summaries of overall impact determination by action alternative per KOP, specially designated areas (SDAs), and character area for ease in comparison between the various action alternatives.

Up to 37 viewing condition scenarios (e.g., daytime, sunset and nighttime) associated with 28 individual KOPs were evaluated for each action alternative associated with the VIA component of the SLVIA (Tables G-VIS1a through G-VIS1b, G-VIS3, G-VIS5a through G-VIS5b, and G-VIS7 and G-VIS9). Not all KOPs were evaluated for all action alternatives. The orientation of specific KOPs in relation to action alternatives were reviewed and selected for further analysis based on geographic proximity of each action alternative. Each table combines the sensitivity rating based on a location's susceptibility to change and its perceived value to society based on information from the RWF VIA as well as the magnitude rating consisting of size or scale of the change associated with the Project, the geographic extent of the change, and the duration and reversibility of the change for each KOP, for an overall impact determination finding of major, moderate, minor, or negligible (Sullivan 2021), which correspond to impacts described in the EIS. It is assumed that nighttime impacts would be reduced to Negligible as described in EIS Table 3.3-2 (Definitions of Potential Adverse Impact Levels) when Federal Aviation Administration (FAA) warning lights are not activated though the use of aircraft detection lighting system (ADLS). Cumulative impacts associated with KOPs (VIA Table G-VIS11) have been evaluated and identify the level of impact associated with the contribution of the Proposed Action to the No Action Alternative.

Impacts associated with the SLIA component of the analysis (see Tables G-VIS2a through G-VIS2e, G-VIS4a through G-VIS4c, G-VIS6a through G-VIS6c, G-VIS8a through G-VIS8c, and G-VIS10a through G-VIS10c) crosswalk and categorize landscape similarity zones as described in the RWF VIA with SLVIA character area descriptions to provide a general understating of OCA, SCA, and LCA relationships. Visibility analyses to determine the overall character area visibility associated with each alternative in comparison to the Proposed Action to provide a basis for impact determination is included in each table. Impacts to SDAs have also been included in each SLIA table and categorized based on SDA type.

Impact findings are based on the best available information associated with the RWF VIA for the action alternatives, and some deviation between the RWF VIA impact findings and the SLVIA impacts findings as applied in the following tables may occur due to differences in methodological approaches.

Table G-VIS1a. Visual Impact Assessment Impact Matrix for Alternative B (Proposed Action) (see Table G-VIS1b for continuation table)

KOP Number	KOP Name	Representative Character Area (SCA, LCA, OCA)	Viewing Direction	Elevation (feet)	Lighting Angle of Proposed Action Simulation	Visibility Threshold	Distance to Nearest Turbine (miles/nautical miles)	Horizontal Field of View Occupied (degrees)	Susceptibility Rationale	Susceptibility Rating (high, medium, low)	Value Rationale	Value Rating (high, medium, low)	SLVIA Sensitivity Rating Rationale	SLVIA Sensitivity Rating (high, medium, low)
AI01	Brenton Point State Park	SCA/LCA	South-Southeast	34.9	Sidelit	VTL2	16.7/14.5	40	Landscape is characteristic of recreational development; seascape appears intact.	Low	Local Residents, Tourists/Vacationers, Fishing Community Newport/Ocean Drive State Scenic Area, Brenton Point State Park, Rhode Island Historic District, Ocean Drive National Historic Landmark	High	Popular destination for residents and tourists who enjoy sightseeing, recreating, and sunbathing.	Medium
AI01	Brenton Point State Park – Night	SCA/LCA	South-Southeast	34.9	N/A	VTL5	16.7/14.5	40	Night seascape appears intact.	Medium	Local Residents, Tourists/Vacationers, Fishing Community Newport/Ocean Drive State Scenic Area, Brenton Point State Park, Rhode Island Historic District, Ocean Drive National Historic Landmark	High	Popular destination for residents and tourists who enjoy sightseeing.	High
AI03	Newport Cliff Walk	SCA/LCA	Southeast to South-Southeast	22.8	Sidelit	VTL3	15.3/13.3	42	Landscape is characteristic of natural areas and minimal recreational development; seascape appears intact.	Medium	Local Residents, Tourists/Vacationers Newport/Ocean Drive State Scenic Area, Cliff Walk National Recreation Trail, Newport National Historic Landmark	High	Popular among residents and tourists, particularly during the summer season. No other human-made features are visible.	High
AI05	Sachuest Point National Wildlife Refuge	LCA	South-Southeast	21.7	Variable	VTL4	14.8/12.9	46	Landscape is characteristic of natural areas and minimal recreational development; seascape appears intact.	Medium	Local Residents, Tourists/Vacationers; Educational, Birders Sachuest Point National Wildlife Refuge, Sachuest Point State Scenic Area	High	Popular destination for hikers, fishermen, and nature enthusiasts, particularly birders	High
AI06	Sachuest Beach (Second Beach)	SCA	South-Southeast to South	10.2	Sidelit	VTL3	16.0/13.9	43	Landscape is characteristic of minimal shoreline recreational development; seascape appears intact.	Medium	Local Residents, Tourists/Vacationers Sachuest Beach (Second Beach), Narragansett Bay	Medium	Residents and vacationers regularly use Second Beach, particularly during the summer.	Medium
AI07	Hanging Rock (Norman Bird Sanctuary)	LCA	Southeast to South-Southeast	67.3	Backlit	VTL5	16.2/14.1	43	Landscape has infrastructure development and recreational development; seascape appears intact.	Medium	Local Residents, Tourists/Vacationers Norman Bird Sanctuary, Paradise Avenue and Associated Roads, State Scenic Byway, Second Beach, Paradise Rocks Rhode Island Historic District	High	Popular destination for residents and tourists who enjoy birdwatching, sightseeing, recreating, and sunbathing.	High
BI04	Southeast Lighthouse	SCA	East	161.1	Sidelit	VTL2	15.3/13.3	40	Landscape has characteristic historic lighthouse setting with supporting development; BIWF is visible (3 miles).	High	Local Residents, Tourists/Vacationers Southeast Light National Historic Landmark, Mohegan Bluffs Scenic Area	High	Maintenance of views from historic landmark and scenic area; user groups.	High

KOP Number	KOP Name	Representative Character Area (SCA, LCA, OCA)	Viewing Direction	Elevation (feet)	Lighting Angle of Proposed Action Simulation	Visibility Threshold	Distance to Nearest Turbine (miles/nautical miles)	Horizontal Field of View Occupied (degrees)	Susceptibility Rationale	Susceptibility Rating (high, medium, low)	Value Rationale	Value Rating (high, medium, low)	SLVIA Sensitivity Rating Rationale	SLVIA Sensitivity Rating (high, medium, low)
BI04	Southeast Lighthouse – Night	SCA	East	161.1	N/A	VTL 5	15.3/13.4	40	Night seascape appears intact.	High	Local Residents, Tourists/Vacationers Southeast Light National Historic Landmark, Mohegan Bluffs Scenic Area	High	Maintenance of views from historic landmark and scenic area; user groups	High
BI12	Clayhead Trail	SCA	East	78.8	Sidelit	VTL1	15.9/13.8	42	Landscape is characteristic of intact natural shoreline; seascape appears intact.	Medium	Tourists/Vacationers, Local Residents Clayhead Trail State Scenic District; Clay Head Preserve	High	Clayhead Trail State Scenic District; popular destination for residents and tourists who enjoy sightseeing and recreating.	High
BI13	North Light	SCA	East	27.5	Backlit	VTL4	17.2/15.0	40	Landscape has compatible residential and recreational development; seascape appears intact.	Moderate	Tourists/Vacationers, Local Residents North Light National Register Historic Property, Beach Plum Neck/North Light State Scenic Area, Corn Neck Road Historic District (NRE)	High	Remote and private scenic/historic experience set among dune landforms and dense dune vegetation.	High
CI01	Cuttyhunk Island	SCA	South to Southwest	151.3	Backlit	VTL5	13.9/12.1	78	Landscape has compatible residential and recreational development; seascape appears intact.	High	Local Residents, Tourists/Vacationers Elizabeth Islands State Scenic Area, Buzzards Bay	High	Cuttyhunk is a remote island, which hosts a small number of year-round residents and a large influx of tourists during the summer months.	High
C01	Beavertail Lighthouse	SCA	Southeast to South-Southeast	27.5	Sidelit	VTL1	18.4/15.9	37	Landscape is characteristic of intact natural shoreline; seascape appears intact.	Low	Local Residents, Tourists/Vacationers National Register Historic Site, Beavertail Point Scenic Area, Rhode Island Historic District, Beavertail State Park	High	Popular destination for residents and tourists who enjoy sightseeing, recreating, fishing, and sunbathing.	Medium
LI04	Montauk Point State Park	SCA/LCA	East	48.0	Sidelit	VTL1	31.5/27.4	21	Landscape has characteristic historic lighthouse setting with supporting compatible development; BIWF is visible (approximately 17 miles).	Low	Local Residents, Tourists/Vacationers, Fishing Community Montauk Point State Park, National Register Historic Site, Scenic Area of Statewide Significance	High	Montauk Point Scenic Area of Statewide Significance; Montauk State Park is a popular destination for local residents and tourists/vacationers. Year-round outdoor recreational opportunities include wildlife viewing and photography.	Medium
LI04	Montauk Point State Park – Night	SCA/LCA	East	48.0	N/A	VTL2	31.5/27.4	21	Night seascape influenced by existing BIWF lighting.	Medium	Local Residents, Tourists/Vacationers, Fishing Community Montauk Point State Park, National Register Historic Site, Scenic Area of Statewide Significance	High	Montauk Point Scenic Area of Statewide Significance; Montauk State Park is a popular destination for local residents and tourists/vacationers. Year-round outdoor recreational opportunities include wildlife viewing and photography.	High

KOP Number	KOP Name	Representative Character Area (SCA, LCA, OCA)	Viewing Direction	Elevation (feet)	Lighting Angle of Proposed Action Simulation	Visibility Threshold	Distance to Nearest Turbine (miles/nautical miles)	Horizontal Field of View Occupied (degrees)	Susceptibility Rationale	Susceptibility Rating (high, medium, low)	Value Rationale	Value Rating (high, medium, low)	SLVIA Sensitivity Rating Rationale	SLVIA Sensitivity Rating (high, medium, low)
MM01	Gooseberry Island	LCA	South to South-Southwest	16.0	Backlit	VTL4	15.1/13.2	51	Landscape is characteristic of intact natural shoreline; seascape appears intact.	Medium	Local Residents, Tourists/Vacationers Horseneck Beach State Reservation, Westport South Dartmouth Unit State Scenic Area, Buzzards Bay	Medium	Buzzards Bay is near Gooseberry Public Beach, south of Horseneck Beach State Reservation on the mainland, and within the Westport South Dartmouth State Scenic Area.	Medium
MM04	Nobska Lighthouse	SCA/LCA	South-Southwest to Southwest	53.7	Sidelit	VTL1	28.2/24.5	39	Landscape has characteristic historic lighthouse setting with supporting compatible development; seascape appears intact.	Low	Local Residents, Tourists/Vacationers Nobska Lighthouse National Register Historic Site, Church Street/Nobska Point State Historic District, Nobska Beach Association Beach	High	Maintenance of views from historic landmark and scenic area; user groups.	Medium
MV02	Philbin Beach	SCA	South-Southwest to West-Southwest	10.5	Variable	VTL5	13.6/11.8	78	Landscape is characteristic of intact natural shoreline; seascape appears intact.	High	Local Residents, Tourists/Vacationers Gay Head West Tisbury Unit State Scenic Area, Philbin Beach	High	A popular destination for residents and tourists who enjoy sightseeing, surfing, swimming, recreating, and sunbathing.	High
MV03	Lucy Vincent Beach	SCA	South-Southwest to Southwest	27.7	Backlit	VTL 3	15.5/13.5	59	Landscape has compatible residential and recreational development; seascape appears intact though occupied by beach users.	Medium	Local Residents, Tourists/Vacationers Gay Head West Tisbury Unit State Scenic Area, Lucy Vincent Beach	High	Provides recreational opportunities for town residents including swimming, sunbathing, walking, nature viewing, fishing, and photography.	High
MV03	Lucy Vincent Beach – Sunset	SCA	South-Southwest to Southwest	27.7	Backlit	VTL 4	15.5/13.6	59	Landscape has compatible residential and recreational development; seascape appears intact with minimal influence of beach users.	High	Local Residents, Tourists/Vacationers Gay Head West Tisbury Unit State Scenic Area, Lucy Vincent Beach	Medium	Provides recreational opportunities for town residents including walking, nature viewing, and photography. Evening/night less occupied.	Medium
MV05	Moshup Beach	SCA	South-Southwest to West-Southwest	23.1	Variable	VTL 5	13.7/11.9	74	Landscape is characteristic of intact natural shoreline; seascape appears intact.	High	Local Residents, Tourists/Vacationers Gay Head West Tisbury State Scenic Area, Moshup Beach	High	Popular public beach; open to residents and tourists and is a popular destination in the summertime.	High
MV05	Moshup Beach – Sunset	SCA	South-Southwest to West-Southwest	23.1	Backlit	VTL 5	13.7/11.10	74	Landscape is characteristic of intact natural shoreline; seascape appears intact.	High	Local Residents, Tourists/Vacationers Gay Head West Tisbury State Scenic Area, Moshup Beach	High	Popular public beach; open to residents and tourists and is a popular destination in the summertime.	High
MV07	Aquinnah Overlook	SCA	South to Southwest	145.5	Sidelit	VTL 3	13.7/11.9	74	Landscape has compatible recreational development; seascape appears intact.	High	Local Residents, Tourists/Vacationers Gay Head Aquinnah Shops Area State Historic Area, Gay Head West Tisbury Unit State Scenic Area, Gay Head Cliffs National Natural Landmark	High	The Aquinnah Overlook is a dedicated viewing platform, providing opportunities for sweeping views of the ocean, beach, shoreline bluffs, and natural vegetation.	High

KOP Number	KOP Name	Representative Character Area (SCA, LCA, OCA)	Viewing Direction	Elevation (feet)	Lighting Angle of Proposed Action Simulation	Visibility Threshold	Distance to Nearest Turbine (miles/nautical miles)	Horizontal Field of View Occupied (degrees)	Susceptibility Rationale	Susceptibility Rating (high, medium, low)	Value Rationale	Value Rating (high, medium, low)	SLVIA Sensitivity Rating Rationale	SLVIA Sensitivity Rating (high, medium, low)
MV07	Aquinnah Overlook – Sunset	SCA	South to Southwest	145.5	Backlit	VTL 5	13.7/11.10	74	Landscape has compatible recreational development; seascape appears intact.	High	Local Residents, Tourists/Vacationers Gay Head Aquinnah Shops Area State Historic Area, Gay Head West Tisbury Unit State Scenic Area, Gay Head Cliffs National Natural Landmark	High	The Aquinnah Overlook is a dedicated viewing platform, providing opportunities for sweeping views of the ocean, beach, and shoreline bluffs.	High
MV07	Aquinnah Overlook – Night	SCA	South to Southwest	145.5	N/A	VTL 3	13.7/11.11	74	Night seascape appears intact.	High	Local Residents, Tourists/Vacationers Gay Head Aquinnah Shops Area State Historic Area, Gay Head West Tisbury Unit State Scenic Area, Gay Head Cliffs National Natural Landmark	High	The Aquinnah Overlook is a dedicated viewing platform, providing opportunities for sweeping views of the ocean.	High
MV09	Gay Head Lighthouse	SCA	South to West-Southwest	162.1	Sidelit	VTL 4	13.9/12.1	73	Landscape has characteristic historic lighthouse setting with supporting compatible development; seascape appears intact.	High	Local Residents, Tourists/Vacationers Gay Head Lighthouse National Historic Landmark, Gay Head West Tisbury Unit State Scenic Area	High	Gay Head Lighthouse is a popular destination for residents and tourists interested in historic lighthouses and picturesque ocean views.	High
MV10	South Beach State Park	SCA	Southwest to West-Southwest	17.0	Sidelit	VTL3	22.0/19.1	37	Landscape is characteristic of intact natural shoreline; seascape appears intact other than single buoy on horizon.	Moderate	Local Residents, Tourists/Vacationers South Beach State Park	High	The beach is a popular destination for local residents as well as tourists/vacationers, and is heavily utilized during the summer months for recreating, sunbathing, and surfing.	High
MV11	Wasque Point	SCA	West-Southwest	13.6	Backlit	VTL 2	24.8/21.5	32	Landscape is characteristic of intact natural shoreline; seascape appears intact.	Low	Local Residents, Tourists/Vacationers Wasque Point	Medium	A variety of public lands used by residents and tourists/vacationers for hiking, sunbathing, beachcombing, and wildlife viewing.	Low
MV12	Peaked Hill Reservation	LCA	South-Southwest to Southwest	305.1	Backlit	VTL 1	16.3/14.2	59	Landscape is characteristic of intact, natural forested shoreline; seascape appears intact.	Low	Local Residents, Tourists/Vacationers Identified by the Wampanoag Tribe of Gay Head (Aquinnah)	High	Location has particular cultural importance and is a popular destination for members of the Wampanoag Tribe of Gay Head (Aquinnah).	High
MV12	Peaked Hill Reservation – Sunset	LCA	South-Southwest to Southwest	305.1	Backlit	VTL4	16.3/14.2	59	Landscape is characteristic of intact, natural densely forested shoreline; seascape appears intact.	Medium	Local Residents, Tourists/Vacationers Identified by the Wampanoag Tribe of Gay Head (Aquinnah)	High	Location has particular cultural importance and is a popular destination for members of the Wampanoag Tribe of Gay Head (Aquinnah).	High
MV13	Edwin DeVries Vanderhoop Homestead	SCA	South to Southwest	17.0	Backlit	VTL5	13.8/12.0	74	Landscape is characteristic of intact natural shoreline; seascape appears intact.	High	Local Residents, Tourists/Vacationers Edwin D. Vanderhoop Homestead National Register Historic Site, Head West Tisbury Unit State Scenic Resource	High	Large numbers of residents and tourists during the summer months while visiting the Aquinnah Cultural Center.	Medium
NI10	Madaket Beach	SCA	West	20.6	Backlit	VTL1	34.6/30.0	20	Landscape has compatible recreational development; seascape appears intact.	Low	Local Residents, Tourists/Vacationers Madaket Beach, Nantucket National Historic Landmark	High	Beach is a popular destination for residents and tourists who enjoy sightseeing, recreating, and sunbathing.	Medium

KOP Number	KOP Name	Representative Character Area (SCA, LCA, OCA)	Viewing Direction	Elevation (feet)	Lighting Angle of Proposed Action Simulation	Visibility Threshold	Distance to Nearest Turbine (miles/nautical miles)	Horizontal Field of View Occupied (degrees)	Susceptibility Rationale	Susceptibility Rating (high, medium, low)	Value Rationale	Value Rating (high, medium, low)	SLVIA Sensitivity Rating Rationale	SLVIA Sensitivity Rating (high, medium, low)
NL01	Nomans Land Island NWR *(not occupied)*	SCA	West-Southwest	42.1	Sidelit	VTL5	8.7/7.5	95	Landscape is characteristic of intact natural shoreline/ bluffs; seascape appears intact; minimal human influence.	Medium	No Access Nomans Land Island National Wildlife Refuge/ natural and intact	Low	Uninhabited island with intact seascape.	Low
NL01	Nomans Land Island NWR – Sunset *(not occupied)*	SCA	West-Southwest	42.1	Backlit	VTL6	8.7/7.6	95	Landscape is characteristic of intact natural shoreline/ bluffs; seascape appears intact.	High	No Access Nomans Land Island National Wildlife Refuge	Medium	Uninhabited island with intact seascape.	Medium
RI01	Watch Hill Lighthouse	SCA/LCA	East-Southeast	24.1	Sidelit	VTL1	32.8/28.5	24	Landscape has compatible residential and recreational development; seascape appears intact.	Low	Local Residents, Tourists/Vacationers Watch Hill National Register Historic District, Watch Hill State Scenic Area	High	Popular destination for residents and tourists who enjoy sightseeing, history, and recreating.	Medium
RI06	Trustom Pond NWR	SCA/LCA	Southeast	13.8	Backlit	VTL3	22.6/19.6	33	Landscape is characteristic of intact natural shoreline; seascape appears intact.	Medium	Local Residents, Tourists/Vacationers Trustom Pond/Matunuck State Scenic Area, Trustom Pond National Wildlife Refuge	Medium	Near the Trustom Pond/Matunuck State Scenic Area, and the Trustom Pond National Wildlife Refuge Public Beach.	Medium
RI08	Scarborough Beach State Park	SCA	Southeast	14.8	Backlit	VTL4	19.1/16.6	38	Landscape is characteristic of recreational shoreline development; seascape appears intact.	Medium	Local Residents, Tourists/Vacationers Scarborough State Beach	Medium	Popular destination for residents and tourists who enjoy sightseeing, recreating, and sunbathing.	Medium
RI09	Narragansett Beach	SCA	Southeast	10.5	Backlit	VTL1	20.0/17.4	34	Landscape has compatible residential and recreational development; seascape appears intact.	Low	Local Residents, Tourists/Vacationers Narragansett Town Beach	High	Very popular vacation destination and hosts large tourist crowds in the summer with up to 10,000 guests per day.	Medium

Table G-VIS1b. Visual Impact Assessment Impact Matrix for Alternative B (Proposed Action)

KOP Number	Size or Scale Rationale	Size and Scale Rating (large, medium, small)	Geographic Extent Rationale*	Geographic Extent Rating (large, medium, small)	Duration/Reversibility Rationale	Duration/Reversibility Rating (good, fair, poor)	SLVIA Magnitude Rating Rationale	SLVIA Magnitude Rating (large, medium, small)	SLVIA Overall Impact Level Rationale	SLVIA Overall Impact Level (major, moderate, minor, negligible)
AI01	Visibility of the entire RWF extends inland across public open space and into the adjacent Newport Country Club before breaking up into discrete areas of visibility of less than half of the WTGs due to screening provided by vegetation, structures, and topography.	Small	Number of turbines visible: 100 Percent visibility: 26%–50%	Medium	Long term (30 years)/reversible	Fair	Overall size and scale along with visibility reduce contrast and perceivability.	Medium	Importance of recreation and historic resources, duration and visibility from KOP.	Moderate

KOP Number	Size or Scale Rationale	Size and Scale Rating (large, medium, small)	Geographic Extent Rationale*	Geographic Extent Rating (large, medium, small)	Duration/Reversibility Rationale	Duration/Reversibility Rating (good, fair, poor)	SLVIA Magnitude Rating Rationale	SLVIA Magnitude Rating (large, medium, small)	SLVIA Overall Impact Level Rationale	SLVIA Overall Impact Level (major, moderate, minor, negligible)
AI01	The addition of the flashing warning lights on the WTGs and decks will add evidence of human development and increase visual clutter at the horizon.	Medium	Number of turbines visible: Percent visibility: % Information not available in RWF VIA	Large	Long term (30 years)/reversible	Fair	Prominence and dominance of warning lights in non-developed setting.	Large	The addition of aviation warning lights along the horizon within the viewshed would detract from the overall nighttime environment.	Major
AI03	Project will not be conspicuous to casual observers from this KOP, and the unique rock features in the foreground will remain the focal point in this view.	Medium	Majority of turbines visible: 100 Percent visibility: 51%–75%	Medium	Long term (30 years)/reversible	Fair	Overall size and scale along with visibility reduce contrast and perceivability.	Medium	Importance of recreation and historic resources; proximity of residential viewers, duration, and visibility from KOP.	Moderate
AI05	Project will be prominent in dramatic 180-degree open views and appears wild and undisturbed with open view of the ocean framed by boulders in the foreground.	Large	Number of turbines visible: 100 Percent visibility: 26%–50%	Medium	Long term (30 years)/reversible	Fair	Size and scale in relation to existing conditions along with percentage of visibility.	Large	Importance of natural landscape and natural recreation opportunities, scenic values in a preserved seascape; prominence of turbines.	Major
AI06	Turbines, are noticeable but are not spatially dominant.	Medium	Number of turbines visible: 99 Percent visibility: 51%–75%	Medium	Long term (30 years)/reversible	Fair	Size and scale in relation to existing conditions along with percentage of visibility.	Medium	Importance of recreation along intact shoreline; turbines will be visible along horizon, although will not be a dominant feature in the seascape.	Moderate
AI07	Existing foreground built features attract attention initially, although turbines across the horizon become a dominant focal point of the view.	Large	Number of turbines visible: 100 Percent visibility: 2%–25%	Medium	Long term (30 years)/reversible	Fair	Size and scale in relation to existing conditions along with percentage of visibility.	Large	Importance of natural landscape and natural recreation opportunities, scenic values associated with byway; prominence of turbines.	Major
BI04	Highly visible and likely to attract the attention of lighthouse visitors based on lighting conditions, although not as prominent as the existing BIWF.	Medium	Majority of turbines visible: 97 Percent visibility: 26%–50%	Medium	Long term (30 years)/reversible	Fair	Visibility based on lighting conditions, existing BIWF visibility, duration.	Medium	Importance of recreation and historic resources, duration and visibility from KOP based on lighting conditions.	Moderate
BI04	The addition of the flashing warning lights on the WTGs and decks will add evidence of human development and increase visual clutter at the horizon.	Large	Number of turbines visible: Percent visibility: % Information not available in RWF VIA	Large	Long term (30 years)/reversible	Fair	Visibility based on lighting conditions, existing BIWF visibility, duration.	Large	Importance of recreation and historic resources, duration and visibility from KOP based on lighting conditions.	Major
BI12	Visible and likely to attract attention resulting from angle of view of WTGs	Medium	Number of turbines visible: 100 Percent visibility: 51%–75%	Medium	Long term (30 years)/reversible	Fair	Visibility of WTGs within viewshed along horizon line within viewshed.	Medium	Importance of preservation of scenic district and uses; proximity and visibility of Project.	Moderate

KOP Number	Size or Scale Rationale	Size and Scale Rating (large, medium, small)	Geographic Extent Rationale*	Geographic Extent Rating (large, medium, small)	Duration/Reversibility Rationale	Duration/Reversibility Rating (good, fair, poor)	SLVIA Magnitude Rating Rationale	SLVIA Magnitude Rating (large, medium, small)	SLVIA Overall Impact Level Rationale	SLVIA Overall Impact Level (major, moderate, minor, negligible)
BI13	Turbines become the focus of views out to the water and the tight spacing and numerous turbines along the horizon draw the viewers' eye away from natural features.	Large	Number of turbines: 100 Percent visibility: 76%–100%	Large	Long term (35 years)/reversible	Fair	Size and scale in relation to existing conditions along with percentage of visibility.	Large	Importance of recreation and historic resources; proximity of residential viewers, duration and visibility from KOP.	Moderate
CI01	Turbines and OSS facilities would begin to dominate the horizon and are uncharacteristic of existing conditions.	Large	Number of turbines visible: 99 Percent visibility: 76%–100%	Large	Long term (35 years)/reversible	Fair	Prominence and dominance of turbines in non-developed setting.	Large	Importance of recreation and historic resources; size, scale, and visibility from KOP.	Major
C01	Turbines are perceivable along horizon line, although the degree of change from existing condition would be minor.	Small	Number of turbines visible: 100 Percent visibility: 51%–75%	Medium	Long term (35 years)/reversible	Fair	Overall size and scale along with visibility reduces contrast and perceivability	Small	Importance of recreation and historic resources; size, scale and visibility from KOP.	Minor
LI04	Due to distance and viewer position in relation to other features in the landscape, there would be minor change in the existing condition.	Small	Number of turbines visible: 91 Percent visibility: 51%–75%	Medium	Long term (35 years)/reversible	Fair	Project would not be perceivable along horizon due to distance and atmospheric influences.	Small	Project would not be perceivable along horizon due to distance and atmospheric influences. Occasional blade tips and movement may be noticeable by the focused viewer or backlighting.	Negligible
LI04	Due to distance and viewer position in relation to other features in the landscape, there would be minor change in the existing condition.	Small	Number of turbines visible: Percent visibility: % Information not available in RWF VIA	Small	Long term (35 years)/reversible	Fair	Project would be perceivable along horizon if observer views were focused toward lighting.	Small	The addition of aviation warning lights along the horizon within the viewshed would be perceivable by the focused viewer, but not a dominant element as compared to other existing warning lighting sources associated with BIWF that are in closer proximity (approximately 16 miles).	Negligible
MM01	Visible and likely to attract the attention resulting from angle of view of WTGs	Medium	Number of turbines visible: 100 Percent visibility: 76%–100%	Medium	Long term (35 years)/reversible	Fair	Project blades would be perceivable along horizon.	Medium	Importance of natural landscape and natural recreation opportunities, scenic values; prominence of turbines.	Minor
MM04	Degree of change in existing conditions would be minimal due to distance and existing modifications within the foreground.	Small	Number of turbines visible: 90 Percent visibility: 51%–75%	Medium	Long term (35 years)/reversible	Fair	Distance to Project, natural and human-made features in the foreground would reduce magnitude.	Small	Importance of natural landscape and recreation opportunities; distance of turbines in relation to KOP.	Minor
MV02	Turbines are very visible on the horizon line and will dominate the view from the KOP.	Large	Number of turbines visible: 100 Percent visibility: 76%–100%	Large	Long term (35 years)/reversible	Fair	Size and scale in relation to existing conditions along with percentage of visibility.	Large	Importance of natural landscape and natural recreation opportunities, scenic values; prominence of turbines.	Moderate

KOP Number	Size or Scale Rationale	Size and Scale Rating (large, medium, small)	Geographic Extent Rationale*	Geographic Extent Rating (large, medium, small)	Duration/Reversibility Rationale	Duration/Reversibility Rating (good, fair, poor)	SLVIA Magnitude Rating Rationale	SLVIA Magnitude Rating (large, medium, small)	SLVIA Overall Impact Level Rationale	SLVIA Overall Impact Level (major, moderate, minor, negligible)
MV03	Visible and likely to attract the attention resulting from angle of view of WTGs	Medium	Number of turbines visible: 59 Percent visibility: 76%–100%	Medium	Long term (35 years)/reversible	Fair	Visibility of WTGs within viewshed along horizon line within viewshed.	Medium	Importance of natural landscape and natural recreation opportunities, scenic values; prominence of turbines.	Moderate
MV03	WTGs appear dark gray against the light sky and the position of the sun serves as a focal point, drawing the viewer's eye toward part of the Project.	Large	Number of turbines visible: 59 Percent visibility: 76%–100%	Medium	Long term (35 years)/reversible	Fair	Visibility of backlit WTGs within viewshed along horizon line within viewshed.	Large	Scenic values; prominence of turbines- sunset backlighting of turbines along with movement influences prominence.	Major
MV05	With the proposed RWF in place, the nacelles and rotors from numerous WTGs and two OSSs will be visible from this KOP in the background along the horizon.	Large	Number of turbines visible: 100 Percent visibility: 76%–100%	Large	Long term (35 years)/reversible	Fair	Size and scale in relation to existing conditions along with percentage of visibility.	Large	Importance of natural landscape and natural recreation opportunities, scenic values; prominence of turbines.	Moderate
MV05	WTGs appear dark gray against the light sky and the position of the sun serves as a focal point, drawing the viewer's eye toward part of the Project.	Large	Number of turbines visible: 100 Percent visibility: 76%–100%	Large	Long term (35 years)/reversible	Fair	Visibility of backlit WTGs within viewshed along horizon line within viewshed.	Large	Scenic values; prominence of backlit turbines on the horizon.	Major
MV07	OSSs appear as static, dark objects on the horizon intermixed with WTGs, providing scale to both the OSS and WTGs, which draw the eye. The overlook is no longer just for views of the ocean but also includes the turbines on the ocean.	Large	Number of turbines visible: 100 Percent visibility: 76%–100%	Large	Long term (35 years)/reversible	Fair	Size and scale in relation to existing conditions along with percentage of visibility.	Large	Prominent, dedicated viewpoint.	Major
MV07	OSSs appear as static, dark objects on the horizon intermixed with WTGs, providing scale to both the OSS and WTGs, which draw the eye. The overlook is no longer just for views of the ocean but also includes the turbines on the ocean.	Large	Number of turbines visible: 100 Percent visibility: 76%–100%	Large	Long term (35 years)/reversible	Fair	Size and scale in relation to existing conditions along with percentage of visibility.	Large	Prominent, dedicated viewpoint.	Major
MV07	Vertical lines of WTG warning lighting become focal point along the wide, dark horizon.	Large	Number of turbines visible: Percent visibility: N/A Information not available in RWF VIA	Large	Long term (35 years)/reversible	Fair	Size and scale in relation to existing conditions along with percentage of visibility.	Large	Prominent, dedicated viewpoint; vertical orientation of warning lighting in dark, night sky, with brighter illumination at base of WTGs and as well as OSS lighting that draws eye across horizon and field of view.	Major
MV09	OSSs appear as static, dark objects on the horizon intermixed with WTGs, providing scale to both the OSS and WTGs, which draw the eye. The overlook is no longer just for views of the ocean but also includes the turbines on the ocean.	Large	Number of turbines visible: 70 Percent visibility: 76%–100%	Large	Long term (35 years)/reversible	Fair	Size and scale in relation to existing conditions along with percentage of visibility.	Large	Importance of historic lighthouse, scenic values; prominence of turbines and OSSs.	Major

KOP Number	Size or Scale Rationale	Size and Scale Rating (large, medium, small)	Geographic Extent Rationale*	Geographic Extent Rating (large, medium, small)	Duration/Reversibility Rationale	Duration/Reversibility Rating (good, fair, poor)	SLVIA Magnitude Rating Rationale	SLVIA Magnitude Rating (large, medium, small)	SLVIA Overall Impact Level Rationale	SLVIA Overall Impact Level (major, moderate, minor, negligible)
MV10	Nacelles and rotors from numerous WTGs will be visible in the background along the horizon. Turbines are visible on the horizon and provide a focal point.	Large	Number of turbines visible: 100 Percent visibility: 76%–100%	Large	Long term (35 years)/reversible	Fair	Size and scale in relation to existing conditions along with percentage of visibility.	Medium	Importance of natural landscape and natural recreation opportunities; massing of turbines on horizon.	Moderate
MV11	Nearest WTG is 24.6 miles (39.6 km) away; the towers are largely obscured due to curvature of the Earth, with their degree of exposure decreasing from left to right.	Medium	Number of turbines visible: 89 Percent visibility: 2%–25%	Moderate	Long term (35 years)/reversible	Fair	Size and scale in relation to existing conditions along with percentage of visibility.	Medium	Importance of natural landscape and natural recreation opportunities; visibility of WTGs due to distance and percentage of visibility.	Minor
MV12	KOP on Peaked Hill represents a discrete view to the southwest that requires the viewer to be perfectly positioned.	Small	Number of turbines visible: Percent visibility: N/A Information not available in RWF VIA	Small Based on simulation graphic all are visible/vegetation and perspective influence	Long term (35 years)/reversible	Fair	Size and scale in relation to existing conditions, vegetation and viewer perspective.	Small	Importance of cultural significance and natural recreation opportunities; visibility of WTGs due to intervening vegetation and landforms.	Major
MV12	Sunset illumination and backlighting influences change	Large	Number of turbines visible: Percent visibility: N/A Information not available in RWF VIA	Large Based on simulation graphic all are visible/vegetation and perspective influence	Long term (35 years)/reversible	Fair	Backlighting of WTGs, increased visibility.	Large	Importance of cultural significance and natural recreation opportunities; visibility of WTGs due to backlighting.	Major
MV13	WTGs are visible; light gray towers, nacelles, and rotors are fully visible above the horizon.	Large	Number of turbines visible: 100 Percent visibility: 76%–100%	Large	Long term (35 years)/reversible	Fair	Size and scale in relation to existing conditions along with percentage of visibility.	Large	Importance of natural landscape and natural recreation opportunities; visibility of WTGs due to distance and percentage of visibility.	Major
NI10	WTGs are barely visible along the horizon, with a small cluster of turbine blades and nacelle comprising the majority of visible features.	Small	Number of turbines visible: 26 Percent visibility: 76%–100%	Small (distance)	Long term (35 years)/reversible	Fair	Not perceivable at distance.	Small	Importance of natural landscape and natural recreation opportunities; visibility of WTGs due to distance influences impact determination.	Negligible
NL01	WTGs appear as gray vertical lines against the yellow backdrop of the sky that look out of character with the vast extent of open water.	Large	Number of turbines visible: 100 Precent visibility: 76%–100%	Large	Long term (35 years)/reversible	Fair	Size and scale in relation to existing conditions along with percentage of visibility.	Large	Intact seascape and prominence of WTGs in close proximity, although no viewers.	Major
NL01	Sunset illumination and backlighting influences change	Large	Number of turbines visible: 100 Precent visibility: 76%–100%	Large	Long term (35 years)/reversible	Fair	Backlighting of WTGs, increased visibility.	Large	Intact seascape and prominence of WTGs, although no viewers; backlighting of WTGs and OSS.	Major

KOP Number	Size or Scale Rationale	Size and Scale Rating (large, medium, small)	Geographic Extent Rationale*	Geographic Extent Rating (large, medium, small)	Duration/Reversibility Rationale	Duration/Reversibility Rating (good, fair, poor)	SLVIA Magnitude Rating Rationale	SLVIA Magnitude Rating (large, medium, small)	SLVIA Overall Impact Level Rationale	SLVIA Overall Impact Level (major, moderate, minor, negligible)
RI01	WTGs are barely visible from this location due largely to their distance from the viewer and the screening effects of curvature of the Earth.	Small	Number of turbines visible: 89 Percent visibility: 26%–75%	Small (Distance)	Long term (35 years)/reversible	Fair	Not perceivable at distance.	Small	Importance of historic setting and natural recreation opportunities; visibility of WTGs due to distance.	Minor
RI06	Upper portions of the WTGs are perceptible as slender gray protrusions above the horizon line.	Medium	Number of turbines visible: 99 Percent visibility: 2%–25%	Medium	Long term (35 years)/reversible	Fair	Size and scale in relation to existing conditions along with percentage of visibility.	Medium	Intact seascape and presence of WTGs along horizon.	Minor
RI08	Nacelles and rotors of numerous WTGs are visible along the horizon, distance	Medium	Number of turbines visible: 99 Percent visibility: 76%–100%	Large	Long term (35 years)/reversible	Fair	Size and scale in relation to existing conditions along with percentage of visibility.	Large	Importance of recreation opportunities; visibility of WTGs due to distance and percentage of visibility.	Moderate
RI09	WTGs will be visible along the horizon; distance	Medium	Number of turbines visible: 99 Percent visibility: 26%–50%	Medium	Long term (35 years)/reversible	Fair	Size and scale in relation to existing conditions along with percentage of visibility.	Medium	Importance of recreation opportunities; visibility of WTGs due to distance and percentage of visibility.	Moderate

Note: Nighttime impacts would be reduced to negligible, as described in EIS Table 3.3-2 (Definitions of Potential Adverse Impact Levels), when FAA warning lights are not activated though the use of ADLS.

* Data from (EDR 2023:Appendix A).

Table G-VIS2a. Seascape Landscape Impact Assessment for Alternative B (Proposed Action) – Seascape Character Areas

Character Area Name	Character Area Association (SCA/LCA/OCA)	Key Observation Points with Simulations	Susceptibility Rationale	Susceptibility Rating (high, medium, low)	Value Rationale	Value Rating (high, medium, low)	SLIA Sensitivity Rating Rationale	SLIA Sensitivity Rating (high, medium, low)	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative B – Proposed Action Total Land Acres within Analysis Area: 1,488.1 Square Miles	Geographic Extent Rating (large, medium, small)	Size or Scale Rating Rationale (degree of change from existing conditions)	Size and Scale Rating (large, medium, small)	Duration/ Reversibility Rationale	Duration/ Reversibility Rating (good, fair, poor)	SLIA Magnitude Rating Rationale	SLIA Magnitude Rating (large, medium, small)	SLIA Overall Impact Level Rationale	SLIA Overall Impact Level (major, moderate, minor, negligible)
Shoreline Beach	SCA	AI06, MV02, MV10, MV11, NI10, RI08, RI09	Unobstructed, expansive water-level view of the shoreline and across open water	High	Viewer activity in this area is primarily recreational, including swimming, sunbathing, walking, beachcombi	High	Iconic eastern shore beach setting with intermixed characteristic built features.	High	35.3/ 2.4	Small	Prominence of WTGs based on adjacency of open water to character area, with uninterrupted views to	Large	Long term (35 years)/ reversible	Fair	Overall visible land area in comparison with prominence of Project and duration of time.	Medium	Predominately high sensitivity along with medium degree of magnitude.	Moderate

Character Area Name	Character Area Association (SCA/LCA/OCA)	Key Observation Points with Simulations	Susceptibility Rationale	Susceptibility Rating (high, medium, low)	Value Rationale	Value Rating (high, medium, low)	SLIA Sensitivity Rating Rationale	SLIA Sensitivity Rating (high, medium, low)	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative B – Proposed Action Total Land Acres within Analysis Area: 1,488.1 Square Miles	Geographic Extent Rating (large, medium, small)	Size or Scale Rating Rationale (degree of change from existing conditions)	Size and Scale Rating (large, medium, small)	Duration/ Reversibility Rationale	Duration/ Reversibility Rating (good, fair, poor)	SLIA Magnitude Rating Rationale	SLIA Magnitude Rating (large, medium, small)	SLIA Overall Impact Level Rationale	SLIA Overall Impact Level (major, moderate, minor, negligible)
					ng, fishing, and surfing. Examples include Watch Hill, Narragansett, Horseneck, and Sachuest Beaches.		Open ocean adjacency.				horizon and Project.							
Coastal Bluff	SCA	BI04, BI12, C01, MV07, MV13, NL01	Elevated views; Because of elevation and lack of tall vegetation, these views typically include significant lengths of shoreline and a broad expanse of open ocean as well as typical inland features. Views are generally only available from discrete public access points and trails.	Medium	Discrete, elevated views along visually variable landscape. Includes the south shore of Block Island including the Clayhead Trail in New Shoreham, at Gay Head in Aquinnah on Martha's Vineyard, along portions of the Cliff Walk in Newport, and at Montauk Point on Long Island.	High	Iconic eastern shore cliff and bluff setting with open ocean adjacency.	High	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.
Developed Waterfront	SCA	N/A	Dominance of human-made features including docks, boats, and shoreline buildings/structures	Low	Fishing ports, harbors, marinas, and shoreline commercial and industrial areas	Medium	Activity in these areas is generally water-oriented but highly variable and includes commercial fishing, seafood	Low	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.

Character Area Name	Character Area Association (SCA/LCA/OCA)	Key Observation Points with Simulations	Susceptibility Rationale	Susceptibility Rating (high, medium, low)	Value Rationale	Value Rating (high, medium, low)	SLIA Sensitivity Rating Rationale	SLIA Sensitivity Rating (high, medium, low)	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative B – Proposed Action Total Land Acres within Analysis Area: 1,488.1 Square Miles	Geographic Extent Rating (large, medium, small)	Size or Scale Rating Rationale (degree of change from existing conditions)	Size and Scale Rating (large, medium, small)	Duration/ Reversibility Rationale	Duration/ Reversibility Rating (good, fair, poor)	SLIA Magnitude Rating Rationale	SLIA Magnitude Rating (large, medium, small)	SLIA Overall Impact Level Rationale	SLIA Overall Impact Level (major, moderate, minor, negligible)
							processing, boat repair, pleasure boating, retail shopping, and restaurants.											
Shoreline Residential	SCA	AI03, RI01	Shoreline homes are specifically situated to take advantage of water views.	High	Year-round and seasonal homes situated along the ocean shoreline. The defining characteristic of this zone is a broad, often elevated, view of the ocean from a residential setting.	High	Home are positioned and occupied for the appeal of iconic oceanside views.	High	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.
Coastal Dunes	SCA	BI13, MV03, MV05	Views from the dunes are largely restricted to these paths and typically screened by the tight, rolling landform until emerging at the top of the beach.	Medium	Coastal dunes are typically strictly regulated ecological communities, and access is limited to narrow, enclosed footpaths and boardwalks that cut through or over the dunes, providing public access to the beaches.	Medium	Viewer activity in this area is almost exclusively recreational and typically focused on sightseeing and beach access.	Medium	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.

Note: Nighttime impacts would be reduced to negligible, as described in EIS Table 3.3-2 (Definitions of Potential Adverse Impact Levels), when FAA warning lights are not activated though the use of ADLS.

Table G-VIS2b. Seascape Landscape Impact Assessment for Alternative B (Proposed Action) – Seascape Character Areas and Landscape Character Areas

Character Area Name	Character Area Association (SCA/LCA/OCA)	Key Observation Points with Simulations	Susceptibility Rationale	Susceptibility Rating (high, medium, low)	Value Rationale	Value Rating (high, medium, low)	SLIA Sensitivity Rating Rationale	SLIA Sensitivity Rating (high, medium, low)	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative B – Proposed Action Total Land Acres within Analysis Area: 1,488.1 Square Miles	Geographic Extent Rating (large, medium, small)	Size or Scale Rating Rationale (degree of change from existing conditions)	Size and Scale Rating (large, medium, small)	Duration/ Reversibility Rationale	Duration/ Reversibility Rating (good, fair, poor)	SLIA Magnitude Rating Rationale	SLIA Magnitude Rating (large, medium, small)	SLIA Overall Impact Level Rationale	SLIA Overall Impact Level (major, moderate, minor, negligible)
Salt Pond/ Tidal Marsh	SCA/LCA	RI06	Views are available across the open water but are generally interrupted by adjacent dunes, barrier spits, and/or scrub vegetation that separates the ponds and the adjacent land from the ocean.	Low	Residences often occur along the edges of these ponds, as indicated by docks and boats along their shorelines. Recreational activity in the form of boating, fishing, and clamming is common in these areas.	Medium	Multi-use setting with localized views, increased distance from the open ocean.	Medium	35.3/ 2.4	Small	Intermix of vegetation, topography, and viewer position in relation to Project begins to influence the degree to which Project is perceived.	Medium	Long term (35 years)/ reversible	Fair	Overall visible land area in comparison with prominence of Project and duration of time.	Medium	Combination of high, medium, and low sensitivity (combined for and overall medium) along with medium degree of magnitude.	Moderate
Inland Lakes and Ponds	SCA/ LCA	N/A	The dominant visual feature of this zone is an open expanse of flat water that is enclosed by a vegetated shoreline. Occasionally interrupted by human-made features, such as homes and boat launches	Low	Given their locations and surrounding screening, views to the ocean are relatively rare. Human activity on the lakes and along the shoreline includes boating, fishing, and swimming.	Low	Views are constrained within immediate area with ocean views obscured by vegetation.	Low	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.
Maintained Recreation Area	SCA/LCA	AI01, AI03, BI04, C01, LI04, MM04, MV09, RI01	Views of the ocean are highly variable, depending on the proximity to the shoreline. The open, maintained landscape generally allows for expansive, unobstructed views of the surrounding seascape.	High	Recreation focused with open lawns at public parks, lighthouses, USCG stations, and golf courses. Lighthouses and state parks are often associated.	High	Iconic settings, with lighthouses, open ocean views with a recreation focus.	High	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.
Highway Transportation	SCA/LCA	N/A	High-volume vehicular travel corridors that	Low	Dominated by adjacent buildings/structures	Medium	Viewer focus is associated	Low	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.

Character Area Name	Character Area Association (SCA/LCA/OCA)	Key Observation Points with Simulations	Susceptibility Rationale	Susceptibility Rating (high, medium, low)	Value Rationale	Value Rating (high, medium, low)	SLIA Sensitivity Rating Rationale	SLIA Sensitivity Rating (high, medium, low)	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative B – Proposed Action Total Land Acres within Analysis Area: 1,488.1 Square Miles	Geographic Extent Rating (large, medium, small)	Size or Scale Rating Rationale (degree of change from existing conditions)	Size and Scale Rating (large, medium, small)	Duration/ Reversibility Rationale	Duration/ Reversibility Rating (good, fair, poor)	SLIA Magnitude Rating Rationale	SLIA Magnitude Rating (large, medium, small)	SLIA Overall Impact Level Rationale	SLIA Overall Impact Level (major, moderate, minor, negligible)
			traverse the landscape and are dominated by automobiles. Travel is at moderate to high speed, and outward peripheral views are fleeting.		and trees with limited elevated long-distance views available.		with driving activity and with limited duration views.											

Note: Nighttime impacts would be reduced to negligible, as described in EIS Table 3.3-2 (Definitions of Potential Adverse Impact Levels), when FAA warning lights are not activated though the use of ADLS.

Table G-VIS2c. Seascape Landscape Impact Assessment for Alternative B (Proposed Action) – Landscape Character Areas

Character Area Name	Character Area Association (SCA/LCA/OCA)	Key Observation Points with Simulations	Susceptibility Rationale	Susceptibility Rating (high, medium, low)	Value Rationale	Value Rating (high, medium, low)	SLIA Sensitivity Rating Rationale	SLIA Sensitivity Rating (high, medium, low)	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative B – Proposed Action Total Land Acres within Analysis Area: 1,488.1 Square Miles	Geographic Extent Rating (large, medium, small)	Size or Scale Rating Rationale (degree of change from existing conditions)	Size and Scale Rating (large, medium, small)	Duration/ Reversibility Rationale	Duration/ Reversibility Rating (good, fair, poor)	SLIA Magnitude Rating Rationale	SLIA Magnitude Rating (large, medium, small)	SLIA Overall Impact Level Rationale	SLIA Overall Impact Level (major, moderate, minor, negligible)
Coastal Scrub/ Shrub Forest	LCA	AI05, AI07, CI01, MM01,	Outward views are largely enclosed by surrounding vegetation and are limited to the orientation and width of the cleared corridor.	Low	Viewer activity is primarily local travel and recreational trail use.	Medium	Views are constrained within the immediate area with ocean views obscured by vegetation.	Low	35.3/ 2.4	Small	As distance from Project increases, the degree to which Project is noticeable decreases due to the influence of the built and naturally vegetated environment associated with these character areas.	Medium/ Small	Long term (35 years)/ reversible	Fair	Overall visible land area in comparison with prominence of Project and duration of time.	Medium	Overall low sensitivity with medium degree of magnitude	Minor

Character Area Name	Character Area Association (SCA/LCA/OCA)	Key Observation Points with Simulations	Susceptibility Rationale	Susceptibility Rating (high, medium, low)	Value Rationale	Value Rating (high, medium, low)	SLIA Sensitivity Rating Rationale	SLIA Sensitivity Rating (high, medium, low)	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative B – Proposed Action Total Land Acres within Analysis Area: 1,488.1 Square Miles	Geographic Extent Rating (large, medium, small)	Size or Scale Rating Rationale (degree of change from existing conditions)	Size and Scale Rating (large, medium, small)	Duration/ Reversibility Rationale	Duration/ Reversibility Rating (good, fair, poor)	SLIA Magnitude Rating Rationale	SLIA Magnitude Rating (large, medium, small)	SLIA Overall Impact Level Rationale	SLIA Overall Impact Level (major, moderate, minor, negligible)
Agricultural/ Open Field	LCA	N/A	Open farmland provides for long-distance views in this zone; adjacent forest, coastal scrub, and buildings/structures typically frame/enclose these views and provide significant screening.	Low	Occurs primarily inland of the coast, views to the ocean are relatively rare.	Low	Setting is not influenced by views of the ocean, and pastoral/agricultural character dominates.	Low	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.
Forest	LCA	MV12	Long-distance views within the zone are generally either fully or partially screened by vegetation and, when present, are tightly enclosed by the surrounding trees.	Low	Variable vegetation characteristics in relation to typical ocean, seascape environment provides more enclosed setting for users.	Low	Views are constrained within the immediate area with ocean views obscured by vegetation.	Low	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.
Rural Residential	LCA	N/A	Rural residences tend to be located along narrow, tree-lined roads, with intervening vegetation. Long-distance views are largely restricted to	Low	Typical viewer activity includes residential activity, outdoor recreation, and local travel.	Low	Views are constrained within the immediate area with ocean views obscured by vegetation.	Low	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.

Character Area Name	Character Area Association (SCA/LCA/OCA)	Key Observation Points with Simulations	Susceptibility Rationale	Susceptibility Rating (high, medium, low)	Value Rationale	Value Rating (high, medium, low)	SLIA Sensitivity Rating Rationale	SLIA Sensitivity Rating (high, medium, low)	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative B – Proposed Action Total Land Acres within Analysis Area: 1,488.1 Square Miles	Geographic Extent Rating (large, medium, small)	Size or Scale Rating Rationale (degree of change from existing conditions)	Size and Scale Rating (large, medium, small)	Duration/ Reversibility Rationale	Duration/ Reversibility Rating (good, fair, poor)	SLIA Magnitude Rating Rationale	SLIA Magnitude Rating (large, medium, small)	SLIA Overall Impact Level Rationale	SLIA Overall Impact Level (major, moderate, minor, negligible)
			small open fields.															
Suburban Residential	LCA	N/A	Medium to high-density residential neighborhoods that typically occur on the outskirts of villages and town centers and along secondary roads and cul-de-sacs spurring off the main roads.	Low	Views are generally limited by the surrounding forest vegetation, adjacent buildings/structures, and/or undulating topography that surrounds the subdivisions.	Low	Localized views and influence of built residential environment.	Low	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.
Village/ Town Center	LCA	N/A	Moderate to high-density residential and commercial development includes larger town center areas. Buildings (typically two- to three-stories tall) and other human-made features dominate the landscape.	Low	Outward views that are available will typically exist in areas on the outskirts of the villages and town centers and will generally be partially screened by existing buildings/structures and surrounding native vegetation.	Low	Localized views and influence of built environment.	Low	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.
Commercial	LCA	N/A	Commercial development along a highway includes retail businesses, restaurants, convenience	Low	Views are focused along the axis of the highway and the foreground is dominated by buildings,	Low	Urbanized built environment dominates and is the primary focus.	Low	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.	Same as above.

Character Area Name	Character Area Association (SCA/LCA/OCA)	Key Observation Points with Simulations	Susceptibility Rationale	Susceptibility Rating (high, medium, low)	Value Rationale	Value Rating (high, medium, low)	SLIA Sensitivity Rating Rationale	SLIA Sensitivity Rating (high, medium, low)	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative B – Proposed Action Total Land Acres within Analysis Area: 1,488.1 Square Miles	Geographic Extent Rating (large, medium, small)	Size or Scale Rating Rationale (degree of change from existing conditions)	Size and Scale Rating (large, medium, small)	Duration/ Reversibility Rationale	Duration/ Reversibility Rating (good, fair, poor)	SLIA Magnitude Rating Rationale	SLIA Magnitude Rating (large, medium, small)	SLIA Overall Impact Level Rationale	SLIA Overall Impact Level (major, moderate, minor, negligible)
			stores, automobile dealers, shopping centers, and malls.		automobiles, paved roads, and parking lots.													

Note: Nighttime impacts would be reduced to negligible, as described in EIS Table 3.3-2 (Definitions of Potential Adverse Impact Levels), when FAA warning lights are not activated though the use of ADLS.

Table G-VIS2d. Seascape Landscape Impact Assessment for Alternative B (Proposed Action) – Ocean Character Areas

Character Area Name	Character Area Association (SCA/LCA/OCA)	Key Observation Points with Simulations	Susceptibility Rationale	Susceptibility Rating (high, medium, low)	Value Rationale	Value Rating (high, medium, low)	SLIA Sensitivity Rating Rationale	SLIA Sensitivity Rating (high, medium, low)	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) *Alternative B – Proposed Action* *Total OCA area within Analysis Area: 6,113.4 Square Miles*	Geographic Extent Rating (large, medium, small)	Size or Scale Rating Rationale (degree of change from existing conditions)	Size and Scale Rating (large, medium, small)	Duration/ Reversibility Rationale	Duration/ Reversibility Rating (good, fair, poor)	SLIA Magnitude Rating Rationale	SLIA Magnitude Rating (large, medium, small)	SLIA Overall Impact Level Rationale	SLIA Overall Impact Level (major, moderate, minor, negligible)
Open Ocean	OCA	N/A	Presence of open water as a dominant foreground element in all directions. Human-made features in the water are limited but may include occasional jetties, buoys, and boats.	High	Human activity on the water can be extensive, especially near major ports and navigation.	High	Presence of open ocean environment with unobstructed horizon is of high importance to users and visitors.	High	5,882.2/96.2 Maximum ocean visibility as compared to all alternatives	Large	Predominantly intact open ocean within immediate proximity of WTGs and OSS facilities not characteristic of the OCA.	Large	Long term (35 years)/ reversible	Fair	Proximity of OCA to Project with uninterrupted ocean views surrounding Project for duration of Project. Approximately 96% of OCA total acres with visibility.	Large	Intact open ocean setting, in immediate proximity of Project components for the duration of Project.	Major

Note: Nighttime impacts would be reduced to negligible, as described in EIS Table 3.3-2 (Definitions of Potential Adverse Impact Levels), when FAA warning lights are not activated though the use of ADLS.

Table G-VIS2e. Seascape Landscape Impact Assessment for Alternative B (Proposed Action) – Specially Designated Areas

Specially Designated Areas	Specially Designated Area Total Acres	Key Observation Points with Simulations	Susceptibility Rationale	Susceptibility Rating (high, medium, low)	Value Rationale	Value Rating (high, medium, low)	SLIA Sensitivity Rating Rationale	SLIA Sensitivity Rating (high, medium, low)	Geographic Extent of Specially Designated Area with Visibility of Alternative (Acres/Percentage) *Proposed Action (Alternative B)*	Geographic Extent Rating (large, medium, small)	Size or Scale Rating Rationale (degree of change from existing conditions)	Size and scale Rating (large, medium, small)	Duration/ Reversibility Rationale	Duration/ Reversibility Rating (good, fair, poor)	SLIA Magnitude Rating Rationale	SLIA Magnitude Rating (large, medium, small)	SLIA Overall Impact Level Rationale	SLIA Overall Impact Level (major, moderate, minor, negligible)
Historic Sites and National Landmarks	12,308.0	AI01, AI03, BI04, BI12, BI13, C01, C02, BI13, MM04, MV07, MV09, MV13, RI01	161 districts and individual properties listed or eligible for the NRHP and 13 properties or districts listed as National Historic Landmarks (NHL). These include historic districts, homes, lighthouses, churches, and government buildings.	High	Properties have historic, regional and national significance.	High	Historic properties and sites generally have high than average sensitivity based on the nature of the property and its relationship to the setting.	High	1,222.08/9.9	Medium	General proximity of Project in relation to sensitive resource and experiences associated with historic/ culturally significant locations.	Large	Long term (35 years)/ reversible	Fair	General proximity of Project in relation to sensitive resource and experiences associated with historic/ culturally significant locations.	Large	Importance of iconic sites, settings and experiences associated with locations in contrast to introduction of Project.	Major

Specially Designated Areas	Specially Designated Area Total Acres	Key Observation Points with Simulations	Susceptibility Rationale	Susceptibility Rating (high, medium, low)	Value Rationale	Value Rating (high, medium, low)	SLIA Sensitivity Rating Rationale	SLIA Sensitivity Rating (high, medium, low)	Geographic Extent of Specially Designated Area with Visibility of Alternative (Acres/Percentage) *Proposed Action (Alternative B)*	Geographic Extent Rating (large, medium, small)	Size or Scale Rating Rationale (degree of change from existing conditions)	Size and scale Rating (large, medium, small)	Duration/ Reversibility Rationale	Duration/ Reversibility Rating (good, fair, poor)	SLIA Magnitude Rating Rationale	SLIA Magnitude Rating (large, medium, small)	SLIA Overall Impact Level Rationale	SLIA Overall Impact Level (major, moderate, minor, negligible)
National Natural Landmarks	349.7	MV07	Sites that contain outstanding biological and geological resources and encourages the conservation of these areas.	Medium	Two locations identified within analysis area. Primary importance is related to physical resources, with lesser potential importance on experiences.	Medium	Preservation of physical resources associated with landmarks.	Medium	255.5/73.1	Large	Proximity of Gay Head Cliffs is approximate 14 miles from Project. Muskeget Island is approximately 31.6 miles.	Medium	Long term (35 years)/ reversible	Fair	Variable distances of resource from Project.	Large	two identified localized resources with variable proximity to Project and localized focus on physical resources.	Moderate
State Scenic Areas	105,777.6	BI12, CI01, MV07	93 state-designated scenic areas, including 56 in Rhode Island; 34 in Massachusetts; 3 in New York	High	Importance of iconic landscapes (ex. Martha's Vineyard) that surround the Lease Area.	High	Often associated with iconic settings and places which most often have regional and national significance related to sense of place.	High	18,205.6/17.2	Small	Overall percentage of visible areas and distribution of locations often in relative proximity to Project.	Large	Long term (35 years)/ reversible	Fair	Variability of visibility in relation to resource with approximately ¼ of acres having visibility of Project.	Medium	Overall higher sensitivity to change based on nature of resource and iconic landscapes.	Major
National Wildlife Refuges	15,176.1	AI05, NL01, RI06	System of public lands and waters set aside to conserve the nation's fish, wildlife, and plants. Nine refuges occur within the analysis area.	Low	Preservation of natural resources specific to refuge.	Low	Preservation of physical resources associated with refuges.	Medium	767.7/5.1	Small	Percentage of visibility of Project in relation to distributed areas and refuge locations	Small	Long term (35 years)/ reversible	Fair	Minimal to no change to physical resource visually.	Small	Refuges are focused on the preservation of natural resources, with closest refuge not occupied by humans.	Minor
State/Non-Profit Wildlife Management Areas	31,967.8	AI07	18 State Wildlife Management Areas: nine in Rhode Island and nine in Massachusetts. Lands are managed to provide wildlife habitat and accommodate wildlife-related recreation (hunting, bird watching, etc.).	Low	Preservation of natural resources specific to management areas.	Low	Preservation of physical resources associated with management area. Variable uses and activities.	Medium	1,31.4/.4	Small	Small percentage of Project visibility.	Small	Long term (35 years)/ reversible	Fair	Minimal to no change to physical resource visually.	Small	Management areas are focused on the preservation of natural resources and providing recreation resources.	Minor

Specially Designated Areas	Specially Designated Area Total Acres	Key Observation Points with Simulations	Susceptibility Rationale	Susceptibility Rating (high, medium, low)	Value Rationale	Value Rating (high, medium, low)	SLIA Sensitivity Rating Rationale	SLIA Sensitivity Rating (high, medium, low)	Geographic Extent of Specially Designated Area with Visibility of Alternative (Acres/Percentage) *Proposed Action (Alternative B)*	Geographic Extent Rating (large, medium, small)	Size or Scale Rating Rationale (degree of change from existing conditions)	Size and scale Rating (large, medium, small)	Duration/ Reversibility Rationale	Duration/ Reversibility Rating (good, fair, poor)	SLIA Magnitude Rating Rationale	SLIA Magnitude Rating (large, medium, small)	SLIA Overall Impact Level Rationale	SLIA Overall Impact Level (major, moderate, minor, negligible)
National Parks	31.2	N/A	New Bedford Whaling National Historical Park, New Bedford, Massachusetts. Approximately 26 miles from Project.	Low	Associated with historical maritime activities, localized interest.	Low	Higher sensitivity as a result of National Park designation	Medium	.2/.7	Small	Overall distance from Project is approximately 26 miles with one WTG visible.	Small	Long term (35 years)/ reversible	Fair	No perceivable change related to Project	Small	Importance as a National Park, though physically distanced from Project to have negligible impacts or visibility.	Negligible
State Parks	10,473.8	AI01, LI04, MV10, RI08	17 State parks and reservations that occur within the analysis area and provide recreation and sight-seeing opportunities.	Medium	Variable recreation sites and opportunities for local and national interests.	Medium	Importance of recreation destinations and associated ocean viewing opportunities.	High	2,731.7/26.1	Medium	Over ¼ of area with visibility and proximity of Project.	Medium	Long term (35 years)/ reversible	Fair	Physical presence of Project 16 miles to 30+ miles; with variable visibility.	Medium	Recreation and ocean focused recreation with multiple user groups and interests.	Moderate
State Nature and Historic Preserves	248.4	N/A	John H. Chafee State Nature Preserve. Open to the public and provides agricultural, educational, and scenic values, as well as natural and historical resources	Low	Preservation of local heritage and resources.	Low	Preservation of heritage resources of the region.	Medium	3.1/1.2	Small	Resource is approximately 24 miles from nearest WTG with minimal visibility.	Low	Long term (35 years)/ reversible	Fair	Physical distance from Project and overall visibility.	Low	Localized interests with preservation focus, limited to no visibility of Project.	Negligible
State Forests	5,301.6	N/A	Manuel F. Correllus State Forest, located on the inland portion of Martha's Vineyard, Massachusetts, is the only state forest. Inland forest with vegetation and topography.	Low	Located in the center of Martha's Vineyard, multi-use recreation activities.	Low	Large local recreation resource with internally focused activities, surrounded by urban development.	Low	7.8/.2	Small	Inland recreation resource with limited visibility of Project.	Low	Long term (35 years)/ reversible	Fair	Inland location with intervening influence of vegetation, topography and built environment.	Low	Localized recreation resource, surrounded by urban development with intervening features that limit Project visibility.	Negligible
State Beaches	165.1	N/A	Nine state beaches; heavily used bathing beaches that typically include large	Medium	Recreation destination for high number of users with focus of activities	High	Iconic eastern shore beach destinations with high user interest.	High	78.2/ 47.4	Medium	Approximately ½ of beach areas with visibility of Project	Medium	Long term (35 years)/ reversible	Fair	Beach locations are at or beyond 20 miles from Project where scale decreases but	Medium	Popular beach destinations with viewer focus toward ocean and beach activities.	Moderate

Specially Designated Areas	Specially Designated Area Total Acres	Key Observation Points with Simulations	Susceptibility Rationale	Susceptibility Rating (high, medium, low)	Value Rationale	Value Rating (high, medium, low)	SLIA Sensitivity Rating Rationale	SLIA Sensitivity Rating (high, medium, low)	Geographic Extent of Specially Designated Area with Visibility of Alternative (Acres/Percentage) *Proposed Action (Alternative B)*	Geographic Extent Rating (large, medium, small)	Size or Scale Rating Rationale (degree of change from existing conditions)	Size and scale Rating (large, medium, small)	Duration/ Reversibility Rationale	Duration/ Reversibility Rating (good, fair, poor)	SLIA Magnitude Rating Rationale	SLIA Magnitude Rating (large, medium, small)	SLIA Overall Impact Level Rationale	SLIA Overall Impact Level (major, moderate, minor, negligible)
			parking areas, bathhouses, pavilions, and concession buildings.		towards ocean environment.						beyond 20 miles.				Project is perceivable.		Overall distance from Project is approximately 20 miles.	
Highways Designated or Eligible as Scenic	411.6	N/A	Two scenic byways are located within Rhode Island with waterfront, shoreline and coastline views.	Medium	Scenic Byway designation indicates value and importance of resources associated.	High	Protection of designation and associated iconic views.	High	43.4/10.5	Small	Overall low percentage of visibility in relation to linear resource.	Low	Long term (35 years)/ reversible	Fair	Low to intermittent visibility and associated intervening features.	Medium	Importance of scenic byway designation and preservation of resource with intermittent and variable viewing conditions from motorists.	Moderate
National Historic Trails	990.1	N/A	Washington-Rochambeau Revolutionary Route – national resource with period significance related to setting.	High	Congressionally designated trail resource with historic significance.	High	Changes in visual setting related to the trail.	High	.8/.1	Small	Small percentage of visibility related to resource.	Low	Long term (35 years)/ reversible	Fair	Low visibility with intermix of urban and natural features with WTG distance ranging from 18 to 40 miles.	Low	National Trail designation significance (high sensitivity) with low visibility of Project.	Minor
National Recreation Trails	88.6	AI03	Cliff Walk within Ochre Point Cliffs Historic District with iconic setting and views.	High	Views of the Atlantic Ocean historic mansions, wildflowers, wildlife, and shorelines.	Medium	Iconic setting with interests associated with preservation of resource and views.	High	65.1/73.4	Large	Large percentage of resource has visibility of Project.	High	Long term (35 years)/ reversible	Fair	Visibility of Project in relation to resource within approximately 15 miles.	High	Importance of resources in relation to setting and natural environment with a large portion of the trail having visibility of Project.	Major
State Fishing and Boating Access Sites	371.4	N/A	45 state-owned and/or -managed fishing and boating access sites with focus on maritime or ocean related activities.	Low	Recreational focus with inter-related views of ocean and setting.	Low	Primary focus of resources is related to recreation activities in interrelated ocean setting.	Medium	78.4/21.1	Medium	Approximately ¼ of acres with visibility of Project and are at least 16 miles from Lease Area.	Low	Long term (35 years)/ reversible	Fair	Resources in relation to Project and visibility.	Medium	Recreation resource with interrelated interest in ocean setting and views, variable distances from Project beyond 16 miles.	Moderate

Specially Designated Areas	Specially Designated Area Total Acres	Key Observation Points with Simulations	Susceptibility Rationale	Susceptibility Rating (high, medium, low)	Value Rationale	Value Rating (high, medium, low)	SLIA Sensitivity Rating Rationale	SLIA Sensitivity Rating (high, medium, low)	Geographic Extent of Specially Designated Area with Visibility of Alternative (Acres/Percentage) *Proposed Action (Alternative B)*	Geographic Extent Rating (large, medium, small)	Size or Scale Rating Rationale (degree of change from existing conditions)	Size and scale Rating (large, medium, small)	Duration/ Reversibility Rationale	Duration/ Reversibility Rating (good, fair, poor)	SLIA Magnitude Rating Rationale	SLIA Magnitude Rating (large, medium, small)	SLIA Overall Impact Level Rationale	SLIA Overall Impact Level (major, moderate, minor, negligible)
Lighthouses	23.0	BI04, C01, MM04, MV09, RI01	32 lighthouses; with proximity to ocean edge based on nature of resource and setting.	High	Lighthouses are characteristically associated with shoreline areas and settings with ocean focus.	High	Visitors and users of lighthouse resources as destination and iconic setting.	High	6.6/28.7	Medium	One lighthouse within approximately 9 miles of Project. All others are associated with ocean proximity that orients them closer to Project.	High	Long term (35 years)/ reversible	Fair	Proximity of lighthouses in relation to Project influences potential visibility and prominence.	High	Nature of lighthouses in relation to iconic ocean setting and proximity of Project.	Major
Public Beaches	4,221.0	AI06, MM01, MV02, MV03, MV05, MV11, NI10, RI09	178 public beaches with recreation focus and ocean facing views, iconic settings	Medium	Iconic recreation destination for high number of users with focus towards ocean and beach activities.	Medium	Typically higher interests in ocean setting with variable activities and user focus.	Medium	11,38.8/27.0	Medium	Approximately ¼ of acres with visibility of Project. Viewer position along beaches is often inline with Project.	Medium	Long term (35 years)/ reversible	Fair	Closest beach is approximately 13 miles; variable viewer perspectives and positioning.	Medium	Iconic beach setting with high user interest and activity though viewer position and visibility of Project can be variable.	Moderate
Ferry Routes	10,641.7	N/A	20 different ferry routes originating from multiple locations around Project. Proximity of routes to Project.	Medium	Dedicated ocean focused uses used for either pleasure or utility purposes.	Medium	Variability in users and interests intermixed with other seagoing vessels.	Medium	6,365.0/59.8	Large	Over 1.2 of ferry routes with visibility due to open ocean environment.	High	Long term (35 years)/ reversible	Fair	Resource is ocean based and in closer proximity to Project, though duration of view can be short term and directional.	High	Variability in viewer interest and overall sensitivity within dedicated ferry lanes. Proximity of Project in relation to routes influences prominence based on duration and direction.	Moderate
Seaports	90.1	N/A	Five seaports associated with working waterfront activity	Low	Industrial and seagoing areas with associated infrastructure.	Low	Variable users and interests; with primary focus related to industry.	Low	2.3/2.5	Small	Overall low visibility and perception of Project due to intermix of other built features and distance.	Low	Long term (35 years)/ reversible	Fair	Perceivability of Project in relation to other seaport uses and activities.	Low	Primary focus of seaports related to industrial and commercial uses with surrounding infrastructure and built environment.	Negligible

Specially Designated Areas	Specially Designated Area Total Acres	Key Observation Points with Simulations	Susceptibility Rationale	Susceptibility Rating (high, medium, low)	Value Rationale	Value Rating (high, medium, low)	SLIA Sensitivity Rating Rationale	SLIA Sensitivity Rating (high, medium, low)	Geographic Extent of Specially Designated Area with Visibility of Alternative (Acres/Percentage) *Proposed Action (Alternative B)*	Geographic Extent Rating (large, medium, small)	Size or Scale Rating Rationale (degree of change from existing conditions)	Size and scale Rating (large, medium, small)	Duration/ Reversibility Rationale	Duration/ Reversibility Rating (good, fair, poor)	SLIA Magnitude Rating Rationale	SLIA Magnitude Rating (large, medium, small)	SLIA Overall Impact Level Rationale	SLIA Overall Impact Level (major, moderate, minor, negligible)
Other State Land with Public Access	9,361.8	N/A	Variability of other resources associated with natural resources, recreation activities and locally sensitive uses.	Medium	Variability of uses and interests.	Medium	Variable users and interests	Medium	325.3/3.5	Small	Overall small percentage of visibility in relation to total acres.	Low	Long term (35 years)/ reversible	Fair	Variability of locations, which based on visibility can be assumed to be inland focused.	Low	High variability in use, interest and sensitivity; low overall visibility as compared to total acres.	Negligible

Table G-VIS3. Visual Impact Assessment Impacts Matrix for Alternative C (Habitat Alternative)

KOP Number	KOP Name	SLVIA Sensitivity Rating (high, medium, low)	Distance to Nearest Turbine (miles/nautical miles) Proposed Action	Distance to Nearest Turbine miles/nautical miles) Alternative C1	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative C1	Distance to Nearest Turbine (miles/nautical miles) Alternative C2	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative C2	Alternative with greatest reduced visual impact to KOP as compared to the Proposed Action	VIA Overall Impact Level Rationale	VIA Overall Impact Level (major, moderate, minor, negligible)
CI01	Cuttyhunk Island	High	13.9/12.1	13.9/12.1	17.8/15.5	13.9/12.1	17.8/15.5	C2	The reduction of WTGs in close proximity of the KOP would not decrease visibility of the WTGs. WTG reduction would be localized to the center view of the KOP, where turbines are removed surrounding the eastern most OSS. The Lease Area would appear to have two separate WTG areas.	Major
MM01	Gooseberry Island	Medium	15.2/13.2	15.2/13.2	22.4/19.5	15.2/13.2	22.3/19.4	C1 and C2	The reduction of WTGs associated with each alternative would not decrease visibility of the WTGs within 20 miles of the KOP. WTG reduction would be localized to areas beyond 20 miles and would remove turbines that have WTG blades visible along the horizon.	Minor
MV02	Philbin Beach	High	13.6/11.8	13.8/12.0	13.6/11.8	13.8/12.0	13.6/11.8	C1 and C2	The reduction of WTGs associated with each alternative within the center of the Lease Area would reduce the density of the Project within the viewshed, though would not decrease visibility of the WTGs left and right of center of the KOP within 15 miles. Both alternatives would visually appear as two separate projects, with a slight variation associated with Alternative C1 where 3 WTGs remain in the center of view from the KOP.	Moderate
MV05	Moshup Beach	High	13.8/12.0	13.7/11.9	13.7/11.9	13.7/11.9	13.7/11.9	C1 and C2	Alternatives C1 and C2 would have similar impacts. The reduction of WTGs associated with each alternative within the center of the Lease Area would reduce the density of the Project within the viewshed, though would not decrease visibility of the WTGs left and right of center of the KOP within 15 miles. Both alternatives would visually appear as two separate projects, with a slight variation associated with Alternative C1 where 3 WTGs remain in the center of view from the KOP.	Major
MV05	Moshup Beach – Sunset	High	13.8/12.1	13.7/11.9	13.7/11.9	13.7/11.9	13.7/11.9	C1 and C2	Alternatives C1 and C2 would have similar impacts. The reduction of WTGs associated with each alternative within the center of the Lease Area would reduce the density of the Project within the viewshed, though would not decrease visibility of the WTGs left and right of center of the KOP within 15 miles. Both alternatives would visually appear as two separate projects, with a slight variation associated with Alternative C1 where 3 WTGs remain in the center of view from the KOP. The backlighting resulting from sunset conditions would enhance the distinctiveness of the break in continuity of the WTG massing.	Major
MV07	Aquinnah Overlook	High	13.7/12.0	13.7/12.0	14.0/12.1	13.7/12.0	14.0/12.1	C1 and C2	The reduction of WTGs associated with each alternative within the center of the Lease Area would reduce the density of the Project within the viewshed, though would not decrease visibility of the WTGs left and right of center of the KOP within 15 miles. Both alternatives would visually appear as two separate projects, with a slight variation associated with Alternative C1 where 3 WTGs remain in the center of view from the KOP.	Moderate

KOP Number	KOP Name	SLVIA Sensitivity Rating (high, medium, low)	Distance to Nearest Turbine (miles/nautical miles) Proposed Action	Distance to Nearest Turbine miles/nautical miles) Alternative C1	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative C1	Distance to Nearest Turbine (miles/nautical miles) Alternative C2	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative C2	Alternative with greatest reduced visual impact to KOP as compared to the Proposed Action	VIA Overall Impact Level Rationale	VIA Overall Impact Level (major, moderate, minor, negligible)
MV07	Aquinnah Overlook – Sunset	High	13.7/12.0	13.7/12.0	14.0/12.2	13.7/12.1	14.0/12.2	C1 and C2	The reduction of WTGs associated with each alternative within the center of the Lease Area would reduce the density of the Project within the viewshed, though would not decrease visibility of the WTGs left and right of center of the KOP within 15 miles. Both alternatives would visually appear as two separate projects, with a slight variation associated with Alternative C1 where 3 WTGs remain in the center of view from the KOP. The backlighting resulting from sunset conditions would enhance the distinctiveness of the break in continuity of the WTG massing.	Major
MV07	Aquinnah Overlook – Night	High	13.7/12.0	13.7/12.0	14.0/12.3	13.7/12.2	14.0/12.3	C2	Alternative C2 would have slightly fewer nighttime impacts with the reduction of 3 WTGs within the center of view. The reduction of WTGs within the center of the Lease Area would reduce the density of the Project within the viewshed at night, though would not decrease visibility of the WTGs left and right of center of the KOP. The Alternative would visually appear as two separate projects based on visible lighting, with a slight variation associated with Alternative 1 where 3 WTGs remain in the center of view from the KOP. WTG lighting would be visible right and left of center of the KOP.	Major
MV09	Gay Head Lighthouse	High	13.9/12.1	13.9/12.1	14.1/12.3	13.9/12.1	14.1/12.3	C1 and C2	The reduction of WTGs associated with each alternative within the center of the Lease Area would reduce the density of the Project within the viewshed, though would not decrease visibility of the WTGs left and right of center of the KOP within 15 miles. Both alternatives would visually appear as two separate projects, with a slight variation associated with Alternative C1 where 3 WTGs remain in the center of view from the KOP.	Moderate
MV10	South Beach State Park	High	22.0/19.1	22.0/19.1	25.3/22.0	22.0/19.1	25.3/22.0	C1 and C2	The reduction of WTGs associated with each alternative within the center of the Lease Area would reduce the density of the Project along the center of the horizon of the viewshed, though would not decrease predominant visibility of the WTGs left of center of the KOP.	Major
MV11	Wasque Point	Low	24.8/21.5	24.8/21.5	28.5/24.8	24.8/21.5	28.5/24.8	C1 and C2	he reduction of WTGs associated with each alternative within the center of the Lease Area would reduce the visibility of WTG blades visible along the right of center of KOP along the horizon, though would not decrease visibility of the WTGs center and left of center of the KOP.	Minor
MV12	Peaked Hill Reservation	High	16.3/14.2	16.3/14.2	17.3/15.1	16.3/14.2	17.3/15.1	C1 and C2	The reduction of WTGs associated with each alternative within the center of the Lease Area would reduce the density of the Project within the viewshed, though would not decrease visibility of the WTGs left and right of center of the KOP. Both alternatives would visually appear as two separate projects, with a slight variation associated with Alternative C1 where 3 WTGs remain in the center of view from the KOP.	Major
MV12	Peaked Hill Reservation – Sunset	High	16.3/14.2	16.3/14.2	17.3/15.1	16.3/14.2	17.3/15.1	C1 and C2	The reduction of WTGs associated with each alternative within the center of the Lease Area would reduce the density of the Project within the viewshed, though would not decrease visibility of the WTGs left and right of center of the KOP. Both alternatives would visually appear as two separate projects, with a slight variation associated with Alternative C1 where 3 WTGs remain in the center of view from the KOP.	Major
MV13	Edwin DeVries Vanderhoop Homestead	Medium	13.8/12.0	13.8/12.0	14.0/12.1	13.8/12.0	14.0/12.1	C1 and C2	Alternatives C1 and C2 would have similar impacts. The reduction of WTGs associated with each alternative within the center of the Lease Area would reduce the density of the Project within the viewshed, though would not decrease visibility of the WTGs left and right of center of the KOP within 15 miles. Both alternatives would visually appear as two separate projects, with a slight variation associated with Alternative C1 where 3 WTGs remain in the center of view from the KOP.	Moderate
NI10	Madaket Beach	Medium	34.6/30.0	34.6/30.0	39.0/34.0	34.6/30.0	39.7/34.5	C1 and C2	No change from Proposed Action. Views of eastern portion of the Lease Area from the KOP would be the same as the Proposed Action. A small portion of the turbine blades would be visible on the distance horizon under clear viewing conditions.	Minor
NL01	Nomans Land Island NWR *(not occupied)*	Medium	8.7/7.5	8.7/7.5	9.0/7.8	8.7/7.5	9.0/7.8	C1 and C2	The reduction of WTGs associated with each alternative within the center of the Lease Area would reduce the density of the Project within the viewshed, though would not decrease visibility of the WTGs left and right of center of the KOP within 8 to 12 miles. Both alternatives would visually appear as two separate projects, with a slight variation associated with Alternative C1 where 3 WTGs remain in the center of view from the KOP.	Moderate
NL01	Nomans Land Island NWR –	Medium	8.7/7.5	8.7/7.5	9.0/7.9	8.7/7.6	9.0/7.9	C1 and C2	The reduction of WTGs associated with each alternative within the center of the Lease Area would reduce the density of the Project within the viewshed, though would not decrease	Major

KOP Number	KOP Name	SLVIA Sensitivity Rating (high, medium, low)	Distance to Nearest Turbine (miles/nautical miles) Proposed Action	Distance to Nearest Turbine miles/nautical miles) Alternative C1	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative C1	Distance to Nearest Turbine (miles/nautical miles) Alternative C2	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative C2	Alternative with greatest reduced visual impact to KOP as compared to the Proposed Action	VIA Overall Impact Level Rationale	VIA Overall Impact Level (major, moderate, minor, negligible)
	Sunset *(not occupied)*								visibility of the WTGs left and right of center of the KOP. Both alternatives would visually appear as two separate projects, with a slight variation associated with Alternative C1 where 3 WTGs remain in the center of view from the KOP. The backlighting resulting from sunset conditions would enhance the distinctiveness of the break in continuity of the WTG massing.	

Note: Nighttime impacts would be reduced to negligible, as described in EIS Table 3.3-2 (Definitions of Potential Adverse Impact Levels), when FAA warning lights are not activated though the use of ADLS.

Table G-VIS4a. Seascape Landscape Impact Assessment for Alternative C (Habitat Alternative) – Character Areas

Character Area Name	Character Area Association (SCA/LCA/OCA)	Key Observation Points with Simulations	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative B – Proposed Action Total SCA/LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative C1 Total SCA/LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative C2 Total SCA/LCA area within Analysis Area: 1,488.1 Square Miles	SLIA Overall Impact Level Rationale for the Alternative with the reduced level of impacts as compared to the Proposed Action	SLIA Overall Impact Level (major, moderate, minor, negligible)
Shoreline Beach	SCA	AI06, MV02, MV10, MV11, NI10, RI08, RI09	35.3/ 2.4	35.0/ 2.4	34.7/ 2.3	Alternative C2 would have negligible reduction in visible acres across all SCAs and LCAs as compared to the Proposed Action. The importance of SCAs for recreation and other uses along with residential areas of LCAs in close proximity of SCAs where ocean views dominate or are of high value, influence the overall impact level associated with the Project and associated alternatives.	SCA – Moderate
Coastal Bluff	SCA	BI04, BI12, C01, MV07, MV13, NL01					
Developed Waterfront	SCA	N/A					
Shoreline Residential	SCA	AI03, RI01					
Coastal Dunes	SCA	BI13, MV03, MV05					
Salt Pond/ Tidal Marsh	SCA/LCA	RI06					SCA/ LCA -Moderate
Inland Lakes and Ponds	SCA/LCA	N/A					
Maintained Recreation Area	SCA/LCA	AI01, AI03, BI04, C01, LI04, MM04, MV09, RI01					
Highway Transportation	SCA/LCA	N/A					
Coastal Scrub/ Shrub Forest	LCA	AI05 , AI07, CI01, MM01,					LCA – Minor
Agricultural/ Open Field	LCA	N/A					
Forest	LCA	MV12					
Rural Residential	LCA	N/A					
Suburban Residential	LCA	N/A					
Village/ Town Center	LCA	N/A					
Commercial	LCA	N/A					

Note: Nighttime impacts would be reduced to negligible, as described in EIS Table 3.3-2 (Definitions of Potential Adverse Impact Levels), when FAA warning lights are not activated though the use of ADLS.

Table G-VIS4b. Seascape Landscape Impact Assessment for Alternative C (Habitat Alternative) – Ocean Character Areas

Character Area Name	Character Area Association (SCA/LCA/OCA)	Key Observation Points with Simulations	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative B – Proposed Action Total OCA area within Analysis Area: 6,113.4 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative C1 Total SCA/LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative C2 Total SCA/LCA area within Analysis Area: 1,488.1 Square Miles	SLIA Overall Impact Level Rationale for the Alternative with the reduced level of impacts as compared to the Proposed Action	SLIA Overall Impact Level (major, moderate, minor, negligible)
Open Ocean	OCA	N/A	5,882.2/96.2 Maximum ocean visibility for all alternatives	See Alternative B	See Alternative B	Intact open ocean setting, in immediate proximity of Project (all alternatives) components for duration of Project.	Major

Note: Nighttime impacts would be reduced to negligible, as described in EIS Table 3.3-2 (Definitions of Potential Adverse Impact Levels), when FAA warning lights are not activated though the use of ADLS.

Table G-VIS4c. Seascape Landscape Impact Assessment for Alternative C (Habitat Alternative) – Specially Designated Areas

Specially Designated Areas	Specially Designated Area Total Acres	Key Observation Points with Simulations	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Proposed Action (Alternative B)	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative C1	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative C2	SLIA Overall Impact Level Rationale for the Alternative with the reduced level of impacts as compared to the Proposed Action	SLIA Overall Impact Level (major, moderate, minor, negligible)
Historic Sites and National Landmarks	12,308.0	AI01, AI03, BI04, BI12, BI13, C01, C02, BI13, MM04, MV07, MV09, MV13, RI01	1,222.08/9.9	1,218.8/9.9	1,218.6/ 9.9	Alternative C2 would have negligible reduction in visible acres across all SDAs as compared to the Proposed Action and overall impacts would remain similar.	Major
National Natural Landmarks	349.7	MV07	255.5/73.1	252.3/ 72.2	249.5/71.4		Moderate
State Scenic Areas	105,777.6	BI12, CI01, MV07	18,205.6/17.2	18,069.1/17.1	17,986.7/17.0		Major
National Wildlife Refuges	15,176.1	AI05, NL01, RI06	767.7/5.1	764.2/5.0	762.9/5.0		Minor
State/ Non-Profit Wildlife Management Areas	31,967.8	AI07	1,31.4/.4	131.2/.4	131.1/.4		Minor
National Parks	31.2	N/A	.2/.7	.2/.7	.2/.7		Negligible
State Parks	10,473.8	AI01, LI04, MV10, RI08	27,31.7/26.1	27,29.6/26.1	2,728.6/26.1		Moderate
State Nature and Historic Preserves	248.4	N/A	3.1/1.2	3.1/1.2	3.1/1.2		Negligible
State Forests	5,301.6	N/A	7.8/.2	7.6/.1	7.7/.1		Negligible
State Beaches	165.1	N/A	78.2/ 47.4	78.2/47.4	78.1/47.3		Moderate
Highways Designated or Eligible as Scenic	411.6	N/A	43.4/10.5	43.1/10.5	43.1/10.5		Moderate
National Historic Trails	990.1	N/A	.8/.1	.8/.1	.75/.1		Minor
National Recreation Trails	88.6	AI03	65.1/73.4	65.1/73.4	65.1/73.4		Major
State Fishing and Boating Access Sites	371.4	N/A	78.4/21.1	78.2/21.1	78.0/21.0		Moderate
Lighthouses	23.0	BI04, C01, MM04, MV09, RI01	6.6/28.7	6.6/28.6	6.6/28.6		Major
Public Beaches	4,221.0	AI06, MM01, MV02, MV03, MV05, MV11, NI10, RI09	11,38.8/27.0	1,137.3/27.0	1,135.7/26.9		Moderate
Ferry Routes	10,641.7	N/A	6,365.0/59.8	6,364.8/59.8	6,364.7/59.8		Moderate
Seaports	90.1	N/A	2.3/2.5	2.0/2.2	1.8/2.1		Negligible

Specially Designated Areas	Specially Designated Area Total Acres	Key Observation Points with Simulations	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Proposed Action (Alternative B)	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative C1	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative C2	SLIA Overall Impact Level Rationale for the Alternative with the reduced level of impacts as compared to the Proposed Action	SLIA Overall Impact Level (major, moderate, minor, negligible)
Other State Land with Public Access	9,361.8	N/A	325.3/3.5	324.1/3.5	323.1/3.5		Negligible
Total Acres for Comparison	**208,009**		**30,208.0/14.5**	**30,058.6/14.5**	**29,967.9/14.4**	–	–

Note: Nighttime impacts would be reduced to negligible, as described in EIS Table 3.3-2 (Definitions of Potential Adverse Impact Levels), when FAA warning lights are not activated though the use of ADLS.

Table G-VIS5a. Visual Impact Assessment Impacts Matrix – Alternative D (Transit Alternative) (see Table G-VIS5b for continuation table)

KOP Number	KOP Name	SLVIA Sensitivity Rating (high, medium, low)	Distance to Nearest Turbine (miles/nautical miles) Proposed Action	Distance to Nearest Turbine miles/nautical miles) Alternative D1	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative D1	Distance to Nearest Turbine (miles/nautical miles) Alternative D2	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative D2	Distance to Nearest Turbine (miles/nautical miles) Alternative D3	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative D3	Distance to Nearest Turbine (miles/nautical miles) Alternatives D1 & D2
AI01	Brenton Point State Park	Medium	16.7/14.5	16.7/14.5	26.9/23.4	N/A	N/A	18.5/16.1	16.7/14.5	N/A
AI01	Brenton Point State Park – Night	Medium	16.7/14.5	16.7/14.5	27.0/23.4	N/A	N/A	18.5/16.1	16.7/14.5	N/A
AI03	Newport Cliff Walk	High	15.3/13.3	15.3/13.3	26.5/23.0	N/A	N/A	17.2/14.9	15.3/13.3	N/A
AI05	Sachuest Point National Wildlife Refuge	High	14.8/12.9	14.8/12.9	27.5/23.9	N/A	N/A	17.0/14.7	14.8/12.9	N/A
AI06	Sachuest Beach (Second Beach)	Medium	16.0/13.9	16.0/13.9	28.6/24.9	N/A	N/A	18.2/15.8	16.0/13.9	N/A
AI07	Hanging Rock (Norman Bird Sanctuary)	High	16.2/14.1	16.2/14.1	28.8/25.1	N/A	N/A	18.4/16.0	16.2/14.1	N/A
BI04	Southeast Lighthouse	High	15.3/13.3	15.3/13.3	18.5/16.1	N/A	N/A	15.5/13.4	15.3/13.3	N/A
BI04	Southeast Lighthouse – Night	High	15.3/13.4	15.3/13.3	18.5/16.1	N/A	N/A	15.5/13.4	15.3/13.3	N/A
BI12	Clayhead Trail	High	15.9/13.8	15.9/13.8	20.3/17.6	N/A	N/A	16.7/14.5	15.9/13.8	N/A
BI13	North Light	High	17.2/15.0	17.2/15.0	21.7/18.9	N/A	N/A	18.0/15.7	17.2/15.0	N/A
CI01	Cuttyhunk Island	High	13.9/12.1	13.9/12.1	17.8/15.5	N/A	N/A	13.9/12.1	14.2/12.4	N/A
C01	Beavertail Lighthouse	Medium	18.4/15.9	18.4/15.9	27.6/24.0	N/A	N/A	20.0/17.4	18.4/15.9	N/A
LI04	Montauk Point State Park	Medium	31.5/27.4	31.5/27.4	33.8/29.4	N/A	N/A	31.5/27.3	31.9/27.7	31.5/27.4
LI04	Montauk Point State Park – Night	High	31.5/27.4	31.5/27.4	33.8/29.4	N/A	N/A	31.5/27.4	31.9/27.7	31.5/27.4
MM01	Gooseberry Island	Medium	15.2/13.2	15.2/13.2	22.4/19.5	N/A	N/A	16.6/14.5	15.1/13.2	N/A
MM04	Nobska Lighthouse	Medium	28.2/24.5	28.2/24.5	33.7/29.3	N/A	N/A	N/A	N/A	N/A
MV02	Philbin Beach	High	13.6/11.8	13.6/11.8	18.8/16.4	13.6/11.8	14.2/12.3	N/A	N/A	13.6/11.8
MV03	Lucy Vincent Beach	High	15.5/13.5	15.5/13.5	21.3/18.5	16.9/14.7	15.5/13.5	N/A	N/A	16.9/14.7
MV03	Lucy Vincent Beach – Sunset	Medium	15.5/13.5	15.5/13.5	21.3/18.5	16.9/14.7	15.5/13.5	N/A	N/A	16.9/14.7

KOP Number	KOP Name	SLVIA Sensitivity Rating (high, medium, low)	Distance to Nearest Turbine (miles/nautical miles) Proposed Action	Distance to Nearest Turbine miles/nautical miles) Alternative D1	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative D1	Distance to Nearest Turbine (miles/nautical miles) Alternative D2	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative D2	Distance to Nearest Turbine (miles/nautical miles) Alternative D3	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative D3	Distance to Nearest Turbine (miles/nautical miles) Alternatives D1 & D2
MV05	Moshup Beach	High	13.8/12.0	13.7/11.9	19.2/16.5	13.7/11.9	14.5/12.6	N/A	N/A	13.7/11.9
MV05	Moshup Beach – Sunset	High	13.8/12.1	13.7/11.9	19.2/16.5	13.7/11.9	14.5/12.6	N/A	N/A	13.7/11.9
MV07	Aquinnah Overlook	High	13.7/12.0	13.7/12.0	19.3/16.8	13.7/11.9	14.9/12.9	N/A	N/A	13.7/11.9
MV07	Aquinnah Overlook – Sunset	High	13.7/12.0	13.7/12.0	19.3/16.8	13.7/11.9	14.9/12.9	N/A	N/A	13.7/11.9
MV07	Aquinnah Overlook – Night	High	13.7/12.0	13.7/12.0	19.3/16.8	13.7/11.9	14.9/12.9	N/A	N/A	13.7/11.9
MV09	Gay Head Lighthouse	High	13.9/12.1	13.9/12.1	19.4/16.9	13.9/12.1	15.0/13.0	N/A	N/A	13.9/12.1
MV10	South Beach State Park	High	22.0/19.1	22.0/19.1	28.6/24.9	25.3/22.0	22.0/19.1	N/A	N/A	25.3/22.0
MV11	Wasque Point	Low	24.8/21.5	24.8/21.5	31.5/27.4	N/A	N/A	N/A	N/A	N/A
MV12	Peaked Hill Reservation	Medium	16.3/14.2	16.3/14.2	22.0/19.1	17.3/15.1	16.3/14.2	N/A	N/A	17.3/15.1
MV12	Peaked Hill Reservation – Sunset	High	16.3/14.2	16.3/14.2	22.0/19.1	17.3/15.1	16.3/14.2	N/A	N/A	17.3/15.1
MV13	Edwin DeVries Vanderhoop Homestead	Medium	13.8/12.0	13.8/12.0	19.3/16.8	13.8/12.0	14.8/12.9	N/A	N/A	13.8/12.0
NL01	Nomans Land Island NWR – Sunset *(not occupied)*	Low	8.7/7.5	8.7/7.5	13.7/11.9	9.0/7.8	8.7/7.5	N/A	N/A	9.0/7.8
NL01	Nomans Land Island NWR *(not occupied)*	Medium	8.7/7.5	8.7/7.5	13.7/11.9	9.0/7.8	8.7/7.5	N/A	N/A	9.0/7.8
NI10	Madaket Beach	Medium	34.6/30.0	34.6/30.0	41.1/35.7	39.0/34.0	34.6/30.0	N/A	N/A	39.0/34.0
RI01	Watch Hill Lighthouse	Medium	32.8/28.5	N/A	N/A	N/A	N/A	33.6/29.3	32.8/28.5	N/A
RI06	Trustom Pond NWR	Medium	22.6/19.6	22.6/19.6	28.3/24.6	N/A	N/A	23.5/20.4	22.6/19.6	N/A
RI08	Scarborough Beach State Park	Medium	19.1/16.6	19.1/16.6	25.6/22.3	N/A	N/A	19.9/17.3	19.1/16.6	N/A
RI09	Narragansett Beach	Medium	20.0/17.4	20.0/17.4	28.0/24.3	N/A	N/A	21.4/18.6	20.0/17.4	N/A

Table G-VIS5b. Visual Impact Assessment Impacts Matrix – Alternative D (Transit Alternative)

KOP Number	Distance to Nearest Turbine Removed (miles/nautical miles) Alternatives D1 & D2	Distance to Nearest Turbine (miles/nautical miles) Alternatives D1 & D3	Distance to Nearest Turbine Removed (miles/nautical miles) Alternatives D1 & D3	Distance to Nearest Turbine (miles/nautical miles) Alternatives D2 & D3	Distance to Nearest Turbine Removed (miles/nautical miles) Alternatives D2 & D3	Distance to Nearest Turbine (miles/nautical miles) Alternatives D1, D2, & D3	Distance to Nearest Turbine Removed (miles/nautical miles) Alternatives D1, D2, & D3	Alternative with greatest reduced visual impact to KOP as compared to the Proposed Action	VIA Overall Impact Level Rationale	VIA Overall Impact Level (major, moderate, minor, negligible)
AI01	N/A	18.5/16.1	16.7/14.5	18.5/16.1	16.7/14.5	18.5/16.1	16.7/14.5	D1, D2, and D3	Alternative D3 would increase the distance between the KOP and nearest WTGs by approximately 2 miles which removes the first row of visible WTGs along the horizon. WTGs beyond the first removed row are still visible, though appear small in scale.	Moderate

KOP Number	Distance to Nearest Turbine Removed (miles/nautical miles) Alternatives D1 & D2	Distance to Nearest Turbine (miles/nautical miles) Alternatives D1 & D3	Distance to Nearest Turbine Removed (miles/nautical miles) Alternatives D1 & D3	Distance to Nearest Turbine (miles/nautical miles) Alternatives D2 & D3	Distance to Nearest Turbine Removed (miles/nautical miles) Alternatives D2 & D3	Distance to Nearest Turbine (miles/nautical miles) Alternatives D1, D2, & D3	Distance to Nearest Turbine Removed (miles/nautical miles) Alternatives D1, D2, & D3	Alternative with greatest reduced visual impact to KOP as compared to the Proposed Action	VIA Overall Impact Level Rationale	VIA Overall Impact Level (major, moderate, minor, negligible)
AI01	N/A	18.5/16.1	16.7/14.5	18.5/16.1	16.7/14.5	18.5/16.1	16.7/14.5	D1, D2, and D3	Alternative D3 would increase the distance between the KOP and nearest WTGs by approximately 2 miles which removes the first row of visible WTGs along the horizon. When viewed at night, warning lights will be visible along horizon where nighttime lighting does not currently exist.	Moderate
AI03	N/A	17.2/14.9	15.3/13.3	17.2/14.9	15.3/13.3	17.2/14.9	15.3/13.3	D1, D2, and D3	Alternative D3 would increase the distance between the KOP and nearest WTGs by approximately 2 miles which reduces the first row of visible WTGs along the horizon. WTGs beyond the first removed row are still visible, though appear small in scale.	Moderate
AI05	N/A	17.0/14.7	14.8/12.9	17.0/14.7	14.8/12.9	17.0/14.7	14.8/12.9	D1, D2, and D3	Alternative D3 would increase the distance between the KOP and nearest WTGs by approximately 2 miles which removes the first row of visible WTGs along the horizon. WTGs beyond the first removed row are still visible, though appear small in scale.	Moderate
AI06	N/A	18.2/15.8	16.0/13.9	18.2/15.8	16.0/13.9	18.2/15.8	16.0/13.9	D1, D2, and D3	Alternative D2 would increase the distance between the KOP and nearest turbine by approximately 2 miles which reduces the overall visibility of the WTGs along the horizon.	Minor
AI07	N/A	18.4/16.0	16.2/14.1	18.4/16.0	16.2/14.1	18.4/16.0	16.2/14.1	D1, D2, and D3	Alternative D3 would increase the distance between the KOP and nearest WTGs by approximately 2 miles which removes the first row of visible WTGs along the horizon. WTGs beyond the first removed row are still visible and prominent.	Moderate
BI04	N/A	15.5/13.4	15.3/13.3	15.5/13.4	15.3/13.3	15.5/13.4	15.3/13.3	D1, D2, and D3	Alternative D3 would negligibly increase the distance between the KOP and nearest WTGs as only one WTG would be removed that is nearest the KOP. Overall the combinations of Alternatives D1 and D3 would remove outer strings of WTGs when viewed far left of center and far right of center. The overall massing of the WTGs within the Lease Area would continue to be visually prominent along the horizon.	Moderate
BI04	N/A	15.5/13.4	15.3/13.3	15.5/13.4	15.3/13.3	15.5/13.4	15.3/13.3	D1, D2, and D3	Alternative D3 would negligibly increase the distance between the KOP and nearest WTGs as only one WTG would be removed that is nearest the KOP. Overall the combinations of Alternatives D1 and D3 would remove outer strings of WTGs when viewed far left of center and far right of center. When viewed at night, warning lights will continue be visible along horizon similar to the Proposed Action where nighttime lighting does not currently exist.	Major
BI12	N/A	16.7/14.5	15.9/13.8	16.7/14.5	15.9/13.8	16.7/14.5	15.9/13.8	D1, D2, and D3	Alternative D3 would increase the distance between the KOP and nearest WTGs by approximately 1 mile removing 1 string of WTGs. The overall massing of the WTGs within the Lease Area would continue to be visually prominent along the horizon.	Moderate
BI13	N/A	18.0/15.7	17.2/15.0	18.0/15.7	17.2/15.0	18.0/15.7	17.2/15.0	D1, D2, and D3	Alternative D3 would increase the distance between the KOP and nearest WTGs by approximately 1 mile removing 1 string of WTGs. The overall massing of the WTGs within the Lease Area would continue to be visually prominent along the horizon.	Moderate
CI01	N/A	13.9/12.1	14.2/12.4	13.9/12.1	14.2/12.4	13.9/12.1	14.2/12.4	D1, D2, and D3	Alternative D3 would negligibly increase the distance between the KOP and nearest WTGs as only two WTGs would be removed that is nearest the KOP. Overall the combinations of Alternatives D2 and D3 would remove outer strings of WTGs when viewed far left of center and far right of center. The overall massing of the WTGs within the Lease Area would continue to be visually prominent along the horizon.	Major
C01	N/A	20.0/17.4	18.4/15.9	20.0/17.4	18.4/15.9	20.0/17.4	18.4/15.9	D1, D2, and D3	Alternative D3 would increase the distance between the KOP and nearest WTGs by approximately 2 miles. The overall massing of the WTGs within the Lease Area would appear smaller in scale along the horizon as a result of the increased distance and influence of the curvature of the earth.	Minor
LI04	33.8/29.4	31.5/27.4	31.9/27.7	31.5/27.4	31.9/27.7	31.5/27.4	31.9/27.7	D1, D2, and D3	Alternative D1 would not be perceivable along horizon due to distance (over 30 miles) and atmospheric influences. Occasional blade tips and movement may be noticeable by the focused viewer or backlighting.	Negligible
LI04	33.8/29.4	31.5/27.4	31.9/27.7	31.5/27.4	31.9/27.7	31.5/27.4	31.9/27.7	D1, D2, and D3	The addition of aviation warning lights along the horizon within the viewshed would be perceivable by the focused viewer, but not a dominant element as	Negligible

KOP Number	Distance to Nearest Turbine Removed (miles/nautical miles) Alternatives D1 & D2	Distance to Nearest Turbine (miles/nautical miles) Alternatives D1 & D3	Distance to Nearest Turbine Removed (miles/nautical miles) Alternatives D1 & D3	Distance to Nearest Turbine (miles/nautical miles) Alternatives D2 & D3	Distance to Nearest Turbine Removed (miles/nautical miles) Alternatives D2 & D3	Distance to Nearest Turbine (miles/nautical miles) Alternatives D1, D2, & D3	Distance to Nearest Turbine Removed (miles/nautical miles) Alternatives D1, D2, & D3	Alternative with greatest reduced visual impact to KOP as compared to the Proposed Action	VIA Overall Impact Level Rationale	VIA Overall Impact Level (major, moderate, minor, negligible)
									compared to other existing warning lighting sources associated with BIWF that are in closer proximity (approximately 16 miles).	
MM01	N/A	16.6/14.5	15.1/13.2	16.6/14.5	15.1/13.2	16.6/14.5	15.1/13.2	D1, D2, and D3	Alternative D3 would increase the distance between the KOP and nearest WTGs by approximately 1.5 miles removing two of the WTGs. The overall massing of the WTGs (blades) within the Lease Area would continue to be perceivable along the horizon.	Minor
MM04	N/A	N/A	N/A	N/A	N/A	N/A	N/A	D1, D2, and D3	Alternative D3 would negligibly increase the distance between the KOP and nearest WTGs as only one WTG would be removed that is nearest the KOP. D3 would remove outer strings of WTGs when viewed far right of center. The overall massing of the WTGs (hub and blades) within the Lease Area would continue to be perceivable along the horizon.	Minor
MV02	14.2/12.3	N/A	N/A	13.6/11.8	14.2/12.3	13.6/11.8	14.2/12.3	D1, D2, and D3	Overall the combinations of Alternatives D2 and D3 would remove outer strings of WTGs when viewed far left of center and far right of center. The overall massing of the WTGs within the Lease Area would continue to be visually prominent along the horizon.	Moderate
MV03	15.5/13.5	N/A	N/A	16.9/14.7	15.5/13.5	16.9/14.7	15.5/13.5	D1, D2, and D3	Alternative D2 would remove the majority of WTGs visible (8 WTGs) to the left of Nomans Land Island which are unobstructed and prominent along the horizon. The remaining WTGs visible within the Lease Area would be partially obscured (towers) with hubs and blades still visible above the landform, but not a major focus of attention by beach users.	Minor
MV03	15.5/13.5	N/A	N/A	16.9/14.7	15.5/13.5	16.9/14.7	15.5/13.5	D1, D2, and D3	Alternative D2 would remove the majority of WTGs visible (8 WTGs) to the left of Nomans Land Island which are unobstructed and prominent along the horizon. The remaining WTGs visible within the Lease Area would be partially obscured (towers) with hubs and blades still visible above the landform, which, when backlit would continue to draw the viewers eye due to movement.	Moderate
MV05	14.5/12.6	N/A	N/A	13.7/11.9	14.5/12.6	13.7/11.9	14.5/12.6	D1, D2, and D3	Overall the combinations of Alternatives D2 and D3 would remove outer strings of WTGs when viewed far left of center and far right of center. The overall massing of the WTGs within the Lease Area would continue to be visually prominent along the horizon.	Major
MV05	14.5/12.6	N/A	N/A	13.7/11.9	14.5/12.6	13.7/11.9	14.5/12.6	D1, D2, and D3	Alternative D2 would remove the majority of WTGs visible (8 WTGs) to the left of Nomans Land Island which are unobstructed and prominent along the horizon. The remaining WTGs visible within the Lease Area, when backlit would continue to draw the viewers eye due to movement.	Moderate
MV07	14.9/12.9	N/A	N/A	13.7/11.9	14.9/12.9	13.7/11.9	14.9/12.9	D1, D2, and D3	Overall the combinations of Alternatives D2 and D3 would remove outer strings of WTGs when viewed far left of center and far right of center. The overall massing of the WTGs within the Lease Area would continue to be visually prominent along the horizon and be the center of focus from the KOP.	Major
MV07	14.9/12.9	N/A	N/A	13.7/11.9	14.9/12.9	13.7/11.9	14.9/12.9	D1, D2, and D3	Overall the combinations of Alternatives D2 and D3 would remove outer strings of WTGs when viewed far left of center and far right of center. The overall massing of the WTGs within the Lease Area would continue to be visually prominent along the horizon and be the center of focus from the KOP. The remaining WTGs visible within the Lease Area, when backlit would continue to draw the viewers eye due to movement and dark contrast.	Major
MV07	14.9/12.9	N/A	N/A	13.7/11.9	14.9/12.9	13.7/11.9	14.9/12.9	D1, D2, and D3	Overall the combinations of Alternatives D2 and D3 would remove outer strings of WTGs when viewed far left of center and far right of center. The overall massing of the WTGs within the Lease Area would continue to be visually prominent along the horizon and be the center of focus from the KOP. WTG hazard lighting would be visible along the horizon based on turbine distance, with platform and tower lighting more prevalent with the first four strings of WTGs.	Major
MV09	15.0/13.0	N/A	N/A	13.9/12.1	15.0/13.0	13.9/12.1	15.0/13.0	D1, D2, and D3	Overall the combinations of Alternatives D2 and D3 would remove outer strings of WTGs when viewed far left of center and far right of center. The overall massing of	Major

KOP Number	Distance to Nearest Turbine Removed (miles/nautical miles) Alternatives D1 & D2	Distance to Nearest Turbine (miles/nautical miles) Alternatives D1 & D3	Distance to Nearest Turbine Removed (miles/nautical miles) Alternatives D1 & D3	Distance to Nearest Turbine (miles/nautical miles) Alternatives D2 & D3	Distance to Nearest Turbine Removed (miles/nautical miles) Alternatives D2 & D3	Distance to Nearest Turbine (miles/nautical miles) Alternatives D1, D2, & D3	Distance to Nearest Turbine Removed (miles/nautical miles) Alternatives D1, D2, & D3	Alternative with greatest reduced visual impact to KOP as compared to the Proposed Action	VIA Overall Impact Level Rationale	VIA Overall Impact Level (major, moderate, minor, negligible)
									the WTGs within the Lease Area would continue to be visually prominent along the horizon and be the center of focus from the KOP.	
MV10	22.0/19.1	N/A	N/A	25.3/22.0	22.0/19.1	25.3/22.0	22.0/19.1	D1, D2, and D3	Alternative D2 would remove the majority of WTGs visible (8 WTGs) to the left of Nomans Land Island which are unobstructed and prominent along the horizon. The remaining WTGs visible within the Lease Area would be partially obscured (towers) with hubs and blades still visible continue to draw the viewers eye due to movement.	Moderate
MV11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	D1, D2, and D3	Alternative D2 would remove the majority of WTGs visible (8 WTGs) to the left of Nomans Land Island which are unobstructed and prominent along the horizon. The remaining WTGs visible within the Lease Area would be partially obscured (towers) with hubs and blades perceivable along the horizon based on lighting conditions.	Minor
MV12	16.3/14.2	N/A	N/A	17.3/15.1	16.3/14.2	17.3/15.1	16.3/14.2	D1, D2, and D3	Overall the combinations of Alternatives D2 and D3 would remove outer strings of WTGs when viewed far left of center and far right of center. The overall massing of the WTGs within the Lease Area would continue to be visually prominent along the horizon.	Major
MV12	16.3/14.2	N/A	N/A	17.3/15.1	16.3/14.2	17.3/15.1	16.3/14.2	D1, D2, and D3	Overall the combinations of Alternatives D2 and D3 would remove outer strings of WTGs when viewed far left of center and far right of center. The overall massing of the WTGs and geometric form of the OSSs within the Lease Area would continue to be visually prominent along the horizon and be the center of focus from the KOP. The remaining WTGs visible within the Lease Area, when backlit would continue to draw the viewers eye due to movement and dark contrast.	Major
MV13	14.8/12.9	N/A	N/A	13.8/12.0	14.8/12.9	13.8/12.0	14.8/12.9	D1, D2, and D3	Alternative D2 would remove the majority of WTGs visible (8 WTGs) to the right of Nomans Land Island which are unobstructed and prominent along the horizon. A portion of the Lease Area would continue to be visible left of the OSS with the remaining predominantly obscured to the right of center of the KOP (right of the OSS) by intervening topography.	Major
NL01	8.7/7.5	N/A	N/A	9.0/7.8	8.7/7.5	9.0/7.8	8.7/7.5	D1, D2, and D3	Overall the combinations of Alternatives D2 and D3 would remove outer strings of WTGs when viewed far left of center and far right of center. The overall massing of the WTGs within the Lease Area would continue to be visually prominent along the horizon.	Major
NL01	8.7/7.5	N/A	N/A	9.0/7.8	8.7/7.5	9.0/7.8	8.7/7.5	D1, D2, and D3	Alternative E1 would increase the distance between the KOP and nearest WTGs by approximately 1 mile though a greater reduction of WTGs when viewed from center to right of center of the KOP would be reduced along the horizon. WTGs would continue to be visible center and left of center of the KOP.	Major
NI10	34.6/30.0	N/A	N/A	39.0/34.0	34.6/30.0	39.0/34.0	34.6/30.0	D1, D2, and D3	Overall the combinations of Alternatives D2 and D3 would remove outer strings of WTGs when viewed far left of center and far right of center. The overall massing of the WTGs within the Lease Area would continue to be visually prominent along the horizon and be the center of focus from the KOP. The remaining WTGs visible within the Lease Area, when backlit would continue to draw the viewers eye due to movement and dark contrast.	Negligible
RI01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	D1, D2, and D3	Alternative D3 would increase the distance between the KOP and nearest WTGs by approximately 1 mile which removes the first row of visible WTGs along the horizon. WTGs beyond the first removed row would not be visible.	Negligible
RI06	N/A	23.5/20.4	22.6/19.6	23.5/20.4	22.6/19.6	23.5/20.4	22.6/19.6	D1, D2, and D3	Alternative D3 would increase the distance between the KOP and nearest WTGs by approximately 1 miles which reduces the first row of visible WTGs along the horizon. WTGs beyond the first removed row are still visible, though appear small in scale.	Minor
RI08	N/A	19.9/17.3	19.1/16.6	19.9/17.3	19.1/16.6	19.9/17.3	19.1/16.6	D1, D2, and D3	Alternative D3 would increase the distance between the KOP and nearest WTGs by approximately 0.5 mile which removes the first row of visible WTGs along the horizon. WTGs beyond the first removed row are still visible, though appear small in scale.	Moderate

KOP Number	Distance to Nearest Turbine Removed (miles/nautical miles) Alternatives D1 & D2	Distance to Nearest Turbine (miles/nautical miles) Alternatives D1 & D3	Distance to Nearest Turbine Removed (miles/nautical miles) Alternatives D1 & D3	Distance to Nearest Turbine (miles/nautical miles) Alternatives D2 & D3	Distance to Nearest Turbine Removed (miles/nautical miles) Alternatives D2 & D3	Distance to Nearest Turbine (miles/nautical miles) Alternatives D1, D2, & D3	Distance to Nearest Turbine Removed (miles/nautical miles) Alternatives D1, D2, & D3	Alternative with greatest reduced visual impact to KOP as compared to the Proposed Action	VIA Overall Impact Level Rationale	VIA Overall Impact Level (major, moderate, minor, negligible)
RI09	N/A	21.4/18.6	20.0/17.4	21.4/18.6	20.0/17.4	21.4/18.6	20.0/17.4	D1, D2, and D3	Alternative D3 would increase the distance between the KOP and nearest WTGs by approximately 1.5 miles which removes the first row of visible WTGs along the horizon. WTGs beyond the first removed row are still visible, though appear small in scale.	Moderate

Note: Nighttime impacts would be reduced to negligible, as described in EIS Table 3.3-2 (Definitions of Potential Adverse Impact Levels), when FAA warning lights are not activated though the use of ADLS.

Table G-VIS6a. Seascape Landscape Impact Assessment for Alternative D (Transit Alternative) – Character Areas

Character Area Name	Character Area Association (SCA/LCA/OCA)	Key Observation Points with Simulations	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative B – Proposed Action Total SCA/LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative D1 Total SCA/LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative D2 Total SCA/LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative D3 Total SCA/LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative D1 & D2 Total SCA/LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative D1 & D3 Total SCA/LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative D1 & D3 Total SCA/LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative D1, D2, & D3 Total SCA/LCA area within Analysis Area: 1,488.1 Square Miles	SLIA Overall Impact Level Rationale for the Alternative with the reduced level of impacts as compared to the Proposed Action	SLIA Overall Impact Level (major, moderate, minor, negligible)
Shoreline Beach	SCA	AI06, MV02, MV10, MV11, NI10, RI08, RI09	35.3/ 2.4	35.3/2.4	32.0/2.2	34.7/2.3	31.8/2.1	34.6/2.3	34.6/2.3	31.1/2.1	Alternatives D1, D2, and D3 would have minor reduction in visible acres across all SCAs and LCAs (approximately 4.2 square miles) as compared to the Proposed Action. The importance of SCAs for recreation and other uses along with residential areas of LCAs in close proximity of SCAs where ocean views dominate or are of high value, influence the overall impact level associated with the Project and associated alternatives.	SCA – Moderate
Coastal Bluff	SCA	BI04, BI12, C01, MV07, MV13, NL01										
Developed Waterfront	SCA	N/A										
Shoreline Residential	SCA	AI03, RI01										
Coastal Dunes	SCA	BI13, MV03, MV05										
Salt Pond/ Tidal Marsh	SCA/LCA	RI06										SCA/LCA – Moderate
Inland Lakes and Ponds	SCA/LCA	N/A										
Maintained Recreation Area	SCA/LCA	AI01, AI03, BI04, C01, LI04, MM04, MV09, RI01										
Highway Transportation	SCA/LCA	N/A										
Coastal Scrub/ Shrub Forest	LCA	AI05, AI07, CI01, MM01,										LCA – Minor
Agricultural/ Open Field	LCA	N/A										
Forest	LCA	MV12										

Character Area Name	Character Area Association (SCA/LCA/OCA)	Key Observation Points with Simulations	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative B – Proposed Action Total SCA/LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative D1 Total SCA/LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative D2 Total SCA/LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative D3 Total SCA/LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative D1 & D2 Total SCA/LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative D1 & D3 Total SCA/LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative D1 & D3 Total SCA/LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative D1, D2, & D3 Total SCA/LCA area within Analysis Area: 1,488.1 Square Miles	SLIA Overall Impact Level Rationale for the Alternative with the reduced level of impacts as compared to the Proposed Action	SLIA Overall Impact Level (major, moderate, minor, negligible)
Rural Residential	LCA	N/A										
Suburban Residential	LCA	N/A										
Village/ Town Center	LCA	N/A										
Commercial	LCA	N/A										

Table G-VIS6b. Seascape Landscape Impact Assessment for Alternative D (Transit Alternative) – Ocean Character Areas

Character Area Name	Character Area Association (SCA/LCA/ OCA)	Key Observation Points with Simulations	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative B – Proposed Action Total OCA area within Analysis Area: 6,113.4 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative D1 Total OCA area within Analysis Area: 6,113.4 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative D2 Total OCA area within Analysis Area: 6,113.4 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative D3 Total OCA area within Analysis Area: 6,113.4 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative D1 & D2 Total OCA area within Analysis Area: 6,113.4 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative D1 & D3 Total OCA area within Analysis Area: 6,113.4 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative D2 & D3 Total OCA area within Analysis Area: 6,113.4 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative D1, D2, & D3 Total OCA area within Analysis Area: 6,113.4 Square Miles	SLIA Overall Impact Level Rationale for the Alternative with the reduced level of impacts as compared to the Proposed Action	SLIA Overall Impact Level (major, moderate, minor, negligible)
Open Ocean	OCA	N/A	5,882.2/96.2 Maximum ocean visibility as compared to all alternatives	See Alternative B	See Alternative B	See Alternative B	See Alternative B	See Alternative B	See Alternative B	See Alternative B	Intact open ocean setting, in immediate proximity of Project components for duration of Project.	Major

Note: Nighttime impacts would be reduced to negligible, as described in EIS Table 3.3-2 (Definitions of Potential Adverse Impact Levels), when FAA warning lights are not activated though the use of ADLS.

Table G-VIS6c. Seascape Landscape Impact Assessment for Alternative D (Transit Alternative) – Specially Designated Areas

Specially Designated Areas	Specially Designated Area Total Acres	Key Observation Points with Simulations	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Proposed Action (Alternative B)	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative D1	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative D2	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative D3	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative D1 & D2	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative D1 & D3	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative D2 & D3	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative D1, D2, & D3	SLIA Overall Impact Level Rationale for the Alternative with the reduced level of impacts as compared to the Proposed Action	SLIA Overall Impact Level (major, moderate, minor, negligible)
Historic Sites and National Landmarks	12,308.0	AI01, AI03, BI04, BI12, BI13, C01, C02, BI13, MM04, MV07, MV09, MV13, RI01	1,222.1/9.9	1,211.2/9.8	1,188.8/9.7	1,183.7/9.6	1,177.5/9.6	1172.3/9.5	1,150/9.3	1,139/9.2	Alternatives D1, D2, and D3 would have a minor reduction in visible acres across all SDAs as compared to the Proposed Action,	Major

Specially Designated Areas	Specially Designated Area Total Acres	Key Observation Points with Simulations	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Proposed Action (Alternative B)	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative D1	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative D2	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative D3	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative D1 & D2	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative D1 & D3	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative D2 & D3	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative D1, D2, & D3	SLIA Overall Impact Level Rationale for the Alternative with the reduced level of impacts as compared to the Proposed Action	SLIA Overall Impact Level (major, moderate, minor, negligible)
National Natural Landmarks	349.7	MV07	255.5/73.1	255.5/73.1	248.9/71.2	254.6/72.8	247.6/70.8	254.6/72.8	248.0/70.9	246.7/70.5	though overall impacts would remain similar. The combination of alternatives reduces a greater area of visibility resulting from the reduction of turbines along the eastern and northwestern portions of the Lease Area.	Moderate
State Scenic Areas	105,777.6	BI12, CI01, MV07	18,205.6/17.2	18,179.6/17.2	17,365.0/16.4	17,944.7/17.0	17,303.0/16.4	17,912.6/16.9	17,092.3/16.2	17,029.4/16.1		Major
National Wildlife Refuges	15,176.1	AI05, NL01, RI06	767.7/5.1	767.3/5.1	738.7/4.9	754.3/5.0	736.7/4.9	753.7/5.0	725.11/4.8	723.1/4.8		Minor
State/ Non-Profit Wildlife Management Areas	31,967.8	AI07	1,31.4/.4	130.9 /.4	125.5/.4	120.6/.4	123.7/.4	120.1/.4	114.7/.4	112.9/.4		Minor
National Parks	31.2	N/A	0.2/0.7	0.2 /.7	0.0/0	0.2/.7	0.0/0	0.2/.7	0.0/0	0.0/0		Negligible
State Parks	10,473.8	AI01, LI04, MV10, RI08	2,731.7/26.1	2,730.4/62.1	2,704.0/25.8	2,724.1/26.0	2,702.0/25.8	2,722.5/26.0	2,695.7/25.7	2,693.6/25.7		Moderate
State Nature and Historic Preserves	248.4	N/A	3.1/1.2	3.1/1.2	3.1/1.2	3.1/1.2	3.1/1.2	3.1/1.2	3.1/1.2	3.1/1.2		Negligible
State Forests	5,301.6	N/A	7.8/.2	7.8/.2	2.2/.04	7.8/.1	2.1/.04	7.8/.1	2.2/.04	2.1/.04		Negligible
State Beaches	165.1	N/A	78.2/ 47.4	78.2/47.4	78.2/47.3	76.4/46.2	78.1/47.3	76.4/46.2	76.3/46.2	76.3/46.2		Moderate
Highways Designated or Eligible as Scenic	411.6	N/A	43.4/10.5	43.3/10.5	43.0/10.4	41.9/10.2	42.8/10.4	41.7/10.1	41.4/10.1	41.2/10.1		Moderate
National Historic Trails	990.1	N/A	0.8/0.1	0.7/.1	0.7/.1	0.6/.1	0.7/.1	0.6/.1	0.6 /.1	0.6/.1		Minor
National Recreation Trails	88.6	AI03	65.1/73.4	65.1/73.4	64.2/72.4	65.1/73.4	64.2/72.4	65.1/73.4	64.2/72.4	64.2/72.4		Major
State Fishing and Boating Access Sites	371.4	N/A	78.4/21.1	78.0/21.0	78.2/21.1	77.1/20.7	77.7/20.9	76.7/20.6	76.9/20.7	76.4/20.6		Moderate
Lighthouses	23.0	BI04, C01, MM04, MV09, RI01	6.6/28.7	6.6/28.7	6.2/27.0	6.6/28.5	6.2/27.0	6.6/28.5	6.2/27.0	6.2/27.0		Major
Public Beaches	4,221.0	AI06, MM01, MV02, MV03, MV05, MV11, NI10, RI09	11,38.8/27.0	1,137.1/27.0	1,099.5/26.1	1,126.0/26.7	1,097.5/26.0	1,124.2/26.6	1,086.5/25.7	1,084.4/25.7		Moderate
Ferry Routes	10,641.7	N/A	6,365.0/59.8	6,365.0/59.8	6,364.9/59.8	6,364.5/59.8	6,364.8/59.8	6,364.4/59.8	6,364.5/59.8	6,364.4/59.8		Moderate
Seaports	90.1	N/A	2.3/2.5	2.3/2.5	1.8/2.0	2.3/2.5	1.8/2.0	2.3/2.5	1.8/2.0	1.8/2.0		Negligible
Other State Land with Public Access	9,361.8	N/A	325.3/3.5	322.3/3.4	325.3/3.5	315.9/3.4	322.3/3.4	312.8/3.3	315.9/3.4	312.8/3.3		Negligible
Total Acres for Comparison	**208,009**		**30,208.0/14.5**	**30,174.3/14.5**	**29,250.8/14.1**	**29,886.8/14.4**	**29,175.7/14.0**	**29,846.3/14.3**	**30,066.5/14.5**	**28,840.4/13.9**	–	–

Note: Nighttime impacts would be reduced to negligible, as described in EIS Table 3.3-2 (Definitions of Potential Adverse Impact Levels), when FAA warning lights are not activated though the use of ADLS.

Table G-VIS7. Visual Impact Assessment Impacts Matrix – Alternative E (Viewshed Alternative)

KOP Number	KOP Name	SLVIA Sensitivity Rating (high, medium, low)	Distance to Nearest Turbine (miles/nautical miles) Proposed Action	Distance to Nearest Turbine miles/nautical miles) Alternative E1	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative E1	Distance to Nearest Turbine (miles/nautical miles) Alternative E2	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative E2	Alternative(s) with greatest reduced visual impact to KOP as compared to the Proposed Action	VIA Overall Impact Level Rationale	VIA Overall Impact Level (major, moderate, minor, negligible)
AI01	Brenton Point State Park	Medium	16.7/14.5	18.6/16.2	16.7/14.5	20.7/18.0	16.7/14.5	E2	Alternative E2 would increase the distance between the KOP and nearest WTGs by approximately 4 miles which reduces the overall visibility of the WTGs along the horizon.	Negligible

KOP Number	KOP Name	SLVIA Sensitivity Rating (high, medium, low)	Distance to Nearest Turbine (miles/nautical miles) Proposed Action	Distance to Nearest Turbine miles/nautical miles) Alternative E1	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative E1	Distance to Nearest Turbine (miles/nautical miles) Alternative E2	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative E2	Alternative(s) with greatest reduced visual impact to KOP as compared to the Proposed Action	VIA Overall Impact Level Rationale	VIA Overall Impact Level (major, moderate, minor, negligible)
AI01	Brenton Point State Park – Night	Medium	16.7/14.5	18.6/16.3	16.7/14.6	20.7/18.1	16.7/14.5	E2	Alternative E2 would increase the distance between the KOP and nearest WTGs by approximately 4 miles. When viewed at night, dual aviation warning lights on nacelle may be visible intermittently along horizon where nighttime lighting does not currently exist.	Moderate
AI03	Newport Cliff Walk	High	15.3/13.3	17.8/15.5	15.3/13.3	19.4/16.9	15.3/13.3	E2	Alternative E2 would increase the distance between the KOP and nearest WTGs by approximately 4 miles which reduces the overall visibility of the WTGs along the horizon.	Negligible
AI05	Sachuest Point National Wildlife Refuge	High	14.8/12.9	18.4/16.0	14.8/12.9	18.9/16.4	14.8/12.9	E1 and E2	Alternatives E1 and E2 would increase the distance between the KOP and nearest turbine by approximately 4 miles which reduces the overall visibility of the WTGs along the horizon.	Negligible
AI06	Sachuest Beach (Second Beach)	Medium	16.0/13.9	19.5/17.0	16.0/13.9	20.1/17.4	16.0/13.9	E2	Alternative E2 would increase the distance between the KOP and nearest turbine by approximately 4 miles which reduces the overall visibility of the WTGs along the horizon.	Negligible
AI07	Hanging Rock (Norman Bird Sanctuary)	High	16.2/14.1	19.8/17.2	16.2/14.1	20.3/17.7	16.2/14.1	E2	Alternative E2 would increase the distance between the KOP and nearest WTGs by approximately 4 miles which reduces the overall visibility of the WTGs along the horizon.	Negligible
BI04	Southeast Lighthouse	High	15.3/13.3	15.3/13.3	19.9/17.3	15.5/13.4	15.3/13.3	E2	Alternative E2 would increase the distance between the KOP and nearest WTGs by approximately 4 miles which reduces the overall visibility of the WTGs along the horizon.	Moderate
BI04	Southeast Lighthouse – Night	High	15.3/13.4	15.3/13.3	19.9/17.3	15.5/13.4	15.3/13.3	E2	Alternative E2 would increase the distance between the KOP and nearest WTGs by approximately 4 miles which reduces the overall visibility of the WTGs along the horizon.	Moderate
BI12	Clayhead Trail	High	15.9/13.8	15.9/13.8	19.9/17.3	16.7/14.5	15.9/13.8	E2	Alternative E2 would increase the distance between the KOP and nearest WTGs by approximately 4 miles which reduces the overall visibility of the WTGs along the horizon.	Minor
BI13	North Light	High	17.2/15.0	17.2/15.0	21.0/18.2	18.0/15.7	17.2/15.0	E2	Alternative E2 would increase the distance between the KOP and nearest WTGs by approximately 4 miles which reduces the overall visibility of the WTGs along the horizon.	Minor
CI01	Cuttyhunk Island	High	13.9/12.1	19.2/16.7	13.9/12.1	14.9/12.9	13.9/12.1	E1	Alternative E2 would increase the distance between the KOP and nearest WTGs by approximately 4 miles which reduces the overall visibility of the WTGs along the horizon.	Moderate
MM01	Gooseberry Island	Medium	15.2/13.2	20.7/18.0	15.1/13.2	17.8/15.5	15.1/13.2	E1	Alternative E1 would increase the distance between the KOP and nearest turbine by approximately 5.5 miles which reduces the overall visibility of the WTGs along the horizon.	Negligible
MM04	Nobska Lighthouse	Medium	28.2/24.5	28.2/24.5	28.3/24.6	28.2/24.5	28.3/24.6	E1	Alternative E1 would increase the distance between the KOP and nearest WTGs to a distance that would not be perceivable along horizon due to distance, intervening landforms and atmospheric influences.	Negligible
MV02	Philbin Beach	High	13.6/11.8	14.2/12.3	13.6/11.8	13.6/11.8	13.8/12.0	E1	Alternative E1 would increase the distance between the KOP and nearest WTGs by approximately 0.5 mile though a greater reduction of WTGs when viewed from center to right of center of the KOP would be reduced along the horizon. WTGs would continue to be visible left of center of the KOP beyond Nomans Land Island.	Moderate
MV03	Lucy Vincent Beach	High	15.5/13.6	15.5/13.4	16.9/14.7	15.5/13.5	18.7/16.3	E1	Alternative E1 would increase the distance between the KOP and turbines far right of center of the KOP along the horizon of the landform removing visibility, where WTGs are visible as part of the Proposed Action. WTGs would continue to be visible left of center of the KOP, similar to the Proposed Action.	Moderate
MV03	Lucy Vincent Beach – Sunset	Medium	15.5/13.7	15.5/13.5	16.9/14.8	15.5/13.5	18.7/16.3	E1	Alternative E1 would increase the distance between the KOP and turbines far right of center of the KOP along the horizon of the landform removing visibility, where WTGs are visible as part of the Proposed Action. WTGs would continue to be visible left of center of the KOP, similar to the Proposed Action.	Major

KOP Number	KOP Name	SLVIA Sensitivity Rating (high, medium, low)	Distance to Nearest Turbine (miles/nautical miles) Proposed Action	Distance to Nearest Turbine miles/nautical miles) Alternative E1	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative E1	Distance to Nearest Turbine (miles/nautical miles) Alternative E2	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative E2	Alternative(s) with greatest reduced visual impact to KOP as compared to the Proposed Action	VIA Overall Impact Level Rationale	VIA Overall Impact Level (major, moderate, minor, negligible)
MV05	Moshup Beach	High	13.8/12.0	14.5/12.6	13.7/11.9	13.7/11.9	13.7/11.9	E1	Alternative E1 would increase the distance between the KOP and nearest WTGs by approximately 1 mile though a greater reduction of WTGs when viewed from center to right of center of the KOP would be reduced along the horizon. WTGs would continue to be visible center and left of center of the KOP.	Moderate
MV05	Moshup Beach – Sunset	High	13.8/12.1	14.5/12.7	13.7/11.9	13.7/11.9	13.7/11.9	E1	Alternative E1 would increase the distance between the KOP and nearest WTGs by approximately 1 mile though a greater reduction of WTGs when viewed from center to right of center of the KOP would be reduced along the horizon. WTGs would continue to be visible center and left of center of the KOP where backlighting creates contrast.	Moderate
MV07	Aquinnah Overlook	High	13.7/12.0	14.9/12.9	13.7/11.9	14.0/12.2	13.7/11.9	E1	Alternative E1 would increase the distance between the KOP and nearest WTGs by approximately 1 mile though a greater reduction of WTGs when viewed from center to right of center of the KOP would be reduced along the horizon, particularly with atmospheric conditions. WTGs would continue to be visible center and left of center of the KOP.	Moderate
MV07	Aquinnah Overlook – Sunset	High	13.7/12.0	14.9/12.9	13.7/11.9	14.0/12.2	13.7/11.9	E1	Alternative E1 would increase the distance between the KOP and nearest WTGs by approximately 1 mile though a greater reduction of WTGs when viewed from center to right of center of the KOP would be reduced along the horizon. WTGs would continue to be visible center and left of center of the KOP.	Moderate
MV07	Aquinnah Overlook – Night	High	13.7/12.0	14.9/12.9	13.7/11.9	14.0/12.2	13.7/11.9	E1	Alternative E1 would increase the distance between the KOP and nearest WTG (lighting) by approximately 1 mile though a greater reduction of WTG lighting when viewed from center to right of center of the KOP would be reduced along the horizon. WTG lighting would continue to be visible center and left of center of the KOP.	Moderate
MV09	Gay Head Lighthouse	High	13.9/12.1	15.0/13.0	13.9/12.1	14.1/12.3	13.9/12.1	E1	Alternative E1 would increase the distance between the KOP and nearest WTGs by approximately 2 miles. Though a greater reduction of WTGs when viewed from left of center of the KOP would be reduced to the far horizon (approximately 16–20 miles). WTGs would continue to be visible right of center KOP to include the OSS.	Moderate
MV10	South Beach State Park	High	22.0/19.1	22.0/19.1	25.3/22.0	22.0/19.1	28.6/24.9	E1 and E2	WTGs along eastern portion of Lease Area would remain for both Alternatives as compared to the Proposed Action with no visible change.	Moderate
MV11	Wasque Point	Low	24.8/21.5	24.8/21.5	28.5/24.8	24.8/21.5	32.1/28.0	E1 and E2	WTGs along eastern portion of Lease Area would remain for both Alternatives as compared to the Proposed Action with no visible change.	Minor
MV12	Peaked Hill Reservation	Medium	16.3/14.2	16.3/14.2	17.3/15.1	16.3/14.2	18.7/16.2	E1	Alternative E1 would increase the distance (approximately 10 miles) between the KOP and turbines at the far right of center of the KOP along the horizon. WTGs would continue to be visible center and left of center of the KOP, similar to the Proposed Action.	Moderate
MV12	Peaked Hill Reservation – Sunset	High	16.3/14.2	16.3/14.2	17.3/15.1	16.3/14.2	18.7/16.2	E1	Alternative E1 would increase the distance (approximately 10 miles) between the KOP and turbines at the far right of center of the KOP along the horizon. WTGs would continue to be visible center and left of center of the KOP, similar to the Proposed Action where backlighting creates contrast.	Major
MV13	Edwin DeVries Vanderhoop Homestead	Medium	13.8/12.0	14.8/12.9	13.8/12.0	14.0/12.1	13.8/12.0	E1	Alternative E1 would increase the distance (approximately 20 miles) between the KOP and turbines at the far right of center of the KOP, though topography blocks right of KOP views. WTGs would continue to be visible center and left of center of the KOP, similar to the Proposed Action.	Major
NI10	Madaket Beach	Medium	34.6/30.0	34.6/30.0	39.7/34.5	34.6/30.0	45.0/39.0	E1 and E2	Alternatives E1 and E2 would have similar views of WTGs along the far horizon, with turbine blade tips visible within a narrow view, during clear viewing conditions. Due to distance, WTGs would be predominately obscured.	Minor
NL01	Nomans Land Island NWR *(not occupied)*	Low	8.7/7.5	8.7/7.5	9.0/7.8	8.7/7.5	12.1/10.5	E1	Alternative E1 would increase the distance (approximately 16 to 19 miles) between the KOP and turbines at the far right of center of the KOP. WTGs would continue to be visible center and left of center of the KOP, similar to the Proposed Action.	Moderate

KOP Number	KOP Name	SLVIA Sensitivity Rating (high, medium, low)	Distance to Nearest Turbine (miles/nautical miles) Proposed Action	Distance to Nearest Turbine miles/nautical miles) Alternative E1	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative E1	Distance to Nearest Turbine (miles/nautical miles) Alternative E2	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative E2	Alternative(s) with greatest reduced visual impact to KOP as compared to the Proposed Action	VIA Overall Impact Level Rationale	VIA Overall Impact Level (major, moderate, minor, negligible)
NL01	Nomans Land Island NWR – Sunset *(not occupied)*	Medium	8.7/7.5	8.7/7.6	9.0/7.8	8.7/7.5	12.1/10.5	E1	Alternative E1 would increase the distance (approximately 16 to 19 miles) between the KOP and turbines at the far right of center of the KOP. WTGs would continue to be visible center and left of center of the KOP, similar to the Proposed Action.	Major
RI06	Trustom Pond NWR	Medium	22.6/19.6	22.6/19.6	23.8/20.7	23.5/20.4	22.6/19.6	E2	The reduction of WTGs would remove visibility of the WTGs along the horizon within the Lease Area. an occasional blade tip may be perceivable but not an influencing factor in overall impact.	Negligible
RI08	Scarborough Beach State Park	Medium	19.1/16.6	19.1/16.6	19.3/16.7	20.2/17.5	19.1/16.6	E2	E2 would have slightly less impacts as compared to E1. The reduction of WTGs in close proximity of the KOP would not decrease visibility of the WTGs along the horizon. WTG reduction would be localized to the far left of center of the KOP, with the majority of the WTGs remaining within the center of view.	Moderate
RI09	Narragansett Beach	Medium	20.0/17.4	20.7/18.0	20.0/17.4	22.3/19.4	20.0/17.4	E2	Alternative E2 would increase the distance between the KOP and nearest WTGs by approximately 2 miles. WTG reduction would be localized to the center of the KOP, with the majority of the WTGs remaining to the right of center of the KOP.	Moderate

Note: Nighttime impacts would be reduced to negligible, as described in EIS Table 3.3-2 (Definitions of Potential Adverse Impact Levels), when FAA warning lights are not activated though the use of ADLS.

Table G-VIS8a. Seascape Landscape Impact Assessment for Alternative E (Viewshed Alternative) – Character Areas

Character Area Name	Character Area Association (SCA/LCA/OCA)	Key Observation Points with Simulations	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative B – Proposed Action Total SCA and LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative E1 Total SCA and LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative E2 Total SCA and LCA area within Analysis Area: 1,488.1 Square Miles	SLIA Overall Impact Level Rationale for the Alternative with the reduced level of impacts as compared to the Proposed Action	SLIA Overall Impact Level (major, moderate, minor, negligible)
Shoreline Beach	SCA	AI06, MV02, MV10, MV11, NI10, RI08, RI09	35.3/2.4	32.7/2.2	33.5/2.3	Alternative E1 would have negligible reduction in visible acres across all SCAs and LCAs (approximately 2.6 square miles) as compared to the Proposed Action. The importance of SCAs for recreation and other uses along with residential areas of LCAs in close proximity of SCAs where ocean views dominate or are of high value, influence the overall impact level associated with the Project and associated alternatives.	SCA – Moderate
Coastal Bluff	SCA	BI04, BI12, C01, MV07, MV13, NL01					
Developed Waterfront	SCA	N/A					
Shoreline Residential	SCA	AI03, RI01					
Coastal Dunes	SCA	BI13, MV03, MV05					
Salt Pond/ Tidal Marsh	SCA/LCA	RI06					SCA/LCA – Moderate
Inland Lakes and Ponds	SCA/LCA	N/A					
Maintained Recreation Area	SCA/LCA	AI01, AI03, BI04, C01, LI04, MM04, MV09, RI01					
Highway Transportation	SCA/LCA	N/A					
Coastal Scrub/ Shrub Forest	LCA	AI05, AI07, CI01, MM01,					LCA – Minor
Agricultural/ Open Field	LCA	N/A					
Forest	LCA	MV12					
Rural Residential	LCA	N/A					
Suburban Residential	LCA	N/A					

Character Area Name	Character Area Association (SCA/LCA/OCA)	Key Observation Points with Simulations	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative B – Proposed Action Total SCA and LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative E1 Total SCA and LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative E2 Total SCA and LCA area within Analysis Area: 1,488.1 Square Miles	SLIA Overall Impact Level Rationale for the Alternative with the reduced level of impacts as compared to the Proposed Action	SLIA Overall Impact Level (major, moderate, minor, negligible)
Village/ Town Center	LCA	N/A					
Commercial	LCA	N/A					

Note: Nighttime impacts would be reduced to negligible, as described in EIS Table 3.3-2 (Definitions of Potential Adverse Impact Levels), when FAA warning lights are not activated though the use of ADLS.

Table G-VIS8b. Seascape Landscape Impact Assessment for Alternative E (Viewshed Alternative) – Ocean Character Areas

Character Area Name	Character Area Association (SCA/LCA/OCA)	Key Observation Points with Simulations	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative B – Proposed Action Total Ocean area within Analysis Area: 6,113.4 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative E1 Total Ocean area within Analysis Area: 6,113.4 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative E2 Total Ocean area within Analysis Area: 6,113.4 Square Miles	SLIA Overall Impact Level Rationale for the Alternative with the reduced level of impacts as compared to the Proposed Action	SLIA Overall Impact Level (major, moderate, minor, negligible)
Open Ocean	OCA	N/A	5,882.2/96.2 Maximum ocean visibility as compared to all alternatives	See Alternative B	See Alternative B	Intact open ocean setting, in immediate proximity of Project components for duration of Project.	Major

Note: Nighttime impacts would be reduced to negligible, as described in EIS Table 3.3-2 (Definitions of Potential Adverse Impact Levels), when FAA warning lights are not activated though the use of ADLS.

Table G-VIS8c. Seascape Landscape Impact Assessment for Alternative E (Viewshed Alternative) – Specially Designated Areas

Specially Designated Areas	Specially Designated Area Total Acres	Key Observation Points with Simulations	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Proposed Action (Alternative B)	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative E1	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative E2	SLIA Overall Impact Level Rationale for the Alternative with the reduced level of impacts as compared to the Proposed Action	SLIA Overall Impact Level (major, moderate, minor, negligible)
Historic Sites and National Landmarks	12,308.0	AI01, AI03, BI04, BI12, BI13, C01, C02, BI13, MM04, MV07, MV09, MV13, RI01	1,222.8/9.9	1,103.3/9.0	1,121.7/9.1	Alternative E1 would have negligible reduction in visible acres across all SDAs as compared to the Proposed Action and overall impacts would remain similar.	Major
National Natural Landmarks	349.7	MV07	255.5/73.1	252.1/72.2	252.7/72.3		Moderate
State Scenic Areas	105,777.6	BI12, CI01, MV07	18,205.6/17.2	17,359.2/ 16.4	17,528.0/16.5		Major
National Wildlife Refuges	15,176.1	AI05, NL01, RI06	767.7/5.1	737.6/4.9	734.3/4.8		Minor
State/ Non-Profit Wildlife Management Areas	31,967.8	AI07	131.4/.4	123.7/.4	114.1/.4		Minor
National Parks	31.2	N/A	.2/.7	0.2/.7	0.2/.7		Negligible
State Parks	10,473.8	AI01, LI04, MV10, RI08	27,31.7/26.1	2,638/25.2	2,699.8/25.8		Moderate
State Nature and Historic Preserves	248.4	N/A	3.1/1.2	2.6/1.0	2.4/1.0		Negligible
State Forests	5,301.6	N/A	7.8/.2	7.7/.1	7.7/.1		Negligible

Specially Designated Areas	Specially Designated Area Total Acres	Key Observation Points with Simulations	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Proposed Action (Alternative B)	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative E1	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative E2	SLIA Overall Impact Level Rationale for the Alternative with the reduced level of impacts as compared to the Proposed Action	SLIA Overall Impact Level (major, moderate, minor, negligible)
State Beaches	165.1	N/A	78.2/ 47.4	75.1/45.5	74.3/45.0		Moderate
Highways Designated or Eligible as Scenic	411.6	N/A	43.4/10.5	39.7/9.7	39.3/9.6		Moderate
National Historic Trails	990.1	N/A	.8/.1	.7 /.1	.5/.04		Minor
National Recreation Trails	88.6	AI03	65.1/73.4	64.8/73.2	64.9/73.2		Major
State Fishing and Boating Access Sites	371.4	N/A	78.4/21.1	74.5/20.1	74.8/20.2		Moderate
Lighthouses	23.0	BI04, C01, MM04, MV09, RI01	6.6/28.7	6.5/28.3	6.5/28.3		Major
Public Beaches	4,221.0	AI06, MM01, MV02, MV03, MV05, MV11, NI10, RI09	11,38.8/27.0	1,053/25.0	1,109.2/26.3		Moderate
Ferry Routes	10,641.7	N/A	6,365.0/59.8	6363.8/59.8	6,363.0/59.8		Moderate
Seaports	90.1	N/A	2.3/2.5	2.2/2.5	2.3/2.5		Negligible
Other State Land with Public Access	9,361.8	N/A	325.3/3.5	282.1/3.0	309.2/3.3		Negligible
Total Acres For Comparison	**208,009**		**30,208.0/14.5**	**29,084.8/14.0**	**29,384.5/14.1**	–	–

Note: Nighttime impacts would be reduced to negligible, as described in EIS Table 3.3-2 (Definitions of Potential Adverse Impact Levels), when FAA warning lights are not activated though the use of ADLS.

Table G-VIS9. Visual Impact Assessment Impacts Matrix – Alternative G (Preferred Alternative)

KOP Number	KOP Name	SLVIA Sensitivity Rating (high, medium, low)	Distance to Nearest Turbine (miles/nautical miles) Alternative B (Proposed Action)	Distance to Nearest Turbine miles/nautical miles) Alternative G (Preferred Alternative)	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative G (Preferred Alternative)	Distance to Nearest Turbine miles/nautical miles) Alternative G1	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative G1	Distance to Nearest Turbine (miles/nautical miles) Alternative G2	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative G2	Distance to Nearest Turbine (miles/nautical miles) Alternative G3	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative G3	Alternative(s) with greatest reduced visual impact to KOP as compared to the Proposed Action	VIA Overall Impact Level Rationale	VIA Overall Impact Level (major, moderate, minor, negligible)
AI01	Brenton Point State Park	Medium	16.7/14.5	17.6/15.3	16.7/14.5	18.1/15.8	16.7/14.5	18.6/16.2	16.7/14.5	18.1/15.8	16.7/14.5	G2	Alternative G2 would increase the distance between the KOP and nearest WTGs by approximately 2 miles which removes the first three-plus rows of visible WTGs along the horizon. WTGs would be visible from center to right field of view, though appear small in scale as those in closer proximity to the KOP are removed	Moderate
AI01	Brenton Point State Park – Night	High	16.7/14.5	17.6/15.3	16.7/14.5	18.1/15.8	16.7/14.5	18.6/16.2	16.7/14.5	18.1/15.8	16.7/14.5	G2	Alternative G2 would increase the distance between the KOP and nearest WTGs by approximately 2 miles which removes the first three-plus rows of visible WTGs along the horizon. WTGs would be visible from center to right field of view, though appear small in scale as those in closer proximity to the KOP are removed. When viewed at night, warning lights will be visible along horizon where nighttime lighting does not currently exist.	Moderate
AI03	Newport Cliff Walk	High	15.3/13.3	16.2/14.1	15.3/13.3	17.1/14.9	15.3/13.3	17.8/15.5	15.3/13.3	17.1/14.9	15.3/13.3	G2	Alternative G2 would increase the distance between the KOP and nearest WTGs by approximately 2.5 miles which removes the first three-plus rows of visible WTGs along the horizon. WTGs would be visible from center to right field of view, though appear small in scale as those in closer proximity to the KOP are removed	Moderate

KOP Number	KOP Name	SLVIA Sensitivity Rating (high, medium, low)	Distance to Nearest Turbine (miles/nautical miles) Alternative B (Proposed Action)	Distance to Nearest Turbine miles/nautical miles) Alternative G (Preferred Alternative)	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative G (Preferred Alternative)	Distance to Nearest Turbine miles/nautical miles) Alternative G1	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative G1	Distance to Nearest Turbine (miles/nautical miles) Alternative G2	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative G2	Distance to Nearest Turbine (miles/nautical miles) Alternative G3	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative G3	Alternative(s) with greatest reduced visual impact to KOP as compared to the Proposed Action	VIA Overall Impact Level Rationale	VIA Overall Impact Level (major, moderate, minor, negligible)
AI05	Sachuest Point National Wildlife Refuge	High	14.8/12.9	15.9/13.8	14.8/12.9	17.5/15.2	14.8/12.9	18.1/15.7	14.8/12.9	17.5/15.2	14.8/12.9	G2	Alternative G2 would increase the distance between the KOP and nearest WTGs by approximately 3.3 miles which removes the first three-plus rows of visible WTGs along the horizon. WTGs would be visible from center to right field of view, though appear small in scale as those in closer proximity to the KOP are removed	Moderate
AI06	Sachuest Beach (Second Beach)	Medium	16.0/13.9	17.1/14.8	16.0/13.9	18.6/16.2	16.0/14.0	19.2/16.7	16.0/13.9	18.6/16.2	16.0/13.9	G2	Alternative G2 would increase the distance between the KOP and nearest WTGs by approximately 3.3 miles which removes the first three-plus rows of visible WTGs along the horizon. WTGs would be visible from center to right field of view, though appear small in scale.	Minor
AI07	Hanging Rock (Norman Bird Sanctuary)	High	16.2/14.1	17.3/15.1	16.2/14.1	18.9/16.4	16.2/14.1	19.5/16.9	16.2/14.1	18.9/16.4	16.2/14.1	G2	Alternative G2 would increase the distance between the KOP and nearest WTGs by approximately 3.3 miles which removes the first three-plus rows of visible WTGs along the horizon. WTGs would be visible from center to right field of view, though appear small in scale as those in closer proximity to the KOP are removed.	Moderate
BI04	Southeast Lighthouse	High	15.3/13.4	15.3/13.3	15.5/13.3	15.3/13.3	15.5/13.4	15.3/13.3	15.5/13.4	15.3/13.3	15.5/13.4	G, G1, G2, and G3	For all alternatives the nearest WTG at 15.3 miles would remain and WTGs to the left of view would remain, similar to the Proposed Action. Turbines visible to the right of view at approximate 15.5 miles would be removed.	Moderate
BI04	Southeast Lighthouse – Night	High	15.3/13.4	15.3/13.3	15.5/13.3	15.3/13.3	15.5/13.4	15.3/13.3	15.5/13.4	15.3/13.3	15.5/13.4	G, G1, G2, and G3	For all alternatives the nearest WTG at 15.3 miles would remain and WTGs to the left of view would remain, similar to the Proposed Action. Turbines visible to the right of view at approximate 15.5 miles would be removed. When viewed at night, warning lights will continue be visible along horizon similar to the Proposed Action where nighttime lighting does not currently exist.	Major
BI12	Clayhead Trail	High	15.9/13.8	15.9/13.8	16.7/14.5	15.9/13.8	16.7/14.5	15.9/13.8	16.7/14.5	15.9/13.8	16.7/14.5	G2	Alternative G2 would maintain nearest WTG at 15.9 miles and WTG massing would remain in the center of view, similar to the Proposed Action. WTGs to the far left and far right of view would be removed.	Moderate
BI13	North Light	High	17.2/15.0	17.2/15.0	18.0/15.7	17.2/15.0	18.0/15.7	17.2/15.0	18.0/15.7	17.2/15.0	18.0/15.7	G2	Alternative G2 would maintain nearest WTG at 17.2 miles and WTGs would remain to the center of view, similar to the Proposed Action. Turbines visible to the far left of view would be removed reducing the overall horizontal field of view though a massing of WTGs would remain in the center view of the KOP.	Moderate
CI01	Cuttyhunk Island	High	13.9/12.1	13.9/12.1	14.2/12.4	14.9/12.9	13.9/12.1	14.9/13.0	13.9/12.1	15.9/13.8	13.9/12.1	G3	Alternative G3 would increase the distance of the nearest WTG approximately 2 miles. The overall field of view would be occupied similar to the Proposed Action though the horizon to the left of view would have areas with reduced densities of WTGs.	Moderate
C01	Beavertail Lighthouse	Medium	18.4/15.9	19.1/16.6	18.4/15.9	19.4/16.9	18.4/15.9	19.7/17.1	18.4/15.9	19.4/16.9	18.4/15.9	G2	Alternative G2 would increase the distance of the nearest WTG approximately 1.3 miles and WTG massing would remain in the center of view, similar to the Proposed Action. WTGs to the left of center view and far right of view would be removed.	Minor

KOP Number	KOP Name	SLVIA Sensitivity Rating (high, medium, low)	Distance to Nearest Turbine (miles/nautical miles) Alternative B (Proposed Action)	Distance to Nearest Turbine miles/nautical miles) Alternative G (Preferred Alternative)	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative G (Preferred Alternative)	Distance to Nearest Turbine miles/nautical miles) Alternative G1	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative G1	Distance to Nearest Turbine (miles/nautical miles) Alternative G2	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative G2	Distance to Nearest Turbine (miles/nautical miles) Alternative G3	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative G3	Alternative(s) with greatest reduced visual impact to KOP as compared to the Proposed Action	VIA Overall Impact Level Rationale	VIA Overall Impact Level (major, moderate, minor, negligible)
LI04	Montauk Point State Park	Medium	31.5/27.4	31.9/27.7	31.5/27.4	31.9/27.7	31.5/27.4	31.7/27.7	31.5/27.4	31.9/27.7	31.5/27.4	G1, G2, and G3	Alternatives G1, G2, and G3 would not be perceivable along horizon due to distance (over 30 miles) and atmospheric influences. Occasional blade tips and movement may be noticeable by the focused viewer or backlighting.	Negligible
LI04	Montauk Point State Park – Night	High	31.5/27.4	31.9/27.7	31.5/27.4	31.9/27.7	31.5/27.4	31.5/27.4	31.5/27.4	31.9/27.4	31.5/27.4	G1 and G3	The addition of aviation warning lights along the horizon within the viewshed would be perceivable by the focused viewer, but not a dominant element as compared to other existing warning lighting sources associated with BIWF that are in closer proximity (approximately 16 miles). WTGs removed from the center of view further reduces the massing of aviation warning lighting in proximity of the KOP.	Negligible
MM01	Gooseberry Island	Medium	15.1/13.2	16.3/14.1	15.1/13.2	17.8/15.5	15.1/13.2	17.8/15.5	15.1/13.2	18.2/15.8	15.1/13.2	G3	Alternative G3 would increase the distance between the KOP and nearest WTG by approximately 3 miles though WTGs would remain visible and clustered along the horizon within the viewshed.	Moderate
MM04	Nobska Lighthouse	Medium	28.2/24.5	28.2/24.5	28.8/25.0	28.2/24.5	28.3/24.6	28.2/24.5	28.3/24.6	28.2/24.5	28.3/24.6	G3	Alternative G3 would increase the distance between the KOP and nearest WTGs to a distance that would not be perceivable along horizon due to distance, intervening landforms and atmospheric influences or remove WTGs that are framed by landforms.	Negligible
MV02	Philbin Beach	High	13.6/11.8	13.8/12.0	13.6/11.8	14.2/12.3	13.6/11.8	14.2/12.3	13.6/11.8	14.2/12.3	13.6/11.8	G3	Alternative G3 would increase the distance of the nearest WTG approximately 0.5 mile and WTG massing would remain in the center of view, similar to the Proposed Action. WTGs to the left of center view and far right of view would be removed.	Moderate
MV03	Lucy Vincent Beach	High	15.5/13.5	15.5/13.5	16.9/14.7	15.5/13.5	16.9/14.7	15.5/13.5	16.9/14.7	15.5/13.5	16.9/14.7	G3	Alternative G3 would increase the distance between the KOP and WTGs within the center of view in relation to Nomans Land Island along the horizon. WTGs would continue to be visible left of center of the KOP, similar to the Proposed Action. Intervening landforms would continue to obscure views of WTGs to the right field of view.	Moderate
MV03	Lucy Vincent Beach – Sunset	Medium	15.5/13.5	15.5/13.5	16.9/14.7	15.5/13.5	16.9/14.7	15.5/13.5	16.9/14.7	15.5/13.5	16.9/14.7	G3	Alternative G3 would increase the distance between the KOP within the center of view in relation of Nomans Land Island along the horizon. WTGs would continue to be visible left of center of the KOP, similar to the Proposed Action. Intervening landforms would continue to obscure views of WTGs to the right field of view.	Moderate
MV05	Moshup Beach	High	13.7/12.0	13.7/12.0	13.7/12.0	14.3/12.4	13.7/12.0	14.3/12.4	13.7/12.0	14.3/12.5	13.7/12.0	G3	Alternative G3 would increase the distance of the nearest WTGs within the right of center field of view. Though WTGs would continue to be visible within the full field of view similar to the Proposed Action.	Major
MV05	Moshup Beach – Sunset	High	13.7/12.0	13.7/12.0	13.7/12.0	14.3/12.4	13.7/12.0	14.3/12.4	13.7/12.0	14.3/12.5	13.7/12.0	G3	Alternative G3 would increase the distance of the nearest WTGs within the right of center field of view. Though WTGs would continue to be visible within the full field of view similar to the Proposed Action.	Major

KOP Number	KOP Name	SLVIA Sensitivity Rating (high, medium, low)	Distance to Nearest Turbine (miles/nautical miles) Alternative B (Proposed Action)	Distance to Nearest Turbine miles/nautical miles) Alternative G (Preferred Alternative)	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative G (Preferred Alternative)	Distance to Nearest Turbine miles/nautical miles) Alternative G1	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative G1	Distance to Nearest Turbine (miles/nautical miles) Alternative G2	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative G2	Distance to Nearest Turbine (miles/nautical miles) Alternative G3	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative G3	Alternative(s) with greatest reduced visual impact to KOP as compared to the Proposed Action	VIA Overall Impact Level Rationale	VIA Overall Impact Level (major, moderate, minor, negligible)
MV07	Aquinnah Overlook	High	13.7/12.0	13.7/12.0	14.0/12.2	14.3/12.5	13.7/12.0	14.3/12.5	13.7/12.0	14.6/12.7	13.7/12.0	G3	Alternative G3 would increase the distance of the nearest WTGs within the right of center field of view. Though WTGs would continue to be visible within the full field of view similar to the Proposed Action.	Major
MV07	Aquinnah Overlook – Sunset	High	13.7/12.0	13.7/12.0	14.0/12.2	14.3/12.5	13.7/12.0	14.3/12.5	13.7/12.0	14.6/12.7	13.7/12.0	G3	Alternative G3 would increase the distance of the nearest WTGs within the right of center field of view. Though WTGs would continue to be visible within the full field of view similar to the Proposed Action.	Major
MV09	Gay Head Lighthouse	High	13.9/12.1	13.9/12.1	14.2/12.3	14.5/12.6	13.9/12.1	14.5/12.6	13.9/12.1	14.7/12.8	13.9/12.1	G3	Alternative G3 would increase the distance of the nearest WTGs within the right of center field of view. Though WTGs would continue to be visible within the full field of view similar to the Proposed Action and the OSSs would continue to be prominent on the horizon.	Major
MV10	South Beach State Park	High	22.0/19.1	22.0/19.1	25.3/22.0	22.0/19.1	25.3/22.0	22.0/19.1	25.3/22.0	22.0/19.1	25.3/22.0	G1, G2, and G3	Alternatives G1, G2, and G3 would remove a portion of the WTGs visible in the center of view to the left of Nomans Land Island. The remaining WTGs visible within the Lease Area would be partially obscured (towers) with hubs and blades still visible continue to draw the viewers eye to the left of view due to movement.	Moderate
MV11	Wasque Point	Low	24.8/21.5	24.8/21.5	28.5/24.8	24.8/21.5	28.5/24.8	24.8/21.6	28.5/24.8	24.8/21.6	28.5/24.8	G1, G2, and G3	Alternatives G1, G2, and G3 would remove the majority of the WTGs visible in the center of view along the horizon where WTG blade movement would be noticeable. The remaining WTGs visible along the horizon would be partially obscured (towers) with hubs and blades still visible to the left field of view.	Minor
MV12	Peaked Hill Reservation	High	16.3/14.2	16.3/14.2	17.3/15.1	16.3/14.2	17.3/15.1	16.4/14.2	17.3/15.1	16.4/14.2	17.3/15.1	G3	Alternative G3 would maintain nearest WTGs located to the left field of view at approximately 16.4 miles. WTG massing would be similar to the Proposed Action in relation to the OSSs within the center of view. Six WTGs would be removed from the far-right field of view.	Major
MV12	Peaked Hill Reservation – Sunset	High	16.3/14.2	16.3/14.2	17.3/15.1	16.3/14.2	17.3/15.1	16.2/21.6	17.3/15.1	16.4/14.2	17.3/15.1	G3	Alternative G3 would maintain nearest WTGs located to the left field of view at approximately 16.4 miles. WTG massing would be similar to the Proposed Action in relation to the OSSs within the center of view. Six WTGs would be removed from the far-right field of view.	Major
MV13	Edwin DeVries Vanderhoop Homestead	Medium	13.8/12.0	13.8/12.0	14.0/12.1	14.4/12.5	13.8/12.0	14.4/12.5	13.8/12.0	14.5/12.6	13.8/12.0	G3	Alternative G3 would maintain nearest WTGs located to the left and center fields of view, similar to the Proposed Action. Landform obstructions would continue to obscure the right field of view.	Major
NI10	Madaket Beach	Medium	34.6/30.0	34.6/30.1	39.7/34.5	34.6/30.1	39.0/33.9	34.6/30.1	39.0/33.9	34.6/30.1	39.0/33.9	G, G1, G2, and G3	Alternatives G, G1, G2, and G3 would maintain nearest WTGs located to the left and center fields of view, similar to the Proposed Action. Occasional blade tips and movement may be noticeable by the focused viewer or backlighting.	Negligible
NL01	Normans Land Island NWR *(not occupied)*	Medium	8.7/7.6	8.7/7.5	9.0/7.8	8.7/7.5	9.0/7.8	8.7/7.5	9.0/7.8	8.7/7.5	9.0/7.8	G3	Alternative G3 would maintain nearest WTGs to the far-left field of view at approximately 8.7 miles. Although WTGs are removed within the center of the Lease Area, the massing of WTGs and visibility of the OSSs on the horizon would be prominent.	Major

KOP Number	KOP Name	SLVIA Sensitivity Rating (high, medium, low)	Distance to Nearest Turbine (miles/nautical miles) Alternative B (Proposed Action)	Distance to Nearest Turbine miles/nautical miles) Alternative G (Preferred Alternative)	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative G (Preferred Alternative)	Distance to Nearest Turbine (miles/nautical miles) Alternative G1	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative G1	Distance to Nearest Turbine (miles/nautical miles) Alternative G2	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative G2	Distance to Nearest Turbine (miles/nautical miles) Alternative G3	Distance to Nearest Turbine Removed (miles/nautical miles) Alternative G3	Alternative(s) with greatest reduced visual impact to KOP as compared to the Proposed Action	VIA Overall Impact Level Rationale	VIA Overall Impact Level (major, moderate, minor, negligible)
NL01	Nomans Land Island NWR – Sunset *(not occupied*	Medium	8.7/7.6	8.7/7.5	9.0/7.8	8.7/7.5	9.0/7.8	8.7/7.5	9.0/7.8	8.7/7.5	9.0/7.8	G3	Alternative G3 would maintain nearest WTGs to the far-left field of view at approximately 8.7 miles. Although WTGs are removed within the center of the Lease Area, the massing of WTGs and visibility of the OSSs on the horizon would be prominent.	Major
RI01	Watch Hill Lighthouse	Medium	32.8/28.5	32.8/28.5	33.7/29.2	32.8/28.5	33.7/29.3	32.8/28.5	33.7/29.3	32.8/28.5	33.7/29.3	G1, G2, and G3	Alternatives G, G1, G2, and G3 would maintain nearest WTGs located in the center field of view similar to the Proposed Action. Occasional blade tips and movement may be noticeable by the focused viewer or backlighting.	Negligible
RI06	Trustom Pond NWR	Medium	22.6/19.6	22.6/19.6	24.2/21.0	22.6/19.6	24.2/21.0	22.6/19.6	23.8/20.7	22.6/19.6	24.2/21.0	G2	Alternative G2 would maintain nearest WTGs located in the center field of view similar to the Proposed Action. Occasional blade tips and movement may be noticeable by the focused viewer or backlighting.	Negligible
RI08	Scarborough Beach State Park	Medium	19.1/16.6	19.1/16.6	19.4/16.9	19.1/16.6	19.4/16.9	19.1/16.6	19.3/16.7	19.1/16.6	19.4/16.9	G2	Alternative G2 would maintain nearest WTGs located in the center field of view similar to the Proposed Action. Occasional blade tips and movement may be noticeable by the focused viewer or backlighting though WTGs would appear small on the horizon.	Minor
RI09	Narragansett Beach	Medium	20.0/17.4	20.6/17.9	20.0/17.4	20.6/17.9	20.0/17.4	20.7/18.0	20.0/17.4	20.6/17.9	20.0/17.4	G2	Alternative G2 would maintain WTGs located in the center field of view similar to the Proposed Action. WTGs to the far-left field of view (approximately 20 miles) would be removed. Occasional blade tips and movement may be noticeable by the focused viewer or backlighting though WTGs would appear small on the horizon.	Moderate

Note: Nighttime impacts would be reduced to negligible, as described in EIS Table 3.3-2 (Definitions of Potential Adverse Impact Levels), when FAA warning lights are not activated though the use of ADLS.

Table G-VIS10a. Seascape Landscape Impact Assessment for Alternative G (Preferred Alternative) – Character Areas

Character Area Name	Character Area Association (SCA/LCA/OCA)	Key Observation Points with Simulations	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative B (Proposed Action) Total SCA and LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative G (Preferred Alternative) Total SCA and LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative G1 Total SCA and LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative G2 Total SCA and LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative G3 Total SCA and LCA area within Analysis Area: 1,488.1 Square Miles	SLIA Overall Impact Level Rationale for the Alternative with the reduced level of impacts as compared to the Proposed Action	SLIA Overall Impact Level (major, moderate, minor, negligible)
Shoreline Beach	SCA	AI06, MV02, MV10, MV11, NI10, RI08, RI09	35.3/2.4	34.5/2.3	33.7/2.3	33.5/2.3	33.4/2.2	Alternatives G, G1, G2, and G3 would have minor reduction in visible acres across all SCAs and LCAs	SCA – Moderate

Character Area Name	Character Area Association (SCA/LCA/OCA)	Key Observation Points with Simulations	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative B (Proposed Action) Total SCA and LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative G (Preferred Alternative) Total SCA and LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative G1 Total SCA and LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative G2 Total SCA and LCA area within Analysis Area: 1,488.1 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative G3 Total SCA and LCA area within Analysis Area: 1,488.1 Square Miles	SLIA Overall Impact Level Rationale for the Alternative with the reduced level of impacts as compared to the Proposed Action	SLIA Overall Impact Level (major, moderate, minor, negligible)
Coastal Bluff	SCA	BI04, BI12, C01, MV07, MV13, NL01						(approximately 1.1 to 1.9 square miles) as compared to the Proposed Action. The importance of SCAs for recreation and other uses along with residential areas of LCAs in proximity of SCAs where ocean views dominate or are of high value, influence the overall impact level associated with the Project and associated alternatives.	
Developed Waterfront	SCA	N/A							
Shoreline Residential	SCA	AI03, RI01							
Coastal Dunes	SCA	BI13, MV03, MV05							
Salt Pond/ Tidal Marsh	SCA/LCA	RI06							SCA/LCA – Moderate
Inland Lakes and Ponds	SCA/LCA	N/A							
Maintained Recreation Area	SCA/LCA	AI01, AI03, BI04, C01, LI04, MM04, MV09, RI01							
Highway Transportation	LCA	N/A							LCA – Minor
Coastal Scrub/ Shrub Forest	LCA	AI05, AI07, CI01, MM01,							
Agricultural/ Open Field	LCA	N/A							
Forest	LCA	MV12							
Rural Residential	LCA	N/A							
Suburban Residential	LCA	N/A							
Village/ Town Center	LCA	N/A							
Commercial	LCA	N/A							

Table G-VIS10b. Seascape Landscape Impact Assessment for Alternative G (Preferred Alternative) – Ocean Character Areas

Character Area Name	Character Area Association (SCA/LCA/OCA)	Key Observation Points with Simulations	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative B (Proposed Action) Total Ocean area within Analysis Area: 6,113.4 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative G (Preferred Alternative) Total Ocean area within Analysis Area: 6,113.4 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative G1 Total Ocean area within Analysis Area: 6,113.4 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative G2 Total Ocean area within Analysis Area: 6,113.4 Square Miles	Geographic Extent of Analysis Area with Visibility of Alternative (square miles/percentage) Alternative G3 Total Ocean area within Analysis Area: 6,113.4 Square Miles	SLIA Overall Impact Level Rationale for the Alternative with the reduced level of impacts as compared to the Proposed Action	SLIA Overall Impact Level (major, moderate, minor, negligible)
Open Ocean	OCA	N/A	5,882.2/96.2 Maximum Ocean visibility as compared to all alternatives	See Alternative B	See Alternative B	See Alternative B	See Alternative B	Intact open ocean setting, in immediate proximity of Project components for duration of Project.	Major

Note: Nighttime impacts would be reduced to negligible, as described in EIS Table 3.3-2 (Definitions of Potential Adverse Impact Levels), when FAA warning lights are not activated though the use of ADLS.

Table G-VIS10c. Seascape Landscape Impact Assessment for Alternative G (Preferred Alternative) – Specially Designated Areas

Specially Designated Areas	Specially Designated Area Total Acres	Key Observation Points with Simulations	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative B (Proposed Action)	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative G (Preferred Alternative)	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative G1	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative G2	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative G3	SLIA Overall Impact Level Rationale for the Alternative with the reduced level of impacts as compared to the Proposed Action	SLIA Overall Impact Level (major, moderate, minor, negligible)
Historic Sites and National Landmarks	12,308.0	AI01, AI03, BI04, BI12, BI13, C01, C02, BI13, MM04, MV07, MV09, MV13, RI01	1,222.8/9.9	1,167.9/9.4	1,122.1/9.9	1,114.6/9.1	1,118.8/9.1	Alternatives G, G1, G2, and G3 would have a minor reduction in visible acres across all SDAs as compared to the Proposed Action,G-291hough overall impacts would remain similar. The combination of alternatives reduces a greater area of visibility resulting from the reduction of turbines along the eastern and northwestern portions of the Lease Area.	Major
National Natural Landmarks	349.7	MV07	255.5/73.1	254.6/72.8	252.2/72.2	251.8/71.9	252.2/72.2		Moderate
State Scenic Areas	105,777.6	BI12, CI01, MV07	18,205.6/17.2	17,876.9/16.9	17,591.3/16.6	17,502.6/16.5	17,550.2/16.5		Major
National Wildlife Refuges	15,176.1	AI05, NL01, RI06	767.7/5.1	745.4/4.9	732.0/4.8	728.3/4.8	730.5/4.8		Minor
State/ Non-Profit Wildlife Management Areas	31,967.8	AI07	131.4/.4	114.8/.4	111.4/.3	109.5/.3	111.2/.3		Minor
National Parks	31.2	N/A	.2/.7	.2/.6	.2/.6	.2/.6	.2/.6		Negligible
State Parks	10,473.8	AI01, LI04, MV10, RI08	2,731.7/26.1	2702.0/25.8	2686.4/25.6	2684.0/25.6	2682.3/25.6		Moderate
State Nature and Historic Preserves	248.4	N/A	3.1/1.2	3.1/1.2	3.1/1.2	3.1/1.2	3.1/1.2		Negligible
State Forests	5,301.6	N/A	7.8/.2	7.8/.2	7.7/.1	7.7/.1	7.7/.1		Negligible
State Beaches	165.1	N/A	78.2/ 47.4	75.1/45.5	74.1/44.9	73.2/44.2	74.0/44.8		Moderate
Highways Designated or Eligible as Scenic	411.6	N/A	43.4/10.5	40.2/9.7	39.3/9.5	39.1/9.5	39.0/9.5		Moderate
National Historic Trails	990.1	N/A	.8/.1	.5/.1	.5/.1	.5/.1	.5/.1		Minor
National Recreation Trails	88.6	AI03	65.1/73.4	65.0/73.3	64.9/73.1	64.9/73.1	64.9/73.1		Major

Specially Designated Areas	Specially Designated Area Total Acres	Key Observation Points with Simulations	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative B (Proposed Action)	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative G (Preferred Alternative)	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative G1	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative G2	Geographic Extent of Specially Designated Area with Visibility of Alternative (acres/percentage) Alternative G3	SLIA Overall Impact Level Rationale for the Alternative with the reduced level of impacts as compared to the Proposed Action	SLIA Overall Impact Level (major, moderate, minor, negligible)
State Fishing and Boating Access Sites	371.4	N/A	78.4/21.1	76.1/20.5	75.2/20.3	75.1/19.1	75.0/20.2		Moderate
Lighthouses	23.0	BI04, C01, MM04, MV09, RI01	6.6/28.7	6.6/28.7	6.5/28.3	6.5/28.3	6.5/28.3		Major
Public Beaches	4,221.0	AI06, MM01, MV02, MV03, MV05, MV11, NI10, RI09	11,38.8/27.0	1127.1/26.7	1117.6/26.5	1116.1/26.4	1096.5/26.0		Moderate
Ferry Routes	10,641.7	N/A	6,365.0/59.8	6363.4/59.8	6363.0/59.8	6362.5/59.8	6363.0/59.8		Moderate
Seaports	90.1	N/A	2.3/2.5	2.2/2.4	2.1/2.3	2.1/2.3	2.1/2.3		Negligible
Other State Land with Public Access	9,381.8	N/A	325.3/3.5	310.9/3.3	307.1/3.3	305.9/3.3	306.2/3.3		Negligible
Total Acres For Comparison	**208,009**		**31,430.0/15.1**	**30,941.2/14.9**	**30,557.9/14.7**	**30,449.0/14.6**	**30,477.2/14.7**		**–**

Note: Nighttime impacts would be reduced to negligible, as described in EIS Table 3.3-2 (Definitions of Potential Adverse Impact Levels), when FAA warning lights are not activated though the use of ADLS.

Table G-VIS11. Visual Impact Assessment Impacts Matrix for Cumulative Impacts

KOP Number	KOP Name	Representative Character Area (SCA, LCA, OCA)	Viewing Direction	Elevation (feet)	Cumulative Simulation	Visibility Threshold	Distance to Nearest Turbine (miles/nautical miles)	Horizontal Field of View Occupied (Degrees)	Size or Scale Rationale	Size and Scale Rating (large, medium, small)	Lease Area within Viewshed in Addition to Proposed Action	Geographic Extent Rating (large, medium, small)	SLVIA Magnitude Rating Rationale	SLVIA Magnitude Rating (large, medium, small)	SLVIA Overall Impact Level Rationale	SLVIA Overall Impact Level (major, moderate, minor, negligible)
BI04	Southeast Lighthouse	SCA	East	161.1	Yes	VTL2	15.3/13.3	81	Highly visible and likely to attract the attention of lighthouse visitors based on lighting conditions, although not as prominent as the existing BIWF.	Medium	OCS-A 0517 OCS-A 0487	Medium	Visibility based on lighting conditions, existing BIWF visibility, duration.	**Medium**	Importance of recreation and historic resources, duration and visibility from KOP based on lighting conditions.	**Moderate**
BI04	Southeast Lighthouse – Night	SCA	East	161.1	Yes	VTL 5	15.3/13.4	81	The addition of the flashing warning lights on the WTGs and decks will add evidence of human development and increase visual clutter at the horizon.	Large	OCS-A 0517 OCS-A 0487	Large	Visibility based on lighting conditions, existing BIWF visibility, duration.	**Large**	Importance of recreation and historic resources, duration and visibility from KOP based on lighting conditions.	**Major**
BI12	Clayhead Trail	SCA	East	78.8	No	VTL1	15.9/13.8	75	Visible and likely to attract attention resulting from angle of view of WTGs .	Medium	OCS-A 0517 OCS-A 0487	Medium	Visibility of WTGs within viewshed along horizon line within viewshed.	**Medium**	Importance of preservation of scenic district and uses; proximity and visibility of Project.	**Moderate**
BI13	North Light	SCA	East	27.5	No	VTL4	17.2/15.0	69	Turbines become the focus of views out to the water and the tight spacing and numerous turbines along the horizon draw the viewers' eye away from natural features.	Large	OCS-A 0517 OCS-A 0487	Large	Size and scale in relation to existing conditions along with percentage of visibility.	**Large**	Importance of recreation and historic resources; proximity of residential viewers, duration and visibility from KOP.	**Moderate**

KOP Number	KOP Name	Representative Character Area (SCA, LCA, OCA)	Viewing Direction	Elevation (feet)	Cumulative Simulation	Visibility Threshold	Distance to Nearest Turbine (miles/nautical miles)	Horizontal Field of View Occupied (Degrees)	Size or Scale Rationale	Size and Scale Rating (large, medium, small)	Lease Area within Viewshed in Addition to Proposed Action	Geographic Extent Rating (large, medium, small)	SLVIA Magnitude Rating Rationale	SLVIA Magnitude Rating (large, medium, small)	SLVIA Overall Impact Level Rationale	SLVIA Overall Impact Level (major, moderate, minor, negligible)
LI04	Montauk Point State Park	SCA/LCA	East	48.0	Yes	VTL1	31.5/27.4	59	Due to distance and viewer position in relation to other features in the landscape, the right field of view would have some visibility of WTG blades associated with OCS-A 0487.	Small	OCS-A 0517 OCS-A 0487	Large	Projects would become perceivable along horizon, though will be variable due to distance and atmospheric influences.	**Medium**	Project would not be perceivable along horizon due to distance and atmospheric influences. Occasional blade tips and movement may be noticeable by the focused viewer or backlighting.	**Minor**
LI04	Montauk Point State Park – Night	SCA/LCA	East	48.0	Yes	VTL2	31.5/27.4	59	Due to distance and viewer position in relation to other features in the landscape, there would be a negligible change.	Small	OCS-A 0517 OCS-A 0487	Small	Additional projects would not be perceivable along horizon if observer views were focused toward lighting. Light house illumination is most prominent.	**Small**	Additional lighting is negligible on horizon right of KOP viewshed. Lighthouse illumination is the focus.	**Negligible**
MV02	Philbin Beach	SCA	South-Southwest to West-Southwest	10.5	No	VTL5	13.6/11.8	135	Turbines are very visible on the horizon line and will dominate the view from the KOP.	Large	OCS-A 0487 OCS-A 0500	Large	Additional WTGs visible to left of KOP at approximately same distance as eastern portion of Proposed Action.	**Large**	Importance of natural landscape and natural recreation opportunities, scenic values; prominence of turbines within viewshed.	**Moderate**
MV03	Lucy Vincent Beach	SCA	South-Southwest to Southwest	27.7	No	VTL 3	15.5/13.5	126	More direct views of additional Lease Areas. Visible and likely to attract the attention resulting from angle of view of WTGs.	Medium	OCS-A 0487 OCS-A 0500	Medium	Visibility of WTGs within viewshed along horizon line within viewshed, through further visibility is beyond horizon.	**Medium**	Importance of natural landscape and natural recreation opportunities, scenic values; prominence of turbines.	**Moderate**
MV03	Lucy Vincent Beach – Sunset	SCA	South-Southwest to Southwest	27.7	No	VTL 4	15.5/13.6	126	WTGs appear dark gray against the light sky and the position of the sun serves as a focal point, drawing the viewer's eye toward part of the Project.	Large	OCS-A 0487 OCS-A 0500	Medium	Visibility of backlit WTGs within viewshed along horizon line within viewshed.	**Large**	Scenic values; prominence of turbines- sunset backlighting of turbines along with movement influences prominence.	**Major**
MV05	Moshup Beach	SCA	South-Southwest to West-Southwest	23.1	No	VTL 5	13.7/11.9	134	With the proposed RWF in place, the nacelles and rotors from numerous WTGs and two OSSs will be visible from this KOP in the background along the horizon.	Large	OCS-A 0487 OCS-A 0500	Large	Size and scale in relation to existing conditions along with percentage of visibility.	**Large**	Importance of natural landscape and natural recreation opportunities, scenic values; prominence of turbines.	**Moderate**
MV05	Moshup Beach – Sunset	SCA	South-Southwest to West-Southwest	23.1	No	VTL 5	13.7/11.10	134	WTGs appear dark gray against the light sky and the position of the sun serves as a focal point, drawing the viewer's eye toward part of the Project.	Large	OCS-A 0487 OCS-A 0500	Large	Visibility of backlit WTGs within viewshed along horizon line within viewshed.	**Large**	Scenic values; prominence of backlit turbines on the horizon.	**Major**
MV07	Aquinnah Overlook	SCA	South to Southwest	145.5	Yes	VTL 3	13.7/11.9	132	OSSs become focal points along the wide horizon and the overlook is no longer just for views of the ocean	Large	OCS-A 0487 OCS-A 0500	Large	Size and scale in relation to existing conditions along with percentage of visibility.	**Large**	Prominent, dedicated viewpoint.	**Major**

KOP Number	KOP Name	Representative Character Area (SCA, LCA, OCA)	Viewing Direction	Elevation (feet)	Cumulative Simulation	Visibility Threshold	Distance to Nearest Turbine (miles/nautical miles)	Horizontal Field of View Occupied (Degrees)	Size or Scale Rationale	Size and Scale Rating (large, medium, small)	Lease Area within Viewshed in Addition to Proposed Action	Geographic Extent Rating (large, medium, small)	SLVIA Magnitude Rating Rationale	SLVIA Magnitude Rating (large, medium, small)	SLVIA Overall Impact Level Rationale	SLVIA Overall Impact Level (major, moderate, minor, negligible)
									but includes the turbines on the ocean.							
MV07	Aquinnah Overlook – Sunset	SCA	South to Southwest	145.5	Yes	VTL 5	13.7/11.10	132	OSSs become focal points along the wide horizon and the overlook is no longer just for views of the ocean but includes the turbines on the ocean.	Large	OCS-A 0487 OCS-A 0500	Large	Size and scale in relation to existing conditions along with percentage of visibility.	**Large**	Prominent, dedicated viewpoint.	**Major**
MV07	Aquinnah Overlook – Night	SCA	South to Southwest	145.5	Yes	VTL 3	13.7/11.11	132	OSSs become focal points along the wide horizon and the overlook is no longer just for views of the ocean but includes the turbines on the ocean.	Large	OCS-A 0487 OCS-A 0500	Large	Size and scale in relation to existing conditions along with percentage of visibility.	**Large**	Prominent, dedicated viewpoint; warning lighting appears low on the horizon.	**Major**
MV09	Gay Head Lighthouse	SCA	South to West-Southwest	162.1	No	VTL 4	13.9/12.1	132	The two OSSs appear as dark elements on the horizon suspended above the water surface. From this superior vantage point, the entirety of the Project is visible.	Large	OCS-A 0487 OCS-A 0500	Large	Size and scale in relation to existing conditions along with percentage of visibility.	**Large**	Importance of historic lighthouse, scenic values; prominence of turbines and OSSs.	**Major**
MV10	South Beach State Park	SCA	Southwest to West-Southwest	17.0	No	VTL3	15.0/13.0	109	Nacelles and rotors from numerous WTGs will be visible in the background along the horizon. Turbines are visible on the horizon and provide a focal point.	Large	OCS-A 0487 OCS-A 0500 OCS-A 501	Large	Size and scale in relation to existing conditions along with percentage of visibility.	**Large**	Importance of natural landscape and natural recreation opportunities; massing of turbines on horizon within full viewshed.	**Major**
MV11	Wasque Point	SCA	West-Southwest	13.6	Yes	VTL 2	15.0/13.0	100	Nearest WTG is approximately 15 miles away; the towers are largely obscured due to curvature of the Earth, with their degree of exposure decreasing from left to right.	Large	OCS-A 0487 OCS-A 0500 OCS-A 501	Large	Size and scale in relation to existing conditions along with percentage of visibility.	**Large**	Importance of natural landscape and natural recreation opportunities; massing of turbines on horizon within full viewshed.	**Major**
MV12	Peaked Hill Reservation	LCA	South-Southwest to Southwest	305.1	No	VTL 1	16.3/14.2	123	KOP on Peaked Hill represents a discrete view to the southwest that requires the viewer to be perfectly positioned.	Small	OCS-A 0487 OCS-A 0500	Small Based on simulation graphic all are visible/vegetation and perspective influence	Size and scale in relation to existing conditions, vegetation and viewer perspective.	**Small**	Importance of cultural significance and natural recreation opportunities; visibility of WTGs due to intervening vegetation and landforms.	**Major**
MV12	Peaked Hill Reservation – Sunset	LCA	South-Southwest to Southwest	305.1	No	VTL4	16.3/14.2	123	Sunset illumination and backlighting influences change.	Large	OCS-A 0487 OCS-A 0500	Large Based on simulation graphic all are visible/vegetation and perspective influence	Backlighting of WTGs, increased visibility.	**Large**	Importance of cultural significance and natural recreation opportunities; visibility of WTGs due to backlighting.	**Major**
MV13	Edwin DeVries Vanderhoop Homestead	SCA	South to Southwest	17.0	No	VTL5	13.8/12.0	134	WTGs are visible; light gray towers, nacelles, and	Large	OCS-A 0487 OCS-A 0500	Large	Size and scale in relation to existing conditions	**Large**	Importance of natural landscape and natural recreation opportunities;	**Major**

KOP Number	KOP Name	Representative Character Area (SCA, LCA, OCA)	Viewing Direction	Elevation (feet)	Cumulative Simulation	Visibility Threshold	Distance to Nearest Turbine (miles/nautical miles)	Horizontal Field of View Occupied (Degrees)	Size or Scale Rationale	Size and Scale Rating (large, medium, small)	Lease Area within Viewshed in Addition to Proposed Action	Geographic Extent Rating (large, medium, small)	SLVIA Magnitude Rating Rationale	SLVIA Magnitude Rating (large, medium, small)	SLVIA Overall Impact Level Rationale	SLVIA Overall Impact Level (major, moderate, minor, negligible)
									rotors are fully visible above the horizon.				along with percentage of visibility.		visibility of WTGs due to distance and percentage of visibility.	
NI10	Madaket Beach	SCA	West	20.6	Yes	VTL1	17.0/ 14.8	109	WTGs are barely visible along the horizon, with a small cluster of turbine blades and nacelle comprising the majority of visible features.	Small	OCS-A 0500 OCS-A 501 OCS-A 520 OCS-A 521 OCS-A 522	Small although numerous Lease Areas are within viewshed	Variable lighting and atmospheric conditions influence visibility.	**Small**	Numerous Lease Areas are within viewshed, though perceivability of WTGs from KOP is highly influenced on visibility conditions.	**Major**
NL01	Nomans Land Island NWR *(not occupied)*	SCA	West-Southwest	42.1	Yes	VTL5	8.7/7.5	109	WTGs appear as gray vertical lines against the yellow backdrop of the sky that look out of character with the vast extent of open water.	Large	OCS-A 0487 OCS-A 0500	Large	Size and scale in relation to existing conditions along with percentage of visibility.	**Large**	Intact seascape and prominence of WTGs in close proximity, although no viewers.	**Major**
NL01	Nomans Land Island NWR – Sunset *(not occupied)*	SCA	West-Southwest	42.1	Yes	VTL6	8.7/7.6	165	Sunset illumination and backlighting influences change.	Large	OCS-A 0487 OCS-A 0500	Large	Backlighting of WTGs, increased visibility.	**Large**	Intact seascape and prominence of WTGs, although no viewers; backlighting of WTGs and OSS.	**Major**

Note: Nighttime impacts would be reduced to negligible, as described in EIS Table 3.3-2 (Definitions of Potential Adverse Impact Levels), when FAA warning lights are not activated though the use of ADLS.

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Literature Cited

Environmental Design and Research, Landscape Architecture, Engineering and Environmental Services, D.P.C. (EDR). 2023. *Visual Impact Assessment Revolution Wind Farm*. Appendix U3 in *Construction & Operations Plan Revolution Wind Farm*. Syracuse, New York: EDR.

Sullivan, R.G. 2021. *Methodology for Assessment of Seascape, Landscape, and Visual Impacts of Offshore Wind Energy Developments on the Outer Continental Shelf of the United States.* OCS Study BOEM 2021-032. Washington, D.C.: U.S. Department of the Interior, Bureau of Ocean Energy Management.

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APPENDIX H

List of Agencies, Organizations, and Persons to Whom Copies of the Statement Are Sent

Contents

Tables

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List of Agencies, Organizations, and Persons to Whom Copies of the Statement Are Sent

Table H-1. Federal Agencies

Cooperating Federal Agencies	Contact	Location
Bureau of Safety and Environmental Enforcement	Cheri Hunter (571) 474-6969 cheri.hunter@bsee.gov	Sterling, Virginia
National Oceanic and Atmospheric Administration	Sue Tuxbury (978) 281-9176 susan.tuxbury@noaa.gov	Gloucester, Massachusetts
U.S. Army Corps of Engineers, New England District	Christine Jacek (978) 318-8026 (978) 578-7548 christine.m.jacek@usace.army.mil	Concord, Massachusetts
U.S. Coast Guard	George Detweiler (202) 372-1566 George.H.Detweiler@uscg.mil	Washington, D.C.
U.S. Environmental Protection Agency	Timothy Timmermann (617) 918-1025 Timmermann.Timothy@epa.gov	Boston, Massachusetts
Participating Federal Agencies	**Contact**	**Location**
Advisory Council on Historic Preservation	Chris Daniel (202) 517-0223 cdaniel@achp.gov	Washington, D.C.
Federal Aviation Administration	Cindy Whitten (816) 329-2528 Cindy.whitten@faa.gov	Washington, D.C.
National Park Service	Mary Krueger (978) 342-2719 Mary_C_Krueger@nps.gov	Fitchburg, Massachusetts
U.S. Department of Defense	Terry Bowers (703) 693-9447 (571) 232-2482 terry.l.bowers14.civ@mail.mil	New Alexandria, Virginia
U.S. Department of the Navy	Matthew Senska (703) 614-2201 Matthew.senska@navy.mil	Washington, D.C.
U.S. Fish and Wildlife Service	Jane Ledwin (703) 358-2585 Jane_Ledwin@fws.gov	Falls Church, Virginia

Table H-2. State and Local Agencies or Other Interested Parties

Agency	Contact	Location
Commonwealth of Massachusetts; Massachusetts Office of Coastal Zone Management	Lisa Engler (617) 626-1230 lisa.engler@state.ma.us	Boston, Massachusetts
Rhode Island Coastal Resources Management Council	Jeffrey Willis (401) 783-3370 jwillis@crmc.ri.gov	Wakefield, Rhode Island
State of Rhode Island; Rhode Island Department of Environmental Management	Terry Gray (401) 222-2771 terry.gray@dem.ri.gov	Providence, Rhode Island
Connecticut State Historic Preservation Office, Connecticut Department of Economic and Community Development	Mary Dunne (860) 500-2356 mary.dunne@ct.gov	Hartford, Connecticut
Rhode Island Historical Preservation & Heritage Commission	Jeffery Emidy (401) 222-4134 jeffrey.emidy@preservation.ri.gov	Providence, Rhode Island
New York State Division for Historic Preservation	Tim Lloyd (518) 268-2186 timothy.lloyd@parks.ny.gov	Waterford, New York
Massachusetts Historical Commission	Brona Simon (617) 727-2816 brona.simon@sec.state.ma.us	Boston, Massachusetts

Table H-3. Tribes

Tribes and Native Organizations	Location
Delaware Nation	Anadarko, Oklahoma
Delaware Tribe of Indians	Bartlesville, Oklahoma
Mashantucket (Western) Pequot Tribal Nation	Mashantucket, Connecticut
Mashpee Wampanoag Tribe	Mashpee, Massachusetts
Mohegan Tribe of Indians of Connecticut	Uncasville, Connecticut
Narragansett Indian Tribe	Charlestown, Rhode Island
Shinnecock Indian Tribe	Southampton, New York
Wampanoag Tribe of Gay Head (Aquinnah)	Aquinnah, Massachusetts

APPENDIX I

Other Impacts

Contents

Tables

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Unavoidable Adverse Impacts of the Proposed Action

Table I-1 summarizes unavoidable adverse impacts for each resource analyzed in the Revolution Wind Farm and Revolution Wind Export Cable Project (the Project) environmental impact statement (EIS). These impacts are subject to applicable environmental protection measures (EPMs) (see Table F-1 in Appendix F). Table I-1 does not include potential additional mitigation measures that could avoid or further minimize or mitigate Project impacts. Please see the individual resource discussions in Chapter 3 for detailed analyses.

Table I-1. Potential Unavoidable Adverse Impacts of the Action Alternatives by Resource

Resource Area	Potential Unavoidable Adverse Impacts of the Action Alternatives
Air quality	• Impacts from emissions from engines associated with vessel traffic, construction activities, equipment operation, and decommissioning activities
Bats	• Displacement and avoidance behavior due to habitat loss and alteration, equipment noise, and vessel traffic • Individual mortality due to collisions with operating wind turbine generator (WTGs)
Benthic habitat and invertebrates	• Increase in suspended sediments and resulting effects due to seafloor disturbance • Habitat quality impacts, including reduction in habitat as a result of seafloor surface alterations • Displacement, disturbance, and avoidance behavior due to habitat loss and alteration, equipment noise, vessel traffic, increased turbidity, sediment deposition, and electromagnetic fields (EMFs) • Individual mortality due to construction and installation, operations and maintenance (O&M), and decommissioning • Conversion of soft-bottom habitat to new hard-bottom habitat
Birds	• Displacement and avoidance behavior due to habitat loss and alteration, lighting, equipment noise, and vessel traffic • Individual mortality due to collisions with operating WTGs
Coastal habitats and fauna	• Displacement and avoidance behavior from habitat loss and alteration and equipment noise • Individual mortality from collisions with vehicles or construction equipment • Short-term habitat alteration and increased invasive species risk
Commercial fisheries and for-hire recreational fishing	• Disruption to access or temporary restriction in port access or harvesting activities due to construction of offshore Project elements • Disruption to harvesting activities during operations of offshore wind facility • Changes in vessel transit and fishing patterns • Changes in risk of gear entanglement or target species
Cultural resources	• Impacts to unidentified or undefined submerged marine resources from Project construction and installation, O&M, and decommissioning Impacts to terrestrial cultural resources and the viewshed from Project construction and installation and O&M • Visual impacts to onshore cultural resources

Resource Area	**Potential Unavoidable Adverse Impacts of the Action Alternatives**
Demographics, employment, and economics	• Disruption of commercial fishing, for-hire recreational fishing, and marine recreational businesses during offshore construction and cable installation • Hindrances to ocean economy sectors due to the presence of the offshore wind facility, including commercial fishing, recreational fishing, sailing, sightseeing, and supporting businesses
Environmental justice	• Changes to air quality, water quality, land use and coastal infrastructure, and commercial fisheries and for-hire recreational fishing that are disproportionately borne by minority or low-income populations from Project construction and installation, O&M, and decommissioning
Finfish and essential fish habitat	• Increase in suspended sediments and resulting effects due to seafloor disturbance • Habitat quality impacts, including a reduction in habitat as a result of seafloor surface alterations • Displacement, disturbance, and avoidance behavior due to habitat loss and alteration, equipment noise, vessel traffic, increased turbidity, sediment deposition, and EMFs • Individual mortality due to construction and installation, O&M, and decommissioning • Conversion of soft-bottom habitat to new hard-bottom habitat (for some species)
Land use and coastal infrastructure	• Land use disturbance due to construction as well as effects due to noise, vibration, and travel delays
Marine mammals	• Displacement, disturbance, and avoidance behavior due to habitat loss and alteration, equipment noise, vessel traffic, increased turbidity, and sediment deposition during construction and installation and O&M • Temporary loss of current ambient acoustic habitat and increased potential for vessel strikes
Navigation and vessel traffic	• Changes in vessel transit patterns • Increased navigational complexity and allision risk within the offshore wind farm area
Other marine uses	• Changes in access to marine mineral resource, and cable placement • Disruption of scientific surveys, radar systems, military, and aviation traffic
Recreation and tourism	• Disruption of coastal recreation activities during onshore construction, such as beach access • Viewshed effects from the WTGs altering enjoyment of marine and coastal recreation and tourism activities • Disruption to access or temporary restriction of in-water recreational activities from construction of offshore Project elements • Hindrances to some types of recreational fishing from the WTGs during operation
Sea turtles	• Disturbance, displacement, and avoidance behavior due to habitat loss and alteration, equipment noise, vessel traffic, increased turbidity, sediment deposition, and EMFs
Visual resources	• Change in scenic quality of landscape and seascape
Water quality	• Increase in erosion, turbidity and sediment resuspension, and inadvertent spills during construction and installation, O&M, and decommissioning
Wetlands and non-tidal waters	• Increase in soil erosion, sedimentation, and discharges and releases from land disturbance during construction and installation, O&M, and decommissioning

Irreversible and Irretrievable Commitment of Resources

Irreversible commitments of resources are those that cannot be regained, such as the extinction of a species or the removal of mined ore. Irretrievable commitments are those that are lost for a period of time, such as the short-term loss of timber productivity in forested areas that are kept clear for a power line or a road. Table I-2 summarizes irreversible or irretrievable impacts for each resource analyzed in the EIS, subject to applicable EPMs. Table I-2 does not include potential additional mitigation measures that could avoid or further minimize or mitigate Project impacts. Chapter 3 provides a detailed discussion of effects associated with the Project.

Table I-2. Irreversible and Irretrievable Commitment of Resources by Resource Area for the Proposed Action

Resource Area	Irreversible Impacts	Irretrievable Impacts	Explanation
Air quality	No	No	The Bureau of Ocean Energy Management (BOEM) expects air emissions to be in compliance with permits regulating air quality standards, and emissions would be temporary during construction activities. If the Proposed Action displaces fossil fuel energy generation, overall improvement of air quality would be expected.
Bats	No	No	Irreversible impacts on bats could occur if one or more individuals were injured or killed; however, implementation of mitigation measures developed in consultation with the U.S. Fish and Wildlife Service (USFWS) would reduce or eliminate the potential for such impacts. Decommissioning of the Project would reverse the impacts of bat displacement from foraging habitat.
Benthic habitat and invertebrates	No	No	Although local mortality could occur, BOEM does not anticipate population-level impacts. The Project could alter habitat during construction and operations but could restore the habitat after decommissioning.
Birds	No	No	Irreversible impacts on birds could occur if one or more individuals were injured or killed; however, implementation of mitigation measures developed in consultation with the USFWS would reduce or eliminate the potential for such impacts. Decommissioning of the Project would reverse the impacts of bird displacement from foraging habitat.
Coastal habitats and fauna	No	No	Although local mortality could occur, BOEM does not anticipate population-level impacts on other coastal habitats or fauna. The Project could alter habitat during construction and operations but could restore the habitat after decommissioning.

Resource Area	Irreversible Impacts	Irretrievable Impacts	Explanation
Commercial fisheries and for-hire recreational fishing	No	Yes	Based on the anticipated duration of construction and installation and O&M, BOEM does not anticipate impacts on commercial fisheries to be irreversible. The Project could alter habitat during construction and operations, limit access to fishing areas during construction, or reduce vessel maneuverability during operations. However, decommissioning of the Project would reverse those impacts. Irretrievable impacts (lost revenue) could occur due to the loss of use of fishing areas at an individual level.
Cultural resources	Yes	Yes	Although unlikely, unanticipated removal or disturbance of previously unidentified cultural resources onshore and offshore could result in irreversible or irretrievable impacts.
Demographics, employment, and economics	No	No	Based on the anticipated duration of construction and installation and O&M, BOEM does not anticipate that contractor needs, housing needs, and supply requirements would lead to an irretrievable loss of workers for other projects or increase housing and supply costs.
Environmental justice	No	No	Potential environmental justice impacts, if any, would be short term and localized.
Finfish and essential fish habitat	No	No	Although local mortality could occur, BOEM does not anticipate population-level impacts. The Project could alter habitat during construction and operations but could restore the habitat after decommissioning.
Land use and coastal infrastructure	Yes	Yes	Land use required for construction and operations activities, such as the land proposed for the interconnection facility, could result in a minor irreversible impact. Construction activities could result in a minor irretrievable impact due to the temporary loss of use of the land for otherwise typical activities. Onshore facilities may or may not be decommissioned.
Marine mammals	No	Yes	Irreversible impacts on marine mammals could occur if one or more individuals of species listed under the Endangered Species Act (ESA) were injured or killed; however, NMFS consultation mitigation measures would reduce or eliminate the potential for such impacts on listed species. Irretrievable impacts could occur if individuals or populations grow more slowly as a result of displacement from the Lease Area.
Navigation and vessel traffic	No	Yes	Based on the anticipated duration of construction and installation and O&M, BOEM does not anticipate impacts on vessel traffic to result in irreversible impacts. Irretrievable impacts could occur due to changes in transit routes, which could be less efficient during the life of the Project.
Other marine uses	No	Yes	BOEM does not anticipate the potential impacts to be irreversible; however, disruption of offshore scientific research and surveys would occur during proposed Project construction, operations, and decommissioning activities.

Resource Area	Irreversible Impacts	Irretrievable Impacts	Explanation
Recreation and tourism	No	No	Construction activities near the shore could result in a minor temporary loss of use of the land for recreation and tourism purposes, but these impacts would not be irreversible or irretrievable.
Sea turtles	No	Yes	Irreversible impacts on sea turtles could occur if one or more individuals of species listed under the ESA were injured or killed; however, NMFS consultation mitigation measures would reduce or eliminate the potential for impacts on listed species. Irretrievable impacts could occur if individuals or populations grow more slowly as a result of displacement from the Lease Area.
Visual resources	No	Yes	Viewshed changes would persist for the life of the Project, until decommissioning is complete.
Water quality	No	No	BOEM does not expect activities to cause loss of or major impacts on existing inland waterbodies or wetlands. Turbidity and other water quality impacts in the marine and coastal environment would be short term, with the rare exception of a major spill.
Wetlands and non-tidal waters	No	No	BOEM does not expect activities to cause loss of or major impacts on existing wetlands or other non-tidal waters.

Relationship between the Short-Term Use of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity

The Council on Environmental Quality's National Environmental Policy Act implementing regulations (40 CFR 1502.16) require that an EIS address the relationship between short-term use of the environment and the potential impacts of such use on the maintenance and enhancement of long-term productivity. Such impacts could occur as a result of a reduction in the flexibility to pursue other options in the future, or assignment of a specific area (land or marine) or resource to a certain use that would not allow other marine uses, particularly beneficial uses, to occur at a later date. An important consideration when analyzing such effects is whether the short-term environmental effects of the action would result in detrimental effects to long-term productivity of the affected areas or resources.

As assessed in EIS Chapter 3, BOEM anticipates that most of the potential adverse effects associated with the Proposed Action would occur during construction activities and would be temporary and minor or moderate. Table I-1 and Table I-2 identify unavoidable, irretrievable, or irreversible impacts that would be associated with the Project. However, the Bureau of Ocean Energy Management (BOEM) expects most of the marine and onshore environments to return to normal long-term productivity levels after Project decommissioning. Based on these findings, BOEM also anticipates that the Proposed Action would not result in impacts that would significantly narrow the range of future uses of the environment.

Additionally, the Project would provide the following long-term benefits:

- Promotion of clean and safe development of domestic energy sources and clean energy job creation
- Promotion of renewable energy to help ensure geopolitical security; combat climate change; and provide electricity that is affordable, reliable, safe, secure, and clean
- Delivery of power to the New England region to contribute to Connecticut's and Rhode Island's renewable energy goals
- Increased habitat for certain fish species