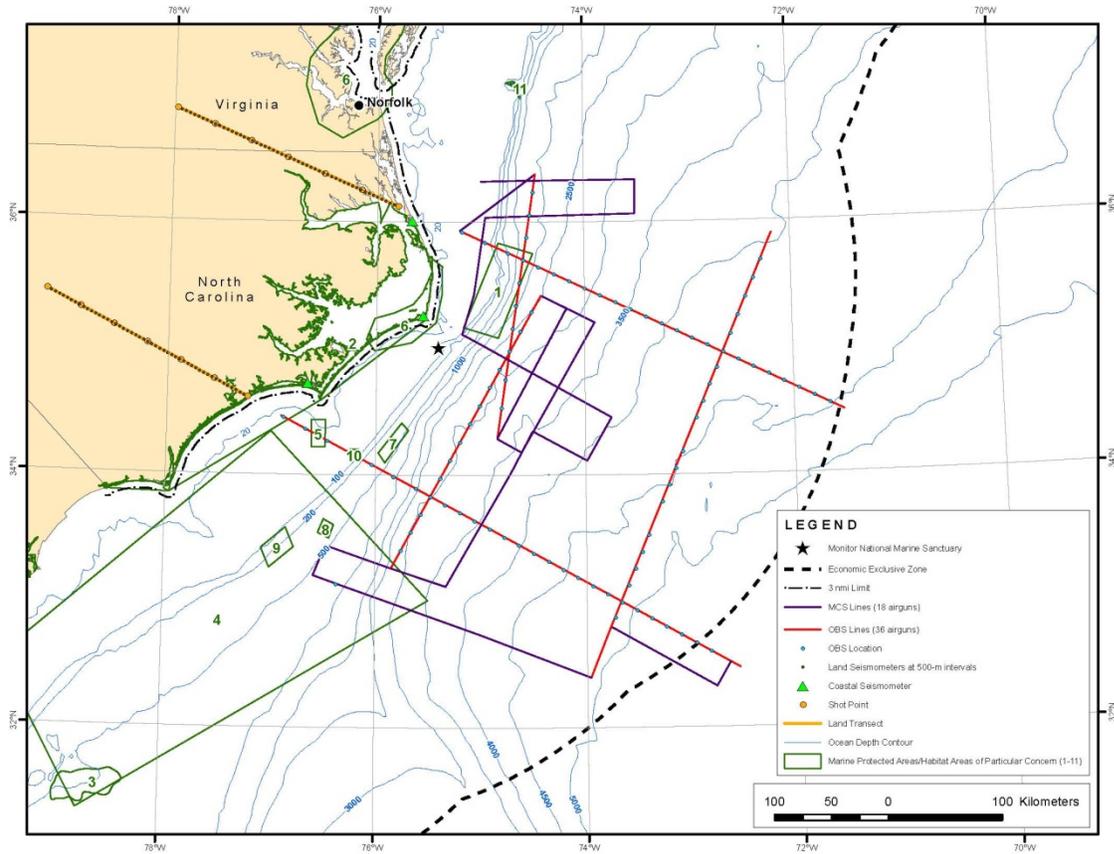


Addendum

Takes of Marine Mammals Incidental to Specified Activities;
Marine Geophysical Survey in the
Northwest Atlantic Ocean offshore North Carolina,
September to October 2014

Figure 1 - Proposed location of the seismic survey in the Atlantic Ocean offshore Cape Hatteras, NC during September through October, 2014¹.



¹ This figure represents modifications to the tracklines as proposed by Lamont-Doherty in Figure 1 of their application. Modifications based on recommendations from NMFS to reduce the total ensounded area to effect the least practicable adverse impact.

Revised Take Table as of July 25, 2014. Densities and estimates of the possible numbers of individuals that could be exposed to ≥ 160 dB re 1 $\mu\text{Pa}_{\text{rms}}$ during L-DEO's proposed seismic survey off Cape Hatteras during September–October 2014. The proposed sound source consists of a 36-airgun array with a total discharge volume of ~ 6600 in³ or an 18-airgun array with a total discharge volume of ~ 3300 in³. Species in italics are listed under the ESA.

Species/Stock	Reported density ¹ (#/1000 km ²) in depth range (m)			Ensonified area (1000 km ²) in depth range (m)			Calculated Take ² in depth range (m)				% Regional pop'n ³	Requested Level B Take Authorization
	<100	100-1000	>1000	<100	100-1000	>1000	<100	100-1000	>1000	All		
Mysticetes												
<i>North Atlantic right whale</i>	0	0	0	9.74	4.07	27.36	0	0	0	0	0	0
<i>Humpback whale</i>	0.73	0.56	1.06	9.74	4.07	27.36	7	2	29	38	0.33	38
Minke whale	0.03	0.02	0.04	9.74	4.07	27.36	0	0	1	1	0.01	1
<i>Sei whale</i>	0	0	0	9.74	4.07	27.36	0	0	0	0	0	0
<i>Fin whale</i>	<0.01	0.01	0.01	9.74	4.07	27.36	0	0	0	0	<0.01	1
<i>Blue whale</i>	0	0	0	9.74	4.07	27.36	0	0	0	0	0	0
Odontocetes												
<i>Sperm whale</i>	0.03	0.68	3.23	9.74	4.07	27.36	0	3	88	91	0.69	91
Pygmy/dwarf sperm whale	0.64	0.49	0.93	9.74	4.07	27.36	6	2	25	33	0.88	33
Beaked whales ⁴	0.01	0.14	0.58	9.74	4.07	27.36	0	1	16	17	0.12	17
Rough-toothed dolphin	0.30	0.23	0.44	9.74	4.07	27.36	3	1	12	16	5.88	16
Bottlenose dolphin/O ⁵	70.4	331.0	49.4	9.74	4.07	27.36	685	1346	1352	3383	4.36	3383
Bottlenose dolphin/SCM ⁵	70.4	0	0	9.74	0	0	685	0	0	685	7.47	685
Bottlenose dolphin/NNCE ⁵	70.4	0	0	0.01	0	0	1	0	0	1	0.08	1
Bottlenose dolphin/SNCE ⁵	70.4	0	0	0.01	0	0	1	0	0	1	0.42	1
Pantropical spotted dolphin	14.0	10.7	20.4	9.74	4.07	27.36	137	44	557	737	22.13	737
Atlantic spotted dolphin	216.5	99.7	77.4	9.74	4.07	27.36	2108	405	2119	4632	10.36	4632
Spinner dolphin ⁷	0	0	0	9.74	4.07	27.36	0	0	0	0	0	0
Striped dolphin	0	0.4	3.53	9.74	4.07	27.36	0	1	97	98	0.18	98
Clymene dolphin	6.70	5.12	9.73	9.74	4.07	27.36	65	21	266	352	N/A	352
Common dolphin	5.8	138.7	26.4	9.74	4.07	27.36	56	564	722	1343	0.77	1343
Atlantic white-sided dolphin	0	0	0	9.74	4.07	27.36	0	0	0	0	0	0
Fraser's dolphin ⁷	0	0	0	9.74	4.07	27.36	0	0	0	0	0	0
Risso's dolphin	1.18	4.28	2.15	9.74	4.07	27.36	12	17	59	88	0.48	88
Melon-headed whale ⁷	0	0	0	9.74	4.07	27.36	0	0	0	0	0	0
Pygmy killer whale ⁷	0	0	0	9.74	4.07	27.36	0	0	0	0	0	0
False killer whale ⁷	0	0	0	9.74	4.07	27.36	0	0	0	0	0	0
Killer whale ⁷	0	0	0	9.74	4.07	27.36	0	0	0	0	0	0
Pilot whale	3.74	58.9	19.1	9.74	4.07	27.36	36	239	523	799	0.10	799
Harbor porpoise	0	0	0	9.74	4.07	27.36	0	0	0	0	0	0

¹ Densities are the mean values for the depth stratum in the survey area, calculated from the SERDP model of Read et al. (2009)

² Calculated take is reported density multiplied by the 160-dB ensonified area; calculated take for the fin whale was 0.31 so requested take is 1.

³ Requested takes expressed as percentages of the larger regional populations, where available, for species that are at least partly pelagic; where not available (most odontocetes—see Table 3), SAR population estimates were used. This results in overestimates, particularly for the pantropical and Atlantic spotted dolphins, as SAR estimates are based on surveys only in U.S. waters rather than in their full ranges. N/A means not available

⁴ May include Cuvier's, True's, Gervais', or Blainville's beaked whales

⁵ O = Offshore, SCM = Southern Coastal Migratory, NNCE = Northern North Carolina Estuarine System, SNCE = Southern North Carolina Estuarine System

⁶ Area of waters <3 km from shore ensonified to ≥ 160 dB re 1 $\mu\text{Pa}_{\text{rms}}$

⁷ Atlantic waters not included in the SERDP model of Read et al. (2009), only Gulf of Mexico