

May 2017 Survey Report for New York Bight Whale Monitoring Aerial Surveys

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Prepared for:

Division of Marine Resources
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233

Prepared by:

Tetra Tech, Inc.
1999 Harrison St. Ste. 500
Oakland, CA 94612



and

Smultea Environmental Sciences, LLC.
PO Box 256
Preston, WA 98050



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ACRONYMS AND ABBREVIATIONS

hr	Hour
km	Kilometer
SE	Standard error

1.0 INTRODUCTION

Tetra Tech, Inc., in coordination with Smultea Environmental Sciences, LLC and Aspen Helicopters, Inc. (collectively, the “survey team”), is contracted by the New York State Department of Environmental Conservation (NYDEC), Division of Marine Resources to conduct 36 monthly line-transect aerial surveys focused on the six large whale species most likely to occur in the New York Bight. This survey report documents the survey effort and sightings from the May 2017 survey, representing the third of the 36 surveys scheduled to occur under this contract.

2.0 EFFORT

The May 2017 survey occurred from May 8 – 10, 2017. A total of five flights were conducted, representing a total of 20.3 hours in the air (i.e., from aircraft wheels up off the airport tarmac to wheels down on the tarmac for each flight). A total of 4,305 kilometers (km) were flown and included completion of 100 percent of the 15 transect lines. [Figure 1](#) shows the survey lines flown. [Table 1](#) presents the flight time durations and distances by effort type.

TABLE 1. FLIGHT TIME AND DISTANCE BY EFFORT TYPE DURING THE MAY 2017 SURVEY

Survey Dates	Hours (hh:mm) and Kilometers (km) by Type of Flight Effort										Total	
	Overland		Transit		Transect		Circling		Cross-Leg		hr	km
	hr	km	hr	km	hr	km	hr	km	hr	km		
May 08-10	0.92	202	4.53	1,059	12.00	2,508	1.85	333	1.00	203	20.30	4,305

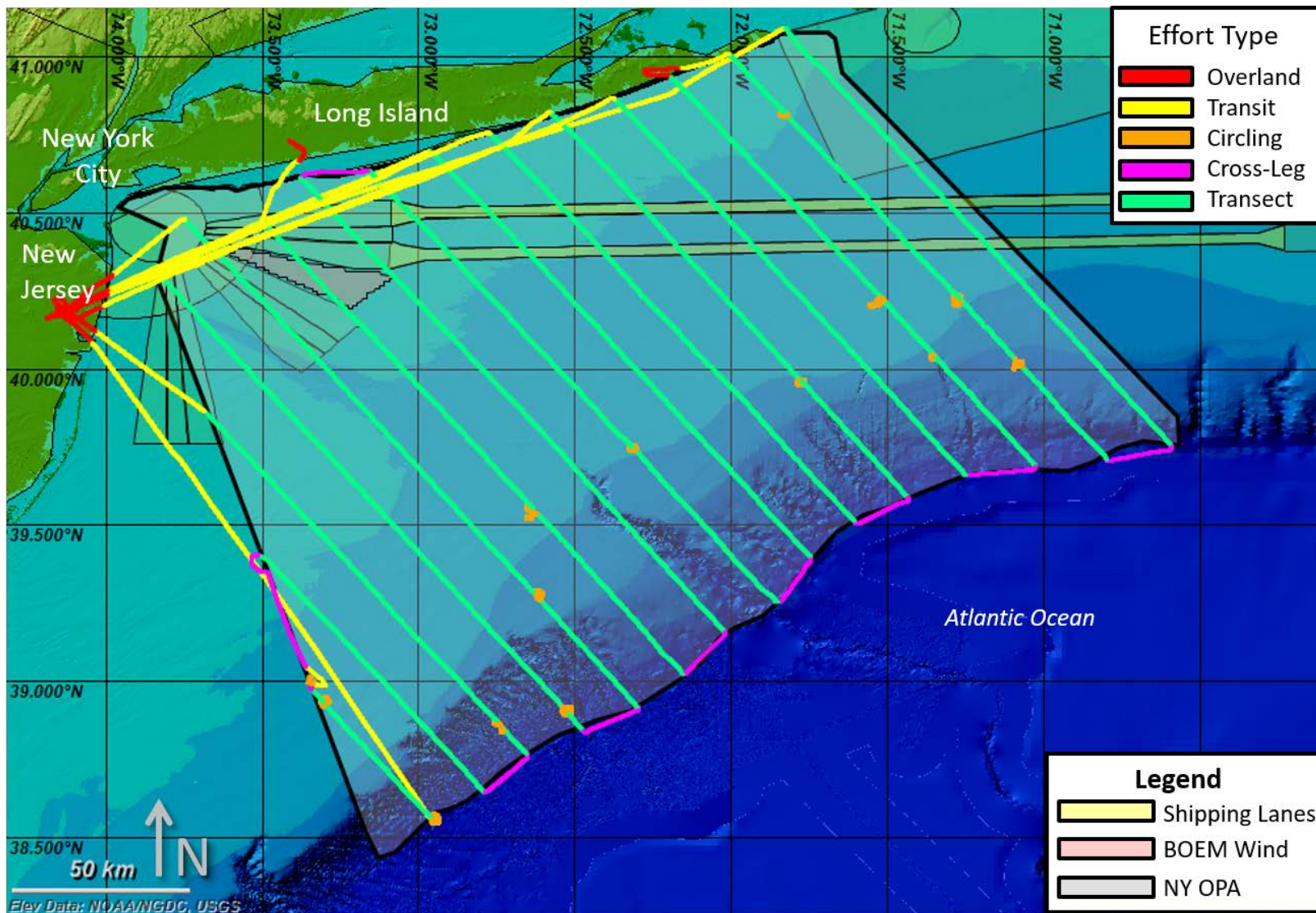


Figure 1. Survey Lines Flown by Effort Type During the May 2017 Survey

3.0 SIGHTINGS

Sightings are presented below based on the following subsections: (1) the six priority large whale species and unidentified whales, (2) other marine mammal sightings, (3) sea turtle sightings, (4) unusual or rare sightings, (5) sightings of dead, injured, stranded, or entangled marine mammals or sea turtles, and (6) other species/object sightings. [Figure 2](#) is a map of all large whale sighting locations and [Figure 3](#) is a map of all marine mammal and sea turtle sighting locations.

3.1 LARGE WHALE SIGHTINGS

A total of 15 sightings of an estimated 23 individual large whales were seen ([Table 2](#)). All of these sightings were identified to species. The most frequently seen whale was the fin whale, followed by the humpback whale. A total of nine groups comprising 16 individual fin whales were seen, followed by five groups (six individuals) of humpback whales and one single minke whale.

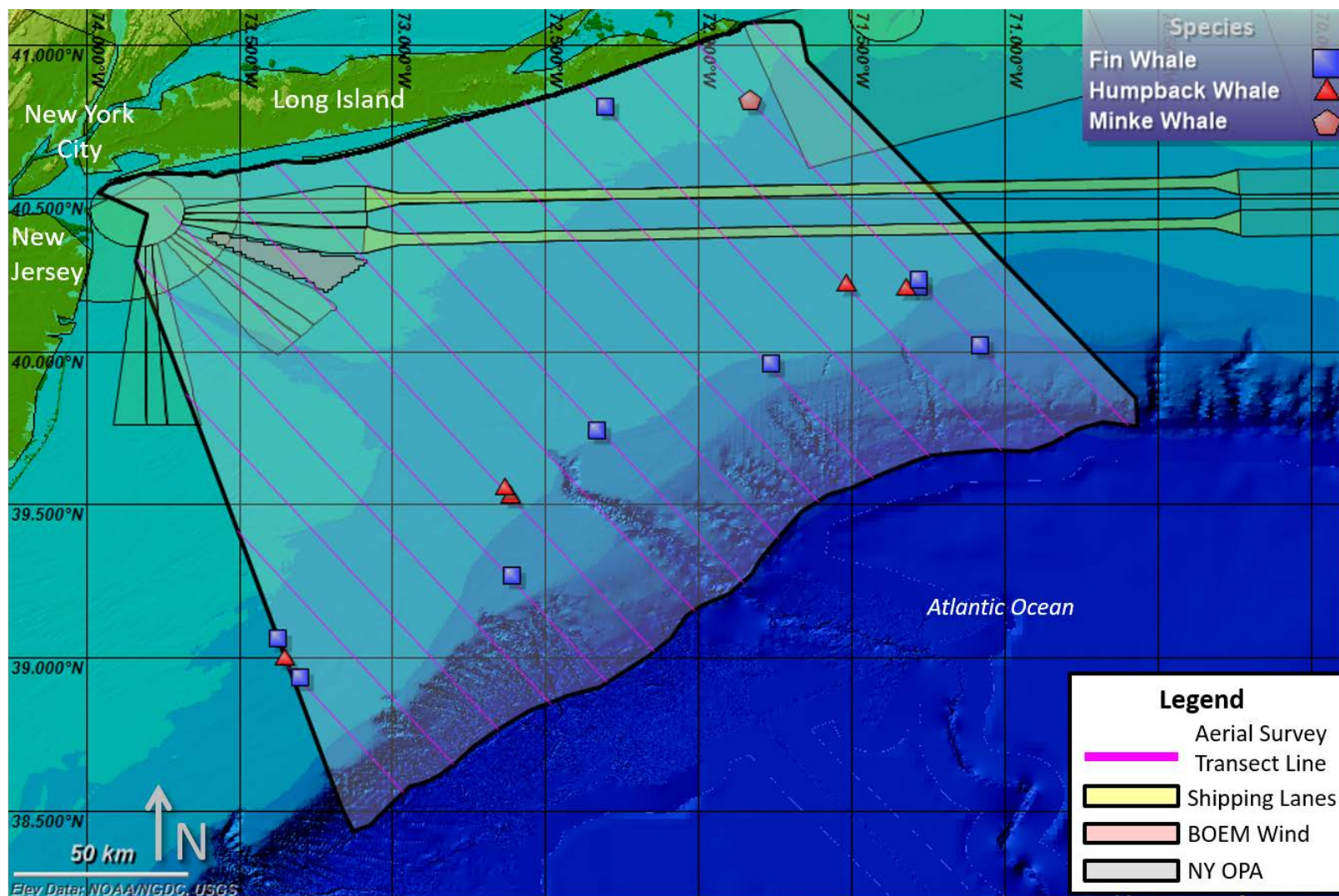


Figure 2. Locations of All Groups of Large Whales Sighted During the May 2017 Survey

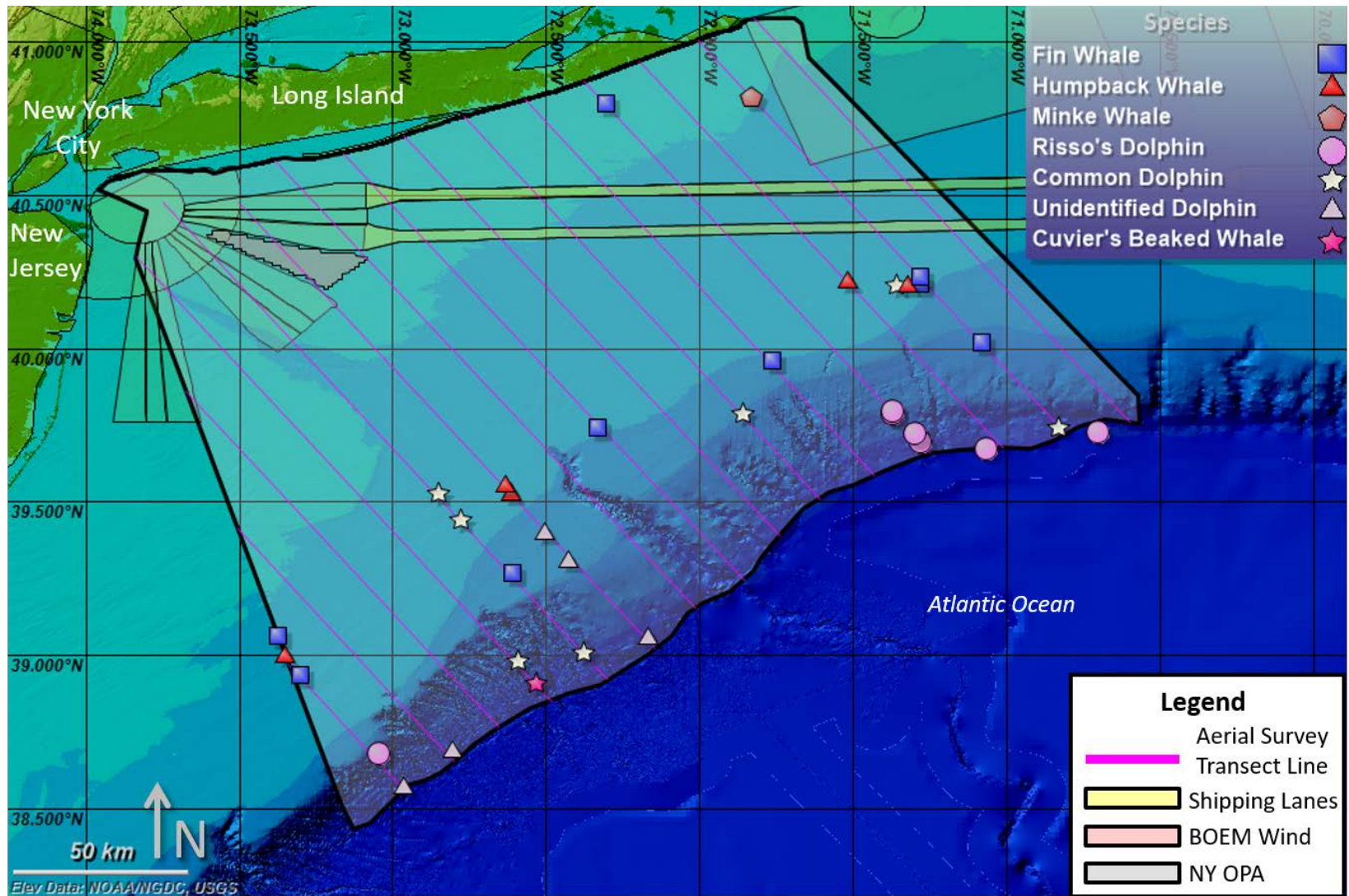


Figure 3. Locations of All Groups of Marine Mammals Sighted During the May 2017 Survey

TABLE 2. NUMBER OF THE LARGE WHALE SPECIES SIGHTED DURING THE MAY 2017 SURVEY

Common Name*	Scientific Name	Number of Groups	Total Number of Individuals	Mean Group Size (SE)
Blue Whale	<i>Balaenoptera musculus</i>	0	0	
Fin Whale	<i>B. physalus</i>	9	16	1.7 (0.43)
Humpback Whale	<i>Megaptera novaeangliae</i>	5	6	1.2 (0.20)
North Atlantic Right Whale	<i>Eubalaena glacialis</i>	0	0	
Minke Whale	<i>B. acutorostrata</i>	1	1	1 (0.00)
Sei Whale	<i>B. borealis</i>	0	0	
Sperm Whale	<i>Physeter macrocephalus</i>	0	0	
Unidentified Baleen Large Whale		0	0	
Total		15	23	

Notes:

*Listed in alphabetic order

SE = Standard error

3.2 OTHER MARINE MAMMAL SIGHTINGS

A minimum total of 20 sightings of an estimated 686 individual other marine mammals (all delphinids or cetaceans) were observed (Table 3). Of these sightings, 15 groups totaling 583 individuals were identified to species. The remaining 5 sightings (103 individuals) were of unidentified dolphins or cetaceans (note, in accordance with the project scope of work, dolphins were not circled to confirm species).

TABLE 3. OTHER MARINE MAMMAL SIGHTINGS DURING THE MAY 2017 SURVEY

Common Name*	Scientific Name	Number of Groups	Total Number of Individuals	Mean Group Size (SE)
Cuvier's Beaked Whale	<i>Ziphius cavirostris</i>	1	2	2 (0.00)
Common Dolphin	<i>Delphinus delphis</i>	7	566	80.9 (66.77)
Risso's Dolphin	<i>Grampus Griseus</i>	7	15	2.1 (0.81)
Unidentified Dolphin		5	103	20.6 (10.90)
Total		20	686	

Notes:

*Listed in alphabetic order

SE = Standard error

3.3 SEA TURTLE SIGHTINGS

There were no sea turtle sightings during this survey.

3.4 UNUSUAL OR RARE SIGHTINGS

Unusual or rare sightings included one group (two individuals) of Cuvier's beaked whales recorded.

3.5 STRANDING AND ENTANGLEMENT REPORTS

There were no sightings of dead, injured, stranded, or entangled marine mammals or sea turtles during this survey.

3.6 OTHER SIGHTINGS

In addition to those described above, there were three other types of non-marine mammal sightings. In order to focus observation efforts on searching for large priority whale species, details on these sightings were recorded opportunistically only into the voice recordings (e.g., time, estimated body length and coloration, behavior, group size). We used hot keys on the laptop running the software Mysticetus to mark the locations of these sightings when doing so would not interfere significantly with priority observation efforts (e.g., in areas where all sightings were relatively low). The sightings below consist of those for which locations were noted using the computer in the field; thus, they should be considered *minimum numbers* of sightings. Review of the voice recorder data would be required to fully enumerate these sightings and their locations (e.g., we orally recorded the time of these sightings, which could be merged with GPS in the future to determine locations).

- Minimum 17 (86 estimated individual) basking shark sightings
- Minimum 15 (17 estimated individual) unidentified shark sightings
- Minimum 13 (14 estimated individual) sunfish (*Mola mola*) sightings

4.0 PROBLEMS ENCOUNTERED

No problems were encountered during this survey.

5.0 PHOTOGRAPHS

The following photographs provide an overview of some of the sightings during this survey. Additional photographs will be included in the data deliverable.



Figure 4. Fin whale with basking sharks, photo credit: Kate Lomac-MacNair (Smultea Environmental Sciences)



Figure 5. Fin whales feeding with common dolphin, photo credit: Kate Lomac-MacNair (Smultea Environmental Sciences)



Figure 6. Four fin whales lunge feeding with common dolphin, photo credit: Kate Lomac-MacNair (Smultea Environmental Sciences)