

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

Contract No. C009926

April 2017

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 April 2017 survey, representing the second of the total 36 surveys scheduled to occur under this contract.

2.0 EFFORT

The April 2017 survey was scheduled to start on April 01, 2017; however, poor weather delayed the first flight until April 02, 2017. Flights thus occurred on April 02 and 03, 2017. A total of four flights were conducted (two on each day), representing a total of 16.73 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 3,621 kilometers (km) were flown and included completion of 100 percent of the 15 transect lines. The latter total included 2,502 km of the pre-determined systematic transect lines and 241 km of the shorter cross-leg (connector) lines connecting adjacent 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 APRIL 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
April 03-04	0.65	132	2.62	628	11.73	2,502	0.60	118	1.13	241	16.73	3,621

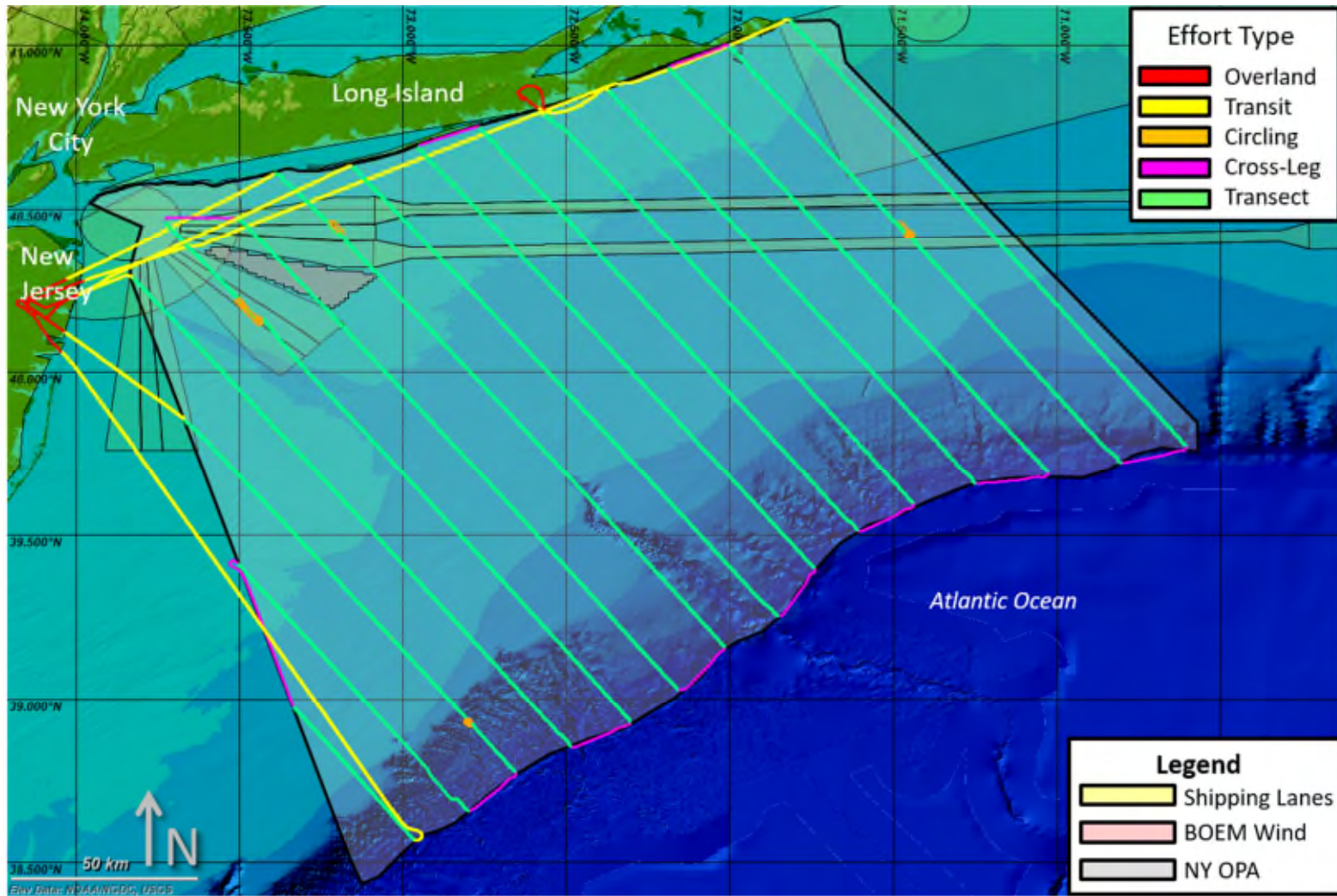


Figure 1. Survey Lines Flown by Effort Type During the April 2017 Survey

3.0 SIGHTINGS

Sightings are presented below based on the following subsections: (1) the six priority 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](#) presents a map of all marine mammal and sea turtle sighting locations.

3.1 WHALE SIGHTINGS

A total of five sightings of an estimated seven individual whales were seen ([Table 2](#)). Of these sightings, four groups totaling six individuals were identified to species. The remaining one sighting (one individual) was of an unidentified baleen large whale. Unidentified large baleen whale was not circled due to restricted airspace near JFK airport.

The most frequently seen whale identified to species was the North Atlantic right whale. A total of three groups comprising five individual North Atlantic right whales were seen. The sightings were reported to the New England Right Whale by telephone after landing and to Tetra Tech by email at the end of the survey day on which the animals were sighted.

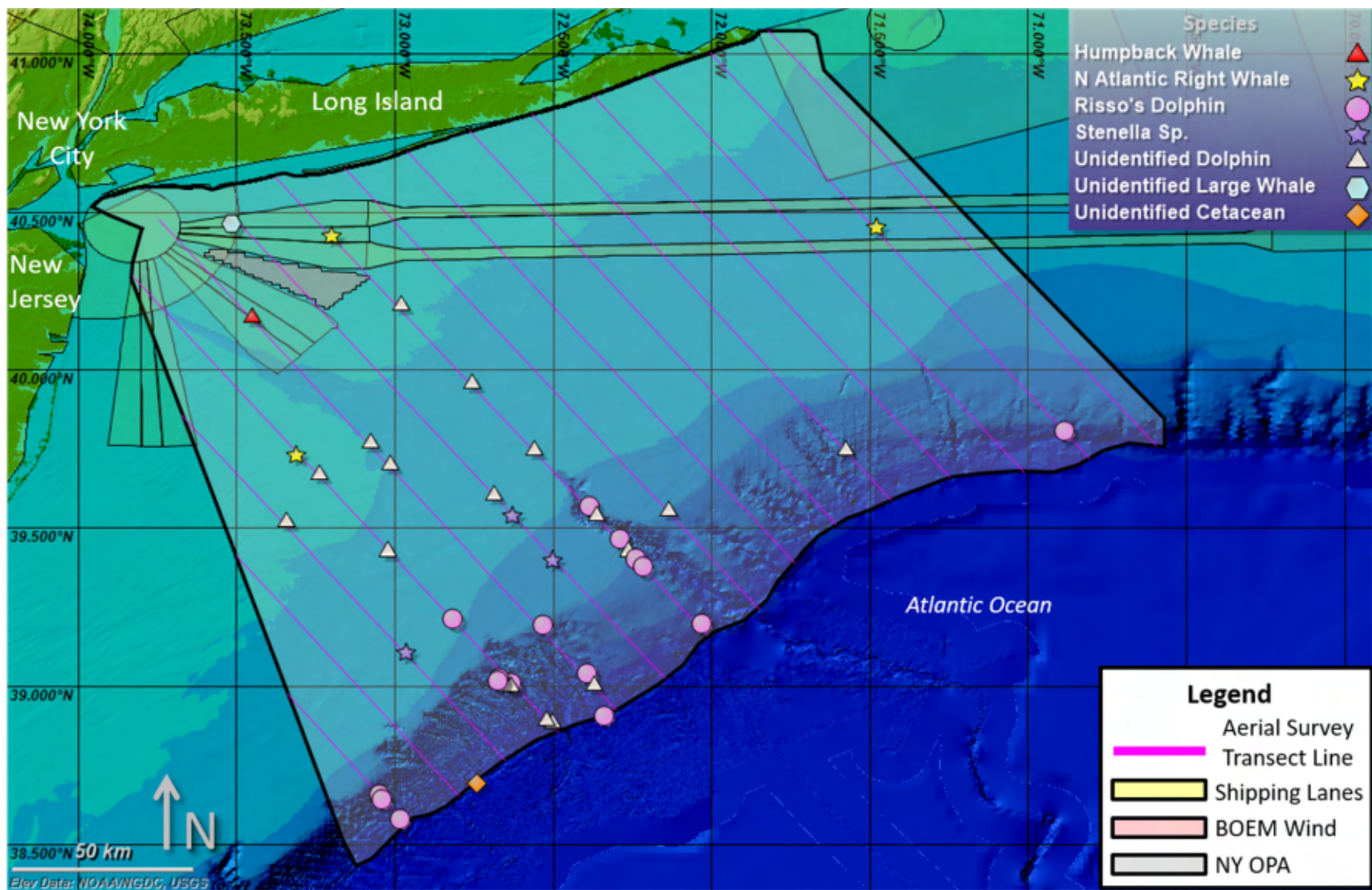


Figure 2. Locations of All Groups of Marine Mammals Sighted During the April 2017 Survey

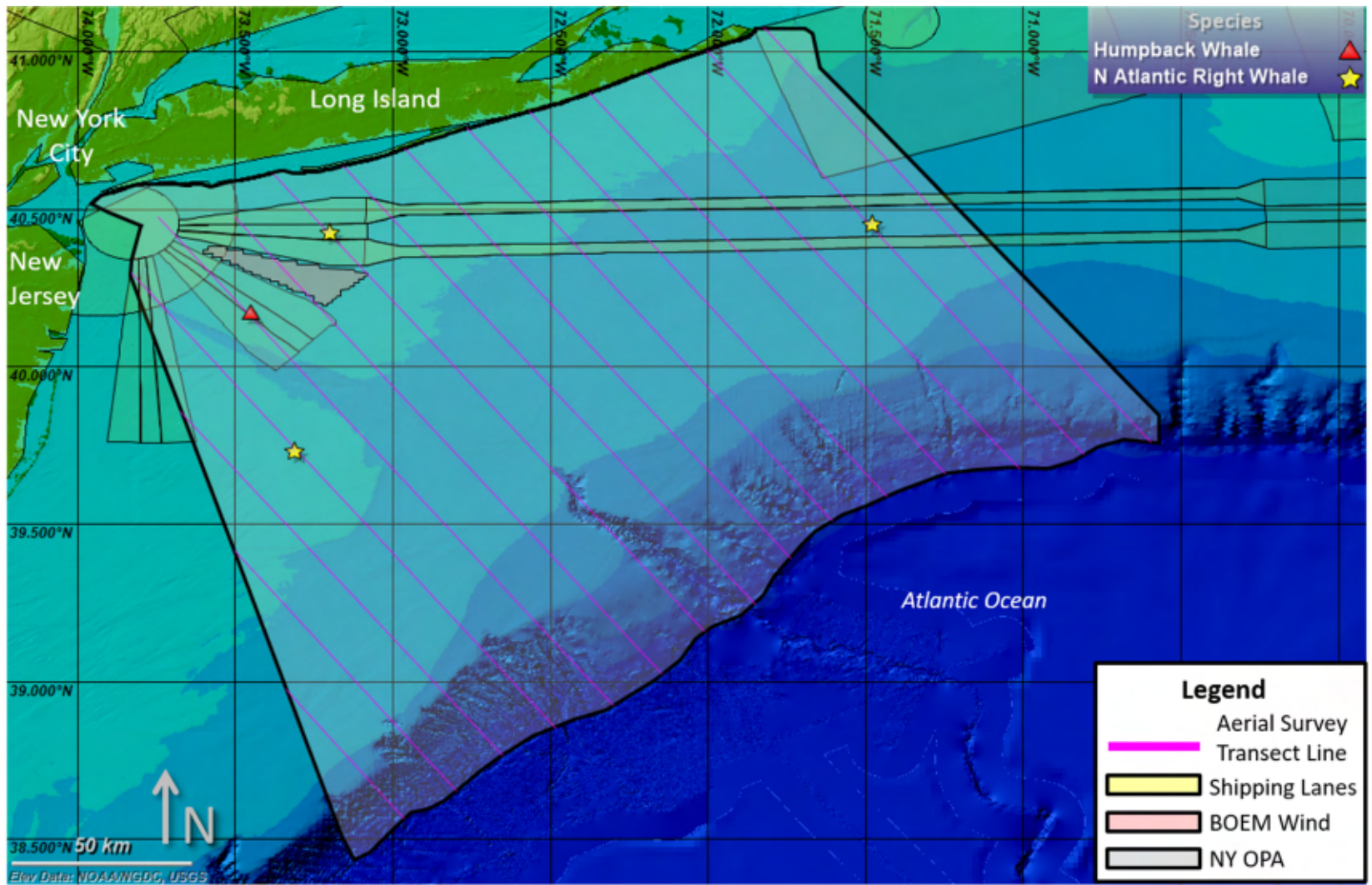


Figure 3. Locations of All Groups of Large Whales Sighted During the April 2017 Survey

TABLE 2. NUMBER OF THE SIX PRIORITY WHALE SPECIES SIGHTED DURING THE APRIL 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>	0	0	
Humpback Whale	<i>Megaptera novaeangliae</i>	1	1	1 (0.0)
North Atlantic Right Whale	<i>Eubalaena glacialis</i>	3	5	1.66 (0.33)
Minke Whale	<i>B. acutorostrata</i>	0	0	
Sei Whale	<i>B. borealis</i>	0	0	
Sperm Whale	<i>Physeter macrocephalus</i>	0	0	
Unidentified Baleen Large Whale		1	1	1 (0.0)
Total		5	7	

Notes:

*Listed in alphabetic order

SE = Standard error

3.2 OTHER MARINE MAMMAL SIGHTINGS

A total of 37 sightings of an estimated 349 individual other marine mammals (all delphinids or cetaceans) were observed (Table 3). Of these sightings, 19 groups totaling 173 individuals were identified to species. The remaining 18 sightings (176 individuals) were of unidentified dolphins or cetacean (note, in accordance with the project scope of work, dolphins were not circled to confirm species).

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

Common Name*	Scientific Name	Number of Groups	Total Number of Individuals	Mean Group Size (SE)
Risso's Dolphin	<i>Grampus Griseus</i>	16	135	8.44 (3.14)
Stenella sp.	<i>Stenella sp.</i>	3	38	12.6 (3.71)
Unidentified Dolphin		17	175	10.29 (4.65)
Unidentified Cetacean		1	1	
Total		37	349	

Notes:

*Listed in alphabetic order

SE = Standard error

3.3 SEA TURTLE SIGHTINGS

A total of five individual unidentified sea turtles were seen in five separate sightings spread out over an area of approximately 1 km in length. Due to their small size and because sea turtle sightings were not circled in accordance with the project scope of work, it was not possible to confirm sea turtle sightings to species (Figure 4).

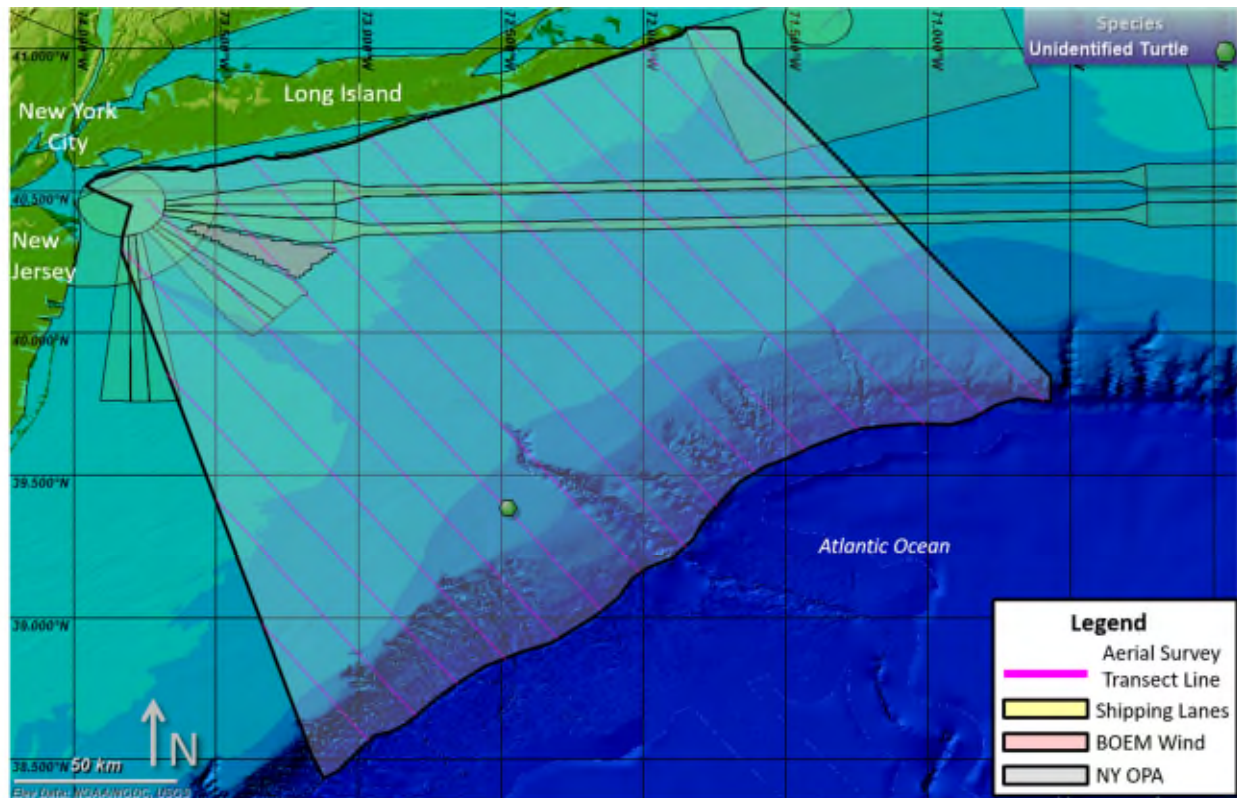


Figure 4. General Location of All Sea Turtle Sightings During the April 2017 Survey

3.4 UNUSUAL OR RARE SIGHTINGS

There were no confirmed unusual or rare sightings during this survey. However, a sighting of two large, light-gray unidentified sharks or sturgeons were circled and photographs were taken of this sighting while the pair of animals was underwater. This sighting was initially circled as the observer thought the sighting may have been small whales. Further examination of the photographs may reveal whether this sighting was of sharks or sturgeon.

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 five other types of non-marine mammal sightings. To not deter from focusing 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). Occasionally, however, 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 observation effort (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 7 shark sightings (primarily single sharks but also occasionally pairs of sharks)
- Minimum 4 fish schools (with individual fish ranging in size from small to larger fish [e.g., estimated body length approximately 0.2 to 1 m]).
- Minimum 3 sunfish (*Mola mola*)
- Numerous large jelly fish (estimated diameter up to approximately 2 m)
- Apparent algae blooms

4.0 PROBLEMS ENCOUNTERED

No problems were encountered during this survey.