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

Contract No. C009926

June 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

This report contains preliminary data. Information may change. Do not cite without permission from New York State Department of Environmental Conservation.

TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS ii

1.0 INTRODUCTION 1

2.0 EFFORT 1

3.0 SIGHTINGS 3

3.1 LARGE WHALE SIGHTINGS 3
3.2 OTHER MARINE MAMMAL SIGHTINGS 3
3.3 SEA TURTLE SIGHTINGS 5
3.4 UNUSUAL OR RARE SIGHTINGS 5
3.5 STRANDING AND ENTANGLEMENT REPORTS 5
3.6 OTHER SIGHTINGS 5

4.0 PROBLEMS ENCOUNTERED 6

5.0 PHOTOGRAPHS 6

FIGURES

Figure 1. Survey Lines Flown by Effort Type During the June 2017 Aerial Survey 2

Figure 2. Locations of All Groups of Marine Mammals Sighted During the June 2017 Survey 4

Figure 3. Location of Sea Turtle Sighted During the June 2017 Survey 5

TABLES

Table 1. Flight Time and Distance by Effort Type During the June 2017 Aerial Survey 1

Table 2. Other Marine Mammal Sightings During the May 2017 Survey 3

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 June survey, representing the fourth of the 36 surveys scheduled to occur under this contract.

2.0 EFFORT

The June 2017 survey occurred from June 16 – 21, 2017. A total of two flights were conducted, representing a total of 8.71 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 ~1,601 kilometers (km) were flown and included completion of 7 of the 15 transect lines. The survey was on standby for inclement weather (rain, fog, low visibility, and high winds) on June 16, 17 and morning of June 18. After flying on the afternoon of June 18 and on June 19, the project was further delayed due to plane mechanical malfunctions on June 20, 21 and 22.

Figure 1 shows the survey lines flown. Table 1 presents the flight time durations and distances by effort type. An unexpected loss of satellite signal resulted in a GPS error for the the cross-leg flight paths between Lines 2 and Line 3. Therefore, the cross legs on Figure 1 are not accurate as shown and underrepresent total distance flown (since the software program autofilled straight lines where no GPS data could be collected). Additional data post-processing will be performed using flight distance from the plane's GPS, and corrected information will be shown in the annual report.

TABLE 1. FLIGHT TIME AND DISTANCE BY EFFORT TYPE DURING THE JUNE 2017 AERIAL 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
June 16-21, 2017	0.30	59	1.63	279	6.13	1,116	0	0	0.65	147	8.71	1,601

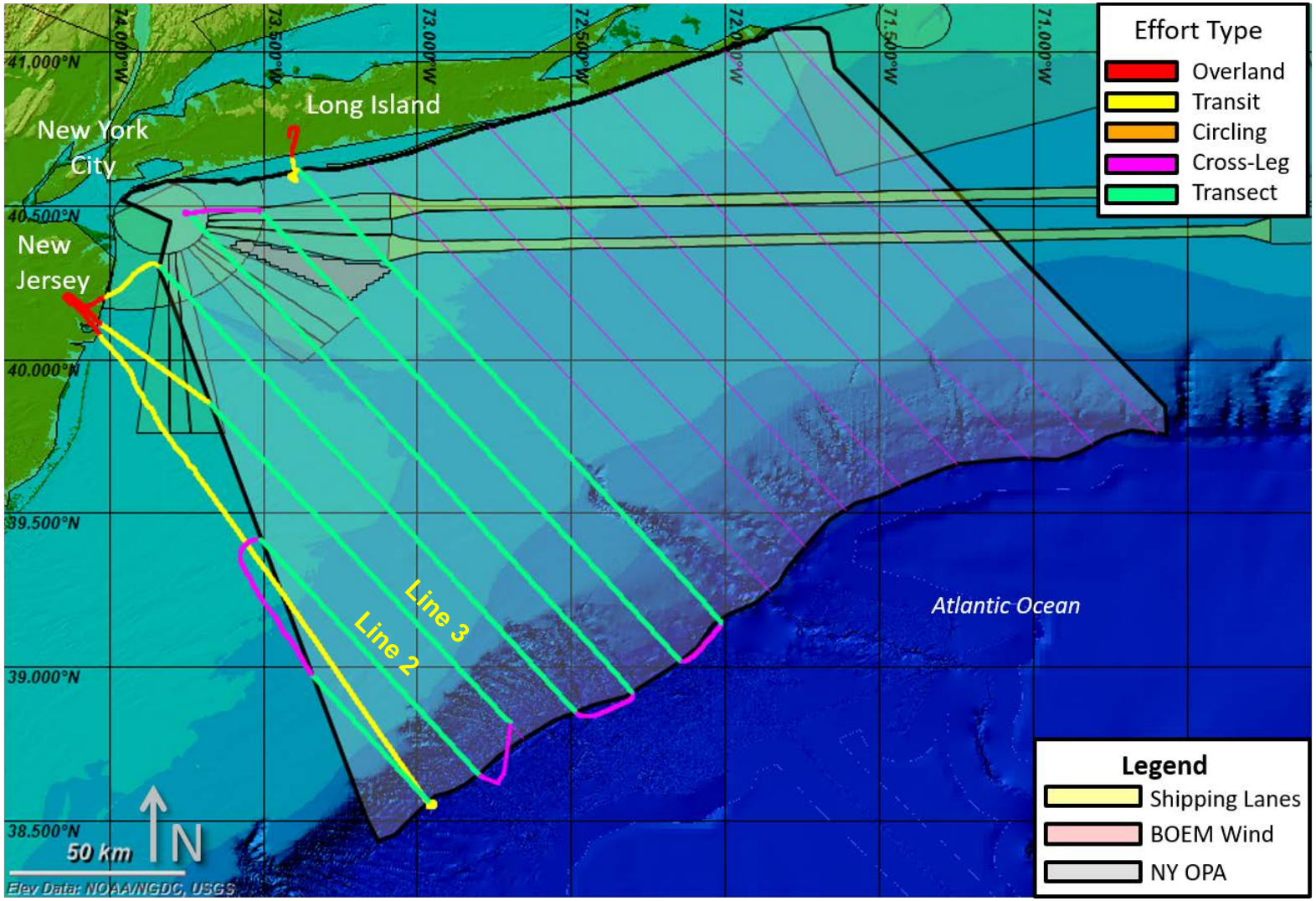

Figure 1. Survey Lines Flown by Effort Type During the June 2017 Aerial Survey

Lines 2 and 3 have an error in the cross leg flight path due to GPS malfunction that will be corrected prior to submission of the annual report.

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 marine mammal and sea turtle sighting locations.

3.1 LARGE WHALE SIGHTINGS

No large whales were observed during the June 2017 survey.

3.2 OTHER MARINE MAMMAL SIGHTINGS

Eight sightings of an estimated 479 individual other marine mammals (all odontocetes) were observed (Table 3). Of these sightings, five groups totaling 84 individuals were identified to species. The remaining three sightings (395 individuals) were of unidentified dolphins (note, in accordance with the project scope of work, dolphins were not circled to confirm species).

TABLE 2. OTHER MARINE MAMMAL SIGHTINGS DURING THE MAY 2017 SURVEY

Common Name*	Scientific Name	Number of Groups	Total Estimated Number of Individuals	Mean Group Size (SE)
Common Dolphin	*Delphinus delphis*	2	70	35.0 (10.0)
Risso's Dolphin	*Grampus Griseus*	3	14	4.7 (1.3)
Unidentified Dolphin	Delphinidae sp.	3	395	131.7 (85.2)
Total		**8**	**479**	

Notes:

*Listed in alphabetic order

SE = Standard error

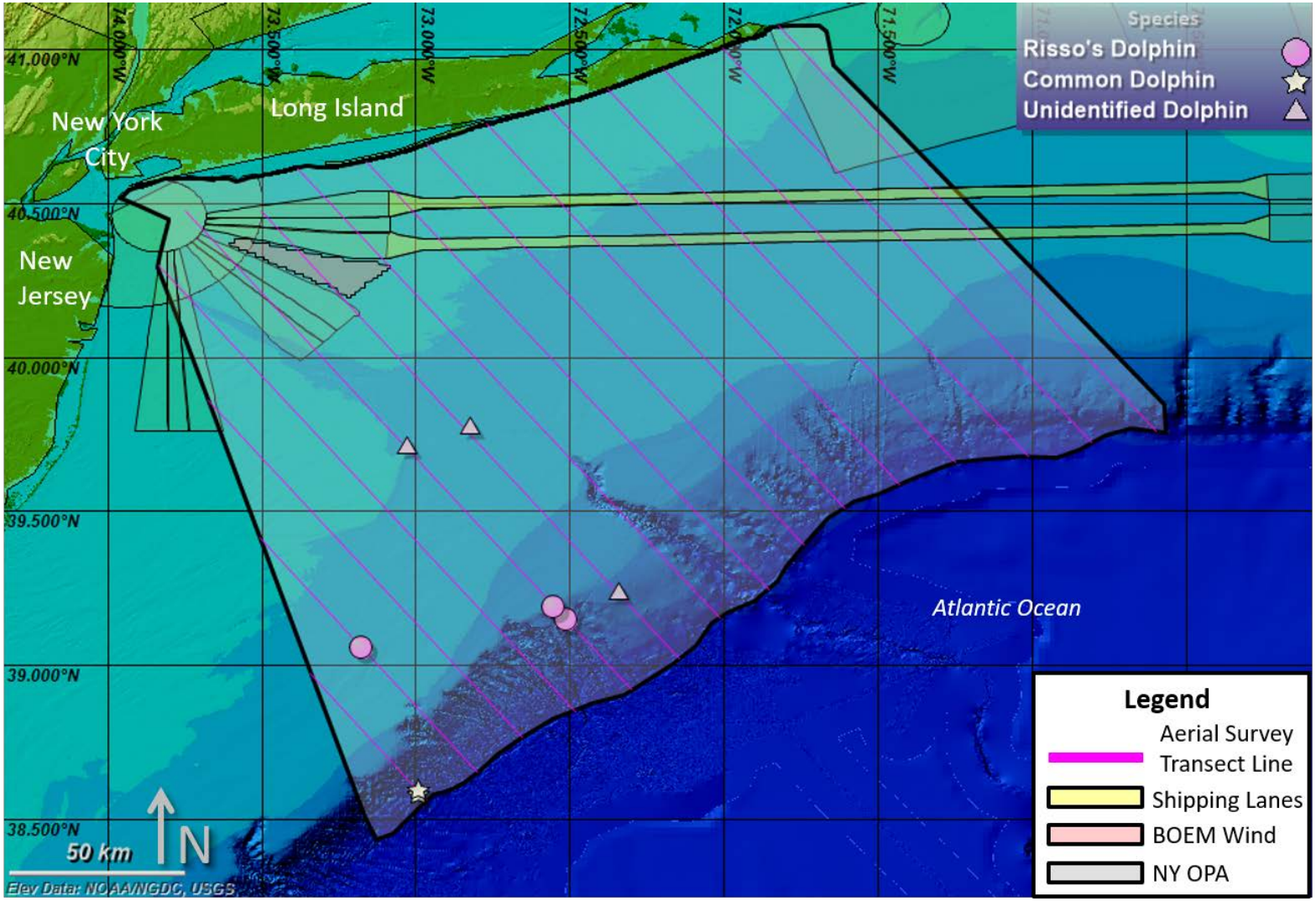

Figure 2. Locations of All Groups of Marine Mammals Sighted During the June 2017 Survey

3.3 SEA TURTLE SIGHTINGS

There was one sea turtle sighting (species unidentified) during this survey (Figure 3).

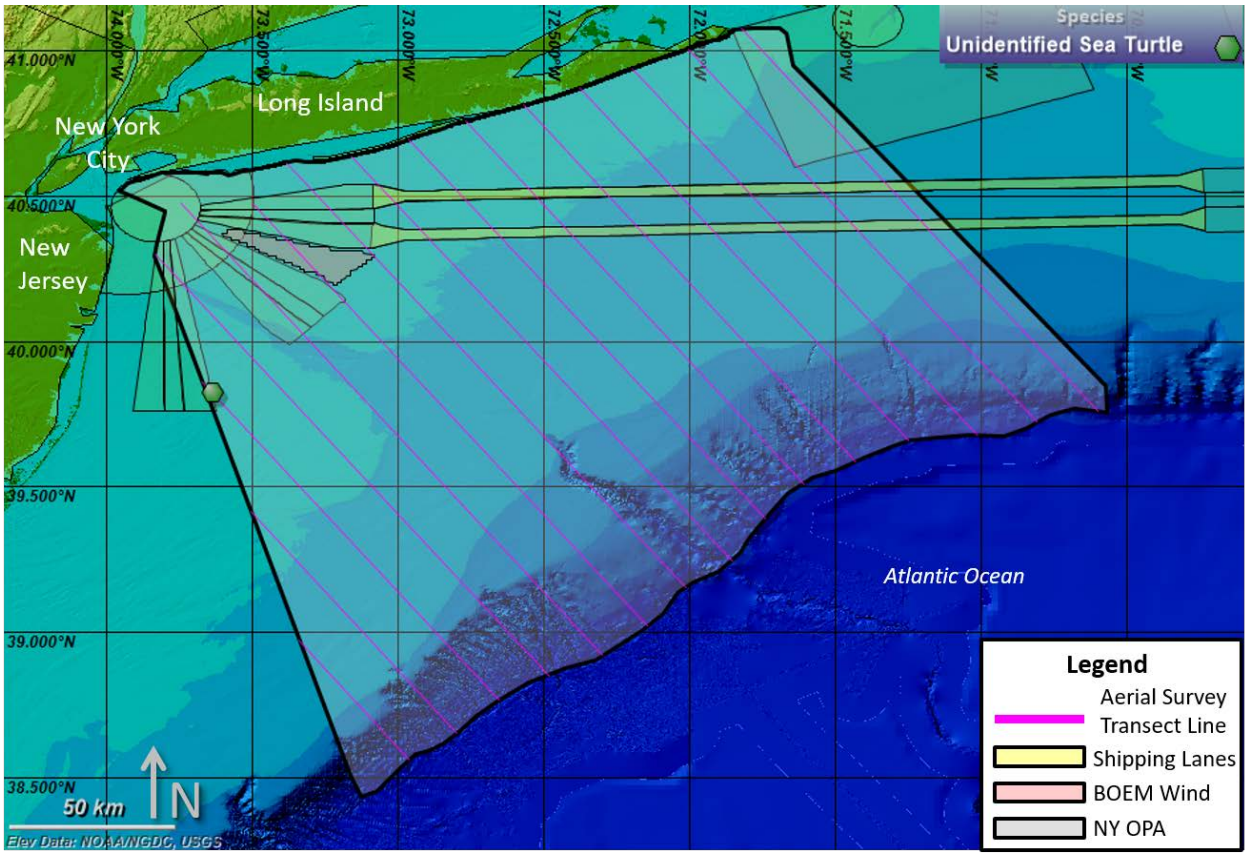

Figure 3. Location of Sea Turtle Sighted During the June 2017 Survey

3.4 UNUSUAL OR RARE SIGHTINGS

There were no unusual or rare sightings during this survey.

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

One type of non-marine mammal was seen. In order to focus observation efforts on searching for large priority whale species, details on this sighting were recorded opportunistically only into the

voice recording (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 the sighting when doing so would not interfere significantly with priority observation efforts (e.g., in areas where all sightings were relatively low). The sighting below consists 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 1 (1 estimated individual) unidentified shark

4.0 PROBLEMS ENCOUNTERED

On June 19, after landing at the Republic Airport on Long Island to refuel, the pilots discovered that the plane had a broken alternator and alternator belt and could not resume flight. The plane remained at Republic Airport for repairs until June 23. After repairs were complete, the plane returned to Monmouth Jet Center in preparation for the July survey.

5.0 PHOTOGRAPHS

No photographs were taken during the survey as all sightings were of non-priority species (i.e. dolphin species).