

July 2018 Survey Report for New York Bight Whale Monitoring Aerial Surveys

Contract No. C009926

July 2018

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ACRONYMS AND ABBREVIATIONS

hr	hour
km	kilometer
min	minutes
NEFSC	Northeast Fisheries and Science Center
NOAA	National Oceanographic and Atmospheric Administration
NYDEC	New York State Department of Environmental Conservation
SE	Standard Error
spp.	species

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 July 2018 survey, representing the 17th of the 36 surveys scheduled to occur under this contract.

2.0 EFFORT

The July 2018 survey occurred from July 9-11, 2018. A total of seven flights were conducted, representing a total of 20.1 hours in the air (i.e., from wheels up on the airport tarmac to wheels down on the tarmac for each flight). A total of 4,016.4 kilometers (km) were flown and included completion of 100 percent of the 15 transect lines. On July 11 low-lying clouds limited visibility in small areas of the offshore portion of Lines 4 and 5. [Figure 1](#) shows the survey lines completed. [Table 1](#) presents the flight time durations and distances by effort type

TABLE 1. FLIGHT TIME AND DISTANCE BY EFFORT TYPE DURING THE JULY 2018 SURVEY

Survey Dates	Hours 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
July 9-11, 2018	1.4	288.8	3.2	717.9	12.9	2,511.0	1.8	341.4	0.8	157.3	20.1	4,016.4

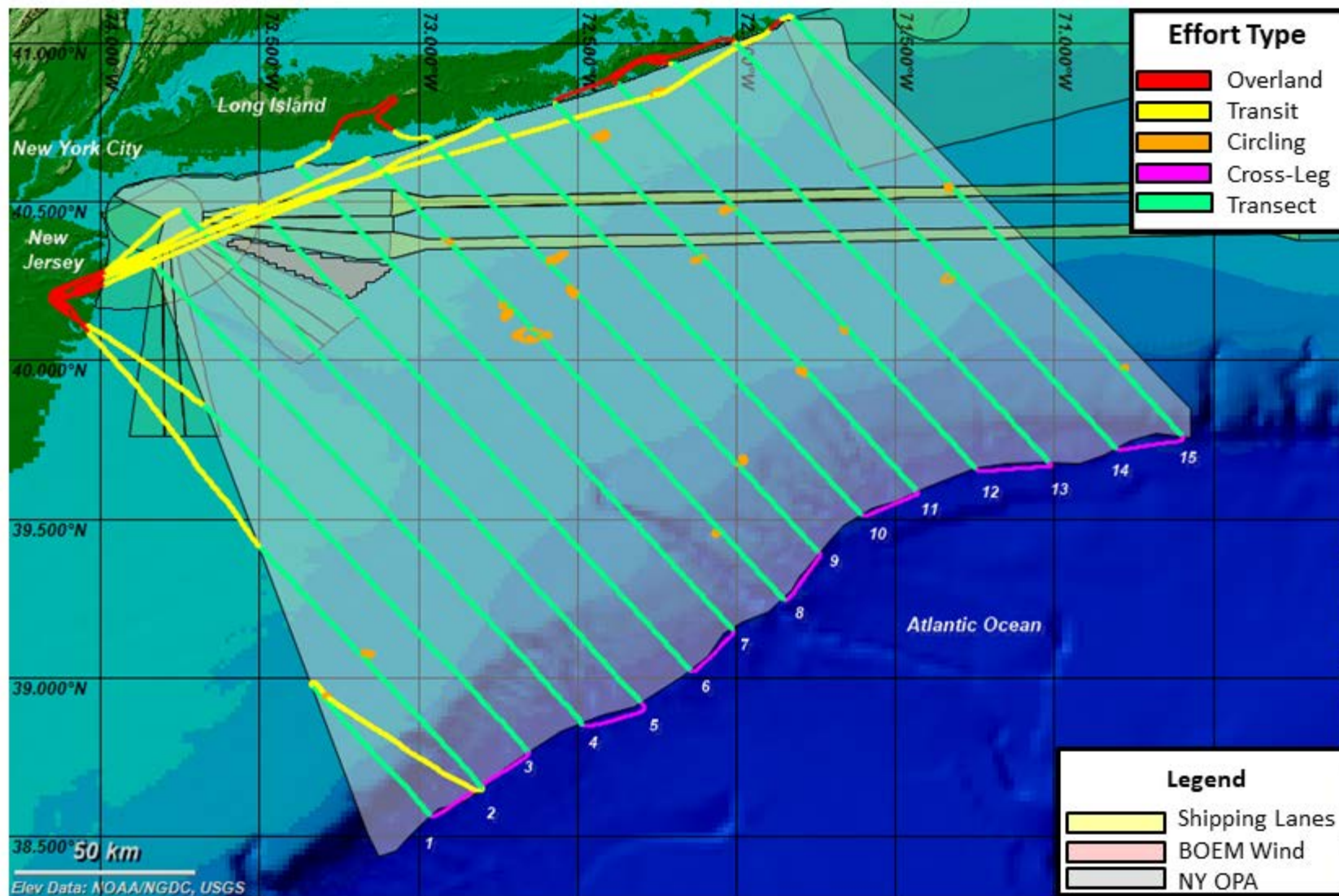


Figure 1. Survey Lines Flown by Effort Type During the July 2018 Survey

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 sighting locations.

3.1 PRIORITY LARGE WHALE SIGHTINGS

A total of 28 sightings (i.e., groups) of an estimated 39 individual large whales were seen ([Table 2](#)). Twenty-six of the total 28 groups were identified to species. Large whale sightings included 18 groups (estimated 25 total individuals) of fin whales (*Balaenoptera physalus*) and 8 groups (estimated 11 total individuals) of humpback whales (*Megaptera novaeangliae*).

TABLE 2. NUMBER OF PRIORITY LARGE WHALE SPECIES SIGHTED DURING THE JULY 2018 SURVEY

Common Name*	Scientific Name	Number of Groups	Total Number of Individuals	Mean Group Size (SE)
Fin Whale	<i>Balaenoptera physalus</i>	18	25	1.4 (0.23)
Humpback Whale	<i>Megaptera novaeangliae</i>	8	11	1.4 (0.38)
Unidentified Large Whale		2	3	1.5 (0.50)
Total		28	39	

Notes:

*Listed in alphabetical order

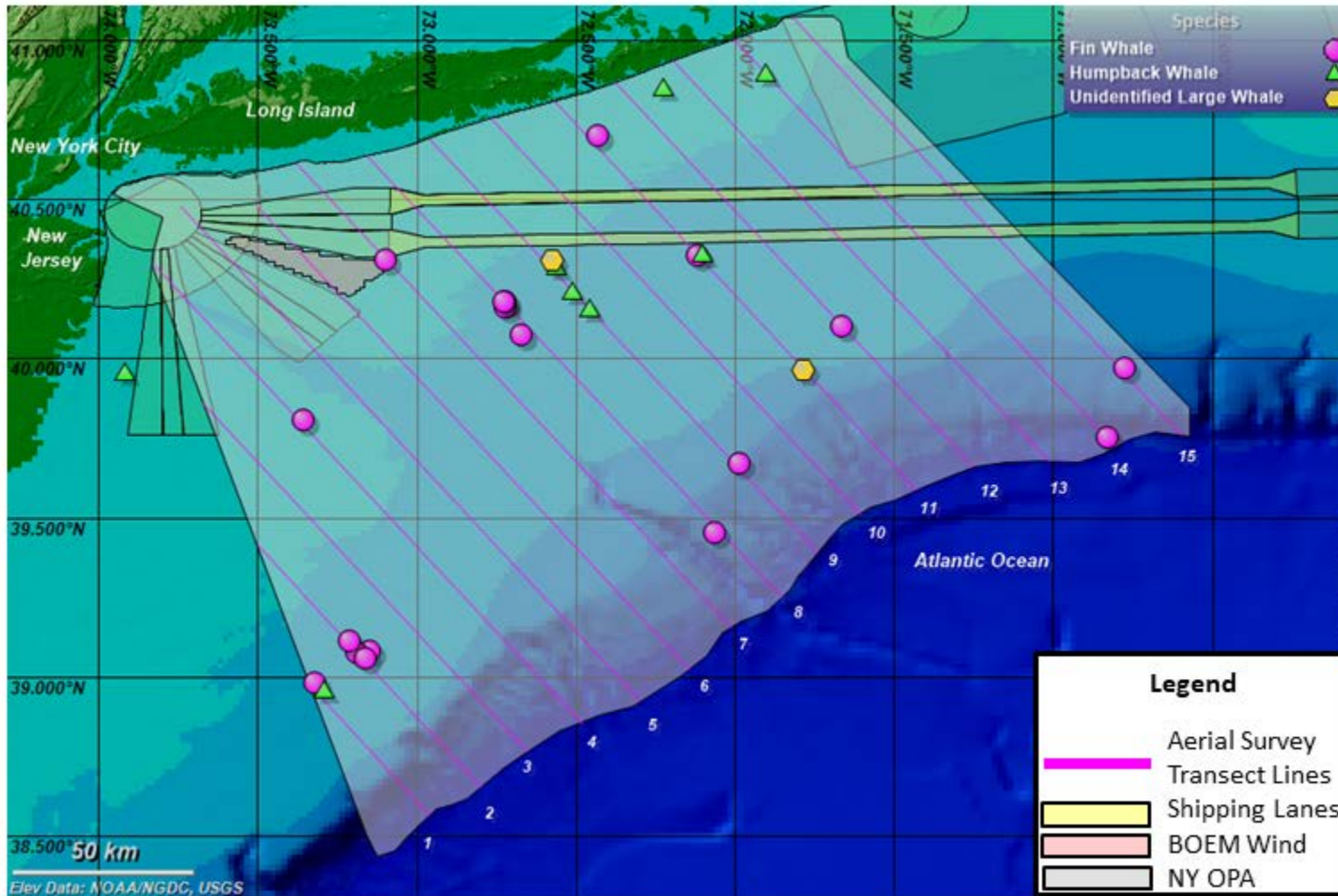


Figure 2. Locations of All Groups of Large Whales Sighted During the July 2018 Survey

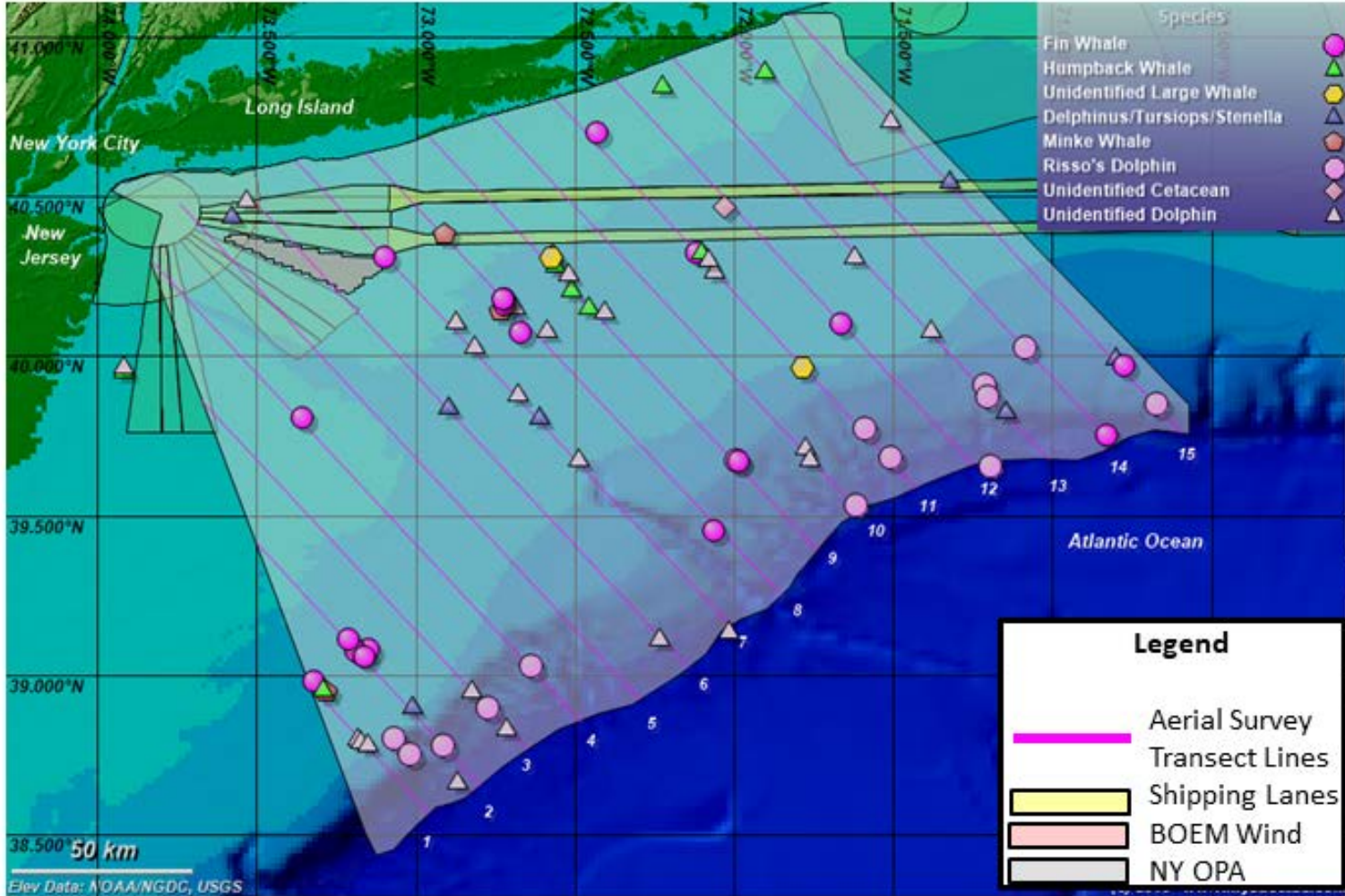


Figure 3. Locations of All Groups of Marine Mammals Sighted During the July 2018 Survey

3.2 OTHER MARINE MAMMAL SIGHTINGS

A minimum total of 52 sightings of an estimated 2,324 individual marine mammals other than the six priority whale species were observed (Table 3). This included 7 groups (estimated total 396 individuals) of Delphinus/Tursiops/Stenella spp., 3 groups (estimated 5 individuals) of minke whales (*Balaenoptera acutorostrata*), 15 groups (estimated 197 individuals) of Risso's dolphins (*Grampus griseus*), 1 individual unidentified cetacean, and 26 groups (estimated total 1,725 individuals) of unidentified dolphins. In accordance with the project scope of work, the aircraft is required to circle only to photo-identify North Atlantic right whales and to identify species and/or confirm group size/composition of large whales, as possible.

TABLE 3. OTHER MARINE MAMMAL SIGHTINGS DURING THE JULY 2018 SURVEY*

Common Name**	Scientific Name	Number of Groups	Total Number of Individuals	Mean Group Size (SE)
Delphinus/Tursiops/Stenella		7	396	56.6 (21.54)
Minke Whale	<i>Balaenoptera acutorostrata</i>	3	5	1.7 (0.33)
Risso's Dolphin	<i>Grampus griseus</i>	15	197	13.1 (2.68)
Unidentified Cetacean		1	1	1 (NA)
Unidentified Dolphin		26	1,725	66.3 (17.56)
Total		52	2,324	

Notes:

*Some species identifications are preliminary and not certain due to not routinely circling/photographing

**Listed in alphabetical order

NA = not applicable; SE = standard error

3.3 SEA TURTLE SIGHTINGS

A minimum total of 6 sightings of an estimated 6 individual sea turtles were observed (Table 4). This included 2 single loggerhead sea turtles and 4 single unidentified sea turtles.

TABLE 4. SEA TURTLE SIGHTINGS DURING THE JULY 2018 SURVEY*

Common Name**	Scientific Name	Number of Groups	Total Number of Individuals	Mean Group Size (SE)
Loggerhead Sea Turtle	<i>Caretta caretta</i>	2	2	1 (NA)
Unidentified Sea Turtle		4	4	1 (NA)
Total		6	6	

Notes:

*Some species identifications are preliminary and not certain due to not routinely circling/photographing

**Listed in alphabetical order

SE = standard error

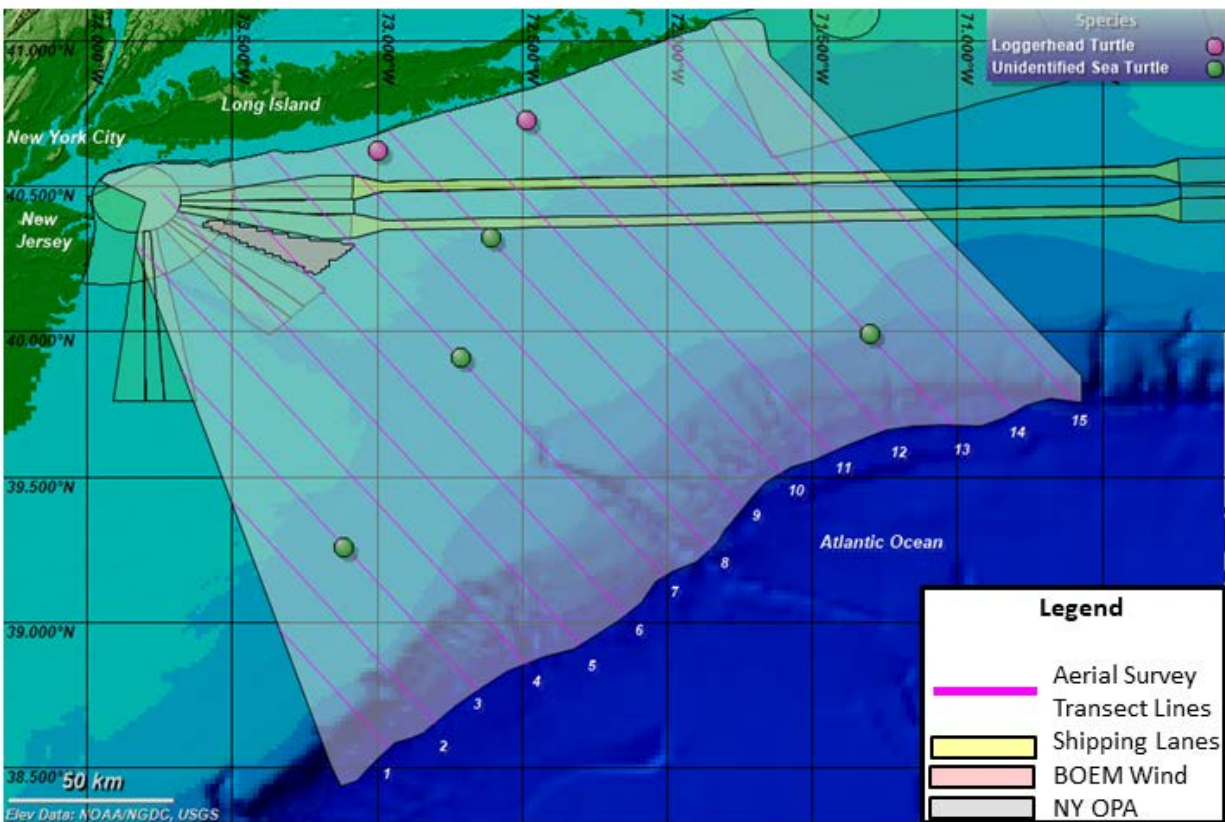


Figure 4. Locations of All Sea Turtles Sighted During the July 2018 Survey

3.4 UNUSUAL OR RARE SIGHTINGS

There were no unusual or rare sightings during the July 2018 survey.

3.5 STRANDING AND ENTANGLEMENT REPORTS

There were no strandings or entanglements during the July 2018 survey.

3.6 OTHER SIGHTINGS

In addition to those described above, there were other types of non-marine mammal sightings. To focus observation efforts on searching for large priority whale species, only the sighting type, time, and general location of these other sightings were recorded. These data were recorded opportunistically as feasible, with additional details entered into voice recordings (e.g., estimated body length and coloration, behavior, and group size). Hot keys on a laptop running the software *Mysticetus* were used 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 general locations and times were noted using the computer in the field; thus, they should be considered *minimum numbers* of sightings. Review of the voice recorder data could provide additional information regarding these sightings.

- Minimum 5 groups (5 estimated individuals) of possible basking sharks (*Cetorhinus maximus*)
- Minimum 392 fish schools
- Minimum 12 groups (12 estimated individuals) of ocean sunfish (*Mola mola*)
- Minimum 1 group (1 estimated individual) of hammerhead shark (*Sphyrnidae* spp.)
- Minimum 4 groups (5 estimated individuals) of Atlantic manta ray (*Manta birostris*)

4.0 PROBLEMS ENCOUNTERED

There were no problems encountered during the July 2018 survey.

5.0 PHOTOGRAPHS



**Figure 5. Humpback whale (*Megaptera novaeangliae*) July 10, 2018
photo credit: Kate Lomac-MacNair (Smultea Environmental Sciences)**



**Figure 6. Humpback whale (*Megaptera novaeangliae*) July 10, 2018
photo credit: Kate Lomac-MacNair (Smultea Environmental Sciences)**



**Figure 7. Humpback whales (*Megaptera novaeangliae*) July 10, 2018
photo credit: Kate Lomac-MacNair (Smultea Environmental Sciences)**