

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

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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 October 2017 survey, representing the eighth of the 36 surveys scheduled to occur under this contract.

2.0 EFFORT

The October 2017 survey occurred from October 15 – 18, 2017. A total of eight flights were conducted, representing a total of 24.86 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 4,705.54 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 OCTOBER 2017 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		
October 15- 18, 2017	2.49	265.18	6.70	1,425.31	13.14	2,523.79	1.06	200.60	1.47	290.66	24.86	4,705.54

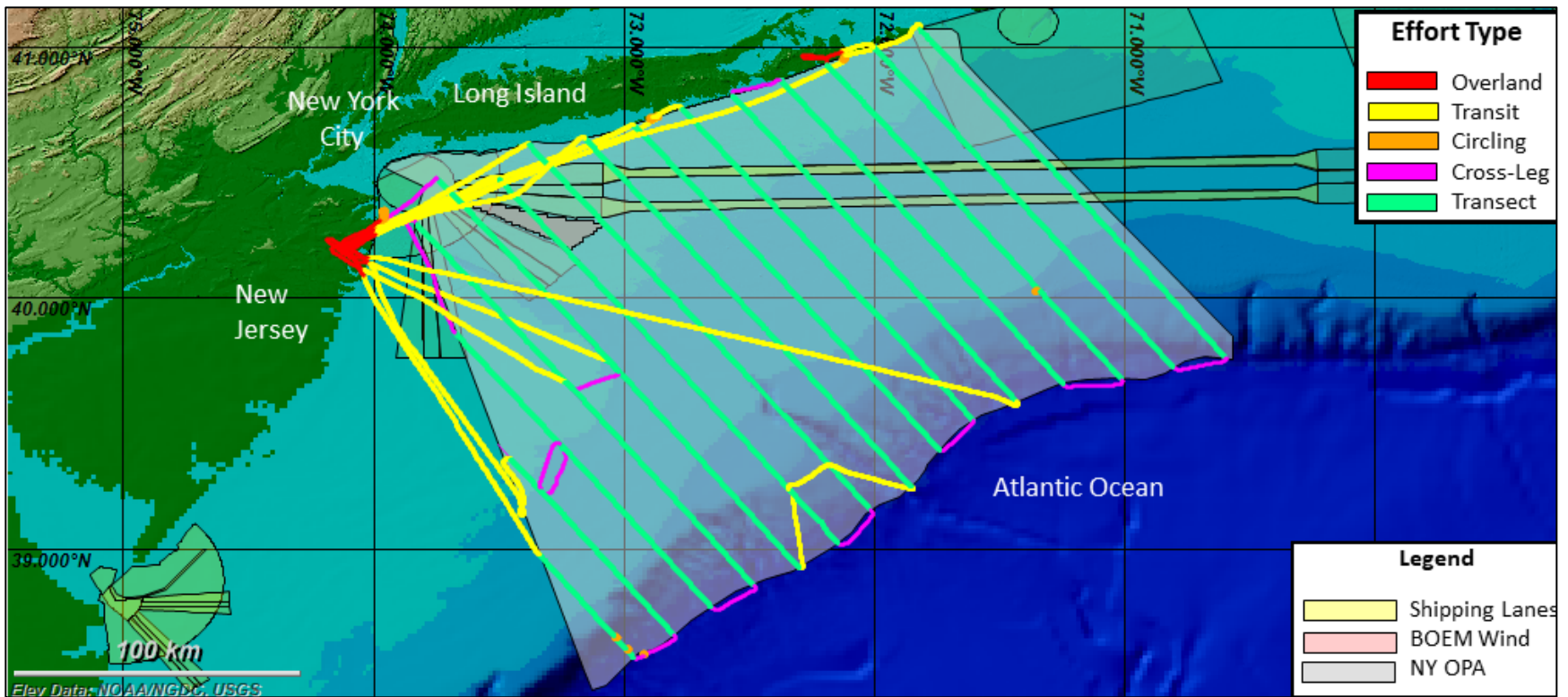


Figure 1. Survey Lines Flown by Effort Type During the October 2017 Survey

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, [Figure 3](#) is a map of all marine mammal sighting locations, and [Figure 4](#) is a map of all sea turtle sighting locations.

3.1 LARGE WHALE SIGHTINGS

A total of six sightings of an estimated nine individual large whales were seen ([Table 2](#)). All of the sightings were identified to species. Large whale sightings included four groups (seven individuals) of humpback whales, a single fin whale, and a single sperm whale.

TABLE 2. NUMBER OF THE LARGE WHALE SPECIES SIGHTED DURING THE OCTOBER 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	0
Fin Whale	<i>B. physalus</i>	1	1	1 (NA)
Humpback Whale	<i>Megaptera novaeangliae</i>	4	7	1.75 (0.4)
North Atlantic Right Whale	<i>Eubalaena glacialis</i>	0	0	0
Minke Whale	<i>B. acutorostrata</i>	0	0	0
Sei Whale	<i>B. borealis</i>	0	0	0
Sperm Whale	<i>Physeter macrocephalus</i>	1	1	1 (NA)
Unidentified Large Whale		0	0	0
Total		6	9	

Notes:

*Listed in alphabetical order

NA = not applicable; SE = Standard error

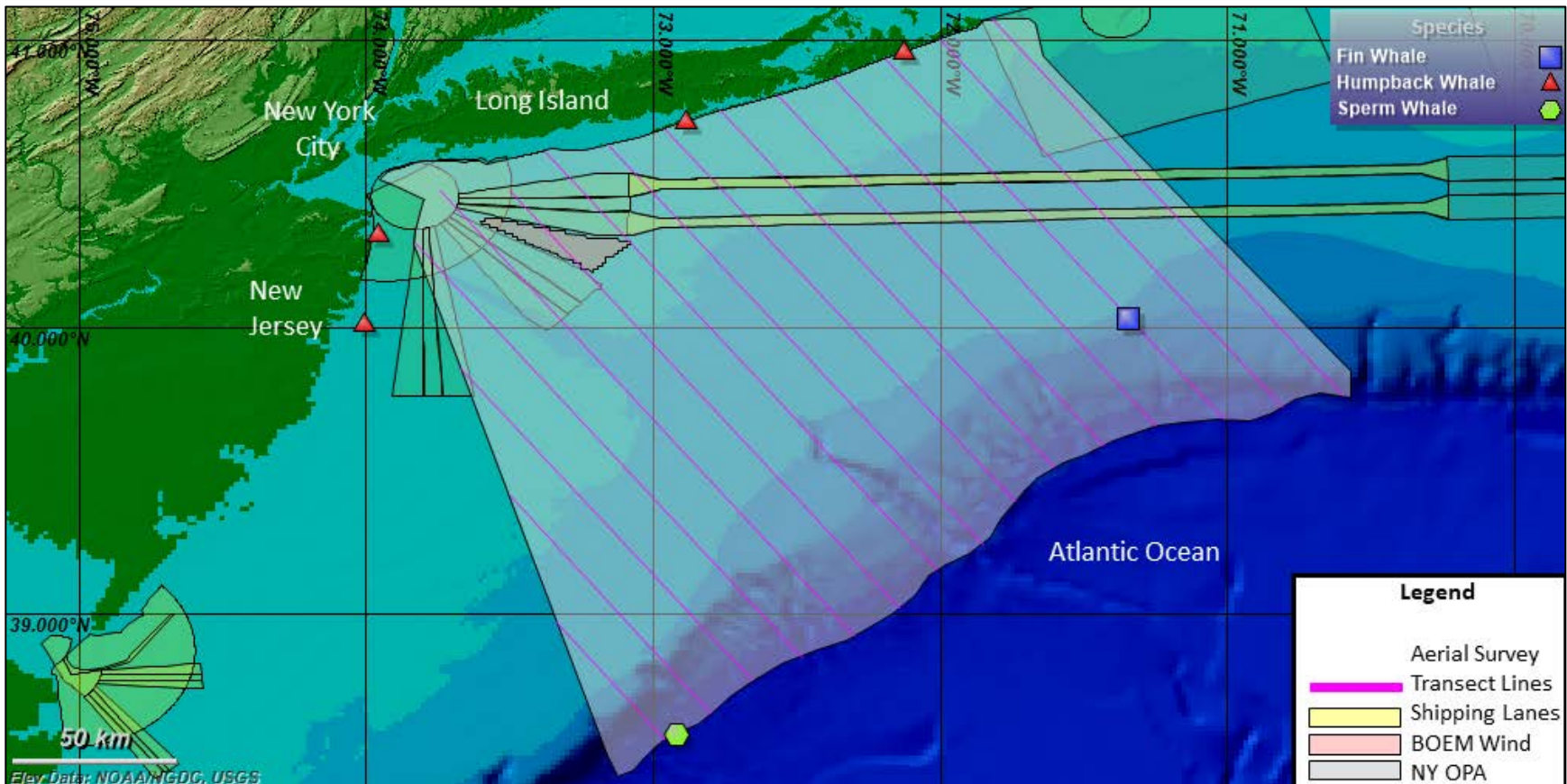


Figure 2. Locations of All Groups of Large Whales Sighted During the October 2017 Survey

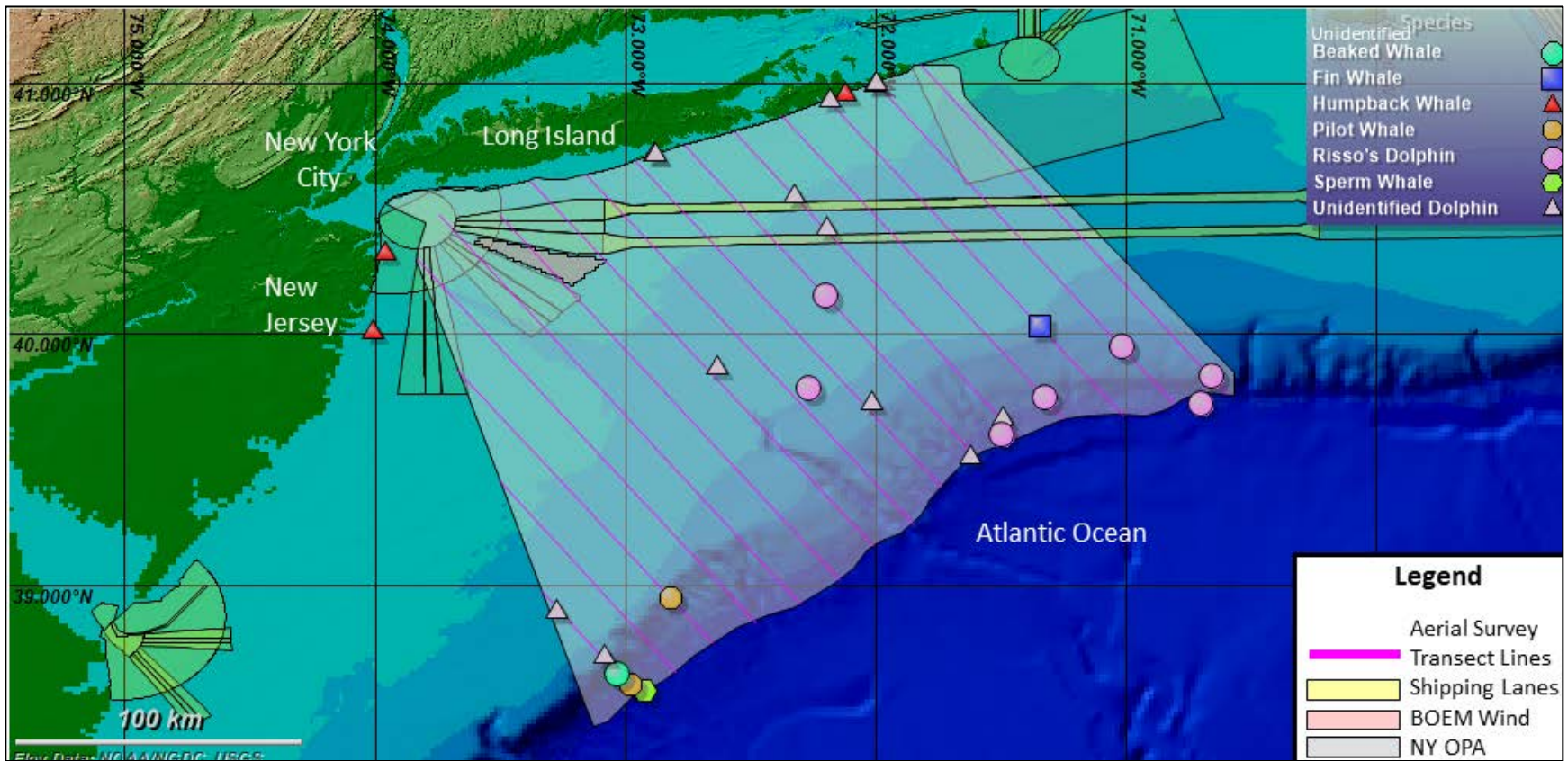


Figure 3. Locations of All Groups of Marine Mammals Sighted During the October 2017 Survey

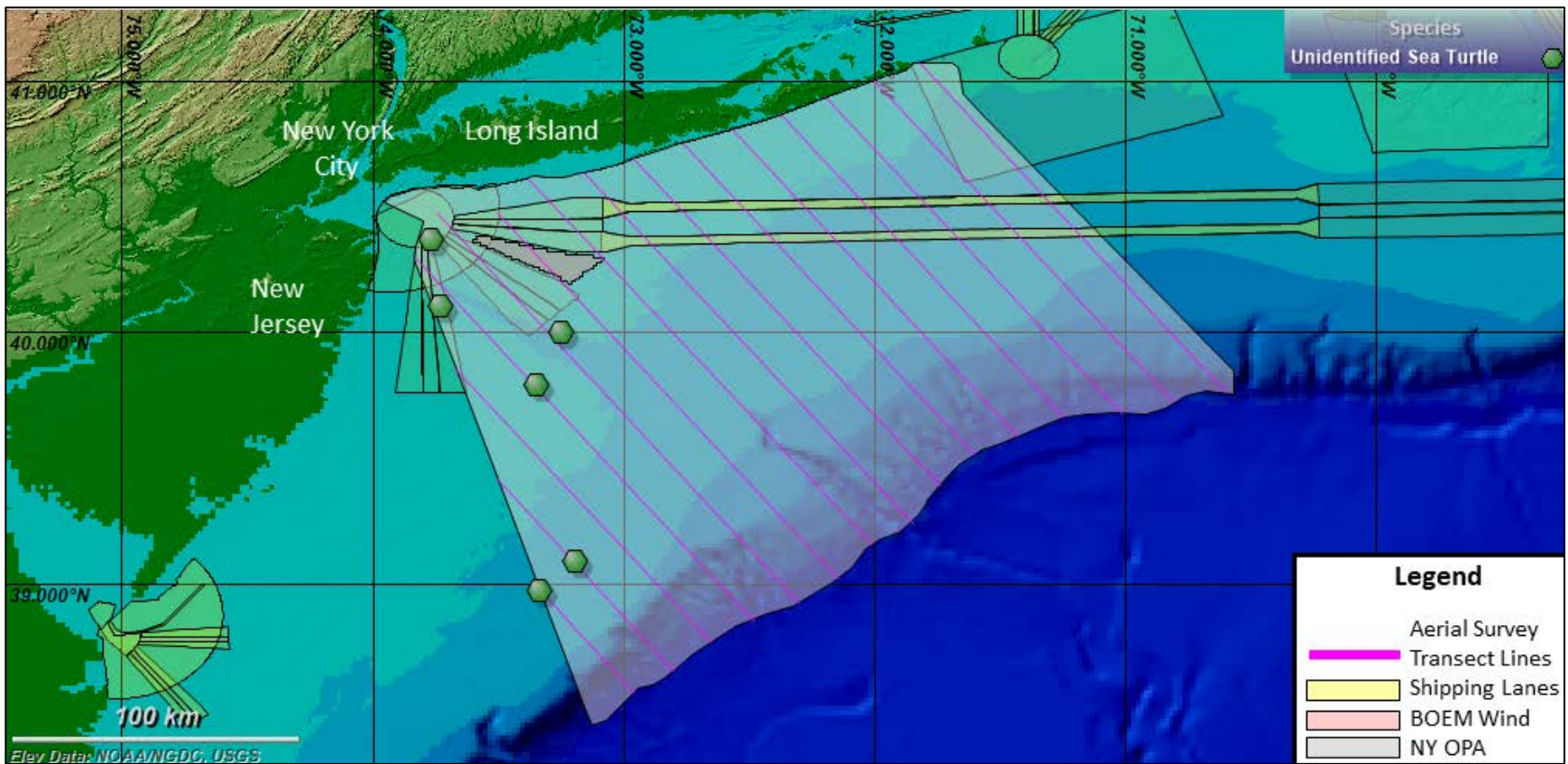


Figure 4. Locations of All Sea Turtles Sighted During the October 2017 Survey

3.2 OTHER MARINE MAMMAL SIGHTINGS

A minimum total of 22 sightings of an estimated 495 individual marine mammals other than the six priority whale species were observed (Table 3). Of these sightings, 10 groups totaling 85 individuals were identified to species. The remaining 12 sightings (410 individuals) were of unidentified dolphins (note, in accordance with the project scope of work, dolphins were not circled to confirm species).

TABLE 3. OTHER MARINE MAMMAL SIGHTINGS DURING THE OCTOBER 2017 SURVEY*

Common Name**	Scientific Name	Number of Groups	Total Number of Individuals	Mean Group Size (SE)
Bottlenose Dolphin	<i>Tursiops truncatus</i>	0	0	0
Common Dolphin	<i>Delphinus delphis</i>	0	0	0
Pilot whale	<i>Globicephala</i> sp.	2	43	21.5 (2.9)
Risso's Dolphin	<i>Grampus griseus</i>	7	37	5.3 (0.9)
Unidentified Beaked Whale		1	5	5 (NA)
Unidentified Dolphin		12	410	34.2 (2.8)
Total		22	495	

Notes:

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

**Listed in alphabetical order

NA = not applicable; SE = Standard error

3.3 SEA TURTLE SIGHTINGS

There were six groups (eight individuals) of sea turtle sightings during this survey. The sea turtle sightings were not identified to species.

3.4 UNUSUAL OR RARE SIGHTINGS

There were no unusual or rare sightings.

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 other types of non-marine mammal sightings. In order 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 opportunistically as feasible, with additional details recorded into the voice recordings (e.g., estimated body length and coloration, behavior, and 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 general 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 (e.g., we orally recorded the time of these sightings, which could be merged with GPS in the future to determine locations).

- Minimum one (four estimated individuals) unidentified shark sighting
- Minimum eight (eight estimated individuals) sunfish (*Mola mola*) sightings
- Minimum five fish schools

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 5. Sperm whale, photo credit: Kate Lomac-MacNair (Smultea Environmental Sciences)



Figure 6. Humpback whales lunge feeding, photo credit: Kate Lomac-MacNair (Smultea Environmental Sciences)



Figure 7. Humpback whales lunge feeding, photo credit: Kate Lomac-MacNair (Smultea Environmental Sciences)



Figure 8. Humpback whale, photo credit: Kate Lomac-MacNair (Smultea Environmental Sciences)



Figure 9. Beaked whale, photo credit: Kate Lomac-MacNair (Smultea Environmental Sciences)