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Scotian Shelf Right Whale Aerial Survey Project July 18-30, 2014

by Timothy V.N. Cole and Allison G. Henry

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Overview

National Oceanic and Atmospheric Administration (NOAA) funding and Fisheries and Oceans Canada (DFO) collaboration provided the opportunity for the Northeast Fisheries Science Center (NEFSC) right whale aerial survey team to follow right whales into Canadian waters after completing surveys in the waters off the Northeast United States. We completed eight flights in several areas of the Scotian Shelf during July 18-30, 2014, under SARA Section 73 Permit # 330996. From a Twin Otter flying at 230m and 100 knots, two observers scanned the ocean surface for megafauna for a total of 22 hours and 16 minutes of visual effort. Eleven right whales were sighted and photographed for individual identification. One was previously injured and is on a list of whales whose health status is being monitored (Right Whale Catalog #1203). Right whale sighting details are provided in Table 1. Table 2 provides the numbers of other megafauna species recorded on each flight. Table 3 provides flight log notes. Table 4 lists the project's participants. Figures 1-5 show completed track lines and locations of sightings. The images taken of right whales have been submitted to the North Atlantic Right Whale Catalog at the New England Aquarium in Boston, MA, for individual identification. Copies of the survey data and right whale images are available from Tim Cole.

Table 1. Right whale sighting details from NEFSC aerial surveys of the Scotian Shelf, July 18 – 30, 2014.

Date	Number	Lat/Lon	Notes
7/18/2014	1	42 19.4 N 66 53.6 W	Healthy. Traveling northwest.
-	2	42 10.0 N 66 03.0 W	Healthy. Off watch sighting.
-	1	42 20.8 N 66 16.3 W	Healthy.
7/19/2014	1	42 44.1 N 65 23.1 W	Healthy.
-	1	43 12.7 N 65 03.8 W	Previously injured. Traveling south.
7/22/2014	5	43 37.7 N 63 20.8 W	Healthy. Traveling northeast together.

Table 2. Summary of time on effort, Beaufort sea conditions, and sightings from NEFSC aerial surveys of the Scotian Shelf, July 18 – 30, 2014. Numbers of animals are the totals of recorded group sizes from each flight.

Date	7/18/2014	7/19/2014	7/19/2014	7/22/2014	7/25/2014	7/26/2014	7/27/2014	7/30/2014
Area surveyed	Georges Basin	Roseway Basin	Scotian Shelf Edge West	Emerald & Lahave Central	Emerald & Lahave Central	Emerald & Lahave South and Scotian Shelf East	Canso Bank	Northern Gulf of Maine
Time on effort (h:mm)	2:57	3:51	1:46	2:40	2:06	4:28	4:03	0:25
Beaufort conditions	1-5	1-3	0-2	3-5	1-4	2-5	2-5	2
Sightings								
right whale	4	2		5				
humpback whale	1	4	1	1	2	8	1	
fin whale		13	5	6	7	5	2	
sei whale	4	1						
fin/sei	1	2		2	1			
whale spp	1	11	3	2	3	7		
minke whale	4	6		1		2	3	1
sperm whale	1					2		
killer whale		1						
pilot whale	2		40			29		
Risso's dolphin						6		
bottlenose dolphin								
white-beaked dolphin		12						
white-sided dolphin	193	12	790	10				
common dolphin		2				2		
common/white-sided	24	60	110		130	30	142	
dolphin spp	617	843	351		39	154	43	
harbor porpoise	1	32						
leatherback turtle						1	7	
basking shark	7	12		1	3	1	1	5
ocean sunfish	14	61	34	8	62	44	24	2
tuna spp		3						

Table 3. Flight log notes from NEFSC aerial surveys of the Scotian Shelf, July 18 – 30, 2014.

7/18/2014	Georges Basin	Surveyed in excellent to moderate conditions. Completed zig and half of zag due to fuel constraints. Fishing gear light in western portion.
7/19/2014	Roseway Basin	Survey completed in excellent to good conditions. Fishing gear sparse. Refueled in Yarmouth.
7/19/2014	Scotian Shelf Edge West	Surveyed in excellent conditions. Only completed zig due to limited daylight. No fishing gear seen.
7/22/2014	Emerald & Lahave Central	Surveyed in excellent to moderate conditions. Cut southeast point of zig and eastern most line of zag due to fog. No fishing gear seen.
7/25/2014	Emerald & Lehave Central	Aborted Emerald/Lehave South & Scotian Shelf West due to low ceilings. Surveyed zig (cut 1st line) of Emerald/Lehave Central and return transit in excellent conditions. No fishing gear seen. Lei Harris (DFO) onboard.
7/26/2014	Emerald & Lehave South and Scotian Shelf East	Completed W to E zig of Emerald/Lehave South and E to W zig of Scotian Shelf East, including transits, in excellent to moderate conditions. No fishing gear seen. Mike James & Lei Harris (DFO) onboard.
7/27/2014	Canso Bank	Surveyed in excellent to good conditions. Refueled in Sydney. Surveyed for an additional 29 minutes while transiting to Sydney. Surveyed for another 29 minutes along coastline during return transit to Halifax. Fishing gear light in NE corner, moderate in SE corner, light on transit to/from Sydney.
7/30/2014	Northern Gulf of Maine	Surveyed portions of line 1, 6, 7, 10. Cut all others due to fog. Refueled in Bangor. No fishing gear seen.

Table 4. Project participants and affiliations NEFSC aerial surveys of the Scotian Shelf, July 18 – 30, 2014.

Tim Cole	Observer	Northeast Fisheries Science Center
Heather Nicotri	Observer	Integrated Statistics
Lei Harris	Observer	Fisheries and Oceans Canada
Mike James	Observer	Fisheries and Oceans Canada
Allison Henry	Data recorder	Northeast Fisheries Science Center
Kevin Doremus	Pilot	NOAA Aircraft Operations Center
Jason Mansour	Pilot	NOAA Aircraft Operations Center
Tanner Sims	Pilot	NOAA Aircraft Operations Center

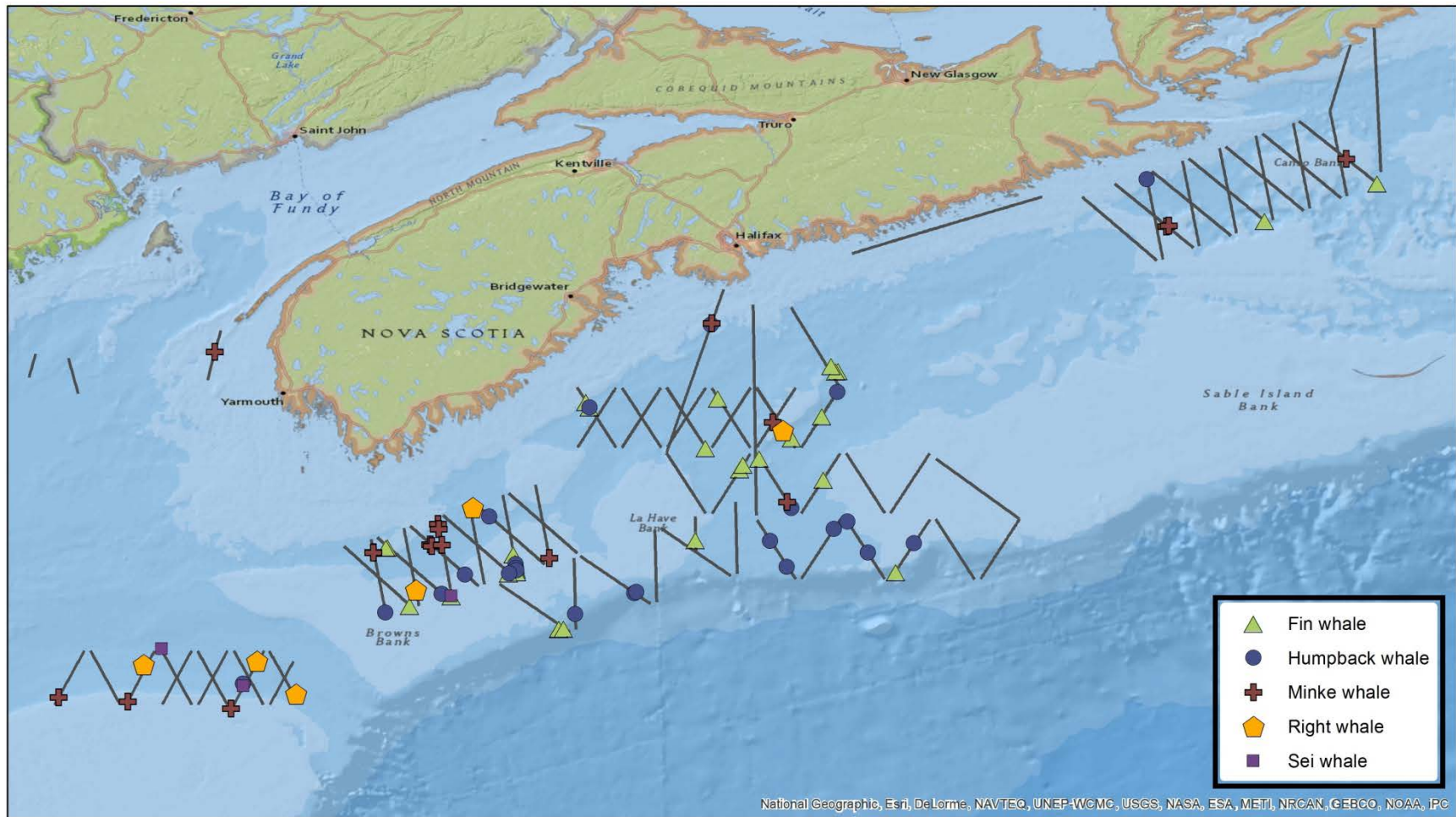


Figure 1. Completed survey track lines and sightings of baleen whale species during NOAA aerial surveys of the Scotian Shelf, July 18 – 30, 2014.

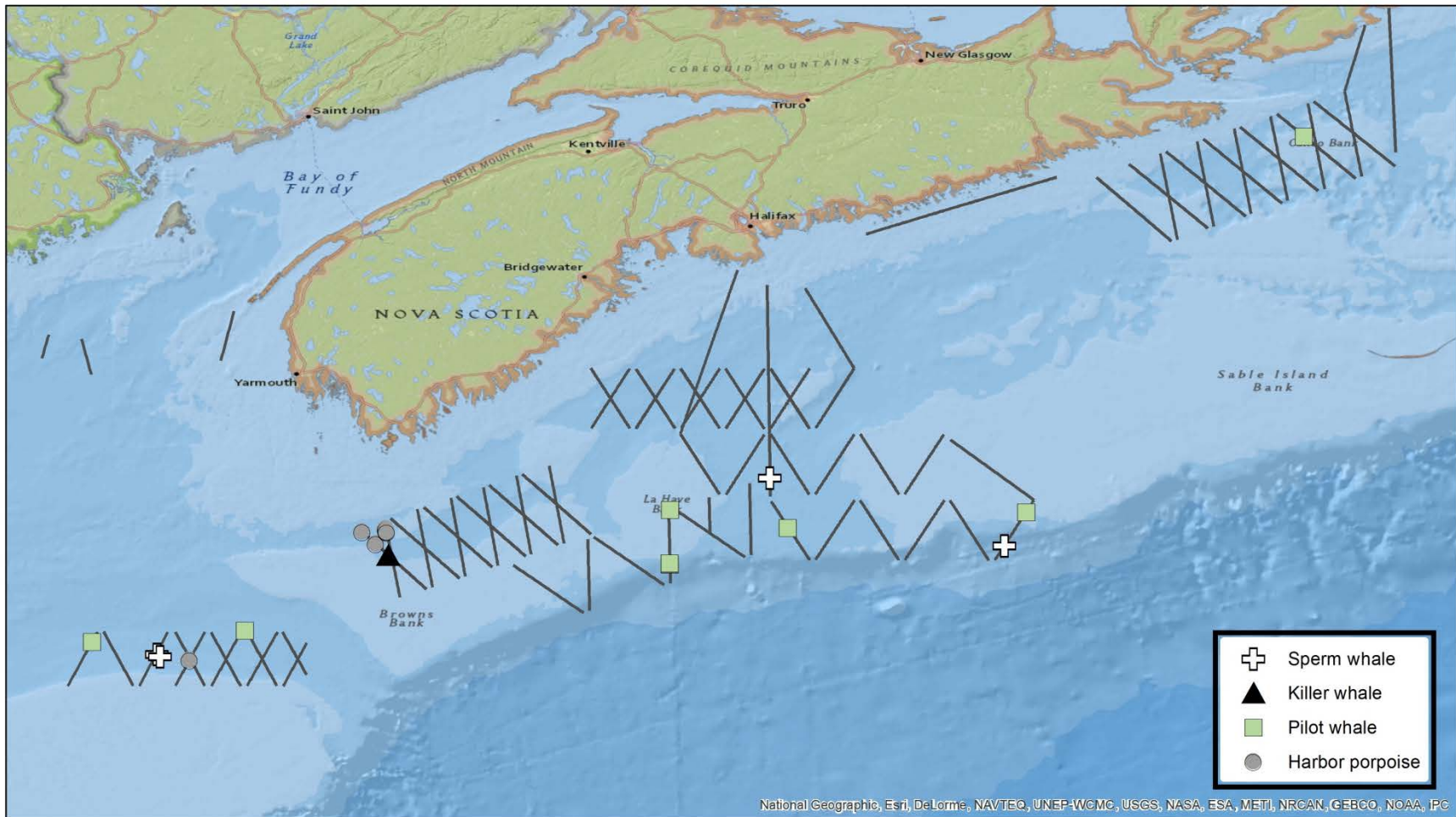


Figure 2. Completed survey track lines and sightings of toothed whale species and harbor porpoise during NOAA aerial surveys of the Scotian Shelf, July 18 – 30, 2014.

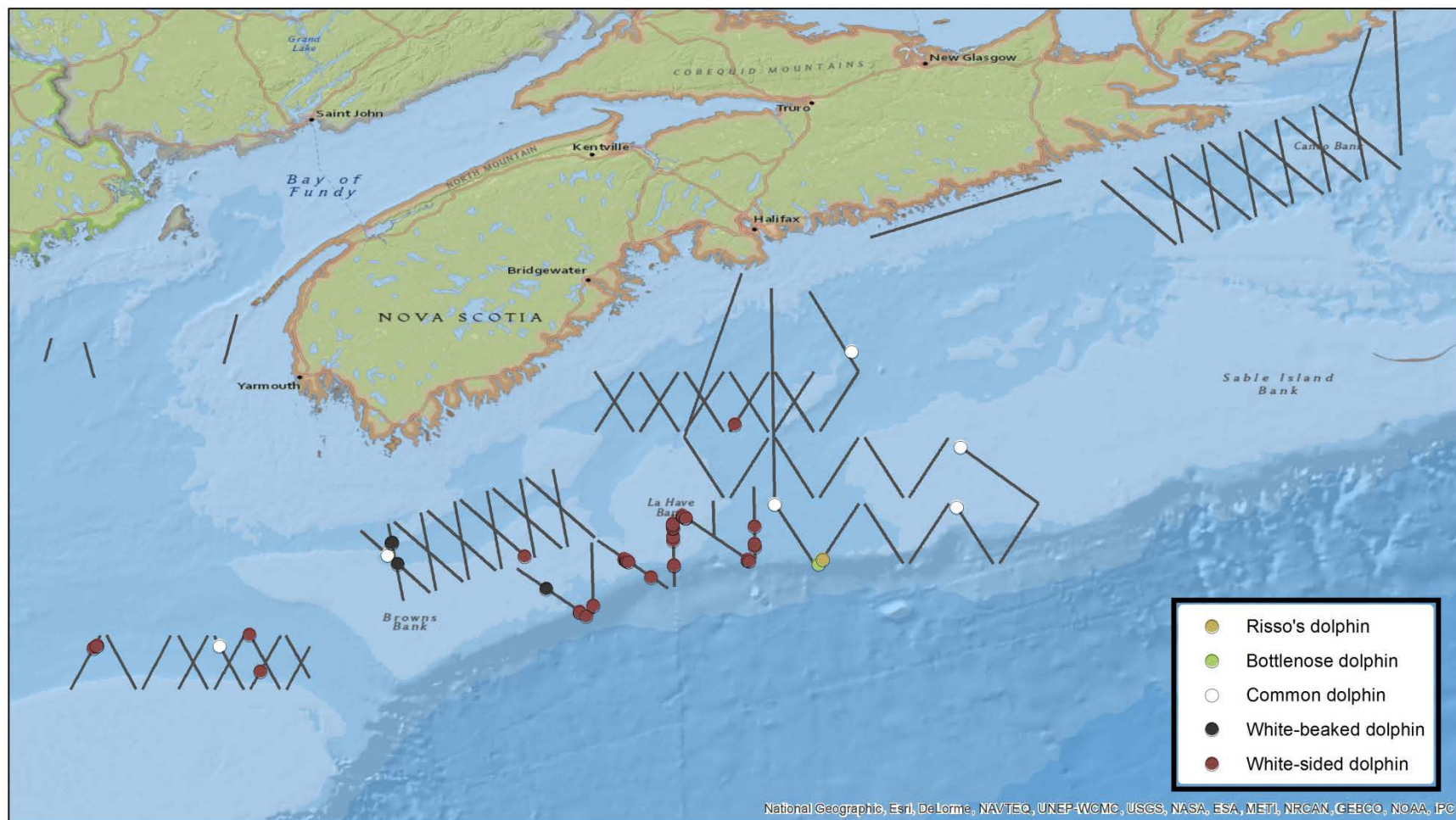


Figure 3. Completed survey track lines and sightings of dolphins during NOAA aerial surveys of the Scotian Shelf, July 18 – 30, 2014.

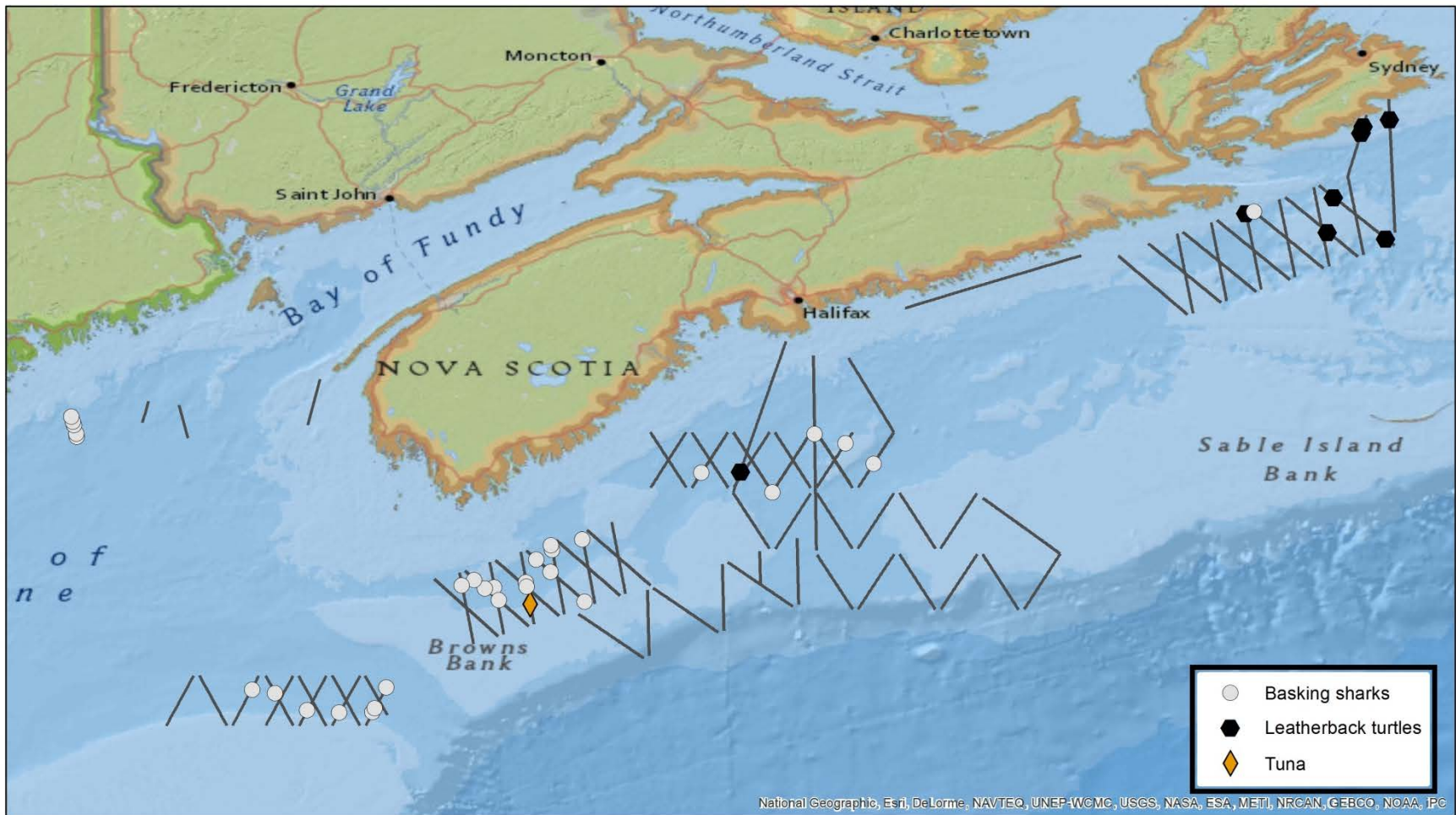


Figure 4. Completed survey track lines and sightings of basking sharks, leatherback turtles, and tuna during NOAA aerial surveys of the Scotian Shelf, July 18 – 30, 2014.

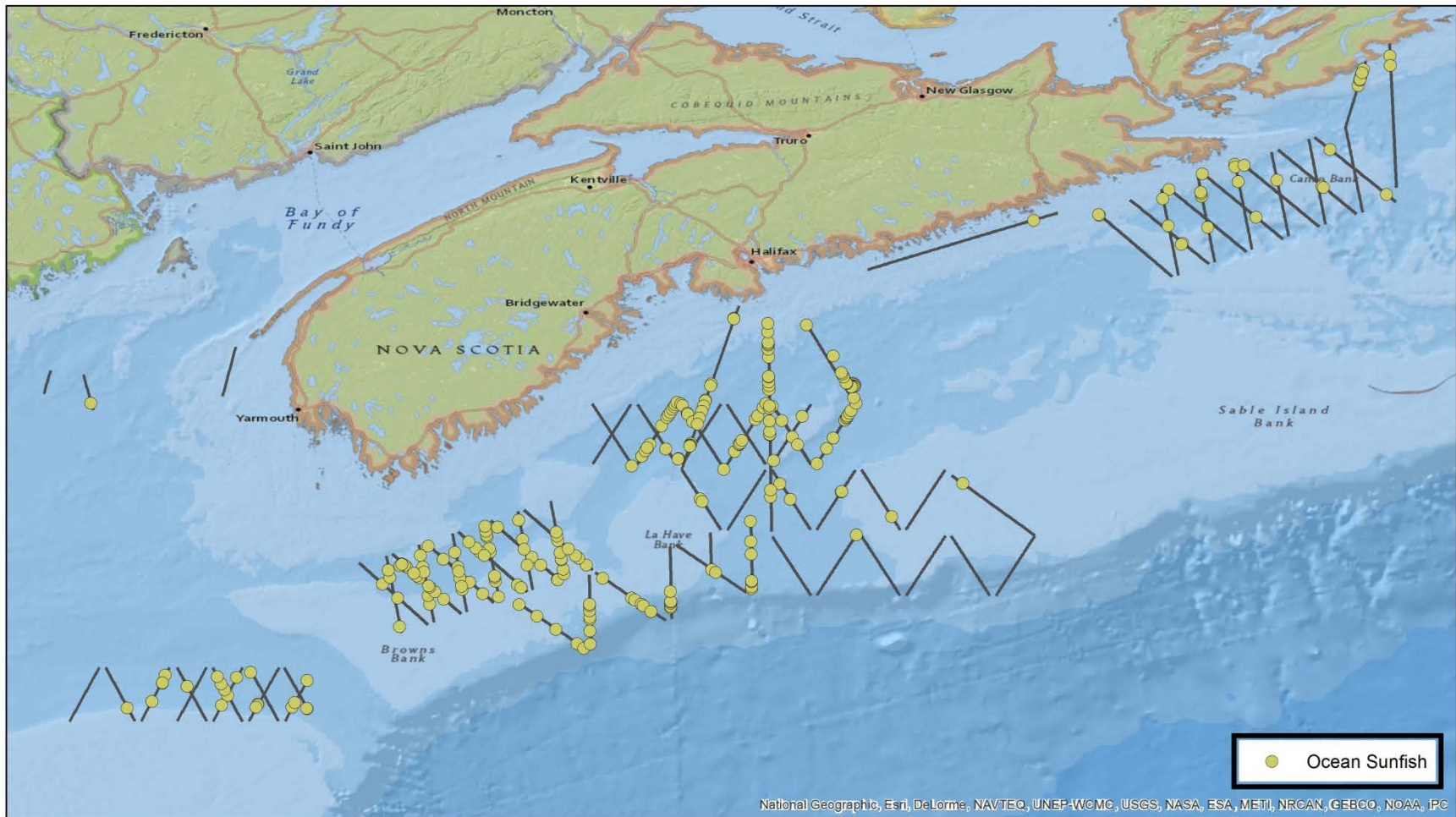


Figure 5. Completed survey track lines and sightings of ocean sunfish during NOAA aerial surveys of the Scotian Shelf, July 18 – 30, 2014.

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