

**Protected Species Monitoring in the Virginia Capes OPAREA
Cape Hatteras, North Carolina
January 2013 – December 2013**



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Introduction

This report forms part of a multi-institutional monitoring project intended to provide information on the species composition, population identity, density and baseline behavior of marine mammals and sea turtles present in Navy range complexes along the Atlantic coast. This program began in 2007, with baseline aerial and vessel surveys and a passive acoustic monitoring program in Onslow Bay, North Carolina and has since expanded to include study areas off Jacksonville, Florida and Cape Hatteras, North Carolina. In Onslow Bay, six years of monitoring have yielded a comprehensive picture of the density, distribution and abundance of marine mammals and sea turtles and provided new insights into residency patterns among pelagic delphinid cetaceans in this region. More than four years of monitoring in Jacksonville have provided similar information on the density and distribution of marine mammals and sea turtles in this area. In Cape Hatteras, almost three years of surveys have provided preliminary information on the complex patterns of distribution and diversity of the marine mammals and sea turtles in this highly productive area. The current report builds on this past body of work and describes monitoring activities that occurred between January and December 2013.

Acknowledgements

For collaborative efforts we thank our colleagues at Duke University Marine Lab (Kim Urian, Andy Read, Heather Foley, Zach Swaim, Jennifer Dunn, and Lynne Hodge) and St. Andrews University (Charles Paxton). We thank Ed Coffman, owner and operator of Orion Aviation, and his highly skilled pilots: Dave Huddle, Stan Huddle, Cameron Radford, Ryan Macgregor, Greg Souther, Collin Mendenhall, Rocky Walker, John Esties, and Bob Stickle, for excellent flying and a high level of professionalism. We thank Joel Bell for his support of this work. Surveys are conducted under NOAA Scientific Permit No 16473, held by UNCW, and NOAA General Authorization Letter of Confirmation No. 16185 held by Duke University.

Summary of Cape Hatteras Aerial Surveys

This chapter describes the aerial surveys conducted in the Cape Hatteras, North Carolina study area between January 2013 and December 2013. The aim was to conduct two days of effort each month, flying a subset of the 26 tracklines that cover the area. Survey effort occurred in five of twelve months; unfavorable weather conditions and plane complications precluded any effort during January, February, April, June, September, November, and December. Two or more survey days were achieved for two of the five months, with a single day of effort occurring in the remaining three. A total of 68 tracklines (4935.9 km) were covered in the Cape Hatteras survey site during this reporting period. While survey conditions were dominated by Beaufort Sea State (BSS) 1-3, time was also spent in higher sea states. Other aerial surveys have demonstrated that the rate of cetacean sightings is negatively affected by an increase in the BSS (e.g. Gómez de Segura *et al.* 2006, DeMaster *et al.* 2001, McAlarney *et al.* 2012). This trend was also apparent in the present effort, as sightings dropped from 38.43 to 4.36 sightings per 1000 km as BSS increased from 1 to 4.

A total of 100 sightings of 1957 cetaceans were encountered while on effort during the nine days of aerial surveys in the study area (Table 1, Figure 1). Ten species of cetaceans were photo-documented, including bottlenose dolphins (*Tursiops truncatus*; 46 sightings of 794 individuals), short-finned pilot whales (*Globicephala macrorhynchus*; 18 sightings of 252 individuals), Atlantic spotted dolphins (*Stenella frontalis*; nine sightings of 563 individuals), Risso's dolphins (*Grampus griseus*; five sightings of 90 individuals), Cuvier's beaked whales (*Ziphius cavirostris*; 5 sightings of 14 individuals), sperm whales (*Physeter macrocephalus*; four sightings of seven individuals), mesoplodont beaked whales (*Mesoplodon* spp; four sightings of nine individuals), Gervais' beaked whale (*Mesoplodon europaeus* three sightings for 11 individuals), common dolphins (*Delphinus delphis*; three sighting of 206 individuals), humpback whales (*Megaptera novaeangliae*; three sightings for four individuals), and minke whales (*Balaenoptera acutorostrata*; one sighting of one individual). There was one sighting (six individuals) of dolphins where species identity could not be established with 100% certainty and is listed as "unidentified delphinid".

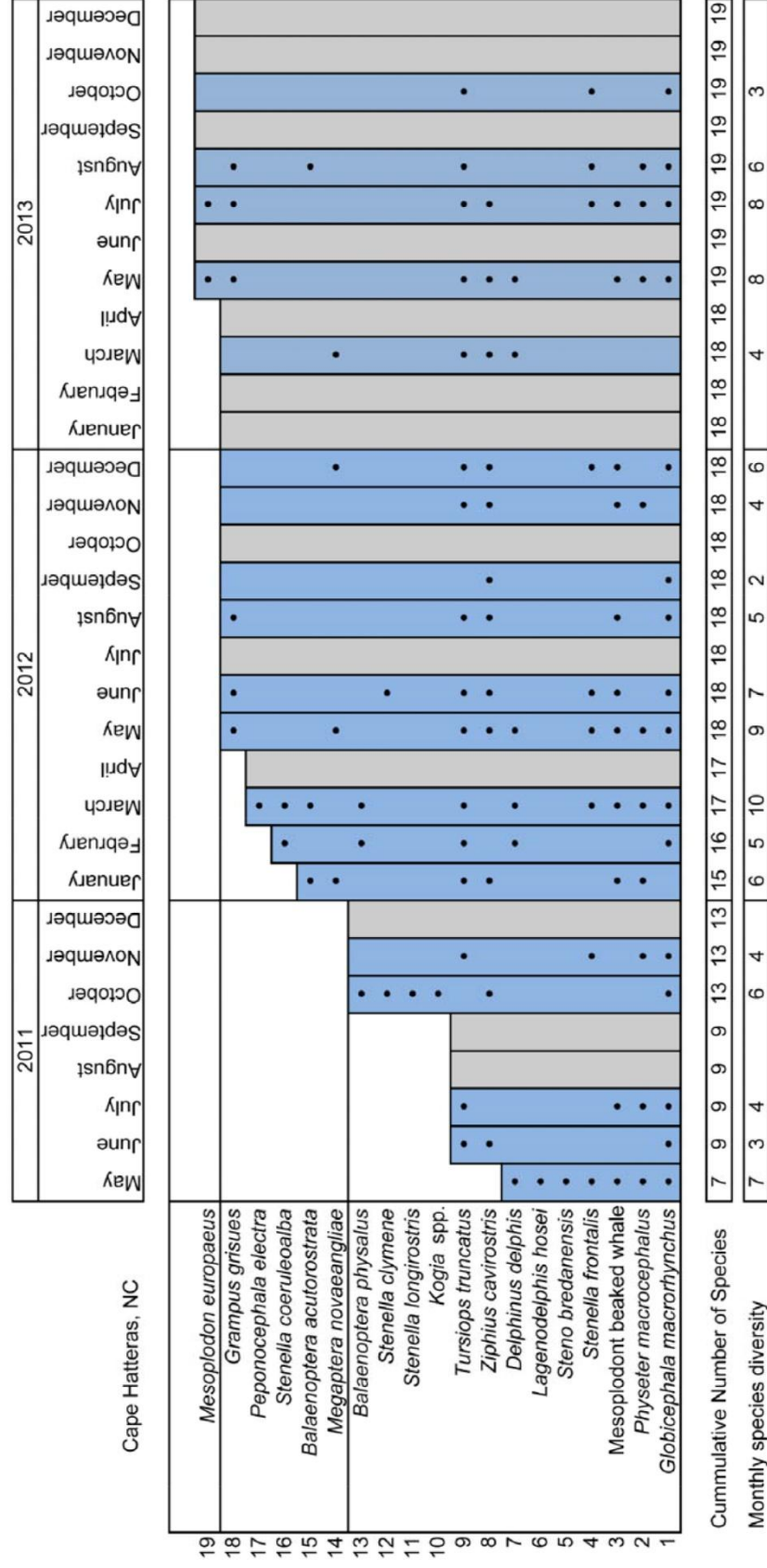
Fifty sea turtle sightings were recorded during this survey period. Forty two were identified as loggerhead sea turtles (*Caretta caretta*), and seven as a leatherback sea turtle (*Dermochelys coriacea*). Species identification could not be established with certainty for a single individual which is listed as “unidentified sea turtle” (Tables 15-16, Figures 17a-c & 18).

In addition to cetaceans and sea turtles, other pelagic marine vertebrates (*e.g.* manta rays, cownose rays, ocean sunfish, and unidentified sharks) were observed (Tables 17-20, Figure 19). Commercial, military and recreational vessels were also encountered in the survey area (Tables 21-23, Figures 20-22).

Table 1a. Total number of sightings and individuals for each species by month from January 2013 to December 2013 for the Cape Hatteras, North Carolina survey area.

	2013												Total
	January	February	March	April	May	June	July	August	September	October	November	December	
<i>Tursiops truncatus</i>			3		4		15	14		10			46
# of individuals			68		81		252	246		147			794
<i>Giobicephale macrorhynchus</i>					3		4	7		4			18
# of individuals					90		46	95		21			252
<i>Stenella frontalis</i>							1	7		1			9
# of individuals							75	263		225			563
<i>Grampus griseus</i>					2		2	1					5
# of individuals					11		73	6					90
<i>Ziphius cavirostris</i>			1		1		3						5
# of individuals			2		3		9						14
<i>Mesoplodon</i> spp.					2		2						4
# of individuals					5		4						9
<i>Physeter macrocephalus</i>					1		1	2					4
# of individuals					1		1	5					7
<i>Delphinus delphis</i>			2		1								3
# of individuals			26		180								206
<i>Mesoplodon europaeus</i>					1		2						3
# of individuals					2		9						11
<i>Balaenoptera acutorostrata</i>								1					1
# of individuals								1					1
<i>Megaptera novaeangliae</i>			1										1
# of individuals			4										4
Unidentified delphinid							1						1
# of individuals							6						6
Total sightings	0	0	7	0	15	0	31	32	0	15	0	0	100
Total individuals	0	0	100	0	373	0	475	616	0	393	0	0	1957

Table 1b. Cetacean discovery curve from May 2011 to December 2013 for the Cape Hatteras, North Carolina survey area. Dots denote months in which a species was observed. Grey bars denote months in which no survey effort was conducted.



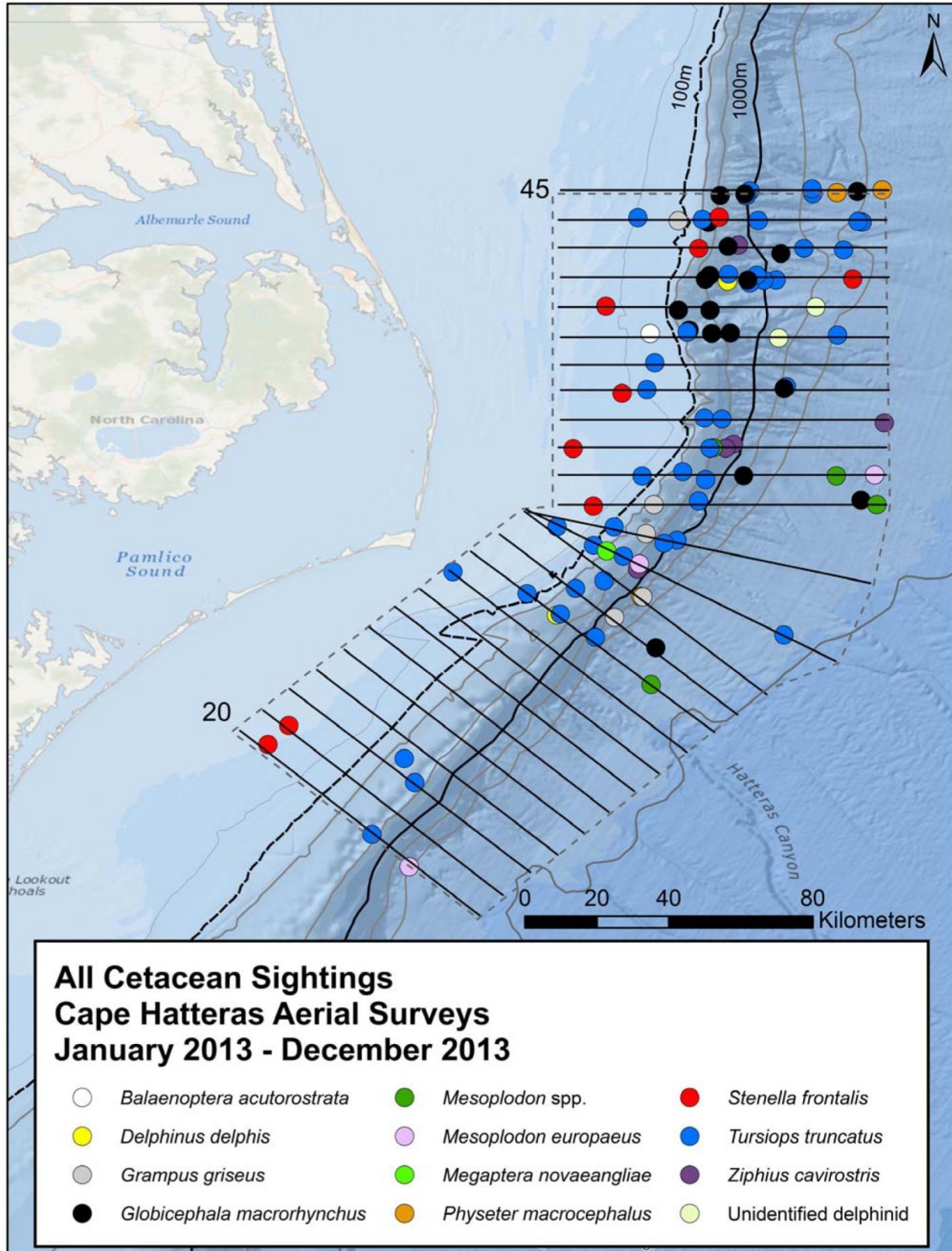


Figure 1. All cetacean sightings during aerial surveys conducted in Cape Hatteras, North Carolina from January 2013 to December 2013.

Methodology

Survey Design and Logistics

Aerial survey effort was initiated in the waters off Cape Hatteras, North Carolina in May of 2011 to assess the distribution and abundance of offshore cetacean species and sea turtles. These surveys are included in the Navy's Atlantic Fleet Active Sonar Training (AFAST) Monitoring Program, established to document marine species that could potentially be impacted by naval activities. The approximately 16000 km² survey area covers continental shelf waters as well as deeper waters beyond the shelf break. Placement of the survey area was designed to incorporate a large portion of the Cape Hatteras Special Research Area (CHSRA) in support of current research assessing fishery interactions between short-finned pilot whales and the local fisheries. The survey area excludes coastal waters to minimize survey effort in areas where the spatial distribution and relative abundance of coastal bottlenose dolphins has previously been established (Torres *et al.* 2003; Torres *et al.* 2005). Twenty six tracklines, ranging from 73.5 to 81.5 km long and orientated perpendicular to the coastline were evenly placed across the survey site.

Survey flights originated from the Fixed-base Operator (FBO) in Wilmington, NC with additional effort being conducted from the Dare County Regional Airport in Manteo, NC. Utilizing both airports maximized "on effort" survey time by decreasing transit time to and from the tracklines surveyed. A complete description of survey methods can be found in the Methodology section in the JAX Aerial Survey chapter of this report.

Table 2. Coordinates for trackline end points for the Hatteras survey area.

Transect Line	Eastern Waypoint		Western Waypoint	
Line	Latitude	Longitude	Latitude	Longitude
20	34.770853	-75.954044	34.315878	-75.364928
21	34.819136	-75.891558	34.365250	-75.298656
22	34.870261	-75.824811	34.418267	-75.226703
23	34.919967	-75.760906	34.469392	-75.166111
24	34.972511	-75.691319	34.522408	-75.097944
25	35.023633	-75.625994	34.571642	-75.039247
26	35.073339	-75.562089	34.617083	-74.971081
27	35.118783	-75.502444	34.668208	-74.908594
28	35.169908	-75.435697	34.721228	-74.840431
29	35.219611	-75.371792	34.768564	-74.77605
30	35.270736	-75.303628	34.817794	-74.711672
31	35.319019	-75.242561	34.868919	-74.649186
32	35.319019	-75.242561	34.948447	-74.469303
33	35.319019	-75.242561	35.139689	-74.384097
34	35.340331	-75.161133	35.340331	-74.333672
35	35.410389	-75.161133	35.410389	-74.333672
36	35.48045	-75.161133	35.48045	-74.333672
37	35.550508	-75.161133	35.550508	-74.333672
38	35.620569	-75.161133	35.620569	-74.333672
39	35.690628	-75.161133	35.690628	-74.333672
40	35.762581	-75.161133	35.762581	-74.333672
41	35.832642	-75.161133	35.832642	-74.333672
42	35.906486	-75.161133	35.906486	-74.333672
43	35.978439	-75.161133	35.978439	-74.333672
44	36.048500	-75.161133	36.048500	-74.333672
45	36.122344	-75.161133	36.122344	-74.333672

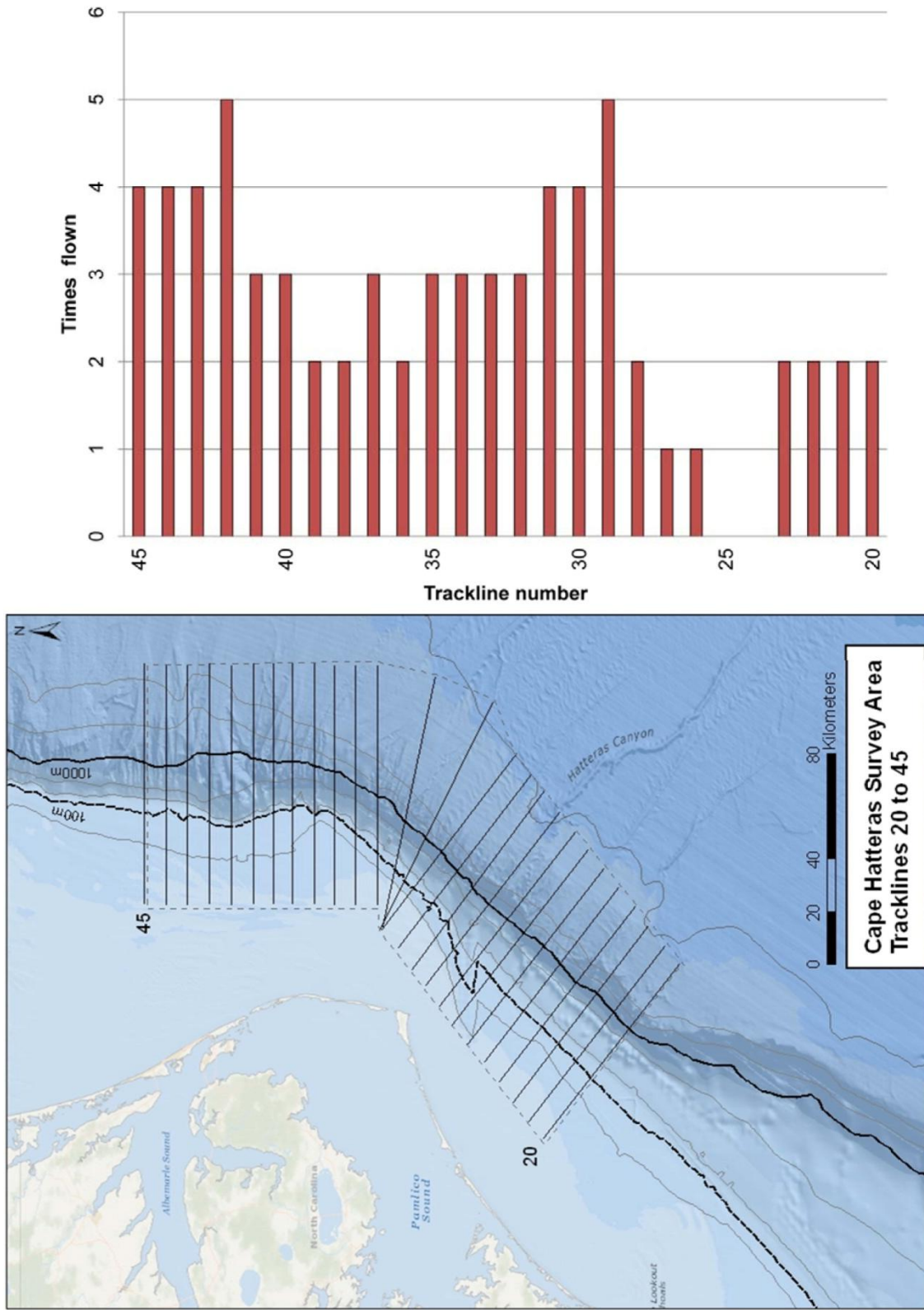


Figure 2. Survey tracklines and realized effort in the Cape Hatteras, North Carolina survey area.

Results

Sixty eight tracklines totaling 4935.9 km were surveyed from January 2013 to December 2013. Conditions during the 9 survey days ranged from a BSS 0 to 5 with 90% of effort in sea states less than or equal to a BSS 3.

An average Beaufort Sea State (BSS) value was calculated each month as a way to compare conditions across time. This average was calculated by taking the distance flown at each sea state multiplied by the BSS number (*i.e.* BSS 1 x distances would be multiplied by 1). These values were summed and then divided by the total distance flown that month. Survey conditions for this reporting period ranged from a BSS 0 to 5, with the majority of the surveys flown in a BSS 3 [BSS 0: 17.45 (<1%), BSS 1: 676.51 km (13.7%), BSS 2: 1297.27 km (26.3%), BSS 3: 2464.62 km (50%), BSS 4: 458.27 km (9.2%), BSS 5: 20.44 km (<1%)(Fig. 3a-c)]. Cetacean sighting rates dropped off as BSS increased, with 38.43 sightings/1000 km surveyed in BSS 1, 24.67 sightings/1000 km surveyed in BSS 2, 16.23 sightings/1000 km surveyed in BSS 3, 4.36 sightings/1000 km surveyed in BSS 4, and zero sightings/1000 km surveyed in BSS 5(Fig. 4a-c).

Mean sighting distance for all cetacean sightings was 0.91 km (SD=0.57). Sighting distances across sea states varied by less than 0.19 km (Fig.5a-b). Average sighting distances are normally calculated after removing outliers, defined as any value in excess of three standard deviations from the mean (Mean=0.91 km, SD=0.57*3=1.71, Outlier >2.62km). Two of the sighting distances were identified as outliers during this reporting period, one in BSS 2 of 3.08km and the other in BSS 4 of 3.49km. The only other sighting in a BSS 4 was at a distance of 0.5km, this single sighting is not presented in Figure 5b. In addition, eleven sightings did not have associated sighting distances, and were excluded from these calculations.

Table 3. Tracklines, km flown and Hobbs hours during aerial surveys of the Cape Hatteras, North Carolina survey area from January 2013 to December 2013. Trackline numbers are listed in the order in which they were flown.

Date	Tracklines Flown		Total km Flown	Hobbs Hours
	AM	PM		
30-Mar-2013	32, 29	N/A	148.3	4.4
28-May-2013	29 to 31, 33 to 35	37, 40 to 42	709.8	7.8
16-Jul-2013	20 to 23	45 to 42	585.9	6.8
17-Jul-2013	41, 37 to 39	29 to 26	580.6	5.1
18-Jul-2013	30 to 33	40, 36 to 34	590.2	7.4
20-Aug-2013	36 to 39	40 to 43	565.5	6.1
21-Aug-2013	44, 45, 35, 34	20 to 23	561.1	6.3
22-Aug-2013	33, 32, 31, 30, 29	45 to 42	619.7	6.7
28-Oct-2013	45, 44, 43, 42	31, 30, 29, 28	574.8	5.9
9 days	68 tracklines		4935.9 km	56.5 hrs

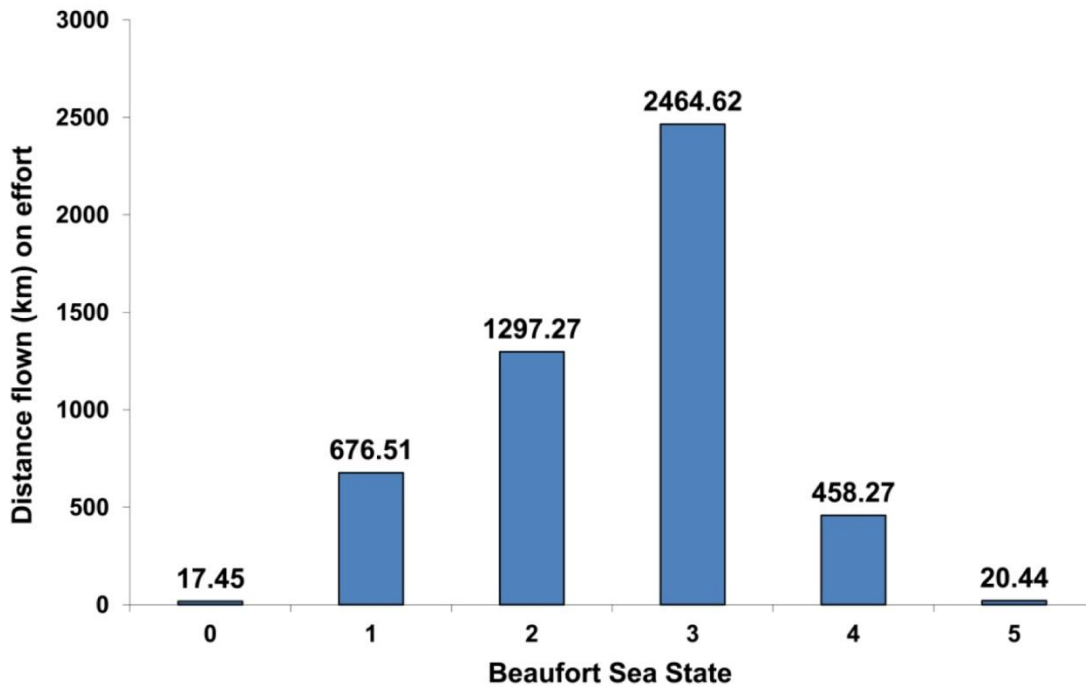


Figure 3a. Total distance surveyed per Beaufort Sea State from January 2013 to December 2013 during aerial surveys in the Cape Hatteras, North Carolina survey area.

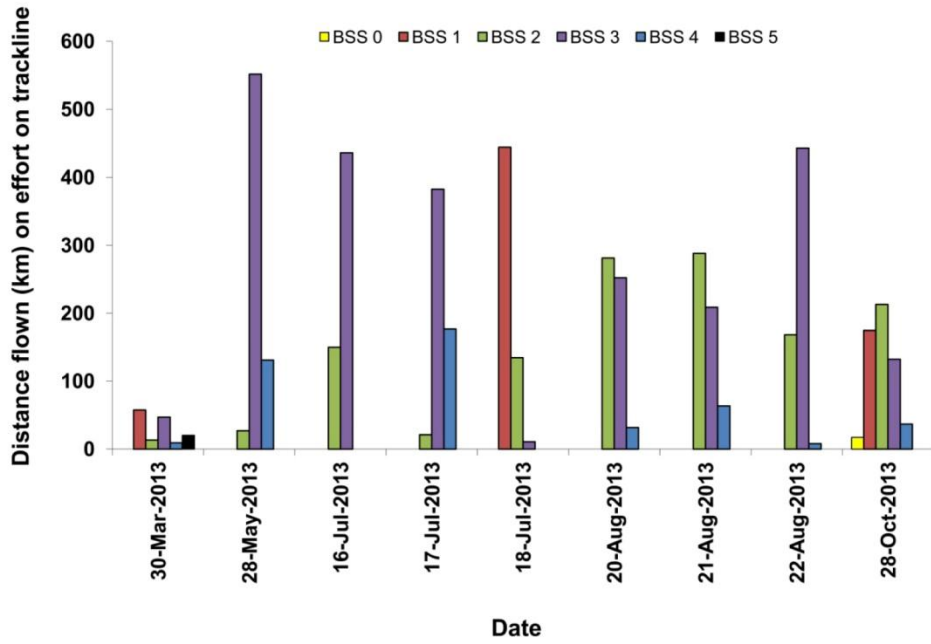


Figure 3b. Effort by Beaufort Sea State for each day from January 2013 to December 2013 during aerial surveys in the Cape Hatteras, North Carolina survey area.

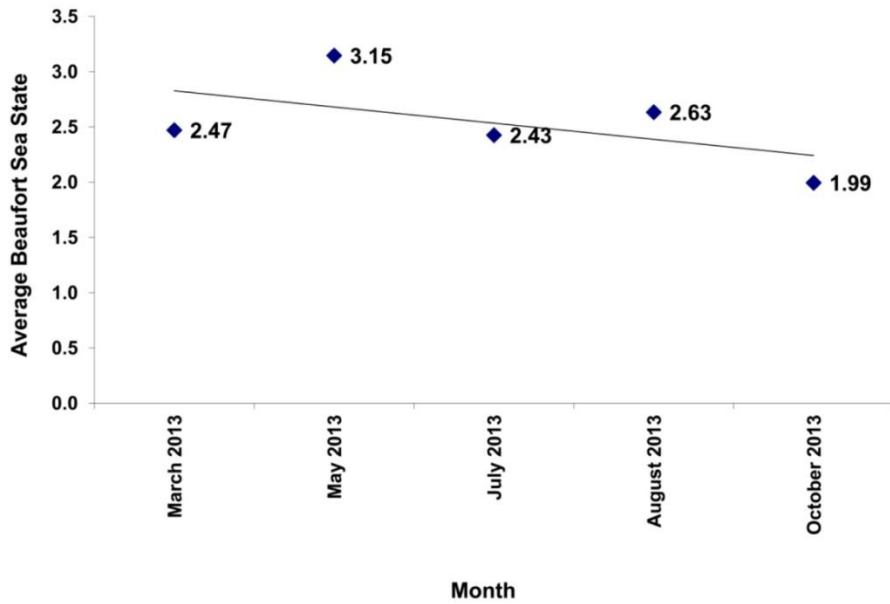


Figure 3c. Average Beaufort Sea State for each month from January 2013 to December 2013 during aerial surveys in the Cape Hatteras, North Carolina survey area. Values were calculated using the formula $AvgBSS = [(Distance @ 1*1) + \dots / Total\ distance\ flown\ that\ day]$

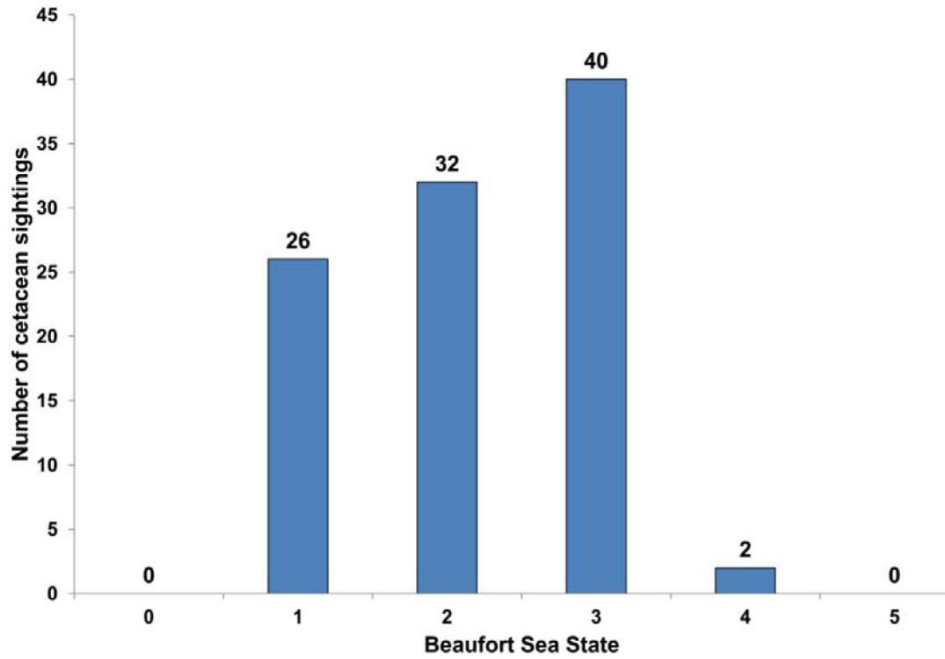


Figure 4a. Number of cetacean sightings per Beaufort Sea State from January 2013 to December 2013 during aerial surveys in the Cape Hatteras, North Carolina survey area.

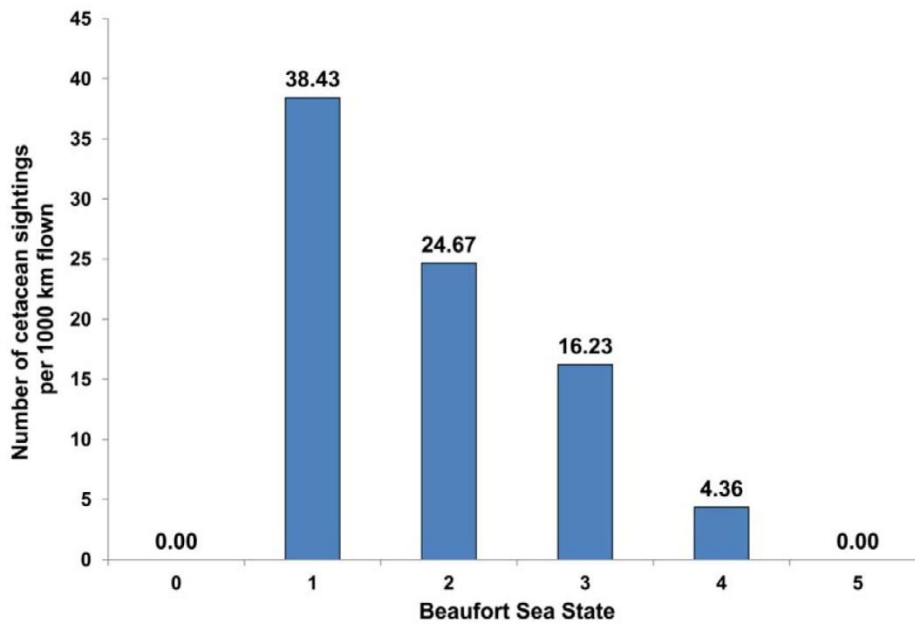


Figure 4b. Cetacean sightings per 1000 km flown by Beaufort Sea State from January 2013 to December 2013 during aerial surveys in the Cape Hatteras, North Carolina survey area.

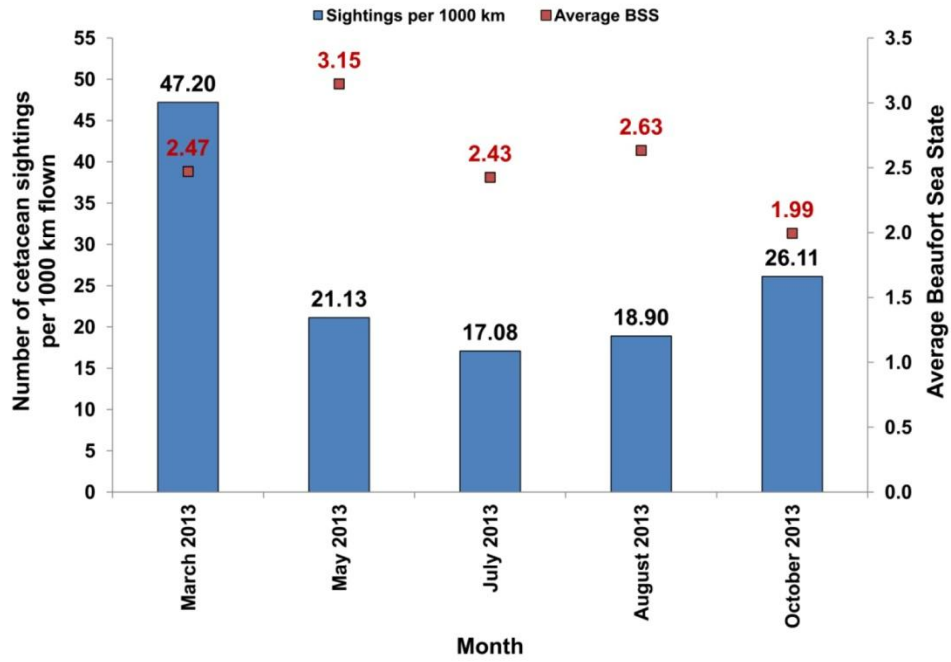


Figure 4c. Cetacean sightings per 1000 km surveyed and the average Beaufort Sea State per month from January 2013 to December 2013 during aerial surveys in the Cape Hatteras, North Carolina survey area.

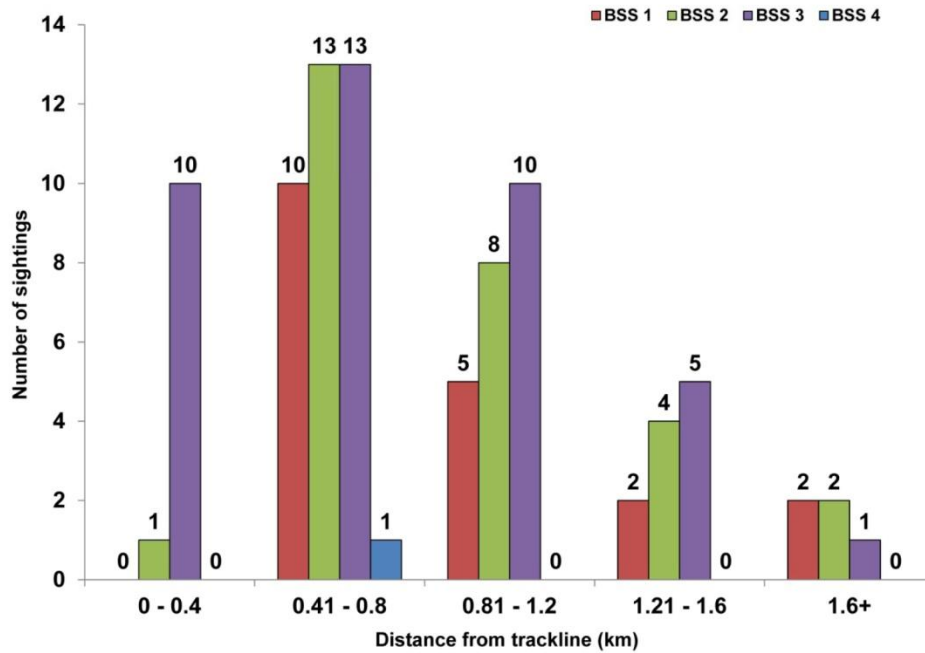


Figure 5a. Sighting distances by Beaufort Sea State for 87 of 100 on effort cetacean sightings from January 2013 to December 2013 during aerial surveys in the Cape Hatteras, North Carolina survey area.

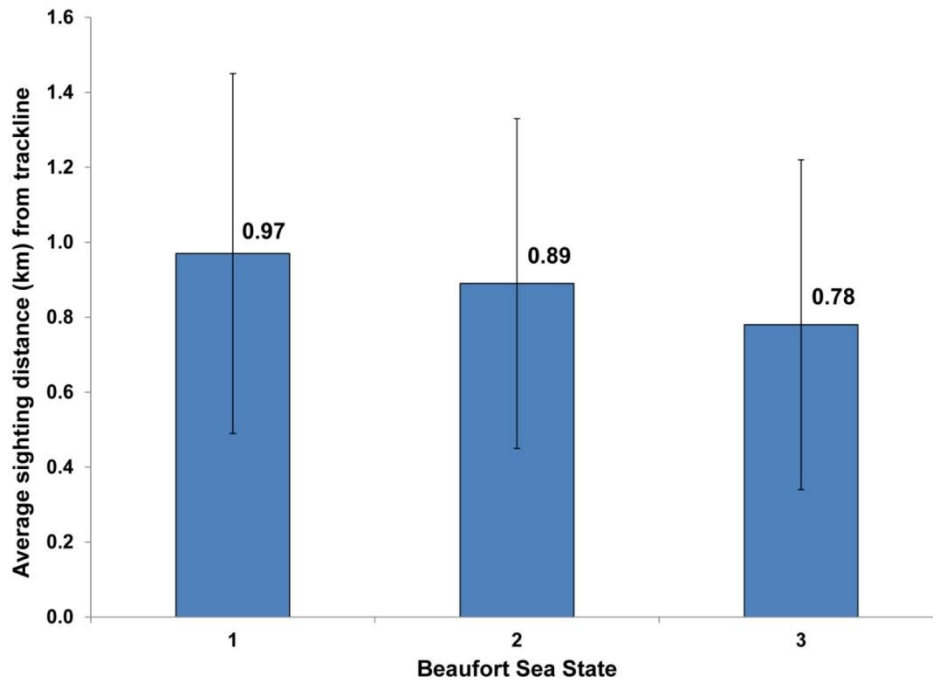


Figure 5b. Average sighting distances by Beaufort Sea State for 87 of 100 on effort cetacean sightings from January 2013 to December 2013 during aerial surveys in the Cape Hatteras, North Carolina survey area. Error bars denote standard deviation for each category.

Marine Mammal Sightings

A total of 100 sightings of 1957 individual cetaceans representing ten species were observed while on effort during the reporting period. Two endangered species – humpback (*Megaptera novaeangliae*) and sperm (*Physeter macrocephalus*) whales – were encountered in the survey area. All identified species sighted are listed below in order of decreasing number of sightings (*i.e.* most commonly sighted species first). Four cetacean species had additional sightings that were recorded while off effort. These sightings are included in the below tables and maps for each species but are excluded from any calculations. A sighting was considered off effort if it occurred while transiting to or from the survey area or between tracklines. Any cetaceans the survey team encountered while investigating a separate sighting cue were also labeled off effort. If two species were seen associated with the same sighting cue both were considered on effort. Total number of individuals is based upon the best estimate of group size. Information on individual sighting summaries are in Appendix A. Daily sightings are summarized in Appendix B.

Bottlenose dolphin (*Tursiops truncatus*) (Table 4, Figure 6)

This species was the most commonly observed cetacean species with 46 sightings for 943 individuals. This species was observed during every month of survey effort during this reporting period. Group size ranged between three and 60 individuals (mean=17). One off effort sighting of 14 individuals was recorded on the offshore end of our survey area. The majority of sightings occurred at distances greater than 37 km from shore and in waters beyond the 100 m isobaths. Based upon the distance from shore (*i.e.* greater than 34 km), these bottlenose dolphins were most likely the offshore ecotype (Torres *et al.* 2003). Genetic analysis of biopsy samples (n=30) collected inside the survey area confirm that all dolphins sampled belong to the offshore ecotype (Swaim *et al.* 2013) The current best estimate of offshore bottlenose dolphin in the western Atlantic, between central Florida and Canada, is 81588 (CV=0.17) (Waring *et al.* 2008). The status of the offshore bottlenose dolphins stock in the Northwest Atlantic is unknown.

Table 4. Bottlenose dolphin (*Tursiops truncatus*) sightings in the Cape Hatteras, North Carolina survey area from January 2013 to December 2013. Asterisk denotes off effort sightings.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
30-Mar-13	11:33	4	35.283833	-75.162713	E	32	3	90°	3
30-Mar-13	11:38	7	35.236617	-75.071242	E	32	3	90°	12
30-Mar-13	12:58	21	35.115493	-75.237638	W	29	3	90°	53
28-May-13	14:27	50	35.556541	-74.794313	W	37	3	90°	26
28-May-13	14:34	54	35.554407	-74.750403	W	37	2	90°	18
28-May-13	15:04	66	35.764729	-74.461337	E	40	2	100°	19
28-May-13	16:02	83	35.903524	-74.614975	E	42	2	90°	18
16-Jul-13	10:53	5	34.511157	-75.625345	SE	20	2	100°	13
16-Jul-13	11:57	22	34.641013	-75.518358	SE	22	3	100°	18
16-Jul-13	14:46	38	36.126701	-74.680803	E	45	2	90°	25
16-Jul-13	15:08	44	36.048312	-74.399638	W	44	1	90°	35
16-Jul-13	16:39	74	35.902641	-74.645998	W	42	1	100°	15
17-Jul-13	9:31	12	35.826554	-74.308735	E	41	1	90°	14
18-Jul-13	9:22	90	35.128454	-75.116241	SE	30	1	100°	7
18-Jul-13	10:05	99	35.147892	-75.044946	NW	31	1	90°	9
18-Jul-13	11:15	117	35.249551	-74.862564	NW	33	3	90°	20
18-Jul-13	11:28	122	35.283093	-75.020068	NW	33	2	60°	20
18-Jul-13	13:25	138	35.772371	-74.837177	E	40	2	90°	12
18-Jul-13	14:12	157	35.480616	-74.780087	W	36	2	90°	12
18-Jul-13	14:39	167	35.421648	-74.848720	E	35	2	90°	20
18-Jul-13	14:44	171	35.402009	-74.790934	E	35	1	90°	15
18-Jul-13	15:31	186	35.348792	-74.808742	W	34	3	90°	17
20-Aug-13	12:09	22	35.627561	-74.938017	E	38	2	90°	6
20-Aug-13	12:32	28	35.635088	-74.589241	E	38	2	90°	4
20-Aug-13	13:01	36	35.695223	-74.918406	W	39	1	90°	5
20-Aug-13	16:19	83	35.918025	-74.733924	E	42	3	90°	8
20-Aug-13	16:23	87	35.895733	-74.680760	E	42	3	60°	33
21-Aug-13	9:24	9	36.055076	-74.799332	E	44	2	90°	4
21-Aug-13	10:06	32	36.119509	-74.523369	W	45	1	90°	26
21-Aug-13	10:53	47	35.411016	-74.949978	E	35	1	90°	7
21-Aug-13	14:50	83	34.701233	-75.544753	SE	22	3	60°	60
22-Aug-13	9:33	106	35.242160	-74.895108	E	33	1	60°	12
22-Aug-13	10:11	113	35.011683	-74.595534	W	32	1	60°	17
22-Aug-13	10:35	119	35.209608	-74.996505	W	32	2	45°	11
22-Aug-13	14:39	153	36.052323	-74.659556	W	44	1	90°	18
22-Aug-13	15:46	168	35.915245	-74.662982	W	42	2	60°	35
28-Oct-13	10:35	5	36.114021	-74.689719	E	45	1	100°	17
28-Oct-13	10:48	12	36.131832	-74.525365	E	45	2	60°	20
28-Oct-13	11:02	22	36.050359	-74.410421	W	44	1	90°	40
28-Oct-13	11:24	29	36.059610	-74.960555	W	44	3	90°	6
28-Oct-13	11:58	41	35.982661	-74.545324	E	43	2	90°	20
28-Oct-13	12:05	47	35.978777	-74.446052	E	43	1	90°	3
28-Oct-13	12:36	63	35.915063	-74.780864	W	42	2	90°	6
28-Oct-13	15:20	79	35.064253	-75.154661	SE	29	2	120°	11
28-Oct-13	15:29	83	35.005833	-75.066890	SE	29	2	90°	20
28-Oct-13	16:08	91	35.170267	-75.423025	NW	28	3	110°	4

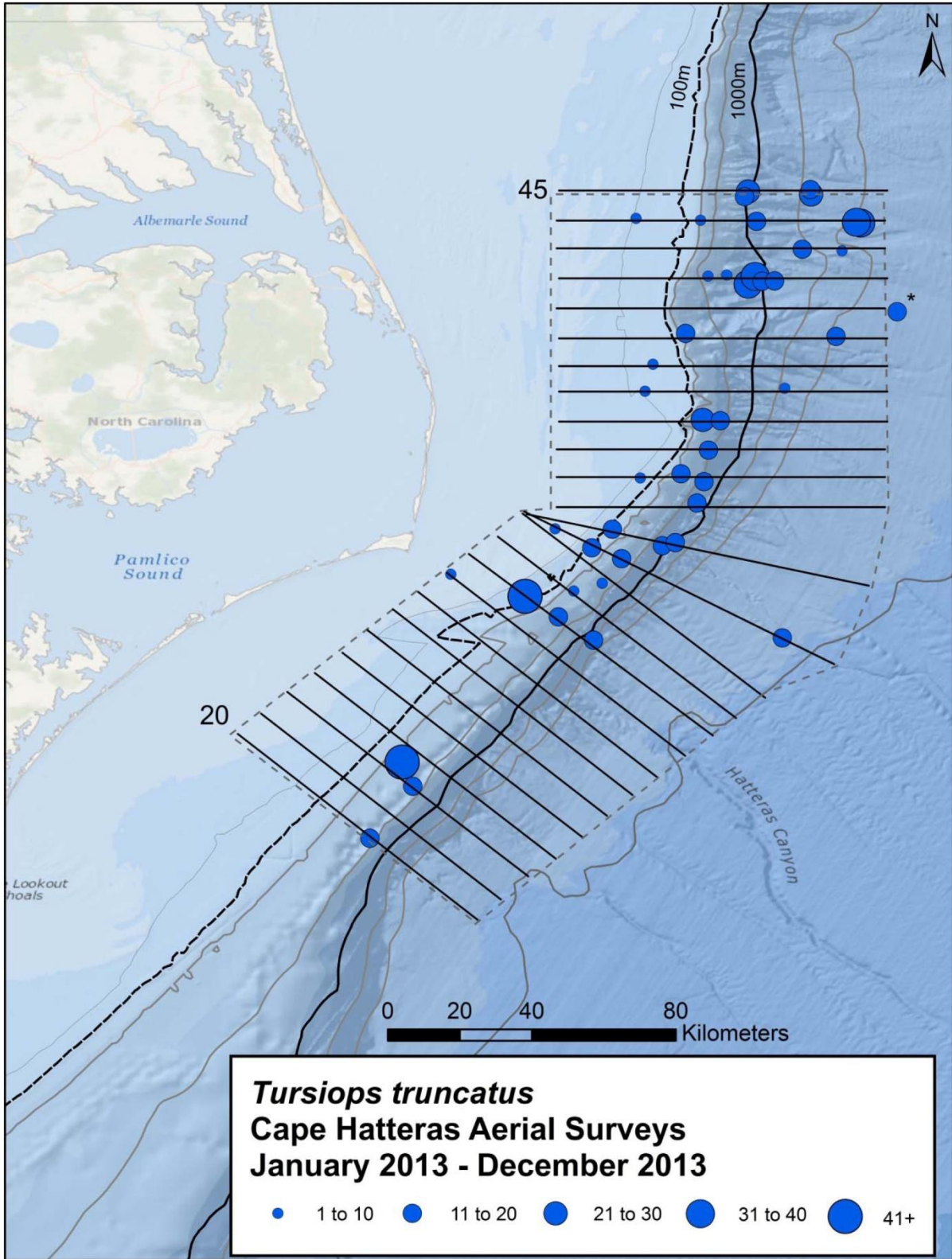


Figure 6. Bottlenose dolphin (*Tursiops truncatus*) sightings indicating group size. Asterisk denotes off effort sightings.

Short-finned pilot whale (*Globicephala macrorhynchus*) (Table 5, Figure 7)

This species was observed 18 times for a total of 252 individuals and was seen in four of the five months in which surveys were conducted. Group sizes ranged from one to 80 individuals (mean=14).

Sightings of pilot whales in the western North Atlantic occur primarily near the continental shelf break (Waring *et al.* 2010), and sightings in the Cape Hatteras survey area followed this pattern. Pilot whales were observed from the 100 m isobath to waters greater than 2000 m deep (Figure 7). As both species of *Globicephala* have been reported in the waters north of Cape Hatteras, careful examination of all photos was conducted to determine whether long-finned pilot whales (*Globicephala melas*) were encountered. All sightings were identified as *Globicephala macrorhynchus*. The difficulty of differentiating short-finned and long-finned pilot whales at sea results in NMFS reporting stock numbers and status for both species grouped as *Globicephala* spp. (Waring *et al.* 2011). The abundance estimate of *Globicephala* spp. (24674, CV=0.45) is based upon shipboard surveys along the outer continental shelf of the U.S. Atlantic between Florida and Maryland in 2004 (Waring *et al.* 2011). These estimates were combined with spatial distribution analysis, as well as genetic analyses, to generate the current value of 24674. The status of short-finned pilot whales in the U.S. Atlantic is currently unknown (Waring *et al.* 2011).

Table 5. Short-finned pilot whale (*Globicephala macrorhynchus*) sightings in the Cape Hatteras, North Carolina survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
28-May-13	10:26	12	34.979820	-74.915520	NW	30	2	100°	6
28-May-13	12:15	32	35.350653	-74.402770	E	34	2	90°	4
28-May-13	15:35	75	35.827554	-74.859116	W	41	2	90°	80
16-Jul-13	15:25	48	36.047800	-74.784396	W	44	2	90°	10
16-Jul-13	16:48	78	35.904796	-74.791456	W	42	1	90°	8
18-Jul-13	13:23	137	35.777435	-74.832254	E	40	2	90°	16
18-Jul-13	14:49	175	35.411805	-74.695952	E	35	1	90°	12
20-Aug-13	12:33	29	35.630449	-74.595169	E	38	2	90°	2
20-Aug-13	15:10	51	35.769053	-74.776011	E	40	3	90°	2
20-Aug-13	15:14	54	35.769931	-74.728976	E	40	2	90°	13
20-Aug-13	15:44	68	35.827280	-74.780002	W	41	3	100°	8
20-Aug-13	16:49	94	35.987213	-74.734562	W	43	1	90°	19
21-Aug-13	10:17	38	36.115082	-74.754407	W	45	2	90°	11
22-Aug-13	13:59	142	36.125361	-74.412052	E	45	2	90°	40
28-Oct-13	10:41	6	36.118893	-74.692822	E	45	1	100°	8
28-Oct-13	11:51	37	35.969512	-74.602950	E	43	4	90°	1
28-Oct-13	12:33	58	35.903083	-74.685450	W	42	2	90°	6
28-Oct-13	12:39	64	35.914425	-74.781194	W	42	2	90°	6

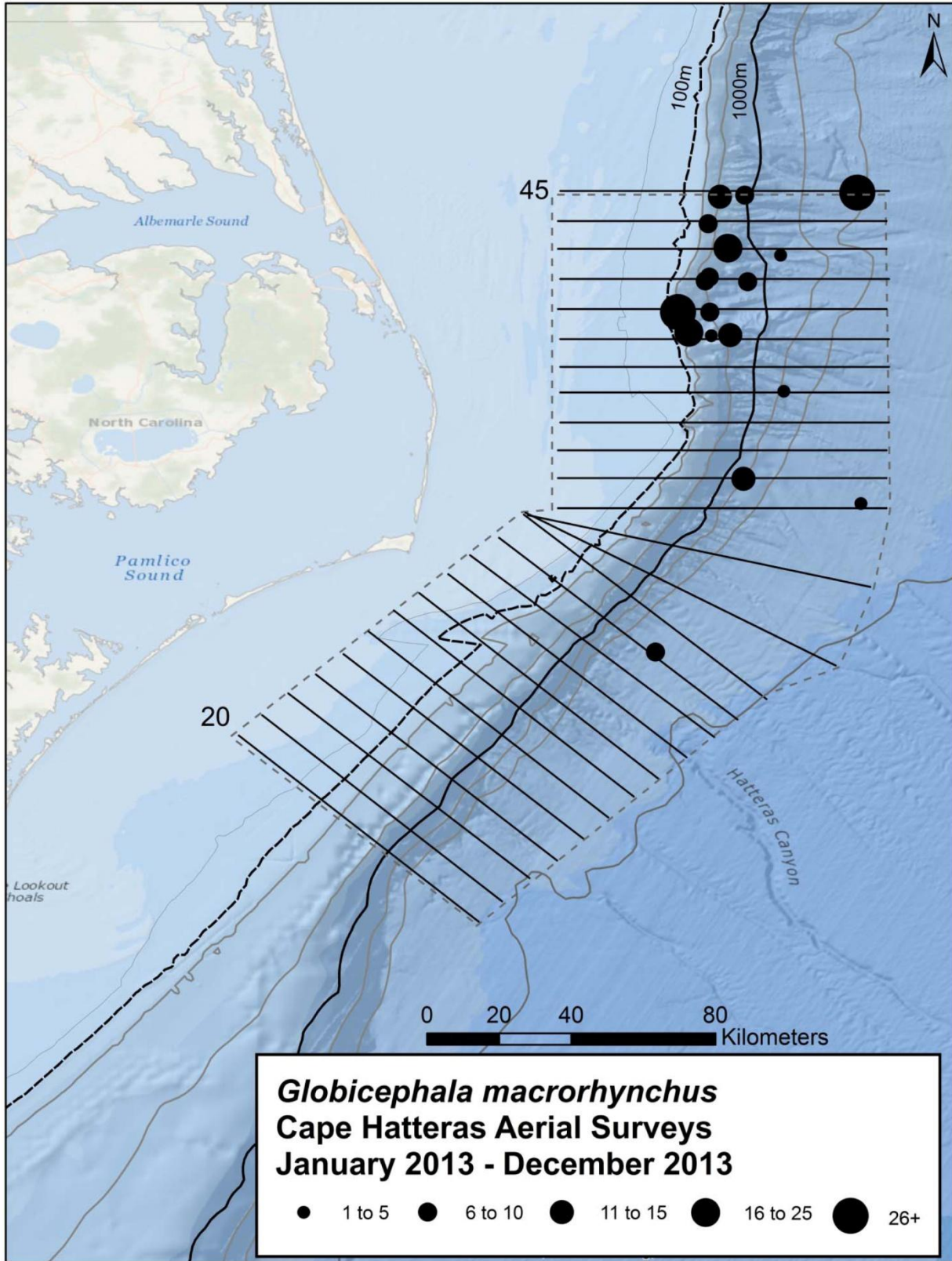


Figure 7. Short-finned pilot whale (*Globicephala macrorhynchus*) sightings indicating group size.

Atlantic spotted dolphin (*Stenella frontalis*) (Table 6, Figure 8)

Nine sightings of 563 individuals were observed while on effort in the Cape Hatteras survey area. Group size ranged between six and 225 (mean=62). There are two distinct forms, or ecotypes, of the Atlantic spotted dolphin in the western north Atlantic: a heavily spotted, larger form that typically occurs on the continental shelf and is most often encountered around the 200 m isobath or shallower water, and a less spotted and smaller form that occurs further offshore and around islands (Perrin *et al.* 1987, 1994). Examination of photos collected during each sighting and the animals' physical location in both shallow and deep waters suggests both ecotypes are present within the survey area. The abundance estimate for *S. frontalis* in the western north Atlantic is 26798 (CV=0.66); the status of the stock(s) is/are unknown (Waring *et al.* 2012).

Table 6. Atlantic spotted dolphin (*Stenella frontalis*) sightings in the Cape Hatteras, North Carolina survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
16-Jul-13	16:00	62	35.982496	-74.808348	E	43	2	90°	75
20-Aug-13	11:05	5	35.479552	-75.122299	E	36	2	90°	10
20-Aug-13	12:01	18	35.618659	-75.000186	E	38	2	45°	48
20-Aug-13	15:56	73	35.837502	-75.040347	W	41	1	90°	35
21-Aug-13	9:28	13	36.060786	-74.756754	E	44	3	90°	150
21-Aug-13	11:33	58	35.335280	-75.071666	W	34	2	90°	8
21-Aug-13	13:45	66	34.736882	-75.885247	SE	20	2	90°	6
21-Aug-13	14:30	76	34.784271	-75.833001	NW	21	2	60°	6
28-Oct-13	12:23	53	35.905673	-74.423186	W	42	3	100°	225

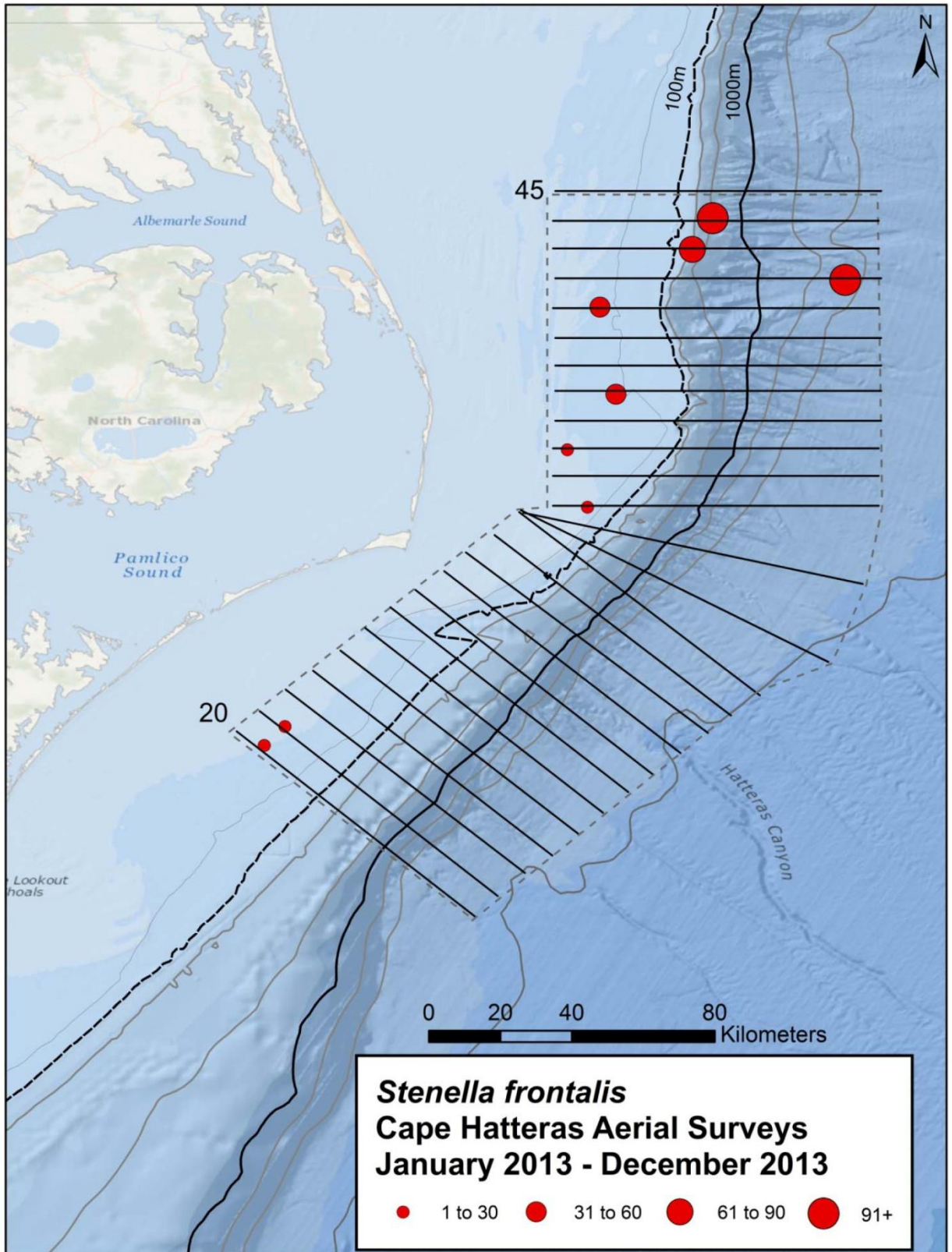


Figure 8. Atlantic spotted dolphin (*Stenella frontalis*) sightings indicating group size.

Sperm whale (*Physeter macrocephalus*) (Table 7, Figure 9)

This species was observed four times, for a total of seven individuals while on effort, and was seen in three of the five months surveyed this reporting period. Group size ranged between one and four individuals. All sightings were recorded beyond the continental shelf, in depths greater than 1000m. Three additional off effort sightings of this species were recorded this year all located in the waters beyond our survey area. On May 28, a trio of adult animals was observed offshore of trackline 39. On August 22, off of trackline 44, we observed a large disturbance caused by a breach a single adult sperm whale. Shortly after breaking from this sighting a group of two adult sperm whales and a mom-calf pair were observed while transiting back to the survey site. The adult female and calf stayed in close proximity to each other and the calf was observed moving into a suckling positioning multiple times. All animals remained at the surface and close to one another throughout our observations. Sperm whales are listed as endangered under the Endangered Species Act, and the current best population estimate for the species, based upon survey effort from North Carolina to the southern Bay of Fundy, is 1593 (CV=0.36) (Waring *et al.* 2012).

*Table 7. Sperm whale (*Physeter macrocephalus*) sightings in the Cape Hatteras, North Carolina survey area from January 2013 to December 2013. Asterisk denotes off effort sightings.*

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
28-May-13	10:58	20	35.108432	-74.952876	SE	31	1	90°	1
28-May-13	14:54	63	35.710991	-74.297119	N		3	90°	3 *
18-Jul-13	11:15	117	35.249551	-74.862564	NW	33	3	90°	1
21-Aug-13	9:57	24	36.129123	-74.349572	W	45	3	90°	1
21-Aug-13	10:02	28	36.122438	-74.462890	W	45	2	60°	4
22-Aug-13	14:21	147	36.050282	-74.255742	E		3	90°	1 *
22-Aug-13	14:23	149	36.050945	-74.282777	E		3	90°	4 *

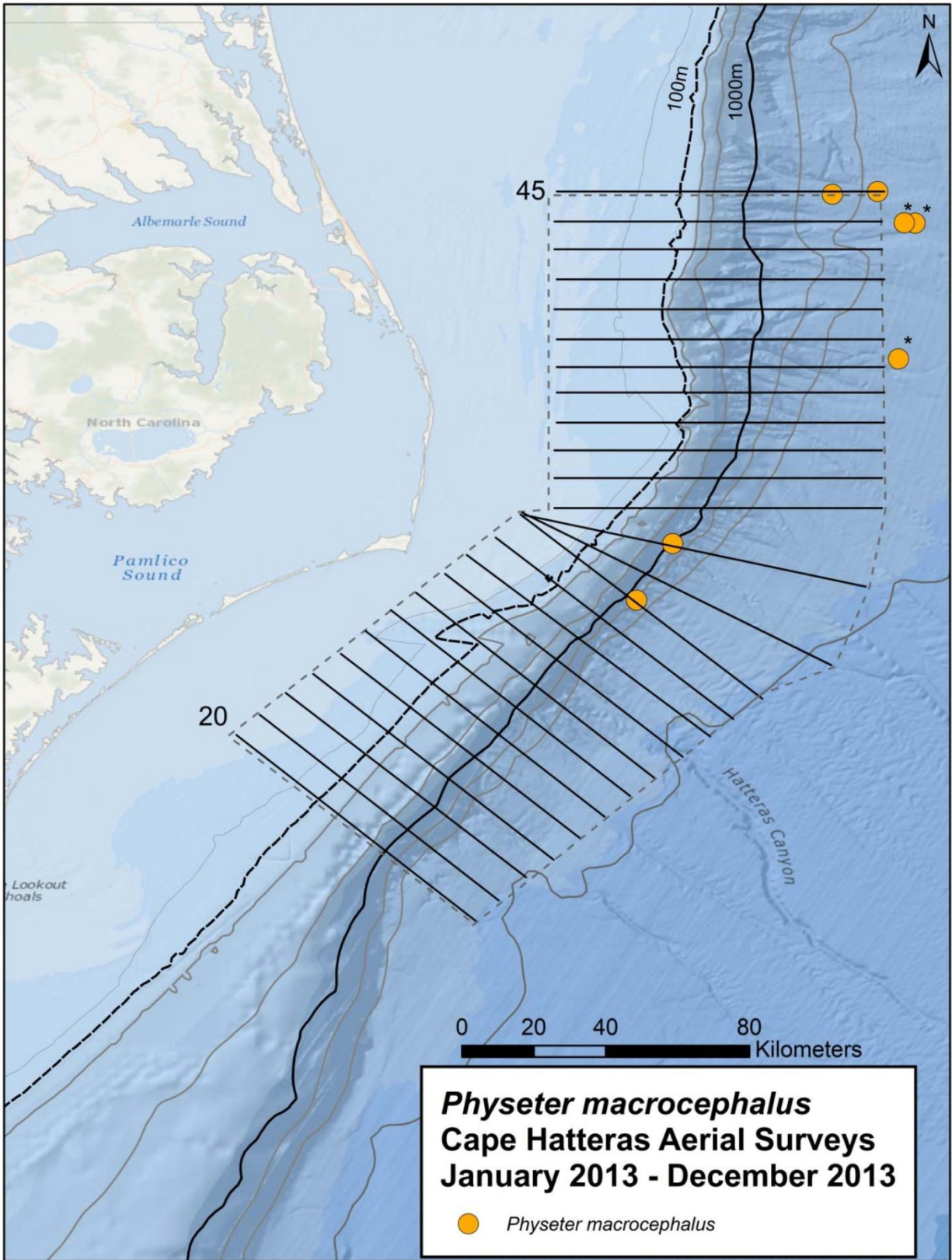


Figure 9. Sperm whale (*Physeter macrocephalus*) sightings. Asterisk denotes off effort sightings.

Risso's dolphin (*Grampus griseus*) (Table 8, Figure 10)

This species was encountered five times while on effort for a total of 90 individuals (Figure 10). Group size for this species ranged from 4 to 50 individuals (mean=20). One additional off effort sighting was made on the offshore end of trackline 44. Risso's dolphins were recorded in three of the five months surveyed, and were sighted from inside the 100m isobath to greater than 2000m. Risso's dolphins have been found along the mid-Atlantic continental shelf edge year round, with some movement north during spring, summer and fall, and into the mid-Atlantic Bight during winter (Waring *et al.* 2011). The best available estimate for Risso's dolphins, based on results from two US Atlantic surveys conducted in 2011, is 15197 (CV=0.55) (Waring *et al.* 2012). Data are currently insufficient to determine the population trend for this species in the western Atlantic (Waring *et al.* 2012).

Table 8. Risso's dolphin (*Grampus griseus*) sightings in the Cape Hatteras, North Carolina survey area from January 2013 to December 2013. Asterisk denotes off effort sightings.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
28-May-13	10:35	15	35.055930	-75.018661	NW	30	2	100°	4
28-May-13	11:40	26	35.266043	-74.939789	W	33	2	45°	7
16-Jul-13	15:34	52	36.051731	-74.859693	W	44	2	90°	23
18-Jul-13	15:40	190	35.339014	-74.920563	W	34	2	90°	50
21-Aug-13	9:52	20	36.072366	-74.313114	E	44			30
22-Aug-13	11:01	124	35.107765	-74.948416	SE	31	1	90°	6

*

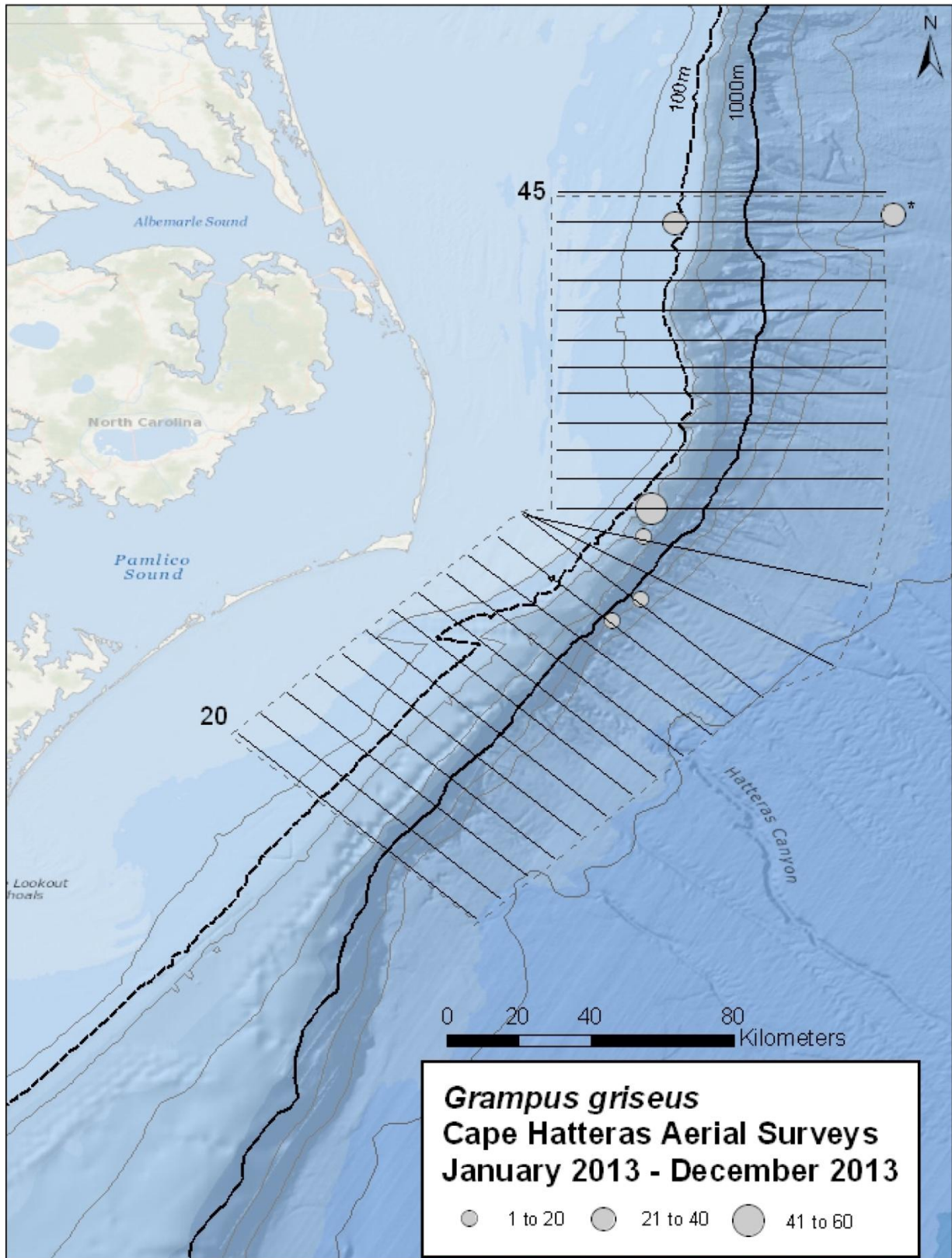


Figure 10. Risso's dolphin (*Grampus griseus*) sightings indicating group size.

Cuvier's beaked whale (*Ziphius cavirostris*) (Table 9, Figure 11)

Five sightings of 14 individuals occurred while on effort in the Cape Hatteras survey area, and this species was observed in three of the five months in which surveys were conducted. Group sized ranged from pairs up to four individuals. Sighting occurred from just inshore the 1000m isobaths out to 2000m. The best estimate for population size for this species, based upon 2011 survey data, is 4962 (CV=0.37). Data are currently insufficient to determine the population trend for this species in the western Atlantic (Waring *et al.* 2012).

Table 9. Cuvier's beaked whale (Ziphius cavirostris) sightings in the Cape Hatteras, North Carolina survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
30-Mar-13	12:03	9	35.176384	-74.961141	E	32	3	90°	2
28-May-13	14:47	59	35.544498	-74.344333	W	37	2	90°	3
16-Jul-13	16:15	66	35.990592	-74.708755	E	43	3	45°	4
18-Jul-13	14:01	147	35.491165	-74.721264	W	36	2	60°	2
18-Jul-13	14:05	151	35.480761	-74.740742	W	36	1	90°	3

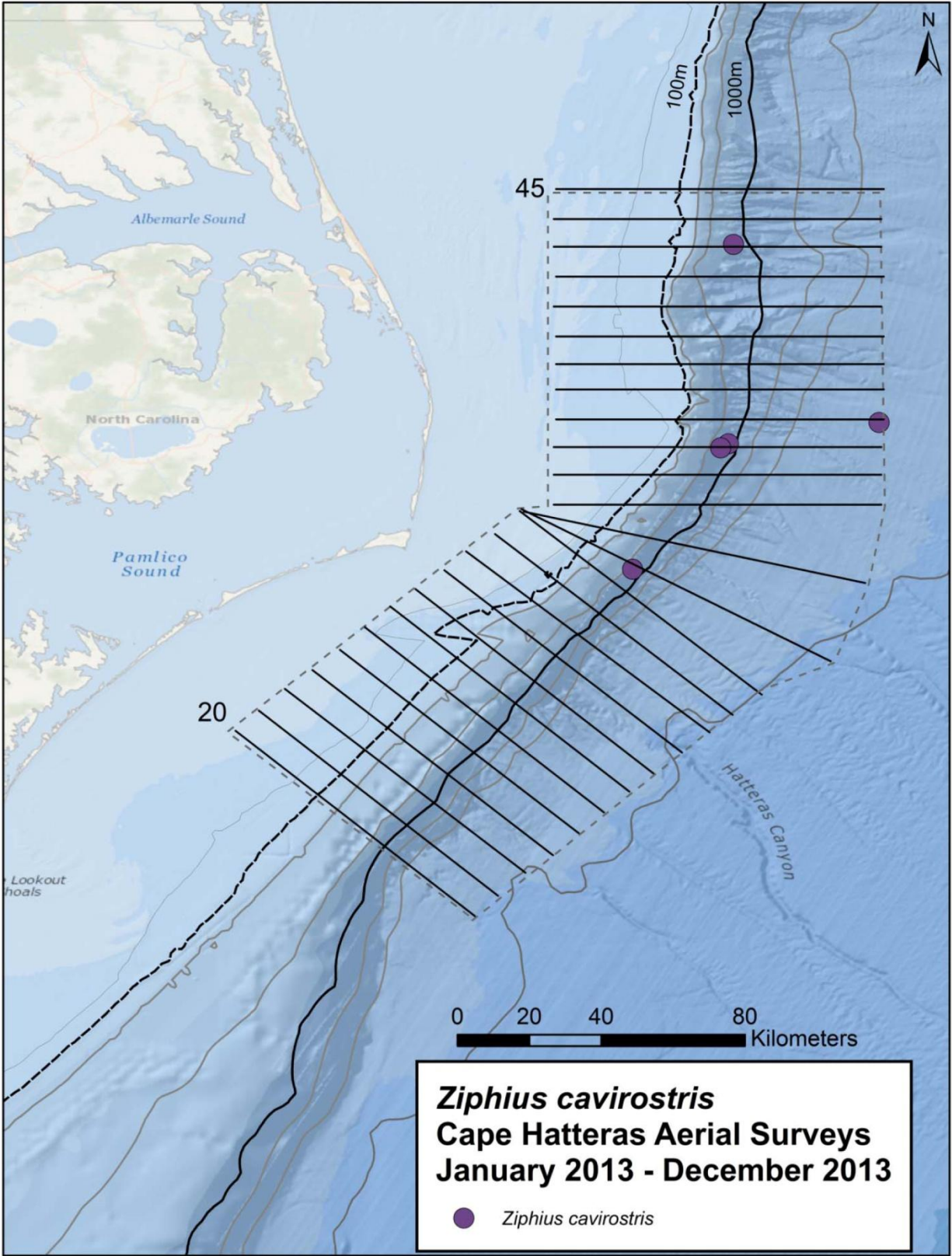


Figure 11. Cuvier's beaked whale (*Ziphius cavirostris*) sightings.

Beaked whale (*Mesoplodon* spp.) (Table 10, Figure 12)

On four occasions animals were identified as beaked whales but were determined not to be either Gervais' beaked whales (*Mesoplodon europaeus*) or *Z. cavirostris*. Since no species ID could be established they are listed here as *Mesoplodon* spp. Sightings occurred from just inside the 1000m isobaths to waters greater than 2000m. The difficulty in differentiating the various species of mesoplodont whales has led NMFS to create a single combined stock estimate for all species in the western Atlantic. Surveys conducted in 2004 from Maryland to Florida resulted in an estimate abundance at 674 animals (CV=0.36). The status of the various beaked whales stock in the Northwest Atlantic is unknown (Waring *et al.* 2012).

Table 10. Unidentified *Mesoplodon* species sightings in the Cape Hatteras, North Carolina survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
28-May-13	10:04	6	34.887077	-74.927528	SE	29	1	120°	3
28-May-13	12:36	42	35.411508	-74.464577	W	35	2	90°	2
18-Jul-13	14:07	154	35.481844	-74.772154	W	36	1	90°	2
18-Jul-13	15:12	181	35.339282	-74.363218	W	34	1	90°	2

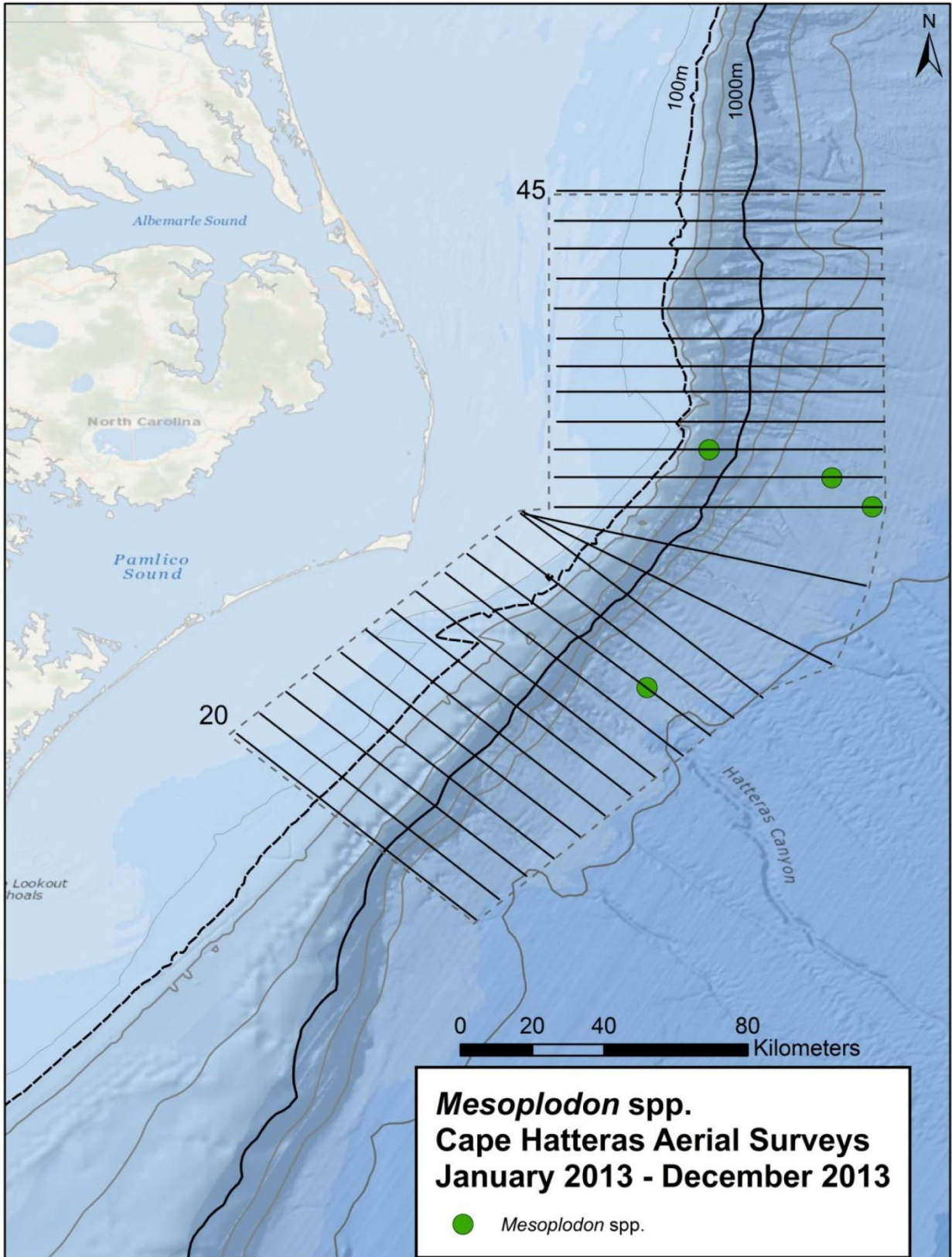


Figure 12. Unidentified *Mesoplodon* species sightings.

Gervais beaked whale (*Mesoplodon europaeus*) (Table 11, Figure 13)

This year the examination of all of our beaked whale sightings allowed for three sightings to be classified to species as Gervais' beaked whales (*Mesoplodon europaeus*). The position of erupted teeth in one adult male animal sighted was used for species identification; these images were compared to those collected during other beaked whale encounters resulting in two more groups being labeled as Gervais beaked whales. As noted above NMFS gives a single combined stock estimate for all species in the western Atlantic. The status of the various beaked whales stock in the Northwest Atlantic is unknown (Waring *et al.* 2009).

Table 11. Gervais' beaked whale (Mesoplodon europaeus) sightings in the Cape Hatteras, North Carolina survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
28-May-13	12:23	38	35.414108	-74.368509	W	35	2	45°	2
16-Jul-13	11:03	10	34.430081	-75.532243	SE	20	3	90°	4
18-Jul-13	10:29	109	35.190215	-74.956620	SE	32	2	90°	5

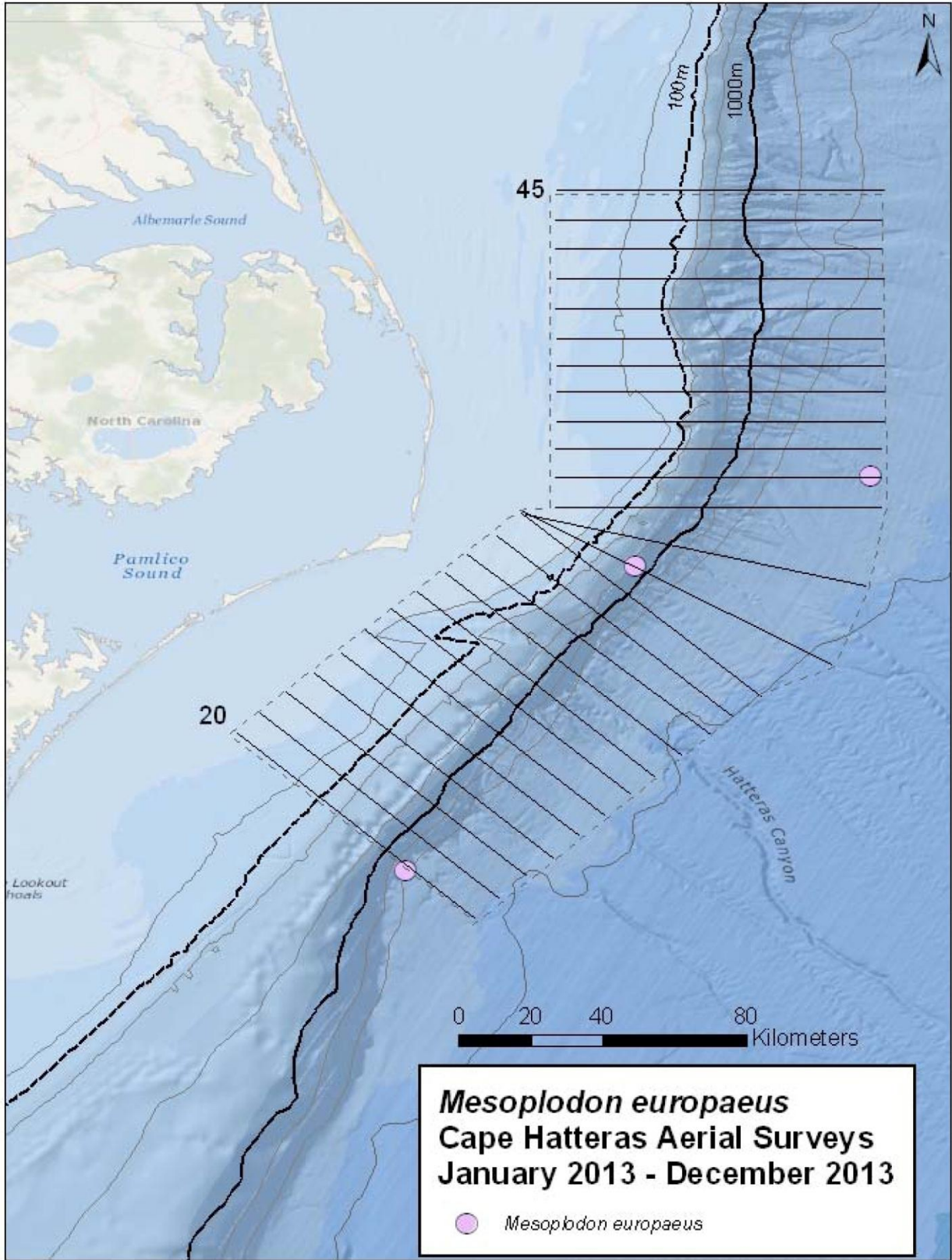


Figure 13. Gervais' beaked whale (*Mesoplodon europaeus*) sightings.

Common dolphin (*Delphinus delphis*) (Table 12, Figure 14)

Three sightings of 206 individuals of common dolphins were observed between the 100m and 1000m isobath. Group sizes were highly variable; two groups had fewer than 20 animals while the third contained 180 individuals. The current best estimate of common dolphins in the western Atlantic Ocean is 67191 (0.29 CV) based upon 2011 survey efforts (Waring *et al.* 2012). NOAA has stated that there are no trend analyses completed for this species. The status of the common dolphins stock in the Northwest Atlantic is unknown.

*Table 12. Common dolphin (*Delphinus delphis*) sightings in the Cape Hatteras, North Carolina survey area from January 2013 to December 2013.*

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
30-Mar-13	12:03	10	35.177930	-74.959396	E	32	3	90°	16
30-Mar-13	12:49	19	35.061714	-75.163866	W	29	3	90°	10
28-May-13	16:13	87	35.900667	-74.736156	E	42	2	90°	180

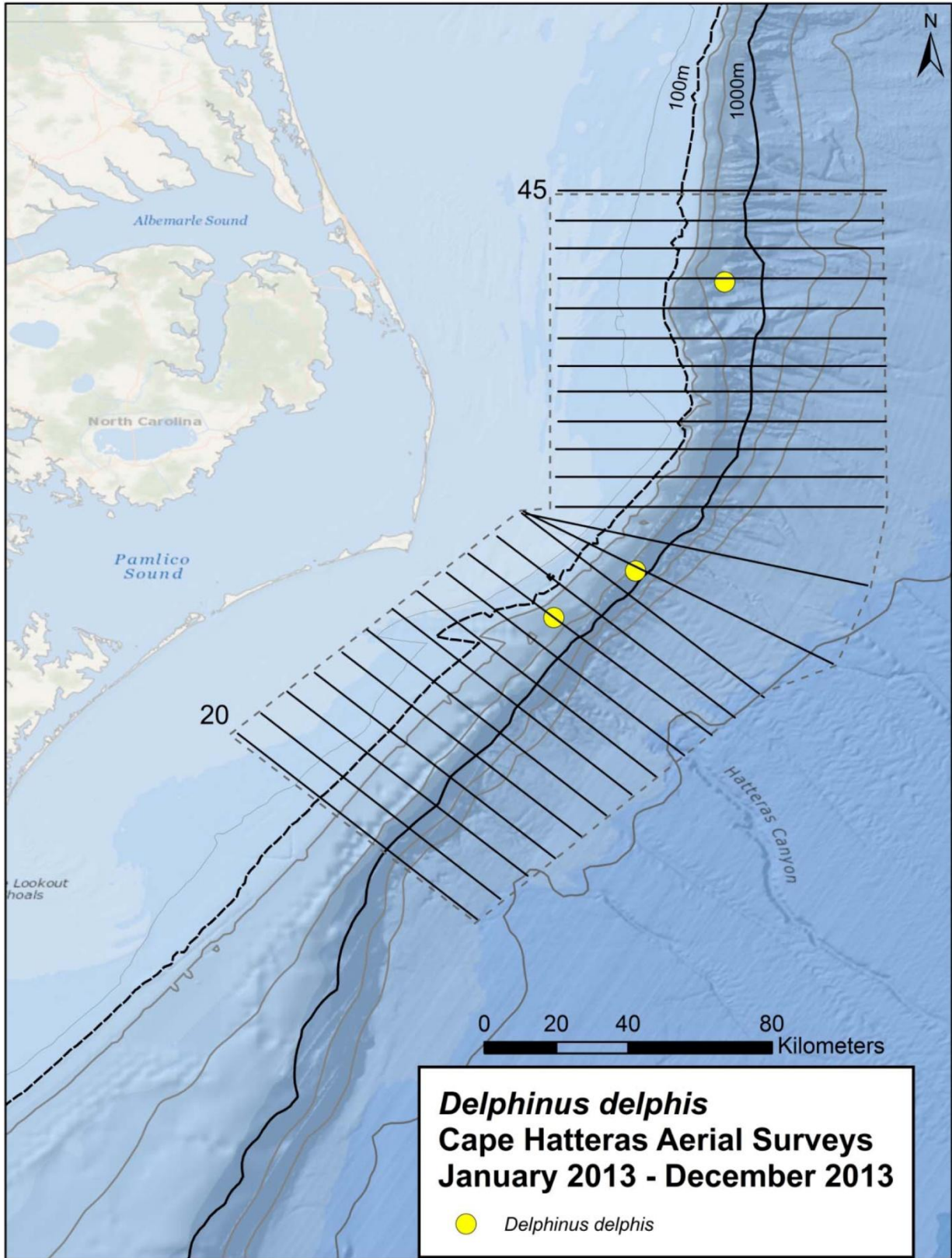


Figure 14. Common dolphin (*Delphinus delphis*) sightings.

Humpback whale (*Megaptera novaeangliae*) (Table 13, Figure 15)

A single on effort sighting of two pairs of humpback whales was recorded over the continental shelf. One animal in each pair breached multiple times followed by periods out of sight below the surface. Two off effort sightings, both of single animals, were recorded between tracklines on the inshore portion of the survey area. Currently, humpback whales in the western North Atlantic are treated as a single stock despite genetic evidence identifying smaller sub-stocks (Waring *et al.* 2012). Population estimates vary depending upon methods utilized, and range between 7698 (genetic tagging methods) and 11570 (photographic mark-recapture methods) (reviewed in Waring *et al.* 2012). This species is listed as endangered under the Endangered Species Act.

Table 13. Humpback whale (*Megaptera novaeangliae*) sightings in the Cape Hatteras, North Carolina survey area from January 2013 to December 2013. Asterisk denotes off effort sightings.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
30-Mar-13	11:06	2	35.204615	-75.461175			2	90°	1 *
30-Mar-13	11:42	9	35.222878	-75.038577	E	32	4	90°	4
30-Mar-13	13:08	24	35.215145	-75.378190	W	29	3	90°	1 *

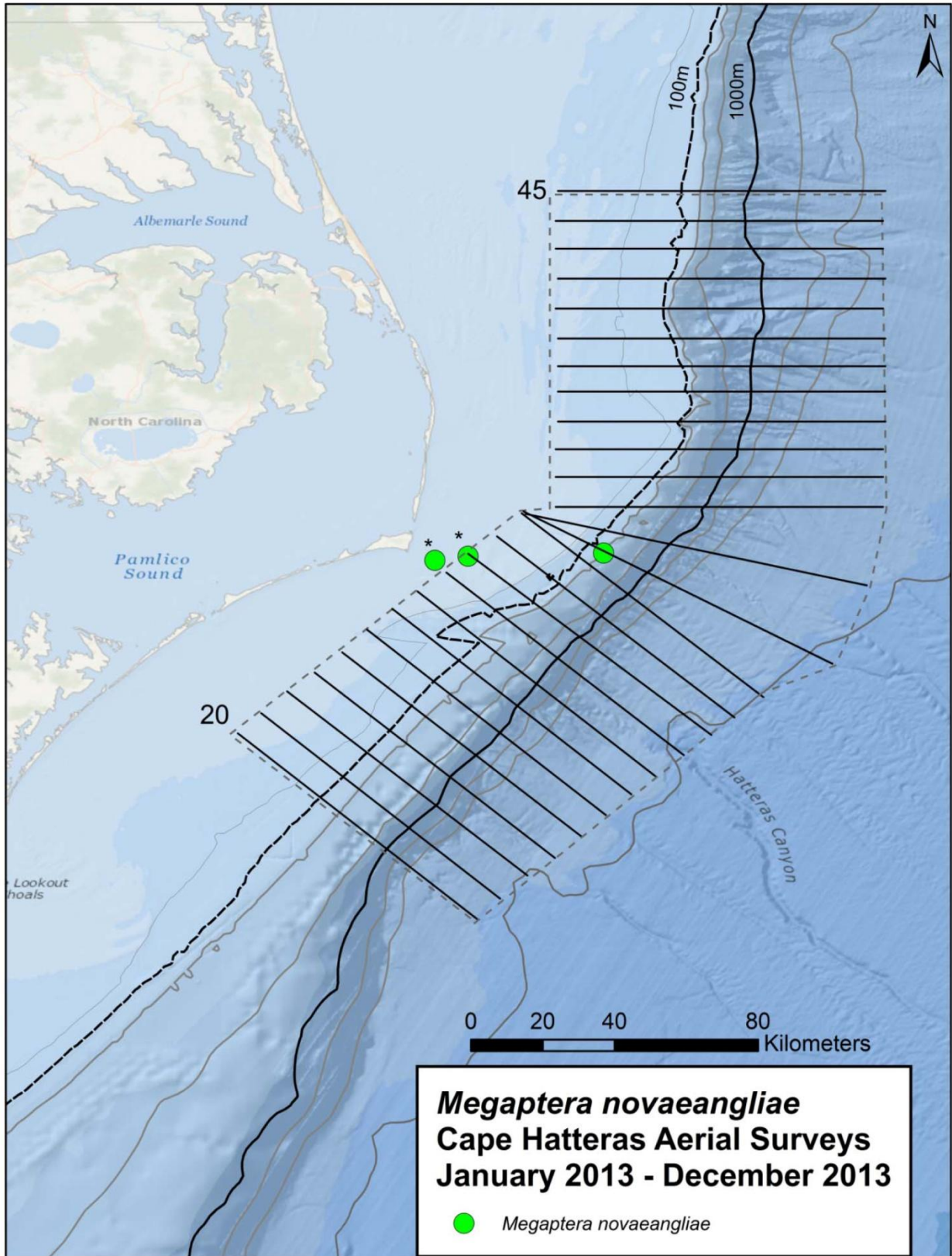


Figure 15. Humpback whale (*Megaptera novaeangliae*) sightings.

Minke whale (*Balaenoptera acutorostrata*) (Table 14, Figure 16)

A single minke whale was observed in the 70m of water in August of this year. This sighting is unique as all previous minke sightings have occurred in colder months and have been seen in waters greater than 2000m. Minke whales inhabiting waters off the U.S. east coast are considered part of the Canadian East Coast stock, which occurs from the western portion of the Davis Strait (45°W) south to the Gulf of Mexico. The best available abundance estimate for this stock is 20741 (CV=0.30) (Waring *et al.* 2012).

Table 14. Minke whale (*Balaenoptera acutorostrata*) sighting in the Cape Hatteras, North Carolina survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
20-Aug-13	14:46	47	35.768810	-74.929746	E	40	2	100°	1

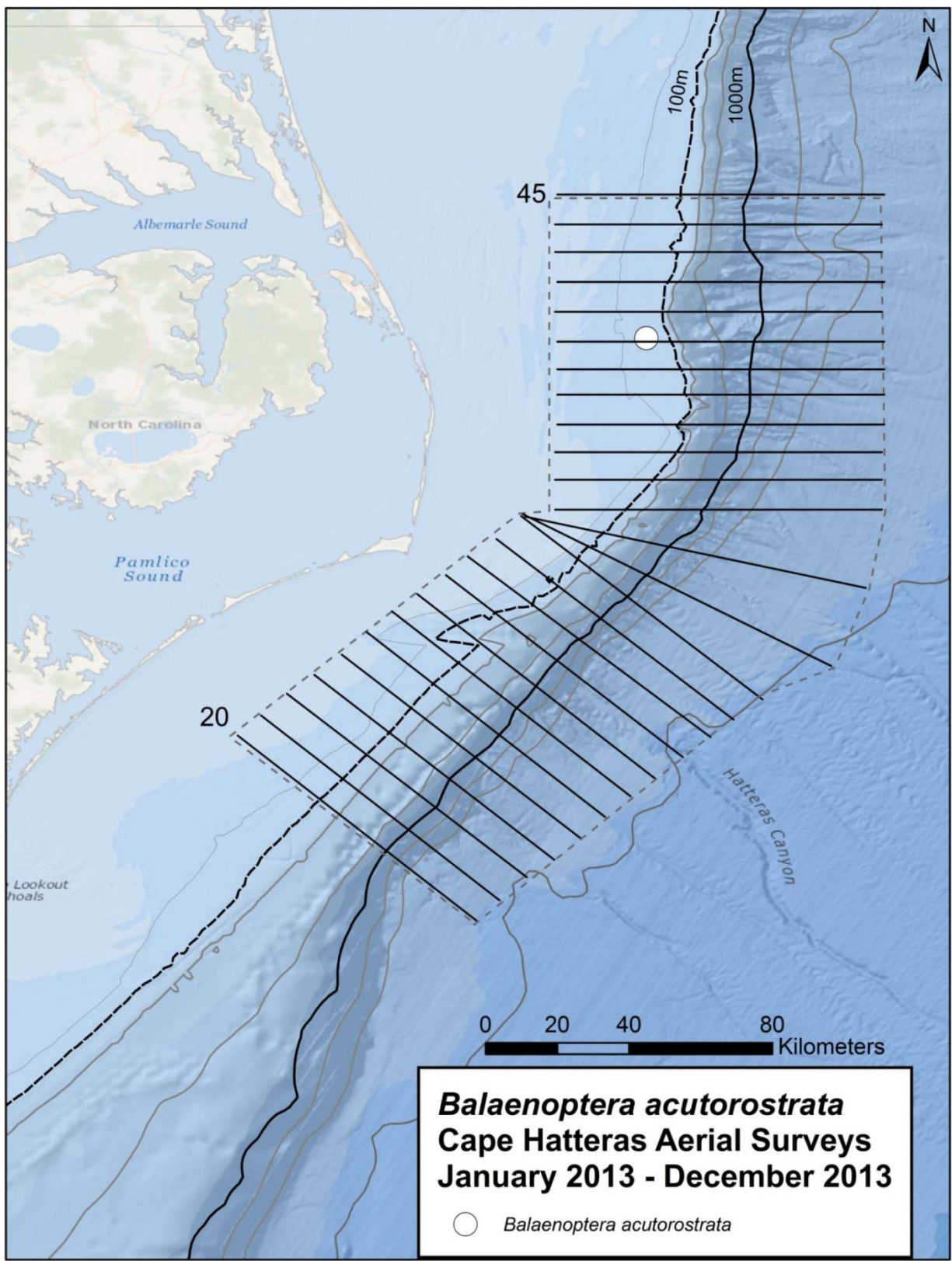


Figure 16. Minke whale (*Balaenoptera acutorostrata*) sighting.

Sea Turtles (Tables 15 & 16, Figures 17a-c and 18)

Fifty sea turtles were observed during the reporting period. Sighting rates were negatively correlated with Beaufort Sea State, with rates sharply declining at sea states greater than BSS 2 (Figures 17a-b). Sea turtles were recorded in every month surveyed except March; with July, August and October having roughly equivalent sighting rates (Figure 17c). Loggerhead sea turtles (*Caretta caretta*) represented the majority of sea turtle sightings (84%). The only other sea turtle species that was identified in the Cape Hatteras survey site was the leatherback sea turtle (*Dermochelys coriacea*) (14%). For the remaining 2% of sightings, species identification could not be made with 100% certainty and they are, therefore, listed as “unidentified sea turtles”.

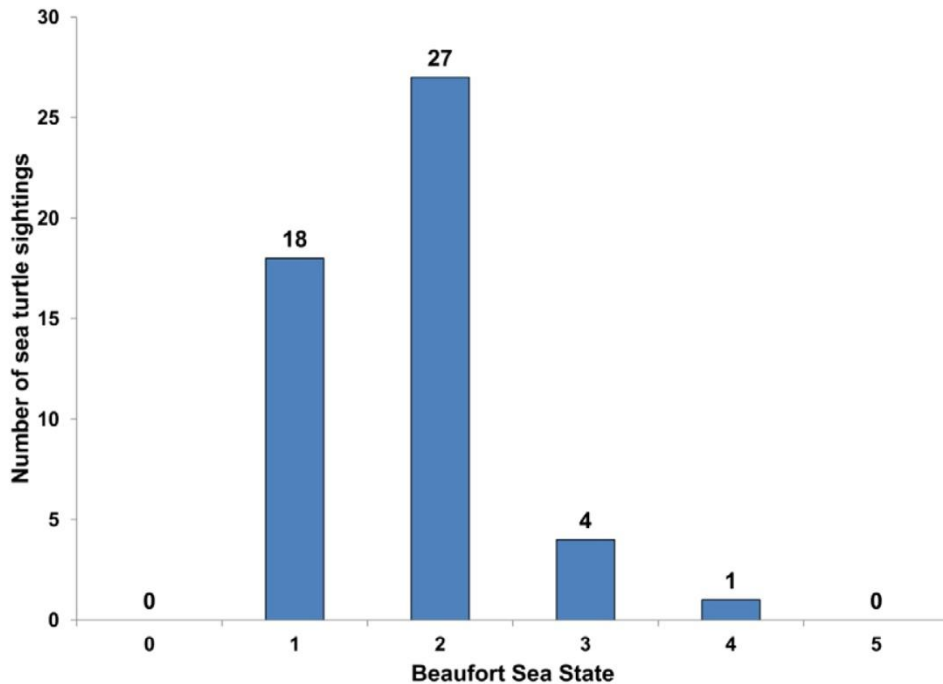


Figure 17a. Total number of sea turtle sightings by Beaufort Sea State in the Cape Hatteras, North Carolina survey area from January 2013 to December 2013.

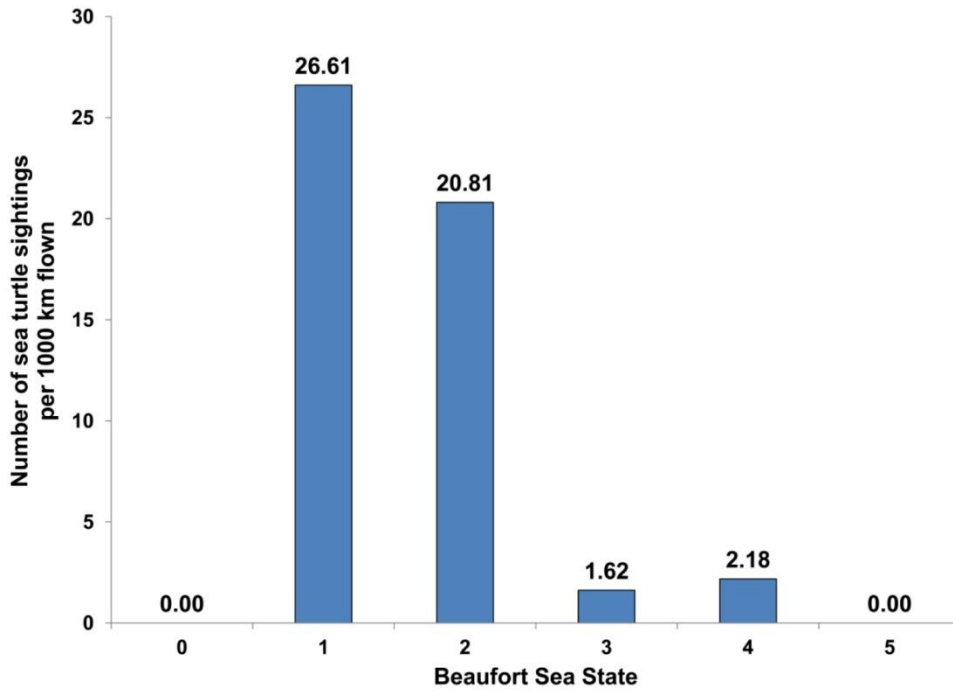


Figure 17b. Sea turtle sightings per 1000 km flown by Beaufort Sea State in the Cape Hatteras, North Carolina survey area from January 2013 to December 2013.

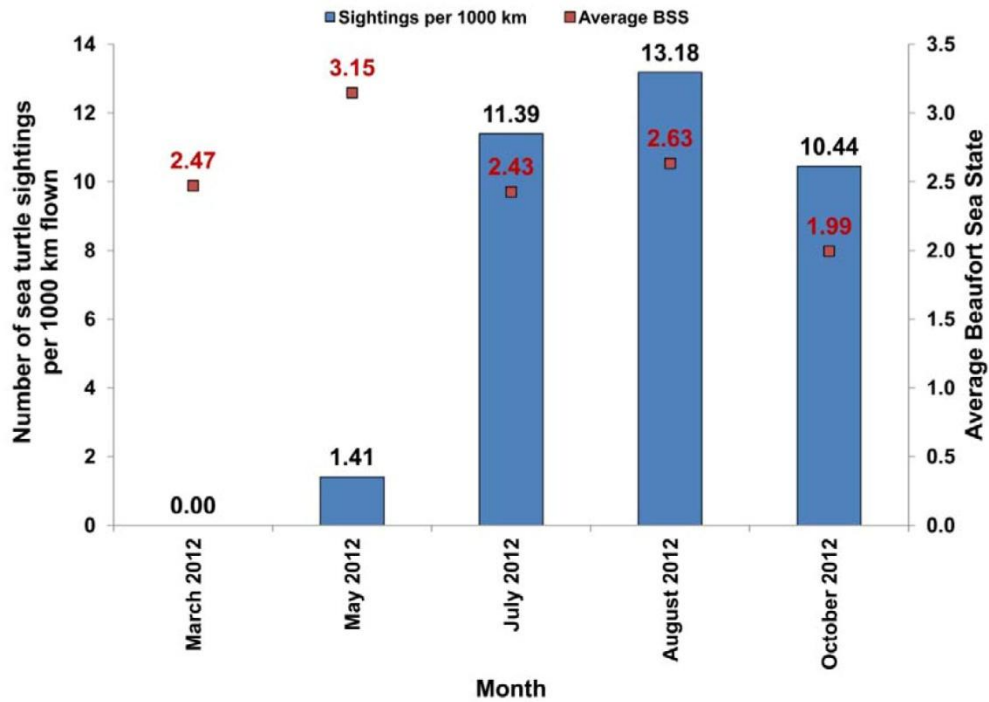


Figure 17c. Sea turtle sightings per 1000 km surveyed and the average Beaufort Sea State per month in the Cape Hatteras, North Carolina survey area from January 2013 to December 2013.

Loggerhead sea turtle (*Caretta caretta*)(Table 15, Figure 18)

Sightings of loggerhead sea turtles occurred in three of the five months surveyed, for a total of 42 animals. The vast majority of sightings were over the continental shelf inside of the 100m isobath. For management purposes, loggerheads along the U.S. Atlantic east coast fall into the Northwest Atlantic Ocean distinct population segment (DPS), which is separated into five separate recovery units (NOAA 2011). The Northern Recovery Unit (defined as loggerheads originating from nests between southern VA through the FL/GA border) is currently listed as threatened under the Endangered Species Act (NMFS 2008).

Table 15. Loggerhead sea turtle (*Caretta caretta*) sightings in the Cape Hatteras, North Carolina survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
16-Jul-13	14:39	34	36.123914	-74.906324	E	45	1	90°	1
16-Jul-13	15:41	56	36.047762	-74.989266	W	44	1	90°	1
16-Jul-13	15:52	59	35.979910	-75.011103	E	43	3	90°	1
17-Jul-13	10:50	23	35.690908	-75.083553	W	39	1	90°	1
17-Jul-13	13:41	39	35.082486	-75.452289	SE	27	2	90°	1
18-Jul-13	10:16	104	35.275347	-75.186223	NW	31	1	90°	1
18-Jul-13	10:21	69	35.291765	-75.179218	SE	32	1	90°	1
18-Jul-13	13:13	130	35.763715	-75.114731	E	40	1	90°	1
18-Jul-13	13:16	133	35.763570	-75.000971	E	40	1	90°	6
18-Jul-13	13:17	85	35.763537	-74.965164	E	40	3	90°	2
18-Jul-13	13:19	135	35.763533	-74.896326	E	40	1	90°	1
18-Jul-13	14:15	102	35.480178	-74.885236	W	36	1	90°	1
18-Jul-13	14:28	106	35.411618	-75.095267	E	35	2	90°	1
20-Aug-13	11:49	13	35.549259	-75.037858	NW	37	2	90°	1
20-Aug-13	13:15	30	35.694409	-75.115595	W	39	2	90°	1
20-Aug-13	14:36	35	35.764452	-75.142481	E	40	1	90°	1
20-Aug-13	14:37	36	35.763721	-75.101938	E	40	1	90°	1
20-Aug-13	14:40	44	35.761257	-74.994964	E	40	2	90°	1
20-Aug-13	15:40	53	35.832251	-74.681485	W	41	2	90°	1
20-Aug-13	15:54	71	35.833541	-75.016404	W	41	2	90°	1
20-Aug-13	16:10	79	35.907825	-75.026202	E	42	1	90°	1
20-Aug-13	16:16	81	35.906368	-74.810701	E	42	1	90°	1
20-Aug-13	16:51	97	35.980109	-74.790664	W	43	1	90°	1
20-Aug-13	16:57	99	35.979384	-75.007576	W	43	1	90°	2
21-Aug-13	9:18	4	36.048549	-75.022778	E	44	1	90°	3
21-Aug-13	9:19	5	36.048352	-74.968497	E	44	2	100°	1
22-Aug-13	15:09	161	35.979289	-75.122980	E	43	1	90°	1
22-Aug-13	15:12	162	35.981347	-75.013091	E	43	1	90°	1
28-Oct-13	10:25	2	36.122434	-75.045803	E	45	2	90°	1
28-Oct-13	10:26	3	36.122860	-75.023162	E	45	2	90°	1
28-Oct-13	11:37	34	35.978429	-75.076011	E	43	1	90°	1
28-Oct-13	12:50	51	35.906238	-75.152820	W	42	1	90°	1
28-Oct-13	16:06	73	35.137776	-75.387738	W	28	2	90°	1

Leatherback sea turtle (*Dermochelys coriacea*) (Table 16, Figure 18)

Seven leatherback sea turtle were observed from the inshore waters out to 1000m. The most recent population estimates for the North Atlantic ranges from 34000 to 94000 adult leatherbacks (Turtle Expert Working Group 2007). Leatherbacks throughout their range are listed as endangered under the Endangered Species Act (NMFS 1992).

Table 16. Leatherback sea turtle (*Dermochelys coriacea*) sightings in the Cape Hatteras, North Carolina survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
28-May-13	9:45	3	35.195920	-75.339753	SE	29	1	90°	1
20-Aug-13	11:52	14	35.550855	-75.136088	NW	37	1	90°	1
20-Aug-13	14:39	37	35.761168	-75.012651	E	40	1	90°	1
20-Aug-13	14:41	45	35.769749	-74.931561	E	40	1	90°	1
21-Aug-13	10:12	36	36.122075	-74.666949	W	45	1	90°	1
21-Aug-13	10:58	51	35.407876	-74.842273	E	35	2	90°	1
28-Oct-13	15:07	62	35.216455	-75.370175	E	29	2	90°	1

Unidentified sea turtles

Turtles labeled as unidentified were typically either of small size, submerged, or too far away for observers to make an accurate identification to species. This occurred on one occasion and the species is listed as unidentified.

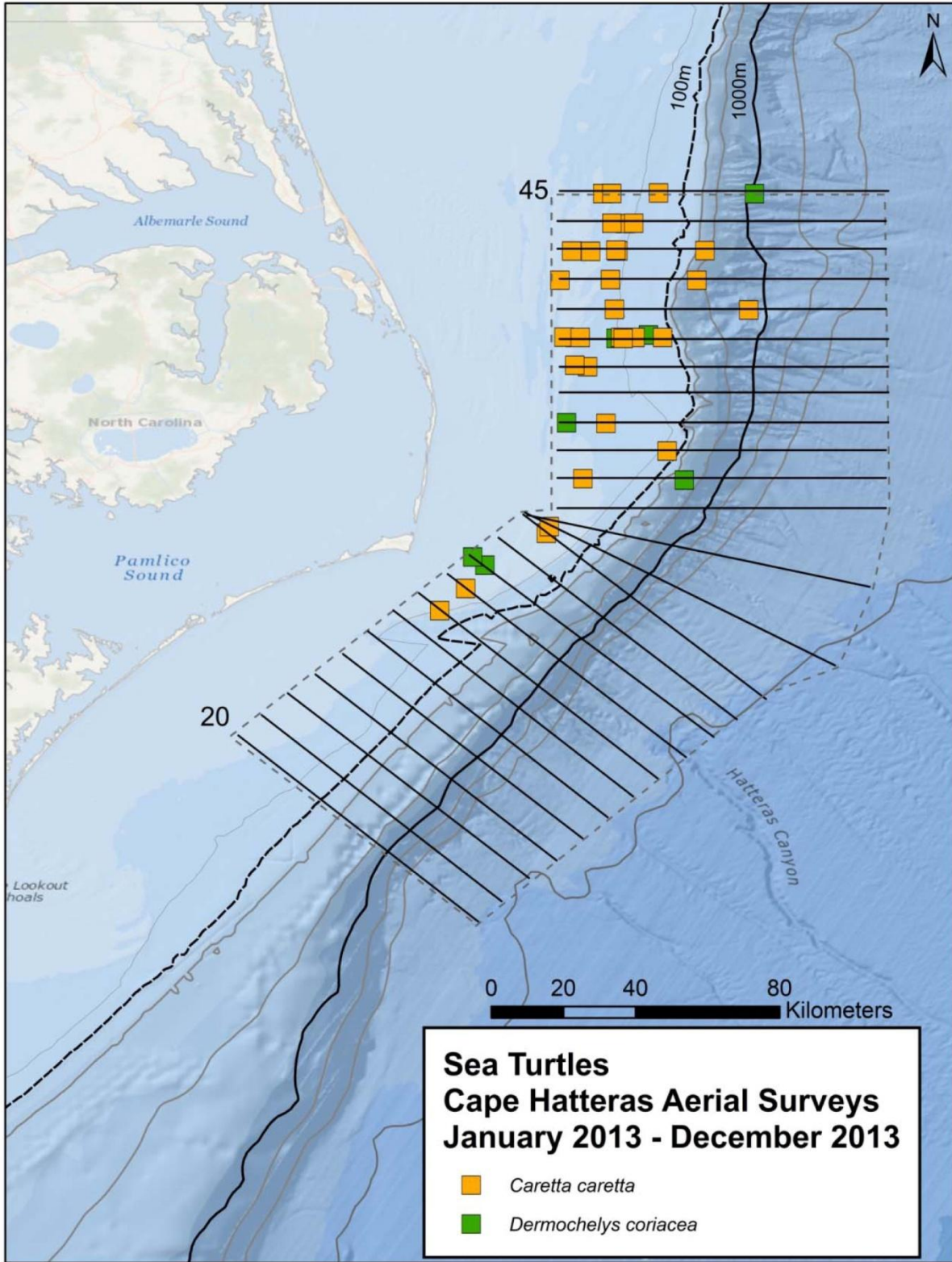


Figure 18. Loggerhead (*Caretta caretta*) and leatherback sea turtle (*Dermochelys coriacea*) sightings.

Other Marine Vertebrate Sightings (Tables 17-20, Figure 19)

Chondrichthyan fishes

Twenty unidentified shark sightings were recorded during the reporting period. Most sharks were seen in the area inside the 100m isobath with the majority of sighting occurring in October. Seventeen manta rays (*Manta birostris*) were observed during the study period, and occurred in four of the five months surveyed. A single sighting of 225 individuals of cownose rays were observed in May inside the 100m isobaths.

Other fishes

Eleven sightings of ocean sunfish (*Mola mola*) were recorded with the majority off of the 200m isobath. All sightings occurred in either March or May.

Table 17. Manta ray (Manta birostris) sightings in the Cape Hatteras, North Carolina survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
28-May-13	14:25	48	35.555007	-74.842433	W	37	2	90°	3
28-May-13	14:25	39	35.554988	-74.846766	E	37	2	90°	2
16-Jul-13	16:52	82	35.906200	-74.840620	W	42	2	90°	1
17-Jul-13	10:16	15	35.618951	-74.771526	E	38	2	90°	1
20-Aug-13	11:42	11	35.551814	-74.763596	NW	37	1	90°	3
20-Aug-13	12:18	26	35.620762	-74.802606	E	38	1	90°	1
20-Aug-13	15:40	65	35.832403	-74.688097	W	41	2	90°	2
21-Aug-13	10:11	35	36.123725	-74.622973	W	45	2	90°	2
22-Aug-13	13:44	104	36.126283	-74.761181	E	45	1	90°	1
28-Oct-13	11:22	27	36.049894	-74.932001	W	44	2	90°	1

Table 18. Ocean sunfish (*Mola mola*) sightings in the Cape Hatteras, North Carolina survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
28-May-13	15:51	79	35.827462	-74.335548	W	41	2	90°	2
16-Jul-13	15:56	60	35.980199	-74.835194	E	43	1	90°	1
18-Jul-13	14:20	160	35.480224	-75.034710	W	36	1	90°	1
20-Aug-13	14:37	43	35.763929	-75.113957	E	40	1	90°	1
20-Aug-13	16:12	80	35.908643	-74.960514	E	42	1	90°	1
21-Aug-13	9:15	3	36.044641	-75.134276	E	44	1	90°	1
21-Aug-13	10:30	22	36.121343	-75.158077	W	45	2	90°	1
21-Aug-13	10:52	45	35.410818	-74.956622	E	35	1	90°	1
22-Aug-13	15:03	115	36.049253	-75.078877	W	44	1	90°	1
28-Oct-13	10:45	7	36.122379	-74.574804	E	45	1	120°	1

Table 19. Cownose ray (*Rhinoptera bonasus*) sightings in the Cape Hatteras, North Carolina survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
28-May-13	16:29	90	35.903389	-75.144966	E	42	2	90°	225

Table 20. Unidentified shark sightings in the Cape Hatteras, North Carolina survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
28-May-13	10:16	11	34.882225	-74.795968	NW	30	1	90°	1
18-Jul-13	10:11	102	35.184473	-74.989762	NW	31	2	90°	2
18-Jul-13	10:24	107	35.248862	-75.094097	SE	32	1	90°	3
18-Jul-13	13:17	134	35.763534	-74.948187	E	40	2	90°	1
28-Oct-13	10:30	3	36.124676	-74.868516	E	45	1	100°	1
28-Oct-13	11:19	19	36.052243	-74.799090	W	44	1	90°	1
28-Oct-13	11:22	20	36.049231	-74.912655	W	44	1	110°	1
28-Oct-13	11:28	24	36.049028	-75.051282	W	44	3	100°	2
28-Oct-13	11:31	25	36.047368	-75.143988	W	44	3	100°	1
28-Oct-13	11:40	35	35.980850	-74.977838	E	43	2	90°	1
28-Oct-13	12:45	47	35.906951	-74.967875	W	42	1	100°	1
28-Oct-13	12:46	48	35.905641	-75.010223	W	42	1	90°	1
28-Oct-13	12:47	49	35.905170	-75.057867	W	42	1	90°	1
28-Oct-13	12:49	50	35.905859	-75.125066	W	42	1	90°	1
28-Oct-13	14:59	59	35.159487	-75.155402	W	30	2	100°	2

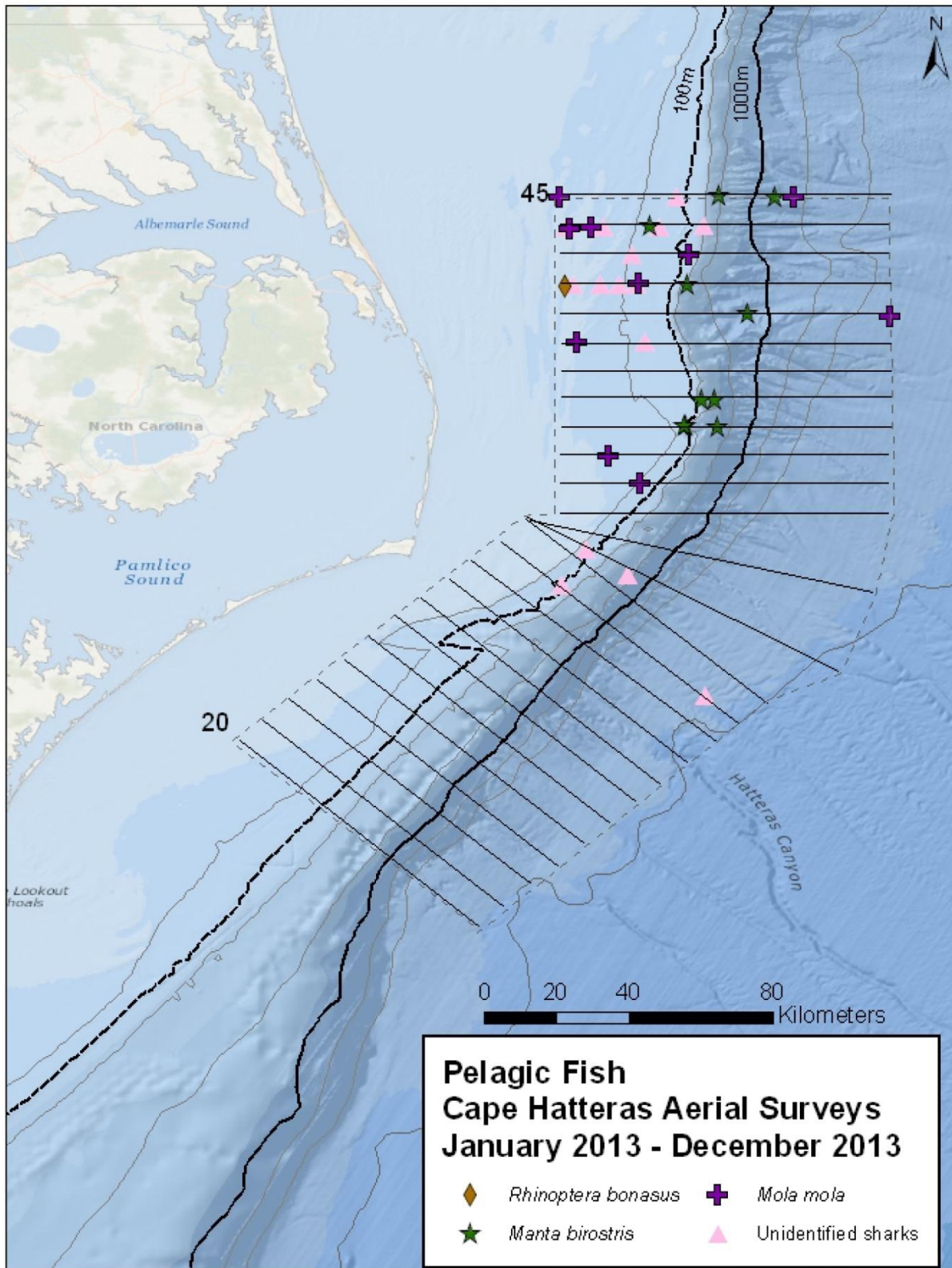


Figure 19. Manta ray (*Manta birostris*), ocean sunfish (*Mola mola*), cownose ray (*Rhinoptera bonasus*), and unidentified shark sightings.

Vessel Sightings Commercial (Table 21, Figure 20)

A total of 17 commercial vessels (e.g. tankers, car carriers, and container vessels) were observed in the survey site.

Table 21. Commercial vessel sightings in the Cape Hatteras, North Carolina survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #	Comments
28-May-13	9:49	4	35.105152	-75.218739	SE	29	3	60°	1	Cargo vessel
28-May-13	14:44	57	35.553293	-74.470275	W	37	1	90°	1	Tanker
16-Jul-13	11:01	8	34.476122	-75.579322	SE	20	2	60°	1	Tanker
16-Jul-13	11:29	11	34.605134	-75.611558	NW	21	3	60°	1	RORO car carrier
16-Jul-13	11:35	16	34.730817	-75.773575	NW	21	1	90°	2	Tug and Barge
16-Jul-13	16:37	72	35.906037	-74.589128	W	42	3	45°	1	Cargo vessel
18-Jul-13	10:15	66	35.255693	-75.159692	NW	31	3	60°	1	Cargo vessel
18-Jul-13	11:03	75	35.162943	-74.494962	NW	33	1	60°	1	Tanker
20-Aug-13	15:34	51	35.836386	-74.452984	W	41	1	60°	1	Cargo vessel
20-Aug-13	15:36	52	35.833859	-74.504902	W	41	3	60°	1	Cargo vessel
21-Aug-13	9:45	17	36.042971	-74.490553	E	44	2	90°	1	Commercial fishing vessel
22-Aug-13	9:27	77	35.284369	-75.046607	SE	33	3	60°	1	Cargo vessel
22-Aug-13	10:06	82	34.950653	-74.482702	NW	32	2	45°	1	Commercial fishing vessel
22-Aug-13	10:09	111	34.988447	-74.550224	W	32	3	45°	1	Cargo vessel
22-Aug-13	15:01	113	36.047985	-75.020198	W	44	3	45°	1	Tanker
28-Oct-13	12:41	46	35.906859	-74.831259	W	42	4	90°	1	Research vessel

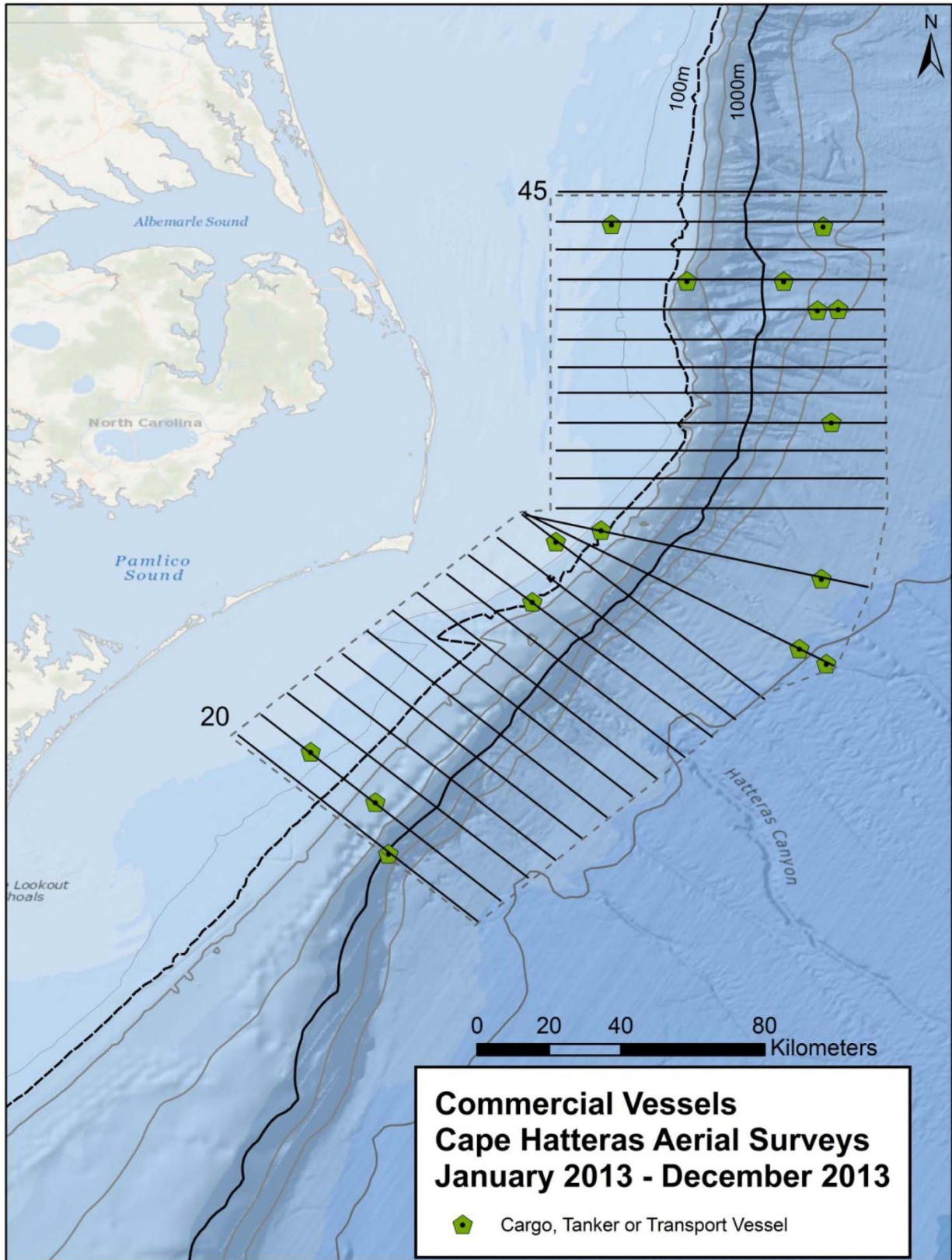


Figure 20. Large commercial shipping vessel sightings.

Military / Coast Guard Vessels (Table 22, Figure 21)

A total of three military vessels were observed in the survey site.

Table 22. Military vessel sightings in the Cape Hatteras, North Carolina survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #	Comments
16-Jul-13	16:57	52	35.905797	-75.022512	W	42	2	90°	2	Military Carrier and Cargo
22-Aug-13	13:46	140	36.122483	-74.734485	E	45	2	60°	1	Submarine

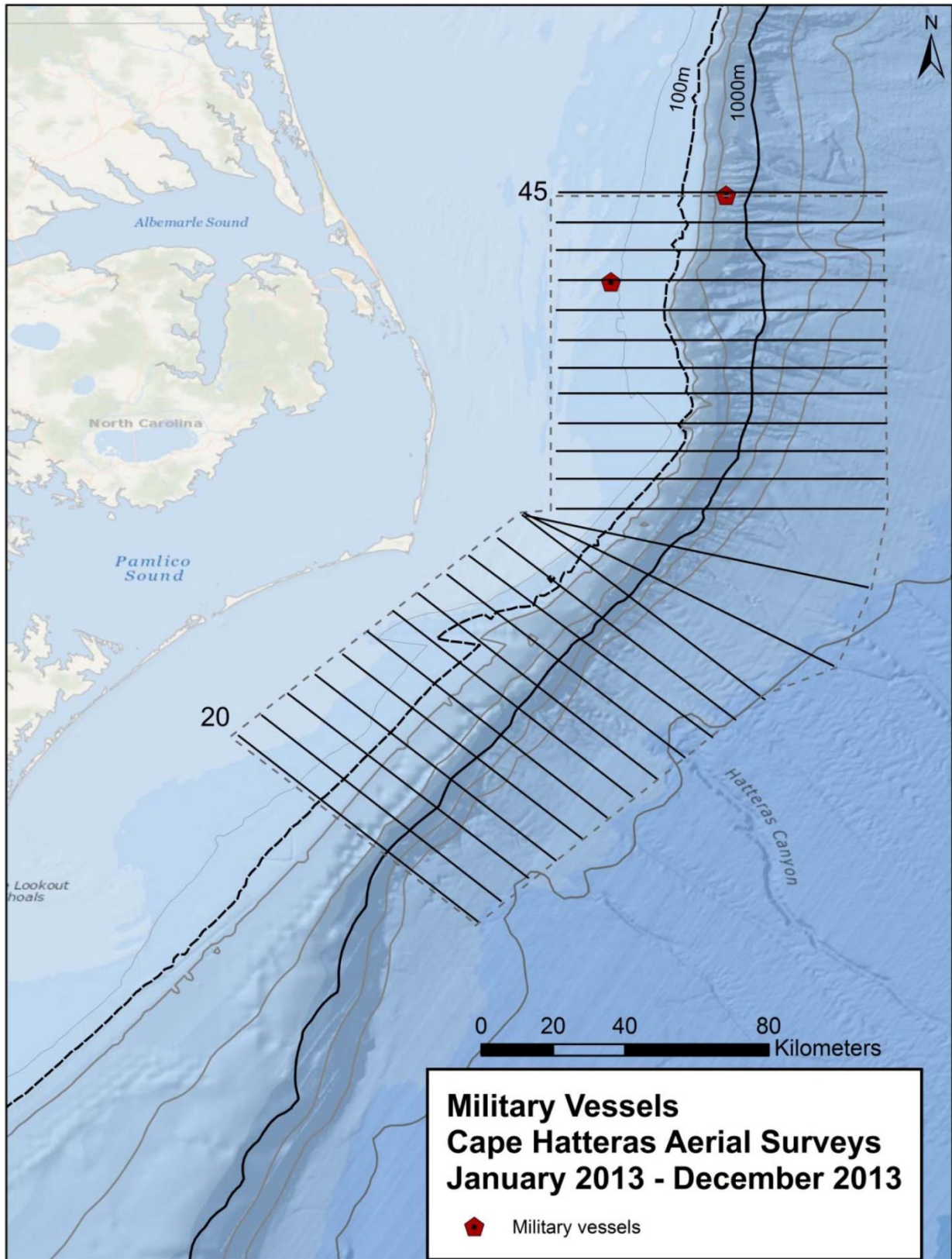


Figure 21. Military vessel sightings.

Other Vessels (Table 23, Figure 22)

A total of 295 other vessels were recorded in the survey site. Other than a single sailboat sighting all other vessels were categorized as recreational sport fishing vessels.

Table 23. Other vessel sightings in the Cape Hatteras, North Carolina survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #	Comments
30-Mar-13	12:46	16	35.010146	-75.091028	W	29	3	90°	4	Recreational fishing vessel
28-May-13	9:47	3	35.162281	-75.294855	SE	29	2	90°	1	Recreational fishing vessel
28-May-13	9:47	4	35.149344	-75.277456	SE	29	2	60°	3	Recreational fishing vessel
28-May-13	9:52	6	35.051325	-75.147699	SE	29	1	90°	1	Recreational fishing vessel
28-May-13	11:43	28	35.271386	-75.016329	W	33	1	90°	1	Recreational fishing vessel
28-May-13	11:58	26	35.341522	-74.918902	SE	34	2	60°	2	Recreational fishing vessel
28-May-13	14:26	40	35.555027	-74.828202	E	37	3	90°	1	Recreational fishing vessel
28-May-13	15:15	69	35.757683	-74.790254	E	40	2	90°	6	Recreational fishing vessel
28-May-13	15:16	52	35.757630	-74.800053	W	40	2	90°	9	Recreational fishing vessel
28-May-13	15:28	72	35.826997	-75.119029	W	41	1	45°	1	Recreational fishing vessel
28-May-13	15:33	73	35.827575	-74.915834	W	41	2	90°	1	Recreational fishing vessel
16-Jul-13	10:44	3	34.601680	-75.755230	SE	20	1	90°	1	Recreational fishing vessel
16-Jul-13	10:45	3	34.582665	-75.730365	SE	20	3	90°	2	Recreational fishing vessel
16-Jul-13	11:28	10	34.595185	-75.598374	NW	21	3	60°	5	Recreational fishing vessel
16-Jul-13	11:30	15	34.623131	-75.635263	NW	21	2	45°	1	Recreational fishing vessel
16-Jul-13	11:39	12	34.805037	-75.875282	NW	21	2	90°	1	Recreational fishing vessel
16-Jul-13	11:50	19	34.735740	-75.643742	SE	22	3	60°	5	Recreational fishing vessel
16-Jul-13	11:51	20	34.689625	-75.585457	SE	22	3	90°	15	Recreational fishing vessel
16-Jul-13	12:30	27	34.712076	-75.483538	NW	23	1	90°	7	Recreational fishing vessel
16-Jul-13	14:39	35	36.124136	-74.890811	E	45	2	90°	1	Recreational fishing vessel
16-Jul-13	15:38	37	36.048759	-74.892963	E	44	2	90°	1	Recreational fishing vessel
16-Jul-13	16:53	51	35.906131	-74.888622	W	42	3	90°	2	Recreational fishing vessel
16-Jul-13	16:56	83	35.905887	-74.990557	W	42	1	45°	1	Recreational fishing vessel
17-Jul-13	9:07	3	35.834074	-74.958882	E	41	3	45°	1	Recreational fishing vessel
17-Jul-13	9:16	5	35.835652	-74.586211	E	41	2	60°	1	Recreational fishing vessel
17-Jul-13	10:16	14	35.619510	-74.791357	E	38	1	90°	1	Recreational fishing vessel
17-Jul-13	10:42	22	35.690115	-74.779671	W	39	2	60°	2	Recreational fishing vessel
17-Jul-13	12:54	28	35.111817	-75.227134	SE	29	2	60°	1	Recreational fishing vessel
17-Jul-13	12:55	22	35.091335	-75.199355	SE	29	3	90°	13	Recreational fishing vessel
17-Jul-13	13:30	34	35.020683	-75.238516	NW	28	1	90°	1	Recreational fishing vessel
17-Jul-13	13:30	25	35.028388	-75.248050	NW	28	2	90°	6	Recreational fishing vessel
17-Jul-13	13:31	35	35.037781	-75.261178	NW	28	1	60°	1	Recreational fishing vessel
17-Jul-13	14:22	45	34.933195	-75.381443	NW	26	3	90°	1	Recreational fishing vessel
17-Jul-13	14:25	32	35.002898	-75.471570	NW	26	2	90°	1	Recreational fishing vessel
18-Jul-13	9:21	89	35.154027	-75.149568	SE	30	3	90°	1	Recreational fishing vessel
18-Jul-13	13:12	84	35.762898	-75.151721	E	40	1	90°	1	Recreational fishing vessel
18-Jul-13	13:13	131	35.763606	-75.100737	E	40	2	60°	2	Recreational fishing vessel
18-Jul-13	13:15	132	35.763680	-75.056107	E	40	2	90°	1	Recreational fishing vessel
18-Jul-13	13:17	86	35.763515	-74.951838	E	40	3	60°	1	Recreational fishing vessel
18-Jul-13	13:36	141	35.763577	-74.456426	E	40	2	90°	1	Sailboat
18-Jul-13	14:14	101	35.481096	-74.816944	W	36	3	60°	1	Recreational fishing vessel
18-Jul-13	14:19	103	35.479838	-75.022017	W	36	3	60°	1	Recreational fishing vessel
18-Jul-13	14:37	165	35.412550	-74.866582	E	35	3	90°	5	Recreational fishing vessel
20-Aug-13	11:16	8	35.484231	-74.807071	E	36	2	90°	1	Recreational fishing vessel
20-Aug-13	11:17	5	35.483146	-74.763192	SE	36	1	90°	1	Recreational fishing vessel
20-Aug-13	11:50	14	35.549583	-75.061442	W	37	3	60°	1	Recreational fishing vessel
20-Aug-13	12:57	27	35.692568	-74.840392	W	39	1	90°	1	Recreational fishing vessel
20-Aug-13	16:07	78	35.902894	-75.135077	E	42	3	45°	2	Recreational fishing vessel

Table 23 (Continued). Other vessel sightings in the Cape Hatteras, North Carolina survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #	Comments
20-Aug-13	16:53	98	35.978539	-74.857741	W	43	2	90°	1	Recreational fishing vessel
20-Aug-13	16:53	71	35.978659	-74.859544	W	43	2	90°	1	Recreational fishing vessel
21-Aug-13	9:22	4	36.048465	-74.834874	E	44	3	60°	7	Recreational fishing vessel
21-Aug-13	9:23	7	36.048555	-74.828400	E	44	2	45°	2	Recreational fishing vessel
21-Aug-13	10:21	41	36.124198	-74.804531	W	45	2	90°	2	Recreational fishing vessel
21-Aug-13	10:21	21	36.124204	-74.805000	W	45	3	90°	16	Recreational fishing vessel
21-Aug-13	14:43	50	34.816191	-75.747150	SE	22	3	60°	2	Recreational fishing vessel
22-Aug-13	13:41	139	36.125268	-74.866526	E	45	3	90°	20	Recreational fishing vessel
22-Aug-13	13:41	103	36.125580	-74.849372	E	45	2	45°	41	Recreational fishing vessel
22-Aug-13	14:54	112	36.053123	-74.785066	W	44	1	90°	65	Recreational fishing vessel
22-Aug-13	14:55	156	36.051236	-74.798365	W	44	2	90°	8	Recreational fishing vessel
22-Aug-13	15:13	163	35.982006	-74.961436	E	43	2	60°	6	Recreational fishing vessel
28-Oct-13	14:23	70	35.232174	-75.123457	SE	31	1	90°	1	Recreational fishing vessel
28-Oct-13	15:00	75	35.187465	-75.190659	NW	30	3	45°	1	Recreational fishing vessel
28-Oct-13	15:10	63	35.156535	-75.286000	E	29	1	90°	1	Recreational fishing vessel

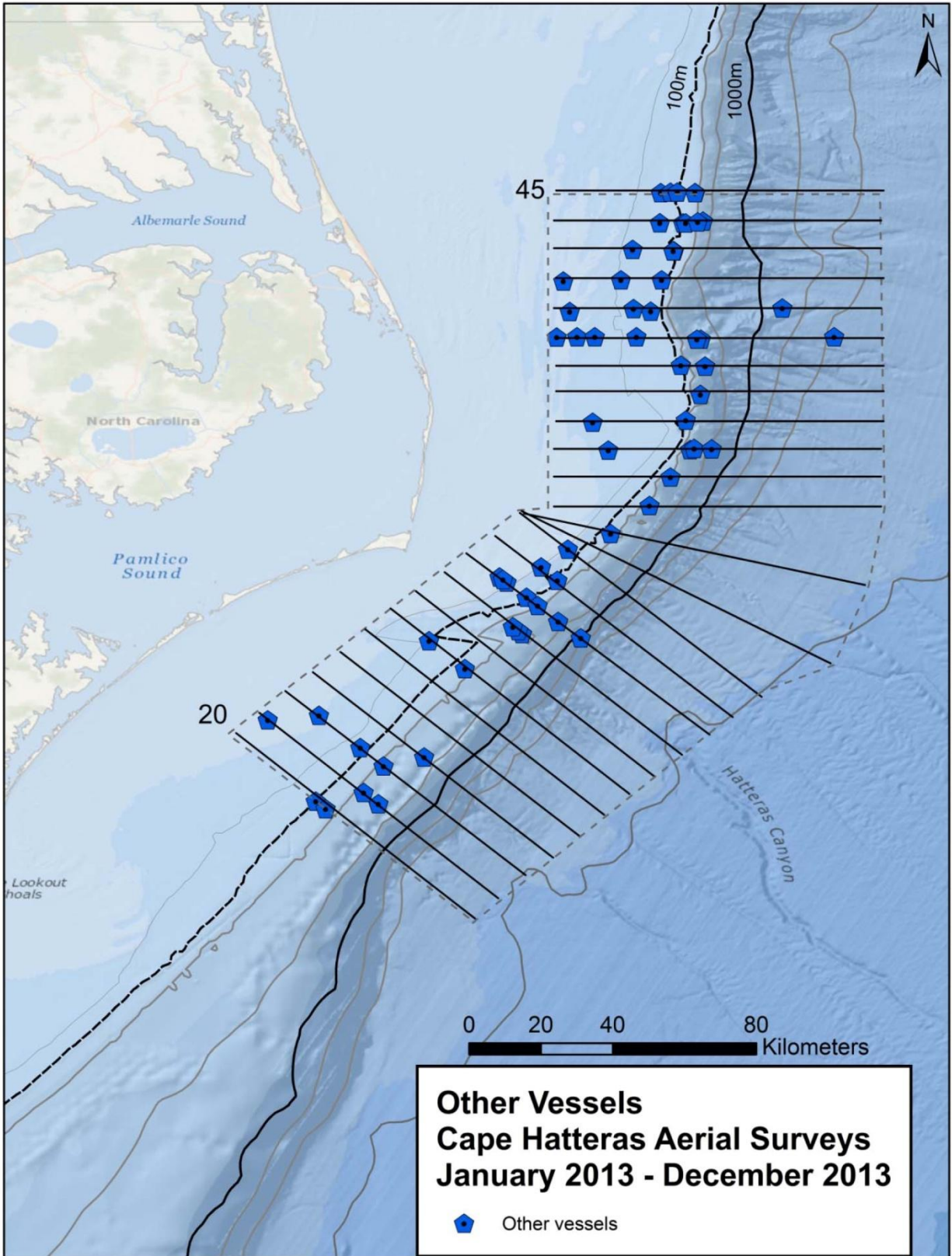


Figure 22. Other vessel sightings.

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**Protected Species Monitoring in the Jacksonville OPAREA
Jacksonville, Florida
January 2013 – December 2013**



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Introduction

This report forms part of a multi-institutional monitoring project intended to provide information on the species composition, population identity, density and baseline behavior of marine mammals and sea turtles present in Navy range complexes along the Atlantic coast. This program began in 2007, with baseline aerial and vessel surveys and a passive acoustic monitoring program in Onslow Bay, North Carolina and has since expanded to include study areas off Jacksonville, Florida and Cape Hatteras, North Carolina. In Onslow Bay, six years of monitoring have yielded a comprehensive picture of the density, distribution and abundance of marine mammals and sea turtles and provided new insights into residency patterns among pelagic delphinid cetaceans in this region. More than four years of monitoring in Jacksonville have provided similar information on the density and distribution of marine mammals and sea turtles in this area. In Cape Hatteras, almost three years of surveys have provided preliminary information on the complex patterns of distribution and diversity of the marine mammals and sea turtles in this highly productive area. The current report builds on this past body of work and describes monitoring activities that occurred between January and December 2013.

Acknowledgements

For collaborative efforts we thank our colleagues at Duke University Marine Lab (Kim Urian, Andy Read, Heather Foley, Zach Swaim, Jennifer Dunn, and Lynne Hodge) and St. Andrews University (Charles Paxton). We thank Ed Coffman, owner and operator of Orion Aviation, and his highly skilled pilots: Dave Huddle, Stan Huddle, Cameron Radford, Ryan Macgregor, Greg Souther, Collin Mendenhall, Rocky Walker, John Esties, and Bob Stickle, for excellent flying and a high level of professionalism. We thank Joel Bell for his support of this work. Surveys are conducted under NOAA Scientific Permit No 16473, held by UNCW, and NOAA General Authorization Letter of Confirmation No. 16185 held by Duke University.

Summary of JAX Aerial Surveys

This document is an annual progress report to the U.S. Department of the Navy on aerial surveys conducted in the offshore waters of Jacksonville, Florida between January 2013 and December 2013. The goal was to survey the entire site (10 tracklines) twice per calendar month, which was achieved in May where 20 tracklines were flown and September where 23 tracklines were flown. In March, 10 tracklines were flown, followed by 12 in June and 8 in October. During the months of January, February, April, July, August, November and December of 2013 no surveys were conducted due to unfavorable weather conditions or complications with aircraft. A total of 73 tracklines covering 5913km were surveyed across five months.

A total of 100 sightings of 915 cetaceans were recorded while on effort in the study area (Table 1a, Figure 1). Four species of cetaceans were observed while on effort including: bottlenose dolphins (*Tursiops truncatus*; 54 sightings of 309 individuals), Atlantic spotted dolphins (*Stenella frontalis*; 34 sightings of 503 individuals), Risso's dolphins (*Grampus griseus*; six sightings of 71 individuals), pantropical spotted dolphins (*Stenella attenuata*; one sighting of 25 individuals). During five sightings (totaling seven individuals) dolphin species identity could not be established with 100 percent certainty (*i.e.* "unidentified delphinids"). Two off effort sightings, one of short-finned pilot whales (*Globicephala macrorhynchus*) and one of bottlenose dolphins, were observed just offshore of the survey site while transiting between tracklines. These off effort sightings are included in the individual species sighting maps and tables but are excluded from all other calculations. Cetacean sighting rates varied across months with peaks in May and September.

A total of 301 sea turtles were recorded during the study period. Of these turtle sightings, 270 were identified as loggerheads (*Caretta caretta*), 16 as leatherbacks (*Dermochelys coriacea*), and 15 as "unidentified sea turtles" (Tables 9 and 10, Figure 12 and 13). Sea turtles were detected during each day of survey effort, with higher abundances observed in May and September (Figures 11a-c).

As has been demonstrated in our earlier reports and in other aerial survey studies, sightings drop off dramatically as the Beaufort Sea State increases (e.g. Gómez de Segura *et al.* 2006, DeMaster *et al.* 2001, McAlarney *et al.* 2011). Effort corrected cetacean and sea turtle sightings were higher in sea states of 1 or 2 than in sea states ≥ 3 (Figures 4b & 11b).

In addition to cetaceans and sea turtles, other pelagic marine vertebrates, including ocean sunfish and multiple species of sharks and rays, were observed (Tables 11-14, Figure 14). Military, commercial, and recreational vessel traffic was also recorded inside the survey area (Tables 15-17, Figures 15-17).

Table 1a. Total number of sightings and individuals for each species by month from January 2013 to December 2013 for the Jacksonville, Florida survey area.

	2013												Total		
	January	February	March	April	May	June	July	August	September	October	November	December			
<i>Tursiops truncatus</i>			2		21	7			20	4					54
# of Sightings			6		126	36			126	15					309
# of Individuals			1		13	1			10	9					34
<i>Stenella frontalis</i>			14		215	45			152	77					503
# of Sightings					3	1			1	1					6
# of Individuals					43	10			11	7					71
<i>Grampus griseus</i>															1
# of Sightings									1						1
# of Individuals									25						25
<i>Stenella attenuata</i>															5
# of Sightings					1	4									5
# of Individuals					2	5									7
Unidentified delphinid															
Total sightings	0	0	3	0	38	13	0	0	32	14	0	0	0	0	100
Total individuals	0	0	20	0	386	96	0	0	314	99	0	0	0	0	915

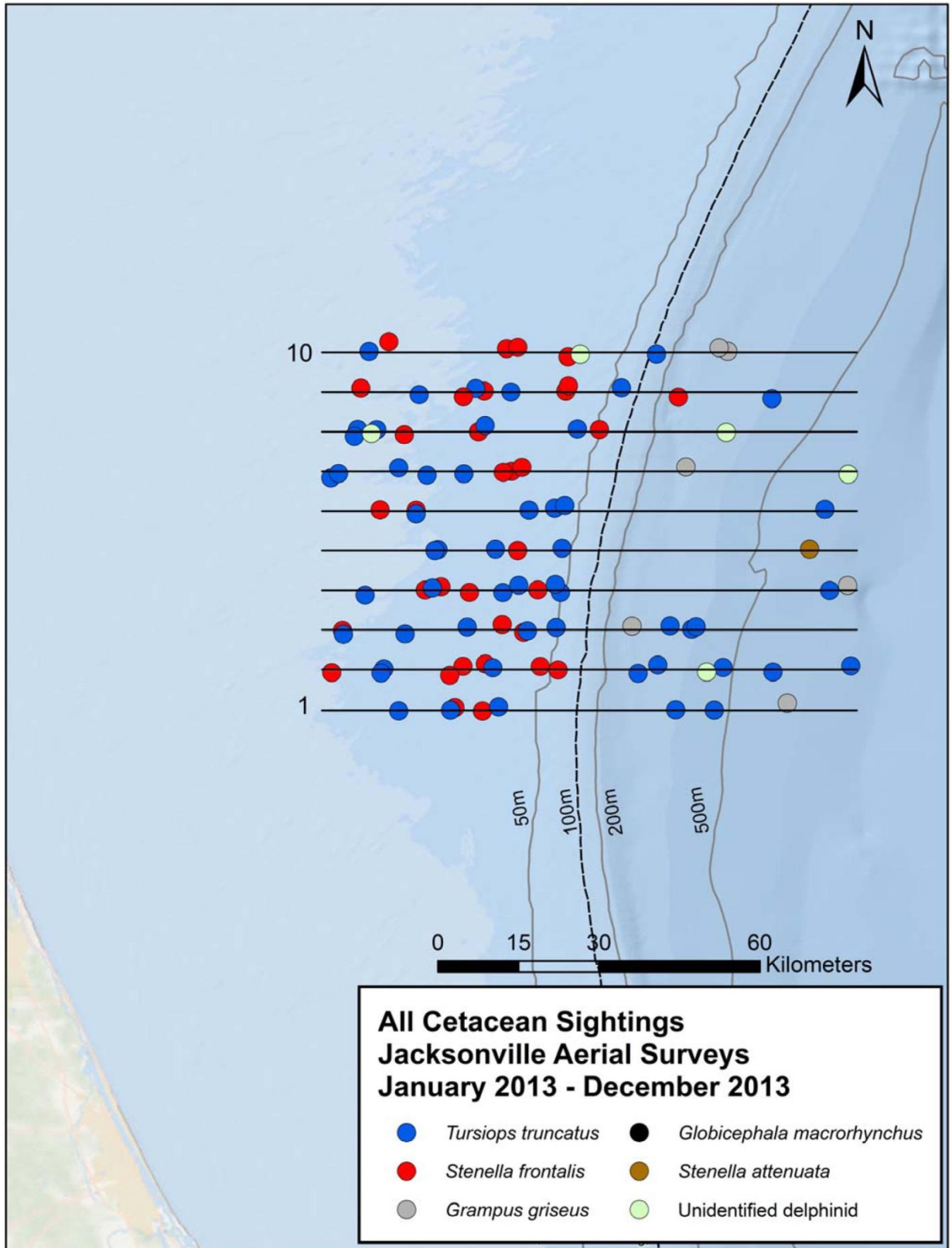


Figure 1. All cetacean sightings during aerial surveys conducted in Jacksonville, Florida from January 2013 to December 2013.

Methodology

Survey design and logistics

The Jacksonville offshore survey area consists of ten 86 km long tracklines spaced 7.4km apart covering 5727km² (Table 2, Figure 2). The site is located offshore of the primary calving grounds for the highly endangered North Atlantic right whale (*Eubalaena glacialis*), which is located off the coast of the southeastern US (reviewed in Waring *et al.* 2010, but see Foley *et al.* 2011). Aerial Early Warning System (EWS) surveys have been conducted in northern Florida and southern Georgia for the past 16 years to warn mariners in real time about the presence of right whales in the region. These surveys are conducted on a daily basis, weather permitting, from December through March. Aerial survey effort in the Jacksonville offshore survey area provided additional coverage, both of the surrounding geographic region and during the months preceding and following the EWS surveys. In past years this has resulted in a number of ancillary right whale sightings that have helped augment inshore activity.

Safety and communication protocols for transiting through the EWS areas were established in January 2009 when offshore survey effort began. The offshore survey team talked with researchers from the Florida Wildlife Service prior to the start of EWS surveys. The protocols outlined included coordination between survey team leaders on the morning of a survey, plane to plane communication at the start of an aerial survey, and the maintenance of a 1000m altitude for the offshore survey plane while transiting through the EWS area between December and March. The protocols also established the 9.3km (5 nm) “buffer zone” between the western margin of the offshore survey area and the eastern margin of the EWS surveys (Figure 2). We have maintained these safety and communication protocols throughout the reporting period.

All aerial surveys were based out of the local Fixed-base Operator (FBO) in Fernandina Beach, Florida. Prior to an aerial survey, pilots with Orion aviation would contact SeaLord at FACFASJAX in Jacksonville, Florida, to get event codes for passage out of and into U.S. territorial waters.

Table 2. Coordinates for trackline end points for the Jacksonville, Florida survey area.

Transect Line		Eastern Waypoint		Western Waypoint	
Line	Latitude	Longitude	Latitude	Longitude	
1	29.965011	-79.801416	29.965011	-80.700000	
2	30.031263	-79.801416	30.031263	-80.700000	
3	30.099694	-79.801416	30.099694	-80.700000	
4	30.165763	-79.801416	30.165763	-80.700000	
5	30.232227	-79.801416	30.232227	-80.700000	
6	30.299477	-79.801416	30.299477	-80.700000	
7	30.365152	-79.801416	30.365152	-80.700000	
8	30.432797	-79.801416	30.432797	-80.700000	
9	30.498866	-79.801416	30.498866	-80.700000	
10	30.566233	-79.801416	30.566233	-80.700000	

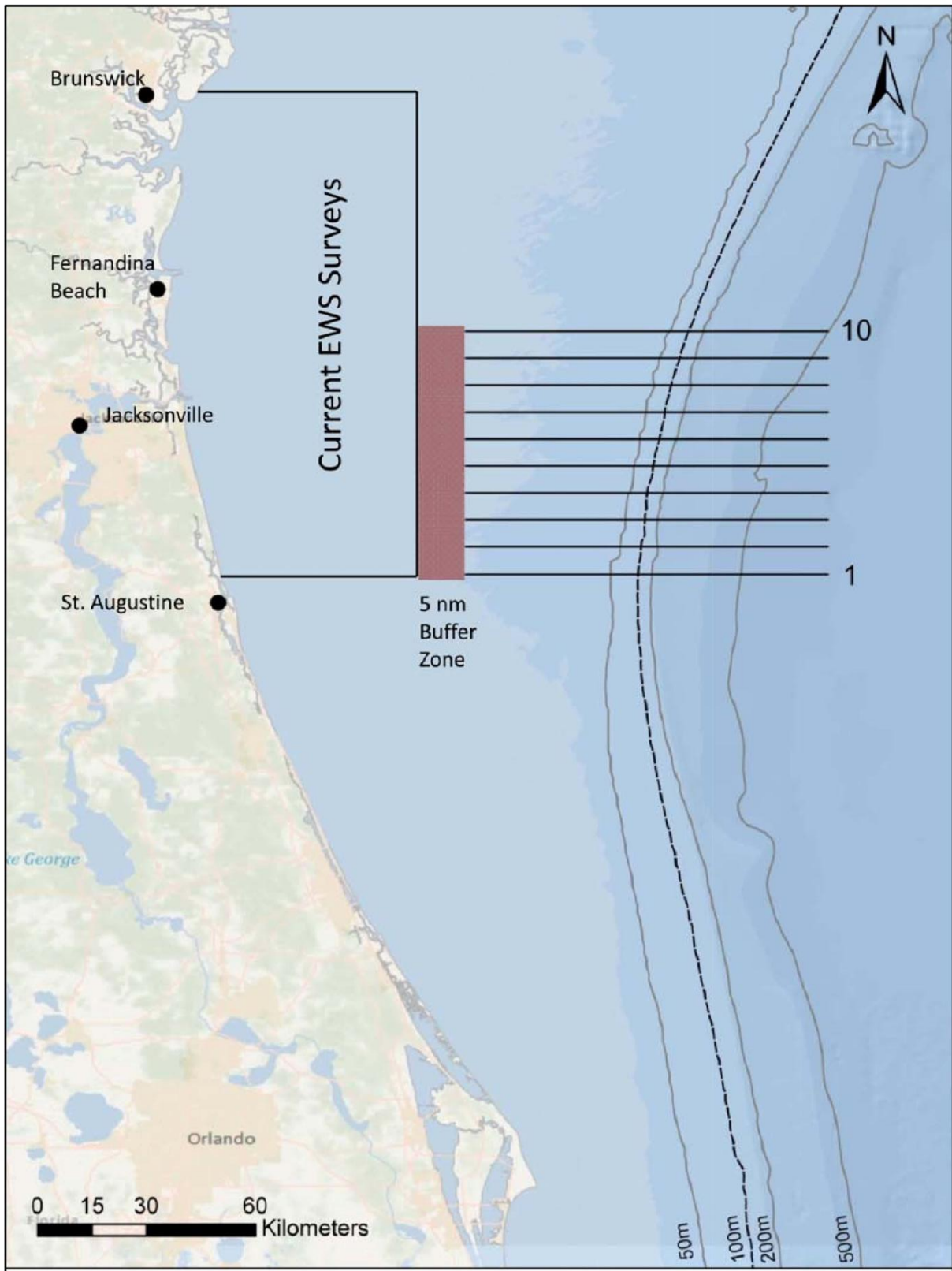


Figure 2. Tracklines 1-10 that compose the Jacksonville, Florida survey site.

Results

A total of 73 tracklines comprising 5913km were surveyed during the 12 month reporting period from January 2013 through December 2013. Minimum coverage of ten tracklines was achieved in four of 12 months, and in October eight tracklines were flown. Unfavorable survey conditions and complications with the planes precluded surveys from being conducted during the other seven months (Table 3).

An average Beaufort Sea State (BSS) value was calculated each survey month to compare conditions across time. The average was calculated by taking the distance flown at each sea state multiplied by the BSS number (*i.e.* BSS 1 distances would be multiplied by 1). These values were summed and divided by the total distance flown that month. Survey effort was terminated when BSS values persisted above a 4. Survey conditions ranged from a BSS 0 to 4, with the majority of the surveys flown in a BSS 2 (49.5%) (Figures 3a-c). Cetacean sighting rates dropped off dramatically at sea state greater than 2. Lower sighting rates in BSS 0 and 1 is likely a result of limited survey time spent in these conditions rather than decreased detection of cetaceans (Figures 4a-c).

The mean sighting distance for all cetacean sightings was 0.72km with greater than 75% of sightings occurring within 1km of the trackline (Figure 5a). The mean sighting distance varied less than 0.15km across the BSS values recorded (Figure 5b). Average sighting distances were calculated after removing a single outlier (1.94km from trackline), which was defined as a value in excess of three standard deviations from the mean.

Table 3. Tracklines, km flown and Hobbs hours during aerial surveys of the Jacksonville, Florida survey area from January 2013 to December 2013. Trackline numbers are listed in the order in which they were flown.

Date	Tracklines Flown AM	Tracklines Flown PM	Total km Flown	Hobbs Hours
22-Mar-2013	10 to 5	1 to 4	864.3	6.4
9-May-2013	10 to 7	6 to 1	836.4	8.0
10-May-2013	5 to 10	1 to 4	803.7	7.6
20-Jun-2013	10 to 5	N/A	510.7	4.2
21-Jun-2013	1 to 6	N/A	386.9	4.8
4-Sep-2013	10 to 7	1 to 6	839.7	7.4
5-Sep-2013	5 to 10	4 to 1	839.6	7.9
6-Sep-2013	10 to 8	N/A	175.9	2.4
17-Oct-2013	10 to 7	1 to 4	656.2	7.0
9 days	73 tracklines		5913.3 km	55.7 hrs

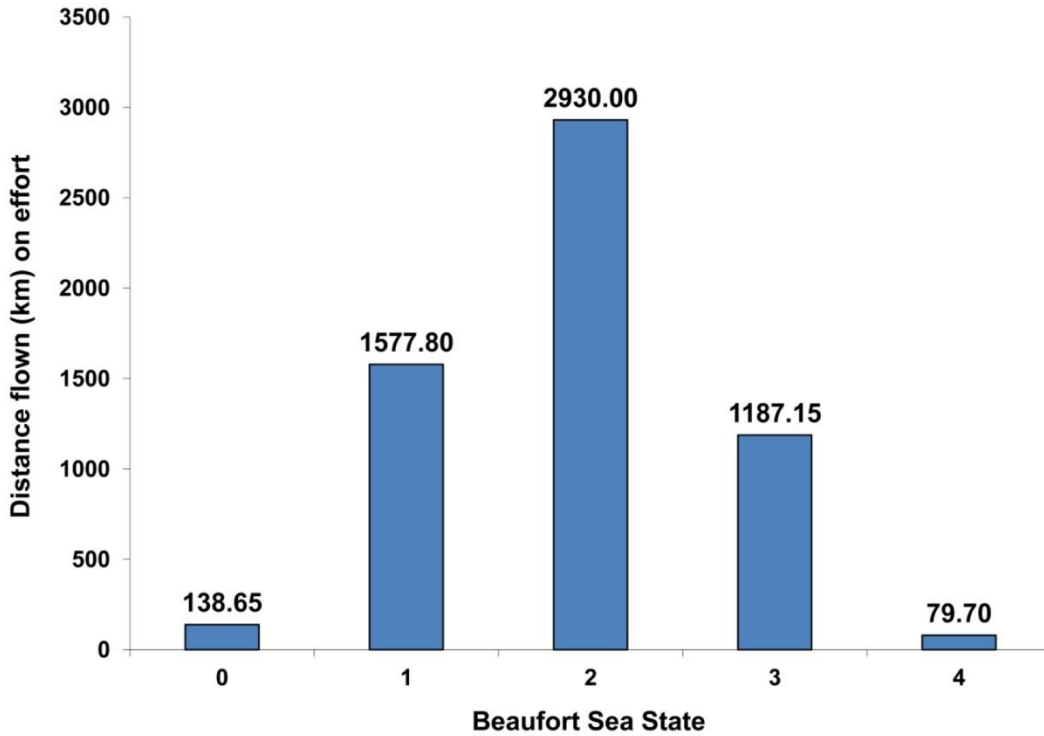


Figure 3a. Total distance surveyed per Beaufort Sea State from January 2013 to December 2013 during aerial surveys in the Jacksonville, Florida survey area.

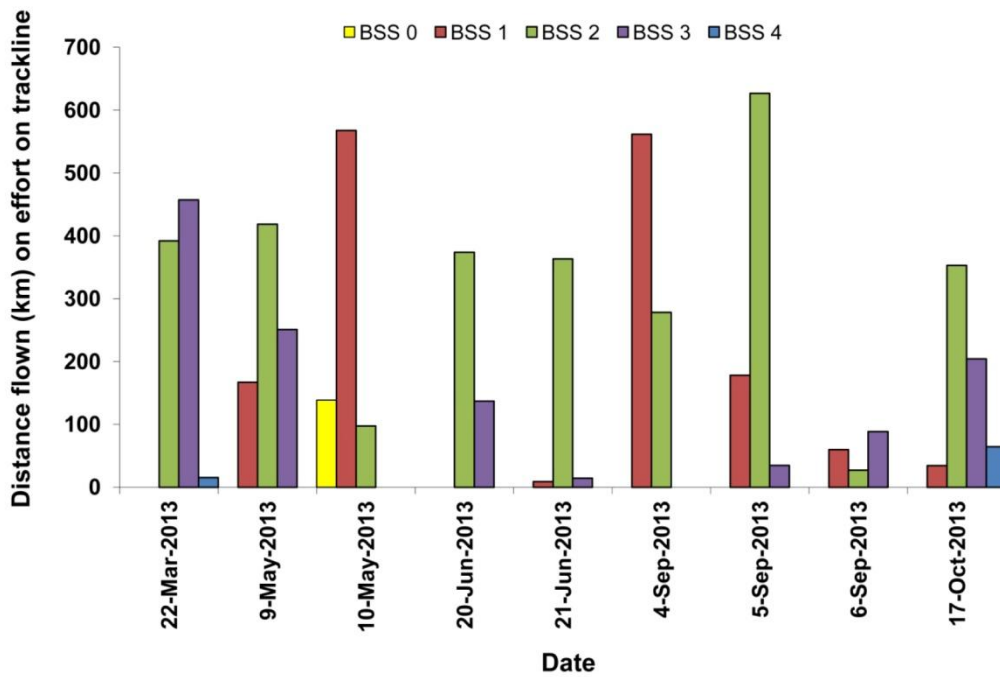


Figure 3b. Effort by Beaufort Sea State for each day from January 2013 to December 2013 during aerial surveys in the Jacksonville, Florida survey area.

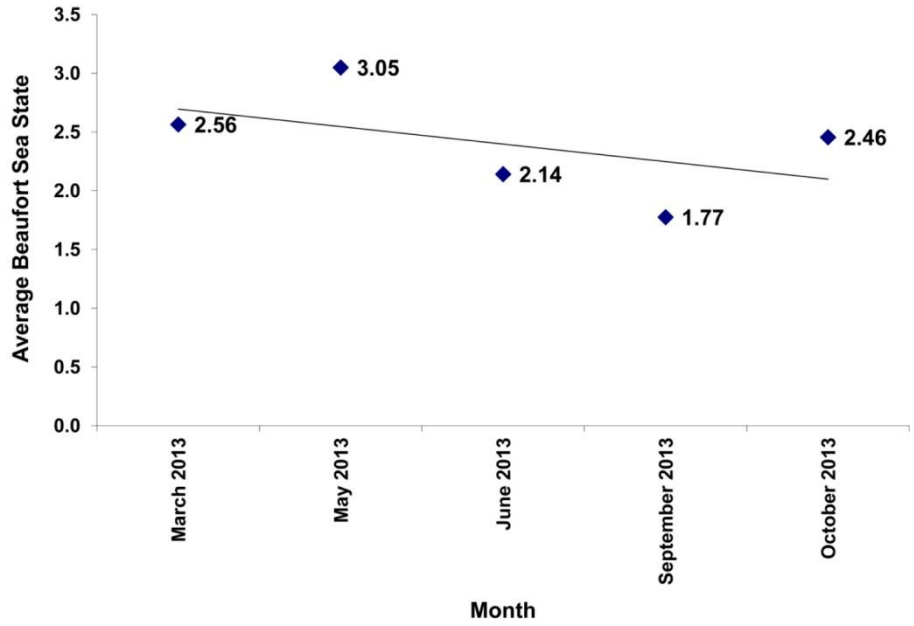


Figure 3c. Average Beaufort Sea State for each month from January 2013 to December 2013 during aerial surveys in the Jacksonville, Florida survey area. Values were calculated using the formula $AvgBSS = [(Distance @ 1*1) + \dots / Total\ distance\ flown\ that\ day]$

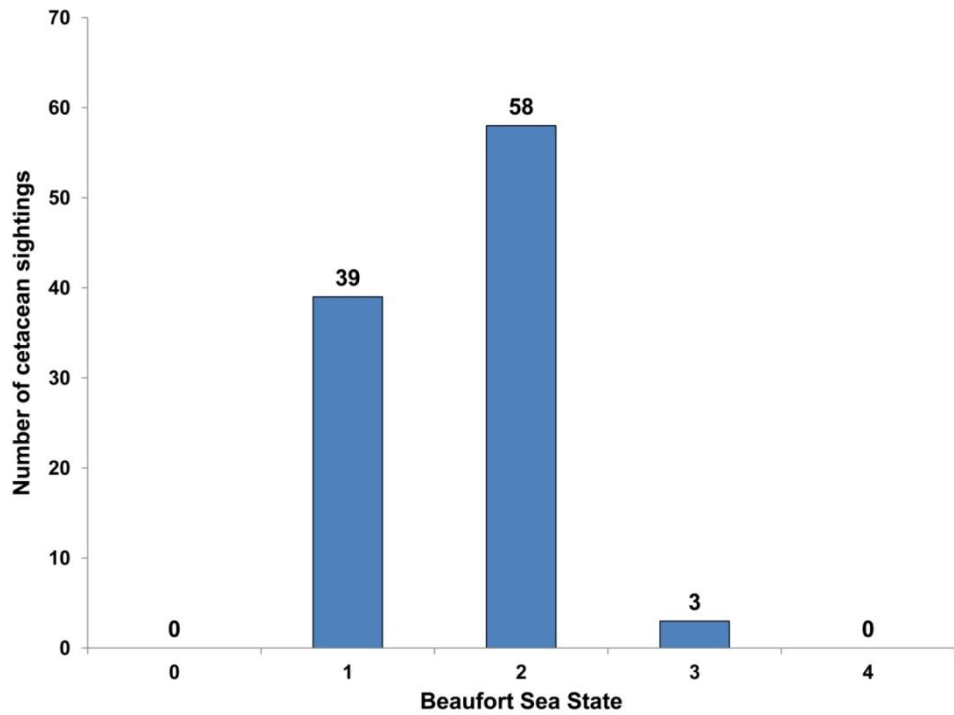


Figure 4a. Number of cetacean sightings per Beaufort Sea State from January 2013 to December 2013 during aerial surveys in the Jacksonville, Florida survey area.

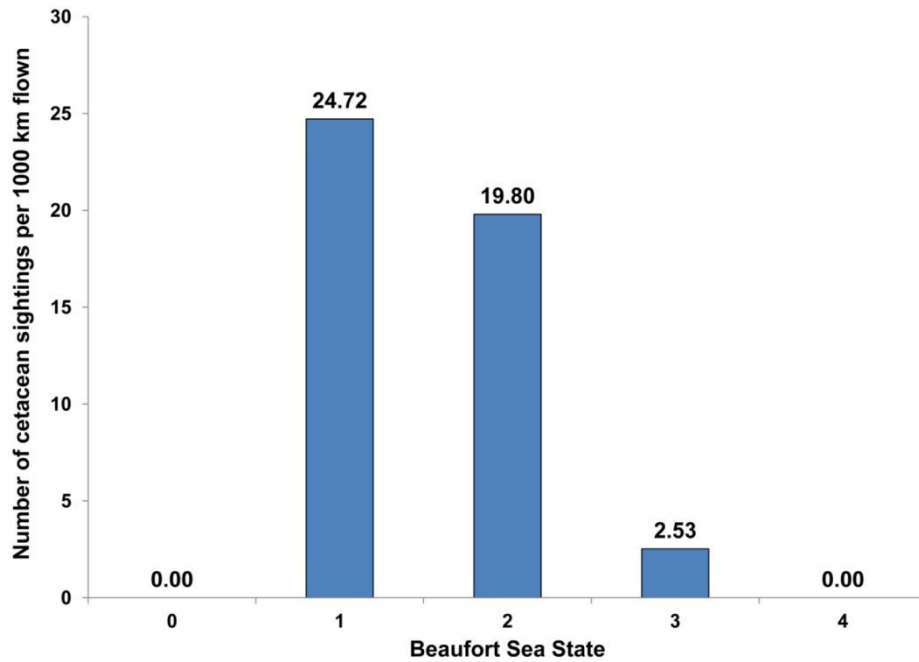


Figure 4b. Cetacean sightings per 1000 km flown by Beaufort Sea State from January 2013 to December 2013 during aerial surveys in the Jacksonville, Florida survey area.

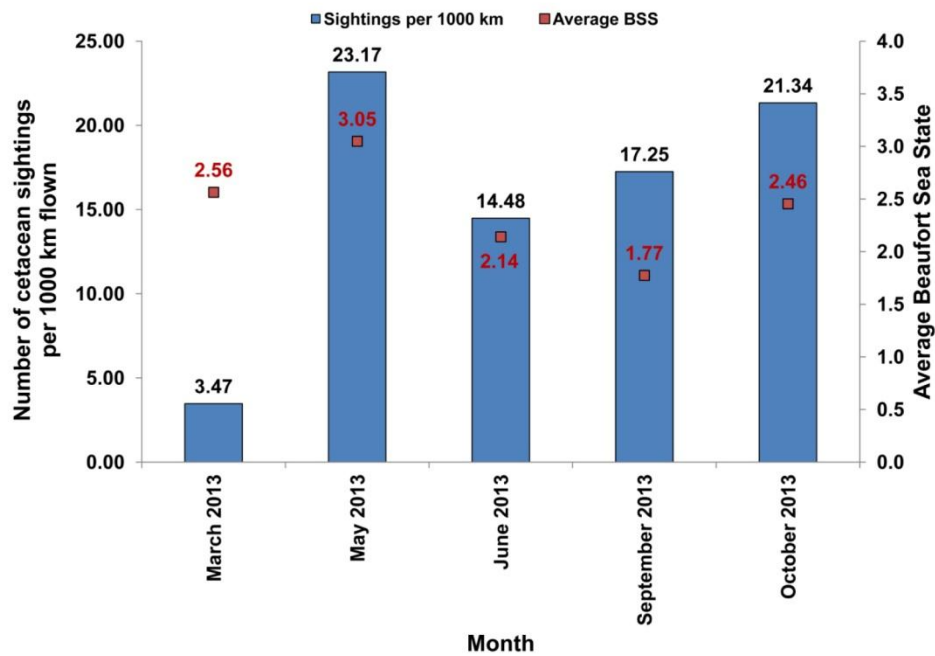


Figure 4c. Cetacean sightings per 1000 km surveyed and the average Beaufort Sea State per month from January 2013 to December 2013 during aerial surveys in the Jacksonville, Florida survey area.

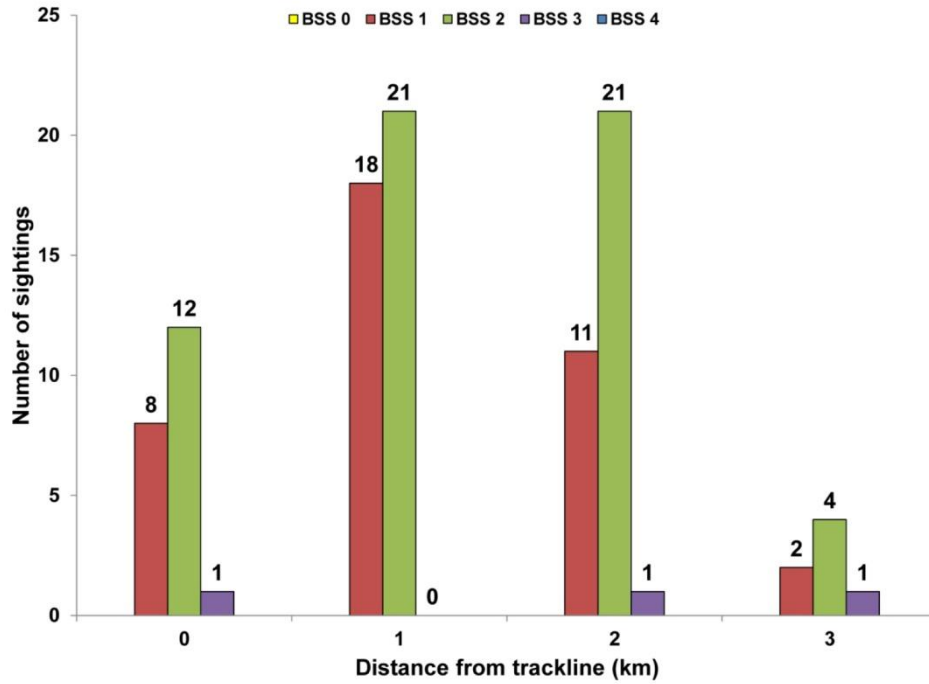


Figure 5a. Sighting distances by Beaufort Sea State for 99 of 99 on effort cetacean sightings from January 2013 to December 2013 during aerial surveys in the Jacksonville, Florida survey area.

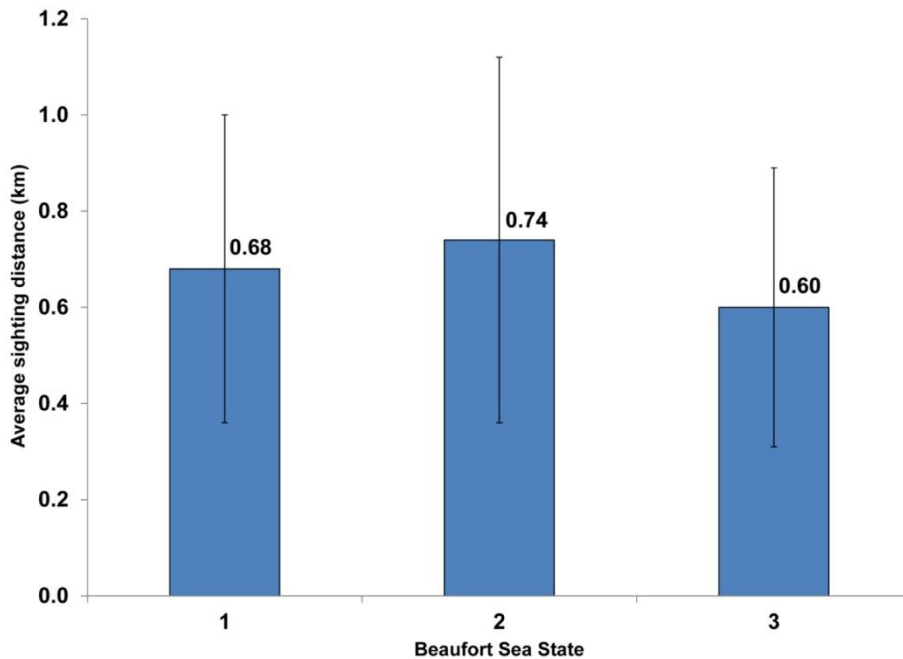


Figure 5b. Average sighting distances by Beaufort Sea State for 99 of 99 on effort cetacean sightings from January 2013 to December 2013 during aerial surveys in the Jacksonville, Florida survey area. Error bars denote standard deviation for each category.

Marine Mammal Sightings

A total of 100 sightings of 915 individual cetaceans, representing four species, were observed while on effort during the reporting period. There were no endangered species encountered inside the study area during this reporting period. All identified species encountered are listed below in order of decreasing number of sightings (*i.e.* most commonly sighted species first). While the only sighting of short-finned pilot whales this year occurred while off effort, this species is included here as it has been observed inside the range during previous year. Total number of individuals is based upon the best estimate of group size. Information on individual sighting summaries are in Appendix C. Daily sightings are summarized in Appendix D.

Bottlenose dolphin (*Tursiops truncatus*) (Table 4, Figure 6)

Bottlenose dolphins were the most frequently encountered cetacean (54 sightings for a total of 309 individuals). While group size ranged from 1 to 20 (mean=5.7), 89% of sightings contained 10 or fewer individuals. Based on the distance from shore (*e.g.* greater than 34 km), the bottlenose dolphins observed in this study are most likely of the offshore ecotype (Torres *et al.* 2003). Genetic analysis of biopsy samples (n=16) collected inside the survey area confirm that all dolphins sampled belong to the offshore ecotype (Swaim *et al.* 2013). Bottlenose dolphins were encountered throughout the study area and there was no obvious relationship between group size and bathymetry (Figure 6). This species was encountered during each month surveyed. The current best estimate of offshore bottlenose dolphins in the Western Atlantic Ocean, between central Florida and Canada, is 81588 (CV=0.17) (NOAA Stock Assessment Report; Waring *et al.* 2008). The status of the offshore bottlenose dolphins stock in the Northwest Atlantic is unknown (Waring *et al.* 2008).

Table 4. Bottlenose dolphin (*Tursiops truncatus*) sightings in the Jacksonville, Florida survey area from January 2013 to December 2013. Asterisk denotes off effort sightings.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
22-Mar-13	15:18	41	30.106511	-80.117174	E	3	1	90°	3
22-Mar-13	15:37	47	30.165759	-79.849605	W	4	3	60°	3
9-May-13	9:44	8	30.499629	-80.383822	W	9	2	60°	15
9-May-13	10:14	16	30.437419	-80.272449	E	8	3	90°	6
9-May-13	11:04	30	30.359587	-80.524511	W	7	3	100°	3
9-May-13	11:15	35	30.362490	-80.672674	W	7	2	90°	2
9-May-13	13:03	46	30.308573	-80.293577	E	6	2	90°	2
9-May-13	13:39	58	30.236874	-80.298098	W	5	2	90°	1
9-May-13	13:56	66	30.233065	-80.511431	W	5	1	45°	6
9-May-13	14:14	73	30.158026	-80.628438	E	4	2	90°	4
9-May-13	14:26	80	30.162511	-80.300768	E	4	2	100°	3
9-May-13	15:11	101	30.103609	-80.307910	W	3	1	90°	8
9-May-13	15:44	114	30.035930	-80.414157	E	2	2	90°	7
9-May-13	16:03	123	30.028715	-79.944436	E	2	1	90°	3
10-May-13	9:05	5	30.235295	-80.409763	E	5	1	90°	4
10-May-13	9:30	15	30.302153	-79.857351	W	6	1	45°	13
10-May-13	9:46	21	30.304065	-80.310493	W	6	3	100°	2
10-May-13	10:12	34	30.361910	-80.462921	E	7	2	90°	5
10-May-13	11:15	62	30.424997	-80.646442	W	8	2	90°	20
10-May-13	11:47	76	30.506527	-80.198527	E	9	2	60°	8
10-May-13	12:29	92	30.563264	-80.139916	W	10	1	90°	3
10-May-13	12:53	101	30.567770	-80.621680	W	10	2	60°	6
10-May-13	16:22	152	30.174365	-80.370741	W	4	1	90°	5
20-Jun-13	12:41	33	30.266891	-79.788749			3	90°	7
21-Jun-13	9:14	8	29.965022	-80.107845	E	1	2	130°	3
21-Jun-13	9:53	23	30.026501	-80.170572	W	2	1	90°	6
21-Jun-13	10:18	32	30.092055	-80.664690	E	3	2	90°	4
21-Jun-13	10:37	39	30.097726	-80.356120	E	3	2	130°	2
21-Jun-13	10:50	45	30.104927	-80.073517	E	3	2	80°	7
21-Jun-13	11:24	53	30.169890	-80.515658	W	4	2	100°	8
21-Jun-13	12:08	70	30.294445	-80.542902	W	6	2	110°	6
4-Sep-13	11:28	40	30.372094	-80.571879	W	7	2	90°	4
4-Sep-13	11:34	46	30.355202	-80.685832	W	7	2	100°	4
4-Sep-13	13:23	57	29.963326	-80.571982	E	1	1	90°	7
4-Sep-13	13:27	61	29.964453	-80.485104	E	1	2	90°	8
4-Sep-13	13:37	65	29.970169	-80.404552	E	1	2	90°	1
4-Sep-13	13:50	69	29.964516	-80.043015	E	1	2	90°	18
4-Sep-13	14:12	75	30.036378	-80.028405	W	2	1	120°	8
4-Sep-13	14:34	80	30.027039	-80.601611	W	2	1	120°	2
4-Sep-13	14:50	89	30.104249	-80.457311	E	3	1	90°	2
4-Sep-13	15:49	99	30.234601	-80.506338	E	5	2	90°	1
5-Sep-13	9:48	13	30.300761	-80.353526	W	6	1	90°	8
5-Sep-13	11:00	29	30.443162	-80.427117	W	8	3	90°	3
5-Sep-13	11:21	38	30.505443	-80.442981	E	9	2	100°	1
5-Sep-13	11:46	47	30.488333	-79.946208	E	9	2	90°	4
5-Sep-13	14:24	76	30.162144	-80.397471	E	4	3	90°	16
5-Sep-13	15:17	88	30.092804	-80.561323	W	3	2	90°	6
5-Sep-13	15:50	96	30.040520	-80.137770	E	2	2	45°	9

Table 4 (continued). Bottlenose dolphin (*Tursiops truncatus*) sightings in the Jacksonville, Florida survey area from January 2013 to December 2013. Asterisk denotes off effort sightings.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
5-Sep-13	16:00	100	30.039238	-79.814079	E	2	2	60°	19
6-Sep-13	10:00	128	30.495026	-80.537739	W	9	2	90°	1
6-Sep-13	10:12	135	30.436669	-80.640863	E	8	2	60°	4
17-Oct-13	10:24	29	30.436226	-80.608824	E	8	1	90°	6
17-Oct-13	14:15	70	30.034130	-80.596828	W	2	1	90°	2
17-Oct-13	15:04	94	30.100921	-80.080960	E	3	1	60°	5
17-Oct-13	15:38	102	30.175892	-80.309161	W	4	2	90°	2

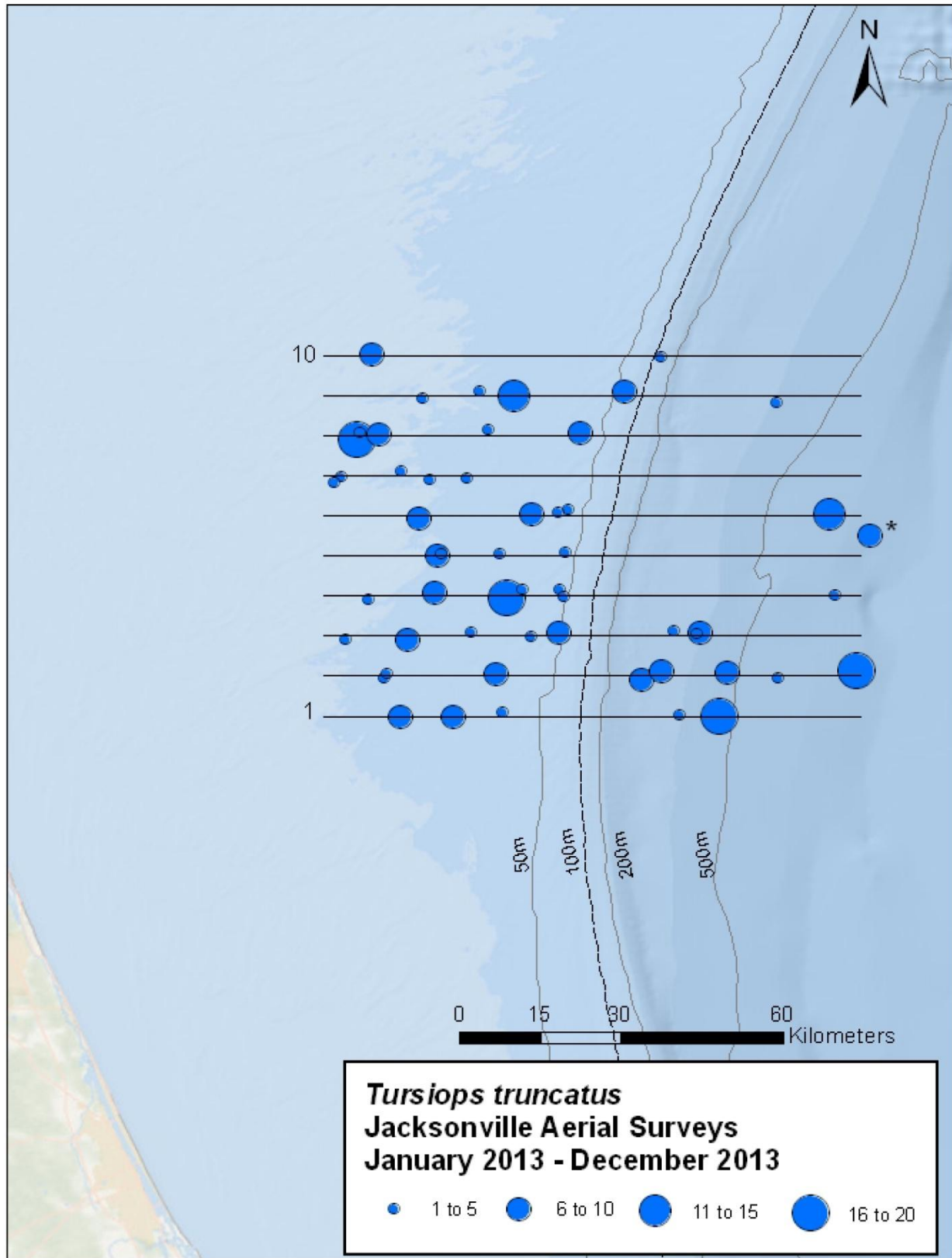


Figure 6. Bottlenose dolphin (*Tursiops truncatus*) sightings indicating group size. Asterisk denotes off effort sightings.

Atlantic spotted dolphin (*Stenella frontalis*) (Table 5, Figure 7)

The Atlantic spotted dolphin was the second most frequently sighted, and numerically most abundant, species encountered in the survey area and were seen in every month surveyed (34 sightings for a total of 503 individuals). Group size ranged from 1 to 58 (mean=14.8). This species was encountered predominantly in shallow water over the continental shelf (Figure. 7). There are two distinct forms, or ecotypes, of the Atlantic spotted dolphin in the western North Atlantic: a heavily spotted form that typically occurs on the continental shelf and is most often encountered at or within the 200m isobath, and a less spotted, smaller form that occurs further offshore and around deep island archipelagoes (Perrin *et al.* 1987, 1994). It is likely, based upon the features observed, that the spotted dolphins seen during the present study belong to the continental shelf variety. The abundance estimate for *S. frontalis* (both the inshore and the offshore forms) in the western North Atlantic is 26798 (CV=0.66) and was determined by aerial and vessel observations; the status of the stock(s) is/are unknown (Waring *et al.* 2012).

Table 5. Atlantic spotted dolphin (*Stenella frontalis*) sightings in the Jacksonville, Florida survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
22-Mar-13	15:00	36	30.108723	-80.398359	E	3	1	90°	14
9-May-13	10:56	26	30.364507	-80.396673	W	7	1	90°	16
9-May-13	13:46	62	30.233078	-80.372391	W	5	2	90°	9
9-May-13	15:33	110	30.038290	-80.464253	E	2	2	45°	14
9-May-13	15:50	118	30.038170	-80.334790	E	2	2	90°	3
9-May-13	16:36	134	29.962992	-80.431610	W	1	3	90°	6
10-May-13	9:56	26	30.301435	-80.603184	W	6	1	90°	3
10-May-13	10:17	38	30.372800	-80.365265	E	7	2	90°	8
10-May-13	10:56	51	30.436293	-80.235362	W	8	2	60°	58
10-May-13	11:04	56	30.432531	-80.438154	W	8	1	60°	6
10-May-13	11:39	72	30.509741	-80.287540	E	9	2	90°	27
10-May-13	11:55	81	30.491044	-80.103064	E	9	3	90°	30
10-May-13	14:40	114	29.968842	-80.477942	E	1	1	90°	17
10-May-13	15:25	134	30.042331	-80.426692	W	2	2	100°	18
21-Jun-13	12:16	71	30.300538	-80.542854	W	6	2	100°	45
4-Sep-13	9:35	8	30.572533	-80.390993	E	10	1	60°	35
4-Sep-13	10:24	20	30.505879	-80.635534	W	9	1	90°	20
4-Sep-13	11:17	34	30.366270	-80.382744	W	7	2	45°	10
5-Sep-13	11:29	42	30.500759	-80.291870	E	9	2	100°	16
5-Sep-13	12:17	58	30.574702	-80.372299	W	10	2	60°	5
5-Sep-13	14:13	69	30.171990	-80.501133	E	4	2	100°	1
5-Sep-13	14:19	72	30.162467	-80.453415	E	4	2	90°	5
5-Sep-13	14:32	80	30.166837	-80.338649	E	4	3	90°	5
6-Sep-13	9:51	119	30.501176	-80.428540	W	9	3	90°	35
6-Sep-13	9:55	123	30.491543	-80.463564	W	9	2	90°	20
17-Oct-13	9:14	6	30.584009	-80.588475	E	10	3	120°	10
17-Oct-13	9:29	13	30.558824	-80.288020	E	10	2	100°	12
17-Oct-13	10:29	33	30.427726	-80.562642	E	8	2	90°	10
17-Oct-13	13:48	61	30.032212	-80.304650	W	2	1	90°	12
17-Oct-13	14:00	65	30.023095	-80.486503	W	2	3	110°	3
17-Oct-13	14:25	74	30.027669	-80.684144	W	2	1	90°	7
17-Oct-13	14:33	80	30.098440	-80.666253	E	3	1	90°	5
17-Oct-13	14:48	86	30.095534	-80.362398	E	3	2	90°	12
17-Oct-13	15:48	105	30.166598	-80.527591	W	4	2	90°	6

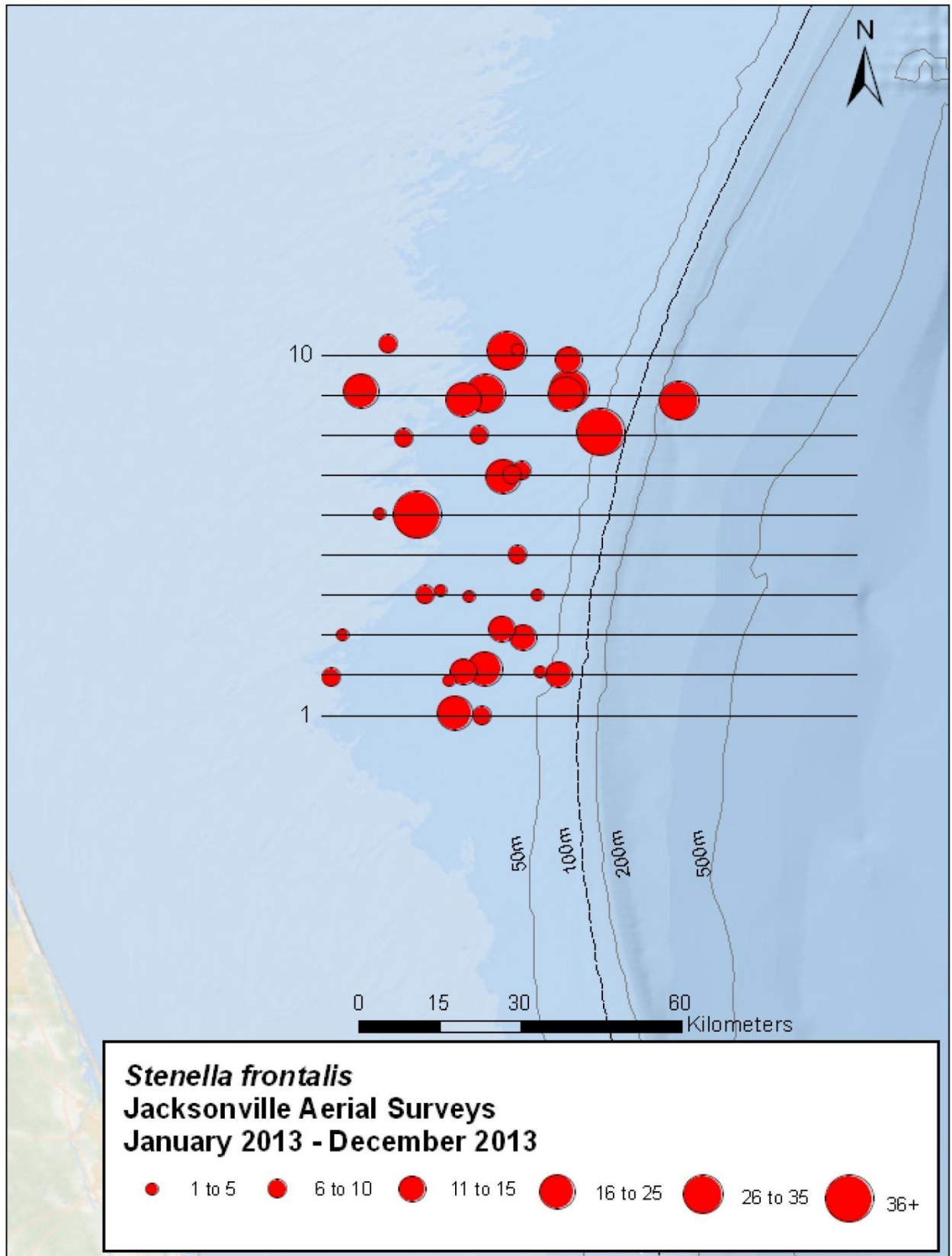


Figure 7. Atlantic spotted dolphin (*Stenella frontalis*) sightings indicating group size.

Risso's dolphin (*Grampus griseus*) (Table 6, Figure 8)

This species was encountered six times for a total of 71 individuals (Figure 8). Group size for this species ranged from 6 to 19 individuals (mean=11.8). Risso's dolphins were recorded in four of the five months surveyed, and were only observed in deeper, offshore waters. Risso's dolphin have been found along the mid-Atlantic continental shelf edge year round, with some movement north during spring, summer and fall, and into the mid-Atlantic bight during winter (Waring *et al.* 2011). The best available estimate for Risso's dolphins, based on results from US Atlantic surveys conducted in 2011, is 15197 (CV=0.55) (Waring *et al.* 2012). The status of this species in the western Atlantic is unknown (Waring *et al.* 2012).

Table 6. Risso's dolphin (*Grampus griseus*) sightings in the Jacksonville, Florida survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
9-May-13	14:42	86	30.174165	-79.819369	E	4	3	90°	18
10-May-13	10:30	44	30.373555	-80.090506	E	7	3	100°	6
10-May-13	12:16	88	30.568157	-80.020547	W	10	3	110°	19
21-Jun-13	9:26	13	29.976420	-79.920542	E	1	1	120°	10
5-Sep-13	12:02	54	30.573902	-80.035006	W	10	2	45°	11
17-Oct-13	14:57	90	30.105991	-80.180904	E	3	1	90°	7

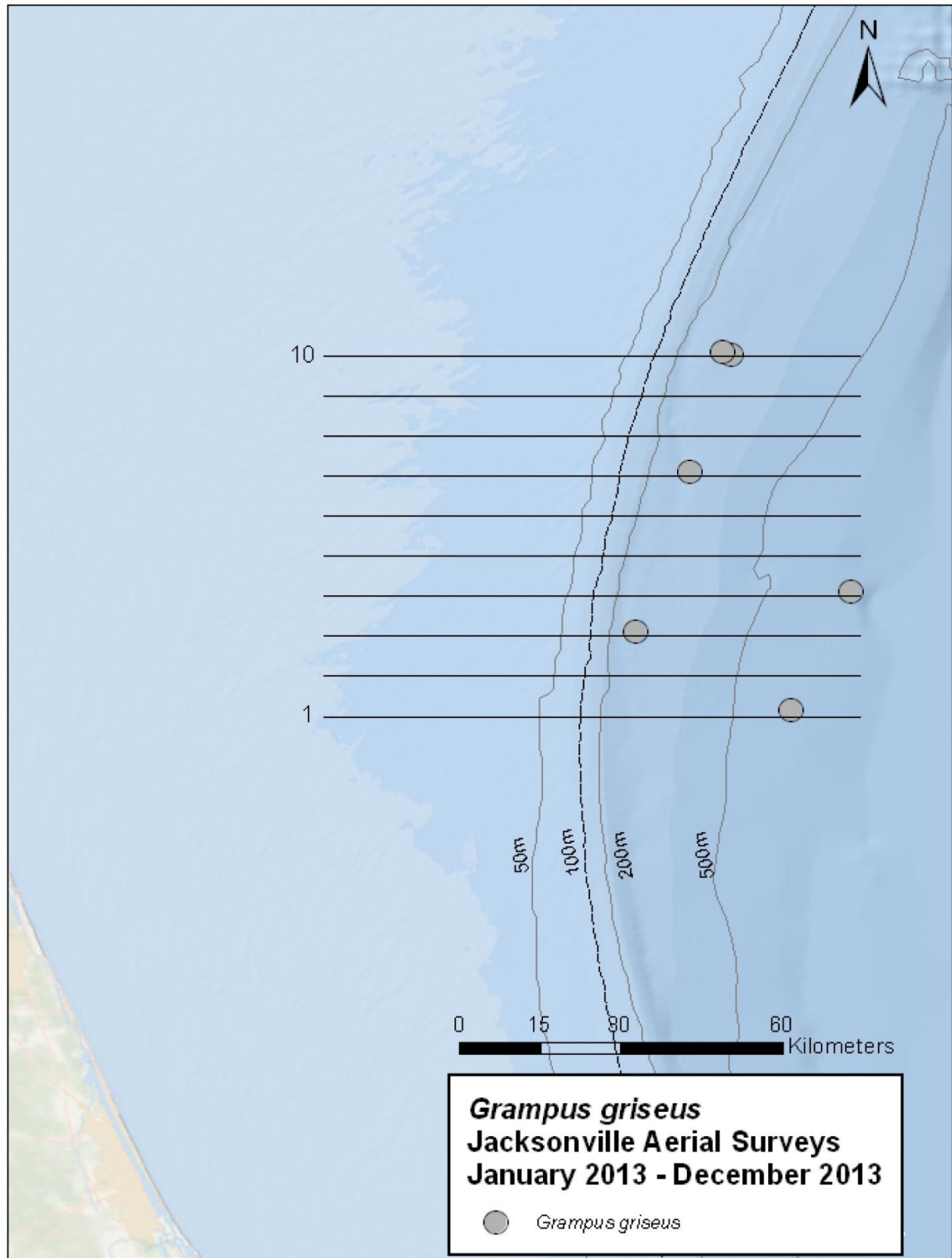


Figure 8. Risso's dolphin (*Grampus griseus*) sightings.

Pantropical spotted dolphin (*Stenella attenuata*) (Table 7, Figure 9)

A single sighting of a group of 25 pantropical spotted dolphins occurred beyond the 500m isobath in the month of September, and represents the first sighting of this species since our surveys began in 2009. The best available abundance estimate for this species is 4439 (CV=0.49) based upon combined estimates of two vessel based surveys conducted in 2004. The status of pantropical spotted dolphins in the western U.S. Atlantic is currently unknown (Waring *et al.* 2007).

Table 7. Pantropical spotted dolphin (*Stenella attenuata*) sighting in the Jacksonville, Florida survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
5-Sep-13	9:13	6	30.235449	-79.883109	E	5	2	100°	25

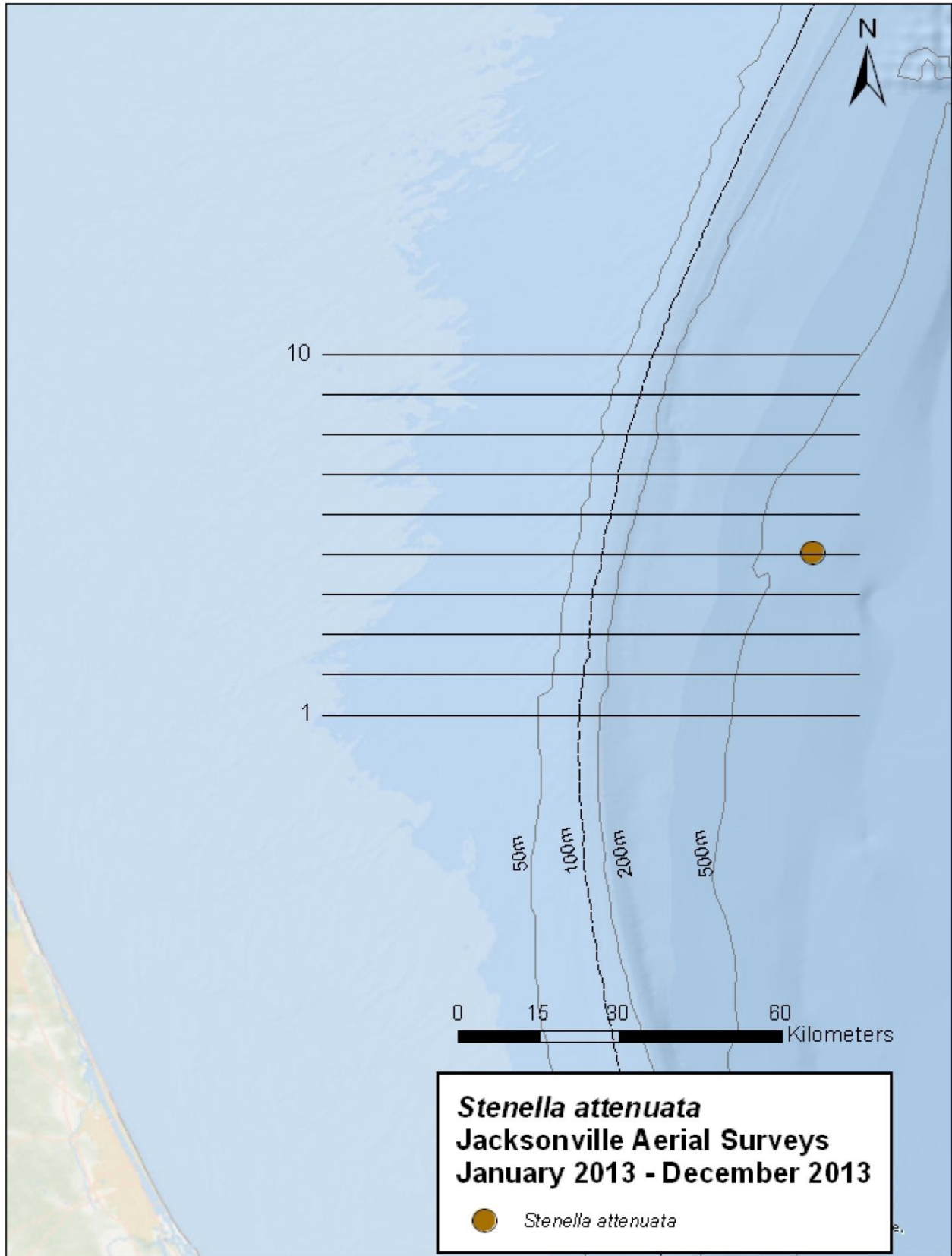


Figure 9. Pantropical spotted dolphin (*Stenella attenuata*) sighting.

Short-finned pilot whale (*Globicephala macrorhynchus*) (Table 8, Figure 10)

A single, off effort sighting of a group of ten short-finned pilot whales were encountered while transiting between tracklines one and two. Sightings of pilot whales in the western North Atlantic occur primarily near the continental shelf break (Waring *et al.* 2010) as is the case with our sightings (Figure 9). The difficulty of differentiating short-finned and long-finned pilot whales (*Globicephala melas*) at sea, NMFS reports stock numbers and status as *Globicephala* spp. (Waring *et al.* 2011). The abundance estimate of *Globicephala* spp. (24674, CV=0.45) is based upon shipboard surveys along the outer continental shelf of the U.S. Atlantic between Florida and Maryland in 2004 (Waring *et al.* 2010). These estimates were combined with spatial distribution analysis as well as genetic analyses to generate the current value of 24674. The status of short-finned pilot whales in the U.S. Atlantic is currently unknown (Waring *et al.* 2011).

Table 8. Short-finned pilot whale (*Globicephala macrorhynchus*) sightings in the Jacksonville, Florida survey area from January 2013 to December 2013. Asterisk denotes off effort sightings.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
10-May-13	15:00	77	29.999860	-79.784083	E	1	1	90°	10 *

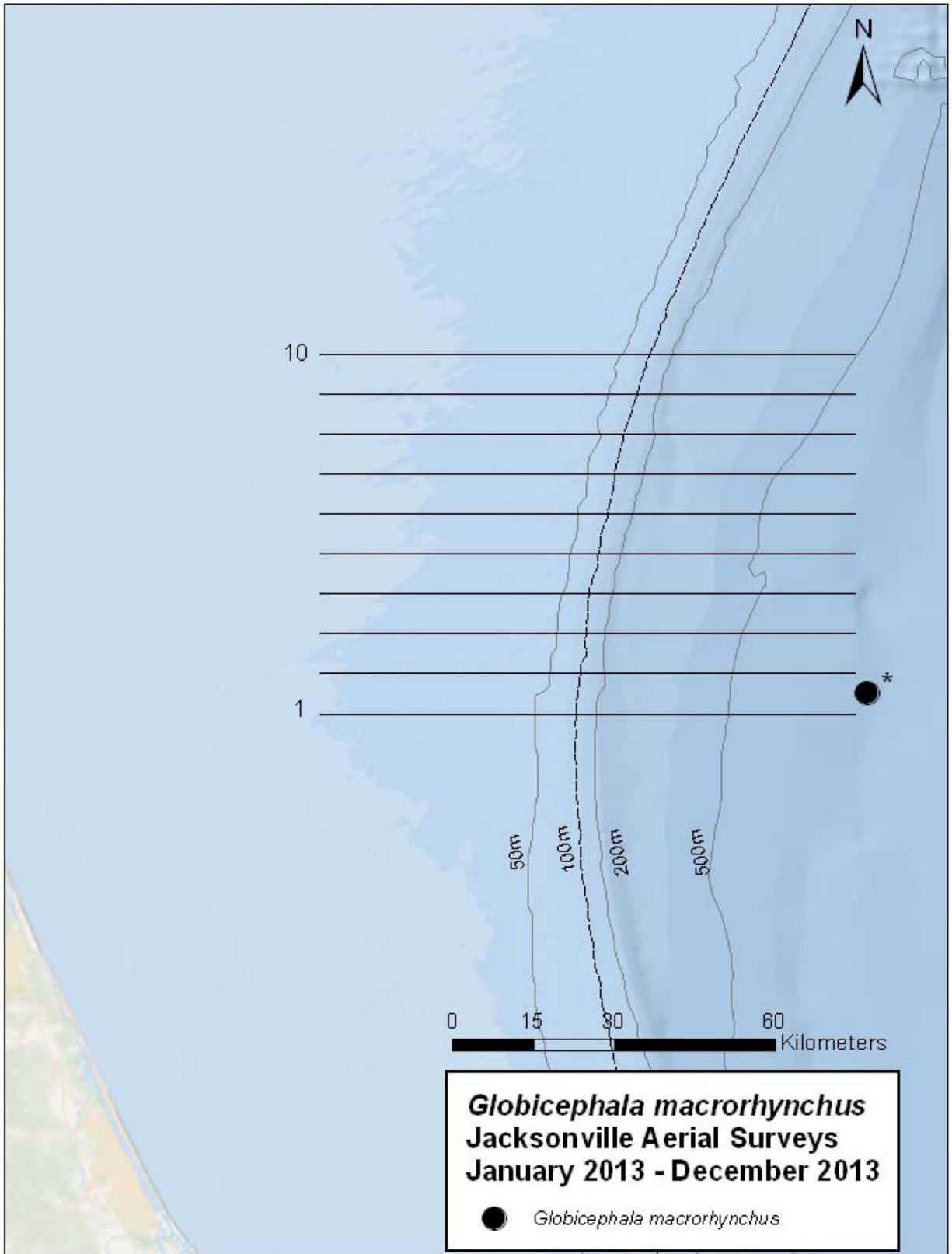


Figure 10. Short-finned pilot whale (*Globicephala macrorhynchus*) sighting. Asterisk denotes off effort sighting.

Sea Turtles (Tables 9 and 10, Figures 11a – 13)

A total of 301 sea turtles were observed during the reporting period. Sighting rates were negatively correlated with Beaufort Sea State, with rates declining at higher sea states (Figure 12b). Sea turtles were observed every day of survey effort with the highest sighting rates occurring in May and September (Figure 12c). Observation rates ranged from a low of 17.36 /1000km flown in March to 65.79 /1000km in September (Figure 12c). Loggerhead sea turtles (*Caretta caretta*) constituted the majority of sea turtle sightings (89.7%), followed by leatherback sea turtles (*Dermochelys coriacea*) (5.3%). Turtles labeled as unidentified were typically either of small size, submerged, or too far away for the observers to make an accurate identification to species (accounted for 4.9% of sightings). Sea turtle species are listed below in order of decreasing number of sightings (*i.e.* most commonly sighted species first).

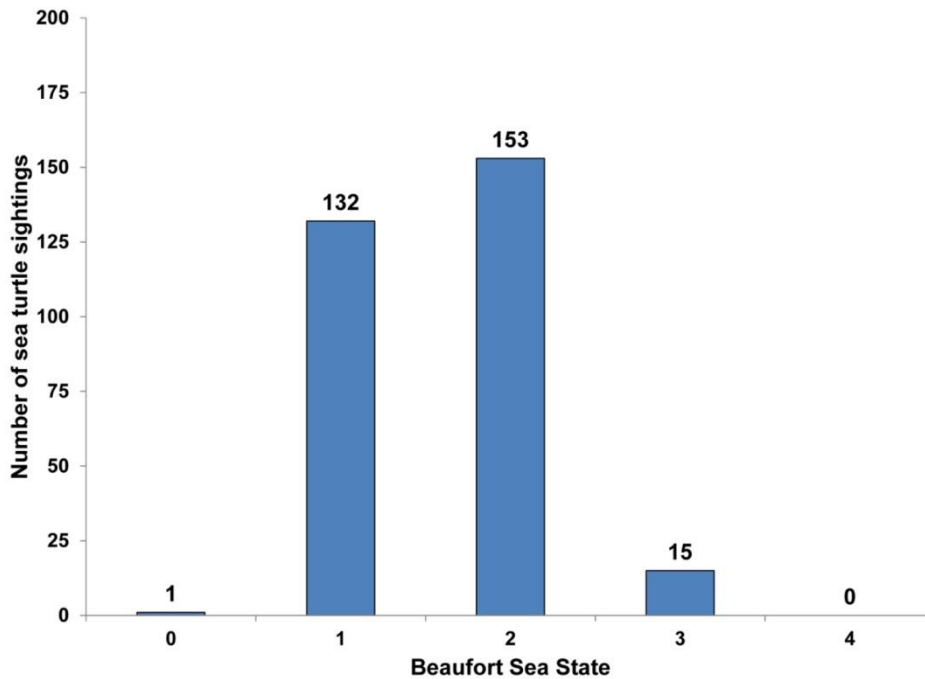


Figure 11a. Total number of sea turtle sightings by Beaufort Sea State from January 2013 to December 2013 during aerial surveys in the Jacksonville, Florida survey area.

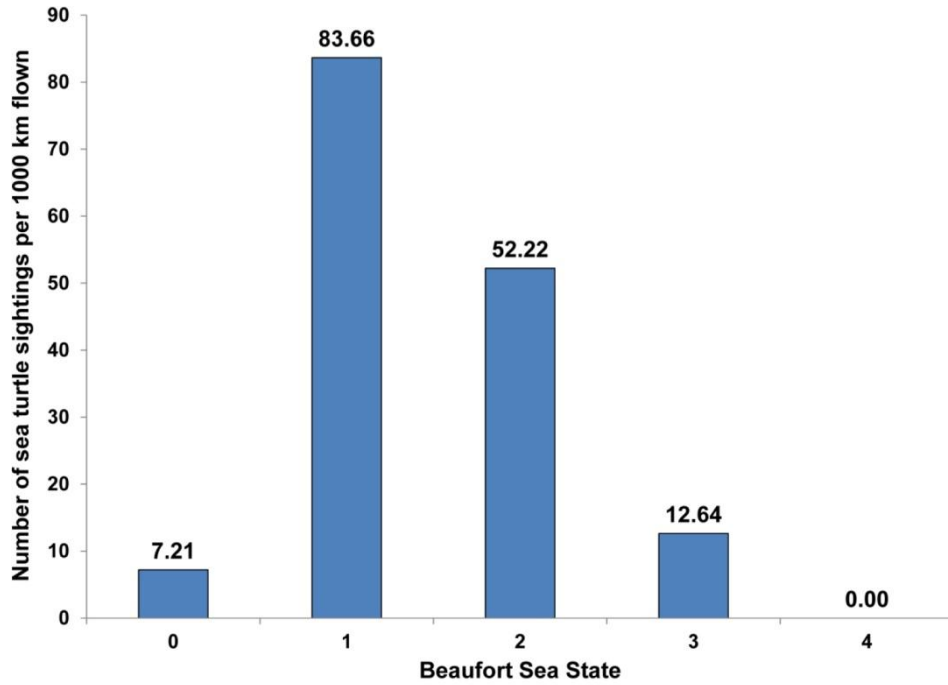


Figure 11b. Sea turtle sightings per 1000 km flown by Beaufort Sea State from January 2013 to December 2013 during aerial surveys in the Jacksonville, Florida survey area.

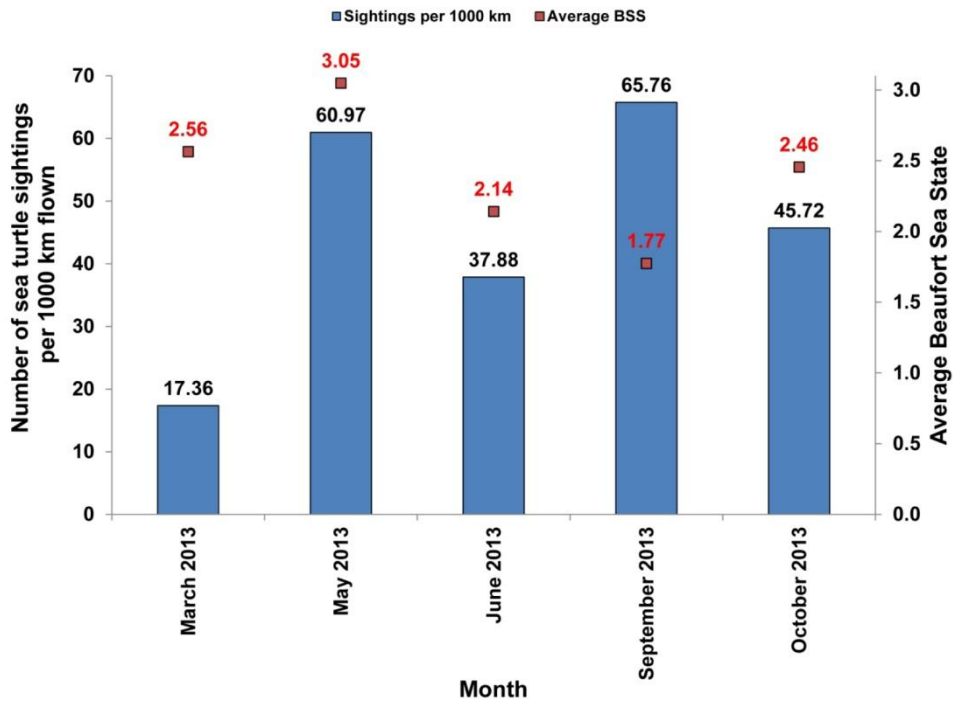


Figure 11c. Sea turtle sightings per 1000 km surveyed and the average Beaufort Sea State per month from January 2013 to December 2013 during aerial surveys in the Jacksonville, Florida survey area.

Loggerhead sea turtle (*Caretta caretta*) (Table 9, Figure 12)

A total of 270 loggerhead sea turtles were observed and this species was encountered on every day of survey effort. Loggerheads were predominantly recorded in the shallower waters over the continental shelf, although a small number of individuals occurred beyond the shelf break (Figure 12). For management purposes, loggerheads along the U.S. Atlantic east coast fall into the Northwest Atlantic Ocean distinct population segment (DPS), which is separated into five separate recovery units (NOAA 2011). The Northern Recovery Unit (defined as loggerheads originating from nests between southern VA through the FL/GA border) is currently listed as threatened under the Endangered Species Act (NMFS 2008).

Table 9. Loggerhead sea turtle (*Caretta caretta*) sightings in the Jacksonville, Florida survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
22-Mar-13	9:31	2	30.567454	-80.538419	E	10	2	90°	1
22-Mar-13	10:05	11	30.500269	-80.260487	W	9	1	90°	1
22-Mar-13	10:14	12	30.498108	-80.608610	W	9	2	90°	2
22-Mar-13	11:55	29	30.232467	-80.308752	W	5	1	90°	1
22-Mar-13	11:58	30	30.233020	-80.431971	W	5	1	90°	1
22-Mar-13	12:02	31	30.232849	-80.563915	W	5	1	90°	1
22-Mar-13	13:50	37	29.964165	-80.459179	E	1	2	90°	1
22-Mar-13	14:14	42	30.032469	-79.914083	W	2	3	90°	1
22-Mar-13	14:20	43	30.030858	-80.094269	W	2	1	90°	1
22-Mar-13	14:34	30	30.029445	-80.379803	W	2	1	90°	1
22-Mar-13	15:11	52	30.100602	-80.264373	E	3	1	90°	1
22-Mar-13	15:50	59	30.158969	-80.143519	W	4	2	90°	1
22-Mar-13	15:58	52	30.166886	-80.430403	W	4	2	100°	1
22-Mar-13	15:58	60	30.167058	-80.419303	W	4	3	90°	1
9-May-13	9:37	6	30.499316	-80.265287	W	9	1	90°	1
9-May-13	10:05	13	30.433980	-80.548932	E	8	2	90°	1
9-May-13	10:50	23	30.364789	-80.323407	W	7	3	90°	1
9-May-13	11:10	33	30.363686	-80.559879	W	7	2	90°	1
9-May-13	11:11	28	30.364145	-80.615694	W	7	2	60°	1
9-May-13	11:12	29	30.363997	-80.659010	W	7	1	90°	1
9-May-13	11:19	38	30.363570	-80.682900	W	7	1	90°	1
9-May-13	12:51	36	30.301058	-80.572898	E	6	1	90°	1
9-May-13	12:54	43	30.301338	-80.440328	E	6	2	90°	1
9-May-13	12:54	37	30.301288	-80.467927	E	6	2	90°	2
9-May-13	12:57	44	30.301325	-80.339608	E	6	2	90°	1
9-May-13	13:53	51	30.231486	-80.459403	W	5	3	90°	1
9-May-13	14:01	69	30.231464	-80.533289	W	5	2	90°	1
9-May-13	14:02	54	30.231334	-80.580124	W	5	2	90°	2
9-May-13	14:16	76	30.166476	-80.589532	E	4	2	90°	1
9-May-13	14:16	59	30.167301	-80.574810	E	4	2	90°	2
9-May-13	14:20	77	30.167542	-80.412402	E	4	2	90°	1
9-May-13	15:14	76	30.099156	-80.376829	W	3	1	90°	1
9-May-13	15:19	104	30.098874	-80.575968	W	3	2	90°	2
9-May-13	15:22	78	30.098242	-80.680218	W	3	2	90°	3
9-May-13	15:27	108	30.032820	-80.598887	E	2	2	90°	2
9-May-13	15:27	81	30.032810	-80.600476	E	2	2	90°	5
9-May-13	15:54	90	30.033189	-80.209099	E	2	1	90°	1
9-May-13	15:58	91	30.033147	-80.061411	E	2	1	60°	1
9-May-13	16:26	98	29.964523	-80.143403	W	1	1	90°	2
9-May-13	16:31	132	29.964577	-80.331006	W	1	1	90°	2
9-May-13	16:38	103	29.964717	-80.478518	W	1	2	90°	2
9-May-13	16:40	138	29.964239	-80.576005	W	1	1	90°	1
9-May-13	16:40	105	29.964217	-80.556417	W	1	2	90°	3
9-May-13	16:41	139	29.964229	-80.598729	W	1	2	90°	1
10-May-13	9:01	3	30.233078	-80.520178	E	5	2	90°	1
10-May-13	9:10	8	30.233653	-80.357600	E	5	2	90°	1
10-May-13	9:49	16	30.299761	-80.383482	W	6	1	90°	1
10-May-13	9:52	18	30.299682	-80.509877	W	6	2	60°	2

Table 9 (continued). Loggerhead sea turtle (*Caretta caretta*) sightings in the Jacksonville, Florida survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
10-May-13	9:53	24	30.299582	-80.550551	W	6	1	90°	2
10-May-13	10:00	29	30.299422	-80.643360	W	6	2	60°	1
10-May-13	10:06	23	30.365818	-80.639418	E	7	2	60°	2
10-May-13	10:09	32	30.366178	-80.491192	E	7	1	90°	2
10-May-13	10:09	24	30.366161	-80.491160	E	7	1	90°	1
10-May-13	10:25	42	30.366576	-80.193386	E	7	1	90°	1
10-May-13	10:27	31	30.366647	-80.133751	E	7	2	60°	2
10-May-13	10:36	34	30.366668	-79.960308	E	7	1	90°	2
10-May-13	10:52	49	30.432455	-80.182935	W	8	1	90°	1
10-May-13	11:00	54	30.432233	-80.318962	W	8	1	90°	2
10-May-13	11:11	43	30.432322	-80.520553	W	8	1	90°	1
10-May-13	11:27	67	30.500274	-80.511121	E	9	1	90°	1
10-May-13	11:54	79	30.500560	-80.119501	E	9	2	90°	2
10-May-13	14:36	110	29.966092	-80.595947	E	1	2	90°	2
10-May-13	14:37	72	29.966101	-80.551402	E	1	2	90°	1
10-May-13	14:39	112	29.966343	-80.480475	E	1	2	90°	2
10-May-13	14:47	119	29.966243	-80.281508	E	1	2	90°	2
10-May-13	14:48	120	29.966307	-80.214382	E	1	2	90°	1
10-May-13	15:13	127	30.031229	-80.090700	W	2	1	90°	1
10-May-13	15:21	132	30.031289	-80.356457	W	2	1	90°	2
10-May-13	15:21	81	30.031286	-80.371469	W	2	2	90°	1
10-May-13	15:32	84	30.030829	-80.562588	W	2	2	90°	1
10-May-13	15:41	141	30.101053	-80.630895	E	3	2	90°	4
10-May-13	15:46	145	30.101168	-80.485622	E	3	2	90°	2
10-May-13	15:47	90	30.101195	-80.440974	E	3	2	90°	1
10-May-13	15:49	91	30.101410	-80.354716	E	3	1	90°	1
10-May-13	16:26	155	30.165522	-80.472388	W	4	2	90°	1
10-May-13	16:26	101	30.165502	-80.483680	W	4	2	60°	1
20-Jun-13	11:13	18	30.433610	-80.355157	E	8	2	100°	1
20-Jun-13	11:13	20	30.433621	-80.356341	W	8	2	90°	1
20-Jun-13	12:20	30	30.300399	-80.484550	E	6	3	100°	1
20-Jun-13	13:03	39	30.232642	-80.294103	E	5	2	60°	1
20-Jun-13	13:04	36	30.232583	-80.316607	W	5	2	90°	1
20-Jun-13	13:05	40	30.232747	-80.340113	E	5	2	60°	2
20-Jun-13	13:10	42	30.232371	-80.511228	E	5	2	45°	1
20-Jun-13	13:11	37	30.232211	-80.556997	W	5	2	90°	1
21-Jun-13	8:49	2	29.966005	-80.412465	E	1	1	100°	1
21-Jun-13	8:51	3	29.966167	-80.331749	E	1	2	90°	1
21-Jun-13	9:23	11	29.965789	-79.948386	E	1	2	100°	1
21-Jun-13	10:03	16	30.031000	-80.374764	W	2	2	90°	1
21-Jun-13	10:08	18	30.030790	-80.530030	W	2	1	90°	1
21-Jun-13	10:10	20	30.030562	-80.601449	W	2	1	90°	1
21-Jun-13	10:24	35	30.101224	-80.604449	E	3	2	100°	1
21-Jun-13	10:24	25	30.101206	-80.609197	E	3	2	60°	2
21-Jun-13	10:29	26	30.101379	-80.436468	E	3	2	90°	1
21-Jun-13	11:19	51	30.165378	-80.358652	W	4	2	120°	1
21-Jun-13	11:36	56	30.164929	-80.613848	W	4	2	90°	1
21-Jun-13	11:38	57	30.164722	-80.686099	W	4	2	90°	1

Table 9 (continued). Loggerhead sea turtle (*Caretta caretta*) sightings in the Jacksonville, Florida survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
21-Jun-13	11:42	60	30.233359	-80.673792	E	5	2	100°	1
21-Jun-13	11:42	40	30.233325	-80.658294	E	5	2	90°	1
21-Jun-13	11:45	61	30.233619	-80.574087	E	5	2	120°	1
21-Jun-13	11:45	62	30.233604	-80.556715	E	5	2	100°	1
21-Jun-13	11:52	64	30.233957	-80.348056	E	5	2	100°	1
21-Jun-13	12:00	67	30.299337	-80.341447	W	6	2	100°	1
21-Jun-13	12:03	68	30.299073	-80.433225	W	6	2	110°	1
21-Jun-13	12:06	45	30.298961	-80.527905	W	6	1	90°	1
4-Sep-13	9:26	3	30.567188	-80.661118	E	10	1	90°	2
4-Sep-13	9:27	4	30.567263	-80.624473	E	10	1	90°	2
4-Sep-13	9:30	3	30.567157	-80.494132	E	10	2	90°	1
4-Sep-13	9:32	6	30.567375	-80.426064	E	10	1	60°	1
4-Sep-13	9:41	11	30.565769	-80.342143	E	10	1	90°	1
4-Sep-13	9:44	7	30.567668	-80.212994	E	10	2	90°	1
4-Sep-13	10:17	12	30.499165	-80.438626	W	9	3	90°	3
4-Sep-13	10:18	15	30.499022	-80.489067	W	9	2	90°	1
4-Sep-13	10:18	13	30.499044	-80.473238	W	9	2	90°	3
4-Sep-13	10:20	14	30.498873	-80.567321	W	9	1	90°	1
4-Sep-13	10:21	17	30.498834	-80.572597	W	9	1	90°	3
4-Sep-13	10:36	25	30.433581	-80.548772	E	8	1	90°	1
4-Sep-13	10:36	20	30.433579	-80.547838	E	8	2	90°	1
4-Sep-13	10:39	27	30.433859	-80.453877	E	8	2	90°	2
4-Sep-13	10:41	28	30.433926	-80.388214	E	8	1	90°	1
4-Sep-13	10:43	22	30.433965	-80.300960	E	8	2	90°	1
4-Sep-13	10:50	23	30.433805	-80.044907	E	8	2	90°	1
4-Sep-13	11:14	26	30.365464	-80.300487	W	7	2	90°	1
4-Sep-13	11:24	38	30.365151	-80.486572	W	7	2	90°	1
4-Sep-13	11:31	43	30.364538	-80.608420	W	7	2	90°	2
4-Sep-13	11:32	44	30.364742	-80.649202	W	7	2	90°	1
4-Sep-13	13:19	53	29.966151	-80.651806	E	1	2	100°	1
4-Sep-13	13:20	54	29.966396	-80.622740	E	1	2	90°	2
4-Sep-13	13:21	55	29.966466	-80.580178	E	1	1	90°	1
4-Sep-13	14:24	49	30.031608	-80.366015	W	2	2	90°	1
4-Sep-13	14:29	51	30.031418	-80.518242	W	2	1	90°	1
4-Sep-13	14:30	78	30.031245	-80.555204	W	2	1	100°	1
4-Sep-13	14:30	52	30.031240	-80.564627	W	2	1	90°	1
4-Sep-13	14:38	83	30.031036	-80.653808	W	2	2	90°	2
4-Sep-13	14:43	57	30.100397	-80.675628	E	3	2	90°	1
4-Sep-13	14:44	86	30.100231	-80.640462	E	3	3	90°	1
4-Sep-13	14:45	87	30.100458	-80.605112	E	3	2	90°	3
4-Sep-13	14:45	58	30.100406	-80.607357	E	3	2	90°	2
4-Sep-13	14:46	59	30.100489	-80.572090	E	3	2	90°	3
4-Sep-13	15:38	64	30.165643	-80.612157	W	4	2	90°	1
4-Sep-13	15:44	97	30.232809	-80.651135	E	5	1	90°	2
4-Sep-13	15:44	67	30.232894	-80.645058	E	5	2	90°	1
4-Sep-13	15:57	102	30.233434	-80.341656	E	5	1	90°	1
4-Sep-13	15:57	71	30.233506	-80.324428	E	5	2	90°	1
4-Sep-13	16:28	104	30.299773	-80.353026	W	6	1	90°	1

Table 9 (continued). Loggerhead sea turtle (*Caretta caretta*) sightings in the Jacksonville, Florida survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
4-Sep-13	16:30	74	30.299681	-80.396212	W	6	2	90°	1
4-Sep-13	16:33	75	30.299574	-80.527944	W	6	2	90°	1
4-Sep-13	16:34	106	30.299493	-80.570535	W	6	1	90°	1
5-Sep-13	8:55	3	30.233323	-80.477695	E	5	2	90°	1
5-Sep-13	8:58	4	30.233309	-80.399370	E	5	1	90°	1
5-Sep-13	9:59	11	30.299686	-80.485925	W	6	1	90°	1
5-Sep-13	10:00	17	30.299523	-80.546687	W	6	2	90°	1
5-Sep-13	10:04	14	30.299306	-80.656849	W	6	2	90°	1
5-Sep-13	10:10	18	30.365675	-80.611886	E	7	2	90°	1
5-Sep-13	10:52	23	30.433238	-80.336459	W	8	2	90°	1
5-Sep-13	11:02	26	30.433104	-80.474588	W	8	1	90°	1
5-Sep-13	11:03	27	30.432993	-80.526433	W	8	2	90°	2
5-Sep-13	11:06	28	30.432672	-80.618309	W	8	1	90°	1
5-Sep-13	11:37	45	30.499939	-80.201050	E	9	2	90°	1
5-Sep-13	12:11	42	30.566566	-80.178383	W	10	2	90°	1
5-Sep-13	12:15	43	30.566614	-80.332196	W	10	1	90°	1
5-Sep-13	12:24	46	30.566514	-80.487272	W	10	1	60°	1
5-Sep-13	12:25	47	30.566428	-80.533570	W	10	2	60°	1
5-Sep-13	12:27	48	30.566247	-80.585322	W	10	2	90°	3
5-Sep-13	14:01	65	30.165576	-80.685975	E	4	2	90°	1
5-Sep-13	14:03	66	30.166345	-80.628341	E	4	1	90°	1
5-Sep-13	14:28	59	30.165552	-80.374146	E	4	2	45°	1
5-Sep-13	15:12	66	30.099262	-80.496737	W	3	1	90°	3
5-Sep-13	16:28	81	29.965024	-80.432194	W	1	2	90°	1
5-Sep-13	16:29	82	29.964488	-80.487731	W	1	1	90°	1
5-Sep-13	16:32	83	29.964224	-80.604485	W	1	2	100°	2
5-Sep-13	16:33	84	29.964161	-80.630161	W	1	1	90°	3
5-Sep-13	16:34	109	29.964064	-80.657138	W	1	1	90°	1
5-Sep-13	16:34	85	29.963975	-80.672278	W	1	2	90°	4
6-Sep-13	9:01	111	30.567094	-80.672921	E	10	1	90°	1
6-Sep-13	9:05	80	30.567227	-80.510839	E	10	2	90°	1
6-Sep-13	9:06	112	30.567321	-80.491575	E	10	1	90°	1
6-Sep-13	10:04	93	30.498826	-80.619859	W	9	1	90°	1
6-Sep-13	10:06	131	30.498562	-80.676832	W	9	1	90°	1
6-Sep-13	10:20	138	30.434005	-80.582672	E	8	1	90°	1
17-Oct-13	9:10	4	30.567075	-80.630288	E	10	2	90°	1
17-Oct-13	9:22	9	30.567971	-80.480760	E	10	2	90°	1
17-Oct-13	9:24	5	30.568061	-80.399944	E	10	2	90°	1
17-Oct-13	9:26	11	30.568015	-80.322749	E	10	1	90°	1
17-Oct-13	9:35	18	30.567766	-80.119444	E	10	2	90°	1
17-Oct-13	9:58	13	30.498647	-80.219321	W	9	1	90°	1
17-Oct-13	10:07	24	30.498658	-80.371199	W	9	2	100°	1
17-Oct-13	10:09	16	30.498662	-80.472790	W	9	1	90°	3
17-Oct-13	10:09	25	30.498669	-80.481210	W	9	1	90°	1
17-Oct-13	10:33	36	30.433925	-80.514590	E	8	1	90°	1
17-Oct-13	10:35	37	30.434018	-80.443583	E	8	1	90°	3
17-Oct-13	11:13	26	30.364482	-80.505859	W	7	1	90°	1
17-Oct-13	13:19	54	29.966390	-80.264990	E	1	1	110°	1

Table 9 (continued). Loggerhead sea turtle (*Caretta caretta*) sightings in the Jacksonville, Florida survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
17-Oct-13	13:57	41	30.031311	-80.459521	W	2	1	90°	1
17-Oct-13	14:37	83	30.100419	-80.623915	E	3	1	90°	2
17-Oct-13	14:39	54	30.100797	-80.537588	E	3	1	90°	1
17-Oct-13	14:40	84	30.100758	-80.507192	E	3	1	90°	1
17-Oct-13	15:45	71	30.165850	-80.467578	W	4	1	90°	3
17-Oct-13	15:52	74	30.166356	-80.570420	W	4	1	90°	1
17-Oct-13	15:53	75	30.165344	-80.604218	W	4	2	90°	1

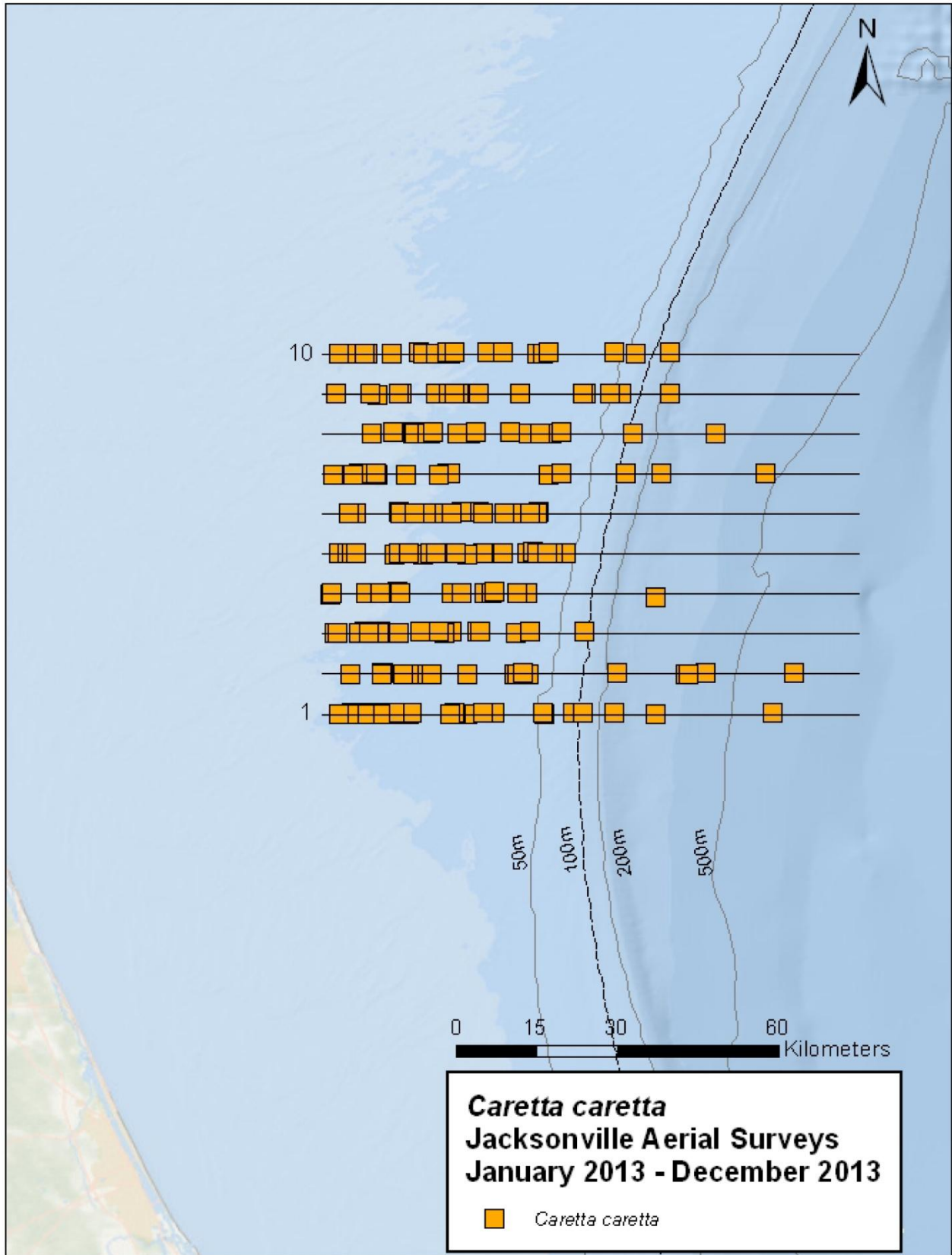


Figure 12. Loggerhead sea turtle (*Caretta caretta*) sightings.

Leatherback sea turtle (*Dermochelys coriacea*) (Table 10, Figure 13)

A total of 16 leatherback sea turtles were recorded inshore of the 50m shelf break. This species was observed in four of the five months surveyed (absent in March). The most recent population estimates for the North Atlantic is a range of 34,000 to 94,000 adult leatherbacks (Turtle Expert Working Group 2007). Leatherback nesting beaches in the Atlantic, as well as worldwide, have experienced severe to moderate declines over the past several decades and this species is listed as endangered under the Endangered Species Act (NMFS 1992).

Table 10. Leatherback sea turtle (*Dermochelys coriacea*) sightings in the Jacksonville, Florida survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
9-May-13	9:52	10	30.498700	-80.467029	W	9	2	90°	1
9-May-13	16:43	106	29.963869	-80.692764	W	1	1	60°	1
20-Jun-13	12:12	27	30.364728	-80.690127	W	7	2	90°	1
20-Jun-13	10:52	15	30.498625	-80.648203	E	9	2	90°	1
4-Sep-13	15:34	94	30.166010	-80.466395	W	4	1	90°	2
4-Sep-13	15:48	98	30.233114	-80.527860	E	5	2	90°	1
4-Sep-13	16:31	105	30.299707	-80.445775	W	6	1	90°	1
4-Sep-13	10:21	15	30.498837	-80.585909	W	9	2	90°	1
4-Sep-13	14:27	50	30.031527	-80.456816	W	2	1	90°	1
5-Sep-13	14:06	67	30.166647	-80.534017	E	4	2	90°	1
5-Sep-13	16:32	108	29.964237	-80.603328	W	1	2	90°	2
17-Oct-13	13:08	51	29.965337	-80.668460	E	1	1	90°	1
17-Oct-13	14:17	72	30.030698	-80.651910	W	2	1	90°	1
17-Oct-13	14:31	51	30.099887	-80.683980	E	3	1	90°	1

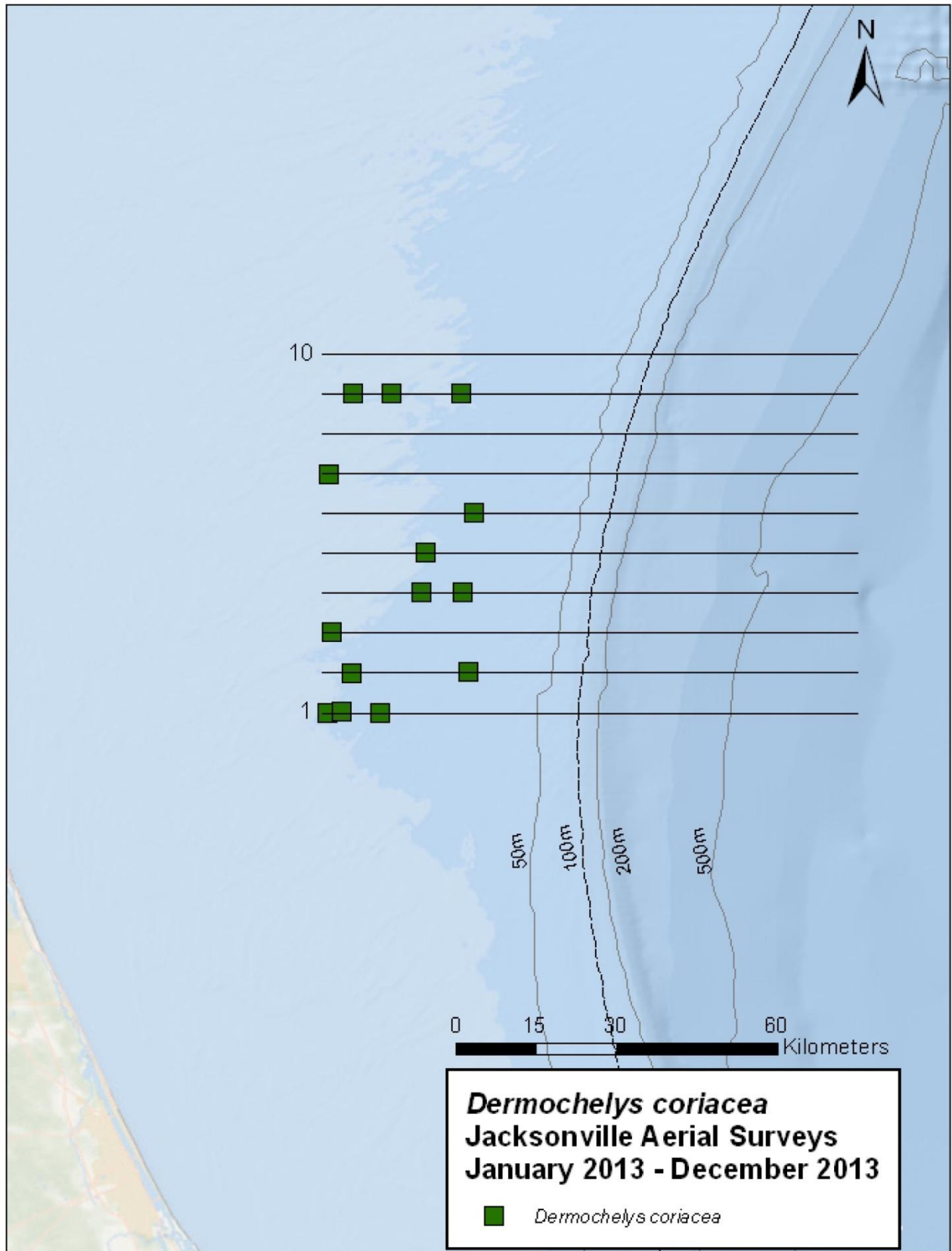


Figure 13. Leatherback sea turtle (*Dermochelys coriacea*) sightings.

Pelagic bony fishes *Osteichthyes* (Table 11, Figure 14).

Three ocean sunfish (*Mola mola*) were recorded over the continental shelf in May and June.

Table 11. Ocean sunfish (*Mola mola*) sightings in the Jacksonville, Florida survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
9-May-13	13:12	50	30.301376	-80.125243	E	6	2	90°	1
21-Jun-13	10:11	28	30.030317	-80.659515	W	2	2	100°	1
21-Jun-13	10:25	36	30.101178	-80.571039	E	3	2	90°	1

Cartilaginous Fishes *Chondrichthyes* (Tables 12-14, Figure 14).

Nine manta rays (*Manta birostris*) occurred throughout the survey site with 55% of sightings occurring in May (Table 12). A single great white shark (*Carcharodon carcharias*) was recorded in March over the continental shelf break (Table 13). A total of 29 unidentified sharks were recorded during the reporting period (Table 14). Sharks were seen throughout the study period with no discernable spatial or temporal trends.

Table 12. Manta ray (*Manta birostris*) sightings in the Jacksonville, Florida survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
9-May-13	16:39	137	29.964310	-80.537293	W	1	1	90°	1
9-May-13	15:30	82	30.032961	-80.508107	E	2	2	90°	1
9-May-13	16:39	104	29.964343	-80.522563	W	1	1	90°	1
10-May-13	14:35	109	29.966227	-80.625693	E	1	2	90°	1
10-May-13	15:32	138	30.030946	-80.547569	W	2	1	90°	1
20-Jun-13	10:06	6	30.567585	-80.120211	W	10	2	90°	1
21-Jun-13	8:47	3	29.965959	-80.499738	E	1	1	90°	1
4-Sep-13	10:37	26	30.433809	-80.524473	E	8	2	90°	1
5-Sep-13	15:24	69	30.098694	-80.666238	W	3	2	100°	1

Table 13. Great white shark (*Carcharodon carcharias*) sightings in the Jacksonville, Florida survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
22-Mar-13	14:26	28	30.034610	-80.168774	W	2	1	90°	1

Table 14. Unidentified shark sightings in the Jacksonville, Florida survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #
22-Mar-13	14:31	46	30.031556	-80.302537	W	2	1	90°	1
9-May-13	14:22	78	30.167715	-80.357911	E	4	3	90°	1
9-May-13	14:29	83	30.167886	-80.233013	E	4	1	90°	1
9-May-13	14:59	94	30.099246	-80.185997	W	3	2	90°	3
9-May-13	15:53	121	30.033168	-80.220804	E	2	2	90°	2
9-May-13	13:34	46	30.223601	-80.205338	W	5	2	90°	1
9-May-13	14:30	63	30.167769	-80.207901	E	4	1	90°	1
9-May-13	16:29	99	29.964567	-80.226181	W	1	2	90°	1
9-May-13	15:01	96	30.101863	-80.235979	W	3	1	90°	1
10-May-13	9:02	3	30.233186	-80.495063	E	5	2	100°	1
10-May-13	9:12	9	30.233712	-80.298160	E	5	1	90°	1
10-May-13	9:13	10	30.233885	-80.255024	E	5	1	60°	1
10-May-13	9:42	19	30.299755	-80.193418	W	6	1	90°	1
10-May-13	11:13	60	30.432205	-80.617724	W	8	1	90°	2
10-May-13	11:33	69	30.505301	-80.391333	E	9	2	90°	1
10-May-13	9:24	7	30.232909	-79.825222	E	5	2	90°	1
10-May-13	10:51	37	30.432506	-80.128085	W	8	2	90°	1
10-May-13	15:13	79	30.031450	-80.106970	W	2	4	90°	1
10-May-13	16:07	97	30.164762	-79.844225	W	4	3	60°	1
20-Jun-13	10:30	8	30.504797	-80.100013	W	9	2	90°	18
21-Jun-13	8:52	4	29.966162	-80.298607	E	1	2	110°	2
21-Jun-13	8:56	6	29.966060	-80.150693	E	1	2	100°	1
21-Jun-13	10:06	26	30.030835	-80.467428	W	2	3	100°	1
21-Jun-13	10:30	37	30.101461	-80.402485	E	3	2	100°	2
21-Jun-13	10:09	19	30.030712	-80.565987	W	2	2	90°	1
5-Sep-13	11:50	50	30.499519	-79.872744	E	9	1	90°	1
5-Sep-13	15:01	64	30.099328	-80.113331	W	3	1	90°	1
17-Oct-13	9:33	16	30.568351	-80.189631	E	10	1	90°	1
17-Oct-13	9:34	8	30.568050	-80.141055	E	10	1	90°	1

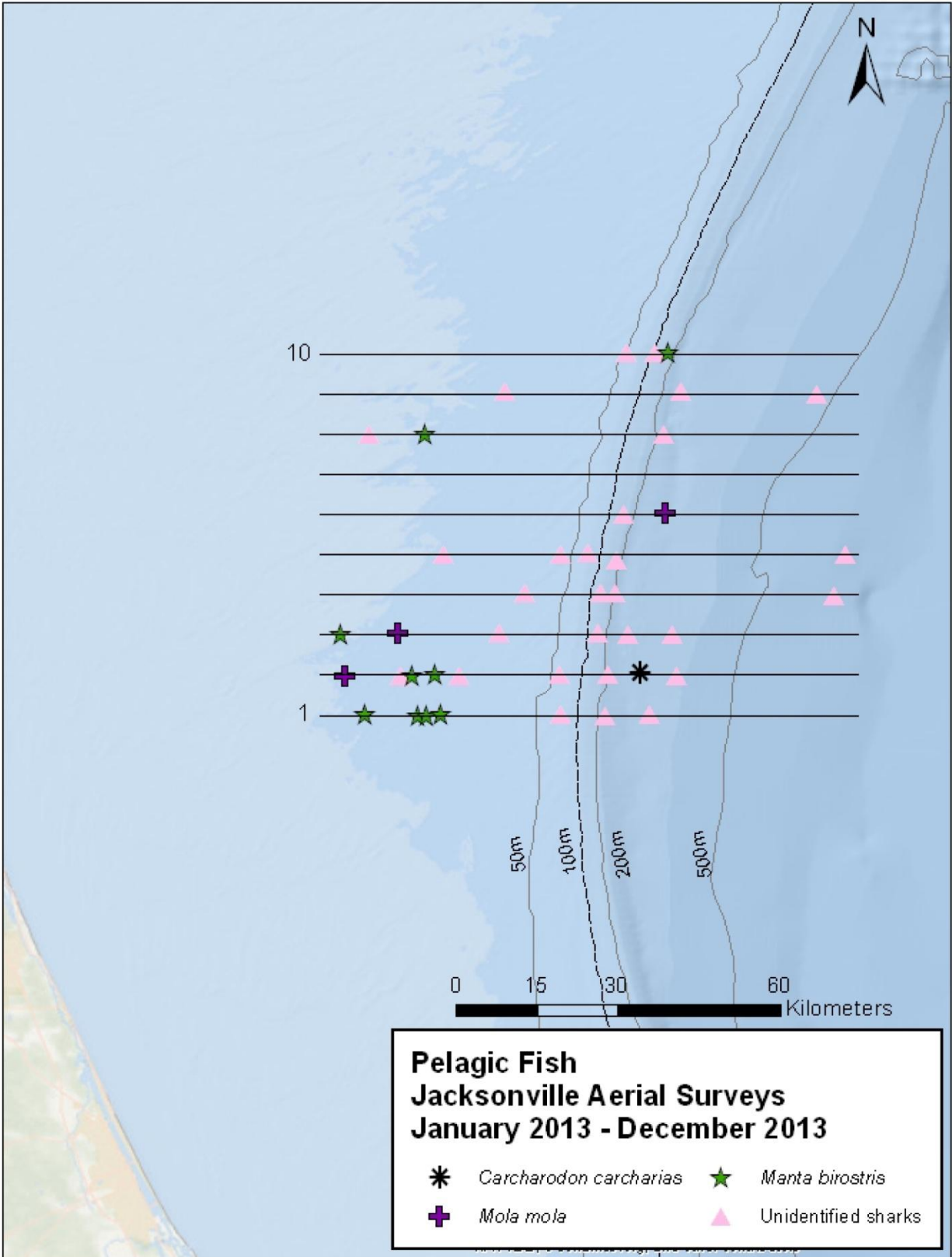


Figure 14. Ocean sunfish (*Mola mola*), Manta ray (*Manta birostris*), great white shark (*Carcharodon carcharias*), and shark sightings.

Vessel Sightings

Commercial (Table 15, Figure 15)

A total of seven commercial vessels (*e.g.* tankers, car carriers, and container vessels) were observed in the study site.

Table 15. Commercial vessel sightings in the Jacksonville, Florida survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #	Comments
9-May-13	9:30	5	30.498822	-80.034096	W	9	3	45°	1	Cargo vessel
10-May-13	14:33	108	29.965752	-80.678741	E	1	3	45°	1	Car carrier
20-Jun-13	9:55	3	30.567753	-80.519313	W	10	1	90°	1	Tanker
20-Jun-13	11:29	24	30.433534	-79.953940	W	8	2	60°	1	Cargo vessel
4-Sep-13	10:39	21	30.433828	-80.450476	E	8	2	45°	1	Cargo vessel
5-Sep-13	8:56	4	30.233214	-80.451326	E	5	2	60°	1	Flat decked boat
17-Oct-13	13:16	52	29.966238	-80.376275	E	1	2	90°	1	Cargo vessel

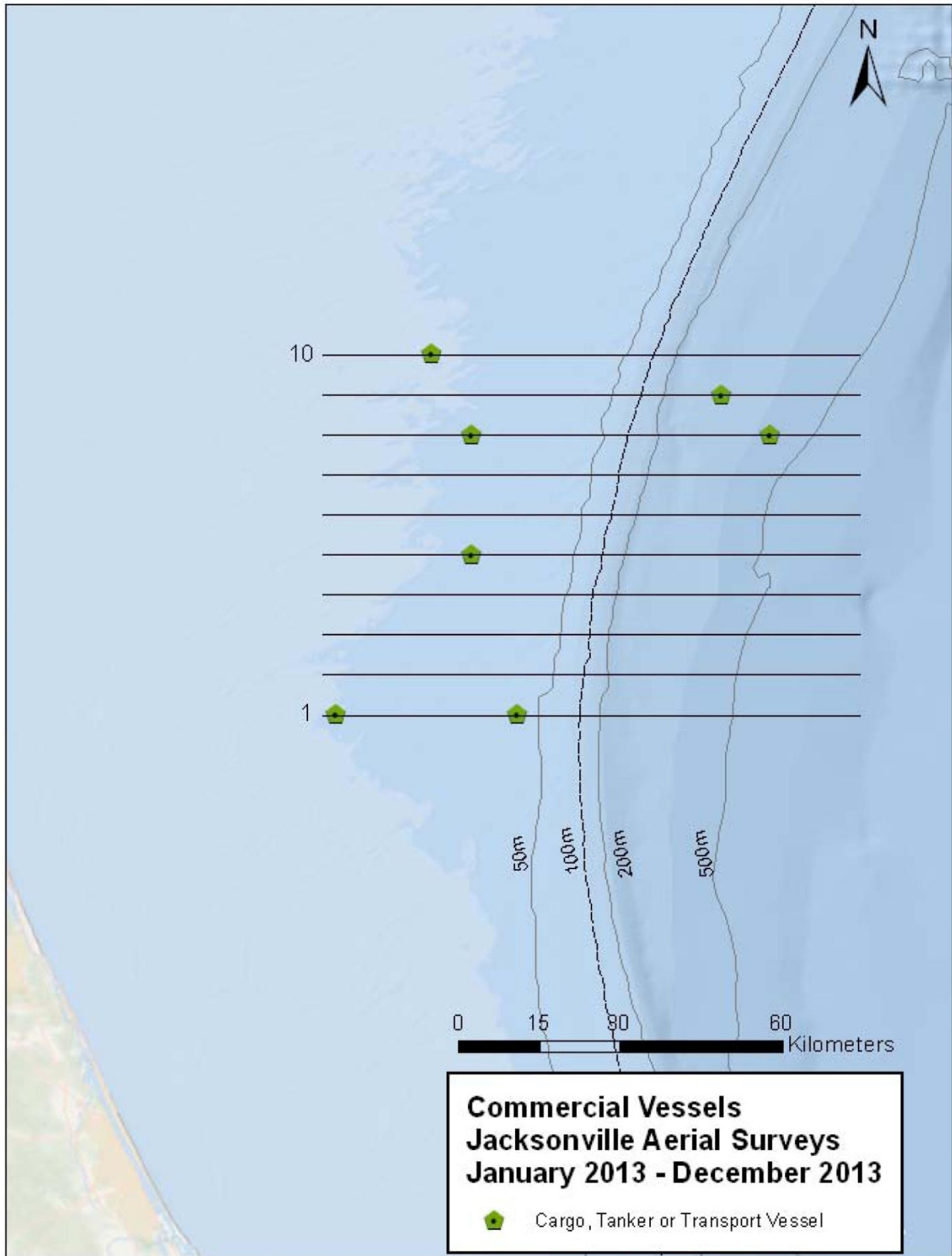


Figure 15. Large commercial shipping vessel sightings.

Military (Table 16, Figure 16)

A total of four U.S. military vessels were seen during the reporting period.

Table 16. Military vessel sightings in the Jacksonville, Florida survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #	Comments
22-Mar-13	16:01	53	30.165624	-80.552963	W	4	4	90°	1	Submarine
20-Jun-13	10:19	9	30.498138	-79.858890	E	9	1	60°	1	Navy Frigate circling
21-Jun-13	9:46	18	30.030854	-80.055606	W	2	2	130°	1	Submarine
5-Sep-13	10:09	17	30.365606	-80.641892	E	7	1	90°	1	USCG

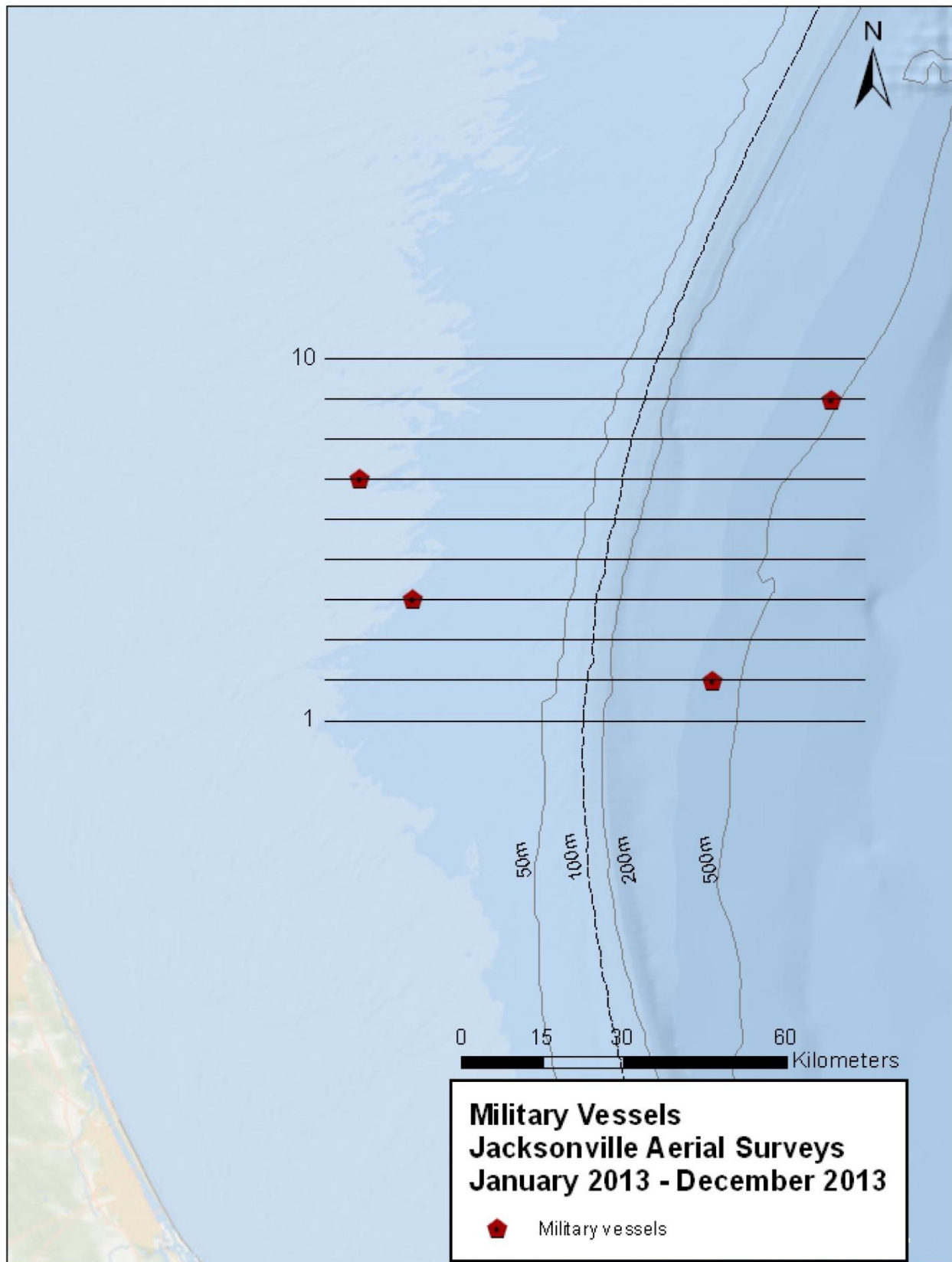


Figure 16. Military vessel sightings.

Other Vessels (Table 17, Figure 17)

A total of 94 other vessels were recorded in the survey area with all classified as recreational fishing vessels.

Table 17. Other vessel sightings in the Jacksonville, Florida survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #	Comments
5-Sep-13	15:36	72	30.033033	-80.425800	E	2	2	45°	1	Recreational fishing vessel
22-Mar-13	10:03	5	30.499314	-80.201540	W	9	3	90°	1	Recreational fishing vessel
22-Mar-13	10:30	9	30.433705	-80.292942	E	8	2	90°	1	Recreational fishing vessel
22-Mar-13	10:59	12	30.363471	-80.251655	W	7	3	90°	1	Recreational fishing vessel
22-Mar-13	11:54	19	30.232878	-80.259618	W	5	4	90°	1	Recreational fishing vessel
22-Mar-13	11:55	20	30.232785	-80.284650	W	5	2	90°	2	Recreational fishing vessel
22-Mar-13	11:58	22	30.233124	-80.413333	W	5	4	90°	1	Recreational fishing vessel
22-Mar-13	13:54	25	29.967852	-80.306237	E	1	4	90°	8	Recreational fishing vessel
22-Mar-13	15:10	39	30.100098	-80.279186	E	3	1	90°	1	Recreational fishing vessel
22-Mar-13	15:56	50	30.167509	-80.355793	W	4	1	90°	1	Recreational fishing vessel
22-Mar-13	9:41	4	30.568138	-80.166791	E	10	3	90°	2	Recreational fishing vessel
22-Mar-13	10:03	10	30.498998	-80.169610	W	9	1	60°	1	Recreational fishing vessel
22-Mar-13	11:26	21	30.300853	-80.260753	E	6	1	45°	2	Recreational fishing vessel
22-Mar-13	11:54	27	30.232880	-80.247636	W	5	2	60°	2	Recreational fishing vessel
22-Mar-13	13:54	39	29.967901	-80.311182	E	1	3	60°	1	Recreational fishing vessel
22-Mar-13	14:52	49	30.103087	-80.510285	E	3	2	60°	1	Recreational fishing vessel
9-May-13	9:09	3	30.567579	-80.247292	E	10	1	90°	1	Recreational fishing vessel
9-May-13	10:47	24	30.364816	-80.222657	W	7	1	90°	1	Recreational fishing vessel
9-May-13	13:09	49	30.301004	-80.228949	E	6	2	60°	1	Recreational fishing vessel
9-May-13	13:34	56	30.222559	-80.198677	W	5	3	90°	1	Recreational fishing vessel
9-May-13	14:56	93	30.099128	-80.064953	W	3	3	45°	1	Recreational fishing vessel
9-May-13	15:20	105	30.098691	-80.627502	W	3	2	45°	1	Recreational fishing vessel
9-May-13	10:20	16	30.432917	-80.214979	E	8	2	60°	3	Recreational fishing vessel
9-May-13	13:09	41	30.301591	-80.202231	E	6	1	60°	1	Recreational fishing vessel
9-May-13	15:05	73	30.099920	-80.284595	W	3	2	90°	2	Recreational fishing vessel
10-May-13	9:18	11	30.233432	-80.080274	E	5	2	90°	1	Recreational fishing vessel
10-May-13	9:40	18	30.299830	-80.137711	W	6	3	45°	2	Recreational fishing vessel
10-May-13	10:24	41	30.366533	-80.239368	E	7	2	45°	1	Recreational fishing vessel
10-May-13	11:11	59	30.432311	-80.521432	W	8	1	90°	1	Recreational fishing vessel
10-May-13	14:37	111	29.966285	-80.525746	E	1	1	45°	1	Recreational fishing vessel
10-May-13	14:44	117	29.966440	-80.380396	E	1	3	90°	3	Recreational fishing vessel
10-May-13	14:46	118	29.966236	-80.300657	E	1	3	90°	3	Recreational fishing vessel
10-May-13	15:19	131	30.031358	-80.273136	W	2	2	90°	2	Recreational fishing vessel
10-May-13	15:42	142	30.101057	-80.585977	E	3	3	45°	3	Recreational fishing vessel
10-May-13	9:11	6	30.233706	-80.328902	E	5	3	45°	5	Recreational fishing vessel
10-May-13	9:44	12	30.299847	-80.302820	W	6	2	90°	1	Recreational fishing vessel
10-May-13	9:48	15	30.299868	-80.362524	W	6	2	90°	1	Recreational fishing vessel
10-May-13	9:50	17	30.299666	-80.421623	W	6	2	60°	1	Recreational fishing vessel
10-May-13	10:22	29	30.366252	-80.290417	E	7	2	60°	2	Recreational fishing vessel
10-May-13	10:59	40	30.434642	-80.277617	W	8	3	60°	2	Recreational fishing vessel
10-May-13	11:53	54	30.500595	-80.152755	E	9	1	90°	1	Recreational fishing vessel
10-May-13	15:46	89	30.101028	-80.499330	E	3	1	90°	1	Recreational fishing vessel
10-May-13	15:50	92	30.101450	-80.344038	E	3	3	90°	1	Recreational fishing vessel
10-May-13	15:51	93	30.101493	-80.306002	E	3	3	90°	3	Recreational fishing vessel
10-May-13	16:19	98	30.165790	-80.294285	W	4	3	60°	1	Recreational fishing vessel
20-Jun-13	9:56	4	30.567573	-80.500739	W	10	1	90°	1	Recreational fishing vessel
20-Jun-13	10:37	12	30.499118	-80.159371	E	9	2	60°	1	Recreational fishing vessel
20-Jun-13	11:14	21	30.433610	-80.316954	W	8	2	60°	1	Recreational fishing vessel

Table 17 (continued). Other vessel sightings in the Jacksonville, Florida survey area from January 2013 to December 2013.

Date	Time	Way Point	Latitude	Longitude-1	Heading	Track Number	Angle out	Degree Forward	Best #	Comments
21-Jun-13	8:53	5	29.966245	-80.279808	E	1	1	80°	1	Recreational fishing vessel
21-Jun-13	10:10	27	30.030544	-80.603713	W	2	4	90°	3	Recreational fishing vessel
4-Sep-13	10:20	16	30.498950	-80.543352	W	9	1	60°	1	Recreational fishing vessel
4-Sep-13	11:23	37	30.366552	-80.436867	W	7	3	100°	1	Recreational fishing vessel
4-Sep-13	9:33	4	30.567588	-80.401749	E	10	3	60°	1	Recreational fishing vessel
5-Sep-13	10:53	27	30.433115	-80.372695	W	8	1	90°	1	Recreational fishing vessel
5-Sep-13	11:13	34	30.499523	-80.616123	E	9	2	60°	1	Recreational fishing vessel
5-Sep-13	15:08	85	30.099378	-80.334723	W	3	3	60°	1	Recreational fishing vessel
5-Sep-13	15:06	65	30.099440	-80.268162	W	3	1	45°	1	Recreational fishing vessel
6-Sep-13	9:58	90	30.499476	-80.515094	W	9	2	69°	1	Recreational fishing vessel
17-Oct-13	9:33	17	30.568344	-80.174193	E	10	2	90°	1	Recreational fishing vessel
17-Oct-13	9:57	12	30.498614	-80.206812	W	9	2	45°	1	Recreational fishing vessel
17-Oct-13	11:14	27	30.364838	-80.528840	W	7	2	45°	1	Recreational fishing vessel
17-Oct-13	13:15	32	29.966154	-80.385257	E	1	3	45°	1	Recreational fishing vessel

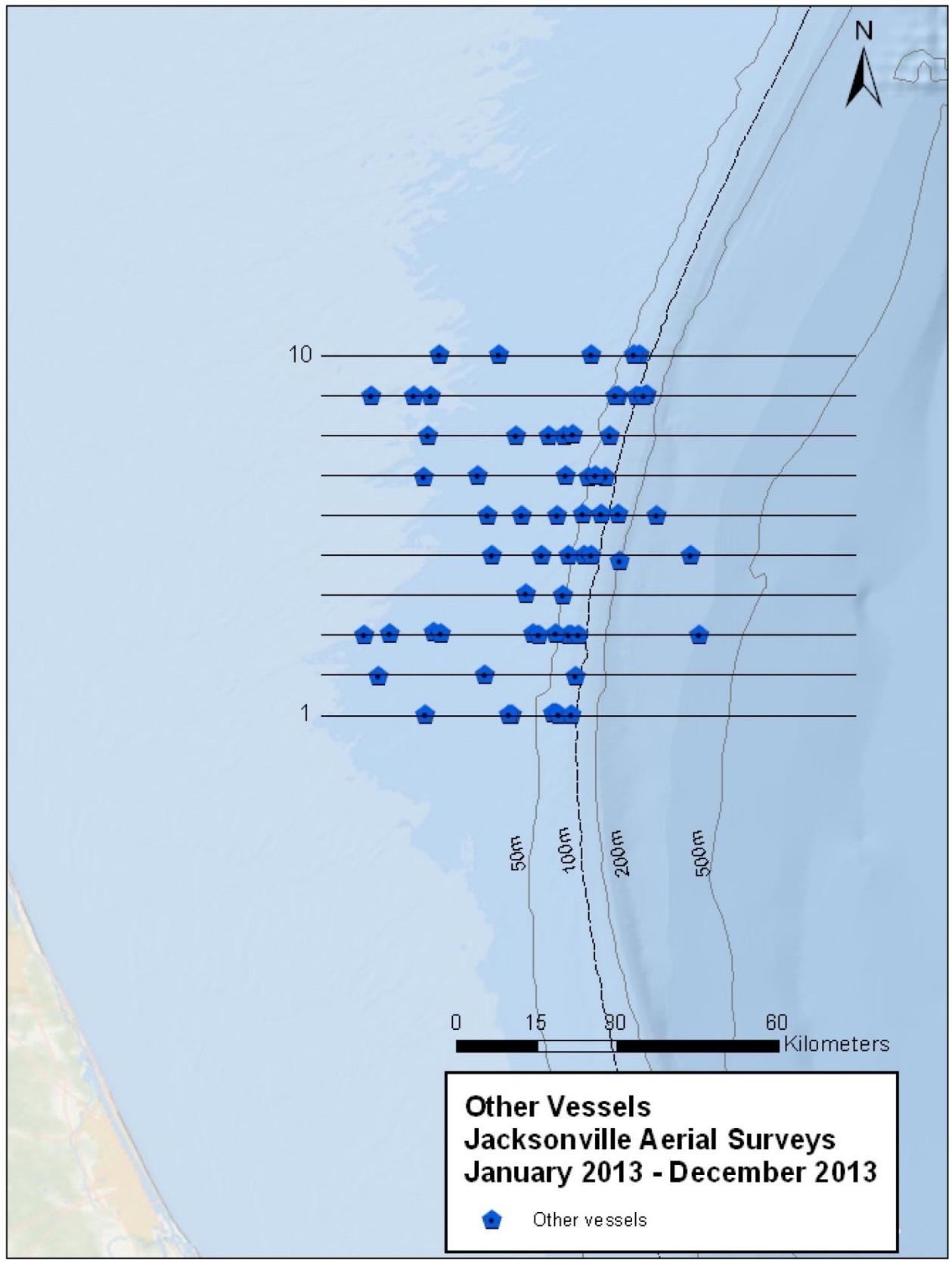


Figure 17. Other vessel sightings.

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Saturday, March 30, 2013 Sighting # 1

Initial sighting on Track

Time: WP#: Lat: Long:
Vertical Angle: Horizontal Bearing in Degrees: Sighting Cue:
On/Off Effort: Trackline: Beaufort Sea State:
Observer: Observer side:

Actual Time and Position of Sighting

Time: WP#: Lat: Long:
Species: *Megaptera novaeangliae* Numbers (Low/High/Best):
Features used in Species ID:

Representative images used for Species ID:
Photographer: Frame numbers: Spacer:
Calculated distance from Trackline:

Final Time and Position of Sighting

Time: WP#: Lat: Long:
Calculated Distance Traveled:

Behavior and Additional Comments

Saturday, March 30, 2013 Sighting # 2

Initial sighting on Track

Time: WP#: Lat: Long:
Vertical Angle: Horizontal Bearing in Degrees: Sighting Cue:
On/Off Effort: Trackline: Beaufort Sea State:
Observer: Observer side:

Actual Time and Position of Sighting

Time: WP#: Lat: Long:
Species: *Tursiops truncatus* Numbers (Low/High/Best):
Features used in Species ID:

Representative images used for Species ID:
Photographer: Frame numbers: Spacer:
Calculated distance from Trackline:

Final Time and Position of Sighting

Time: WP#: Lat: Long:
Calculated Distance Traveled:

Behavior and Additional Comments

Saturday, March 30, 2013 Sighting # 3

Initial sighting on Track

Time: 11:38 WP#: 7 Lat: 35.236617 Long: -75.071242
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 32 Beaufort Sea State: 1
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 11:38 WP#: 7 Lat: 35.236617 Long: -75.071242
Species: *Tursiops truncatus* Numbers (Low/High/Best): 11 / 12 / 12
Features used in Species ID: Robust body appearance, white peduncle present.

Representative images used for Species ID: 133, 139, 145, 157
Photographer: Ryan Frame numbers: 123 - 157 Spacer: 158
Calculated distance from Trackline: NA

Final Time and Position of Sighting

Time: NA WP#: NA Lat: NA Long: NA
Calculated Distance Traveled: NA

Behavior and Additional Comments

White peduncles present on most animals.

Saturday, March 30, 2013 Sighting # 4

Initial sighting on Track

Time: 11:42 WP#: 9 Lat: 35.222878 Long: -75.038577
Vertical Angle: 4 Horizontal Bearing in Degrees: 90 Sighting Cue: Breach
On/Off Effort: On Trackline: 32 Beaufort Sea State: 1
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 11:42 WP#: 9 Lat: 35.222878 Long: -75.038577
Species: *Megaptera novaeangliae* Numbers (Low/High/Best): 4 / 4 / 4
Features used in Species ID: Baleen whale with large white colored pectoral fins.

Representative images used for Species ID: 165, 190
Photographer: Ryan Frame numbers: 159 - 196 Spacer: 197
Calculated distance from Trackline: NA

Final Time and Position of Sighting

Time: NA WP#: NA Lat: NA Long: NA
Calculated Distance Traveled: NA

Behavior and Additional Comments

Pair of animals first encountered - one breaching, animals surfaced then dove out of sight.
Second pair of animals encountered - easier to photograph, one animal also breaching.

Saturday, March 30, 2013 Sighting # 5

Initial sighting on Track

Time: 11:56 WP#: 11 Lat: 35.183692 Long: -74.959872
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 32 Beaufort Sea State: 1
Observer: Bill Observer side: Left

Actual Time and Position of Sighting

Time: 12:02 WP#: 12 Lat: 35.183809 Long: -74.965582
Species: *Ziphius cavirostris* Numbers (Low/High/Best): 2 / 2 / 2
Features used in Species ID: Tapered head into rostrum, large bodied animal with small pectoral fins, lighter coloration to head region. Small dorsal fin placed far back on animals body.
Representative images used for Species ID: 203, 204, 206, 207, 208
Photographer: Ryan Frame numbers: 198 - 215 Spacer: 216
Calculated distance from Trackline: 0.52 km

Final Time and Position of Sighting

Time: NA WP#: NA Lat: NA Long: NA
Calculated Distance Traveled: NA

Behavior and Additional Comments

Larger animal with three scars along right side a level of dorsal fin. Smaller animal with copper color to dorsal surface approximately mid-way back to flukes.

Saturday, March 30, 2013 Sighting # 6

Initial sighting on Track

Time: 11:56 WP#: 11 Lat: 35.183692 Long: -74.959872
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 32 Beaufort Sea State: 1
Observer: Bill Observer side: Left

Actual Time and Position of Sighting

Time: 12:02 WP#: 12 Lat: 35.183809 Long: -74.965582
Species: *Delphinus delphis* Numbers (Low/High/Best): 16 / 16 / 16
Features used in Species ID: Pale melon and peduncle region, yellow coloration along midline forms V shape at level of dorsal fin with whit from peduncle.
Representative images used for Species ID: 221, 222, 232, 243
Photographer: Ryan Frame numbers: 217 - 248 Spacer: 248
Calculated distance from Trackline: 0.52 km

Final Time and Position of Sighting

Time: NA WP#: NA Lat: NA Long: NA
Calculated Distance Traveled: NA

Behavior and Additional Comments

Animals in well formed group traveling at moderate pace, surfacing regularly.

Saturday, March 30, 2013 Sighting # 7

Initial sighting on Track

Time: 12:49 WP#: 19 Lat: 35.061714 Long: -75.163866
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 29 Beaufort Sea State: 2
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 12:49 WP#: 13 Lat: 35.061714 Long: -75.163866
Species: *Delphinus delphis* Numbers (Low/High/Best): 8 / 12 / 10
Features used in Species ID: Yellow coloration from head region back to ventral surface at level of dorsal fin, white from peduncle meets yellow coloration forming V shape pattern.
Representative images used for Species ID: 268
Photographer: Ryan Frame numbers: 249 - 273 Spacer: 274
Calculated distance from Trackline: NA

Final Time and Position of Sighting

Time: NA WP#: NA Lat: NA Long: NA
Calculated Distance Traveled: NA

Behavior and Additional Comments

Saturday, March 30, 2013 Sighting # 8

Initial sighting on Track

Time: 12:58 WP#: 21 Lat: 35.115493 Long: -75.237638
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 29 Beaufort Sea State: 1
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 12:58 WP#: 21 Lat: 35.115493 Long: -75.237638
Species: *Tursiops truncatus* Numbers (Low/High/Best): 50 / 55 / 53
Features used in Species ID: Uniform light grey colored animals, robust body appearance, lighter blaze along animals side.
Representative images used for Species ID:
Photographer: Ryan Frame numbers: 275 - 311 Spacer: 312
Calculated distance from Trackline: NA

Final Time and Position of Sighting

Time: NA WP#: NA Lat: NA Long: NA
Calculated Distance Traveled: NA

Behavior and Additional Comments

Saturday, March 30, 2013 Sighting # 9

Initial sighting on Track

Time: WP#: Lat: Long:
Vertical Angle: Horizontal Bearing in Degrees: Sighting Cue:
On/Off Effort: Trackline: Beaufort Sea State:
Observer: Observer side:

Actual Time and Position of Sighting

Time: WP#: Lat: Long:
Species: *Megaptera novaeangliae* Numbers (Low/High/Best):
Features used in Species ID:
Representative images used for Species ID:

Photographer: Frame numbers: Spacer:
Calculated distance from Trackline:

Final Time and Position of Sighting

Time: WP#: Lat: Long:
Calculated Distance Traveled:

Behavior and Additional Comments

Tuesday, May 28, 2013 Sighting # 1

Initial sighting on Track

Time: 9:59 WP#: 5 Lat: 34.887437 Long: -74.931443
Vertical Angle: 1 Horizontal Bearing in Degrees: 120 Sighting Cue: Body
On/Off Effort: On Trackline: 29 Beaufort Sea State: 3
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 10:04 WP#: 6 Lat: 34.887077 Long: -74.927528
Species: *Unidentified Mesoplodon* Numbers (Low/High/Best): 2 / 3 / 3
Features used in Species ID: Long fusiform body, small pectoral fins, small dorsal fin placed far back on the animals dorsal surface.
Representative images used for Species ID:
Photographer: NA Frame numbers: NA Spacer: NA
Calculated distance from Trackline: 0.36 km

Final Time and Position of Sighting

Time: 10:05 WP#: 7 Lat: 34.900298 Long: -74.936459
Calculated Distance Traveled: 1.7 km

Behavior and Additional Comments

Trio of animals sighted behind the wing, unable to relocate.

Actual and final position of animal both assumed locations.

Tuesday, May 28, 2013 Sighting # 2

Initial sighting on Track

Time: 10:21 WP#: 11 Lat: 34.981000 Long: -74.927528
Vertical Angle: 2 Horizontal Bearing in Degrees: 100 Sighting Cue: Body
On/Off Effort: On Trackline: 30 Beaufort Sea State: 3
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 10:26 WP#: 12 Lat: 34.979820 Long: -74.915520
Species: *Globicephala macrorhynchus* Numbers (Low/High/Best): 4 / 6 / 6
Features used in Species ID: Large square head, black body coloration, dorsal fin placed 1/3 way down animals back, pectoral fins do not extend beyond dorsal fin.
Representative images used for Species ID: 3, 8, 11 and 14
Photographer: Erin Frame numbers: 1 - 18 Spacer: 19
Calculated distance from Trackline: 1.1 km

Final Time and Position of Sighting

Time: 10:26 WP#: 13 Lat: 34.990907 Long: -74.935970
Calculated Distance Traveled: 2.2 km

Behavior and Additional Comments

Animals spaced well apart from one another upon initial sighting. 4 larger animals and 2 smaller ones all traveling at a quick pace causing large disturbance when surfacing.

Tuesday, May 28, 2013 Sighting # 3

Initial sighting on Track

Time: 10:29 WP#: 14 Lat: 35.052511 Long: -75.017986
Vertical Angle: 2 Horizontal Bearing in Degrees: 100 Sighting Cue: Body
On/Off Effort: On Trackline: 30 Beaufort Sea State: 3
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 10:35 WP#: 15 Lat: 35.055930 Long: -75.018661
Species: *Grampus griseus* Numbers (Low/High/Best): 4 / 4 / 4
Features used in Species ID: Scars on animals body give it a grey appearance, tall falcate dorsal fin, head with pointed melon with rostrum absent.
Representative images used for Species ID: 21 & 25
Photographer: Erin Frame numbers: 20 - 26 Spacer: 27
Calculated distance from Trackline: 0.4 km

Final Time and Position of Sighting

Time: NA WP#: NA Lat: NA Long: NA
Calculated Distance Traveled: NA

Behavior and Additional Comments

Single animal first observed stay just subsurface, remaining individual deeper in tight group.
Group was difficult to photograph as this behavior persisted throughout our first 4 circling attempts.
Group finally surfaced at 10:33 to be documented.

Tuesday, May 28, 2013 Sighting # 4

Initial sighting on Track

Time: 10:58 WP#: 19 Lat: 35.099591 Long: -74.951161
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 31 Beaufort Sea State: 3
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 10:58 WP#: 20 Lat: 35.108432 Long: -74.952876
Species: *Physeter macrocephalus* Numbers (Low/High/Best): 1 / 1 / 1
Features used in Species ID: Large head, asymmetrically placed blowhole, dorsal ridge, gray wrinkled body.
Representative images used for Species ID: 37, 41 & 42
Photographer: Erin Frame numbers: 28 - 44 Spacer: 45
Calculated distance from Trackline: 1.0 km

Final Time and Position of Sighting

Time: 11:00 WP#: 21 Lat: 35.101554 Long: -74.950417
Calculated Distance Traveled: 2.6 km

Behavior and Additional Comments

Single large individual, straight line travel, animal took multiple respirations taken during our encounter before diving from surface.

Tuesday, May 28, 2013 Sighting # 5

Initial sighting on Track

Time: 11:36 WP#: 25 Lat: 35.254182 Long: -74.931475
Vertical Angle: 2 Horizontal Bearing in Degrees: 45 Sighting Cue: Body
On/Off Effort: On Trackline: 33 Beaufort Sea State: 3
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 11:40 WP#: 26 Lat: 35.266043 Long: -74.939789
Species: *Grampus griseus* Numbers (Low/High/Best): 6 / 7 / 7
Features used in Species ID: Scars on animal body giving it a grey appearance, tall falcate dorsal fin, head rounded to point lacking a rostrum.
Representative images used for Species ID: 47, 49 & 50
Photographer: Erin Frame numbers: 46 - 51 Spacer: 52
Calculated distance from Trackline: 1.5 km

Final Time and Position of Sighting

Time: NA WP#: NA Lat: NA Long: NA
Calculated Distance Traveled: NA

Behavior and Additional Comments

Well spaced group, some individuals staying close to the surface while others remained well below the surface. Four animals seen in first group showing a unified direction to travel. A second group of three was encountered while returning to the trackline.

Tuesday, May 28, 2013 Sighting # 6

Initial sighting on Track

Time: 12:12 WP#: 31 Lat: 35.341332 Long: -74.395749
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 34 Beaufort Sea State: 3
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 12:15 WP#: 32 Lat: 35.350653 Long: -74.402770
Species: *Globicephala macrorhynchus* Numbers (Low/High/Best): 4 / 5 / 4
Features used in Species ID: Large dorsal fin placed 1/3 back animals body, large square head black body coloration.
Representative images used for Species ID: 54 & 55
Photographer: Erin Frame numbers: 53 - 58 Spacer: 59
Calculated distance from Trackline: 1.1 km

Final Time and Position of Sighting

Time: 12:16 WP#: 33 Lat: 35.343671 Long: -74.399196
Calculated Distance Traveled: 0.84 km

Behavior and Additional Comments

Group of four animals showing slow travel at the surface.

Tuesday, May 28, 2013 Sighting # 7

Initial sighting on Track

Time: 12:22 WP#: 37 Lat: 35.409614 Long: -74.364485
Vertical Angle: 2 Horizontal Bearing in Degrees: 45 Sighting Cue: Body
On/Off Effort: On Trackline: 35 Beaufort Sea State: 3
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 12:23 WP#: 38 Lat: 35.414108 Long: -74.368509
Species: *Mesoplodon europaeus* Numbers (Low/High/Best): 2 / 2 / 2
Features used in Species ID: Small pectoral fins, dorsal fin small and place far back on animals body, pointed head sloping down from blowhole.
Representative images used for Species ID: 62, 65, 66, 69, 72 & 75
Photographer: Erin Frame numbers: 60 - 76 Spacer: 77
Calculated distance from Trackline: 0.6 km

Final Time and Position of Sighting

Time: 12:29 WP#: 39 Lat: 35.415443 Long: -74.364945
Calculated Distance Traveled: 0.4 km

Behavior and Additional Comments

Steady travel with regular surfacings.

Tuesday, May 28, 2013 Sighting # 8

Initial sighting on Track

Time: 12:32 WP#: 41 Lat: 35.410440 Long: -74.468855
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 35 Beaufort Sea State: 3
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 12:36 WP#: 42 Lat: 35.411508 Long: -74.464577
Species: *Unidentified Mesoplodon* Numbers (Low/High/Best): 2 / 2 / 2
Features used in Species ID: Small pectoral fins, small dorsal fin place far back on the animals body.
Representative images used for Species ID:
Photographer: Erin Frame numbers: NA Spacer: NA
Calculated distance from Trackline: 0.4 km

Final Time and Position of Sighting

Time: NA WP#: NA Lat: NA Long: NA
Calculated Distance Traveled: NA

Behavior and Additional Comments

Dove from the surface after the first observation.

Tuesday, May 28, 2013 Sighting # 9

Initial sighting on Track

Time: 14:27 WP#: 49 Lat: 35.555038 Long: -74.802687
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 37 Beaufort Sea State: 3
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 14:27 WP#: 50 Lat: 35.556541 Long: -74.794313
Species: *Tursiops truncatus* Numbers (Low/High/Best): 25 / 27 / 26
Features used in Species ID: Uniform grey body coloration, white peduncles

Representative images used for Species ID: 82, 92, 94, 95, 97 & 98
Photographer: Erin Frame numbers: 78 - 98 Spacer: 99
Calculated distance from Trackline: 0.78 km

Final Time and Position of Sighting

Time: 14:32 WP#: 51 Lat: 35.566950 Long: -74.791944
Calculated Distance Traveled: 1.2 km

Behavior and Additional Comments

One group of ~ 5-7 animals and a second, more densely packed group of 20. All animals appeared to have white peduncles. Glare made it difficult to track and photograph animals.

Tuesday, May 28, 2013 Sighting # 10

Initial sighting on Track

Time: 14:33 WP#: 53 Lat: 35.554615 Long: -74.753306
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Spalsh
On/Off Effort: On Trackline: 37 Beaufort Sea State: 3
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 14:34 WP#: 54 Lat: 35.554407 Long: -74.750403
Species: *Tursiops truncatus* Numbers (Low/High/Best): 15 / 20 / 18
Features used in Species ID: Uniform grey body coloration, white peduncles

Representative images used for Species ID: 104, 110, 113, 114 & 117
Photographer: Erin Frame numbers: 100 - 119 Spacer: 120
Calculated distance from Trackline: 0.26 km

Final Time and Position of Sighting

Time: 14:37 WP#: 55 Lat: 35.555132 Long: -74.747829
Calculated Distance Traveled: 0.25 km

Behavior and Additional Comments

One large active group showing less directional travel. Subgroups milling with different directions to travel.

Tuesday, May 28, 2013 Sighting # 11

Initial sighting on Track

Time: 14:47 WP#: 58 Lat: 35.551463 Long: -74.351276
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 37 Beaufort Sea State: 3
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 14:47 WP#: 59 Lat: 35.544498 Long: -74.344333
Species: *Ziphius cavirostris* Numbers (Low/High/Best): 3 / 3 / 3
Features used in Species ID: White anterior area of body with grey or yellow brown coloration posteriorly, small dorsal fin placed far back on the body.
Representative images used for Species ID: 123, 124, 129, 130, 136 & 140
Photographer: Erin Frame numbers: 121 - 143 Spacer: 144
Calculated distance from Trackline: 1.0 km

Final Time and Position of Sighting

Time: 14:49 WP#: 60 Lat: 35.555934 Long: -74.347482
Calculated Distance Traveled: 1.3 km

Behavior and Additional Comments

Hanging at the surface for a few breaths before diving.

Tuesday, May 28, 2013 Sighting # 12

Initial sighting on Track

Time: NA WP#: NA Lat: NA Long: NA
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Wake
On/Off Effort: Off Trackline: 37 & 40 Beaufort Sea State: 3
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 14:54 WP#: 63 Lat: 35.710991 Long: -74.297119
Species: *Physeter macrocephalus* Numbers (Low/High/Best): 3 / 3 / 3
Features used in Species ID: Large head with asymmetrical placement of blowhole grey wrinkled body, dorsal ridge instead of fin.
Representative images used for Species ID: 160, 161, 162, 164 & 167
Photographer: Erin Frame numbers: 145 - 174 Spacer: 175
Calculated distance from Trackline: NA

Final Time and Position of Sighting

Time: NA WP#: NA Lat: NA Long: NA
Calculated Distance Traveled: NA

Behavior and Additional Comments

Animals observed while transiting between trackline 37 and 40. All three individuals were seen sub surface within touching distance of one another if not in contact with each other. Trio surfaced within seconds of one another. One animal slightly smaller than the other two.

Tuesday, May 28, 2013 Sighting # 13

Initial sighting on Track

Time: 15:03 WP#: 65 Lat: 35.757416 Long: -74.461130
Vertical Angle: 2 Horizontal Bearing in Degrees: 100 Sighting Cue: Body
On/Off Effort: On Trackline: 40 Beaufort Sea State: 3
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 15:04 WP#: 66 Lat: 35.764729 Long: -74.461337
Species: *Tursiops truncatus* Numbers (Low/High/Best): 19 / 20 / 19
Features used in Species ID: Robust body size, robust rostrum, white peduncles present.

Representative images used for Species ID: 179, 185 & 195
Photographer: Erin Frame numbers: 176 - 196 Spacer: 197
Calculated distance from Trackline: 0.8 km

Final Time and Position of Sighting

Time: 15:07 WP#: 67 Lat: 35.769731 Long: -74.461358
Calculated Distance Traveled: 0.6 km

Behavior and Additional Comments

One tight group not traveling very fast.

Tuesday, May 28, 2013 Sighting # 14

Initial sighting on Track

Time: 15:34 WP#: 74 Lat: 35.829832 Long: -74.856094
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 41 Beaufort Sea State: 3
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 15:35 WP#: 75 Lat: 35.827554 Long: -74.859116
Species: *Globicephala macrorhynchus* Numbers (Low/High/Best): 75 / 85 / 80
Features used in Species ID: Square head, dark body coloration, large dorsal fin placed

1/3 back the animals body.
Representative images used for Species ID: 199, 201, 204, 207 & 214
Photographer: Erin Frame numbers: 198 - 216 Spacer: 217
Calculated distance from Trackline: 0.4 km

Final Time and Position of Sighting

Time: 15:38 WP#: 76 Lat: 35.836363 Long: -74.859607
Calculated Distance Traveled: 1.0 km

Behavior and Additional Comments

Disperse large group of animals remaining almost stationary at the surface.

Tuesday, May 28, 2013 Sighting # 15

Initial sighting on Track

Time: 16:01 WP#: 82 Lat: 35.903498 Long: -74.620195
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 42 Beaufort Sea State: 4
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 16:02 WP#: 83 Lat: 35.903524 Long: -74.614975
Species: *Tursiops truncatus* Numbers (Low/High/Best): 15 / 20 / 18
Features used in Species ID: Grey body coloration, robust body appearance.

Representative images used for Species ID: 218
Photographer: Erin Frame numbers: 218 - 221 Spacer: 222
Calculated distance from Trackline: 0.5 km

Final Time and Position of Sighting

Time: 16:08 WP#: 84 Lat: 35.906925 Long: -74.619933
Calculated Distance Traveled: 0.6 km

Behavior and Additional Comments

Fast swimming group, difficult to photograph

Tuesday, May 28, 2013 Sighting # 16

Initial sighting on Track

Time: 16:12 WP#: 86 Lat: 35.903364 Long: -74.737929
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 42 Beaufort Sea State: 3
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 16:13 WP#: 87 Lat: 35.900667 Long: -74.736156
Species: *Delphinus delphis* Numbers (Low/High/Best): 150 / 200 / 180
Features used in Species ID: Dark grey dorsal coloration, anterior to dorsal fin ventral yellow blaze posterior to dorsal fin ventral white body coloration. Triangular dorsal fin

Representative images used for Species ID: 225, 231, 238, 255 & 261
Photographer: Erin Frame numbers: 223 - 263 Spacer: 264
Calculated distance from Trackline: 0.3 km

Final Time and Position of Sighting

Time: 16:19 WP#: 88 Lat: 35.891998 Long: -74.741658
Calculated Distance Traveled: 1.1 km

Behavior and Additional Comments

Three large groups charging through the water. Traveling in lines than spreading out into a fan shape
Very active individuals.

Tuesday, July 16, 2013 Sighting # 1

Initial sighting on Track

Time: 10:49 WP#: 4 Lat: 34.503088 Long: -75.626831
Vertical Angle: 2 Horizontal Bearing in Degrees: 100 Sighting Cue: Body
On/Off Effort: On Trackline: 20 Beaufort Sea State: 3
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 10:53 WP#: 5 Lat: 34.511157 Long: -75.625345
Species: *Tursiops truncatus* Numbers (Low/High/Best): 12 / 15 / 13
Features used in Species ID: Robust body appearance and dorsal fin, white peduncles present

Representative images used for Species ID: 16
Photographer: Ryan Frame numbers: 1 - 19 Spacer: 20
Calculated distance from Trackline: 0.91 km

Final Time and Position of Sighting

Time: 11:00 WP#: 6 Lat: 34.510588 Long: -75.614455
Calculated Distance Traveled: 1.0 km

Behavior and Additional Comments

Two groups but close together, not traveling, staying just below the surface, white peduncles present.

Tuesday, July 16, 2013 Sighting # 2

Initial sighting on Track

Time: 11:03 WP#: 9 Lat: 34.437846 Long: -75.530700
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 20 Beaufort Sea State: 3
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 11:03 WP#: 10 Lat: 34.430081 Long: -75.532243
Species: *Mesoplodon europaeus* Numbers (Low/High/Best): 4 / 4 / 4
Features used in Species ID: Small pectoral fins, small dorsal fin placed well back on animals body
light "tiger striping" pattern on dorsal surface.

Representative images used for Species ID: 21, 41, 43, 44, 58, 66
Photographer: Ryan Frame numbers: 21 - 83 Spacer: 84
Calculated distance from Trackline: 0.87 km

Final Time and Position of Sighting

Time: 11:08 WP#: 11 Lat: 34.428582 Long: -75.537130
Calculated Distance Traveled: 0.47 km

Behavior and Additional Comments

Traveling fast and below the surface then began staying at the surface for long periods with multiple surfacings.

Tuesday, July 16, 2013 Sighting # 3

Initial sighting on Track

Time: 11:54 WP#: 21 Lat: 34.636026 Long: -75.514550
Vertical Angle: 3 Horizontal Bearing in Degrees: 100 Sighting Cue: Body
On/Off Effort: On Trackline: 22 Beaufort Sea State: 3
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 11:57 WP#: 22 Lat: 34.641013 Long: -75.518358
Species: *Tursiops truncatus* Numbers (Low/High/Best): 15 / 20 / 18
Features used in Species ID: Robust body and dorsal fin, grey body coloration with lateral blaze.

Representative images used for Species ID: 85
Photographer: Ryan Frame numbers: 85 - 94 Spacer: 95
Calculated distance from Trackline: 0.65 km

Final Time and Position of Sighting

Time: 12:04 WP#: 23 Lat: 34.639639 Long: -75.515417
Calculated Distance Traveled: 0.31 km

Behavior and Additional Comments

Traveling just below the surface in between doing deeper dives.

Tuesday, July 16, 2013 Sighting # 4

Initial sighting on Track

Time: 14:44 WP#: 37 Lat: 36.124061 Long: -74.681709
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 45 Beaufort Sea State: 3
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 14:46 WP#: 38 Lat: 36.126701 Long: -74.680803
Species: *Tursiops truncatus* Numbers (Low/High/Best): 19 / 30 / 25
Features used in Species ID: Robust body and dorsal fin, grey body coloration with lateral blaze.

White peduncles
Representative images used for Species ID: 107, 113, 132, 133, 143
Photographer: Ryan Frame numbers: 96 - 146 Spacer: 146
Calculated distance from Trackline:

Final Time and Position of Sighting

Time: 14:51 WP#: 39 Lat: 36.130591 Long: -74.687902
Calculated Distance Traveled:

Behavior and Additional Comments

Traveling fast, jumping out of the water.

Tuesday, July 16, 2013 Sighting # 5

Initial sighting on Track

Time: 15:05 WP#: 43 Lat: 36.047608 Long: -74.405293
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 44 Beaufort Sea State: 3
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 15:08 WP#: 44 Lat: 36.048312 Long: -74.399638
Species: *Tursiops truncatus* Numbers (Low/High/Best): 30 / 40 / 35
Features used in Species ID: Robust body appearance and dorsal fin, uniform grey coloration with slightly lighter lateral blaze.
Representative images used for Species ID: 158, 163
Photographer: Ryan Frame numbers: 148 - 170 Spacer: 171
Calculated distance from Trackline: 0.51 km

Final Time and Position of Sighting

Time: 15:13 WP#: 45 Lat: 36.051644 Long: -74.391174
Calculated Distance Traveled: 0.84 km

Behavior and Additional Comments

Calf present, a couple groups.

Tuesday, July 16, 2013 Sighting # 6

Initial sighting on Track

Time: 15:23 WP#: 47 Lat: 36.048153 Long: -74.782417
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 44 Beaufort Sea State: 3
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 15:25 WP#: 48 Lat: 36.047800 Long: -74.784396
Species: *Globicephala macrorhynchus* Numbers (Low/High/Best): 8 / 18 / 10
Features used in Species ID: Large square head, dorsal fin place 1/3 back animals body
Dark body coloration except for slighter "suspenders" in front and behind dorsal fin.
Representative images used for Species ID: 180
Photographer: Ryan Frame numbers: 172 - 183 Spacer: 184
Calculated distance from Trackline:

Final Time and Position of Sighting

Time: 15:30 WP#: 49 Lat: 36.054282 Long: -74.772390
Calculated Distance Traveled:

Behavior and Additional Comments

Hanging just below the surface in a line.

Tuesday, July 16, 2013 Sighting # 7

Initial sighting on Track

Time: 15:33 WP#: 51 Lat: 36.047987 Long: -74.868414
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 44 Beaufort Sea State: 3
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 15:34 WP#: 52 Lat: 36.051731 Long: -74.859693
Species: *Grampus griseus* Numbers (Low/High/Best): 20 / 25 / 23
Features used in Species ID: Robust bodies, tall, falcate dorsal fin, lots of scarring across body causing lighter white coloration.
Representative images used for Species ID: 193, 197, 22
Photographer: Ryan Frame numbers: 185 - 223 Spacer: 224
Calculated distance from Trackline: 0.88 km

Final Time and Position of Sighting

Time: 15:36 WP#: 53 Lat: 36.054536 Long: -74.862407
Calculated Distance Traveled: 0.39 km

Behavior and Additional Comments

Hanging just below the surface, slowly surfacing and then descending back below the surface.

Tuesday, July 16, 2013 Sighting # 8

Initial sighting on Track

Time: 15:57 WP#: 61 Lat: 35.980447 Long: -74.803345
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 43 Beaufort Sea State: 2
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 16:00 WP#: 62 Lat: 35.982496 Long: -74.808348
Species: *Stenella frontalis* Numbers (Low/High/Best): 50 / 100 / 75
Features used in Species ID: White tip to rostrums, lighter grey blaze to dorsal fin with darker blaze at level or dorsal fin, some animals with spotting present in light grey areas of body.
Representative images used for Species ID: 231, 247, 250, 279, 286
Photographer: Ryan Frame numbers: 225 - 298 Spacer: 298
Calculated distance from Trackline: 0.51 km

Final Time and Position of Sighting

Time: 16:12 WP#: 63 Lat: 35.998376 Long: -74.799263
Calculated Distance Traveled: 1.9 km

Behavior and Additional Comments

Lots of small calves, large group of animals, traveling close to on another.

Tuesday, July 16, 2013 Sighting # 9

Initial sighting on Track

Time: 16:15 WP#: 65 Lat: 35.980755 Long: -74.715348
Vertical Angle: 3 Horizontal Bearing in Degrees: 45 Sighting Cue: Body
On/Off Effort: On Trackline: 43 Beaufort Sea State: 2
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 16:15 WP#: 66 Lat: 35.990592 Long: -74.708755
Species: *Ziphius cavirostris* Numbers (Low/High/Best): 4 / 4 / 4
Features used in Species ID: Small pectoral fins, dorsal fin small and well back on animals body
White and copper coloration to body, scarring present, broad head quickly tapering to small rostrum.
Representative images used for Species ID: 305, 306
Photographer: Ryan Frame numbers: 300 - 312 Spacer: 313
Calculated distance from Trackline: 1.24 km

Final Time and Position of Sighting

Time: 16:17 WP#: 67 Lat: 35.99047 Long: -74.707753
Calculated Distance Traveled: 0.1 km

Behavior and Additional Comments

Logging at the surface.

Tuesday, July 16, 2013 Sighting # 10

Initial sighting on Track

Time: 16:38 WP#: 73 Lat: 35.906164 Long: -74.647446
Vertical Angle: 1 Horizontal Bearing in Degrees: 100 Sighting Cue: Body
On/Off Effort: On Trackline: 42 Beaufort Sea State: 3
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 16:39 WP#: 74 Lat: 35.902641 Long: -74.645998
Species: *Tursiops truncatus* Numbers (Low/High/Best): 10 / 20 / 15
Features used in Species ID: Unifrom grey coloration and robust body and dorsal fin.
Representative images used for Species ID: 320
Photographer: Ryan Frame numbers: 314 - 324 Spacer: 325
Calculated distance from Trackline: 0.41 km

Final Time and Position of Sighting

Time: 16:42 WP#: 75 Lat: 35.907706 Long: -74.636459
Calculated Distance Traveled: 1.01 km

Behavior and Additional Comments

Two groups, looks like they were feeding, darting in different directions.

Tuesday, July 16, 2013 Sighting # 11

Initial sighting on Track

Time: 16:47 WP#: 77 Lat: 35.906052 Long: -74.792097
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 3 Beaufort Sea State: 42
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 16:48 WP#: 78 Lat: 35.904796 Long: -74.791456
Species: *Globicephala macrorhynchus* Numbers (Low/High/Best): 8 / 8 / 8
Features used in Species ID: Large square head, dark body coloration, broad based dorsal fin placed 1/3 back the animals body.
Representative images used for Species ID: 330
Photographer: Ryan Frame numbers: 326 - 334 Spacer: 335
Calculated distance from Trackline: 0.15 km

Final Time and Position of Sighting

Time: 16:50 WP#: 79 Lat: 35.914384 Long: -74.786600
Calculated Distance Traveled: 1.15 km

Behavior and Additional Comments

Lots of splashing / hard surfacings, group well spread out.

Wednesday, July 17, 2013 Sighting # 1

Initial sighting on Track

Time: 9:17 WP#: 6 Lat: 35.835850 Long: -74.555034
Vertical Angle: 1 Horizontal Bearing in Degrees: 100 Sighting Cue: 3
On/Off Effort: On Trackline: 41 Beaufort Sea State: 4
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: N/A WP#: N/A Lat: N/A Long: N/A
Species: *Unidentified Delphinid* Numbers (Low/High/Best): 4/7/6
Features used in Species ID:

Representative images used for Species ID: N/A
Photographer: Erin Frame numbers: N/A Spacer: N/A
Calculated distance from Trackline: n/A

Final Time and Position of Sighting

Time: 9:22 WP#: 8 Lat: 35.834962 Long: -74.509402
Calculated Distance Traveled: N/A

Behavior and Additional Comments

Not able to relocate animals

Wednesday, July 17, 2013 Sighting # 2

Initial sighting on Track

Time: 9:28 WP#: 11 Lat: 35.819865 Long: -74.310438
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: 3
On/Off Effort: Off Trackline: 41-40 Beaufort Sea State: 4
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 9:31 WP#: 12 Lat: 35.826554 Long: -74.308735
Species: *Tursiops truncatus* Numbers (Low/High/Best): 12/15/14
Features used in Species ID: Uniform gray, robust

Representative images used for Species ID: 1
Photographer: Erin Frame numbers: 1 Spacer: 2
Calculated distance from Trackline: 0.7595 km

Final Time and Position of Sighting

Time: 9:33 WP#: 13 Lat: 35.822823 Long: -74.314329
Calculated Distance Traveled: 0.6531 km

Behavior and Additional Comments

Single group, may have scattered upon circling

Thursday, July 18, 2013 Sighting # 1

Initial sighting on Track

Time: 9:22 WP#: 90 Lat: 35.128454 Long: -75.116241
Vertical Angle: 1 Horizontal Bearing in Degrees: 100 Sighting Cue: Body
On/Off Effort: On Trackline: 30 Beaufort Sea State: 2
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: N/A WP#: N/A Lat: N/A Long: N/A
Species: *Tursiops truncatus* Numbers (Low/High/Best): 5/8/7
Features used in Species ID: Robust, uniform grey

Representative images used for Species ID: N/A
Photographer: Ryan Frame numbers: N/A Spacer: N/A
Calculated distance from Trackline:

Final Time and Position of Sighting

Time: 9:33 WP#: 91 Lat: 35.120395 Long: -75.115261
Calculated Distance Traveled:

Behavior and Additional Comments

No resight, no images

Thursday, July 18, 2013 Sighting # 2

Initial sighting on Track

Time: 10:04 WP#: 98 Lat: 35.165386 Long: -75.040476
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 31 Beaufort Sea State: 2
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 10:05 WP#: 99 Lat: 35.147892 Long: -75.044946
Species: *Tursiops truncatus* Numbers (Low/High/Best): 9/9/9
Features used in Species ID: Uniform grey, robust

Representative images used for Species ID: 9, 16
Photographer: Ryan Frame numbers: 3 - 25 Spacer: 26
Calculated distance from Trackline: 1.987 km

Final Time and Position of Sighting

Time: 10:10 WP#: 100 Lat: 35.157274 Long: -75.035833
Calculated Distance Traveled: 1.332 km

Behavior and Additional Comments

Slow travel, regular surfacing, was one but then 6 joined. Calf present. Two more joined.

Thursday, July 18, 2013 Sighting # 3

Initial sighting on Track

Time: 10:28 WP#: 108 Lat: 35.185557 Long: -74.961439
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 32 Beaufort Sea State: 1
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 10:29 WP#: Lat: 35.190215 Long: -74.956620
Species: *Mesoplodon europaeus* Numbers (Low/High/Best): 5/5/5
Features used in Species ID: Tiger strips down back, small pectorals, dorsal fin set way back on body
Representative images used for Species ID: 53 - 57
Photographer: Ryan Frame numbers: 27 - 74 Spacer: 75
Calculated distance from Trackline: 0.6783 km

Final Time and Position of Sighting

Time: 10:37 WP#: 110 Lat: 35.187660 Long: -74.962611
Calculated Distance Traveled: 0.6141 km

Behavior and Additional Comments

Traveling just below the surface, breathing slow occasional breaths

Thursday, July 18, 2013 Sighting # 4

Initial sighting on Track

Time: 11:14 WP#: 116 Lat: 35.242009 Long: -74.871201
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 33 Beaufort Sea State: 1
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 11:15 WP#: 117 Lat: 35.249551 Long: -74.862564
Species: *Physeter macrocephalus* Numbers (Low/High/Best): 1/1/1
Features used in Species ID: Large, blunt head, forward blow
Representative images used for Species ID: 93, 95, 96, 115, 150
Photographer: Ryan Frame numbers: 76 - 154 Spacer: 155
Calculated distance from Trackline: 1.148 km

Final Time and Position of Sighting

Time: 11:22 WP#: 118 Lat: 35.256816 Long: -74.863312
Calculated Distance Traveled: 0.8107 km

Behavior and Additional Comments

Sperm whale vertical in water column, mouth open, tursiops swimming around. Whale finally went horizontal.

Thursday, July 18, 2013 Sighting # 5

Initial sighting on Track

Time: 11:14 WP#: 116 Lat: 35.242009 Long: -74.871201
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 33 Beaufort Sea State: 1
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 11:15 WP#: 117 Lat: 35.249551 Long: -74.862564
Species: *Tursiops truncatus* Numbers (Low/High/Best): 15/25/20
Features used in Species ID: Uniform grey, robust, white peduncles

Representative images used for Species ID: 93, 95, 96, 115, 150
Photographer: Ryan Frame numbers: 76 - 154 Spacer: 155
Calculated distance from Trackline: 1.148 km

Final Time and Position of Sighting

Time: 11:22 WP#: 118 Lat: 35.256816 Long: -74.863312
Calculated Distance Traveled: 0.8107 km

Behavior and Additional Comments

Swimming around sperm whale, darting in different directions

Thursday, July 18, 2013 Sighting # 6

Initial sighting on Track

Time: 11:26 WP#: 121 Lat: 35.272996 Long: -75.020394
Vertical Angle: 2 Horizontal Bearing in Degrees: 60 Sighting Cue: Splash
On/Off Effort: On Trackline: 33 Beaufort Sea State: 2
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 11:28 WP#: 122 Lat: 35.283093 Long: -75.020068
Species: *Tursiops truncatus* Numbers (Low/High/Best): 15/25/20
Features used in Species ID: Uniform grey, robust, white peduncles

Representative images used for Species ID: 156, 157, 164, 170
Photographer: Ryan Frame numbers: 156 - 176 Spacer: 177
Calculated distance from Trackline: 1.123 km

Final Time and Position of Sighting

Time: 11:36 WP#: 123 Lat: 35.273170 Long: -75.026124
Calculated Distance Traveled: 1.233 km

Behavior and Additional Comments

Dove when we flew over, traveling

Thursday, July 18, 2013 Sighting # 7

Initial sighting on Track

Time: 13:20 WP#: 136 Lat: 35.763809 Long: -74.852849
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 40 Beaufort Sea State: 1
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 13:23 WP#: 137 Lat: 35.777435 Long: -74.832254
Species: *Globicephala macrorhynchus* Numbers (Low/High/Best): 12/18/16
Features used in Species ID: Black animals, blunt head

Representative images used for Species ID: 178, 186, 189
Photographer: Ryan Frame numbers: 178 - 192 Spacer: 193
Calculated distance from Trackline: 2.398 km

Final Time and Position of Sighting

Time: 13:25 WP#: 139 Lat: 35.766668 Long: -74.848123
Calculated Distance Traveled: 1.866 km

Behavior and Additional Comments

Logging at the surface

Thursday, July 18, 2013 Sighting # 8

Initial sighting on Track

Time: 13:20 WP#: 136 Lat: 35.763809 Long: -74.852849
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 40 Beaufort Sea State: 1
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 13:25 WP#: 138 Lat: 35.772371 Long: -74.837177
Species: *Tursiops truncatus* Numbers (Low/High/Best): 8/15/12
Features used in Species ID: Uniform grey, robust, white peduncles

Representative images used for Species ID: N/A
Photographer: Ryan Frame numbers: N/A Spacer: N/A
Calculated distance from Trackline: 1.705 km

Final Time and Position of Sighting

Time: 13:25 WP#: 138 Lat: 35.766668 Long: -74.848123
Calculated Distance Traveled: 1.174 km

Behavior and Additional Comments

In a tight group, traveling

Thursday, July 18, 2013 Sighting # 9

Initial sighting on Track

Time: 14:00 WP#: 146 Lat: 35.480611 Long: -74.716993
Vertical Angle: 2 Horizontal Bearing in Degrees: 60 Sighting Cue: Body
On/Off Effort: On Trackline: 36 Beaufort Sea State: 1
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 14:01 WP#: 147 Lat: 35.491165 Long: -74.721264
Species: *Ziphius cavirostris* Numbers (Low/High/Best): 2/2/2
Features used in Species ID: Long bodied, white head, brown body, short pectorals

Representative images used for Species ID: 197, 203, 204, 211, 212, 222, 226
Photographer: Ryan Frame numbers: 194 - 226 Spacer: 227
Calculated distance from Trackline: 1.236 km

Final Time and Position of Sighting

Time: 14:02 WP#: 148 Lat: 35.491543 Long: -74.721640
Calculated Distance Traveled: 0.05409 km

Behavior and Additional Comments

Hanging at the surface

Thursday, July 18, 2013 Sighting # 10

Initial sighting on Track

Time: 14:09 WP#: 150 Lat: 35.480995 Long: -74.745816
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 36 Beaufort Sea State: 1
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 14:05 WP#: 151 Lat: 35.480761 Long: -74.740742
Species: *Ziphius cavirostris* Numbers (Low/High/Best): 3/3/3
Features used in Species ID: Long bodied, white head, brown body, short pectorals

Representative images used for Species ID: 238, 239, 241 - 247, 250
Photographer: Ryan Frame numbers: 228 - 251 Spacer: 252
Calculated distance from Trackline: 0.4602 km

Final Time and Position of Sighting

Time: 14:06 WP#: 152 Lat: 35.478077 Long: -74.748698
Calculated Distance Traveled: 0.7798 km

Behavior and Additional Comments

Hanging at the surface, going just under the surface then coming up for breaths

Thursday, July 18, 2013 Sighting # 11

Initial sighting on Track

Time: 14:07 WP#: 154 Lat: 35.481844 Long: -74.772154
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 36 Beaufort Sea State: 1
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: N/A WP#: N/A Lat: N/A Long: N/A
Species: *Unidentified Mesoplodon* Numbers (Low/High/Best): 2/2/2
Features used in Species ID: N/A

Representative images used for Species ID: N/A
Photographer: N/A Frame numbers: N/A Spacer: N/A
Calculated distance from Trackline: N/A

Final Time and Position of Sighting

Time: 14:10 WP#: 155 Lat: 35.492771 Long: -74.772450
Calculated Distance Traveled: N/A

Behavior and Additional Comments

One smaller than the other, not resight

Thursday, July 18, 2013 Sighting # 12

Initial sighting on Track

Time: 14:11 WP#: 156 Lat: 35.483349 Long: -74.787616
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 36 Beaufort Sea State: 1
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 14:12 WP#: 157 Lat: 35.480616 Long: -74.780087
Species: *Tursiops truncatus* Numbers (Low/High/Best): 10/15/12
Features used in Species ID: Robust, uniform grey

Representative images used for Species ID: 253, 259,
Photographer: Ryan Frame numbers: 253 - 261 Spacer: 262
Calculated distance from Trackline: 0.7464 km

Final Time and Position of Sighting

Time: 14:13 WP#: 158 Lat: 35.481413 Long: -74.785307
Calculated Distance Traveled: 0.4809 km

Behavior and Additional Comments

Thursday, July 18, 2013 Sighting # 13

Initial sighting on Track

Time: 14:37 WP#: 166 Lat: 35.412234 Long: -74.847135
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 35 Beaufort Sea State: 1
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 14:39 WP#: 167 Lat: 35.421648 Long: -74.848720
Species: *Tursiops truncatus* Numbers (Low/High/Best): 19/25/20
Features used in Species ID: Uniform grey, robust, white peduncles

Representative images used for Species ID: 263, 265, 268, 270, 271, 287, 289,
Photographer: Ryan Frame numbers: 263 - 294 Spacer: 295
Calculated distance from Trackline: 1.057 km

Final Time and Position of Sighting

Time: 14:41 WP#: 168 Lat: 35.422461 Long: -74.844838
Calculated Distance Traveled: 0.3632 km

Behavior and Additional Comments

2 groups, 6 in one 5 in another, white peduncles, traveling, regular surfacing, 8 more in another group

Thursday, July 18, 2013 Sighting # 14

Initial sighting on Track

Time: 14:43 WP#: 170 Lat: 35.412152 Long: -74.787456
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 35 Beaufort Sea State: 1
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 14:44 WP#: 171 Lat: 35.402009 Long: -74.790934
Species: *Tursiops truncatus* Numbers (Low/High/Best): 10/20/15
Features used in Species ID: Uniform grey, robust

Representative images used for Species ID: 312, 315
Photographer: Ryan Frame numbers: 296 - 317 Spacer: 318
Calculated distance from Trackline: 1.171 km

Final Time and Position of Sighting

Time: 14:47 WP#: 172 Lat: 35.409806 Long: -74.788371
Calculated Distance Traveled: 0.8976 km

Behavior and Additional Comments

Calves present, traveling

Thursday, July 18, 2013 Sighting # 15

Initial sighting on Track

Time: 14:49 WP#: 175 Lat: 35.411805 Long: -74.695952
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 35 Beaufort Sea State: 2
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: N/A WP#: N/A Lat: N/A Long: N/A
Species: *Globicephala macrorhynchus* Numbers (Low/High/Best): 8/15/12
Features used in Species ID: Long, black, blunt head

Representative images used for Species ID: N/A
Photographer: N/A Frame numbers: N/A Spacer: N/A
Calculated distance from Trackline: N/A

Final Time and Position of Sighting

Time: 14:57 WP#: 176 Lat: 35.410451 Long: -74.701333
Calculated Distance Traveled: N/A

Behavior and Additional Comments

No resight, no photos

Thursday, July 18, 2013 Sighting # 16

Initial sighting on Track

Time: 15:12 WP#: 181 Lat: 35.339282 Long: -74.363218
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 34 Beaufort Sea State: 1
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: N/A WP#: N/A Lat: N/A Long: N/A
Species: *Unidentified Mesoplodon* Numbers (Low/High/Best): 2/2/2
Features used in Species ID: Long body, short pectorals, dorsal fin set way back on body

Representative images used for Species ID: N/A
Photographer: N/A Frame numbers: N/A Spacer: N/A
Calculated distance from Trackline: N/A

Final Time and Position of Sighting

Time: 15:17 WP#: 182 Lat: 35.335345 Long: -74.373141
Calculated Distance Traveled: N/A

Behavior and Additional Comments

No resight, no photos

Thursday, July 18, 2013 Sighting # 17

Initial sighting on Track

Time: 15:29 WP#: 185 Lat: 35.339713 Long: -74.807205
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 34 Beaufort Sea State: 2
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 15:31 WP#: 186 Lat: 35.348792 Long: -74.808742
Species: *Tursiops truncatus* Numbers (Low/High/Best): 12/20/17
Features used in Species ID: Uniform grey, robust

Representative images used for Species ID: 323, 326, 40, 347, 352, 353
Photographer: Ryan Frame numbers: 319 - 355 Spacer: 356
Calculated distance from Trackline: 1.019 km

Final Time and Position of Sighting

Time: 15:35 WP#: 187 Lat: 35.352322 Long: -74.802421
Calculated Distance Traveled: 0.6948 km

Behavior and Additional Comments

Hanging just below the surface, calves present

Thursday, July 18, 2013 Sighting # 18

Initial sighting on Track

Time: 15:39 WP#: 189 Lat: 35.339805 Long: -74.926688
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 34 Beaufort Sea State: 2
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 15:40 WP#: 190 Lat: 35.339014 Long: -74.920563
Species: *Grampus griseus* Numbers (Low/High/Best): 40/60/50
Features used in Species ID: grey body, white scarring, blunt head with cleft in the middle

Representative images used for Species ID: 360, 369, 372
Photographer: Ryan Frame numbers: 357 - 394 Spacer: 395
Calculated distance from Trackline: 0.5625 km

Final Time and Position of Sighting

Time: 15:44 WP#: 191 Lat: 35.338311 Long: -74.918938
Calculated Distance Traveled: 0.1668 km

Behavior and Additional Comments

Traveling just below the surface, regular surfacing, staying ~ 1-2 body lengths apart

Tuesday, August 20, 2013 Sighting # 1

Initial sighting on Track

Time: 11:03 WP#: 4 Lat: 35.48067 Long: -75.108512
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 36 Beaufort Sea State: 3
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 11:05 WP#: 5 Lat: 35.47955 Long: -75.122299
Species: *Stenella frontalis* Numbers (Low/High/Best): 9 / 12 / 10
Features used in Species ID: White tip to rostrum, alternating light and dark coloration along length of body. Spotting pattern more extensive.
Representative images used for Species ID: 23, 27
Photographer: Erin Frame numbers: 1 - 34 Spacer: 35
Calculated distance from Trackline: 1.26 km

Final Time and Position of Sighting

Time: 11:09 WP#: 6 Lat: 35.47719 Long: -75.11484
Calculated Distance Traveled: 0.72 km

Behavior and Additional Comments

Groups of animals with between 4 & 5 body lengths between them. Groups surfacing regularly with consistent direction to travel.

Inshore spotting variety.

Tuesday, August 20, 2013 Sighting # 2

Initial sighting on Track

Time: 12:00 WP#: 17 Lat: 35.62209 Long: -75.007026
Vertical Angle: 2 Horizontal Bearing in Degrees: 45 Sighting Cue: Splash
On/Off Effort: On Trackline: 38 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 12:01 WP#: 18 Lat: 35.61866 Long: -75.00186
Species: *Stenella frontalis* Numbers (Low/High/Best): 45 / 50 / 48
Features used in Species ID: White tip to rostrum, alternating light and dark coloration along length of body. Spotting pattern more extensive.
Representative images used for Species ID: 44, 55, 68
Photographer: Erin Frame numbers: 36 - 68 Spacer: 69
Calculated distance from Trackline: 0.60 km

Final Time and Position of Sighting

Time: 12:05 WP#: 19 Lat: 35.61068 Long: -75.010913
Calculated Distance Traveled: 1.21 km

Behavior and Additional Comments

Disperse groups with ~5 body lengths between groups. Animals surfaced regularly and showed a consistent direction to travel.

Inshore spotting variety

Tuesday, August 20, 2013 Sighting # 3

Initial sighting on Track

Time: 12:07 WP#: 21 Lat: 35.62057 Long: -74.934937
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 38 Beaufort Sea State: 2
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 12:09 WP#: 22 Lat: 35.62756 Long: -74.938017
Species: *Tursiops truncatus* Numbers (Low/High/Best): 6 / 7 / 6
Features used in Species ID: Robust body appearance, more uniform grey coloration with slight blaze along side. Robust dorsal fin.
Representative images used for Species ID: 75, 76, 79
Photographer: Erin Frame numbers: 70 - 81 Spacer: 82
Calculated distance from Trackline: 0.83 km

Final Time and Position of Sighting

Time: 12:15 WP#: 23 Lat: 35.6248 Long: -74.931502
Calculated Distance Traveled: 0.66 km

Behavior and Additional Comments

Two groups of three, animals made frequent dives from the surface when first approached, after circled a few times group began hanging just below the surface stationary.

Tuesday, August 20, 2013 Sighting # 4

Initial sighting on Track

Time: 12:23 WP#: 27 Lat: 35.62139 Long: -74.592714
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 38 Beaufort Sea State: 3
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 12:32 WP#: 28 Lat: 35.63509 Long: -74.589241
Species: *Tursiops truncatus* Numbers (Low/High/Best): 4 / 4 / 4
Features used in Species ID: White peduncles
Representative images used for Species ID: 83, 84
Photographer: Erin Frame numbers: 83 Spacer: 84
Calculated distance from Trackline: 1.56 km

Final Time and Position of Sighting

Time: 12:34 WP#: 30 Lat: 35.62872 Long: -74.595637
Calculated Distance Traveled: 0.91 km

Behavior and Additional Comments

Small group of tightly packed animals, difficult to relocate, group would surface quickly before diving out of sight. During this sighting saw a pair of darker bodied animals - Sighting 5 Gma's

Tuesday, August 20, 2013 Sighting # 5

Initial sighting on Track

Time: 12:23 WP#: 27 Lat: 35.62139 Long: -74.592714
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: Off Trackline: 38 Beaufort Sea State: 3
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 12:33 WP#: 29 Lat: 35.63045 Long: -74.595169
Species: *Globicephala macrorhynchus* Numbers (Low/High/Best): 2 / 2 / 2
Features used in Species ID: Large black bodied animals, squared off head, dorsal fin ~1/3 back on the animals body.

Representative images used for Species ID: NA
Photographer: Erin Frame numbers: NA Spacer: NA
Calculated distance from Trackline: 1.03 km

Final Time and Position of Sighting

Time: 12:34 WP#: 30 Lat: 35.62872 Long: -74.595637
Calculated Distance Traveled: 0.20 km

Behavior and Additional Comments

Observed while circling Ttrs on sighting 4. Pilot whales would surface very quickly before diving out of view.

Tuesday, August 20, 2013 Sighting # 6

Initial sighting on Track

Time: 12:59 WP#: 35 Lat: 35.69057 Long: -74.921754
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 39 Beaufort Sea State: 3
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 13:01 WP#: 36 Lat: 35.69522 Long: -74.918406
Species: *Tursiops truncatus* Numbers (Low/High/Best): 5 / 6 / 5
Features used in Species ID: Robust body appearance.

Representative images used for Species ID: 88
Photographer: Erin Frame numbers: 85 - 89 Spacer: 90
Calculated distance from Trackline: 0.60 km

Final Time and Position of Sighting

Time: 13:09 WP#: 37 Lat: 35.69033 Long: -74.913360
Calculated Distance Traveled: 0.71 km

Behavior and Additional Comments

Small tight group of animals with a single outlier, all would stay submerged for long periods while being circled - avoidance.

Tuesday, August 20, 2013 Sighting # 7

Initial sighting on Track

Time: 14:42 WP#: 46 Lat: 35.76914 Long: -74.922954
Vertical Angle: 2 Horizontal Bearing in Degrees: 100 Sighting Cue: Body
On/Off Effort: On Trackline: 40 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 14:46 WP#: 47 Lat: 35.76881 Long: -74.929746
Species: *Balaenoptera acutorostrata* Numbers (Low/High/Best): 1 / 1 / 1
Features used in Species ID: Small baleen whale, white blazes present on pectoral fins.

Representative images used for Species ID: 96 & 97
Photographer: Erin Frame numbers: 91 - 103 Spacer: 104
Calculated distance from Trackline: 0.61 km

Final Time and Position of Sighting

Time: 14:57 WP#: 48 Lat: 35.76462 Long: -74.934525
Calculated Distance Traveled: 0.63 km

Behavior and Additional Comments

Fast moving subsurface travel, could see animals white pectoral fin stripes. Animal surfaced three times in a row before again traveling subsurface, did so again with only a single surfacing.

Tuesday, August 20, 2013 Sighting # 8

Initial sighting on Track

Time: 15:02 WP#: 50 Lat: 35.76398 Long: -74.771581
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 40 Beaufort Sea State: 2
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 15:10 WP#: 51 Lat: 35.76905 Long: -74.776011
Species: *Globicephala macrorhynchus* Numbers (Low/High/Best): 2 / 2 / 2
Features used in Species ID: Black bodied with squared off head, dorsal fin placed ~1/3 back animals body.

Representative images used for Species ID: NA
Photographer: Erin Frame numbers: NA Spacer: NA
Calculated distance from Trackline: 0.70 km

Final Time and Position of Sighting

Time: NA WP#: NA Lat: NA Long: NA
Calculated Distance Traveled: NA

Behavior and Additional Comments

A pair of animals traveling close together, unable to relocate - assumed location is recorded above.

Tuesday, August 20, 2013 Sighting # 9

Initial sighting on Track

Time: 15:12 WP#: 53 Lat: 35.76527 Long: -74.729443
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 40 Beaufort Sea State: 2
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 15:14 WP#: 54 Lat: 35.76993 Long: -74.728976
Species: *Globicephala macrorhynchus* Numbers (Low/High/Best): 12 / 13 / 12
Features used in Species ID: Black bodied animals, large dorsal fin placed 1/3 back animals body, large squared off head.
Representative images used for Species ID: 107, 114, 120
Photographer: Erin Frame numbers: 105 - 124 Spacer: 125
Calculated distance from Trackline: 0.52 km

Final Time and Position of Sighting

Time: 15:14 WP#: 55 Lat: 35.76861 Long: -74.729354
Calculated Distance Traveled: 0.15 km

Behavior and Additional Comments

Tuesday, August 20, 2013 Sighting # 10

Initial sighting on Track

Time: 15:17 WP#: 57 Lat: 35.76181 Long: -74.630127
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 37 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 15:20 WP#: 58 Lat: 35.75749 Long: -74.60826
Species: *Unidentified Delphinid* Numbers (Low/High/Best): 1 / 1 / 1
Features used in Species ID:
Representative images used for Species ID: NA
Photographer: Erin Frame numbers: NA Spacer: NA
Calculated distance from Trackline: 2.03 km

Final Time and Position of Sighting

Time: NA WP#: NA Lat: NA Long: NA
Calculated Distance Traveled: NA

Behavior and Additional Comments

Single animal, unable to relocate - assumed location is given above.

Tuesday, August 20, 2013 Sighting # 11

Initial sighting on Track

Time: 15:43 WP#: 67 Lat: 35.83287 Long: -74.782606
Vertical Angle: 3 Horizontal Bearing in Degrees: 100 Sighting Cue: Spalsh
On/Off Effort: On Trackline: 38 Beaufort Sea State: 2
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 15:44 WP#: 68 Lat: 35.82728 Long: -74.780002
Species: *Globicephala macrorhynchus* Numbers (Low/High/Best): 5 / 10 / 8
Features used in Species ID: Dark bodied animals with squared off head, robust dorsal fin.

Representative images used for Species ID: 131, 132, 138
Photographer: Erin Frame numbers: 126 - 138 Spacer: 139
Calculated distance from Trackline: 0.66 km

Final Time and Position of Sighting

Time: 15:48 WP#: 69 Lat: 35.82592 Long: -74.772858
Calculated Distance Traveled: 0.66 km

Behavior and Additional Comments

Big surfacings followed by time spent traveling just below the surface.

Tuesday, August 20, 2013 Sighting # 12

Initial sighting on Track

Time: 15:55 WP#: 72 Lat: 35.83374 Long: -75.039848
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 38 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 15:56 WP#: 73 Lat: 35.8375 Long: -75.040347
Species: *Stenella frontalis* Numbers (Low/High/Best): 30 / 40 / 35
Features used in Species ID: White tip to rostrum, alternating light and dark coloration along body, spotting pattern present.

Representative images used for Species ID: 140, 142, 148
Photographer: Erin Frame numbers: 140 - 154 Spacer: 155
Calculated distance from Trackline: 0.42 km

Final Time and Position of Sighting

Time: 16:00 WP#: 74 Lat: 35.83828 Long: -75.038413
Calculated Distance Traveled: 0.19 km

Behavior and Additional Comments

A large number of animals splashing at the surface then would dive below the surface upon circling
Group formed into a line

Inshore spotting variety.

Tuesday, August 20, 2013 Sighting # 13

Initial sighting on Track

Time: 16:18 WP#: 82 Lat: 35.90724 Long: -74.723097
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 39 Beaufort Sea State: 2
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 16:19 WP#: 83 Lat: 35.91803 Long: -74.733927
Species: *Tursiops truncatus* Numbers (Low/High/Best): 8 / 8 / 8
Features used in Species ID: Robust body appearance, uniform grey coloration with slight blaze along side of animal. Large dorsal fin.
Representative images used for Species ID: 156, 158
Photographer: Erin Frame numbers: 156 - 162 Spacer: 163
Calculated distance from Trackline: 1.55 km

Final Time and Position of Sighting

Time: 16:19 WP#: 83 Lat: 35.91803 Long: -74.733924
Calculated Distance Traveled: 0 km

Behavior and Additional Comments

Dark bodied animals with white peduncles, traveling just below the surface, some swimming belly up.

Tuesday, August 20, 2013 Sighting # 14

Initial sighting on Track

Time: 16:22 WP#: 86 Lat: 35.90542 Long: -74.688230
Vertical Angle: 3 Horizontal Bearing in Degrees: 60 Sighting Cue: Splash
On/Off Effort: On Trackline: 39 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 16:23 WP#: 87 Lat: 35.89573 Long: -74.68076
Species: *Tursiops truncatus* Numbers (Low/High/Best): 30 / 35 / 33
Features used in Species ID: Robust body appearance, uniform grey coloration with slight blaze along side of animal. Large dorsal fin.
Representative images used for Species ID: 172, 173, 176
Photographer: Erin Frame numbers: 164 - 178 Spacer: 179
Calculated distance from Trackline: 1.27 km

Final Time and Position of Sighting

Time: 16:25 WP#: 88 Lat: 35.89139 Long: -74.681390
Calculated Distance Traveled: 0.48 km

Behavior and Additional Comments

Large group

Tuesday, August 20, 2013 Sighting # 15

Initial sighting on Track

Time: 16:48 WP#: 93 Lat: 35.9813 Long: -74.734980
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 43 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 16:49 WP#: 94 Lat: 35.98721 Long: -74.734562
Species: *Globicephala macrorhynchus* Numbers (Low/High/Best): 18 / 20 / 19
Features used in Species ID: Black bodied animals, large square heads, robust dorsal fin placed
1/3 back animals body.
Representative images used for Species ID: 184, 186
Photographer: Erin Frame numbers: 180 - 189 Spacer: 190
Calculated distance from Trackline: 0.66 km

Final Time and Position of Sighting

Time: 16:50 WP#: 95 Lat: 35.98004 Long: -74.73484
Calculated Distance Traveled: 0.80 km

Behavior and Additional Comments

Hanging at the surface, logging, taking many breaths.

Wednesday, August 21, 2013 Sighting # 1

Initial sighting on Track

Time: 9:23 WP#: 8 Lat: 36.048966 Long: -74.797415
Vertical Angle: 2 Horizontal Bearing in Degrees: 44 Sighting Cue: Body
On/Off Effort: On Trackline: 44 Beaufort Sea State: 3
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 9:24 WP#: 9 Lat: 36.055076 Long: -74.799332
Species: *Tursiops truncatus* Numbers (Low/High/Best): 4/4/4
Features used in Species ID: Uniform grey, robust

Representative images used for Species ID: 4, 5
Photographer: Ryan Frame numbers: 1 - 14 Spacer: 15
Calculated distance from Trackline: 0.7009 km

Final Time and Position of Sighting

Time: 9:26 WP#: 10 Lat: 36.049373 Long: -74.801560
Calculated Distance Traveled: 0.6650 km

Behavior and Additional Comments

Splashing, darting different directions, breaching

Wednesday, August 21, 2013 Sighting # 2

Initial sighting on Track

Time: 9:28 WP#: 12 Lat: 36.054342 Long: -74.758434
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 44 Beaufort Sea State: 3
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 9:28 WP#: 13 Lat: 36.060786 Long: -74.756754
Species: *Stenella frontalis* Numbers (Low/High/Best): 100/175/150
Features used in Species ID: Alternating light and dark pattern down body, spotting

Representative images used for Species ID: 76, 79, 85
Photographer: Ryan Frame numbers: 16 - 107 Spacer: 108
Calculated distance from Trackline: 0.7323 km

Final Time and Position of Sighting

Time: 9:38 WP#: 14 Lat: 36.059290 Long: -74.754197
Calculated Distance Traveled: 0.2837 km

Behavior and Additional Comments

Fast travel, hitting the surface close together. Calves present

Wednesday, August 21, 2013 Sighting # 3

Initial sighting on Track

Time: 9:50 WP#: 19 Lat: 36.081520 Long: -74.304286
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: Off Trackline: Beaufort Sea State: 2
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 9:52 WP#: 20 Lat: 36.072366 Long: -74.313114
Species: *Grampus griseus* Numbers (Low/High/Best): 20/35/30
Features used in Species ID: Grey, blunt head with cleft in the middle, white scaring down body

Representative images used for Species ID: 119
Photographer: Ryan Frame numbers: 109 - 124 Spacer: 125
Calculated distance from Trackline: 1.291 km

Final Time and Position of Sighting

Time: 9:54 WP#: 21 Lat: 36.077824 Long: -74.315555
Calculated Distance Traveled: 0.6453 km

Behavior and Additional Comments

Some individuals spaced out, subsurface

Wednesday, August 21, 2013 Sighting # 4

Initial sighting on Track

Time: 9:56 WP#: 23 Lat: 36.120886 Long: -74.350012
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 45 Beaufort Sea State: 3
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 9:57 WP#: 24 Lat: 36.129123 Long: -74.349572
Species: *Physeter macrocephalus* Numbers (Low/High/Best): 1/1/1
Features used in Species ID: Large, wrinkles, forward blow, blunt head

Representative images used for Species ID: 133
Photographer: Ryan Frame numbers: 126 - 136 Spacer: 137
Calculated distance from Trackline: 0.9168 km

Final Time and Position of Sighting

Time: 9:58 WP#: 25 Lat: 36.126649 Long: -74.355892
Calculated Distance Traveled: 0.6308 km

Behavior and Additional Comments

Logging at the surface

Wednesday, August 21, 2013 Sighting # 5

Initial sighting on Track

Time: 10:01 WP#: 27 Lat: 36.124146 Long: -74.455991
Vertical Angle: 2 Horizontal Bearing in Degrees: 60 Sighting Cue: Body
On/Off Effort: On Trackline: 45 Beaufort Sea State: 3
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 10:02 WP#: 28 Lat: 36.122438 Long: -74.462890
Species: *Physeter macrocephalus* Numbers (Low/High/Best): 4/4/4
Features used in Species ID: Large, blunt head, forward blow, wrinkles

Representative images used for Species ID: 159
Photographer: Ryan Frame numbers: 138 - 159 Spacer: 160
Calculated distance from Trackline: 0.6481 km

Final Time and Position of Sighting

Time: 10:03 WP#: 29 Lat: 36.122330 Long: -74.463313
Calculated Distance Traveled: 0.03985 km

Behavior and Additional Comments

Logging at the surface, 3 close together

Wednesday, August 21, 2013 Sighting # 6

Initial sighting on Track

Time: 10:05 WP#: 31 Lat: 36.125110 Long: -74.526549
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 45 Beaufort Sea State: 3
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 10:06 WP#: 32 Lat: 36.119509 Long: -74.523369
Species: *Tursiops truncatus* Numbers (Low/High/Best): 20/35/26
Features used in Species ID: Robust, uniform grey

Representative images used for Species ID: 161, 166, 170
Photographer: Ryan Frame numbers: 161 - 171 Spacer: 172
Calculated distance from Trackline: 0.6852 km

Final Time and Position of Sighting

Time: 10:09 WP#: 33 Lat: 36.134091 Long: -74.525855
Calculated Distance Traveled: 1.637 km

Behavior and Additional Comments

Staying mainly subsurface, calves present. 2 groups

Wednesday, August 21, 2013 Sighting # 7

Initial sighting on Track

Time: 10:15 WP#: 37 Lat: 36.124353 Long: -74.763403
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 45 Beaufort Sea State: 3
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 10:17 WP#: 38 Lat: 36.115082 Long: -74.754407
Species: *Globicephala macrorhynchus* Numbers (Low/High/Best): 7/15/11
Features used in Species ID: slender black bodies, blunt melon, large dorsal fin

Representative images used for Species ID: 178, 182
Photographer: Ryan Frame numbers: 173 - 184 Spacer: 185
Calculated distance from Trackline: 1.310 km

Final Time and Position of Sighting

Time: 10:20 WP#: 39 Lat: 36.114832 Long: -74.759754
Calculated Distance Traveled: 0.4811 km

Behavior and Additional Comments

Logging at one of the longline buoys

Wednesday, August 21, 2013 Sighting # 8

Initial sighting on Track

Time: 10:52 WP#: 46 Lat: 35.410841 Long: -74.942895
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 35 Beaufort Sea State: 2
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 10:53 WP#: 47 Lat: 35.411016 Long: -74.949978
Species: *Tursiops truncatus* Numbers (Low/High/Best): 7/7/7
Features used in Species ID: Uniform grey

Representative images used for Species ID: 189
Photographer: Ryan Frame numbers: 186 - 198 Spacer: 199
Calculated distance from Trackline: 0.6422 km

Final Time and Position of Sighting

Time: 10:55 WP#: 48 Lat: 35.406477 Long: -74.950671
Calculated Distance Traveled: 0.5086 km

Behavior and Additional Comments

Staying subsurface, surfacing together

Wednesday, August 21, 2013 Sighting # 9

Initial sighting on Track

Time: 11:32 WP#: 57 Lat: 35.341726 Long: -75.078182
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 34 Beaufort Sea State: 2
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 11:33 WP#: 58 Lat: 35.335280 Long: -75.071666
Species: *Stenella frontalis* Numbers (Low/High/Best): 8/8/8
Features used in Species ID: Alternating light and dark pattern down body, spotting

Representative images used for Species ID: 202, 210, 212, 215
Photographer: Ryan Frame numbers: 200 - 216 Spacer: 217
Calculated distance from Trackline: 0.9290 km

Final Time and Position of Sighting

Time: 11:38 WP#: 59 Lat: 35.338413 Long: -75.076753
Calculated Distance Traveled: 0.5782 km

Behavior and Additional Comments

Avoidance, spaced out in 2's, darting and breaching

Wednesday, August 21, 2013 Sighting # 10

Initial sighting on Track

Time: 13:44 WP#: 65 Lat: 34.730337 Long: -75.880017
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 20 Beaufort Sea State: 2
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 13:45 WP#: 66 Lat: 34.736882 Long: -75.885247
Species: *Stenella frontalis* Numbers (Low/High/Best): 6/6/6
Features used in Species ID: Alternating light and dark pattern down body, spotting

Representative images used for Species ID: 234, 235
Photographer: Ryan Frame numbers: 218 - 246 Spacer: 247
Calculated distance from Trackline: 0.8707 km

Final Time and Position of Sighting

Time: 13:49 WP#: 67 Lat: Long:
Calculated Distance Traveled:

Behavior and Additional Comments

Spaced out, one in a pair, not moving very fast. GPS froze so no ending coordinates

Wednesday, August 21, 2013 Sighting # 11

Initial sighting on Track

Time: 14:29 WP#: 75 Lat: 34.781486 Long: -75.840143
Vertical Angle: 2 Horizontal Bearing in Degrees: 60 Sighting Cue: Splash
On/Off Effort: On Trackline: 21 Beaufort Sea State: 2
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 14:30 WP#: 76 Lat: 34.784271 Long: -75.833001
Species: *Stenella frontalis* Numbers (Low/High/Best): 6/6/6
Features used in Species ID: Alternating light and dark pattern down body, spotting

Representative images used for Species ID: 262, 266, 267
Photographer: Ryan Frame numbers: 248 - 269 Spacer: 270
Calculated distance from Trackline: 0.7220 km

Final Time and Position of Sighting

Time: 14:35 WP#: 77 Lat: 34.789827 Long: -75.835316
Calculated Distance Traveled: 0.6530 km

Behavior and Additional Comments

Tight group swimming in different directions

Wednesday, August 21, 2013 Sighting # 12

Initial sighting on Track

Time: 14:48 WP#: 82 Lat: 34.690250 Long: -75.575789
Vertical Angle: 3 Horizontal Bearing in Degrees: 60 Sighting Cue: Splash
On/Off Effort: On Trackline: 22 Beaufort Sea State: 2
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 14:50 WP#: 83 Lat: 34.701233 Long: -75.544753
Species: *Tursiops truncatus* Numbers (Low/High/Best): 50/75/60
Features used in Species ID: Uniform grey

Representative images used for Species ID: 272, 288, 289, 297
Photographer: Ryan Frame numbers: 271 - 297 Spacer: 298
Calculated distance from Trackline: 3.089

Final Time and Position of Sighting

Time: 15:00 WP#: 84 Lat: 34.708854 Long: -75.546101
Calculated Distance Traveled: 0.8563 km

Behavior and Additional Comments

Multiple groups traveling then circling, breaching, some milling

Thursday, August 22, 2013 Sighting # 1

Initial sighting on Track

Time: 9:31 WP#: 105 Lat: 35.250532 Long: -74.903434
Vertical Angle: 1 Horizontal Bearing in Degrees: 60 Sighting Cue: Body
On/Off Effort: On Trackline: 33 Beaufort Sea State: 3
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 9:33 WP#: 106 Lat: 35.24216 Long: -74.895108
Species: *Tursiops truncatus* Numbers (Low/High/Best): 10 / 13 / 12
Features used in Species ID: Robust body appearance, uniform grey coloration except slight lighter blaze along side. Robust dorsal fin
Representative images used for Species ID: 4, 8, 16
Photographer: Erin Frame numbers: 1 - 21 Spacer: 22
Calculated distance from Trackline: 1.20 km

Final Time and Position of Sighting

Time: 9:45 WP#: 107 Lat: 35.238987 Long: -74.907061
Calculated Distance Traveled: 1.14 km

Behavior and Additional Comments

Initial sighting of approximately 5 animals tightly packed. After we began to circle animals moved into a line with more animals joining the group. Collectively the animals remained close to the surface and showed slow directional travel.

Thursday, August 22, 2013 Sighting # 2

Initial sighting on Track

Time: 10:10 WP#: 112 Lat: 35.012159 Long: -74.594142
Vertical Angle: 1 Horizontal Bearing in Degrees: 60 Sighting Cue: Body
On/Off Effort: On Trackline: 32 Beaufort Sea State: 3
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 10:11 WP#: 113 Lat: 35.011683 Long: -74.595534
Species: *Tursiops truncatus* Numbers (Low/High/Best): 15 / 18 / 17
Features used in Species ID: Robust body appearance, uniform grey coloration except slight lighter blaze along side. Robust dorsal fin
Representative images used for Species ID: 25, 30
Photographer: Erin Frame numbers: 23 - 36 Spacer: 37
Calculated distance from Trackline: 0.14 km

Final Time and Position of Sighting

Time: 10:16 WP#: 114 Lat: 35.016362 Long: -74.598305
Calculated Distance Traveled: 0.58 km

Behavior and Additional Comments

Group composed of a few sub-groups of 2-4 animals, some calves present as well. All showed slow directional travel.

Thursday, August 22, 2013 Sighting # 3

Initial sighting on Track

Time: 10:30 WP#: 118 Lat: 35.201128 Long: -74.996234
Vertical Angle: 2 Horizontal Bearing in Degrees: 45 Sighting Cue: Splash
On/Off Effort: On Trackline: 32 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 10:35 WP#: 119 Lat: 35.209608 Long: -74.996505
Species: *Tursiops truncatus* Numbers (Low/High/Best): 10 / 12 / 11
Features used in Species ID: Robust body appearance, uniform grey coloration, robust dorsal fin.

Representative images used for Species ID: 41, 53
Photographer: Erin Frame numbers: 38 - 58 Spacer: 59
Calculated distance from Trackline: 0.94 km

Final Time and Position of Sighting

Time: 10:35 WP#: 120 Lat: 35.214878 Long: -75.003651
Calculated Distance Traveled: 0.87 km

Behavior and Additional Comments

Disperse group of animals with some smaller (sub adult) animals present. The group became less disperse forming into a single group after plane began to circle them.

Thursday, August 22, 2013 Sighting # 4

Initial sighting on Track

Time: 10:53 WP#: 123 Lat: 35.099083 Long: -74.947934
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 31 Beaufort Sea State: 2
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 11:01 WP#: 124 Lat: 35.107765 Long: -74.948416
Species: *Grampus griseus* Numbers (Low/High/Best): 4 / 8 / 6
Features used in Species ID: Animals with lighter scarring on grey bodies, head coming to a point with cleft in melon, no rostrum, tall falcate dorsal fin.

Representative images used for Species ID: 66, 74, 75
Photographer: Erin Frame numbers: 60 - 69 Spacer: 70
Calculated distance from Trackline: 0.97 km

Final Time and Position of Sighting

Time: 11:04 WP#: 125 Lat: 35.110743 Long: -74.951201
Calculated Distance Traveled: 0.42 km

Behavior and Additional Comments

Dense small group of animals traveling slowly just below the surface. A few pairs or single animals were observed nearby central group.

Thursday, August 22, 2013 Sighting # 5

Initial sighting on Track

Time: 13:54 WP#: 141 Lat: 36.125049 Long: -74.426722
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 45 Beaufort Sea State: 3
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 13:59 WP#: 142 Lat: 36.125361 Long: -74.412052
Species: *Globicephala macrorhynchus* Numbers (Low/High/Best): 35 / 45 / 40
Features used in Species ID: Dark bodied animals with square head, wide based dorsal fin placed 1/3 back animals body.
Representative images used for Species ID: 82, 83
Photographer: Erin Frame numbers: 71 - 83 Spacer: 84
Calculated distance from Trackline: 1.32 km

Final Time and Position of Sighting

Time: 14:08 WP#: 143 Lat: 36.130822 Long: -74.417581
Calculated Distance Traveled: 0.78 km

Behavior and Additional Comments

Two groups logging at the surface, coloration behind dorsal fin very white.

Thursday, August 22, 2013 Sighting # 6

Initial sighting on Track

Time: 14:15 WP#: 146 Lat: 36.058962 Long: -74.25864
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Breach
On/Off Effort: Off Trackline: 45 - 44 Beaufort Sea State: 3
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 14:21 WP#: 147 Lat: 36.050282 Long: -74.255742
Species: *Physeter macrocephalus* Numbers (Low/High/Best): 1 / 1 / 1
Features used in Species ID: Large grey body with wrinkles along posterior portion, large head blowhole asymmetrically placed on left side of head.
Representative images used for Species ID: 92
Photographer: Erin Frame numbers: 85 - 93 Spacer: 94
Calculated distance from Trackline: 1.0 km

Final Time and Position of Sighting

Time: 14:23 WP#: 148 Lat: 36.054911 Long: -74.282856
Calculated Distance Traveled: 2.5 km

Behavior and Additional Comments

Initial observation of a large disturbance cause by the animal breaching. Observed a single Sperm whale logging at the surface where it took repeated breaths throughout the encounter.

Thursday, August 22, 2013 Sighting # 7

Initial sighting on Track

Time: 14:15 WP#: 146 Lat: 36.058962 Long: -74.258640
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: Off Trackline: 44 - 45 Beaufort Sea State: 3
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 14:23 WP#: 149 Lat: 36.050945 Long: -74.282777
Species: *Physeter macrocephalus* Numbers (Low/High/Best): 4 / 4 / 4
Features used in Species ID: Large grey body with wrinkles along posterior portion of body, large asymmetrical head with blowhole placed on left side of head.
Representative images used for Species ID: 110, 111, 112, 119, 123
Photographer: Erin Frame numbers: 95 - 124 Spacer: 125
Calculated distance from Trackline: 2.3 km

Final Time and Position of Sighting

Time: 14:26 WP#: 150 Lat: 36.05754 Long: -74.275795
Calculated Distance Traveled: 0.96 km

Behavior and Additional Comments

Two moderately sized animals observe along side larger and small pair believed to be a mom calf pair all animals spent entire sighting logging at the surface. Young sperm whale remained in close proximity/ touching mother, during sighting young whale moved into suckling position underneath mother multiple times.

Thursday, August 22, 2013 Sighting # 8

Initial sighting on Track

Time: 14:37 WP#: 152 Lat: 36.047134 Long: -74.656491
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Blow
On/Off Effort: On Trackline: 44 Beaufort Sea State: 3
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 14:39 WP#: 153 Lat: 36.052323 Long: -74.659556
Species: *Tursiops truncatus* Numbers (Low/High/Best): 13 / 20 / 18
Features used in Species ID: Robust body appearance, uniform grey coloration, white peduncle present.
Representative images used for Species ID: 129, 137
Photographer: Erin Frame numbers: 126 - 139 Spacer: 140
Calculated distance from Trackline: 0.64 km

Final Time and Position of Sighting

Time: 14:50 WP#: 154 Lat: 36.055131 Long: -74.651261
Calculated Distance Traveled: 0.81 km

Behavior and Additional Comments

Loose grouping of animals all traveling slowly at the surface, white peduncles clearly present. Animals slowed to a stop where they remained at the surface taking multiple breaths throughout the remainder of the sighting.

Thursday, August 22, 2013 Sighting # 9

Initial sighting on Track

Time: 15:44 WP#: 167 Lat: 35.907502 Long: -74.658870
Vertical Angle: 2 Horizontal Bearing in Degrees: 60 Sighting Cue: Spalsh
On/Off Effort: On Trackline: 3 Beaufort Sea State: 42
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 15:46 WP#: 168 Lat: 35.915245 Long: -74.662982
Species: *Tursiops truncatus* Numbers (Low/High/Best): 25 / 45 / 35
Features used in Species ID: Robust body appearance, uniform grey coloration except lighter blaze along animals side.
Representative images used for Species ID: 145, 153, 157
Photographer: Erin Frame numbers: 141 - 161 Spacer: 162
Calculated distance from Trackline: 0.94 km

Final Time and Position of Sighting

Time: 15:50 WP#: 169 Lat: 35.913848 Long: -74.658081
Calculated Distance Traveled: 0.47 km

Behavior and Additional Comments

Multiple groups, surfacing but mostly traveling below the surface. Animals very active, chasing one another, breaching.

Monday, October 28, 2013 Sighting # 1

Initial sighting on Track

Time: 9:35 WP#: 4 Lat: 36.121094 Long: -74.688088
Vertical Angle: 1 Horizontal Bearing in Degrees: 100 Sighting Cue: Body
On/Off Effort: On Trackline: 45 Beaufort Sea State: 1
Observer: Zach Observer side: Right

Actual Time and Position of Sighting

Time: 9:35 WP#: 5 Lat: 36.114021 Long: -74.689719
Species: *Tursiops truncatus* Numbers (Low/High/Best): 15/20/17
Features used in Species ID: Uniform gray, robust, white peduncles

Representative images used for Species ID: No photos
Photographer: Zach Frame numbers: N/A Spacer: N/A
Calculated distance from Trackline: 0.800 km

Final Time and Position of Sighting

Time: 9:42 WP#: 7 Lat: 36.121443 Long: -74.688694
Calculated Distance Traveled: 0.8304 km

Behavior and Additional Comments

Three groups on surface, slow moving, some doing deeper dives
No photos

Monday, October 28, 2013 Sighting # 2

Initial sighting on Track

Time: 9:35 WP#: 4 Lat: 36.121094 Long: -74.688088
Vertical Angle: 2 Horizontal Bearing in Degrees: 60 Sighting Cue: Body
On/Off Effort: On Trackline: 45 Beaufort Sea State: 1
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 9:41 WP#: 6 Lat: 36.118893 Long: -74.692822
Species: *Globicephala macrorhynchus* Numbers (Low/High/Best): 8/10/8
Features used in Species ID: Robust, dark color, blunt melon

Representative images used for Species ID: 210, 217, 243
Photographer: Zach Frame numbers: 206 - 260 Spacer: 261
Calculated distance from Trackline: 0.4906 km

Final Time and Position of Sighting

Time: 9:42 WP#: 7 Lat: 36.121443 Long: -74.688694
Calculated Distance Traveled: 0.4668 km

Behavior and Additional Comments

Monday, October 28, 2013 Sighting # 3

Initial sighting on Track

Time: 9:47 WP#: 11 Lat: 36.122524 Long: -74.533742
Vertical Angle: 2 Horizontal Bearing in Degrees: 60 Sighting Cue: Body
On/Off Effort: On Trackline: 45 Beaufort Sea State: 1
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 9:48 WP#: 12 Lat: 36.131832 Long: -74.525365
Species: *Tursiops truncatus* Numbers (Low/High/Best): 15/25/20
Features used in Species ID: Uniform gray, robust, white peduncles

Representative images used for Species ID: 277, 279, 285, 293
Photographer: Zach Frame numbers: 262 - 294 Spacer: 295
Calculated distance from Trackline: 1.280 km

Final Time and Position of Sighting

Time: 10:51 WP#: 13 Lat: 36.127492 Long: -74.524121
Calculated Distance Traveled: 0.4953 km

Behavior and Additional Comments

Traveling just below the surface, jumping

Monday, October 28, 2013 Sighting # 4

Initial sighting on Track

Time: 11:02 WP#: 21 Lat: 36.049107 Long: -74.414953
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 44 Beaufort Sea State: 3
Observer: Zach Observer side: Right

Actual Time and Position of Sighting

Time: 11:02 WP#: 22 Lat: 36.050359 Long: -74.410421
Species: *Tursiops truncatus* Numbers (Low/High/Best): 30/50/40
Features used in Species ID: Uniform gray, robust, white peduncles

Representative images used for Species ID: 297, 299, 315
Photographer: Zach Frame numbers: 296 - 319 Spacer: 320
Calculated distance from Trackline: 0.4306 km

Final Time and Position of Sighting

Time: 11:08 WP#: 23 Lat: 36.045743 Long: -74.407162
Calculated Distance Traveled: 0.5910 km

Behavior and Additional Comments

Very spaced out, regular surfacing, fast moving group joined at end

Monday, October 28, 2013 Sighting # 5

Initial sighting on Track

Time: 11:23 WP#: 28 Lat: 36.049967 Long: -74.962257
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 44 Beaufort Sea State: 1
Observer: Zach Observer side: Right

Actual Time and Position of Sighting

Time: 11:24 WP#: 29 Lat: 36.059610 Long: -74.960555
Species: *Tursiops truncatus* Numbers (Low/High/Best): 6/6/6
Features used in Species ID: Uniform gray, robust, white peduncles

Representative images used for Species ID: 323, 326
Photographer: Zach Frame numbers: 321 - 333 Spacer: 334
Calculated distance from Trackline: 1.083 km

Final Time and Position of Sighting

Time: 11:25 WP#: 30 Lat: 36.060568 Long: -74.966801
Calculated Distance Traveled: 0.5715 km

Behavior and Additional Comments

Swimming in twos, jumping, regular surfacing

Monday, October 28, 2013 Sighting # 6

Initial sighting on Track

Time: 11:50 WP#: 36 Lat: 35.976053 Long: -74.600772
Vertical Angle: 4 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 43 Beaufort Sea State: 1
Observer: Zach Observer side: Right

Actual Time and Position of Sighting

Time: 11:51 WP#: 37 Lat: 35.969512 Long: -74.602950
Species: *Globicephala macrorhynchus* Numbers (Low/High/Best): 1/1/1
Features used in Species ID: Dark in color, robust, blunt melon

Representative images used for Species ID: 336, 345
Photographer: Zach Frame numbers: 355 - 354 Spacer: 355
Calculated distance from Trackline: 0.7533 km

Final Time and Position of Sighting

Time: 11:55 WP#: 38 Lat: 35.965155 Long: -74.597208
Calculated Distance Traveled: 0.7083 km

Behavior and Additional Comments

Not staying on the surface for long, doing deeper dives

Monday, October 28, 2013 Sighting # 7

Initial sighting on Track

Time: 11:57 WP#: 40 Lat: 35.977980 Long: -74.543555
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 43 Beaufort Sea State: 1
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 11:58 WP#: 41 Lat: 35.982661 Long: -74.545324
Species: *Tursiops truncatus* Numbers (Low/High/Best): 15/25/20
Features used in Species ID: Uniform gray, robust, white peduncle

Representative images used for Species ID: 358, 362, 369, 376
Photographer: Zach Frame numbers: 356 - 382 Spacer: 383
Calculated distance from Trackline: 0.5443 km

Final Time and Position of Sighting

Time: 12:01 WP#: 42 Lat: 35.985625 Long: -74.543024
Calculated Distance Traveled: 0.3892 km

Behavior and Additional Comments

Belly swimming, lots of surface activity, playing

Monday, October 28, 2013 Sighting # 8

Initial sighting on Track

Time: 12:04 WP#: 46 Lat: 35.978044 Long: -74.432618
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 43 Beaufort Sea State: 3
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 12:05 WP#: 47 Lat: 35.978777 Long: -74.446052
Species: *Tursiops truncatus* Numbers (Low/High/Best): 3/3/3
Features used in Species ID: Uniform gray, robust, white peduncles

Representative images used for Species ID: N/A
Photographer: Zach Frame numbers: No photos Spacer: N/A
Calculated distance from Trackline: 1.212 km

Final Time and Position of Sighting

Time: 12:09 WP#: 48 Lat: 35.978814 Long: -74.441494
Calculated Distance Traveled: 0.4102 km

Behavior and Additional Comments

No photos

Monday, October 28, 2013 Sighting # 9

Initial sighting on Track

Time: 12:18 WP#: 52 Lat: 35.908093 Long: -74.425007
Vertical Angle: 3 Horizontal Bearing in Degrees: 100 Sighting Cue: Splash
On/Off Effort: On Trackline: 42 Beaufort Sea State: 3
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 12:23 WP#: 53 Lat: 35.905673 Long: -74.423186
Species: *Stenella frontalis* Numbers (Low/High/Best): 200/250/225
Features used in Species ID: Alternating light and dark pattern down body, spotting, white tip to rostrum

Representative images used for Species ID: 387, 408, 410
Photographer: Zach Frame numbers: 384 - 413 Spacer: 414
Calculated distance from Trackline: 0.3151 km

Final Time and Position of Sighting

Time: 12:24 WP#: 54 Lat: 35.906161 Long: -74.428127
Calculated Distance Traveled: 0.4483 km

Behavior and Additional Comments

Large group, somewhat scattered, jumping, all moving one direction

Monday, October 28, 2013 Sighting # 10

Initial sighting on Track

Time: 12:32 WP#: 57 Lat: 35.907041 Long: -74.686297
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 42 Beaufort Sea State: 2
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 12:33 WP#: 58 Lat: 35.903083 Long: -74.685450
Species: *Globicephala macrorhynchus* Numbers (Low/High/Best): 6/6/6
Features used in Species ID: Black in color, blunt head, large dorsal fin

Representative images used for Species ID: 415, 416, 427, 428
Photographer: Zach Frame numbers: 415 - 431 Spacer: 432
Calculated distance from Trackline: 0.4467 km

Final Time and Position of Sighting

Time: 12:33 WP#: 59 Lat: 35.906860 Long: -74.699133
Calculated Distance Traveled: 1.302 km

Behavior and Additional Comments

Monday, October 28, 2013 Sighting # 11

Initial sighting on Track

Time: 12:36 WP#: 62 Lat: 35.909179 Long: -74.779837
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 42 Beaufort Sea State: 1
Observer: Zach Observer side: Right

Actual Time and Position of Sighting

Time: 12:36 WP#: 63 Lat: 35.915063 Long: -74.780864
Species: *Tursiops truncatus* Numbers (Low/High/Best): 6/6/6
Features used in Species ID: Uniform gray, robust, white peduncles

Representative images used for Species ID: 442
Photographer: Zach Frame numbers: 433 - 452 Spacer: 453
Calculated distance from Trackline: 0.6608 km

Final Time and Position of Sighting

Time: 12:39 WP#: 65 Lat: 35.907829 Long: -74.778094
Calculated Distance Traveled: 0.8422 km

Behavior and Additional Comments

Sitting just below the surface not moving much

Monday, October 28, 2013 Sighting # 12

Initial sighting on Track

Time: 12:36 WP#: 62 Lat: 35.909179 Long: -74.779837
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 42 Beaufort Sea State: 1
Observer: Zach Observer side: Right

Actual Time and Position of Sighting

Time: 12:39 WP#: 64 Lat: 35.914425 Long: -74.781194
Species: *Globicephala macrorhynchus* Numbers (Low/High/Best): 5/7/6
Features used in Species ID: Black bodied, blunt melon, large dorsal fin

Representative images used for Species ID: 434, 448
Photographer: Zach Frame numbers: 433 - 452 Spacer: 453
Calculated distance from Trackline: 0.5960 km

Final Time and Position of Sighting

Time: 12:39 WP#: 65 Lat: 35.907829 Long: -74.778094
Calculated Distance Traveled: 0.7848 km

Behavior and Additional Comments

Regular activity

Monday, October 28, 2013 Sighting # 13

Initial sighting on Track

Time: 15:14 WP#: 78 Lat: 35.058787 Long: -75.156764
Vertical Angle: 2 Horizontal Bearing in Degrees: 120 Sighting Cue: Body
On/Off Effort: On Trackline: 29 Beaufort Sea State: 2
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 15:20 WP#: 79 Lat: 35.064253 Long: -75.154661
Species: *Tursiops truncatus* Numbers (Low/High/Best): 8/12/11
Features used in Species ID: Uniform gray, robust, white peduncles

Representative images used for Species ID: 461
Photographer: Zach Frame numbers: 454 - 464 Spacer: 465
Calculated distance from Trackline: 0.6372 km

Final Time and Position of Sighting

Time: 15:23 WP#: 80 Lat: 35.060741 Long: -75.156011
Calculated Distance Traveled: 0.4094 km

Behavior and Additional Comments

Swimming just below the surface, fast travel, 2 groups, evasive

Monday, October 28, 2013 Sighting # 14

Initial sighting on Track

Time: 15:26 WP#: 82 Lat: 34.993722 Long: -75.068731
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 29 Beaufort Sea State: 2
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 15:29 WP#: 83 Lat: 35.005833 Long: -75.066890
Species: *Tursiops truncatus* Numbers (Low/High/Best): 15/22/20
Features used in Species ID: Uniform gray, robust, white peduncles

Representative images used for Species ID: 475, 481
Photographer: Zach Frame numbers: 466 - 481 Spacer: 482
Calculated distance from Trackline: 1.357 km

Final Time and Position of Sighting

Time: 15:33 WP#: 84 Lat: 34.996904 Long: -75.069608
Calculated Distance Traveled: 1.023 km

Behavior and Additional Comments

Traveling fast, jumping, swimming subsurface

Monday, October 28, 2013 Sighting # 13

Initial sighting on Track

Time: 16:07 WP#: 90 Lat: 35.166933 Long: -75.433329
Vertical Angle: 3 Horizontal Bearing in Degrees: 110 Sighting Cue: Splash
On/Off Effort: On Trackline: 2 Beaufort Sea State: 28
Observer: Zach Observer side: Right

Actual Time and Position of Sighting

Time: 16:08 WP#: 91 Lat: 35.170267 Long: -75.423025
Species: *Tursiops truncatus* Numbers (Low/High/Best): 4/4/4
Features used in Species ID: Uniform gray, robust, white peduncles

Representative images used for Species ID: 489
Photographer: Zach Frame numbers: 483 - 490 Spacer: 491
Calculated distance from Trackline: 1.007 km

Final Time and Position of Sighting

Time: 16:12 WP#: 92 Lat: 35.170612 Long: -75.424402
Calculated Distance Traveled: 0.1309 km

Behavior and Additional Comments

Friday, March 22, 2013 Sighting # 1

Initial sighting on Track

Time: 14:56 WP#: 35 Lat: 30.105041 Long: -80.380472
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 3 Beaufort Sea State: 2
Observer: Zach Observer side: Left

Actual Time and Position of Sighting

Time: 15:00 WP#: 36 Lat: 30.108723 Long: 80.398359
Species: *Stenella frontalis* Numbers (Low/High/Best): 12 / 15 / 14
Features used in Species ID: Variable spotting pattern between individuals, white tip to rostrum.

Representative images used for Species ID: 44, 48, 64, 78
Photographer: Ryan Frame numbers: 28 - 85 Spacer: 86
Calculated distance from Trackline: 1.77 km

Final Time and Position of Sighting

Time: 15:06 WP#: 37 Lat: 30.112497 Long: -80.398536
Calculated Distance Traveled: 0.42 km

Behavior and Additional Comments

One animal with a sizable fish in its mouth.

Friday, March 22, 2013 Sighting # 2

Initial sighting on Track

Time: 15:15 WP#: 40 Lat: 30.103929 Long: -80.105794
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 3 Beaufort Sea State: 2
Observer: Zach Observer side: Left

Actual Time and Position of Sighting

Time: 15:18 WP#: 41 Lat: 30.106511 Long: -80.117174
Species: *Tursiops truncatus* Numbers (Low/High/Best): 3 / 4 / 3
Features used in Species ID: Robust body appearance, white peduncle coloration

Representative images used for Species ID: 88, 91, 93
Photographer: Ryan Frame numbers: 87 - 96 Spacer: 97
Calculated distance from Trackline: 1.13 km

Final Time and Position of Sighting

Time: 15:20 WP#: 42 Lat: 30.107340 Long: -80.121255
Calculated Distance Traveled: 0.40 km

Behavior and Additional Comments

Two of the animals staying close to one another and of different size, possible mom / juvenile pair
White peduncles present

Friday, March 22, 2013 Sighting # 3

Initial sighting on Track

Time: 15:35 WP#: 46 Lat: 30.164918 Long: -79.853449
Vertical Angle: 3 Horizontal Bearing in Degrees: 60 Sighting Cue: Splash
On/Off Effort: On Trackline: 4 Beaufort Sea State: 2
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 15:37 WP#: 47 Lat: 30.165759 Long: -79.849605
Species: *Tursiops truncatus* Numbers (Low/High/Best): 3 / 3 / 3
Features used in Species ID: Robust body appearance, white peduncle coloration

Representative images used for Species ID: 110 - 113
Photographer: Ryan Frame numbers: 98 - 123 Spacer: 124
Calculated distance from Trackline: 0.38 km

Final Time and Position of Sighting

Time: 15:42 WP#: 48 Lat: 30.168036 Long: -79.841694
Calculated Distance Traveled: 0.80 km

Behavior and Additional Comments

White peduncles present.

Thursday, May 9, 2013 Sighting # 1

Initial sighting on Track

Time: 9:40 WP#: 7 Lat: 30.499045 Long: -80.382285
Vertical Angle: 2 Horizontal Bearing in Degrees: 60 Sighting Cue: Splash
On/Off Effort: On Trackline: 9 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 9:44 WP#: 8 Lat: 30.499629 Long: -80.383822
Species: *Tursiops truncatus* Numbers (Low/High/Best): 12 / 15 / 15
Features used in Species ID: Robust, uniform gray body

Representative images used for Species ID: 5, 6
Photographer: Erin Frame numbers: 1 - 16 Spacer: 17
Calculated distance from Trackline: 0.16 km

Final Time and Position of Sighting

Time: 9:50 WP#: 9 Lat: 30.498676 Long: -80.386642
Calculated Distance Traveled: 0.29 km

Behavior and Additional Comments

Group dove after initial sighting. During the first two times we tried to circle the animals the group would dive from the surface as we approached then reappear once we had passed.

Not a cooperative group

Thursday, May 9, 2013 Sighting # 2

Initial sighting on Track

Time: 10:12 WP#: 15 Lat: 30.434412 Long: -80.274911
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 8 Beaufort Sea State: 3
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 10:14 WP#: 16 Lat: 30.437419 Long: -80.272449
Species: *Tursiops truncatus* Numbers (Low/High/Best): 6 / 7 / 6
Features used in Species ID: Robust, uniform gray body

Representative images used for Species ID: 20, 25, 29
Photographer: Erin Frame numbers: 18 - 32 Spacer: 33
Calculated distance from Trackline: 0.40 km

Final Time and Position of Sighting

Time: 10:18 WP#: 17 Lat: 30.430933 Long: -80.270761
Calculated Distance Traveled: 0.73 km

Behavior and Additional Comments

Smaller group showing slow travel near the surface. Group slowed and began hanging below the surface in a tight group once we began circling on them. Quick surfacings.

Thursday, May 9, 2013 Sighting # 3

Initial sighting on Track

Time: 10:52 WP#: 25 Lat: 30.364665 Long: -80.396043
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 7 Beaufort Sea State: 2
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 10:56 WP#: 26 Lat: 30.364507 Long: -80.396673
Species: *Stenella frontalis* Numbers (Low/High/Best): 15 / 20 / 16
Features used in Species ID: Alternating light and dark pattern down body, spotted, white tip to nose
Representative images used for Species ID: 46
Photographer: Erin Frame numbers: 34 - 51 Spacer: 52
Calculated distance from Trackline: 0.06 km

Final Time and Position of Sighting

Time: 10:59 WP#: 27 Lat: 30.361042 Long: -80.399348
Calculated Distance Traveled: 0.46 km

Behavior and Additional Comments

Densely packed group showing slow travel at the surface.

Thursday, May 9, 2013 Sighting # 4

Initial sighting on Track

Time: 11:02 WP#: 29 Lat: 30.364403 Long: -80.532206
Vertical Angle: 3 Horizontal Bearing in Degrees: 100 Sighting Cue: Splash
On/Off Effort: On Trackline: 7 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 11:04 WP#: 30 Lat: 30.359587 Long: -80.524511
Species: *Tursiops truncatus* Numbers (Low/High/Best): 3 / 3 / 3
Features used in Species ID: Robust, uniform gray
Representative images used for Species ID: 59
Photographer: Erin Frame numbers: 53 - 60 Spacer: 61
Calculated distance from Trackline: 0.91 km

Final Time and Position of Sighting

Time: 11:09 WP#: 31 Lat: 30.359107 Long: -80.529278
Calculated Distance Traveled: 0.46 km

Behavior and Additional Comments

Spread out group, one pair and a single.

Thursday, May 9, 2013 Sighting # 5

Initial sighting on Track

Time: 11:13 WP#: 34 Lat: 30.363939 Long: -80.678222
Vertical Angle: 2 Horizontal Bearing in Degrees: 100 Sighting Cue: Splash
On/Off Effort: On Trackline: 7 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 11:15 WP#: 35 Lat: 30.36249 Long: -80.672674
Species: *Stenella frontalis* Numbers (Low/High/Best): 2 / 2 / 2
Features used in Species ID: Alternating light and dark pattern down body, spotting

Representative images used for Species ID: 63, 64
Photographer: Erin Frame numbers: 62 - 67 Spacer: 68
Calculated distance from Trackline: 0.56 km

Final Time and Position of Sighting

Time: 11:18 WP#: 36 Lat: 30.36579 Long: -80.670469
Calculated Distance Traveled: 0.42 km

Behavior and Additional Comments

Well spread out group surfacing quickly then diving back to ~10ft underwater.

Thursday, May 9, 2013 Sighting # 6

Initial sighting on Track

Time: 12:58 WP#: 45 Lat: 30.301318 Long: -80.292046
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 6 Beaufort Sea State: 2
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 13:03 WP#: 46 Lat: 30.308573 Long: -80.293577
Species: *Tursiops truncatus* Numbers (Low/High/Best): 2 / 2 / 2
Features used in Species ID: Robust, uniform gray

Representative images used for Species ID: 70
Photographer: Erin Frame numbers: 69 - 71 Spacer: 72
Calculated distance from Trackline: 0.82 km

Final Time and Position of Sighting

Time: 13:07 WP#: 47 Lat: 30.309511 Long: -80.287683
Calculated Distance Traveled: 0.58 km

Behavior and Additional Comments

Pair of animals at the surface close together, some breaching then diving from surface.

Thursday, May 9, 2013 Sighting # 7

Initial sighting on Track

Time: 13:37 WP#: 57 Lat: 30.231834 Long: -80.302707
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 5 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 13:39 WP#: 58 Lat: 30.236874 Long: -80.298098
Species: *Tursiops truncatus* Numbers (Low/High/Best): 1 / 1 / 1
Features used in Species ID: Robust, uniform gray

Representative images used for Species ID: 73
Photographer: Erin Frame numbers: 73 - 74 Spacer: 75
Calculated distance from Trackline: 0.71 km

Final Time and Position of Sighting

Time: 13:42 WP#: 59 Lat: 30.234432 Long: -80.296309
Calculated Distance Traveled: 0.32 km

Behavior and Additional Comments

Single animal surfacing regularly - no signs of avoidance.

Thursday, May 9, 2013 Sighting # 8

Initial sighting on Track

Time: 13:45 WP#: 61 Lat: 30.232534 Long: -80.373577
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 5 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 13:46 WP#: 62 Lat: 30.233078 Long: -80.372391
Species: *Stenella frontalis* Numbers (Low/High/Best): 7 / 10 / 9
Features used in Species ID: Alternating light and dark pattern down body, spotting, white tip to nose

Representative images used for Species ID: 88, 89
Photographer: Erin Frame numbers: 76 - 89 Spacer: 90
Calculated distance from Trackline: 0.13 km

Final Time and Position of Sighting

Time: 13:50 WP#: 63 Lat: 30.242315 Long: -80.372723
Calculated Distance Traveled: 1.02 km

Behavior and Additional Comments

Group near a light green sub-surface layer - Baitball

Group of 8 with a single outlier

Thursday, May 9, 2013 Sighting # 9

Initial sighting on Track

Time: 13:55 WP#: 65 Lat: 30.231472 Long: -80.506765
Vertical Angle: 1 Horizontal Bearing in Degrees: 45 Sighting Cue: Body
On/Off Effort: on Trackline: 5 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 13:56 WP#: 66 Lat: 30.233065 Long: -80.511431
Species: *Tursiops truncatus* Numbers (Low/High/Best): 6 / 7 / 6
Features used in Species ID: Robust, uniform gray

Representative images used for Species ID: 93
Photographer: Erin Frame numbers: 91 - 94 Spacer: 95
Calculated distance from Trackline: 0.48 km

Final Time and Position of Sighting

Time: 14:00 WP#: 67 Lat: 30.235039 Long: -80.511694
Calculated Distance Traveled: 0.22 km

Behavior and Additional Comments

Not a cooperative group

Thursday, May 9, 2013 Sighting # 10

Initial sighting on Track

Time: 14:09 WP#: 72 Lat: 30.167506 Long: -80.630582
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 4 Beaufort Sea State: 2
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 14:14 WP#: 73 Lat: 30.158026 Long: -80.628438
Species: *Tursiops truncatus* Numbers (Low/High/Best): 4 / 4 / 4
Features used in Species ID: Robust, uniform gray

Representative images used for Species ID: 97, 102
Photographer: Erin Frame numbers: 96 - 105 Spacer: 106
Calculated distance from Trackline: 1.07 km

Final Time and Position of Sighting

Time: 14:14 WP#: 74 Lat: 30.159565 Long: -80.63243
Calculated Distance Traveled: 0.42 km

Behavior and Additional Comments

Initially a single pair of animals milling at the surface, second pair seen while circling.

Thursday, May 9, 2013 Sighting # 11

Initial sighting on Track

Time: 14:23 WP#: 79 Lat: 30.167641 Long: -80.302271
Vertical Angle: 2 Horizontal Bearing in Degrees: 100 Sighting Cue: Body
On/Off Effort: On Trackline: 4 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 14:26 WP#: 80 Lat: 30.162511 Long: -80.300768
Species: *Tursiops truncatus* Numbers (Low/High/Best): 3 / 3 / 3
Features used in Species ID: Robust, uniform gray

Representative images used for Species ID: 111
Photographer: Erin Frame numbers: 107 - 112 Spacer: 113
Calculated distance from Trackline: 0.59 km

Final Time and Position of Sighting

Time: 14:27 WP#: 81 Lat: 30.162363 Long: -80.304545
Calculated Distance Traveled: 0.36 km

Behavior and Additional Comments

Pair of animals plus a single.

Thursday, May 9, 2013 Sighting # 12

Initial sighting on Track

Time: 14:40 WP#: 85 Lat: 30.166908 Long: -79.81882
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 4 Beaufort Sea State: 3
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 14:42 WP#: 86 Lat: 30.174165 Long: -79.819369
Species: *Grampus griseus* Numbers (Low/High/Best): 16 / 20 / 18
Features used in Species ID: Blunt heat, cleft in middle, white scarring

Representative images used for Species ID: 118, 128, 129, 131
Photographer: Erin Frame numbers: 114 - 134 Spacer: 135
Calculated distance from Trackline: 0.81 km

Final Time and Position of Sighting

Time: 14:44 WP#: 87 Lat: 30.173313 Long: -79.815185
Calculated Distance Traveled: 0.41 km

Behavior and Additional Comments

Animals hanging at the surface.

Thursday, May 9, 2013 Sighting # 13

Initial sighting on Track

Time: 15:05 WP#: 100 Lat: 30.099313 Long: -80.31319
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 3 Beaufort Sea State: 2
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 15:11 WP#: 101 Lat: 30.103609 Long: -80.30791
Species: *Tursiops truncatus* Numbers (Low/High/Best): 7 / 9 / 8
Features used in Species ID: Robust, uniform gray

Representative images used for Species ID: 146
Photographer: Erin Frame numbers: 136 - 150 Spacer: 151
Calculated distance from Trackline: 0.70 km

Final Time and Position of Sighting

Time: NA WP#: NA Lat: NA Long: NA
Calculated Distance Traveled: NA

Behavior and Additional Comments

Groups of 3-4 hanging below the surface

Thursday, May 9, 2013 Sighting # 14

Initial sighting on Track

Time: 15:31 WP#: 109 Lat: 30.033391 Long: -80.46231
Vertical Angle: 2 Horizontal Bearing in Degrees: 45 Sighting Cue: Splash
On/Off Effort: On Trackline: 2 Beaufort Sea State: 1
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 15:33 WP#: 110 Lat: 30.03829 Long: -80.464253
Species: *Stenella frontalis* Numbers (Low/High/Best): 13 / 15 / 14
Features used in Species ID: Alternating light and dark pattern down body, spotting, white tip to nose

Representative images used for Species ID: 115, 171, 176
Photographer: Erin Frame numbers: 152 - 180 Spacer: 181
Calculated distance from Trackline: 0.58 km

Final Time and Position of Sighting

Time: 15:36 WP#: 111 Lat: 30.047186 Long: -80.464008
Calculated Distance Traveled: 1.0 km

Behavior and Additional Comments

Group traveling at a good pace, splashing while surfacing.
Group spread out but all showing a similar direction in their travel.

Thursday, May 9, 2013 Sighting # 15

Initial sighting on Track

Time: 15:38 WP#: 113 Lat: 30.033857 Long: -80.400841
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 2 Beaufort Sea State: 1
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 15:44 WP#: 114 Lat: 30.03593 Long: -80.414157
Species: *Tursiops truncatus* Numbers (Low/High/Best): 4 / 8 / 7
Features used in Species ID: Robust, uniform gray

Representative images used for Species ID: 192, 193
Photographer: Erin Frame numbers: 182 - 196 Spacer: 197
Calculated distance from Trackline: 1.3 km

Final Time and Position of Sighting

Time: 15:45 WP#: 115 Lat: 30.040481 Long: -80.408145
Calculated Distance Traveled: 0.77 km

Behavior and Additional Comments

Thursday, May 9, 2013 Sighting # 16

Initial sighting on Track

Time: 15:47 WP#: 117 Lat: 30.033244 Long: -80.335262
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 2 Beaufort Sea State: 1
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 15:50 WP#: 118 Lat: 30.03817 Long: -80.33479
Species: *Stenella frontalis* Numbers (Low/High/Best): 3 / 3 / 3
Features used in Species ID: Alternating light and dark patterns down the body, spotting, white tip on nose

Representative images used for Species ID: 199, 201
Photographer: Erin Frame numbers: 198 - 203 Spacer: 204
Calculated distance from Trackline: 0.55 km

Final Time and Position of Sighting

Time: 15:51 WP#: 119 Lat: 30.030348 Long: -80.309958
Calculated Distance Traveled: 2.5 km

Behavior and Additional Comments

Thursday, May 9, 2013 Sighting # 17

Initial sighting on Track

Time: 16:01 WP#: 122 Lat: 30.033082 Long: -79.943361
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 2 Beaufort Sea State: 1
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 16:03 WP#: 123 Lat: 30.028715 Long: -79.944436
Species: *Tursiops truncatus* Numbers (Low/High/Best): 3 / 3 / 3
Features used in Species ID: Uniform gray, robust

Representative images used for Species ID: 208
Photographer: Erin Frame numbers: 205 - 210 Spacer: 211
Calculated distance from Trackline: 0.50 km

Final Time and Position of Sighting

Time: NA WP#: NA Lat: NA Long: NA
Calculated Distance Traveled: NA

Behavior and Additional Comments

Well spaced single animals

Thursday, May 9, 2013 Sighting # 18

Initial sighting on Track

Time: 16:34 WP#: 133 Lat: 29.964418 Long: -80.438055
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 1 Beaufort Sea State: 1
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 16:36 WP#: 134 Lat: 29.962992 Long: -80.43161
Species: *Stenella frontalis* Numbers (Low/High/Best): 5 / 6 / 6
Features used in Species ID: Alternating light and dark pattern down body, spotting, white tip to nose

Representative images used for Species ID: 213, 217
Photographer: Erin Frame numbers: 212 - 217 Spacer: 218
Calculated distance from Trackline: 0.64 km

Final Time and Position of Sighting

Time: 16:37 WP#: 135 Lat: 29.958778 Long: -80.431098
Calculated Distance Traveled: 0.47 km

Behavior and Additional Comments

Friday, May 10, 2013 Sighting # 1

Initial sighting on Track

Time: 9:04 WP#: 4 Lat: 30.233290 Long: -80.408154
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 5 Beaufort Sea State: 1
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 9:05 WP#: 5 Lat: 30.235295 Long: -80.409763
Species: *Tursiops truncatus* Numbers (Low/High/Best): 3 / 4 / 4
Features used in Species ID: Uniform grey body, robust appearance

Representative images used for Species ID: 18, 21, 37, 38
Photographer: Ryan Frame numbers: 1 - 43 Spacer: 44
Calculated distance from Trackline: 0.27 km

Final Time and Position of Sighting

Time: 9:08 WP#: 6 Lat: 30.227764 Long: -80.407860
Calculated Distance Traveled: 0.86 km

Behavior and Additional Comments

Playing at the surface, splashing around, feeding and showing bellies. Calf was observed.

Friday, May 10, 2013 Sighting # 2

Initial sighting on Track

Time: 9:29 WP#: 14 Lat: 30.299580 Long: -79.865394
Vertical Angle: 1 Horizontal Bearing in Degrees: 45 Sighting Cue: Body
On/Off Effort: On Trackline: 6 Beaufort Sea State: 1
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 9:30 WP#: 15 Lat: 30.302153 Long: -79.857351
Species: *Tursiops truncatus* Numbers (Low/High/Best): 10 / 15 / 13
Features used in Species ID: Uniform grey, robust body appearance, white coloration on top of peduncle.

Representative images used for Species ID: 55-58, 60, 66, 67, 72, 76
Photographer: Ryan Frame numbers: 45-86 Spacer: 87
Calculated distance from Trackline: 0.82 km

Final Time and Position of Sighting

Time: 9:33 WP#: 16 Lat: 30.302279 Long: -79.866376
Calculated Distance Traveled: 0.87 km

Behavior and Additional Comments

Multiple groups, white peduncles present, two calves observed.

Friday, May 10, 2013 Sighting # 3

Initial sighting on Track

Time: 9:45 WP#: 20 Lat: 30.299813 Long: -80.317442
Vertical Angle: 3 Horizontal Bearing in Degrees: 100 Sighting Cue: Splash
On/Off Effort: On Trackline: 6 Beaufort Sea State: 1
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 9:46 WP#: 21 Lat: 30.304065 Long: -80.310493
Species: *Tursiops truncatus* Numbers (Low/High/Best): 2 / 2 / 2
Features used in Species ID: Uniform grey coloration, robust body appearance.

Representative images used for Species ID: 88
Photographer: Ryan Frame numbers: 88 - 90 Spacer: 91
Calculated distance from Trackline: 0.82 km

Final Time and Position of Sighting

Time: 9:47 WP#: 22 Lat: 30.300403 Long: -80.311129
Calculated Distance Traveled: 0.41 km

Behavior and Additional Comments

Animals traveling fast, well spaced out from one another, strong surfacings causing noticeable splash.

Friday, May 10, 2013 Sighting # 4

Initial sighting on Track

Time: 9:55 WP#: 25 Lat: 30.299341 Long: -80.640795
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 6 Beaufort Sea State: 1
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 9:56 WP#: 26 Lat: 30.301435 Long: -80.603184
Species: *Stenella frontalis* Numbers (Low/High/Best): 3 / 3 / 3
Features used in Species ID: Alternating light and dark pattern along body, spots visible along body, white tip to the rostrum

Representative images used for Species ID: 97
Photographer: Ryan Frame numbers: 92 - 105 Spacer: 106
Calculated distance from Trackline: 0.76 km

Final Time and Position of Sighting

Time: 9:58 WP#: 27 Lat: 30.310475 Long: -80.603412
Calculated Distance Traveled: 1.00 km

Behavior and Additional Comments

Well spaced out traveling just below the surface.

Friday, May 10, 2013 Sighting # 5

Initial sighting on Track

Time: 10:10 WP#: 33 Lat: 30.366284 Long: -80.457310
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 7 Beaufort Sea State: 1
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 10:12 WP#: 34 Lat: 30.361910 Long: -80.462921
Species: *Tursiops truncatus* Numbers (Low/High/Best): 5 / 5 / 5
Features used in Species ID: Uniform grey coloration, robust body appearance.

Representative images used for Species ID: 118
Photographer: Ryan Frame numbers: 107 - 130 Spacer: 131
Calculated distance from Trackline: 0.73 km

Final Time and Position of Sighting

Time: 10:14 WP#: 35 Lat: 30.368774 Long: -80.463311
Calculated Distance Traveled: 0.76 km

Behavior and Additional Comments

Traveling together, just below the surface with quick surfacings.

Friday, May 10, 2013 Sighting # 6

Initial sighting on Track

Time: 10:17 WP#: 37 Lat: 30.366269 Long: -80.360836
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 7 Beaufort Sea State: 1
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 10:17 WP#: 38 Lat: 30.372800 Long: -80.365265
Species: *Stenella frontalis* Numbers (Low/High/Best): 8 / 8 / 8
Features used in Species ID: Alternating light and dark patterns down the animals body, spots clearly present, white tip to rostrum

Representative images used for Species ID: 145
Photographer: Ryan Frame numbers: 132 - 155 Spacer: 156
Calculated distance from Trackline: 0.84 km

Final Time and Position of Sighting

Time: 10:20 WP#: 39 Lat: 30.372348 Long: -80.367310
Calculated Distance Traveled: 0.20 km

Behavior and Additional Comments

Staying close together just below the surface, some belly to belly swimming observed.

Friday, May 10, 2013 Sighting # 7

Initial sighting on Track

Time: 10:28 WP#: 43 Lat: 30.366705 Long: -80.081756
Vertical Angle: 3 Horizontal Bearing in Degrees: 100 Sighting Cue: Body
On/Off Effort: On Trackline: 7 Beaufort Sea State: 1
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 10:30 WP#: 44 Lat: 30.373555 Long: -80.090506
Species: *Grampus griseus* Numbers (Low/High/Best): 6 / 6 / 6
Features used in Species ID: Blunt head, cleft in middle, bodies covered with white scars.

Representative images used for Species ID: 157, 159, 162, 164, 183
Photographer: Ryan Frame numbers: 157 - 194 Spacer: 195
Calculated distance from Trackline: 1.13 km

Final Time and Position of Sighting

Time: 10:32 WP#: 45 Lat: 30.378844 Long: -80.087177
Calculated Distance Traveled: 0.67 km

Behavior and Additional Comments

Traveling just under the surface with long surfacings.

Friday, May 10, 2013 Sighting # 8

Initial sighting on Track

Time: 10:53 WP#: 50 Lat: 30.432661 Long: -80.237966
Vertical Angle: 2 Horizontal Bearing in Degrees: 60 Sighting Cue: Body
On/Off Effort: On Trackline: 8 Beaufort Sea State: 1
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 10:56 WP#: 51 Lat: 30.436293 Long: -80.235362
Species: *Stenella frontalis* Numbers (Low/High/Best): 55 / 60 / 58
Features used in Species ID: Alternating light and dark coloration along animals body, spotting clearly present, white tip to rostrum

Representative images used for Species ID: 213, 227, 230, 235
Photographer: Ryan Frame numbers: 196 - 239 Spacer: 240
Calculated distance from Trackline: 0.47 km

Final Time and Position of Sighting

Time: 10:57 WP#: 52 Lat: 30.439882 Long: -80.244272
Calculated Distance Traveled: 0.94 km

Behavior and Additional Comments

Two groups, traveling just below the surface, each group tightly packed.

Friday, May 10, 2013 Sighting # 9

Initial sighting on Track

Time: 11:03 WP#: 55 Lat: 30.432377 Long: -80.434498
Vertical Angle: 1 Horizontal Bearing in Degrees: 60 Sighting Cue: Body
On/Off Effort: On Trackline: 8 Beaufort Sea State: 1
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 11:04 WP#: 56 Lat: 30.432531 Long: -80.438154
Species: *Stenella frontalis* Numbers (Low/High/Best): 6 / 6 / 6
Features used in Species ID: Alternating light and dark coloration along animals body, spotting clearly present, white tip to rostrum
Representative images used for Species ID: 243
Photographer: Ryan Frame numbers: 241 - 255 Spacer: 256
Calculated distance from Trackline: 0.35 km

Final Time and Position of Sighting

Time: 11:09 WP#: 57 Lat: 30.421997 Long: -80.437900
Calculated Distance Traveled: 1.17 km

Behavior and Additional Comments

One group of 4 and a pair traveling just below the surface, calves observed, all animal making short surfacings.

Friday, May 10, 2013 Sighting # 10

Initial sighting on Track

Time: 11:14 WP#: 61 Lat: 30.431691 Long: -80.656108
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 8 Beaufort Sea State: 1
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 11:15 WP#: 62 Lat: 30.424997 Long: -80.646442
Species: *Tursiops truncatus* Numbers (Low/High/Best): 18 / 22 / 20
Features used in Species ID: Uniform grey coloration, robust body appearance.
Representative images used for Species ID: 258, 263
Photographer: Ryan Frame numbers: 257 - 283 Spacer: 284
Calculated distance from Trackline: 1.19 km

Final Time and Position of Sighting

Time: 11:18 WP#: 63 Lat: 30.426508 Long: -80.651211
Calculated Distance Traveled: 0.49 km

Behavior and Additional Comments

Three groups, deep dives and short surfacings.

Friday, May 10, 2013 Sighting # 11

Initial sighting on Track

Time: 11:38 WP#: 71 Lat: 30.500624 Long: -80.290504
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 9 Beaufort Sea State: 2
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 11:34 WP#: 72 Lat: 30.509741 Long: -80.287540
Species: *Stenella frontalis* Numbers (Low/High/Best): 20 / 28 / 27
Features used in Species ID: Alternating light and dark coloration along animals body, spotting clearly present, white tip to rostrum.
Representative images used for Species ID: 315, 332, 337, 390
Photographer: Ryan Frame numbers: 285 - 338 Spacer: 339
Calculated distance from Trackline: 1.05 km

Final Time and Position of Sighting

Time: 11:42 WP#: 73 Lat: 30.502253 Long: -80.290460
Calculated Distance Traveled: 0.88 km

Behavior and Additional Comments

Splashing, swimming in circles, surfacing hard and traveling fast.

Friday, May 10, 2013 Sighting # 12

Initial sighting on Track

Time: 11:44 WP#: 75 Lat: 30.500670 Long: -80.202322
Vertical Angle: 2 Horizontal Bearing in Degrees: 60 Sighting Cue: Body
On/Off Effort: On Trackline: 9 Beaufort Sea State: 2
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 11:47 WP#: 76 Lat: 30.506527 Long: -80.198527
Species: *Tursiops truncatus* Numbers (Low/High/Best): 8 / 8 / 8
Features used in Species ID: Uniform grey coloration, robust body appearance
Representative images used for Species ID: 342, 358
Photographer: Ryan Frame numbers: 340 - 358 Spacer: 359
Calculated distance from Trackline: 0.75 km

Final Time and Position of Sighting

Time: 11:51 WP#: 77 Lat: 30.505488 Long: -80.203774
Calculated Distance Traveled: 0.52 km

Behavior and Additional Comments

Animals staying close together diving deep from the surface.

Friday, May 10, 2013 Sighting # 13

Initial sighting on Track

Time: 11:55 WP#: 80 Lat: 30.500456 Long: -80.099191
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Breach
On/Off Effort: On Trackline: 9 Beaufort Sea State: 2
Observer: Right Observer side: Ryan

Actual Time and Position of Sighting

Time: 11:55 WP#: 81 Lat: 30.491044 Long: -80.103064
Species: *Stenella frontalis* Numbers (Low/High/Best): 30 / 35 / 30
Features used in Species ID: Alternating light and dark body coloration, spotting clearly present white tip to rostrum
Representative images used for Species ID: 366, 385, 388
Photographer: Ryan Frame numbers: 360 - 406 Spacer: 407
Calculated distance from Trackline: 1.11 km

Final Time and Position of Sighting

Time: 11:59 WP#: 82 Lat: 30.495220 Long: -80.106386
Calculated Distance Traveled: 0.56 km

Behavior and Additional Comments

Group well spaced out, swimming in circles, some animals breaching.

Friday, May 10, 2013 Sighting # 14

Initial sighting on Track

Time: 12:15 WP#: 87 Lat: 30.565741 Long: -80.025477
Vertical Angle: 3 Horizontal Bearing in Degrees: 110 Sighting Cue: Body
On/Off Effort: On Trackline: 10 Beaufort Sea State: 1
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 12:16 WP#: 88 Lat: 30.568157 Long: -80.020547
Species: *Grampus griseus* Numbers (Low/High/Best): 18 / 25 / 19
Features used in Species ID: Blunt head, cleft down the middle, white scarring down the animals body.
Representative images used for Species ID: 423, 442, 462, 478
Photographer: Ryan Frame numbers: 408 - 494 Spacer: 495
Calculated distance from Trackline: 0.54 km

Final Time and Position of Sighting

Time: 12:21 WP#: 89 Lat: 30.579598 Long: -80.029556
Calculated Distance Traveled: 1.54 km

Behavior and Additional Comments

Staying just below the surface, spread out, not moving fast, some animals swimming on their sides.

Friday, May 10, 2013 Sighting # 15

Initial sighting on Track

Time: 12:24 WP#: 91 Lat: 30.565816 Long: -80.147737
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 10 Beaufort Sea State: 1
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 12:24 WP#: 92 Lat: 30.563264 Long: -80.139916
Species: *Tursiops truncatus* Numbers (Low/High/Best): 3 / 3 / 3
Features used in Species ID: Uniform grey coloration, robust body appearance.

Representative images used for Species ID: 500
Photographer: Ryan Frame numbers: 496 - 503 Spacer: 504
Calculated distance from Trackline: 0.80 km

Final Time and Position of Sighting

Time: 12:30 WP#: 93 Lat: 30.570348 Long: -80.172760
Calculated Distance Traveled: 3.24 km

Behavior and Additional Comments

Friday, May 10, 2013 Sighting # 16

Initial sighting on Track

Time: 12:33 WP#: 96 Lat: 30.565775 Long: -80.279575
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 10 Beaufort Sea State: 2
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 12:34 WP#: 97 Lat: 30.562998 Long: -80.267676
Species: *Unidentified Delphinid* Numbers (Low/High/Best): 2 / 2 / 2
Features used in Species ID: NA

Representative images used for Species ID: No photos
Photographer: Ryan Frame numbers: NA Spacer: NA
Calculated distance from Trackline: 1.18 km

Final Time and Position of Sighting

Time: 12:42 WP#: 98 Lat: 30.565030 Long: -80.268708
Calculated Distance Traveled: 0.25 km

Behavior and Additional Comments

Animals staying close together just below the surface, showing some avoidance behavior.

Friday, May 10, 2013 Sighting # 17

Initial sighting on Track

Time: 12:51 WP#: 100 Lat: 30.565161 Long: -80.622429
Vertical Angle: 2 Horizontal Bearing in Degrees: 60 Sighting Cue: Body
On/Off Effort: On Trackline: 10 Beaufort Sea State: 2
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 12:53 WP#: 101 Lat: 30.567770 Long: -80.621680
Species: *Tursiops truncatus* Numbers (Low/High/Best): 6 / 6 / 6
Features used in Species ID: Uniform grey coloration, robust body appearance.

Representative images used for Species ID: 512, 514
Photographer: Ryan Frame numbers: 506 - 528 Spacer: 529
Calculated distance from Trackline: 0.72 km

Final Time and Position of Sighting

Time: 12:54 WP#: 102 Lat: 30.572842 Long: -80.626348
Calculated Distance Traveled: 0.72 km

Behavior and Additional Comments

Animals moving in different directions.

Friday, May 10, 2013 Sighting # 18

Initial sighting on Track

Time: 14:39 WP#: 113 Lat: 29.966332 Long: -80.471847
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 1 Beaufort Sea State: 1
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 14:40 WP#: 114 Lat: 29.968842 Long: -80.477942
Species: *Stenella frontalis* Numbers (Low/High/Best): 15 / 20 / 17
Features used in Species ID: Alternating light and dark body coloration, spotting clearly present, white tip to rostrum.

Representative images used for Species ID: 538, 540, 542
Photographer: Ryan Frame numbers: 530 - 547 Spacer: 548
Calculated distance from Trackline: 0.65 km

Final Time and Position of Sighting

Time: 14:42 WP#: 115 Lat: 29.968081 Long: -80.455569
Calculated Distance Traveled: 2.16 km

Behavior and Additional Comments

Traveling just below the surface, darting and some belly to belly swimming.

Friday, May 10, 2013 Sighting # 19

Initial sighting on Track

Time: 15:00 WP#: 123 Lat: 29.999860 Long: -79.784083
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: 3
On/Off Effort: Off Trackline: 1 - 2 Beaufort Sea State: 0
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 15:01 WP#: 124 Lat: 30.000017 Long: -79.783467
Species: *Globicephala macrorhynchus* Numbers (Low/High/Best): 10 / 10 / 10
Features used in Species ID: Large, black bodied animals with blunt heads and grey "suspenders" markings behind dorsal fin.
Representative images used for Species ID: 559, 568, 572, 576, 582, 587, 592
Photographer: Ryan Frame numbers: 549 - 599 Spacer: 600
Calculated distance from Trackline: 0.06 km

Final Time and Position of Sighting

Time: 15:40 WP#: 125 Lat: 30.009806 Long: -79.780448
Calculated Distance Traveled: 1.13 km

Behavior and Additional Comments

Logging at the surface, hardly moving, 3 calves present.

Friday, May 10, 2013 Sighting # 20

Initial sighting on Track

Time: 15:23 WP#: 133 Lat: 30.031307 Long: -80.427476
Vertical Angle: 2 Horizontal Bearing in Degrees: 100 Sighting Cue: Body
On/Off Effort: On Trackline: 10 Beaufort Sea State: 1
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 15:25 WP#: 134 Lat: 30.042331 Long: -80.426692
Species: *Stenella frontalis* Numbers (Low/High/Best): 13 / 20 / 18
Features used in Species ID: Alternating light and dark body coloration, spotting clearly present white tip to rostrum.
Representative images used for Species ID: 613, 629
Photographer: Ryan Frame numbers: 601 - 629 Spacer: 630
Calculated distance from Trackline: 1.2 km

Final Time and Position of Sighting

Time: 15:28 WP#: 135 Lat: 30.047128 Long: -80.432912
Calculated Distance Traveled: 0.80 km

Behavior and Additional Comments

A couple groups, one tightly packed, traveling just below the surface.

Friday, May 10, 2013 Sighting # 21

Initial sighting on Track

Time: 16:21 WP#: 151 Lat: 30.165538 Long: -80.370590
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 4 Beaufort Sea State: 2
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 16:22 WP#: 152 Lat: 30.174365 Long: -80.370741
Species: *Tursiops truncatus* Numbers (Low/High/Best): 5 / 5 / 5
Features used in Species ID: Uniform grey coloration, robust body appearance.

Representative images used for Species ID: 635
Photographer: Ryan Frame numbers: 631 - 639 Spacer: 640
Calculated distance from Trackline: 0.98 km

Final Time and Position of Sighting

Time: 16:23 WP#: 153 Lat: 30.167651 Long: -80.363481
Calculated Distance Traveled: 1.02 km

Behavior and Additional Comments

Group spread out, traveling fast.

Thursday, June 20, 2013 Sighting # 1

Initial sighting on Track

Time: 10:58 WP#: 15 Lat: 30.433373 Long: -80.605617
Vertical Angle: 2 Horizontal Bearing in Degrees: 150 Sighting Cue: Body
On/Off Effort: On Trackline: 8 Beaufort Sea State: 2
Observer: Zach Observer side: Left

Actual Time and Position of Sighting

Time: 11:06 WP#: 16 Lat: 30.429801 Long: -80.617737
Species: *Unidentified Stenella* Numbers (Low/High/Best): 2 / 2 / 2
Features used in Species ID: N/A

Representative images used for Species ID: N/A
Photographer: N/A Frame numbers: N/A Spacer: N/A
Calculated distance from Trackline: 1.23 km

Final Time and Position of Sighting

Time: N/A WP#: N/A Lat: N/A Long: N/A
Calculated Distance Traveled: N/A

Behavior and Additional Comments

No photos

Thursday, June 20, 2013 Sighting # 2

Initial sighting on Track

Time: 11:23 WP#: 19 Lat: 30.434251 Long: -80.014101
Vertical Angle: 2 Horizontal Bearing in Degrees: 150 Sighting Cue: Splash
On/Off Effort: On Trackline: 8 Beaufort Sea State: 2
Observer: Zach Observer side: Left

Actual Time and Position of Sighting

Time: 11:27 WP#: 20 Lat: 30.431533 Long: -80.022973
Species: *Unidentified Delphinid* Numbers (Low/High/Best): 1 / 1 / 1
Features used in Species ID: N/A

Representative images used for Species ID: N/A
Photographer: N/A Frame numbers: N/A Spacer: N/A
Calculated distance from Trackline: 0.90 km

Final Time and Position of Sighting

Time: N/A WP#: N/A Lat: N/A Long: N/A
Calculated Distance Traveled: N/A

Behavior and Additional Comments

No photos

Thursday, June 20, 2013 Sighting # 3

Initial sighting on Track

Time: 11:36 WP#: 27 Lat: 30.367329 Long: -79.818538
Vertical Angle: 2 Horizontal Bearing in Degrees: 60 Sighting Cue: Body
On/Off Effort: On Trackline: 7 Beaufort Sea State: 2
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 11:40 WP#: 25 Lat: 30.361350 Long: -79.818280
Species: *Unidentified Delphinid* Numbers (Low/High/Best): 1 / 1 / 1
Features used in Species ID: N/A

Representative images used for Species ID: N/A
Photographer: N/A Frame numbers: N/A Spacer: N/A
Calculated distance from Trackline: 0.67 km

Final Time and Position of Sighting

Time: N/A WP#: N/A Lat: N/A Long: N/A
Calculated Distance Traveled: N/A

Behavior and Additional Comments

No photos

Thursday, June 20, 2013 Sighting # 4

Initial sighting on Track

Time: 12:40 WP#: 32 Lat: 30.264949 Long: -79.788488
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: Off Trackline: 6-5 Beaufort Sea State: 2
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 12:41 WP#: 33 Lat: 30.266891 Long: -79.788749
Species: *Tursiops truncatus* Numbers (Low/High/Best): 7 / 7 / 7
Features used in Species ID: Uniform gray body, robust

Representative images used for Species ID: 43, 46, 50
Photographer: Ryan Frame numbers: 39 - 86 Spacer: 87
Calculated distance from Trackline: 0.22 km

Final Time and Position of Sighting

Time: 12:45 WP#: 34 Lat: 30.270195 Long: -79.794255
Calculated Distance Traveled: 0.64 km

Behavior and Additional Comments

Friday, June 21, 2013 Sighting # 1

Initial sighting on Track

Time: 8:58 WP#: 7 Lat: 29.967055 Long: -80.098226
Vertical Angle: 2 Horizontal Bearing in Degrees: 130 Sighting Cue: Body
On/Off Effort: On Trackline: 1 Beaufort Sea State: 2
Observer: Zach Observer side: Left

Actual Time and Position of Sighting

Time: 9:14 WP#: 8 Lat: 29.965022 Long: -80.107845
Species: *Tursiops truncatus* Numbers (Low/High/Best): 3 / 3 / 3
Features used in Species ID: Uniform gray, robust animals, white peduncles

Representative images used for Species ID: 8, 9, 12
Photographer: Ryan Frame numbers: 1 - 14 Spacer: 15
Calculated distance from Trackline: 0.95 km

Final Time and Position of Sighting

Time: 9:18 WP#: 9 Lat: 29.953993 Long: -80.107689
Calculated Distance Traveled: 1.23 km

Behavior and Additional Comments

Travel, white peduncles

Friday, June 21, 2013 Sighting # 2

Initial sighting on Track

Time: 9:25 WP#: 12 Lat: 29.975545 Long: -79.908197
Vertical Angle: 1 Horizontal Bearing in Degrees: 120 Sighting Cue: Body
On/Off Effort: On Trackline: 1 Beaufort Sea State: 2
Observer: Zach Observer side: Left

Actual Time and Position of Sighting

Time: 9:26 WP#: 13 Lat: 29.976420 Long: -79.920542
Species: *Grampus griseus* Numbers (Low/High/Best): 9 / 11 / 10
Features used in Species ID: Gray with white scarring, blunt head, cleft in middle

Representative images used for Species ID: 16, 24, 27, 32, 35
Photographer: Ryan Frame numbers: 16 -50 Spacer: 51
Calculated distance from Trackline: 1.19 km

Final Time and Position of Sighting

Time: 9:32 WP#: 14 Lat: 29.977766 Long: -79.923187
Calculated Distance Traveled: 0.30 km

Behavior and Additional Comments

Travel

Friday, June 21, 2013 Sighting # 3

Initial sighting on Track

Time: 9:46 WP#: 19 Lat: 30.030017 Long: -80.070314
Vertical Angle: 1 Horizontal Bearing in Degrees: 150 Sighting Cue: Body
On/Off Effort: On Trackline: 2 Beaufort Sea State: 2
Observer: Zach Observer side: Left

Actual Time and Position of Sighting

Time: 9:47 WP#: 20 Lat: 30.028698 Long: -80.055636
Species: *Unidentified Delphinid* Numbers (Low/High/Best): 1 / 1 / 1
Features used in Species ID: N/A

Representative images used for Species ID: N/A
Photographer: N/A Frame numbers: N/A Spacer: N/A
Calculated distance from Trackline: 1.42 km

Final Time and Position of Sighting

Time: N/A WP#: N/A Lat: N/A Long: N/A
Calculated Distance Traveled: N/A

Behavior and Additional Comments

Delp or small whale

Friday, June 21, 2013 Sighting # 4

Initial sighting on Track

Time: 9:51 WP#: 22 Lat: 30.031085 Long: -80.170490
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 2 Beaufort Sea State: 2
Observer: Zach Observer side: Left

Actual Time and Position of Sighting

Time: 9:53 WP#: 23 Lat: 30.026501 Long: -80.170572
Species: *Tursiops truncatus* Numbers (Low/High/Best): 6 / 6 / 6
Features used in Species ID: Uniform gray, robust

Representative images used for Species ID: 57, 63
Photographer: Ryan Frame numbers: 55 - 68 Spacer: 69
Calculated distance from Trackline: 0.51 km

Final Time and Position of Sighting

Time: 9:58 WP#: 24 Lat: 30.025972 Long: -80.168250
Calculated Distance Traveled: 0.23 km

Behavior and Additional Comments

Diving deep from surface while we were circling

Friday, June 21, 2013 Sighting # 5

Initial sighting on Track

Time: 10:16 WP#: 31 Lat: 30.099921 Long: -80.664783
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 3 Beaufort Sea State: 2
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 10:18 WP#: 32 Lat: 30.092055 Long: -80.664690
Species: *Tursiops truncatus* Numbers (Low/High/Best): 3 / 5 / 4
Features used in Species ID: Uniform gray, robust

Representative images used for Species ID: 75
Photographer: Ryan Frame numbers: 70 - 84 Spacer: 85
Calculated distance from Trackline: 0.87 km

Final Time and Position of Sighting

Time: 10:22 WP#: 33 Lat: 30.087916 Long: -80.669460
Calculated Distance Traveled: 0.65 km

Behavior and Additional Comments

Calf present

Friday, June 21, 2013 Sighting # 6

Initial sighting on Track

Time: 10:32 WP#: 38 Lat: 30.101387 Long: -80.350204
Vertical Angle: 2 Horizontal Bearing in Degrees: 130 Sighting Cue: Splash
On/Off Effort: On Trackline: 3 Beaufort Sea State: 2
Observer: Zach Observer side: Left

Actual Time and Position of Sighting

Time: 10:37 WP#: 39 Lat: 30.097726 Long: -80.356120
Species: *Tursiops truncatus* Numbers (Low/High/Best): 2 / 3 / 3
Features used in Species ID: Uniform gray, robust

Representative images used for Species ID: 92
Photographer: Ryan Frame numbers: 86 - 96 Spacer: 97
Calculated distance from Trackline: 0.70 km

Final Time and Position of Sighting

Time: 10:40 WP#: 40 Lat: 30.094275 Long: -80.357853
Calculated Distance Traveled: 0.42 km

Behavior and Additional Comments

Friday, June 21, 2013 Sighting # 7

Initial sighting on Track

Time: 10:48 WP#: 44 Lat: 30.101632 Long: -80.078071
Vertical Angle: 2 Horizontal Bearing in Degrees: 80 Sighting Cue: Breach
On/Off Effort: On Trackline: 3 Beaufort Sea State: 2
Observer: Zach Observer side: Left

Actual Time and Position of Sighting

Time: 10:50 WP#: 45 Lat: 30.104927 Long: -80.073517
Species: *Tursiops truncatus* Numbers (Low/High/Best): 6 / 8 / 7
Features used in Species ID: Uniform gray, robust, white peduncles

Representative images used for Species ID:
Photographer: Ryan Frame numbers: 100 - 111 Spacer: 112
Calculated distance from Trackline: 0.57 km

Final Time and Position of Sighting

Time: 11:02 WP#: 46 Lat: 30.108072 Long: -80.073696
Calculated Distance Traveled: 0.35 km

Behavior and Additional Comments

Assumed last position. White peduncles, spread out group all in singles

Friday, June 21, 2013 Sighting # 8

Initial sighting on Track

Time: 11:23 WP#: 52 Lat: 30.165234 Long: -80.517337
Vertical Angle: 3 Horizontal Bearing in Degrees: 100 Sighting Cue: Body
On/Off Effort: On Trackline: 4 Beaufort Sea State: 2
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 11:24 WP#: 53 Lat: 30.169890 Long: -80.515658
Species: *Tursiops truncatus* Numbers (Low/High/Best): 8 / 9 / 8
Features used in Species ID: Uniform gray, robust

Representative images used for Species ID: 113, 127
Photographer: Ryan Frame numbers: 113 - 132 Spacer: 133
Calculated distance from Trackline: 0.54 km

Final Time and Position of Sighting

Time: 11:33 WP#: 54 Lat: 30.172113 Long: -80.511046
Calculated Distance Traveled: 0.51 km

Behavior and Additional Comments

Friday, June 21, 2013 Sighting # 9

Initial sighting on Track

Time: 12:06 WP#: 69 Lat: 30.300596 Long: -80.546329
Vertical Angle: 2 Horizontal Bearing in Degrees: 110 Sighting Cue: Splash
On/Off Effort: On Trackline: 6 Beaufort Sea State: 2
Observer: Zach Observer side: Left

Actual Time and Position of Sighting

Time: 12:08 WP#: 70 Lat: 30.294445 Long: -80.542902
Species: *Tursiops truncatus* Numbers (Low/High/Best): 5 / 7 / 6
Features used in Species ID: Uniform gray, robust

Representative images used for Species ID: 140, 153, 157
Photographer: Ryan Frame numbers: 134 - 159 Spacer:
Calculated distance from Trackline: 0.76 km

Final Time and Position of Sighting

Time: 12:23 WP#: 72 Lat: 30.285702 Long: -80.543131
Calculated Distance Traveled: 0.97 km

Behavior and Additional Comments

Mixed group of Ttr and Sfr, see sighting 10.

Friday, June 21, 2013 Sighting # 10

Initial sighting on Track

Time: 12:06 WP#: 69 Lat: 30.300596 Long: -80.546329
Vertical Angle: 2 Horizontal Bearing in Degrees: 110 Sighting Cue: Splash
On/Off Effort: On Trackline: 6 Beaufort Sea State: 2
Observer: Zach Observer side: Left

Actual Time and Position of Sighting

Time: 12:16 WP#: 71 Lat: 30.300538 Long: -80.542854
Species: *Stenella frontalis* Numbers (Low/High/Best): 40 / 50 / 45
Features used in Species ID: Alternating light and dark pattern down body, white tip to nose

spotting
Representative images used for Species ID: 178, 203, 204, 216, 218
Photographer: Ryan Frame numbers: 160 - 221 Spacer: 222
Calculated distance from Trackline: 0.33 km

Final Time and Position of Sighting

Time: 12:23 WP#: 72 Lat: 30.285702 Long: -80.543131
Calculated Distance Traveled: 1.65 km

Behavior and Additional Comments

Mixed Group

Wednesday, September 4, 2013 Sighting # 1

Initial sighting on Track

Time: 9:30 WP#: 7 Lat: 30.567884 Long: -80.388335
Vertical Angle: 1 Horizontal Bearing in Degrees: 60 Sighting Cue: Body
On/Off Effort: On Trackline: 10 Beaufort Sea State: 2
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 9:35 WP#: 8 Lat: 30.572533 Long: -80.390993
Species: *Stenella frontalis* Numbers (Low/High/Best): 25 / 40 / 35
Features used in Species ID: Alternating light and dark pattern down body, spotting

Representative images used for Species ID: 3, 9, 19, 23, 26
Photographer: Ryan Frame numbers: 1 - 32 Spacer: 33
Calculated distance from Trackline: 0.58 km

Final Time and Position of Sighting

Time: 9:39 WP#: 9 Lat: 30.567175 Long: -80.396879
Calculated Distance Traveled: 0.82 km

Behavior and Additional Comments

In a tight group, some at the surface, some below. Traveling, hitting the surface. Swimming in pairs.
Mixed group of Sfr and Ttr.

Wednesday, September 4, 2013 Sighting # 2

Initial sighting on Track

Time: 10:22 WP#: 19 Lat: 30.498691 Long: -80.636280
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 9 Beaufort Sea State: 1
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 10:24 WP#: 20 Lat: 30.505879 Long: -80.635534
Species: *Stenella frontalis* Numbers (Low/High/Best): 16 / 25 / 20
Features used in Species ID: Alternating light and dark pattern down body, spotting

Representative images used for Species ID: 35, 48
Photographer: Ryan Frame numbers: 34 - 60 Spacer: 61
Calculated distance from Trackline: 0.80 km

Final Time and Position of Sighting

Time: 10:27 WP#: 21 Lat: 30.505682 Long: -80.639101
Calculated Distance Traveled: 0.34 km

Behavior and Additional Comments

Two groups, one tight group and one spaced out. Calves present

Wednesday, September 4, 2013 Sighting # 3

Initial sighting on Track

Time: 11:16 WP#: 33 Lat: 30.365257 Long: -80.387014
Vertical Angle: 2 Horizontal Bearing in Degrees: 45 Sighting Cue: Splash
On/Off Effort: On Trackline: 7 Beaufort Sea State: 1
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 11:17 WP#: 34 Lat: 30.366270 Long: -80.382744
Species: *Stenella frontalis* Numbers (Low/High/Best): 8 / 12 / 10
Features used in Species ID: Alternating light and dark pattern down body, spotting

Representative images used for Species ID: 77, 79, 82, 86
Photographer: Ryan Frame numbers: 62 - 86 Spacer: 87
Calculated distance from Trackline: 0.42 km

Final Time and Position of Sighting

Time: 11:22 WP#: 35 Lat: 30.367591 Long: -80.391472
Calculated Distance Traveled: 0.85 km

Behavior and Additional Comments

Jumping, darting, calves present.

Wednesday, September 4, 2013 Sighting # 4

Initial sighting on Track

Time: 11:27 WP#: 39 Lat: 30.365109 Long: -80.576020
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 7 Beaufort Sea State: 1
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 11:28 WP#: 40 Lat: 30.372094 Long: -80.571879
Species: *Tursiops truncatus* Numbers (Low/High/Best): 4 / 4 / 4
Features used in Species ID: Uniform grey, robust

Representative images used for Species ID: 93, 94
Photographer: Ryan Frame numbers: 88 - 106 Spacer: 107
Calculated distance from Trackline: 0.87 km

Final Time and Position of Sighting

Time: 11:30 WP#: 41 Lat: 30.362828 Long: -80.576495
Calculated Distance Traveled: 1.12 km

Behavior and Additional Comments

Swimming close together, slow travel on surface or just below

Wednesday, September 4, 2013 Sighting # 5

Initial sighting on Track

Time: 11:33 WP#: 45 Lat: 30.364598 Long: -80.694253
Vertical Angle: 2 Horizontal Bearing in Degrees: 100 Sighting Cue: Splash
On/Off Effort: On Trackline: 7 Beaufort Sea State: 1
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 11:34 WP#: 46 Lat: 30.355202 Long: -80.685832
Species: *Tursiops truncatus* Numbers (Low/High/Best): 4 / 4 / 4
Features used in Species ID: Uniform gray, robust

Representative images used for Species ID: 120, 124
Photographer: Ryan Frame numbers: 108 - 128 Spacer: 129
Calculated distance from Trackline: 1.32 km

Final Time and Position of Sighting

Time: 11:37 WP#: 47 Lat: 30.356509 Long: -80.689317
Calculated Distance Traveled: 0.36 km

Behavior and Additional Comments

Jumping, darting, swimming different directions

Wednesday, September 4, 2013 Sighting # 6

Initial sighting on Track

Time: 13:22 WP#: 56 Lat: 29.963770 Long: -80.569673
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 1 Beaufort Sea State: 1
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 13:23 WP#: 57 Lat: 29.963326 Long: -80.571982
Species: *Tursiops truncatus* Numbers (Low/High/Best): 7 / 10 / 7
Features used in Species ID: Robust body appearance, uniform grey coloration

Representative images used for Species ID: 130, 133, 134, 135
Photographer: Ryan Frame numbers: 130 - 159 Spacer: 143
Calculated distance from Trackline: 0.23 km

Final Time and Position of Sighting

Time: 13:24 WP#: 58 Lat: 29.964839 Long: -80.563266
Calculated Distance Traveled: 0.86 km

Behavior and Additional Comments

Milling. Mixed group of Sfr and Ttr

Wednesday, September 4, 2013 Sighting # 7

Initial sighting on Track

Time: 13:26 WP#: 60 Lat: 29.965349 Long: -80.477053
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 1 Beaufort Sea State: 1
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 13:27 WP#: 61 Lat: 29.964453 Long: -80.485104
Species: *Tursiops truncatus* Numbers (Low/High/Best): 8 / 12 / 8
Features used in Species ID: Uniform gray, robust

Representative images used for Species ID: 144, 157, 158
Photographer: Ryan Frame numbers: 144 - 159 Spacer: 160
Calculated distance from Trackline: 0.78 km

Final Time and Position of Sighting

Time: 13:33 WP#: 62 Lat: 29.961632 Long: -80.486164
Calculated Distance Traveled: 0.33 km

Behavior and Additional Comments

Spaced out, swimming subsurface, milling

Wednesday, September 4, 2013 Sighting # 8

Initial sighting on Track

Time: 13:35 WP#: 64 Lat: 29.966698 Long: -80.398874
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 1 Beaufort Sea State: 1
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 13:37 WP#: 65 Lat: 29.970169 Long: -80.404552
Species: *Tursiops truncatus* Numbers (Low/High/Best): 1 / 1 / 1
Features used in Species ID: Uniform gray, robust

Representative images used for Species ID: 164 - 166
Photographer: Ryan Frame numbers: 161 - 173 Spacer: 174
Calculated distance from Trackline: 0.67 km

Final Time and Position of Sighting

Time: 13:38 WP#: 66 Lat: 29.969916 Long: -80.395889
Calculated Distance Traveled: 0.84 km

Behavior and Additional Comments

Milling, sitting on the surface

Wednesday, September 4, 2013 Sighting # 9

Initial sighting on Track

Time: 13:48 WP#: 68 Lat: 29.965993 Long: -80.043430
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 1 Beaufort Sea State: 1
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 13:50 WP#: 69 Lat: 29.964516 Long: -80.043015
Species: *Tursiops truncatus* Numbers (Low/High/Best): 16 / 20 / 18
Features used in Species ID: Uniform gray, robust

Representative images used for Species ID: 189, 190, 193, 199 - 201
Photographer: Ryan Frame numbers: 175 - 208 Spacer: 209
Calculated distance from Trackline: 0.17 km

Final Time and Position of Sighting

Time: 13:54 WP#: 70 Lat: 29.972558 Long: -80.048500
Calculated Distance Traveled: 1.04 km

Behavior and Additional Comments

Calves present. Milling, occasionally surfacing, staying in a close group. 2nd group joined.

Wednesday, September 4, 2013 Sighting # 10

Initial sighting on Track

Time: 14:10 WP#: 74 Lat: 30.031529 Long: -80.031020
Vertical Angle: 1 Horizontal Bearing in Degrees: 120 Sighting Cue: Splash
On/Off Effort: On Trackline: 2 Beaufort Sea State: 1
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 14:12 WP#: 75 Lat: 30.036378 Long: -80.028405
Species: *Tursiops truncatus* Numbers (Low/High/Best): 8 / 8 / 8
Features used in Species ID: Uniform gray, robust

Representative images used for Species ID: 210, 216
Photographer: Ryan Frame numbers: 210 - 218 Spacer: 219
Calculated distance from Trackline: 0.60 km

Final Time and Position of Sighting

Time: 14:14 WP#: 76 Lat: 30.037728 Long: -80.029558
Calculated Distance Traveled: 0.19 km

Behavior and Additional Comments

Surfacing then diving, white peduncles

Wednesday, September 4, 2013 Sighting # 11

Initial sighting on Track

Time: 14:32 WP#: 79 Lat: 30.031128 Long: -80.611338
Vertical Angle: 1 Horizontal Bearing in Degrees: 120 Sighting Cue: Splash
On/Off Effort: On Trackline: 2 Beaufort Sea State: 1
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 14:34 WP#: 80 Lat: 30.027039 Long: -80.601611
Species: *Tursiops truncatus* Numbers (Low/High/Best): 2 / 2 / 2
Features used in Species ID: Uniform gray, robust

Representative images used for Species ID: 220, 221, 232, 237, 241
Photographer: Right Frame numbers: 220 - 241 Spacer: 242
Calculated distance from Trackline: 1.04 km

Final Time and Position of Sighting

Time: 14:37 WP#: 81 Lat: 30.028661 Long: -80.605595
Calculated Distance Traveled: 0.42 km

Behavior and Additional Comments

Deep diving, illusive, changing directions

Wednesday, September 4, 2013 Sighting # 12

Initial sighting on Track

Time: 14:49 WP#: 88 Lat: 30.100670 Long: -80.455087
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 3 Beaufort Sea State: 1
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 14:50 WP#: 84 Lat: 30.104249 Long: -80.457311
Species: *Tursiops truncatus* Numbers (Low/High/Best): 2 / 2 / 2
Features used in Species ID: Uniform gray, robust

Representative images used for Species ID: 247, 252, 258, 260
Photographer: Ryan Frame numbers: 243 - 260 Spacer: 261
Calculated distance from Trackline: 0.45 km

Final Time and Position of Sighting

Time: 14:55 WP#: 90 Lat: 30.102789 Long: -80.461810
Calculated Distance Traveled: 0.46 km

Behavior and Additional Comments

Swimming as a pair

Wednesday, September 4, 2013 Sighting # 13

Initial sighting on Track

Time: 15:48 WP#: 69 Lat: 30.233165 Long: -80.505807
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 5 Beaufort Sea State: 1
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 15:49 WP#: 99 Lat: 30.234601 Long: -80.506338
Species: *Tursiops truncatus* Numbers (Low/High/Best): 1 / 1 / 1
Features used in Species ID: Uniform gray, robust

Representative images used for Species ID: 268
Photographer: Ryan Frame numbers: 262 - 271 Spacer: 272
Calculated distance from Trackline: 0.17 km

Final Time and Position of Sighting

Time: 15:52 WP#: 100 Lat: 30.233578 Long: -80.509383
Calculated Distance Traveled: 0.31 km

Behavior and Additional Comments

Thursday, September 5, 2013 Sighting # 1

Initial sighting on Track

Time: 9:12 WP#: 5 Lat: 30.232787 Long: -79.887676
Vertical Angle: 2 Horizontal Bearing in Degrees: 100 Sighting Cue: Splash
On/Off Effort: On Trackline: 5 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 9:13 WP#: 6 Lat: 30.235449 Long: -79.883109
Species: *Stenella attenuata* Numbers (Low/High/Best): 25 / 26 / 25
Features used in Species ID: Slender body, long rostrum with white tip, light color blaze around eye and down to ventral surface, dark line in crease between rostrum and melon
Representative images used for Species ID: 3, 9, 12, 14
Photographer: Erin Frame numbers: 1 - 14 Spacer: 15
Calculated distance from Trackline: 0.53 km

Final Time and Position of Sighting

Time: 9:24 WP#: 7 Lat: 30.229659 Long: -79.889675
Calculated Distance Traveled: 0.9 km

Behavior and Additional Comments

Disperse group greater than 10 body lengths between individuals. Traveling subsurface. Animals quickly surfacing then back to subsurface travel. Animals began to bunch up a little bit as sighting went on. Group was difficult to photograph because of their behavior.

Thursday, September 5, 2013 Sighting # 2

Initial sighting on Track

Time: 9:47 WP#: 12 Lat: 30.299907 Long: -80.355953
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 6 Beaufort Sea State: 2
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 9:48 WP#: 13 Lat: 30.300761 Long: -80.353526
Species: *Tursiops truncatus* Numbers (Low/High/Best): 8 / 9 / 8
Features used in Species ID: Uniform grey coloration
Representative images used for Species ID: 21
Photographer: Erin Frame numbers: 16 - 31 Spacer: 32
Calculated distance from Trackline: 0.25 km

Final Time and Position of Sighting

Time: 9:55 WP#: 14 Lat: 30.294211 Long: -80.361115
Calculated Distance Traveled: 1 km

Behavior and Additional Comments

Two groups of animals traveling subsurface quickly in pairs with ~ 6 body lengths between them
One animal did a pair of big breaches during encounter.

Thursday, September 5, 2013 Sighting # 3

Initial sighting on Track

Time: 10:55 WP#: 28 Lat: 30.433119 Long: -80.427431
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 8 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 11:00 WP#: 29 Lat: 30.443162 Long: -80.427117
Species: *Tursiops truncatus* Numbers (Low/High/Best): 3 / 3 / 3
Features used in Species ID: Robust body appearance, uniform grey coloration, robust dorsal fin

Representative images used for Species ID: 36, 37, 41
Photographer: Erin Frame numbers: 34 - 43 Spacer: 44
Calculated distance from Trackline: 1.11 km

Final Time and Position of Sighting

Time: 11:00 WP#: 30 Lat: 30.442425 Long: -80.424415
Calculated Distance Traveled: 0.27 km

Behavior and Additional Comments

Group of three animals surfacing regularly showing slow travel, milling about.

Thursday, September 5, 2013 Sighting # 4

Initial sighting on Track

Time: 11:20 WP#: 37 Lat: 30.499997 Long: -80.445198
Vertical Angle: 2 Horizontal Bearing in Degrees: 100 Sighting Cue: Body
On/Off Effort: On Trackline: 9 Beaufort Sea State: 2
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 11:21 WP#: 38 Lat: 30.505443 Long: -80.442981
Species: *Tursiops truncatus* Numbers (Low/High/Best): 1 / 1 / 1
Features used in Species ID: Robust body appearance, uniform grey coloration, robust dorsal fin

Representative images used for Species ID: 45, 48
Photographer: Erin Frame numbers: 45 - 50 Spacer: 51
Calculated distance from Trackline: 0.64 km

Final Time and Position of Sighting

Time: 11:24 WP#: 39 Lat: 30.504146 Long: -80.447908
Calculated Distance Traveled: 0.49 km

Behavior and Additional Comments

Single animal at first observation traveling sub surface at moderate speed.

Thursday, September 5, 2013 Sighting # 5

Initial sighting on Track

Time: 11:29 WP#: 41 Lat: 30.500025 Long: -80.285036
Vertical Angle: 2 Horizontal Bearing in Degrees: 100 Sighting Cue: Body
On/Off Effort: On Trackline: 9 Beaufort Sea State: 2
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 11:29 WP#: 42 Lat: 30.500759 Long: -80.291870
Species: *Stenella frontalis* Numbers (Low/High/Best): 16 / 17 / 16
Features used in Species ID: Alternating light and dark coloration down the animals body
Light blaze to dorsal fin, darker blaze behind dorsal fin, spotting across some of animals bodies.
Representative images used for Species ID: 52, 61, 65
Photographer: Erin Frame numbers: 52 - 69 Spacer: 70
Calculated distance from Trackline: 0.66 km

Final Time and Position of Sighting

Time: 11:34 WP#: 43 Lat: 30.504164 Long: -80.294216
Calculated Distance Traveled: 0.44 km

Behavior and Additional Comments

Approximately three groups of animals (small groups) additional group of 10 nearby.

Thursday, September 5, 2013 Sighting # 6

Initial sighting on Track

Time: 11:44 WP#: 46 Lat: 30.499648 Long: -79.947294
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 9 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 11:46 WP#: 47 Lat: 30.488333 Long: -79.946208
Species: *Tursiops truncatus* Numbers (Low/High/Best): 4 / 4 / 4
Features used in Species ID: Robust body appearance, uniform grey coloration.
Representative images used for Species ID: 71, 73, 75
Photographer: Erin Frame numbers: 71 - 79 Spacer: 80
Calculated distance from Trackline: 1.26 km

Final Time and Position of Sighting

Time: 11:47 WP#: 48 Lat: 30.493116 Long: -79.944217
Calculated Distance Traveled: 0.56 km

Behavior and Additional Comments

Animals close together traveling slowly.

Thursday, September 5, 2013 Sighting # 7

Initial sighting on Track

Time: 12:01 WP#: 53 Lat: 30.566605 Long: -80.027333
Vertical Angle: 2 Horizontal Bearing in Degrees: 45 Sighting Cue: Body
On/Off Effort: On Trackline: 10 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 12:02 WP#: 54 Lat: 30.573902 Long: -80.035006
Species: *Grampus griseus* Numbers (Low/High/Best): 10 / 12 / 11
Features used in Species ID: Rounded tip to head with cleft in melon, tall falcate dorsal fin,
animals with dark body coloration except for con-specific scar marks.
Representative images used for Species ID: 87, 88, 96
Photographer: Erin Frame numbers: 81 - 101 Spacer: 102
Calculated distance from Trackline: 1.09 km

Final Time and Position of Sighting

Time: 12:06 WP#: 55 Lat: 30.573091 Long: -80.033283
Calculated Distance Traveled: 0.19 km

Behavior and Additional Comments

Single group - animals within one body length of one another. Leisurely pace to group surfacing
frequently and regularly
Just a pleasant species.

Thursday, September 5, 2013 Sighting # 8

Initial sighting on Track

Time: 12:16 WP#: 57 Lat: 30.566562 Long: -80.368181
Vertical Angle: 2 Horizontal Bearing in Degrees: 60 Sighting Cue: Splash
On/Off Effort: On Trackline: 10 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 12:17 WP#: 58 Lat: 30.574702 Long: -80.372299
Species: *Stenella frontalis* Numbers (Low/High/Best): 4 / 6 / 5
Features used in Species ID: White tip to rostrum, alternating light and dark body coloration
along length of body, spotting present on larger animals.
Representative images used for Species ID: 108, 110
Photographer: Erin Frame numbers: 103 - 110 Spacer: 111
Calculated distance from Trackline: 0.99 km

Final Time and Position of Sighting

Time: 12:20 WP#: 59 Lat: 30.570375 Long: -80.368522
Calculated Distance Traveled: 0.60 km

Behavior and Additional Comments

Well dispersed pairs of animals, small animals / calves present.

Thursday, September 5, 2013 Sighting # 9

Initial sighting on Track

Time: 14:07 WP#: 68 Lat: 30.166809 Long: -80.492337
Vertical Angle: 2 Horizontal Bearing in Degrees: 100 Sighting Cue: Body
On/Off Effort: On Trackline: 4 Beaufort Sea State: 1
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 14:13 WP#: 69 Lat: 30.171990 Long: -80.501133
Species: *Stenella frontalis* Numbers (Low/High/Best): 1 / 1 / 1
Features used in Species ID: Alternating light and dark body coloration, spotting pattern present on animals, white tip to rostrum
Representative images used for Species ID: None taken
Photographer: Erin Frame numbers: NA Spacer: NA
Calculated distance from Trackline: 1.02 km

Final Time and Position of Sighting

Time: NA WP#: NA Lat: NA Long: NA
Calculated Distance Traveled: NA

Behavior and Additional Comments

Only a single animal observed - no resight.

Thursday, September 5, 2013 Sighting # 10

Initial sighting on Track

Time: 14:14 WP#: 71 Lat: 30.166576 Long: -80.452564
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 4 Beaufort Sea State: 1
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 14:19 WP#: 72 Lat: 30.162467 Long: -80.453415
Species: *Stenella frontalis* Numbers (Low/High/Best): 5 / 5 / 5
Features used in Species ID: White tip to rostrum, spotting pattern across animals body alternating light and dark color pattern down the length of the animals body.
Representative images used for Species ID: 112, 116, 123
Photographer: Erin Frame numbers: 112 - 124 Spacer: 125
Calculated distance from Trackline: 0.46 km

Final Time and Position of Sighting

Time: 14:22 WP#: 73 Lat: 30.167640 Long: -80.452756
Calculated Distance Traveled: 0.58 km

Behavior and Additional Comments

Slow travel close to the surface, animals did not alter their behavior during encounter.

Thursday, September 5, 2013 Sighting # 11

Initial sighting on Track

Time: 14:23 WP#: 75 Lat: 30.167344 Long: -80.393443
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 4 Beaufort Sea State: 1
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 14:24 WP#: 76 Lat: 30.162 Long: -80.397471
Species: *Tursiops truncatus* Numbers (Low/High/Best): 15 / 18 / 16
Features used in Species ID: Robust body and rostrum, uniform grey coloration, robust dorsal fin

Representative images used for Species ID: 129
Photographer: Erin Frame numbers: 126 - 132 Spacer: 133
Calculated distance from Trackline: 0.71 km

Final Time and Position of Sighting

Time: 14:27 WP#: 77 Lat: 30.165516 Long: -80.390053
Calculated Distance Traveled: 0.81 km

Behavior and Additional Comments

Multiple small scattered groups between 5 & 8 animals

Thursday, September 5, 2013 Sighting # 12

Initial sighting on Track

Time: 14:29 WP#: 79 Lat: 30.167194 Long: -80.339365
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 4 Beaufort Sea State: 2
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 14:32 WP#: 80 Lat: 30.166837 Long: -80.338649
Species: *Stenella frontalis* Numbers (Low/High/Best): 4 / 6 / 5
Features used in Species ID: Smaller dorsal fin with lighter blaze up to dorsal fin, spotting pattern across body.

Representative images used for Species ID: 134, 137, 139
Photographer: Erin Frame numbers: 134 - 140 Spacer: 141
Calculated distance from Trackline: 0.08 km

Final Time and Position of Sighting

Time: 14:34 WP#: 81 Lat: 30.170141 Long: -80.342498
Calculated Distance Traveled: 0.52 km

Behavior and Additional Comments

A line of animals traveling towards tracklines, small group.

Thursday, September 5, 2013 Sighting # 13

Initial sighting on Track

Time: 15:14 WP#: 87 Lat: 30.099192 Long: -80.567882
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 3 Beaufort Sea State: 2
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 15:17 WP#: 88 Lat: 30.092804 Long: -80.561323
Species: *Tursiops truncatus* Numbers (Low/High/Best): 4 / 6 / 6
Features used in Species ID: Robust body and dorsal fin, uniform grey coloration.

Representative images used for Species ID: 144, 146
Photographer: Erin Frame numbers: 159 Spacer: 160
Calculated distance from Trackline: 0.95 km

Final Time and Position of Sighting

Time: 15:20 WP#: 89 Lat: 30.096473 Long: -80.564387
Calculated Distance Traveled: 0.50 km

Behavior and Additional Comments

Trio and single animals, tail slapping observed from one animal. Group milling about interacting with one another under the surface.

Thursday, September 5, 2013 Sighting # 14

Initial sighting on Track

Time: 15:44 WP#: 95 Lat: 30.033039 Long: -80.139547
Vertical Angle: 2 Horizontal Bearing in Degrees: 45 Sighting Cue: Splash
On/Off Effort: On Trackline: 2 Beaufort Sea State: 2
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 15:50 WP#: 96 Lat: 30.040520 Long: -80.137770
Species: *Tursiops truncatus* Numbers (Low/High/Best): 9 / 9 / 9
Features used in Species ID: Uniform grey coloration, robust body appearance.

Representative images used for Species ID: 163, 165
Photographer: Erin Frame numbers: 161 - 173 Spacer: 174
Calculated distance from Trackline: 0.85 km

Final Time and Position of Sighting

Time: 15:50 WP#: 97 Lat: 30.036097 Long: -80.121547
Calculated Distance Traveled: 1.64 km

Behavior and Additional Comments

Disperse groups of pairs or single animals.

Thursday, September 5, 2013 Sighting # 15

Initial sighting on Track

Time: 16:00 WP#: 99 Lat: 30.039805 Long: -79.816970
Vertical Angle: 2 Horizontal Bearing in Degrees: 60 Sighting Cue: Splash
On/Off Effort: On Trackline: 2 Beaufort Sea State: 1
Observer: Ryan Observer side: Left

Actual Time and Position of Sighting

Time: 16:00 WP#: 100 Lat: 30.039238 Long: -79.814079
Species: *Tursiops truncatus* Numbers (Low/High/Best): 19 / 20 / 19
Features used in Species ID: Uniform grey coloration, robust body appearance.

Representative images used for Species ID: 177, 185, 188, 189
Photographer: Erin Frame numbers: 175 - 195 Spacer: 196
Calculated distance from Trackline: 0.29 km

Final Time and Position of Sighting

Time: 16:03 WP#: 101 Lat: 30.040753 Long: -79.815037
Calculated Distance Traveled: 0.19 km

Behavior and Additional Comments

Disperse group showing slow travel at the surface, pairs or single animals interacting, chasing one another.

Friday, September 6, 2013 Sighting # 1

Initial sighting on Track

Time: 9:47 WP#: 118 Lat: 30.499349 Long: -80.432010
Vertical Angle: 3 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 9 Beaufort Sea State: 2
Observer: Ryan Observer side: Right

Actual Time and Position of Sighting

Time: 9:51 WP#: 119 Lat: 30.501176 Long: -80.428540
Species: *Stenella frontalis* Numbers (Low/High/Best): 30 / 40 / 35
Features used in Species ID: Alternating light and dark pattern down body, spotting

Representative images used for Species ID: 6, 7
Photographer: Ryan Frame numbers: 1 - 18 Spacer: 19
Calculated distance from Trackline: 0.39 km

Final Time and Position of Sighting

Time: 9:53 WP#: 120 Lat: 30.500418 Long: -80.429727
Calculated Distance Traveled: 0.14 km

Behavior and Additional Comments

Larger group, all went under when we flew over, 2 groups traveling fast, belly swimming

Friday, September 6, 2013 Sighting # 2

Initial sighting on Track

Time: 9:54 WP#: 122 Lat: 30.499252 Long: -80.466671
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 9 Beaufort Sea State: 2
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 9:55 WP#: 123 Lat: 30.491543 Long: -80.463564
Species: *Stenella frontalis* Numbers (Low/High/Best): 15 / 25 / 20
Features used in Species ID: Alternating light and dark pattern down body, spotting

Representative images used for Species ID: 21, 26, 30, 32
Photographer: Ryan Frame numbers: 20 - 38 Spacer: 39
Calculated distance from Trackline: 0.91 km

Final Time and Position of Sighting

Time: 9:57 WP#: 124 Lat: 30.493192 Long: -80.471266
Calculated Distance Traveled: 0.76 km

Behavior and Additional Comments

In a tight group, traveling fast, quick surfacings

Friday, September 6, 2013 Sighting # 3

Initial sighting on Track

Time: 9:59 WP#: 127 Lat: 30.499133 Long: -80.545107
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 9 Beaufort Sea State: 1
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 10:00 WP#: 128 Lat: 30.495026 Long: -80.537739
Species: *Tursiops truncatus* Numbers (Low/High/Best): 1 / 1 / 1
Features used in Species ID: Uniform gray, robust

Representative images used for Species ID: 43
Photographer: Ryan Frame numbers: 40 - 48 Spacer: 49
Calculated distance from Trackline: 0.84 km

Final Time and Position of Sighting

Time: 10:02 WP#: 129 Lat: 30.491936 Long: -80.542527
Calculated Distance Traveled: 0.57 km

Behavior and Additional Comments

Shark came up and chased Ttr down. Ttr playing with plastic prior.

Friday, September 6, 2013 Sighting # 4

Initial sighting on Track

Time: 10:11 WP#: 134 Lat: 30.433509 Long: -80.640160
Vertical Angle: 2 Horizontal Bearing in Degrees: 60 Sighting Cue: Body
On/Off Effort: On Trackline: 8 Beaufort Sea State: 1
Observer: Erin Observer side: Left

Actual Time and Position of Sighting

Time: 10:12 WP#: 135 Lat: 30.436669 Long: -80.640863
Species: *Tursiops truncatus* Numbers (Low/High/Best): 4 / 4 / 4
Features used in Species ID: Uniform gray, robust

Representative images used for Species ID: 52
Photographer: Ryan Frame numbers: 50 - 56 Spacer: 57
Calculated distance from Trackline: 0.36 km

Final Time and Position of Sighting

Time: 10:18 WP#: 136 Lat: 30.438723 Long: -80.640162
Calculated Distance Traveled: 0.24 km

Behavior and Additional Comments

Calf present. Circling up and down, avoidance

Thursday, October 17, 2013 Sighting # 1

Initial sighting on Track

Time: 9:11 WP#: 5 Lat: 30.567560 Long: -80.581793
Vertical Angle: 3 Horizontal Bearing in Degrees: 120 Sighting Cue: Splash
On/Off Effort: On Trackline: 10 Beaufort Sea State: 3
Observer: Heather Observer side: Left

Actual Time and Position of Sighting

Time: 9:14 WP#: 6 Lat: 30.584009 Long: -80.588475
Species: *Stenella frontalis* Numbers (Low/High/Best): 8 / 12 / 10
Features used in Species ID: Alternating light and dark pattern down body, spotting, white tip on rostrum
Representative images used for Species ID: 9, 13, 26
Photographer: Erin Frame numbers: 5-28 Spacer: 29
Calculated distance from Trackline: 1.94 km

Final Time and Position of Sighting

Time: 9:18 WP#: 7 Lat: 30.582772 Long: -80.595081
Calculated Distance Traveled: 0.65 km

Behavior and Additional Comments

Sighting # 2

Initial sighting on Track

Time: 9:27 WP#: 6 Lat: 30.568125 Long: -80.283201
Vertical Angle: 2 Horizontal Bearing in Degrees: 100 Sighting Cue: Body
On/Off Effort: On Trackline: 10 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 9:29 WP#: 13 Lat: 30.558824 Long: -80.288020
Species: *Stenella frontalis* Numbers (Low/High/Best): 10 / 15 / 12
Features used in Species ID: Alternating light and dark pattern down body, spotting, white tip on rostrum
Representative images used for Species ID: 31, 38
Photographer: Erin Frame numbers: 30 - 39 Spacer: 40
Calculated distance from Trackline: 1.13 km

Final Time and Position of Sighting

Time: 9:31 WP#: 14 Lat: 30.566095 Long: -80.271771
Calculated Distance Traveled: 1.75 km

Behavior and Additional Comments

Tight group

Thursday, October 17, 2013 Sighting # 3

Initial sighting on Track

Time: 10:21 WP#: 28 Lat: 30.433979 Long: -80.606116
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 8 Beaufort Sea State: 2
Observer: Heather Observer side: Left

Actual Time and Position of Sighting

Time: 10:24 WP#: 29 Lat: 30.436226 Long: -80.608824
Species: *Tursiops truncatus* Numbers (Low/High/Best): 5 / 8 / 6
Features used in Species ID: Uniform gray animals, robust

Representative images used for Species ID: 45
Photographer: Erin Frame numbers: 41 - 45 Spacer: 46
Calculated distance from Trackline: 0.36 km

Final Time and Position of Sighting

Time: 10:26 WP#: 30 Lat: 30.432516 Long: -80.601095
Calculated Distance Traveled: 0.85 km

Behavior and Additional Comments

Diving, not much time at the surface

Thursday, October 17, 2013 Sighting # 4

Initial sighting on Track

Time: 10:27 WP#: 32 Lat: 30.433591 Long: -80.560190
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 8 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 10:29 WP#: 33 Lat: 30.427726 Long: -80.562642
Species: *Stenella frontalis* Numbers (Low/High/Best): 8 / 12 / 10
Features used in Species ID: Alternating light and dark pattern down body, spotting, white tip to rostrum

Representative images used for Species ID: 51, 53, 61
Photographer: Erin Frame numbers: 47 - 65 Spacer: 66
Calculated distance from Trackline: 0.69 km

Final Time and Position of Sighting

Time: 10:31 WP#: 34 Lat: 30.428622 Long: -80.560912
Calculated Distance Traveled: 0.19 km

Behavior and Additional Comments

Lots of birds and surface activity

Thursday, October 17, 2013 Sighting # 5

Initial sighting on Track

Time: 13:47 WP#: 60 Lat: 30.031630 Long: -80.304910
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 2 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 13:48 WP#: 61 Lat: 30.032212 Long: -80.304650
Species: *Stenella frontalis* Numbers (Low/High/Best): 12 / 12 / 12
Features used in Species ID: Alternating light and dark pattern down body, spotting, white tip on rostrum
Representative images used for Species ID: 69, 71, 72, 73
Photographer: Erin Frame numbers: 67 - 73 Spacer: 74
Calculated distance from Trackline: 0.07 km

Final Time and Position of Sighting

Time: 13:53 WP#: 62 Lat: 30.029494 Long: -80.303168
Calculated Distance Traveled: 0.33 km

Behavior and Additional Comments

few subgroups/several outliers

Thursday, October 17, 2013 Sighting # 6

Initial sighting on Track

Time: 13:59 WP#: 42 Lat: 30.031349 Long: -80.498269
Vertical Angle: 3 Horizontal Bearing in Degrees: 110 Sighting Cue: Splash
On/Off Effort: On Trackline: 2 Beaufort Sea State: 2
Observer: Heather Observer side: Left

Actual Time and Position of Sighting

Time: 14:00 WP#: 65 Lat: 30.023095 Long: -80.486503
Species: *Stenella frontalis* Numbers (Low/High/Best): 3 / 3 / 3
Features used in Species ID: Alternating light and dark pattern down body, spotting, white tip on rostrum
Representative images used for Species ID: 78
Photographer: Erin Frame numbers: 75 - 80 Spacer: 81
Calculated distance from Trackline: 1.46 km

Final Time and Position of Sighting

Time: 14:04 WP#: 66 Lat: 30.019018 Long: -80.483073
Calculated Distance Traveled: 0.56 km

Behavior and Additional Comments

Fast swim, were breathing repeatedly upon initial sighting

Thursday, October 17, 2013 Sighting # 7

Initial sighting on Track

Time: 14:09 WP#: 69 Lat: 30.031668 Long: -80.596201
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 2 Beaufort Sea State: 1
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 14:15 WP#: 70 Lat: 30.034130 Long: -80.596828
Species: *Tursiops truncatus* Numbers (Low/High/Best): 2 / 2 / 2
Features used in Species ID: Uniform gray, robust

Representative images used for Species ID: 84
Photographer: Erin Frame numbers: 82 - 86 Spacer: 87
Calculated distance from Trackline: 0.28 km

Final Time and Position of Sighting

Time: N/A WP#: N/A Lat: N/A Long: N/A
Calculated Distance Traveled: N/A

Behavior and Additional Comments

Thursday, October 17, 2013 Sighting # 8

Initial sighting on Track

Time: 14:18 WP#: 73 Lat: 30.019067 Long: -80.679940
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 2 Beaufort Sea State: 1
Observer: Heather Observer side: Left

Actual Time and Position of Sighting

Time: 14:25 WP#: 74 Lat: 30.027669 Long: -80.684144
Species: *Stenella frontalis* Numbers (Low/High/Best): 6 / 8 / 7
Features used in Species ID: Alternating light and dark pattern down body, spotting, white tip to rostrum

Representative images used for Species ID: 89, 92, 94
Photographer: Erin Frame numbers: 88 - 97 Spacer: 98
Calculated distance from Trackline: 1.04 km

Final Time and Position of Sighting

Time: 14:26 WP#: 75 Lat: 30.037097 Long: -80.681291
Calculated Distance Traveled: 1.08 km

Behavior and Additional Comments

Initially broke for something further out but saw dolphins on the break track. The initial sighting was never relocated. Spaced out, lots of singles.

Thursday, October 17, 2013 Sighting # 9

Initial sighting on Track

Time: 14:31 WP#: 52 Lat: 30.100222 Long: -80.660696
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Splash
On/Off Effort: On Trackline: 3 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 14:33 WP#: 80 Lat: 30.098440 Long: -80.666253
Species: *Stenella frontalis* Numbers (Low/High/Best): 5 / 5 / 5
Features used in Species ID: Alternating light and dark pattern down body, spotting, white tip on rostrum
Representative images used for Species ID: 101, 102, 109
Photographer: Erin Frame numbers: 99 - 113 Spacer: 114
Calculated distance from Trackline: 0.57 km

Final Time and Position of Sighting

Time: 14:34 WP#: 81 Lat: 30.098747 Long: -80.668043
Calculated Distance Traveled: 0.18 km

Behavior and Additional Comments

Mom/calf pair

Thursday, October 17, 2013 Sighting # 10

Initial sighting on Track

Time: 14:43 WP#: 85 Lat: 30.100850 Long: -80.366104
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Breach
On/Off Effort: On Trackline: 3 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 14:48 WP#: 86 Lat: 30.095534 Long: -80.362398
Species: *Stenella frontalis* Numbers (Low/High/Best): 10 / 15 / 12
Features used in Species ID: Alternating light and dark pattern down body, spotting, white tip on rostrum
Representative images used for Species ID: 120, 127
Photographer: Erin Frame numbers: 115 - 129 Spacer: 130
Calculated distance from Trackline: 0.69 km

Final Time and Position of Sighting

Time: 14:50 WP#: 87 Lat: 30.096024 Long: -80.363460
Calculated Distance Traveled: 0.12 km

Behavior and Additional Comments

Tight group

Thursday, October 17, 2013 Sighting # 11

Initial sighting on Track

Time: 14:55 WP#: 89 Lat: 30.100973 Long: -80.182685
Vertical Angle: 1 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 3 Beaufort Sea State: 2
Observer: Heather Observer side: Left

Actual Time and Position of Sighting

Time: 14:57 WP#: 90 Lat: 30.105991 Long: -80.180904
Species: *Grampus griseus* Numbers (Low/High/Best): 7 / 7 / 7
Features used in Species ID: Blunt head, white scarring down body, cleft in middle of head

Representative images used for Species ID: 135, 136, 138
Photographer: Erin Frame numbers: 131 - 143 Spacer: 144
Calculated distance from Trackline: 0.58 km

Final Time and Position of Sighting

Time: 15:00 WP#: 91 Lat: 30.104580 Long: -80.180525
Calculated Distance Traveled: 0.16 km

Behavior and Additional Comments

Very chill, little surface activity

Thursday, October 17, 2013 Sighting # 12

Initial sighting on Track

Time: 15:03 WP#: 93 Lat: 30.100982 Long: -80.080096
Vertical Angle: 1 Horizontal Bearing in Degrees: 60 Sighting Cue: Body
On/Off Effort: On Trackline: 3 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 15:04 WP#: 94 Lat: 30.100921 Long: -80.080960
Species: *Tursiops truncatus* Numbers (Low/High/Best): 5 / 5 / 5
Features used in Species ID: Uniform gray, robust

Representative images used for Species ID: 147, 148, 150
Photographer: Erin Frame numbers: 145 - 154 Spacer: 155
Calculated distance from Trackline: 0.08 km

Final Time and Position of Sighting

Time: N/A WP#: N/A Lat: N/A Long: N/A
Calculated Distance Traveled: N/A

Behavior and Additional Comments

Thursday, October 17, 2013 Sighting # 13

Initial sighting on Track

Time: 15:36 WP#: 101 Lat: 30.166126 Long: -80.312170
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 3 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 15:38 WP#: 102 Lat: 30.175892 Long: -80.309161
Species: *Tursiops truncatus* Numbers (Low/High/Best): 2 / 2 / 2
Features used in Species ID: Uniform gray, robust

Representative images used for Species ID: 157
Photographer: Erin Frame numbers: 156 - 160 Spacer: 161
Calculated distance from Trackline: 1.12 km

Final Time and Position of Sighting

Time: N/A WP#: N/A Lat: N/A Long: N/A
Calculated Distance Traveled: N/A

Behavior and Additional Comments

Thursday, October 17, 2013 Sighting # 14

Initial sighting on Track

Time: 15:47 WP#: 104 Lat: 30.165796 Long: -80.525558
Vertical Angle: 2 Horizontal Bearing in Degrees: 90 Sighting Cue: Body
On/Off Effort: On Trackline: 4 Beaufort Sea State: 2
Observer: Erin Observer side: Right

Actual Time and Position of Sighting

Time: 15:48 WP#: 105 Lat: 30.166598 Long: -80.527591
Species: *Stenella frontalis* Numbers (Low/High/Best): 5 / 6 / 6
Features used in Species ID: Alternating light and dark pattern down body, spotting, white tip on rostrum

Representative images used for Species ID: 181, 182
Photographer: Erin Frame numbers: 162 - 184 Spacer: 185
Calculated distance from Trackline: 0.21 km

Final Time and Position of Sighting

Time: N/A WP#: N/A Lat: N/A Long: N/A
Calculated Distance Traveled: N/A

Behavior and Additional Comments

Tight group