

***Appendix E – Cape Hatteras/Onslow Bay/
JAX Monthly Progress Reports***

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Monitoring of Protected Species in the Proposed Onslow Bay and Jacksonville USWTRs

Progress Report: July 24, 2010 through August 23, 2010

Planning (Task 1, 2 & 3)

No Planning sessions were conducted during the time frame.

Purchasing (Task 1)

Research equipment was purchased for the survey vessel R/V Volute. In addition, office supplies were purchased for the Fernandina Beach office. Two observers participated in the HUET safety training course conducted in Lafayette, LA which continues their certificates for 5x more years. A replacement monitor was purchased for UNCW Lab.

Travel (Task 1 & 3)

Rachel Hardee and Ryan McAlarney traveled to Lafayette, LA to conduct mandatory HUET safety training.

JAX Survey activity (Task 2)

Aerial Surveys

Five days of aerial surveys were performed during this reporting period, for a total of 32 tracklines surveyed (Table 1). Six tracklines were surveyed on 28 July, six on 29 July, six on 3 August, 10 on 4 August, and four on 5 August. Weather conditions ranged from fair to excellent during these surveys, with Beaufort Sea States ranging from 0 to 3. There were 31 on effort cetacean encounters: bottlenose dolphins (*Tursiops truncatus*: 16 encounters), Atlantic spotted dolphins (*Stenella frontalis*: 7 encounters), Risso's dolphins (*Grampus griseus*: 3 encounters), short-finned pilot whales (*Globicephala macrorhynchus*; 2 encounters), rough-toothed dolphins (*Steno bredanensis*; 1 encounter) and unidentified delphinids (3 encounters). One of the encounters were of a mixed species group of *S. bredanensis* (n=23) and *T. truncatus* (n=4). In addition, a group of *G. macrorhynchus* and a group of *T. truncatus* were encountered during off-effort transit between tracklines (Table 2, Figure 1). A total of 246 sea turtles were observed: 199 loggerhead sea turtles (*Caretta caretta*) and 47 unidentified sea turtles (Table 3, Fig 2).

Vessel Surveys

One vessel survey of trackline 2 was attempted on the 14th of August. Due to bio-fouling of the survey vessel, transit speed was severely impacted and trackline 2 was unobtainable. Instead the westernmost half of trackline 7 was surveyed from east to west. Survey conditions ranged from fair to good (Table 4). A single leatherback sea turtle (*Dermochelys coriacea*) was seen during the vessel survey (Table 5, Figure 3).

Towed Passive Acoustics

The towed acoustic array was not deployed on vessel surveys during this reporting period. The PAM computer was brought in for repair and is now operational.

Onslow Bay Survey Activity (Task 5)

Aerial Surveys

A total of ten tracklines were flown in Onslow Bay over the course of two days during the reporting period (Table 6). On August 20th four USWTR tracklines were flown under conditions varying from a BSS 1 to 4, during which no cetacean or turtle sightings were made. During the 2009-2010 project meeting in Beaufort, North Carolina the Onslow Bay survey team proposed conducting additional survey effort offshore of the current USWTR range to further investigate the distribution of the deepwater cetacean species that were observed in the eastern end of range in previous years. A mirror image of the current tracklines was extended past the eastern end of the box creating a second area of 400 nm of survey tracklines. These tracklines will extend survey effort beyond the second shelf break (Figure 4). On the 20th of August the team surveyed the perimeter of this new survey area under good conditions but did not encounter any animals. On August 21st the team flew the remaining six USWTR tracklines to finish a complete set of ten tracklines for the August survey period. During these surveys there were three cetacean sightings made (1 *T. truncatus*, 1 unidentified delphinid and 1 unidentified cetacean) under moderate survey conditions (Table 7, Figure 5). The sighting labeled as unidentified cetacean is of particular interest as it was a group of approximately eight dark bodied animals that were at least 6m long. The initial species identification was recorded as a group of pilot whales as they have commonly been encountered off the shelf break in the past. However, this group of animals behaved very different from pilot whales we have observed in the past. The initial sighting was made in good survey conditions of a BSS 2 at which time the animals were seen moving very slowly about 5m below the surface. Despite the good conditions the animals were only relocated once in 25 minutes of circling. While the noted difference in behavior is not enough to rule out pilot whales it certainly is suggestive that these animals may have been a species not yet observed in the Onslow bay USWTR Range.

Vessel Surveys

Due to unfavorable weather conditions for the majority of the month, we surveyed only one track line during the study period (Table 8). Line 6 was surveyed on 17 August 2010 aboard the *M/V Marlin Fever* (temporary *M/V Sensation* replacement) and one group of bottlenose dolphins (*T. truncatus*) was sighted (Table 9). The location of the sighting is presented in Figure 6.

Towed Passive Acoustics

The towed acoustic array was deployed from the *F/V Marlin Fever* on the 17th of August, 2010, for 4.82 hours of simultaneous visual and acoustic survey. During that time, a total of 2.3 hours of acoustic recordings were taken. One visual sighting occurred during the acquisition of acoustic data; the group was identified as *T. truncatus*. Vocalizations including clicks and whistles were recorded. Two other acoustic detections were made that day without visual observation to confirm the species.

Onslow Bay HARPs

On July 29th, we (Lynne Williams and Tim Boynton) deployed the two HARPs in Onslow Bay from the *R/V Cape Fear*. We deployed one HARP in the same shallow location (171-m depth) as from deployments 1, 3, and 4, but we relocated the second HARP to a different location (closer to Track 3) at 338-m depth. Although we are continuing to sample at 200 kHz, we did decide to change back to the original duty cycle of 5 minutes on/5 minutes off. We decided to make this change because of the newly incorporated compression code that will allow us to collect more data on the same number and size of hard drives.

Exercise Monitoring (Task 7)

There was no specific exercise monitoring conducting during the reporting period.

There were no injuries reported during this time period.

Table 1. Aerial survey effort table for the JAX USWTR study region during July 24, 2010 – August 23, 2010.

Date	Line	Sea State	Kilometers Flown	HOBBS Hours
28-Jul-10	10	0 to 1	84.6	4.2
28-Jul-10	9	1	82.1	
28-Jul-10	8	1	84.1	
28-Jul-10	7	1	86.2	
28-Jul-10	6	0 to 1	86.0	
28-Jul-10	5	1	84.6	
29-Jul-10	1	2 to 3	86.6	4.4
29-Jul-10	2	2 to 3	87.2	
29-Jul-10	3	1 to 2	86.3	
29-Jul-10	4	1 to 2	86.1	
29-Jul-10	5	1 to 2	83.2	
29-Jul-10	6	2	86.0	
3-Aug-10	1	0 to 2	86.4	4.2
3-Aug-10	2	0 to 1	85.9	
3-Aug-10	3	0 to 1	83.9	
3-Aug-10	4	0 to 2	84.3	
3-Aug-10	5	0 to 2	85.9	
3-Aug-10	6	1 to 2	84.9	
4-Aug-10	10	1 to 3	84.6	7.7
4-Aug-10	9	1 to 3	84.1	
4-Aug-10	8	1 to 2	84.7	
4-Aug-10	7	1 to 3	84.0	
4-Aug-10	6	1 to 3	83.7	
4-Aug-10	5	1 to 3	83.0	
4-Aug-10	4	1 to 3	85.7	
4-Aug-10	3	1 to 3	86.7	
4-Aug-10	2	2 to 3	86.8	
4-Aug-10	1	1 to 2	86.3	
5-Aug-10	7	2 to 3	86.3	2.9
5-Aug-10	8	2 to 3	85.1	
5-Aug-10	9	2 to 3	87.2	
5-Aug-10	10	2 to 3	85.2	

Table 2. Cetacean sightings during aerial surveys in the JAX USWTR study region during July 24, 2010 - August 23, 2010.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
28-Jul-10	12:52	On effort	30.576911	-80.551686	10	<i>S. frontalis</i>	Atlantic Spotted Dolphin	31
28-Jul-10	12:58	On effort	30.559232	-80.409551	10	<i>S. frontalis</i>	Atlantic Spotted Dolphin	9
28-Jul-10	13:03	On effort	30.561963	-80.362140	10	<i>T. truncatus</i>	Bottlenose Dolphin	4
28-Jul-10	13:41	On effort	30.495012	-80.321756	9	<i>S. bredanensis</i>	Rough-toothed Dolphin	23
28-Jul-10	13:41	On effort	30.495012	-80.321756	9	<i>T. truncatus</i>	Bottlenose Dolphin	4
28-Jul-10	13:54	On effort	30.503798	-80.489435	9	Unid. Delphinid	Unid. Delphinid	2
28-Jul-10	14:30	On effort	30.428555	-79.904505	8	<i>G. macrorhynchus</i>	Short-finned Pilot Whale	50
28-Jul-10	15:09	On effort	30.362017	-80.658427	7	<i>S. frontalis</i>	Atlantic Spotted Dolphin	7
29-Jul-10	11:02	On effort	30.037309	-80.606957	2	Unid. Delphinid	Unid. Delphinid	1
29-Jul-10	11:45	Off effort	30.136391	-79.783961	N/A	<i>T. truncatus</i>	Bottlenose Dolphin	11
29-Jul-10	12:04	On effort	30.163065	-80.034489	4	<i>T. truncatus</i>	Bottlenose Dolphin	17
29-Jul-10	13:04	On effort	30.232059	-79.946156	5	<i>T. truncatus</i>	Bottlenose Dolphin	7
3-Aug-10	13:50	On effort	30.103074	-80.669104	3	<i>T. truncatus</i>	Bottlenose Dolphin	9
3-Aug-10	13:58	On effort	30.102898	-80.611146	3	<i>T. truncatus</i>	Bottlenose Dolphin	8
3-Aug-10	14:19	On effort	30.100609	-80.031909	3	<i>T. truncatus</i>	Bottlenose Dolphin	4
3-Aug-10	14:43	On effort	30.161981	-80.109361	4	<i>T. truncatus</i>	Bottlenose Dolphin	14
3-Aug-10	14:57	On effort	30.174048	-80.522888	4	<i>S. frontalis</i>	Atlantic Spotted Dolphin	6
3-Aug-10	15:15	On effort	30.227607	-80.443721	5	<i>S. frontalis</i>	Atlantic Spotted Dolphin	5
3-Aug-10	15:46	On effort	30.293612	-80.058466	6	<i>G. macrorhynchus</i>	Short-finned Pilot Whale	23
4-Aug-10	9:31	On effort	30.569290	-80.443675	10	<i>S. frontalis</i>	Atlantic Spotted Dolphin	10
4-Aug-10	10:07	On effort	30.503344	-80.022060	9	<i>G. griseus</i>	Risso's Dolphin	14
4-Aug-10	10:21	On effort	30.508844	-80.265349	9	<i>T. truncatus</i>	Bottlenose Dolphin	3
4-Aug-10	10:30	On effort	30.492811	-80.456700	9	<i>T. truncatus</i>	Bottlenose Dolphin	2
4-Aug-10	10:53	On effort	30.428820	-80.410074	8	<i>T. truncatus</i>	Bottlenose Dolphin	2
4-Aug-10	11:00	On effort	30.435945	-80.390245	8	<i>T. truncatus</i>	Bottlenose Dolphin	3
4-Aug-10	11:11	On effort	30.431232	-80.311753	8	Unid. Delphinid	Unid. Delphinid	1
4-Aug-10	11:46	On effort	30.365388	-80.204530	7	<i>T. truncatus</i>	Bottlenose Dolphin	12
4-Aug-10	12:16	On effort	30.302515	-80.573540	6	<i>S. frontalis</i>	Atlantic Spotted Dolphin	3
4-Aug-10	13:10	On effort	30.235185	-80.625116	5	<i>T. truncatus</i>	Bottlenose Dolphin	3
4-Aug-10	13:20	On effort	30.230547	-80.650354	5	<i>T. truncatus</i>	Bottlenose Dolphin	5
4-Aug-10	15:03	On effort	30.157833	-80.547499	4	<i>T. truncatus</i>	Bottlenose Dolphin	7
4-Aug-10	16:24	On effort	30.029908	-79.927285	2	<i>G. griseus</i>	Risso's Dolphin	14
4-Aug-10	16:34	Off effort	30.003451	-79.761480	2	<i>G. macrorhynchus</i>	Short-finned Pilot Whale	14
5-Aug-10	10:04	On effort	30.436028	-80.011669	8	<i>G. griseus</i>	Risso's Dolphin	41

Table 3 (5x pages) Sea turtle sightings during aerial surveys in the JAX USWTR study region during July 24, 2010 - August 23, 2010.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
28-Jul-10	12:44	On effort	30.565736	-80.672876	10	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	12:44	On effort	30.565736	-80.672876	10	Unid. Sea Turtle	Unid. Sea Turtle	2
28-Jul-10	12:45	On effort	30.566060	-80.638826	10	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	12:46	On effort	30.566030	-80.632879	10	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	12:46	On effort	30.566038	-80.617884	10	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	12:46	On effort	30.566109	-80.599173	10	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	12:46	On effort	30.566154	-80.598804	10	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	12:47	On effort	30.566138	-80.585242	10	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	12:47	On effort	30.566165	-80.566445	10	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	12:47	On effort	30.566166	-80.581102	10	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	12:54	On effort	30.566518	-80.520662	10	C. caretta	Loggerhead Sea Turtle	4
28-Jul-10	12:55	On effort	30.566413	-80.476508	10	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	12:57	On effort	30.566522	-80.437869	10	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	12:58	On effort	30.566619	-80.411940	10	C. caretta	Loggerhead Sea Turtle	4
28-Jul-10	12:58	On effort	30.566616	-80.417084	10	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	13:08	On effort	30.566752	-80.304235	10	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	13:12	On effort	30.566582	-80.128464	10	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	13:47	On effort	30.499901	-80.385784	9	C. caretta	Loggerhead Sea Turtle	3
28-Jul-10	13:48	On effort	30.499807	-80.420679	9	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	13:49	On effort	30.499783	-80.467661	9	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	13:57	On effort	30.499397	-80.523001	9	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	13:58	On effort	30.499575	-80.538028	9	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	13:59	On effort	30.499567	-80.594807	9	C. caretta	Loggerhead Sea Turtle	2
28-Jul-10	13:59	On effort	30.499556	-80.604590	9	Unid. Sea Turtle	Unid. Sea Turtle	1
28-Jul-10	14:00	On effort	30.499509	-80.615172	9	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	14:00	On effort	30.499369	-80.635609	9	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	14:01	On effort	30.499296	-80.655144	9	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	14:05	On effort	30.433289	-80.678894	8	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	14:06	On effort	30.432730	-80.653910	8	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	14:06	On effort	30.432726	-80.651665	8	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	14:08	On effort	30.432779	-80.590561	8	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	14:08	On effort	30.432764	-80.587007	8	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	14:08	On effort	30.432800	-80.572904	8	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	14:08	On effort	30.432770	-80.600543	8	Unid. Sea Turtle	Unid. Sea Turtle	1
28-Jul-10	14:09	On effort	30.432888	-80.553103	8	C. caretta	Loggerhead Sea Turtle	2
28-Jul-10	14:09	On effort	30.432906	-80.537360	8	C. caretta	Loggerhead Sea Turtle	3
28-Jul-10	14:09	On effort	30.432877	-80.558427	8	Unid. Sea Turtle	Unid. Sea Turtle	1
28-Jul-10	14:09	On effort	30.432882	-80.541117	8	Unid. Sea Turtle	Unid. Sea Turtle	1
28-Jul-10	14:14	On effort	30.433207	-80.458086	8	Unid. Sea Turtle	Unid. Sea Turtle	4
28-Jul-10	14:15	On effort	30.433116	-80.435361	8	Unid. Sea Turtle	Unid. Sea Turtle	2
28-Jul-10	14:17	On effort	30.433229	-80.359134	8	Unid. Sea Turtle	Unid. Sea Turtle	1
28-Jul-10	14:17	On effort	30.433156	-80.346434	8	Unid. Sea Turtle	Unid. Sea Turtle	2

28-Jul-10	14:19	On effort	30.433238	-80.284971	8	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	14:59	On effort	30.365982	-80.445327	7	C. caretta	Loggerhead Sea Turtle	2
28-Jul-10	14:59	On effort	30.365976	-80.427615	7	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	14:59	On effort	30.365956	-80.458950	7	Unid. Sea Turtle	Unid. Sea Turtle	1
28-Jul-10	15:00	On effort	30.365926	-80.496361	7	C. caretta	Loggerhead Sea Turtle	2
28-Jul-10	15:00	On effort	30.365930	-80.466742	7	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	15:00	On effort	30.365924	-80.482224	7	Unid. Sea Turtle	Unid. Sea Turtle	1
28-Jul-10	15:01	On effort	30.365992	-80.519360	7	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	15:02	On effort	30.365741	-80.559924	7	Unid. Sea Turtle	Unid. Sea Turtle	1
28-Jul-10	15:03	On effort	30.365770	-80.582755	7	C. caretta	Loggerhead Sea Turtle	2
28-Jul-10	15:05	On effort	30.365508	-80.652803	7	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	15:13	On effort	30.364960	-80.692173	7	Unid. Sea Turtle	Unid. Sea Turtle	2
28-Jul-10	15:13	On effort	30.365100	-80.698684	7	Unid. Sea Turtle	Unid. Sea Turtle	1
28-Jul-10	15:17	On effort	30.299697	-80.664286	6	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	15:17	On effort	30.299545	-80.660502	6	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	15:18	On effort	30.299482	-80.616978	6	Unid. Sea Turtle	Unid. Sea Turtle	1
28-Jul-10	15:19	On effort	30.299674	-80.593029	6	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	15:19	On effort	30.299685	-80.601288	6	C. caretta	Loggerhead Sea Turtle	2
28-Jul-10	15:19	On effort	30.299676	-80.579090	6	C. caretta	Loggerhead Sea Turtle	2
28-Jul-10	15:20	On effort	30.299629	-80.559364	6	Unid. Sea Turtle	Unid. Sea Turtle	1
28-Jul-10	15:20	On effort	30.299576	-80.550455	6	Unid. Sea Turtle	Unid. Sea Turtle	2
28-Jul-10	15:21	On effort	30.299778	-80.510566	6	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	15:22	On effort	30.299811	-80.496444	6	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	15:28	On effort	30.299594	-80.256054	6	Unid. Sea Turtle	Unid. Sea Turtle	1
28-Jul-10	15:46	On effort	30.233315	-79.825415	5	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	16:04	On effort	30.231989	-80.370299	5	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	16:05	On effort	30.233085	-80.442417	5	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	16:06	On effort	30.233077	-80.469304	5	Unid. Sea Turtle	Unid. Sea Turtle	1
28-Jul-10	16:07	On effort	30.233208	-80.492184	5	C. caretta	Loggerhead Sea Turtle	2
28-Jul-10	16:08	On effort	30.232875	-80.533015	5	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	16:09	On effort	30.232841	-80.587354	5	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	16:10	On effort	30.232838	-80.608761	5	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	16:10	On effort	30.232925	-80.618039	5	C. caretta	Loggerhead Sea Turtle	1
28-Jul-10	16:11	On effort	30.232669	-80.643901	5	C. caretta	Loggerhead Sea Turtle	2
29-Jul-10	10:13	On effort	29.965125	-80.561796	1	C. caretta	Loggerhead Sea Turtle	1
29-Jul-10	10:14	On effort	29.965330	-80.499533	1	C. caretta	Loggerhead Sea Turtle	1
29-Jul-10	10:16	On effort	29.965178	-80.459576	1	C. caretta	Loggerhead Sea Turtle	1
29-Jul-10	10:59	On effort	30.038243	-80.547768	2	C. caretta	Loggerhead Sea Turtle	1
29-Jul-10	11:12	On effort	30.032834	-80.621432	2	Unid. Sea Turtle	Unid. Sea Turtle	1
29-Jul-10	11:13	On effort	30.031753	-80.654462	2	C. caretta	Loggerhead Sea Turtle	1
29-Jul-10	11:13	On effort	30.031675	-80.662220	2	C. caretta	Loggerhead Sea Turtle	1
29-Jul-10	11:13	On effort	30.031705	-80.680302	2	C. caretta	Loggerhead Sea Turtle	1
29-Jul-10	11:14	On effort	30.031555	-80.694308	2	C. caretta	Loggerhead Sea Turtle	1

29-Jul-10	11:18	On effort	30.099235	-80.643002	3	C. caretta	Loggerhead Sea Turtle	1
29-Jul-10	11:19	On effort	30.099377	-80.624235	3	Unid. Sea Turtle	Unid. Sea Turtle	1
29-Jul-10	11:21	On effort	30.099646	-80.533409	3	C. caretta	Loggerhead Sea Turtle	1
29-Jul-10	11:23	On effort	30.099508	-80.474124	3	C. caretta	Loggerhead Sea Turtle	1
29-Jul-10	12:32	On effort	30.166783	-80.377111	4	C. caretta	Loggerhead Sea Turtle	1
29-Jul-10	12:48	On effort	30.232412	-80.521353	5	Unid. Sea Turtle	Unid. Sea Turtle	1
29-Jul-10	12:52	On effort	30.232605	-80.371753	5	C. caretta	Loggerhead Sea Turtle	1
29-Jul-10	13:37	On effort	30.300445	-80.465683	6	C. caretta	Loggerhead Sea Turtle	1
29-Jul-10	13:40	On effort	30.300249	-80.565652	6	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	12:47	On effort	29.964928	-80.635992	1	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	12:48	On effort	29.964911	-80.620146	1	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	12:48	On effort	29.965025	-80.605339	1	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	12:50	On effort	29.965154	-80.539364	1	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	12:50	On effort	29.965132	-80.543223	1	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	12:51	On effort	29.965153	-80.509681	1	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	12:53	On effort	29.965348	-80.435636	1	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	12:53	On effort	29.965396	-80.425209	1	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	12:54	On effort	29.965366	-80.406353	1	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	13:35	On effort	30.032136	-80.445029	2	C. caretta	Loggerhead Sea Turtle	3
3-Aug-10	13:36	On effort	30.032014	-80.467859	2	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	13:40	On effort	30.032011	-80.561181	2	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	13:42	On effort	30.031853	-80.604695	2	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	13:43	On effort	30.031676	-80.657112	2	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	13:44	On effort	30.031574	-80.676204	2	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	13:45	On effort	30.032331	-80.705457	2	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	14:02	On effort	30.099892	-80.553942	3	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	14:02	On effort	30.099975	-80.562211	3	Unid. Sea Turtle	Unid. Sea Turtle	1
3-Aug-10	14:03	On effort	30.099873	-80.541196	3	C. caretta	Loggerhead Sea Turtle	2
3-Aug-10	14:03	On effort	30.099983	-80.522596	3	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	14:03	On effort	30.099996	-80.521973	3	Unid. Sea Turtle	Unid. Sea Turtle	1
3-Aug-10	14:04	On effort	30.099895	-80.492962	3	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	14:05	On effort	30.100081	-80.470427	3	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	14:05	On effort	30.100043	-80.479911	3	Unid. Sea Turtle	Unid. Sea Turtle	1
3-Aug-10	14:05	On effort	30.100074	-80.463679	3	Unid. Sea Turtle	Unid. Sea Turtle	1
3-Aug-10	14:23	On effort	30.101502	-80.004931	3	C. caretta	Loggerhead Sea Turtle	2
3-Aug-10	14:51	On effort	30.166749	-80.350159	4	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	14:52	On effort	30.166698	-80.379261	4	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	14:54	On effort	30.166779	-80.449637	4	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	14:54	On effort	30.166651	-80.462989	4	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	14:54	On effort	30.166879	-80.438279	4	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	14:54	On effort	30.166690	-80.462801	4	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	15:01	On effort	30.166324	-80.616756	4	C. caretta	Loggerhead Sea Turtle	2
3-Aug-10	15:02	On effort	30.166105	-80.646636	4	C. caretta	Loggerhead Sea Turtle	1

3-Aug-10	15:02	On effort	30.166193	-80.638521	4	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	15:03	On effort	30.166141	-80.672463	4	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	15:09	On effort	30.232230	-80.601522	5	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	15:11	On effort	30.232543	-80.515927	5	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	15:12	On effort	30.232525	-80.481436	5	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	15:19	On effort	30.232487	-80.420596	5	C. caretta	Loggerhead Sea Turtle	2
3-Aug-10	15:20	On effort	30.232721	-80.383234	5	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	15:20	On effort	30.232609	-80.364177	5	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	15:56	On effort	30.300598	-80.368726	6	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	15:56	On effort	30.300601	-80.364853	6	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	15:57	On effort	30.300501	-80.399066	6	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	15:59	On effort	30.300256	-80.458506	6	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	15:59	On effort	30.300320	-80.457111	6	C. caretta	Loggerhead Sea Turtle	2
3-Aug-10	16:02	On effort	30.300255	-80.556984	6	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	16:03	On effort	30.300004	-80.594715	6	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	16:03	On effort	30.299926	-80.617496	6	C. caretta	Loggerhead Sea Turtle	2
3-Aug-10	16:03	On effort	30.299982	-80.597270	6	C. caretta	Loggerhead Sea Turtle	1
3-Aug-10	16:03	On effort	30.299888	-80.607567	6	Unid. Sea Turtle	Unid. Sea Turtle	1
4-Aug-10	9:24	On effort	30.566293	-80.617806	10	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	9:24	On effort	30.566341	-80.606494	10	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	9:25	On effort	30.566346	-80.584151	10	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	9:25	On effort	30.566407	-80.570093	10	Unid. Sea Turtle	Unid. Sea Turtle	1
4-Aug-10	9:26	On effort	30.566439	-80.537950	10	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	9:27	On effort	30.566533	-80.497443	10	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	9:39	On effort	30.566751	-80.324533	10	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	9:42	On effort	30.566728	-80.210031	10	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	9:43	On effort	30.566756	-80.165908	10	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	9:46	On effort	30.566604	-80.065005	10	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	9:47	On effort	30.566599	-80.020557	10	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	10:12	On effort	30.499861	-80.105910	9	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	10:25	On effort	30.499991	-80.351699	9	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	10:26	On effort	30.499738	-80.393505	9	Unid. Sea Turtle	Unid. Sea Turtle	1
4-Aug-10	10:36	On effort	30.499612	-80.541434	9	Unid. Sea Turtle	Unid. Sea Turtle	2
4-Aug-10	10:37	On effort	30.499447	-80.595603	9	Unid. Sea Turtle	Unid. Sea Turtle	1
4-Aug-10	10:39	On effort	30.499314	-80.642375	9	Unid. Sea Turtle	Unid. Sea Turtle	2
4-Aug-10	10:44	On effort	30.433520	-80.698087	8	Unid. Sea Turtle	Unid. Sea Turtle	1
4-Aug-10	10:45	On effort	30.432746	-80.653063	8	C. caretta	Loggerhead Sea Turtle	2
4-Aug-10	10:48	On effort	30.432938	-80.544865	8	Unid. Sea Turtle	Unid. Sea Turtle	1
4-Aug-10	11:13	On effort	30.433380	-80.238360	8	Unid. Sea Turtle	Unid. Sea Turtle	1
4-Aug-10	11:40	On effort	30.366024	-80.082707	7	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	11:53	On effort	30.366033	-80.374984	7	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	11:59	On effort	30.365725	-80.567125	7	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	12:00	On effort	30.365645	-80.612291	7	C. caretta	Loggerhead Sea Turtle	1

4-Aug-10	12:00	On effort	30.365650	-80.608581	7	C. caretta	Loggerhead Sea Turtle	2
4-Aug-10	12:01	On effort	30.365575	-80.640032	7	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	12:06	On effort	30.299084	-80.686563	6	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	12:21	On effort	30.299743	-80.465810	6	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	12:23	On effort	30.299945	-80.413516	6	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	12:25	On effort	30.299915	-80.346742	6	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	12:25	On effort	30.299853	-80.333524	6	C. caretta	Loggerhead Sea Turtle	2
4-Aug-10	12:32	On effort	30.300009	-80.196446	6	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	12:58	On effort	30.233228	-80.251489	5	Unid. Sea Turtle	Unid. Sea Turtle	1
4-Aug-10	13:00	On effort	30.233411	-80.319350	5	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	13:01	On effort	30.233347	-80.345688	5	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	13:02	On effort	30.233185	-80.402930	5	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	13:04	On effort	30.233180	-80.454691	5	Unid. Sea Turtle	Unid. Sea Turtle	1
4-Aug-10	13:06	On effort	30.232960	-80.533600	5	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	13:07	On effort	30.232937	-80.580964	5	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	13:08	On effort	30.232785	-80.607062	5	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	13:08	On effort	30.232942	-80.587842	5	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	14:59	On effort	30.165689	-80.657749	4	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	15:01	On effort	30.165888	-80.562137	4	C. caretta	Loggerhead Sea Turtle	2
4-Aug-10	15:08	On effort	30.166126	-80.502635	4	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	15:09	On effort	30.166215	-80.471241	4	C. caretta	Loggerhead Sea Turtle	2
4-Aug-10	15:09	On effort	30.166042	-80.452635	4	C. caretta	Loggerhead Sea Turtle	2
4-Aug-10	15:52	On effort	30.100469	-80.532256	3	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	15:52	On effort	30.100475	-80.541018	3	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	15:53	On effort	30.100416	-80.557729	3	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	15:54	On effort	30.100187	-80.588704	3	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	15:55	On effort	30.099927	-80.641918	3	C. caretta	Loggerhead Sea Turtle	2
4-Aug-10	16:01	On effort	30.031176	-80.674667	2	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	16:51	On effort	29.965947	-80.300815	1	C. caretta	Loggerhead Sea Turtle	1
4-Aug-10	17:01	On effort	29.965318	-80.689947	1	C. caretta	Loggerhead Sea Turtle	1
5-Aug-10	10:11	On effort	30.433982	-80.242804	8	C. caretta	Loggerhead Sea Turtle	1

Table 4. Vessel survey effort table for the JAX USWTR study region during July 24, 2010 through August 23, 2010.

Date	Line	Sea State	Km Surveyed	Survey Time (hrs:min)	At Sea Time (hrs:min)	Platform
14-Aug-10	7 (inshore)	2-3	36.95	2:39	10:45	R/V Volute

Table 5. Cetacean and sea turtle sightings for vessel surveys in JAX study region during July 24, 2010 through August 23, 2010.

Date	Time	On/Off effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
14-Aug-10	13:28	On	30.36424534	-80.587388	7	<i>D. coriacea</i>	Leatherback sea turtle	1

Table 6. Aerial survey effort table for the Onslow Bay USWTR study region during July 24, 2010 through August 23, 2010.

Date	Line	Sea State	Kilometers Flown	HOBBS Hours
20-Aug-2010	1	2 to 3	74.0	3.8
20-Aug-2010	1D	2 to 3	74.7	
20-Aug-2010	DT	2	74.1	
20-Aug-2010	10D	2	75.0	
20-Aug-2010	10	2 to 4	73.5	
20-Aug-2010	8	1 to 4	72.8	
20-Aug-2010	9	1 to 4	74.8	
21-Aug-2010	7	3	74.3	4.4
21-Aug-2010	6	3	71.6	
21-Aug-2010	5	3	75.0	
21-Aug-2010	4	2 to 3	71.3	
21-Aug-2010	3	2 to 3	74.8	
21-Aug-2010	2	2 to 3	74.4	

Table 7. Cetacean sightings during aerial surveys in the Onslow Bay USWTR study region during July 24, 2010 - August 23, 2010.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
21-Aug-10	10:25	On	33.690604	-76.385677	6	Unid. delphinid	Unid. delphinid	8
21-Aug-10	11:18	On	33.649193	-76.570275	4	T. truncatus	Bottlenose Dolphin	8
21-Aug-10	12:36	On	33.514175	-76.647372	2	Unid. cetacean	Unid. cetacean	7

Table 8. Effort table for vessel surveys in the Onslow Bay USWTR study region July 24 through August 23, 2010.

Date	Line	Sea State	Km Surveyed	Survey Time (hrs:min)	At Sea Time (hrs:min)	Platform
17-Aug-10	6	0 to 2	74.08	4:42	10:30	<i>M/V Marlin Fever</i>

Table 9. Cetacean and sea turtle sightings during vessel surveys in the Onslow Bay USWTR study region July 24, 2010 through August 23, 2010.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
17-Aug-10	12:47:31	Off	33.91130629	-76.66619748	6	<i>T. Truncatus</i>	Bottlenose dolphin	4

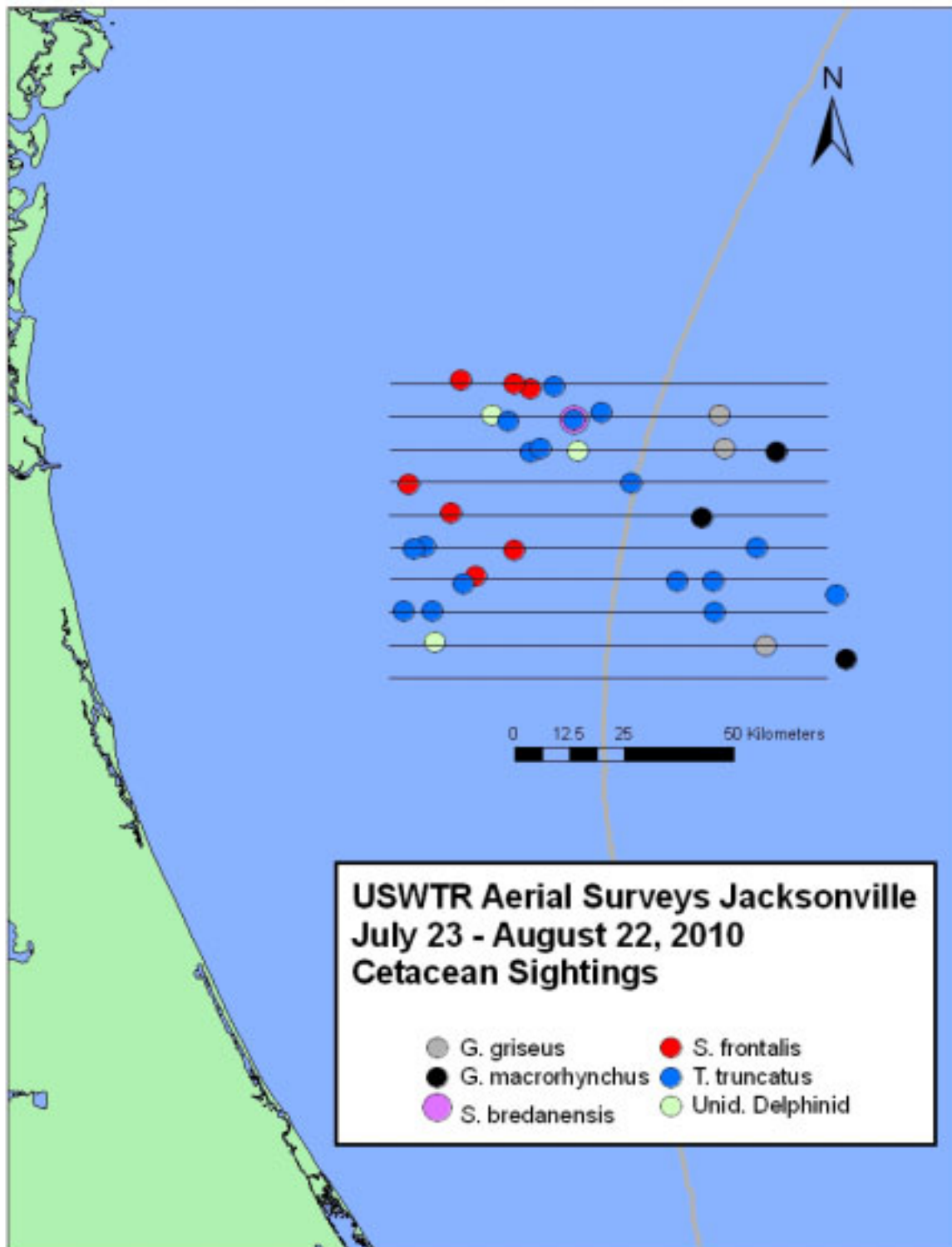


Figure 1. The locations of cetaceans sighted while conducting aerial surveys during the July 24, 2010 - August 23, 2010 reporting period of the JAX USWTR study region.

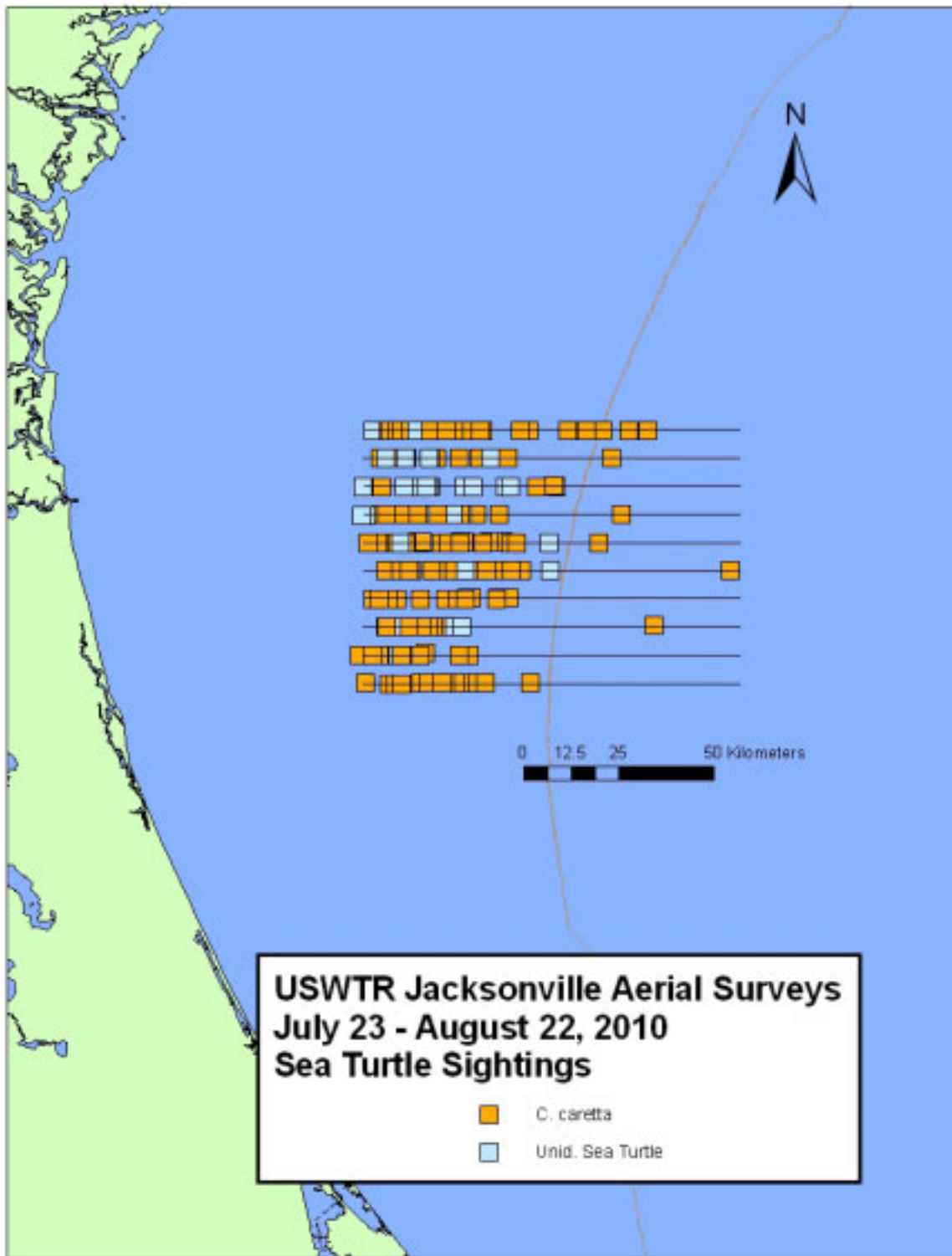


Figure 2. The locations of sea turtles sighted during aerial surveys between July 24, 2010 - August 23, 2010 in the JAX USWTR study region.

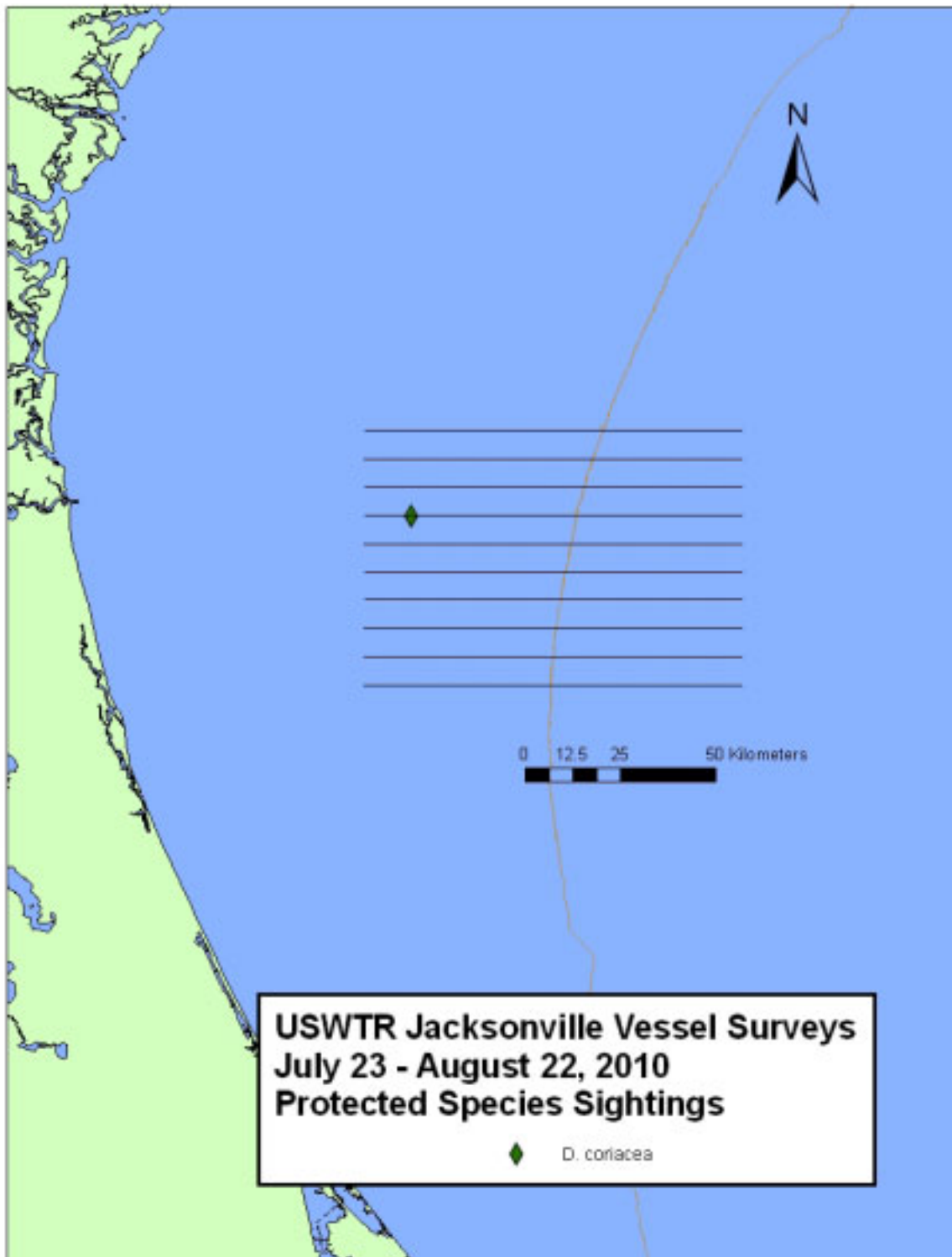


Figure 3. Cetaceans and sea turtles observed during vessel surveys of the JAX USWTR study region, July 24, 2010 - August 23, 2010.

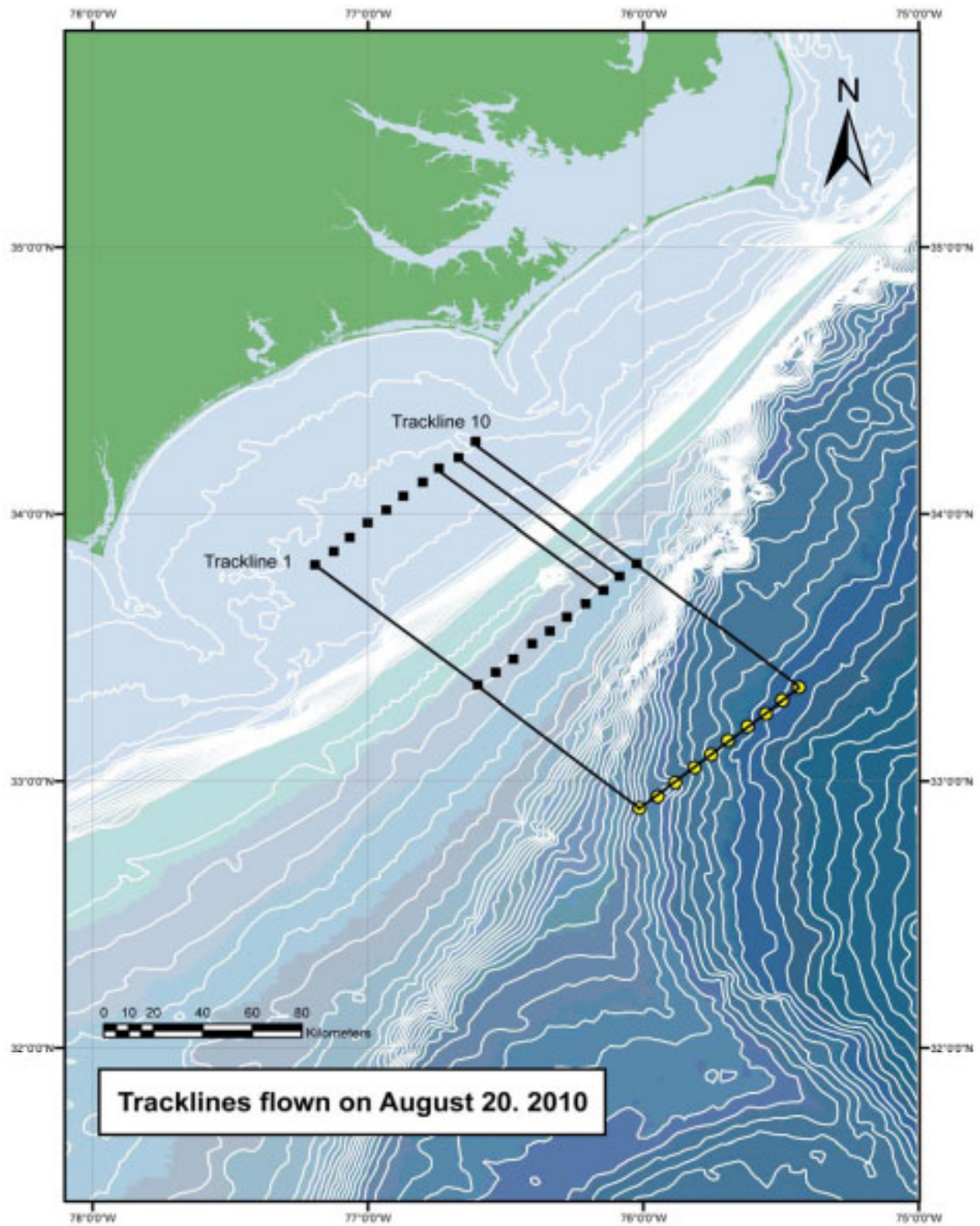


Figure 4. Map illustrating the aerial offshore effort conducted in Onslow bay on August 20, 2010.

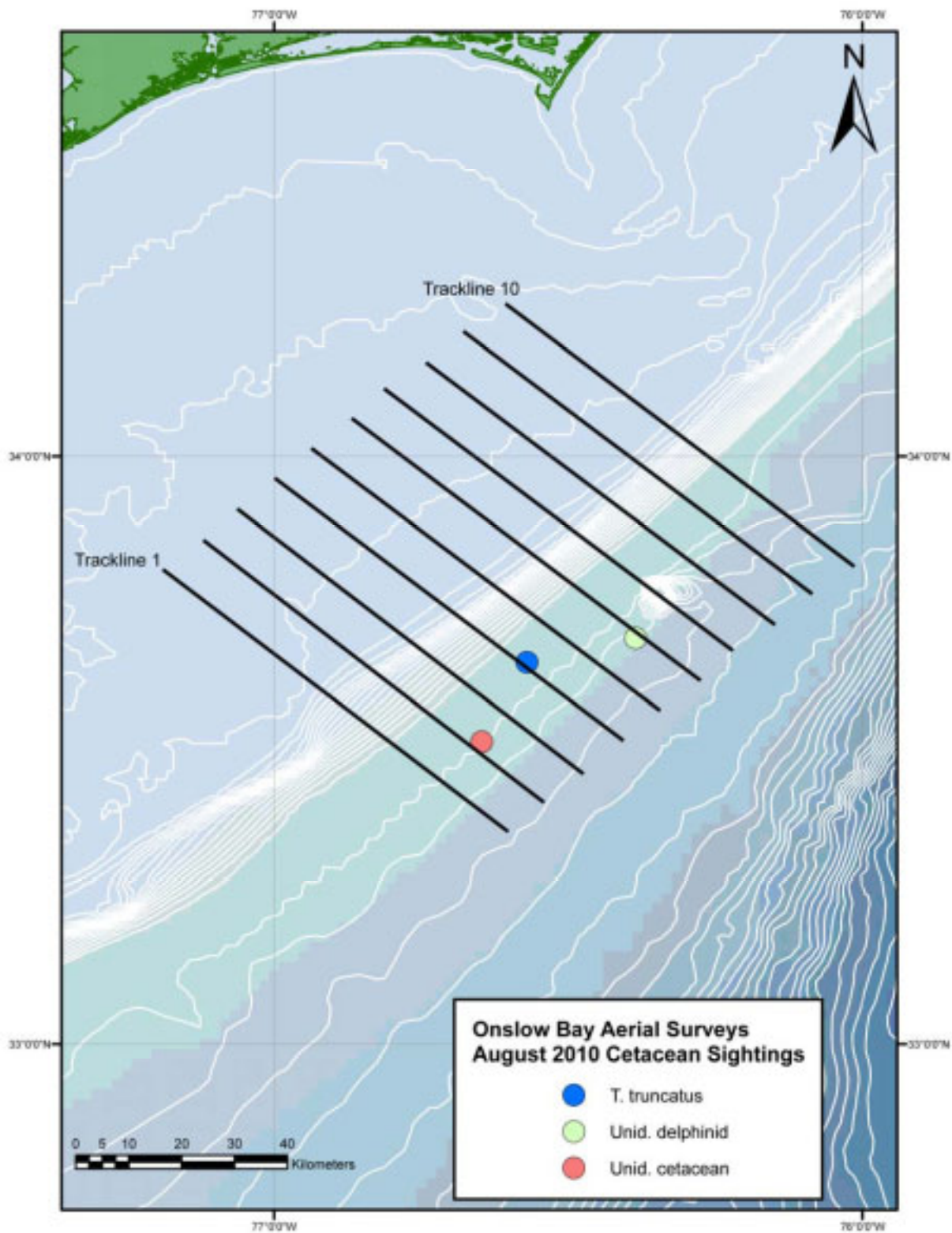


Figure 5. The locations of cetaceans sighted during aerial surveys from July 24, 2010 - August 23, 2010 of the Onslow Bay USWTR study region.

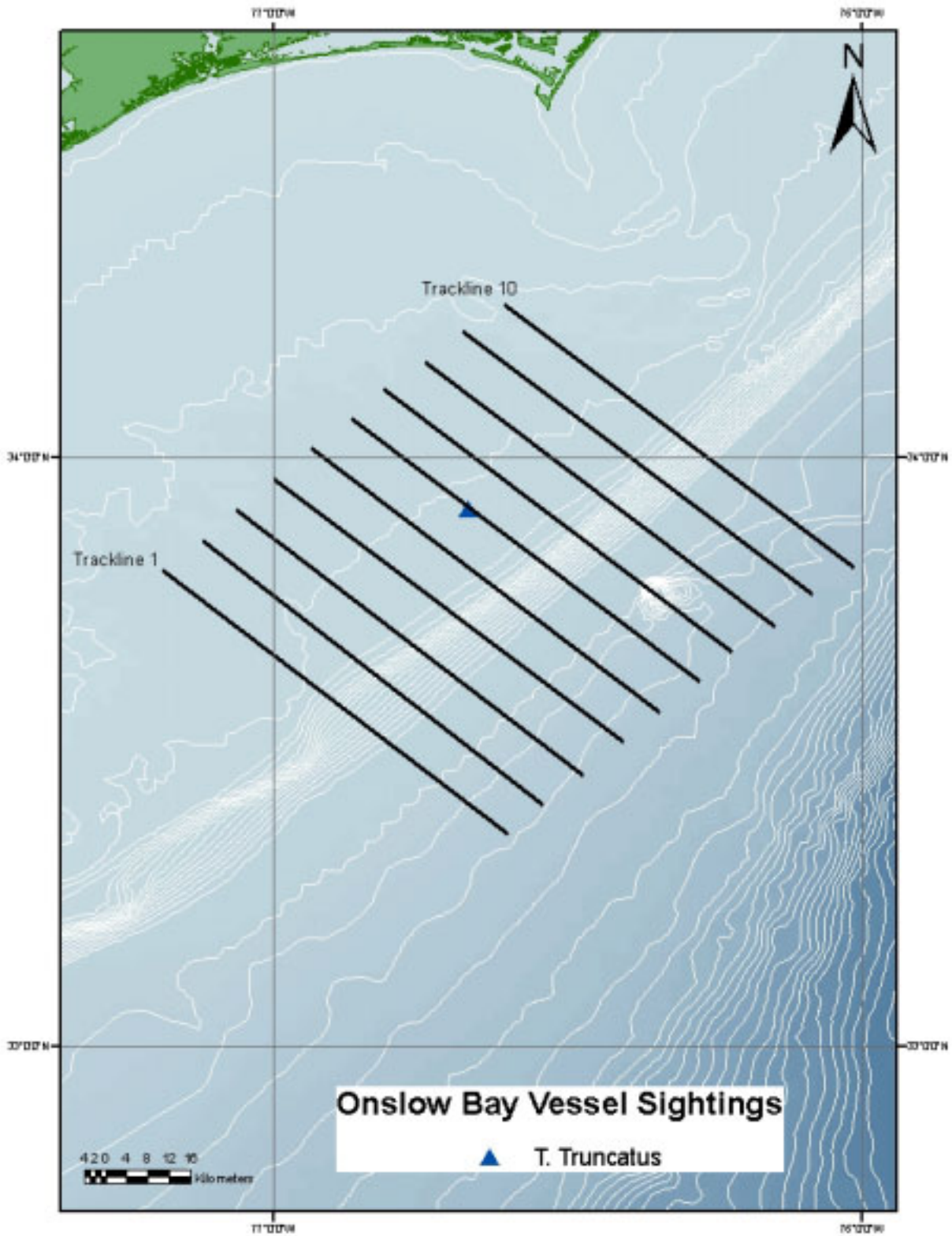


Figure 6. Locations of cetaceans and sea turtles sighted during vessel surveys from July 24, 2010 – August 23, 2010 of the Onslow Bay USWTR study region.

Monitoring of Protected Species in the Proposed Onslow Bay and Jacksonville USWTRs

Progress Report: August 24, 2010 through September 23, 2010

Planning (Task 1, 2 & 3)

The annual report meeting for Onslow Bay, NC USWTR Year 3 and Jacksonville, FL USWTR Year 1 was held at the Duke University Marine Laboratory on August 27, 2010. This meeting was attended by Duke, UNCW and CREEM (remotely) PI's and staff, several Navy representatives, and project managers from Parsons and HDR|e²M. The meeting consisted of several presentations that summarized the work to date at both USWTR locations and plans for the future at both sites. Discussion of reducing vessel surveys in Onslow Bay in 2011 but extending the scope of work to include behavioral studies of pilot whales and aerial surveys off Cape Hatteras, NC was initiated and the immediate feedback was positive.

Purchasing (Task 1).

Purchases for the next round of HARP deployments in JAX were started during this reporting period. Computer monitors (2) and various office supplies were purchased. The Passive Acoustic Monitoring (PAM) computer was repaired and the office network was serviced and improved in Fernandina Beach. One pair of David Clark headsets was sent back to the manufacturer for refurbishment of frayed wired and ear cups (at ¼ of the original purchase price).

Travel (Task 1 & 3)

Both the Onslow Bay (UNCW group) and Jacksonville USWTR teams traveled to Beaufort, NC to attend the annual report meeting on August 27, 2010. On September 7th Ryan McAlarney and Erin Cummings traveled to Beaufort to assist the Duke team in a vessel survey on September 8th of the Onslow Bay USWTR. The survey was aborted shortly after heading offshore due to unfavorable weather conditions.

JAX Survey activity (Task 2)

Aerial Surveys

Aerial surveys were performed on the 8th, 9th and 10th of September, for a total of 20 track lines. Six track lines were surveyed on September 8th, eight on September 9th and eight on September 10th (Table 1). Survey conditions ranged from fair to excellent, with Beaufort Sea State conditions ranging from 0 to 3 (Table 1). Several track lines had to be truncated due to squalls (Table 1). There was a total of 21 on effort cetacean encounters: bottlenose dolphins (*Tursiops truncatus*: 12 encounters), Atlantic spotted dolphins (*Stenella frontalis*: 5 encounters), short-finned pilot whales (*Globicephala macrorhynchus*: 3 encounters) and Risso's dolphins (*Grampus griseus*: 1 encounter). One of the encounters were of a mixed species group of *G. macrorhynchus* (n=30) and *T. truncatus* (n=6). In addition, two groups of *G. griseus* and one group of *T. truncatus* were encountered during off-effort transit between tracklines (Figure 1,

Table 2). A total of 65 sea turtles were observed during the reporting period; 43 loggerhead sea turtles (*Caretta caretta*), four leatherback sea turtles (*Dermochelys coriacea*), two Kemp's Ridley sea turtles (*Lepidochelys kempi*), and 16 unidentified sea turtles (Figure 2, Table 3).

Vessel Surveys

No vessel survey was performed during the reporting period due to high seas.

Towed Passive Acoustics

The towed acoustic array was not deployed on vessel surveys during this reporting period.

JAX HARPs (Task 3)

Both HARPs in the JAX USWTR were refurbished and redeployed in their same locations on August 27, 2010 (Figure 3).

Onslow Bay Survey activity (Task 5)

Aerial Surveys

Aerial surveys in Onslow Bay occurred on the 14th and 15th of this month covering 12 tracklines (Table 4). Despite a forecast of good survey conditions actual conditions ranged from poor to fair. On the 14th a Beaufort Sea States of a 3 to a 4 forced the team to cut surveys short after 6 tracklines during which no cetacean were observed. The following day conditions improved to a sea state of 2 to 3 allowing the team to complete another 6 tracklines and recording 3 cetacean sightings (Table 5, Figure 4). Between the two days 4 loggerhead sea turtles were also recorded (Table 6, Figure 4). Completion of the remaining 8 tracklines for the month of September is dependent on weather conditions.

Vessel Surveys

Due to unfavorable weather conditions for the majority of the month no vessel surveys were completed. We attempted to survey on three days (August 31, September 8 and September 14) when the weather forecast appeared most favorable. However, upon receiving the 5am forecast on the day of survey or after starting the journey offshore, we determined that the winds and/or the swell were too high to conduct a successful survey and aborted our efforts.

Towed Passive Acoustics

The towed acoustic array was not deployed on vessel surveys during this reporting period.

Onslow Bay HARPs (Task 6)

Both HARPs are currently in place and monitoring.

Exercise Monitoring (Task 7)

No exercise monitoring occurred during the reporting period

No injuries occurred during the reporting period.

Table 1. Aerial survey effort table for the JAX USWTR study region during Aug 24-Sept 23 2010

Date	Line	Sea State	Kilometers Flown	HOBBS Hours
8-Sep-10	1	1	71.6	4.4
8-Sep-10	2	1 to 3	84.8	
8-Sep-10	3	1 to 2	53.8	
8-Sep-10	4	1	81.4	
9-Sep-10	10	1 to 2	82.4	8.7
9-Sep-10	9	1 to 2	85.7	
9-Sep-10	8	1 to 2	82.7	
9-Sep-10	7	1 to 2	85.3	
9-Sep-10	6	0 to 1	76.8	
9-Sep-10	5	0 to 1	86.8	
9-Sep-10	4	0 to 1	81.9	
9-Sep-10	3	0 to 1	79.9	
10-Sep-10	10	2 to 3	85.4	4.6
10-Sep-10	9	2 to 3	86.1	
10-Sep-10	8	2 to 3	86.0	
10-Sep-10	7	2 to 3	86.7	
10-Sep-10	6	2 to 3	86.6	
10-Sep-10	5	1 to 3	84.3	
10-Sep-10	2	1 to 3	86.5	
10-Sep-10	1	1 to 3	84.1	

Table 2. Cetacean sightings during aerial surveys in the JAX USWTR study region during Aug 24-Sept 23 2010.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
8-Sep-10	12:54	On	29.985209	-80.584939	1	<i>T. truncatus</i>	Bottlenose Dolphin	3
8-Sep-10	13:10	On	30.365374	-80.663653	7	<i>T. truncatus</i>	Bottlenose Dolphin	6
8-Sep-10	13:21	On	29.958024	-80.078054	1	<i>G. macrorhynchus</i>	Short-finned Pilot Whale	20
8-Sep-10	14:45	On	30.101518	-80.033725	3	<i>G. macrorhynchus</i>	Short-finned Pilot Whale	30
8-Sep-10	14:45	On	30.101518	-80.033725	3	<i>T. truncatus</i>	Bottlenose dolphin	6
8-Sep-10	15:38	Off	30.161126	-79.776336	n/a	<i>G. griseus</i>	Risso's Dolphin	19
8-Sep-10	15:41	On	30.306444	-80.233738	6	<i>T. truncatus</i>	Bottlenose Dolphin	9
8-Sep-10	15:53	On	30.166545	-80.104081	4	<i>G. griseus</i>	Risso's Dolphin	37
9-Sep-10	8:49	On	30.550272	-80.481691	10	<i>T. truncatus</i>	Bottlenose Dolphin	6
9-Sep-10	9:02	On	30.561181	-80.384668	10	<i>T. truncatus</i>	Bottlenose Dolphin	11
9-Sep-10	9:12	On	30.570181	-80.307318	10	<i>S. frontalis</i>	Atlantic Spotted Dolphin	20
9-Sep-10	11:17	On	30.502875	-80.628667	9	<i>S. frontalis</i>	Atlantic Spotted Dolphin	5
9-Sep-10	11:28	On	30.500845	-80.681718	9	<i>S. frontalis</i>	Atlantic Spotted Dolphin	19
9-Sep-10	11:45	On	30.438108	-80.552150	8	<i>T. truncatus</i>	Bottlenose Dolphin	6
9-Sep-10	12:36	On	30.369277	-80.314187	7	<i>T. truncatus</i>	Bottlenose Dolphin	20
9-Sep-10	13:10	On	30.355374	-80.663653	7	<i>T. truncatus</i>	Bottlenose Dolphin	6
9-Sep-10	15:01	On	30.307905	-80.637999	6	<i>S. frontalis</i>	Atlantic Spotted Dolphin	27
9-Sep-10	15:11	On	30.285440	-80.572777	6	<i>S. frontalis</i>	Atlantic Spotted Dolphin	22
9-Sep-10	15:24	On	30.302525	-80.331754	6	<i>T. truncatus</i>	Bottlenose Dolphin	8
9-Sep-10	15:41	On	30.306444	-80.233738	6	<i>T. truncatus</i>	Bottlenose Dolphin	9
9-Sep-10	15:55	On	30.306173	-80.002039	6	<i>G. macrorhynchus</i>	Short-finned Pilot Whale	21
9-Sep-10	16:08	Off	30.259573	-79.765893	n/a	<i>G. griseus</i>	Risso's Dolphin	27
9-Sep-10	17:14	Off	30.110498	-79.790738	n/a	<i>T. truncatus</i>	Bottlenose Dolphin	10
9-Sep-10	17:27	On	30.104426	-80.076755	3	<i>T. truncatus</i>	Bottlenose Dolphin	25

Table 3 (2x sections). Sea turtle sightings during aerial surveys in the JAX USWTR study region during Aug 24-Sept 23 2010.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
8-Sep-10	12:50	On	29.985581	-80.671030	1	<i>C. caretta</i>	Loggerhead Sea Turtle	2
8-Sep-10	12:51	On	29.985790	-80.642296	1	<i>C. caretta</i>	Loggerhead Sea Turtle	1
8-Sep-10	12:52	On	29.987074	-80.607165	1	<i>C. caretta</i>	Loggerhead Sea Turtle	1
8-Sep-10	14:32	On	30.102018	-80.331960	3	<i>C. caretta</i>	Loggerhead Sea Turtle	1
8-Sep-10	16:03	On	30.184955	-80.340898	4	<i>C. caretta</i>	Loggerhead Sea Turtle	1
8-Sep-10	16:04	On	30.184969	-80.366890	4	<i>C. caretta</i>	Loggerhead Sea Turtle	1
8-Sep-10	16:04	On	30.184993	-80.395468	4	<i>D. coriacea</i>	Leatherback Sea Turtle	1
8-Sep-10	16:16	On	30.185372	-80.587017	4	<i>C. caretta</i>	Loggerhead Sea Turtle	1
8-Sep-10	16:18	On	30.184593	-80.662872	4	Unidentified Sea Turtle	Unidentified Sea Turtle	1
9-Sep-10	8:45	On	30.587774	-80.608723	10	<i>C. caretta</i>	Loggerhead Sea Turtle	1
9-Sep-10	8:46	On	30.587918	-80.545908	10	Unidentified Sea Turtle	Unidentified Sea Turtle	1
9-Sep-10	8:47	On	30.587964	-80.509517	10	<i>C. caretta</i>	Loggerhead Sea Turtle	2
9-Sep-10	9:01	On	30.588446	-80.402734	10	<i>C. caretta</i>	Loggerhead Sea Turtle	1
9-Sep-10	9:09	On	30.585240	-80.361911	10	<i>C. caretta</i>	Loggerhead Sea Turtle	1
9-Sep-10	9:25	On	30.587229	-80.266128	10	Unidentified Sea Turtle	Unidentified Sea Turtle	1
9-Sep-10	9:27	On	30.588688	-80.227177	10	<i>C. caretta</i>	Loggerhead Sea Turtle	1
9-Sep-10	11:05	On	30.498475	-80.280941	9	Unidentified Sea Turtle	Unidentified Sea Turtle	1
9-Sep-10	11:05	On	30.498399	-80.302824	9	Unidentified Sea Turtle	Unidentified Sea Turtle	1
9-Sep-10	11:09	On	30.498430	-80.412110	9	Unidentified Sea Turtle	Unidentified Sea Turtle	1
9-Sep-10	11:12	On	30.498087	-80.523951	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
9-Sep-10	11:14	On	30.498059	-80.592615	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
9-Sep-10	11:15	On	30.498009	-80.607319	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
9-Sep-10	11:23	On	30.499214	-80.846108	9	Unidentified Sea Turtle	Unidentified Sea Turtle	3
9-Sep-10	11:24	On	30.497680	-80.672133	9	<i>C. caretta</i>	Loggerhead Sea Turtle	2
9-Sep-10	11:40	On	30.434277	-80.860708	8	Unidentified Sea Turtle	Unidentified Sea Turtle	2
9-Sep-10	11:56	On	30.433302	-80.477210	8	<i>D. coriacea</i>	Leatherback Sea Turtle	1
9-Sep-10	11:59	On	30.434925	-80.355234	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
9-Sep-10	12:01	On	30.434946	-80.286350	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
9-Sep-10	12:03	On	30.434920	-80.213088	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
9-Sep-10	14:58	On	30.300709	-80.681341	6	<i>C. caretta</i>	Loggerhead Sea Turtle	1
9-Sep-10	15:19	On	30.301703	-80.465099	6	<i>C. caretta</i>	Loggerhead Sea Turtle	1
9-Sep-10	15:19	On	30.301661	-80.445950	6	<i>L. kempii</i>	Kemp's Ridley Sea Turtle	1
9-Sep-10	15:22	On	30.301891	-80.348374	6	<i>C. caretta</i>	Loggerhead Sea Turtle	1
9-Sep-10	15:22	On	30.301870	-80.352869	6	<i>C. caretta</i>	Loggerhead Sea Turtle	1
9-Sep-10	15:38	On	30.301985	-80.273748	6	<i>C. caretta</i>	Loggerhead Sea Turtle	1
9-Sep-10	16:18	On	30.231432	-80.068385	5	<i>D. coriacea</i>	Leatherback Sea Turtle	1
9-Sep-10	16:22	On	30.231550	-80.213982	5	<i>C. caretta</i>	Loggerhead Sea Turtle	2
9-Sep-10	16:26	On	30.231669	-80.376513	5	<i>C. caretta</i>	Loggerhead Sea Turtle	1
9-Sep-10	16:28	On	30.231546	-80.424170	5	<i>L. kempii</i>	Kemp's Ridley Sea Turtle	1

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
9-Sep-10	16:29	On	30.231546	-80.460335	5	<i>C. caretta</i>	Loggerhead Sea Turtle	1
9-Sep-10	16:30	On	30.231463	-80.516025	5	Unidentified Sea Turtle	Unidentified Sea Turtle	1
9-Sep-10	16:32	On	30.231314	-80.589852	5	<i>C. caretta</i>	Loggerhead Sea Turtle	1
9-Sep-10	16:34	On	30.231160	-80.686152	5	<i>D. coriacea</i>	Leatherback Sea Turtle	1
9-Sep-10	16:35	On	30.231050	-80.688910	5	<i>C. caretta</i>	Loggerhead Sea Turtle	2
9-Sep-10	16:41	On	30.187460	-80.596540	4	<i>C. caretta</i>	Loggerhead Sea Turtle	1
9-Sep-10	16:41	On	30.187395	-80.570872	4	Unidentified Sea Turtle	Unidentified Sea Turtle	1
9-Sep-10	16:43	On	30.187565	-80.504839	4	<i>C. caretta</i>	Loggerhead Sea Turtle	2
9-Sep-10	16:46	On	30.187702	-80.388551	4	Unidentified Sea Turtle	Unidentified Sea Turtle	1
9-Sep-10	17:47	On	30.098615	-80.846358	3	Unidentified Sea Turtle	Unidentified Sea Turtle	1
10-Sep-10	10:26	On	30.384501	-80.439790	7	<i>C. caretta</i>	Loggerhead Sea Turtle	1
10-Sep-10	11:27	On	30.231314	-80.553265	5	<i>C. caretta</i>	Loggerhead Sea Turtle	1
10-Sep-10	11:27	On	30.231104	-80.578754	5	<i>C. caretta</i>	Loggerhead Sea Turtle	1
10-Sep-10	11:38	On	30.033054	-80.840507	2	<i>C. caretta</i>	Loggerhead Sea Turtle	2
10-Sep-10	11:40	On	30.033152	-80.547176	2	<i>C. caretta</i>	Loggerhead Sea Turtle	1
10-Sep-10	12:25	On	29.964270	-80.518148	1	Unidentified Sea Turtle	Unidentified Sea Turtle	1

Table 4. Aerial survey effort table for the Onslow Bay USWTR study region during Aug 24-Sept 23 2010

Date	Line	Sea State	Kilometers Flown	HOBBS Hours
14-Sep-2010	6	3 to 4	74.7	3.8
14-Sep-2010	5	3 to 4	17.1	
14-Sep-2010	7	3 to 4	73.5	
14-Sep-2010	8	3 to 4	75.1	
14-Sep-2010	9	3 to 4	74.4	
14-Sep-2010	10	3 to 4	74.6	
14-Sep-2010	5	3 to 4	74.0	
15-Sep-2010	4	2 to 3	75.0	4.4
15-Sep-2010	3	2 to 3	75.0	
15-Sep-2010	2	2 to 3	73.7	
15-Sep-2010	1	2 to 3	74.2	
15-Sep-2010	5	2 to 3	73.8	
15-Sep-2010	6	2 to 3	73.8	

Table 5. Cetacean sightings during aerial surveys in the Onslow Bay USWTR study region during Aug 24-Sept 23 2010.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
15-Sep-10	13:34	On	33.684196	-76.900859	2	Unid. delphinid	Unid. delphinid	1
15-Sep-10	14:24	On	33.623457	-76.938743	1	S. frontalis	Spotted dolphin	37
15-Sep-10	14:58	On	33.954389	-76.849868	5	S. frontalis	Spotted dolphin	2

Table 6. Sea turtle sightings during aerial surveys in the Onslow Bay USWTR study region during Aug 24-Sept 23 2010.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
14-Sep-10	9:38	On	33.638513	-76.441811	5	C. caretta	Loggerhead sea turtle	1
14-Sep-10	10:19	On	34.045289	-76.572782	8	C. caretta	Loggerhead sea turtle	1
14-Sep-10	11:08	On	34.175098	-76.481502	10	C. caretta	Loggerhead sea turtle	1
15-Sep-10	13:26	On	33.803430	-77.045227	2	C. caretta	Loggerhead sea turtle	1

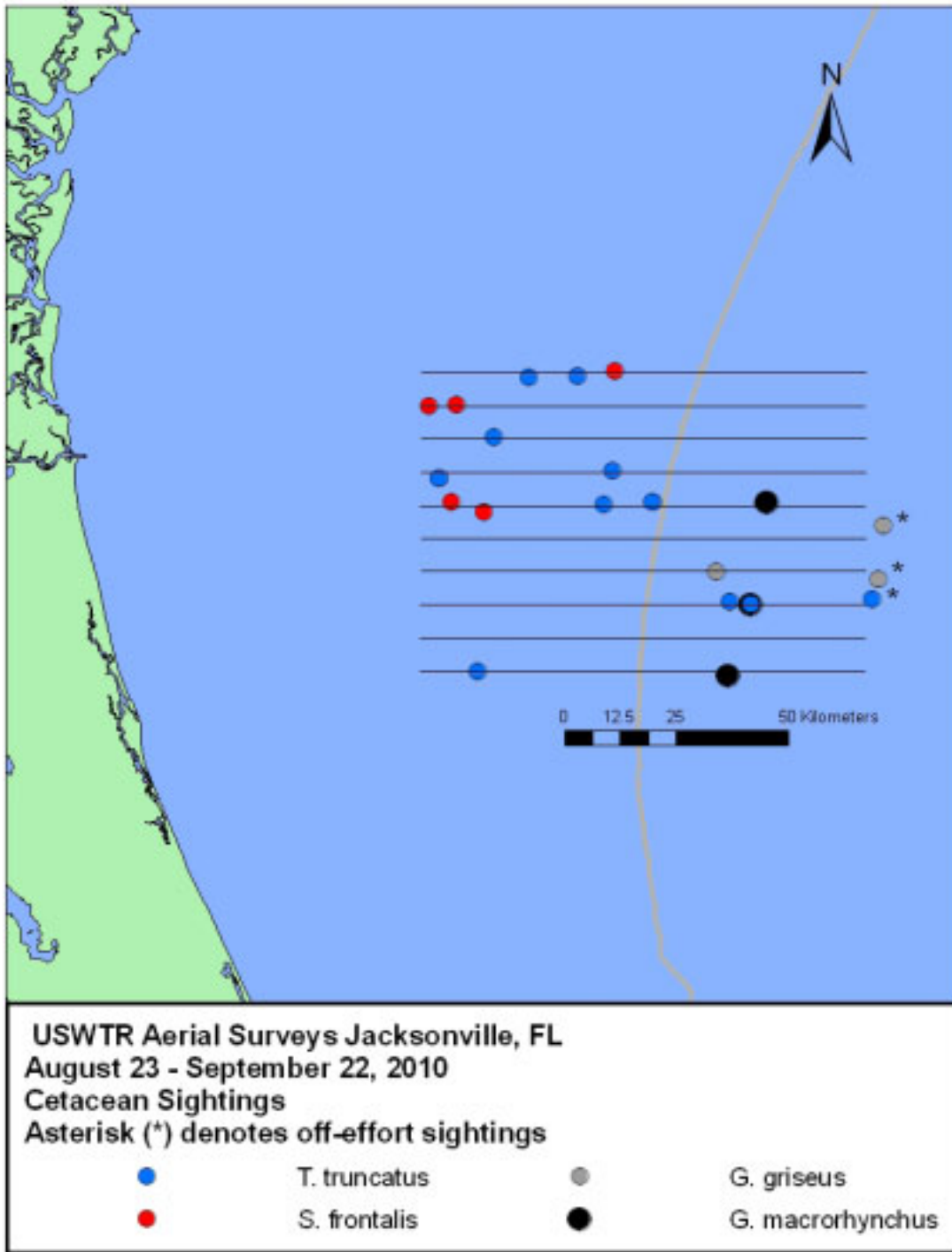


Figure 1. The locations of cetaceans and turtles sighted during aerial surveys of the JAX USWTR study region during Aug 24-Sept 23 2010.

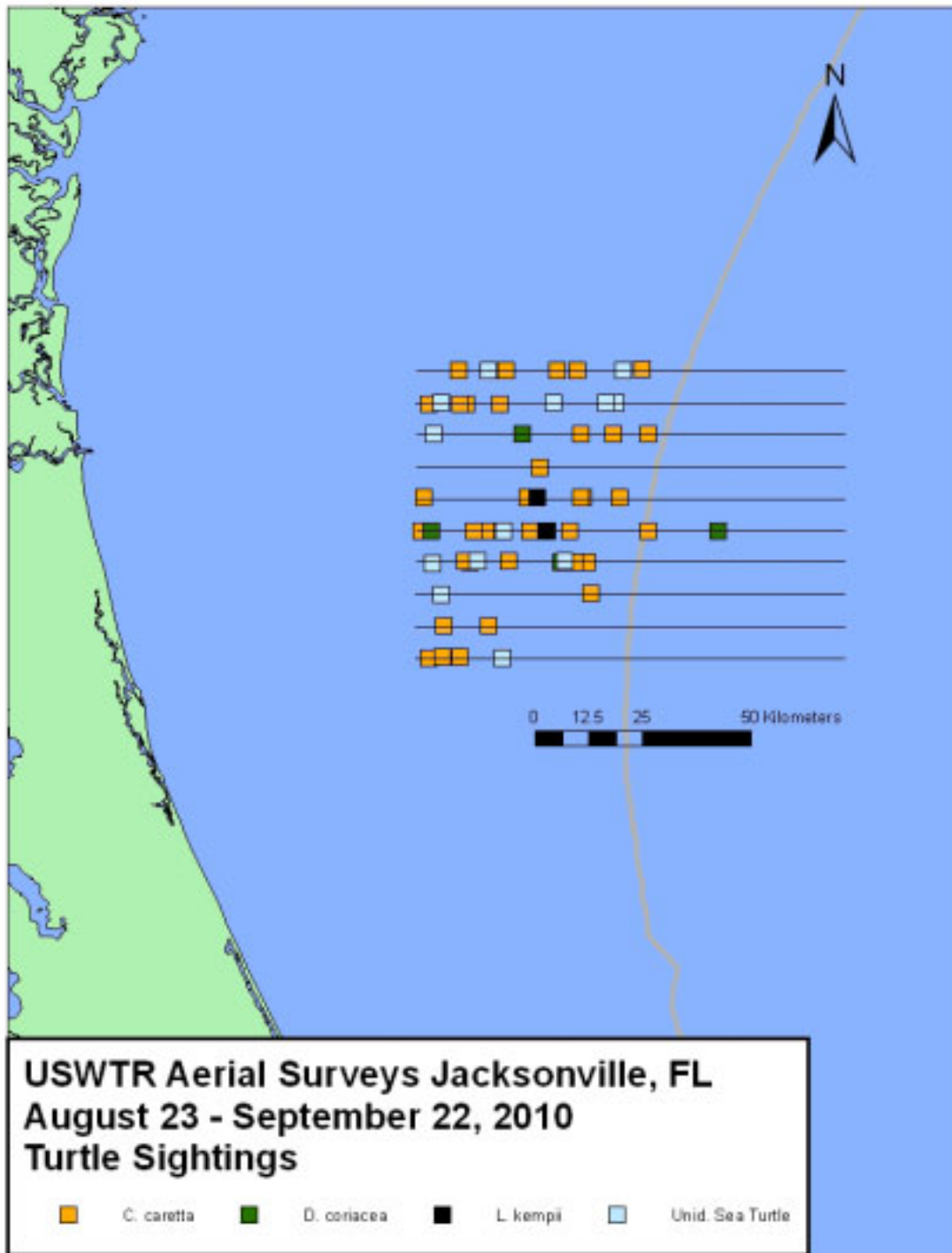


Figure 2. The locations of turtles sighted during aerial surveys of the JAX USWTR study region during Aug 24-Sept 23 2010.

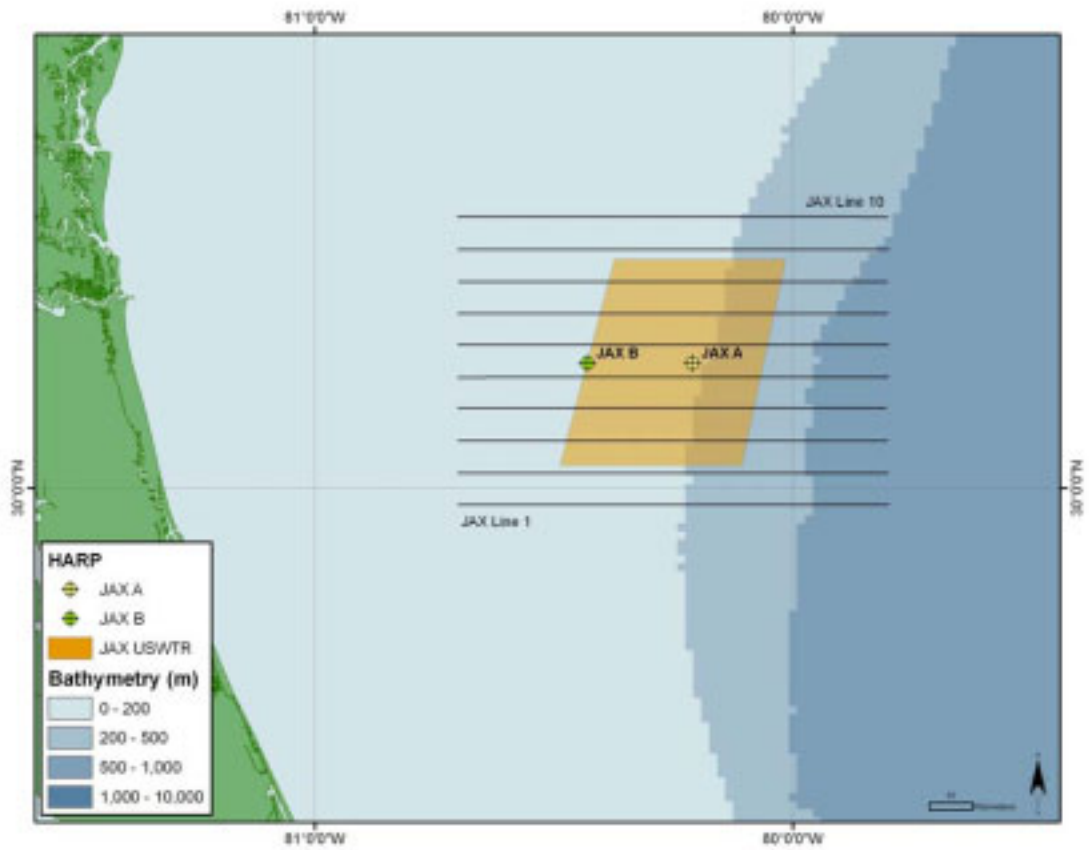


Figure 3. Locations of HARPs redeployed in the JAX USWTR study region during Aug 24-Sept 23 2010.

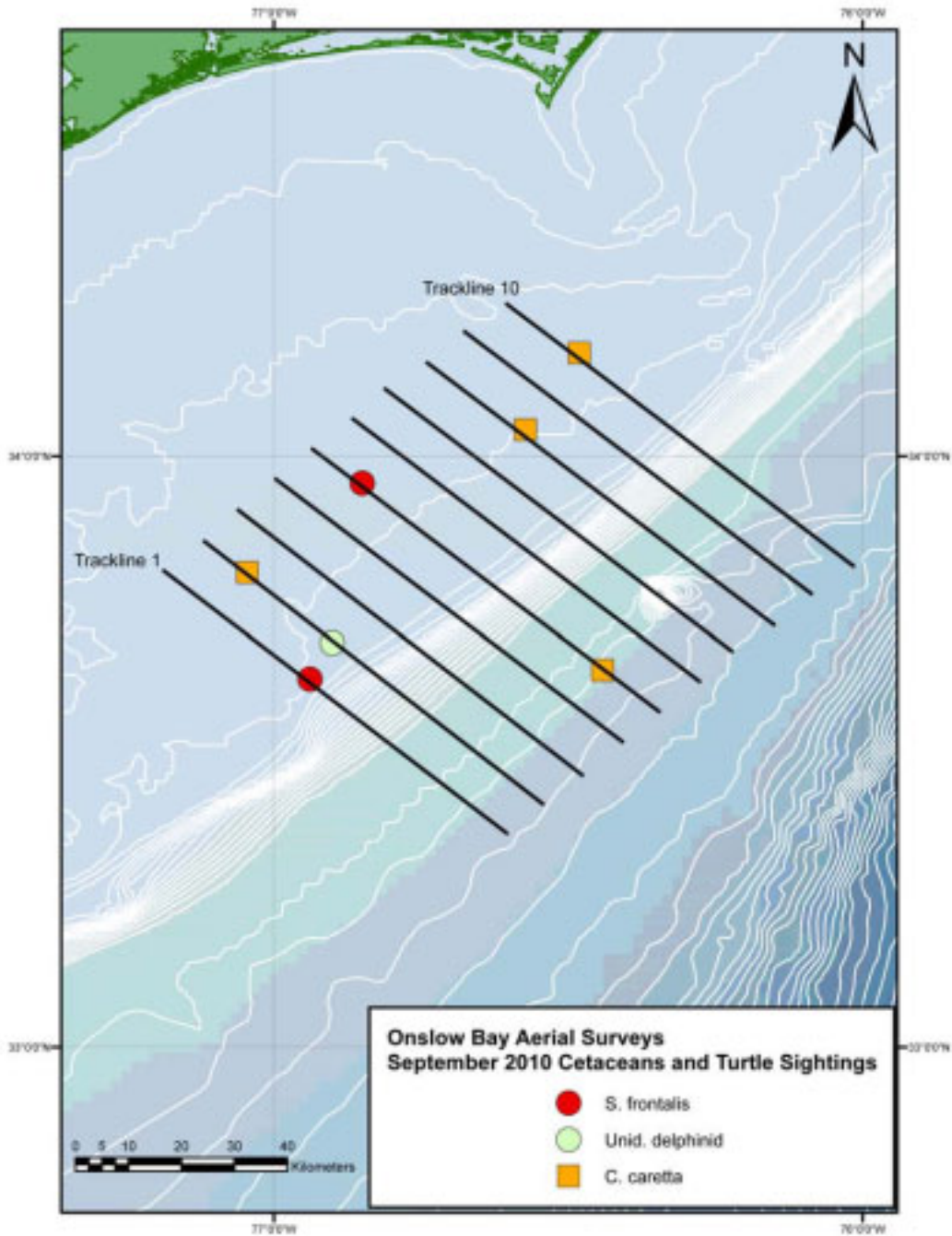


Figure 4. The locations of cetaceans and turtles sighted during aerial surveys of the Onslow Bay USWTR study region during Aug 24-Sept 23 2010.

Monitoring of Protected Species in the Proposed Onslow Bay and Jacksonville USWTRs

Progress Report: September 23, 2010 through October 24, 2010

Planning (Task 1, 2 & 3)

Dr. Andy Read and William McLellan participated in a two day meeting held in Crystal City, VA on 19-20 October in the continuing series of planning Navy Marine Mammal Monitoring programs. The meeting focused on permit requirements with NOAA and streamlining monitoring operations.

Purchasing (Task 1).

Various office supplies were purchased for the Fernandina Beach, FL office. Satellite services were purchased for a year for both JAX and Onslow sites.

Travel (Task 1 & 3)

Ryan McAlarney and Erin Cummings traveled to Beaufort, NC to participate in the Duke vessel survey on October 10th in Onslow Bay. Dr. Andy Read and William McLellan participated in a two day meeting held in Crystal City, VA on 19-20 October.

JAX Survey activity (Task 2)

Aerial Surveys

Aerial surveys were performed on the 18th, 19th and 20th of October, for a total of 18 track lines. Four track lines were surveyed on October 18th, ten on October 19th and four on October 20th (Table 1). Due to a closure of area 6X, encompassing the majority of track lines 1 through 6, on the 19th and the 20th, those lines were only surveyed once whereas lines 7 through 10 were covered three times (Table 1). Survey conditions ranged from poor to excellent, with Beaufort Sea State conditions ranging from 1 to 4 (Table 1). A total of 12 on effort cetacean encounters were observed: bottlenose dolphins (*Tursiops truncatus*: 5 encounters), Atlantic spotted dolphins (*Stenella frontalis*: 4 encounters), rough-toothed dolphins (*Steno bredanensis*: 1 encounter), short-finned pilot whales (*Globicephala macrorhynchus*; 1 encounter) and one group of dolphins which could not be identified to species (Figure 1; Table 2). A total of 24 sea turtles were observed during the reporting period; 15 loggerhead sea turtles (*Caretta caretta*), five leatherback sea turtles (*Dermochelys coriacea*), and four unidentified sea turtles (Figure 2, Table 3).

Vessel Surveys

Vessel surveys of track lines 2, 9, and 7 were performed on October 10th, 12th and 13th, respectively. Each track line was truncated by several kilometers due to Navy exercises in the eastern part of the survey area (Table 4). Sea conditions ranged from fair to excellent (Table 4). Ten cetacean groups were encountered while on effort: seven groups of *S. frontalis* and three groups of *T. truncatus*. A total of 11 sea turtles were recorded: three *C. caretta*, three *D. coriacea*, and five unidentified sea turtles (Figure 3; Table 5).

Towed Passive Acoustics

The hardware issues with the PAM computer were rectified during the last reporting period, and the array was deployed on October 10th. During the survey the computer lost power and upon rebooting the computer a software issue with the driver for the MOTU device occurred. The problem was unable to be rectified prior to the surveys on the 12th and 13th. The PAM unit was removed and is currently being reformatted. There were a total of seven files recorded on October 10th, encompassing 26 minutes and three acoustic events. One of these three events was visually confirmed by the observation team (*S. frontalis*).

Onslow Bay Survey activity (Task 5)

Aerial Surveys

Survey effort was conducted over 2 survey days covering 12 tracklines in survey conditions that ranged from good to poor (Table 6). On October 21st there were three military operations that were being conducted inside the USWTR range (1 live fire exercise and 2 air craft carrier flight exercises) that required the team to either alter the course flights or truncate lines in order to stay outside of the designated exclusion areas. All ten lines were completed with only a total of 20nm being truncated from offshore areas of lines 4 through 7. Morning tracklines were flown in good conditions enabling observers to make three cetacean sightings (1 of bottlenose dolphins and 2 of Risso's dolphins) all of which occurred offshore of the shelf break (Table 7, Figure 4). All sea turtles sightings that day were also recorded during the morning flights (Table 8, Figure 4). Afternoon flights saw an increase in Beaufort sea state and resulted in no sightings being recorded. On the 22nd survey conditions remained high causing the team to limit surveys to two tracklines, during which a single sea turtle sighting was recorded. As inshore conditions were slightly better the team conducted a coastal survey from Cape Lookout down to the mouth of the Cape Fear River and back up to Wrightsville beach, no large marine mammals were encountered. These coastal surveys have been part of our standard operating procedures during months in which Right whales have been known to transit down our coast and have resulted in animals being encountered both on their southern and northern transits. The lab had also received a report of a Right whale being sighted a few weeks earlier within Onslow Bay.

Vessel Surveys

Three lines were surveyed during the reporting period. Line 2 was surveyed on 23 September aboard the *M/V Sensation*, Line 8 was surveyed on 24 September aboard the *R/V Cetus*, and Line 4 was surveyed on 10 October aboard the *M/V Sensation*. We attempted to conduct a line transect survey on 11 October but due to unfavorable conditions on our way to the start of the transect line the survey was aborted and we returned to shore (Table 9). Five groups of bottlenose dolphins, four groups of Atlantic spotted dolphins and two loggerhead

turtles were sighted (Table 10). Locations of cetaceans and sea turtles documented in Onslow Bay during vessel surveys are presented in Figure 5.

Towed Passive Acoustics

No towed acoustics surveys were conducted this month in Onslow Bay.

No personnel were injured during these operations.

Exercise Monitoring (Task 7)

Table 1. Aerial survey effort table for the JAX USWTR study region from September 23, 2010 through October 24, 2010.

Date	Line	Sea State	Kilometers Flown	HOBBS Hours
18-Oct-10	1	1 to 2	83.9	3.6
18-Oct-10	2	1 to 3	83.7	
18-Oct-10	3	1 to 3	82.9	
18-Oct-10	4	1 to 3	79.4	
19-Oct-10	5	1 to 3	85.7	6.7
19-Oct-10	6	1 to 3	86.1	
19-Oct-10	7	1 to 3	85.9	
19-Oct-10	8	1 to 3	86.7	
19-Oct-10	9	1 to 3	85.8	
19-Oct-10	10	1 to 3	87.2	
19-Oct-10	7	2 to 3	85.8	
19-Oct-10	8	2 to 3	87.0	
19-Oct-10	9	1 to 3	85.5	
19-Oct-10	10	1 to 3	85.3	
20-Oct-10	10	2 to 4	85.7	2.5
20-Oct-10	9	2 to 4	86.3	
20-Oct-10	8	2 to 4	86.5	
20-Oct-10	7	2 to 4	85.9	

Table 2. Cetacean sightings during aerial surveys in the JAX USWTR study region from September 23, 2010 through October 24, 2010.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
18-Oct-10	12:32	On	29.955300	-80.533353	1	<i>S. frontalis</i>	Atlantic Spotted Dolphin	14
18-Oct-10	13:02	On	30.038068	-79.950917	2	<i>T. truncatus</i>	Bottlenose Dolphin	8
18-Oct-10	13:28	On	30.026375	-80.512558	2	<i>S. bredarenensis</i>	Rough-toothed Dolphin	45
18-Oct-10	13:45	On	30.101437	-80.691499	3	Unid. Delphinid	Unid. Delphinid	2
18-Oct-10	14:14	On	30.105502	-80.013435	3	<i>T. truncatus</i>	Bottlenose Dolphin	8
18-Oct-10	14:20	On	30.095035	-80.001853	3	<i>T. truncatus</i>	Bottlenose Dolphin	8
18-Oct-10	14:35	On	30.173050	-79.894166	4	<i>G. macrorhynchus</i>	Short-finned Pilot Whale	11
18-Oct-10	14:46	On	30.170842	-80.066972	4	<i>T. truncatus</i>	Bottlenose Dolphin	4
18-Oct-10	15:03	On	30.161994	-80.466740	4	<i>S. frontalis</i>	Atlantic Spotted Dolphin	35
19-Oct-10	10:55	On	30.571964	-79.888432	10	<i>T. truncatus</i>	Bottlenose Dolphin	13
19-Oct-10	15:20	On	30.568500	-80.516943	10	<i>S. frontalis</i>	Atlantic Spotted Dolphin	18
19-Oct-10	15:25	On	30.568212	-80.571374	10	<i>S. frontalis</i>	Atlantic Spotted Dolphin	27

Table 3. Sea turtle sightings during aerial surveys in the JAX USWTR study region from September 23, 2010 through October 24, 2010.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
18-Oct-10	12:38	On	29.964705	-80.418051	1	<i>C. caretta</i>	Loggerhead Sea Turtle	1
18-Oct-10	12:37	On	29.965844	-80.381552	1	<i>C. caretta</i>	Loggerhead Sea Turtle	1
18-Oct-10	12:38	On	29.966641	-80.360920	1	<i>C. caretta</i>	Loggerhead Sea Turtle	1
18-Oct-10	12:39	On	29.967298	-80.318366	1	<i>C. caretta</i>	Loggerhead Sea Turtle	1
18-Oct-10	12:39	On	29.967095	-80.332057	1	<i>D. coriacea</i>	Leatherback Sea Turtle	1
18-Oct-10	12:40	On	29.967562	-80.283966	1	<i>C. caretta</i>	Loggerhead Sea Turtle	1
18-Oct-10	13:35	On	30.032742	-80.659967	2	<i>C. caretta</i>	Loggerhead Sea Turtle	1
18-Oct-10	13:36	On	30.032458	-80.677534	2	Unid. Sea Turtle	Unid. Sea Turtle	1
18-Oct-10	14:01	On	30.101976	-80.421491	3	<i>D. coriacea</i>	Leatherback Sea Turtle	1
18-Oct-10	14:10	On	30.100878	-80.106061	3	<i>C. caretta</i>	Loggerhead Sea Turtle	1
18-Oct-10	14:11	On	30.100643	-80.084788	3	Unid. Sea Turtle	Unid. Sea Turtle	1
18-Oct-10	14:42	On	30.166818	-79.961493	4	<i>C. caretta</i>	Loggerhead Sea Turtle	1
18-Oct-10	14:51	On	30.169904	-80.160785	4	Unid. Sea Turtle	Unid. Sea Turtle	1
18-Oct-10	14:56	Off	30.165274	-80.312798	4	<i>D. coriacea</i>	Leatherback Sea Turtle	1
18-Oct-10	14:59	On	30.164511	-80.365173	4	<i>D. coriacea</i>	Leatherback Sea Turtle	1
18-Oct-10	15:09	On	30.165736	-80.517338	4	<i>D. coriacea</i>	Leatherback Sea Turtle	1
18-Oct-10	15:11	On	30.168539	-80.587807	4	<i>C. caretta</i>	Loggerhead Sea Turtle	1
18-Oct-10	15:13	On	30.166630	-80.652268	4	<i>C. caretta</i>	Loggerhead Sea Turtle	1
19-Oct-10	9:23	On	30.300029	-80.575962	6	<i>C. caretta</i>	Loggerhead Sea Turtle	1
19-Oct-10	13:33	On	30.367191	-80.549040	7	<i>C. caretta</i>	Loggerhead Sea Turtle	1
19-Oct-10	14:33	On	30.492166	-80.529082	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
19-Oct-10	14:35	On	30.500070	-80.459790	9	Unid. Sea Turtle	Unid. Sea Turtle	1
19-Oct-10	15:17	On	30.567072	-80.460372	10	<i>C. caretta</i>	Loggerhead Sea Turtle	1
19-Oct-10	15:18	On	30.566953	-80.484509	10	<i>C. caretta</i>	Loggerhead Sea Turtle	1

Table 4. Vessel survey effort table for the JAX USWTR study region from September 23, 2010 through October 24, 2010.

Date	Line	Sea State	Kilometers Surveyed	Survey Time (hrs:min)	At Sea Time (hrs:min)
10-Oct-10	2	1 to 2	63.7	4:13	11:57
12-Oct-10	9	2 to 3	52.3	3:13	12:35
13-Oct-10	7	2 to 3	56.3	4:05	12:57

Table 5. Cetacean and sea turtle sightings during aerial surveys in the JAX USWTR study region from September 23, 2010 through October 24, 2010.

Date	Time	On/off effort	Latitude	Longitude	Line	Species	Common Name	Group Size
10-Oct-10	14:23	On	30.031189	-80.295710	2	<i>S. frontalis</i>	Atlantic Spotted Dolphin	55
10-Oct-10	15:00	On	30.023427	-80.406493	2	<i>D. coriacea</i>	Leatherback Sea Turtle	1
10-Oct-10	15:14	On	30.019744	-80.449191	2	Unidentified Sea Turtle	Unidentified Sea Turtle	1
10-Oct-10	15:16	On	30.019877	-80.452515	2	<i>C. caretta</i>	Loggerhead Sea Turtle	1
10-Oct-10	15:26	On	30.017871	-80.465715	2	Unidentified Sea Turtle	Unidentified Sea Turtle	1
10-Oct-10	15:50	Off	30.014441	-80.556888	2	Unidentified Sea Turtle	Unidentified Sea Turtle	1
10-Oct-10	16:06	On	30.014679	-80.590578	2	<i>S. frontalis</i>	Atlantic Spotted Dolphin	32
10-Oct-10	16:24	On	30.013397	-80.621896	2	Unidentified Sea Turtle	Unidentified Sea Turtle	1
10-Oct-10	16:27	On	30.013442	-80.629620	2	<i>D. coriacea</i>	Leatherback Sea Turtle	1
10-Oct-10	16:28	On	30.013187	-80.631886	2	<i>D. coriacea</i>	Leatherback Sea Turtle	1
12-Oct-10	13:07	On	30.506709	-80.153555	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
12-Oct-10	13:56	On	30.507399	-80.258600	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
12-Oct-10	15:11	On	30.505367	-80.507790	9	<i>S. frontalis</i>	Atlantic Spotted Dolphin	4
13-Oct-10	13:19	On	30.384909	-80.017695	7	<i>T. truncatus</i>	Bottlenose Dolphin	10
13-Oct-10	14:56	On	30.369397	-80.281928	7	<i>S. frontalis</i>	Atlantic Spotted Dolphin	11
13-Oct-10	15:13	On	30.366515	-80.298313	7	<i>S. frontalis</i>	Atlantic Spotted Dolphin	1
13-Oct-10	15:36	On	30.365497	-80.346340	7	<i>S. frontalis</i>	Atlantic Spotted Dolphin	28
13-Oct-10	15:44	On	30.367700	-80.367780	7	Unidentified Sea Turtle	Unidentified Sea Turtle	1
13-Oct-10	16:37	On	30.368697	-80.521731	7	<i>S. frontalis</i>	Atlantic Spotted Dolphin	4
13-Oct-10	17:02	On	30.365789	-80.570281	7	<i>T. truncatus</i>	Bottlenose Dolphin	3
13-Oct-10	17:11	On	30.364094	-80.593126	7	<i>T. truncatus</i>	Bottlenose Dolphin	2

Table 6. Aerial survey effort table for the Onslow Bay USWTR study region from September 23, 2010 through October 24, 2010.

Date	Line	Sea State	Kilometers Flown	HOBBS Hours
21-Oct-10	10	2	73.7	6.7
21-Oct-10	9	2	75.5	
21-Oct-10	8	2	75.1	
21-Oct-10	7	2	29.4	
21-Oct-10	3	2 to 3	70.5	
21-Oct-10	2	2 to 3	74.1	
21-Oct-10	1	2	74.0	
21-Oct-10	4	3 to 4	63.5	
21-Oct-10	5	3 to 4	62.9	
21-Oct-10	7	3 to 4	64.1	
21-Oct-10	6	4	66.7	
22-Oct-10	1	4	74.4	3
22-Oct-10	2	4	74.2	

Table 7. Cetacean sightings during aerial surveys in the Onslow Bay USWTR study region from September 23, 2010 through October 24, 2010.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
21-Oct-10	9:39	On Effort	33.813908	-76.141887	9	<i>G. griseus</i>	Risso's dolphin	10
21-Oct-10	11:14	On Effort	33.568532	-76.625898	3	<i>G. griseus</i>	Risso's dolphin	2
21-Oct-10	11:28	On Effort	33.638377	-76.701693	3	<i>T. truncatus</i>	Bottlenose dolphin	18

Table 8. Sea turtle sightings during aerial surveys in the Onslow Bay USWTR study region from September 23, 2010 through October 24, 2010.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
21-Oct-10	9:12	On Effort	34.208447	-76.52842	10	<i>C. caretta</i>	Loggerhead sea turtle	1
21-Oct-10	9:15	On Effort	34.142273	-76.442742	10	<i>C. caretta</i>	Loggerhead sea turtle	1
21-Oct-10	9:22	On Effort	33.986115	-76.241765	10	<i>C. caretta</i>	Loggerhead sea turtle	1
21-Oct-10	9:23	On Effort	33.967972	-76.219487	10	<i>C. caretta</i>	Loggerhead sea turtle	1
21-Oct-10	9:27	On Effort	33.881302	-76.109208	10	<i>C. caretta</i>	Loggerhead sea turtle	1
21-Oct-10	9:52	On Effort	33.871335	-76.220558	9	<i>C. caretta</i>	Loggerhead sea turtle	1
21-Oct-10	10:12	On Effort	34.150538	-76.581982	9	<i>C. caretta</i>	Loggerhead sea turtle	1
21-Oct-10	10:14	On Effort	34.192168	-76.636515	9	<i>C. caretta</i>	Loggerhead sea turtle	1
21-Oct-10	10:26	On Effort	34.037172	-76.56518	8	<i>C. caretta</i>	Loggerhead sea turtle	1
21-Oct-10	10:28	On Effort	33.986482	-76.49817	8	<i>C. caretta</i>	Loggerhead sea turtle	1
22-Oct-10	9:20	On Effort	33.609331	-76.927399	1	<i>C. caretta</i>	Loggerhead sea turtle	1

Table 9. Vessel survey effort table for the Onslow Bay USWTR study region from September 23, 2010 through October 24, 2010.

Date	Line	Sea State	Km Surveyed	Survey Time (hrs:min)	At Sea Time (hrs:min)	Platform
23-Sep-10	2	1	74.08	4:32	10:00	<i>M/V Sensation</i>
24-Sep-10	8	1	74.08	6:04	11:15	<i>R/V Cetus</i>
10-Oct-10	4	1 - 2	74.08	4:41	9:45	<i>M/V Sensation</i>
11-Oct-10	Attempted survey – aborted due to poor sea conditions					<i>R/V Cetus</i>

Table 10. Cetacean and sea turtle sightings during aerial surveys in the Onslow Bay USWTR study region from September 23, 2010 through October 24, 2010.

Date	Time	Effort	Latitude	Longitude	Trackline	Species	Group Size
23-Sep-10	10:10	On	33.49621452	-76.66118053	2	<i>Tursiops truncatus</i>	21
23-Sep-10	13:13	On	33.79537037	-77.04566312	2	<i>Tursiops truncatus</i>	4
24-Sep-10	9:59	On	33.76561274	-76.21006871	8	<i>Tursiops truncatus</i>	2
24-Sep-10	10:13	Off	33.76164405	-76.15542412	8	<i>Tursiops truncatus</i>	22
24-Sep-10	12:39	On	33.97581657	-76.4865094	8	<i>Stenella frontalis</i>	15
24-Sep-10	13:30	On	33.98877338	-76.50209178	8	<i>Stenella frontalis</i>	3
24-Sep-10	13:44	On	34.00134607	-76.51648651	8	<i>Caretta caretta</i>	1
24-Sep-10	13:57	On	34.02712178	-76.55010225	8	<i>Stenella frontalis</i>	4
24-Sep-10	13:57	On	34.02712178	-76.55010225	8	<i>Stenella frontalis</i>	4
24-Sep-10	14:09	Off	34.03299186	-76.55618721	8	<i>Caretta caretta</i>	1
24-Sep-10	15:17	On	34.16008448	-76.72719071	8	<i>Stenella frontalis</i>	4
10-Oct-10	11:00	On	33.64702384	-76.58209184	4	<i>Tursiops truncatus</i>	6

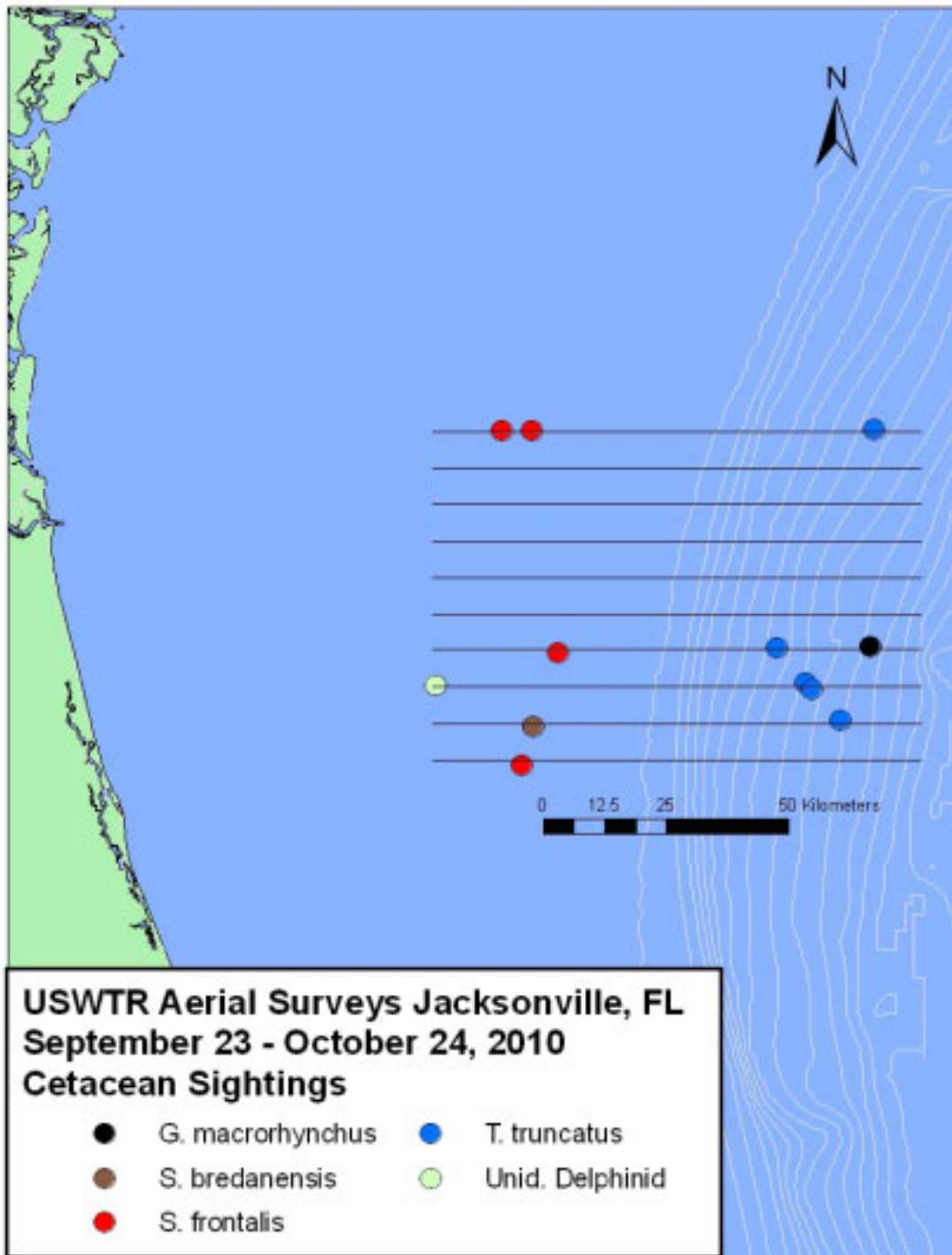


Figure 1. The locations of cetaceans sighted during aerial surveys of the JAX USWTR study region from September 23, 2010 through October 24, 2010.

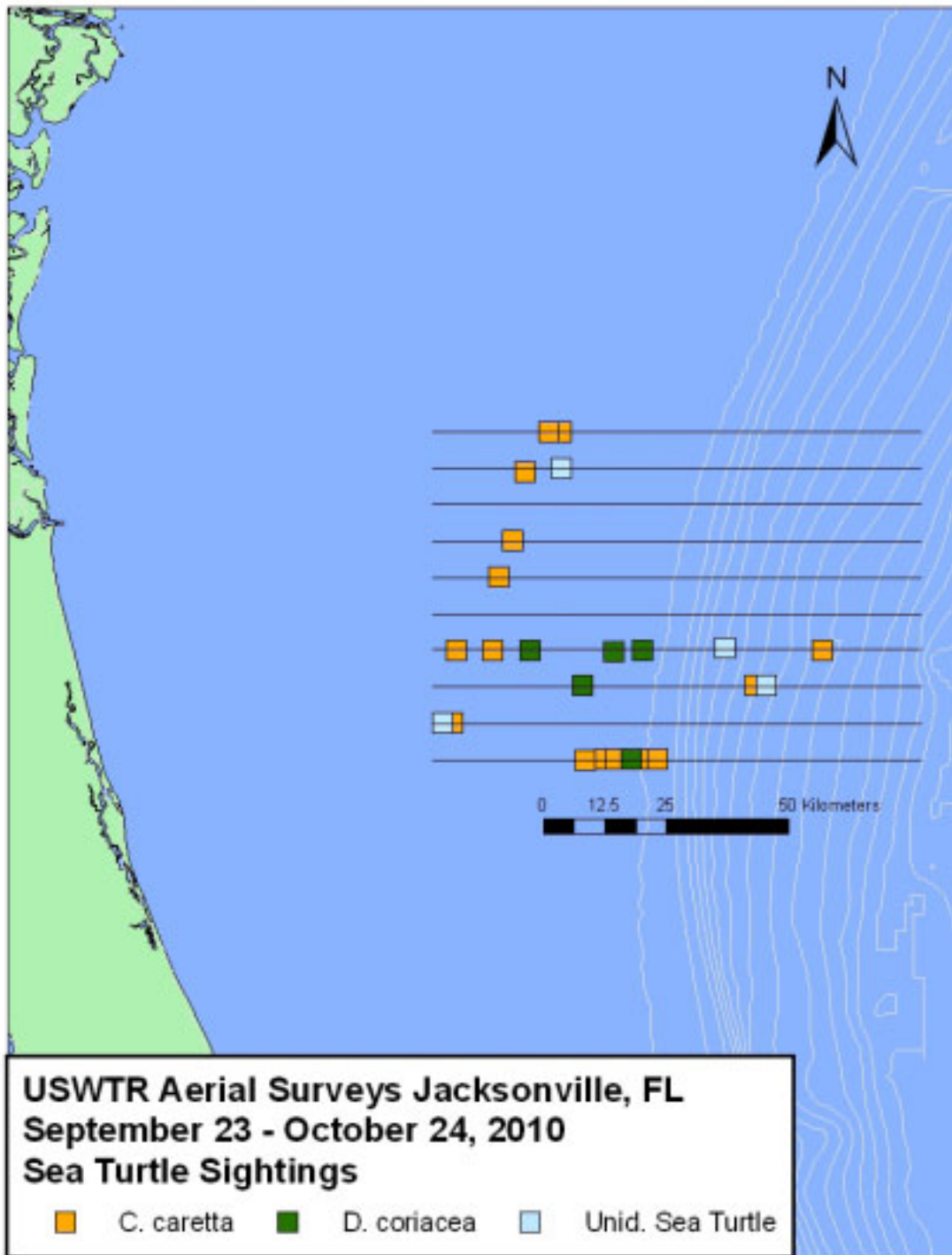


Figure 2. The locations of turtles sighted during aerial surveys of the JAX USWTR study region from September 23, 2010 through October 24, 2010.

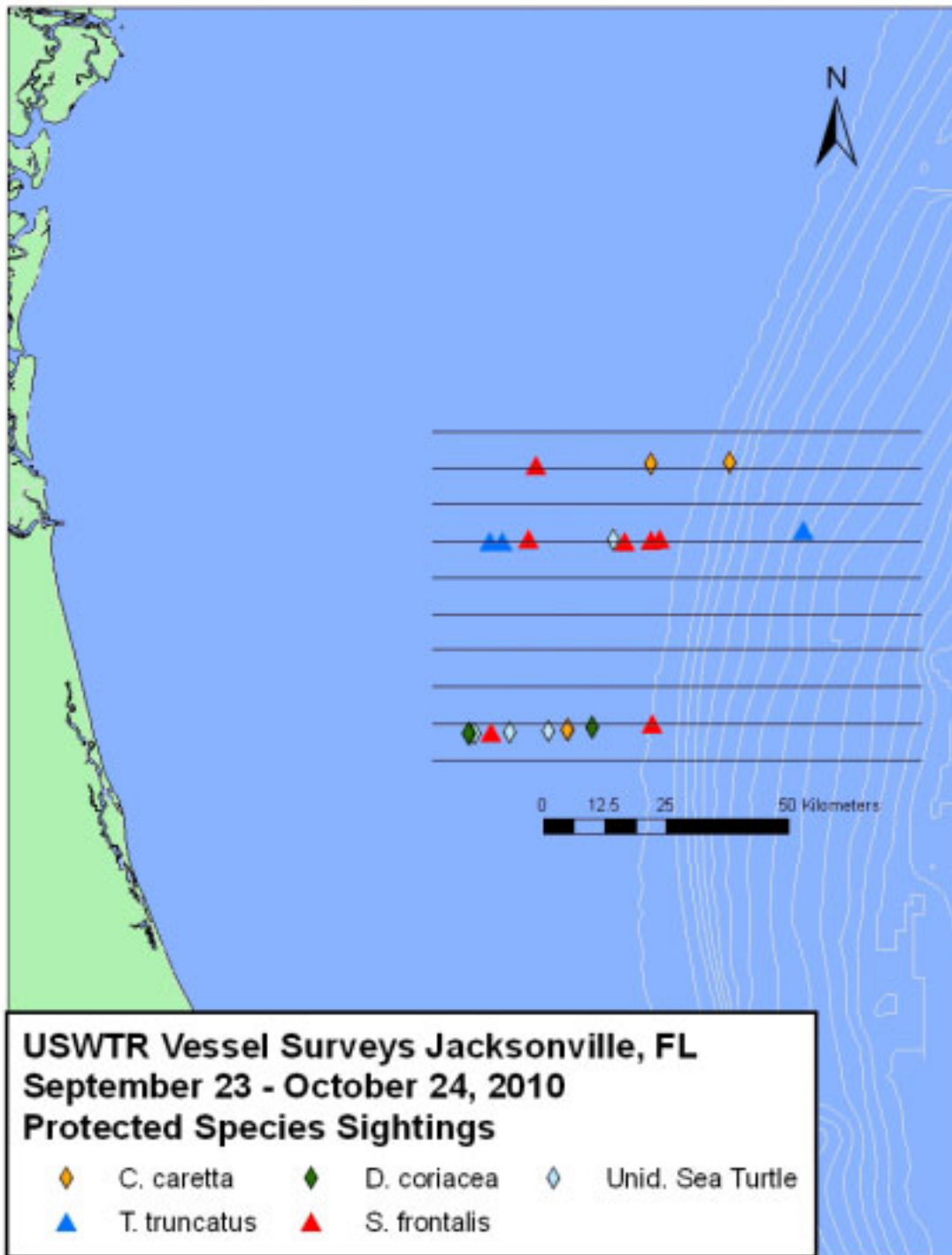


Figure 3. Locations of vessel sightings in the JAX USWTR study region from September 23, 2010 through October 24, 2010.

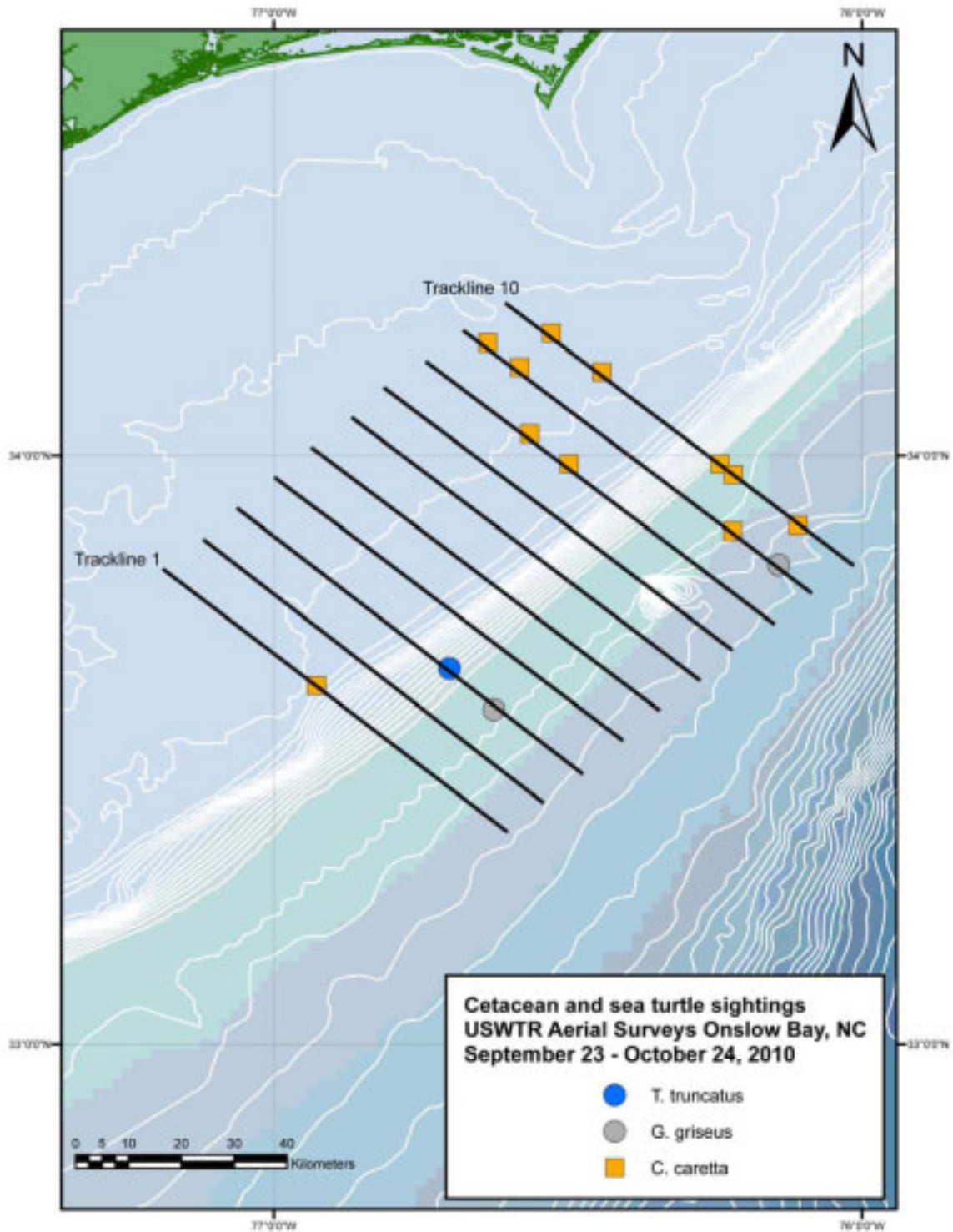


Figure 4. The locations of cetaceans and sea turtles sighted during aerial surveys of the Onslow Bay USWTR study region from September 23, 2010 through October 24, 2010.

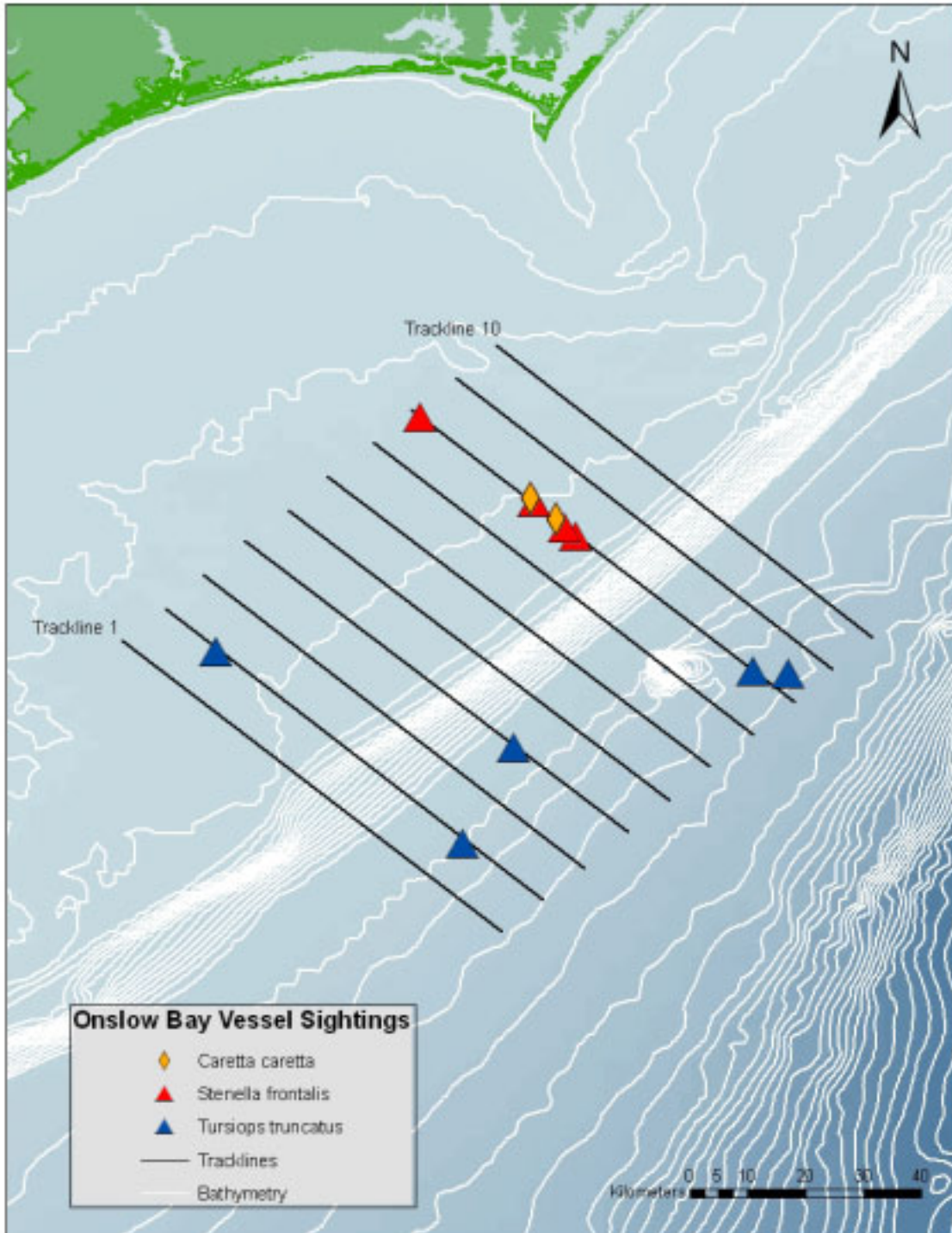


Figure 5. Locations of vessel sightings in the Onslow bay study region from September 23, 2010 through October 24, 2010.

Monitoring of Protected Species in the Proposed Onslow Bay and Jacksonville USWTRs

Progress Report: October 25, 2010 through November 24, 2010

Planning (Task 1, 2 & 3)

Planning for exercise monitoring in the JAX USWTR study region during December was initiated during this reporting period. Planning for refurbishment of JAX HARPs in January/February was also initiated.

Purchasing (Task 1).

One year of operations was added to both of the Onslow and JAX satellite phones for use during survey operations. Various office supplies were purchased for the Fernandina Beach office.

Travel (Task 1 & 3)

Heather Foley and William McLellan traveled to the North Atlantic Right Whale Consortium in New Bedford, MA. Ms. Foley gave a presentation on the observed birth of a right whale calf which occurred in the study area 20 March 2010.

Heather Foley and William McLellan also traveled to the Right Whale Southeast Implementation Team meeting in Jacksonville, FL . Ms. Foley gave a presentation on the observed birth of a right whale calf which occurred in the study area 20 March 2010.

JAX Survey Activity (Task 2)

Aerial Surveys

An aerial survey was performed on November 18th, covering all ten tracklines. Survey conditions were poor to fair, with Beaufort Sea State conditions ranging from 1 to 5 (Table 1). A single encounter with a group of Atlantic spotted dolphins (*Stenella frontalis*) constituted the only cetacean sighting (Table 2; Figure 1). A total of 7 loggerhead sea turtles (*Caretta caretta*) were also observed while on effort (Table 3; Figure 2).

Vessel Surveys

No vessel surveys were conducted during the reporting period due to inclement weather

Towed Passive Acoustics

No towed passive acoustic surveys were conducted during the reporting period.

Onslow Bay Survey Activity (Task 5)

Aerial Surveys

Surveys were conducted on November 19th, but were cut short after four survey lines because of deteriorating survey conditions (Table 4). A coastal survey was conducted from Cape Lookout down to Cape Fear to search for any migrating right whales. Although no whales were observed during this survey there have been reports of whales by South Carolina survey teams as well as a sighting off of Wrightsville Beach on November 22nd. On November 20th survey conditions had improved greatly allowing the team to cover 8 USWTR tracklines, recording nine bottlenose dolphin (*Tursiops truncatus*) sightings (Table 5 ; Figure 4) and 34

sea turtle sightings (Table 6; Figure 5). As discussed in the annual update, additional survey effort was conducted offshore of the USWTR box with the team flying the second offshore line that runs over the second shelf break (Figure 3). A total of four sightings were recorded: one bottlenose dolphin sighting as well as three sightings of beaked whales. All three sightings of beaked whales occurred in close proximity to the deep water associated with the second shelf break (roughly 1500-2000m). These sightings were brief as animals spent little time at the surface before quickly diving from sight. Although images were collected for two of the three sightings, identification of these animals to species is under review. At present, all three sightings are being classified as *Mesoplodon sp.* as this is the highest taxonomic level that we could classify the animals with 100% certainty. This represents the first time the USWTR team has visually detected beaked whales near the USWTR range.

Vessel Surveys

No vessel surveys were conducted during the reporting period.

Towed Passive Acoustics

No towed passive acoustic surveys were conducted during the reporting period.

Exercise Monitoring (Task 7)

No exercise monitoring conducted during this reporting period.

Table 1. Aerial survey effort table for the JAX USWTR study region during October 25, 2010 through November 24, 2010.

Date	Line	Sea State	Kilometers Flown	HOBBS Hours
18-Nov-10	10	2 to 4	85.9	7.7
18-Nov-10	9	1 to 4	86.4	
18-Nov-10	8	2 to 4	86.4	
18-Nov-10	7	2 to 4	86.3	
18-Nov-10	6	2 to 4	85.9	
18-Nov-10	5	3 to 4	84.0	
18-Nov-10	4	3 to 5	86.6	
18-Nov-10	3	3 to 5	86.5	
18-Nov-10	2	3 to 5	86.3	
18-Nov-10	1	3 to 5	85.9	

Table 2. Cetacean sightings during aerial surveys in the JAX USWTR study region during October 25, 2010 through November 24, 2010.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
18-Nov-10	11:22	On	30.234708	-80.380993	5	<i>S. frontalis</i>	Atlantic Spotted Dolphin	58

Table 3. Sea turtle sightings during aerial surveys in the JAX USWTR study region during October 25, 2010 through November 24, 2010

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
18-Nov-10	8:47	On	30.566017	-80.663696	10	<i>C. caretta</i>	Loggerhead Sea Turtle	1
18-Nov-10	8:54	On	30.566650	-80.383205	10	<i>C. caretta</i>	Loggerhead Sea Turtle	1
18-Nov-10	9:59	On	30.433001	-80.040357	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
18-Nov-10	9:31	On	30.499912	-80.416049	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
18-Nov-10	10:25	On	30.366467	-80.374825	7	<i>C. caretta</i>	Loggerhead Sea Turtle	1
18-Nov-10	10:28	On	30.365960	-80.474296	7	<i>C. caretta</i>	Loggerhead Sea Turtle	1
18-Nov-10	10:29	On	30.365933	-80.503937	7	<i>C. caretta</i>	Loggerhead Sea Turtle	1

Table 4. Aerial survey effort table for the Onslow Bay USWTR study region during October 25, 2010 through November 24, 2010.

Date	Line	Sea State	Kilometers Flown	HOBBS Hours
19-Nov-10	10	3 to 4	74.0	3.3
19-Nov-10	9	3 to 4	73.1	
19-Nov-10	8	3 to 4	74.7	
19-Nov-10	7	3 to 4	74.5	
20-Nov-10	1	1 to 3	74.6	7.2
20-Nov-10	2	1 to 3	70.7	
20-Nov-10	3	1	73.8	
20-Nov-10	4	1	72.6	
20-Nov-10	5	1	72.7	
20-Nov-10	6	1 to 2	73.2	
20-Nov-10	1	1 to 2	73.9	
20-Nov-10	1B	1 to 2	34.2	
20-Nov-10	B	2	73.2	
20-Nov-10	10B	2	34.6	
20-Nov-10	10	2	70.1	

Table 5. Cetacean sightings during aerial surveys in the Onslow Bay USWTR study region during October 25, 2010 through November 24, 2010.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
20-Nov-10	9:05	On	33.561044	-76.736932	2	<i>T. truncatus</i>	Bottlenose dolphin	16
20-Nov-10	9:15	On	33.594334	-76.784286	2	<i>T. truncatus</i>	Bottlenose dolphin	12
20-Nov-10	9:50	On	33.617344	-76.672677	3	<i>T. truncatus</i>	Bottlenose dolphin	25
20-Nov-10	10:05	On	33.527289	-76.419771	4	<i>T. truncatus</i>	Bottlenose dolphin	50
20-Nov-10	10:20	On	33.645909	-76.575034	4	<i>T. truncatus</i>	Bottlenose dolphin	4
20-Nov-10	10:56	On	33.743850	-76.588069	5	<i>T. truncatus</i>	Bottlenose dolphin	28
20-Nov-10	13:45	On	33.454015	-76.708844	1	<i>T. truncatus</i>	Bottlenose dolphin	15
20-Nov-10	14:00	On	33.371993	-76.616156	1	<i>T. truncatus</i>	Bottlenose dolphin	9
20-Nov-10	14:08	On	33.305693	-76.521602	1 B	<i>T. truncatus</i>	Bottlenose dolphin	7
20-Nov-10	14:29	On	33.354651	-76.021376	B		<i>Mesoplodon sp.</i>	2
20-Nov-10	14:40	On	33.440505	-75.914739	B		<i>Mesoplodon sp.</i>	2
20-Nov-10	14:58	On	33.672114	-75.837265	10 B		<i>Mesoplodon sp.</i>	6
20-Nov-10	15:17	On	33.984226	-76.224449	10	<i>T. truncatus</i>	Bottlenose dolphin	21

Table 6. Sea turtle sightings during aerial surveys in the Onslow Bay USWTR study region during October 25, 2010 through November 24, 2010.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
19-Nov-10	13:39	On	34.117105	-76.545415	9	Unidentified Sea Turtle	Unidentified Sea Turtle	1
20-Nov-10	9:21	On	33.628348	-76.821072	2	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Nov-10	9:22	On	33.653403	-76.8521	2	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Nov-10	9:22	On	33.648191	-76.845233	2	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Nov-10	9:22	On	33.660726	-76.862223	2	<i>C. caretta</i>	Loggerhead Sea Turtle	3
20-Nov-10	9:23	On	33.683106	-76.891586	2	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Nov-10	9:27	On	33.763246	-76.995835	2	<i>C. caretta</i>	Loggerhead Sea Turtle	4
20-Nov-10	9:35	On	33.897747	-77.046757	3	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Nov-10	9:37	On	33.859642	-76.995668	3	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Nov-10	10:28	On	33.742481	-76.703486	4	Unidentified Sea Turtle	Unidentified Sea Turtle	1
20-Nov-10	10:29	On	33.768939	-76.737900	4	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Nov-10	10:30	On	33.773314	-76.743995	4	Unidentified Sea Turtle	Unidentified Sea Turtle	1
20-Nov-10	10:32	On	33.824522	-76.811327	4	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Nov-10	10:33	On	33.848291	-76.842858	4	<i>C. caretta</i>	Loggerhead Sea Turtle	2
20-Nov-10	10:33	On	33.837815	-76.829711	4	Unidentified Sea Turtle	Unidentified Sea Turtle	1
20-Nov-10	10:34	On	33.874004	-76.877642	4	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Nov-10	10:37	On	33.925695	-76.94583	4	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Nov-10	10:39	On	33.966552	-76.998827	4	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Nov-10	10:45	On	33.943750	-76.841153	5	<i>C. caretta</i>	Loggerhead Sea Turtle	4
20-Nov-10	10:50	On	33.839989	-76.704574	5	<i>C. caretta</i>	Loggerhead Sea Turtle	3
20-Nov-10	10:50	On	33.830325	-76.691503	5	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Nov-10	11:24	On	33.843880	-76.576572	6	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Nov-10	11:31	On	33.976033	-76.751080	6	Unidentified Sea Turtle	Unidentified Sea Turtle	1
20-Nov-10	13:31	On	33.733173	-77.090335	1	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Nov-10	13:38	On	33.559905	-76.863509	1	<i>C. caretta</i>	Loggerhead Sea Turtle	1

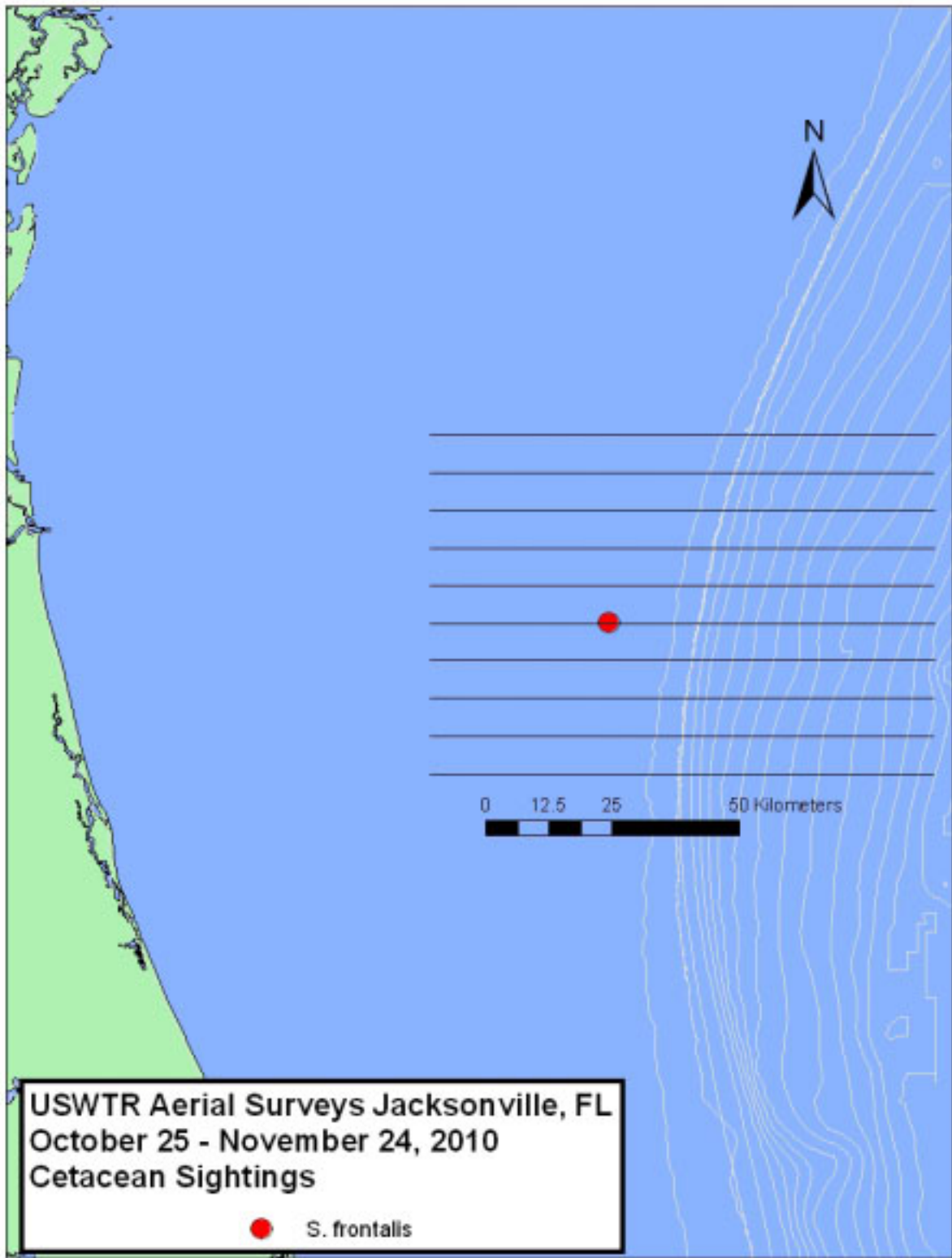


Figure 1. The location of cetaceans sighted while conducting aerial surveys during the October 25, 2010 through November 24, 2010 reporting period of the JAX USWTR study region

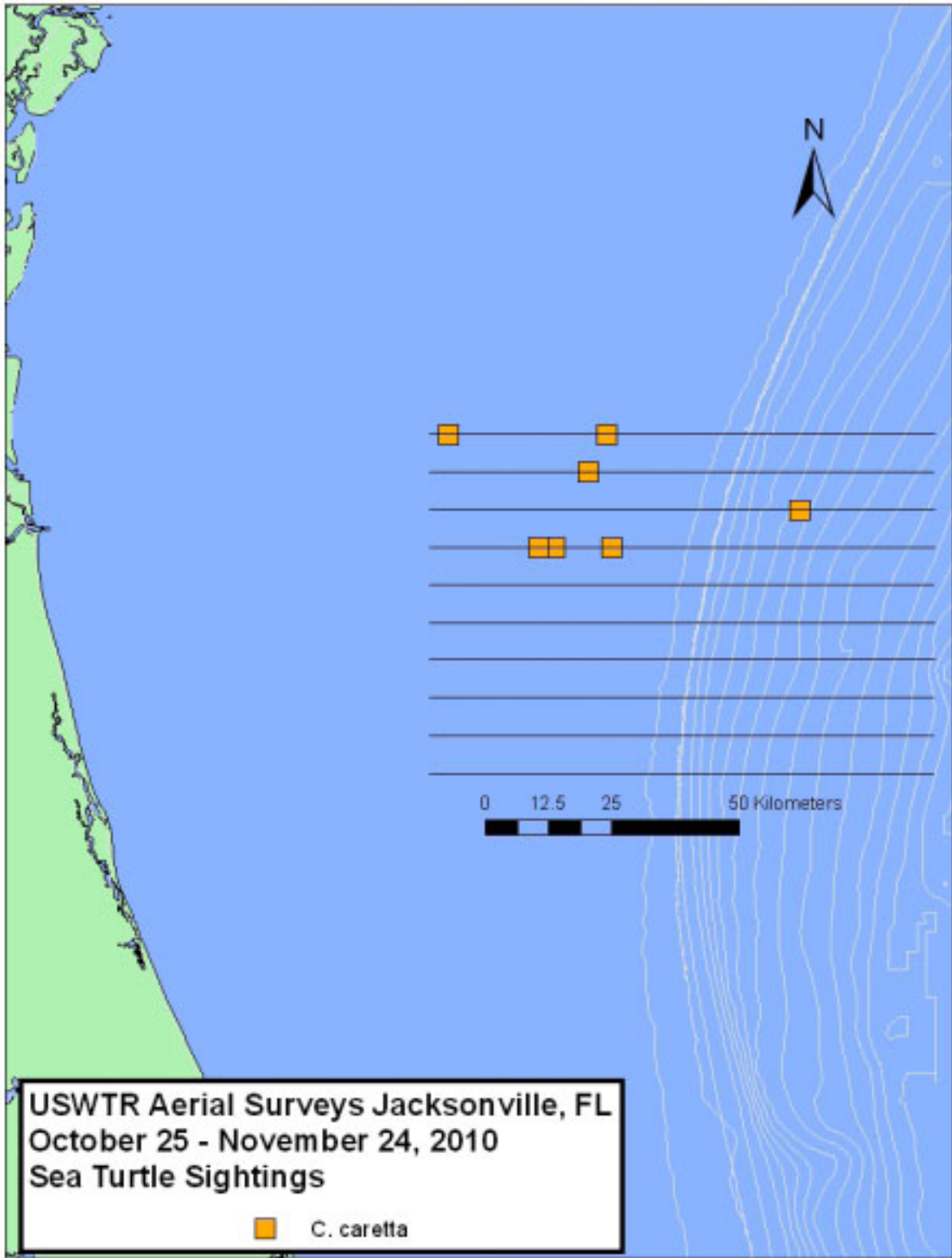


Figure 2. The locations of sea turtles sighted during aerial surveys from October 25, 2010 through November 24, 2010 in the JAX USWTR study region.

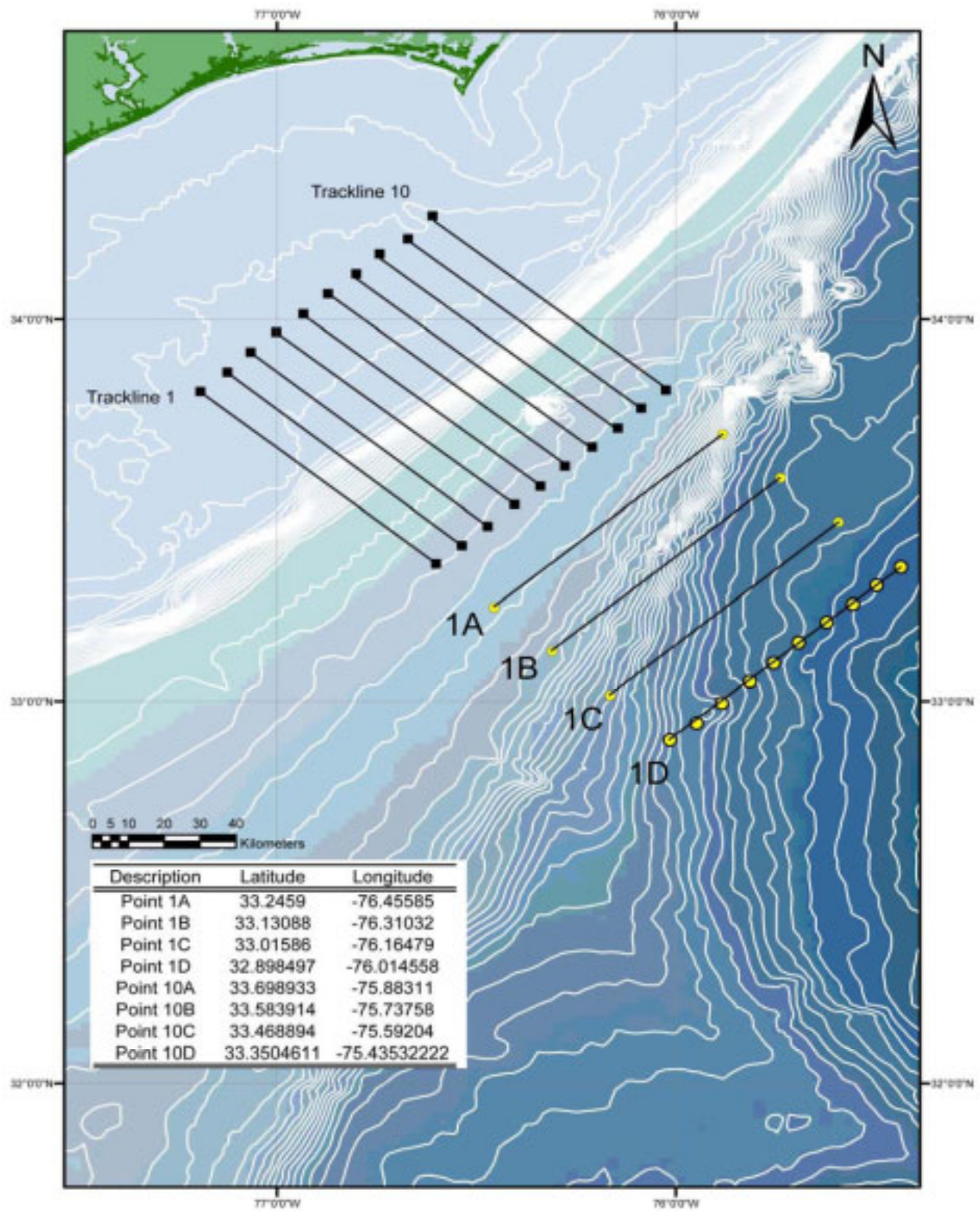


Figure 3. Offshore tracklines for Onslow Bay.

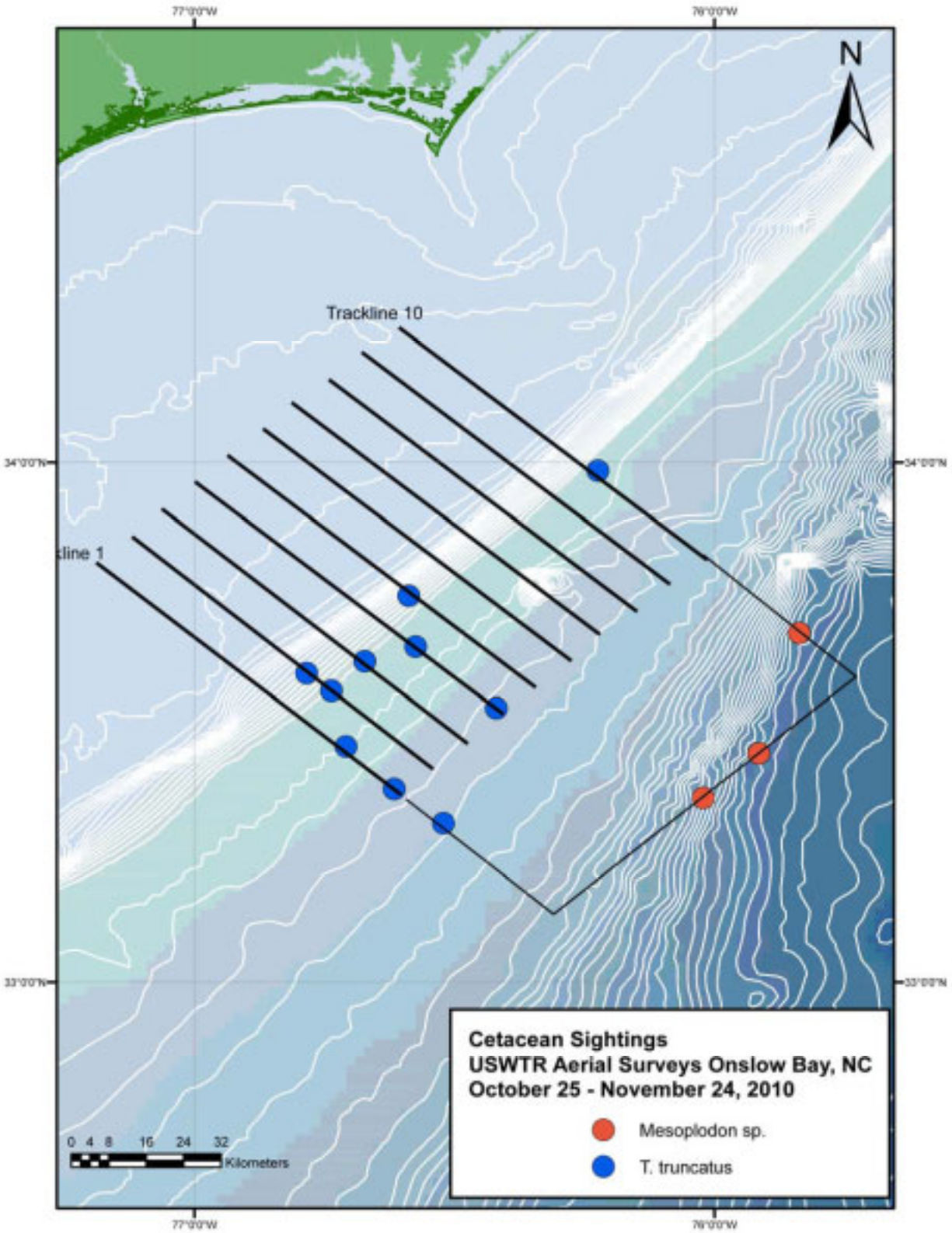


Figure 4. The locations of cetaceans sighted during aerial surveys from October 25, 2010 – November 24, 2010 of the Onslow Bay USWTR study region.

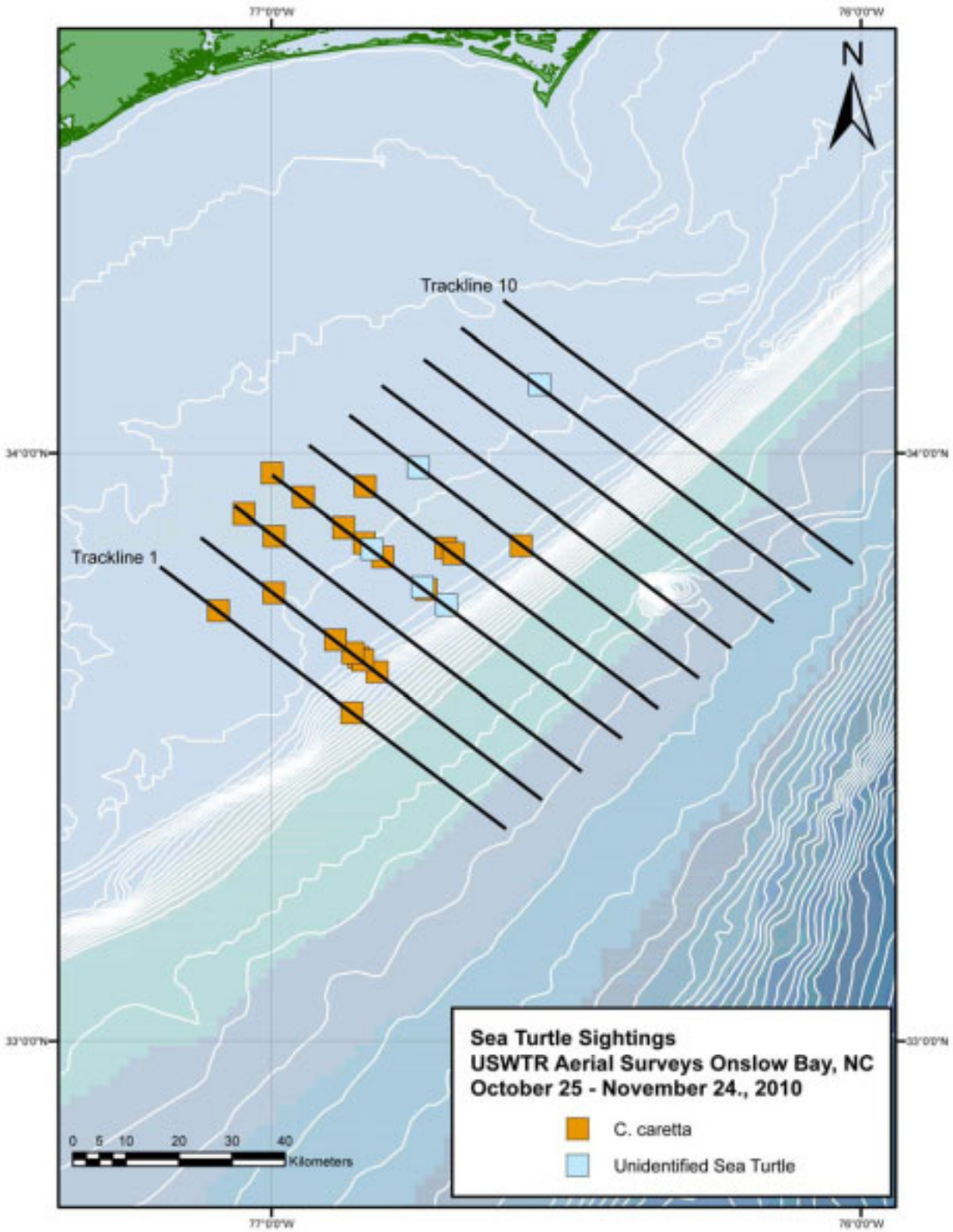


Figure 5. The locations of turtles sighted during aerial surveys from October 25, 2010 – November 24, 2010 of the Onslow Bay USWTR study region.

Monitoring of Protected Species in the Proposed Onslow Bay and Jacksonville USWTRs

Progress Report: November 25, 2010 through December 23, 2010

Planning (Task 1, 2 & 3)

The JAX USWTR Team assisted in the development of monitoring exercises at the Florida site. Attempts were made to have Navy personnel participate in JAX vessel surveys.

Purchasing (Task 1).

Various office supplies were purchased for the Fernandina Beach office.

Travel (Task 1 & 3)

DA Pabst and WA McLellan (CoPIs) traveled to the JAX site to conduct annual evaluations of staff, year-end review with the entire JAX team and review publication development.

JAX Survey Activity (Task 2)

Aerial Surveys

An aerial survey was conducted on 21 December 2010 in fair to good conditions, with Beaufort Sea State ranging from 1 to 3 (Table 1). Cetaceans were encountered seven times while on effort: Atlantic spotted dolphins (*Stenella frontalis*; 3 encounters), bottlenose dolphins (*Tursiops truncatus*; 3 encounters), and one sighting of a single unidentified delphinid (Table 2, Figure 1). Sea turtle sightings consisted of 20 loggerhead sea turtles (*Caretta caretta*), one leatherback sea turtle (*Dermochelys coriacea*), and six sea turtles which could not be identified to species (Table 3, Figure 2)

Vessel Surveys

A vessel survey was attempted on 15 December 2010. However, this survey had to be aborted after approximately one hour of transit due to inclement weather and high seas. A vessel survey of track line 10 was performed on 18 December 2010 in fair survey conditions (Table 4). A single observation of a loggerhead sea turtle (*C. caretta*) constituted the only sighting during this survey (Table 5, Fig 3).

Towed Passive Acoustics

The towed acoustic array was not deployed during the reporting period. The PAM computer was sent back to the manufacturer to address continuing hardware issues.

Onslow Bay Survey Activity (Task 5)

Aerial Surveys

Unfavorable survey conditions prevented any surveys from being conducted. See Figure 4 for possible non-effort corrected sightings if effort had been conducted.

As an aside, this month NOAA’s weather buoy #41036 located in Onslow Bay was restored and is now reporting current sea conditions in Onslow Bay. These data enhance our ability to predict weather windows in the USWTR range and ensure that surveys are conducted in the best conditions possible.

Vessel Surveys

Due to unfavorable weather conditions for the majority of the month we were not able to complete any surveys. We attempted to survey on two days (December 10 and 11th) when the weather forecast appeared more favorable. However, upon receiving the 5am forecast on the day of survey or after starting the journey offshore, we determined that the winds and/or swell were too high to conduct a successful survey and aborted our efforts.

Towed Passive Acoustics

No towed passive acoustic surveys were conducted during the reporting period.

Exercise Monitoring (Task 7)

The JAX USWTR Team assisted in the development of monitoring exercises at the Florida site.

There were no reports of injuries to any team member during the reporting period.

Table 1. Aerial survey effort table for the JAX USWTR study region during November 25, 2010 - December 23, 2010.

Date	Line	Sea State	Kilometers Flown	HOBBS Hours
21-Dec-10	10	2-3	86.8	6.6
21-Dec-10	9	2-3	84.5	
21-Dec-10	8	1-2	84.1	
21-Dec-10	7	1-3	84.7	
21-Dec-10	6	2-3	85.9	
21-Dec-10	5	2-3	85.5	
21-Dec-10	4	1-3	86.1	
21-Dec-10	3	1-3	85.5	

Table 2. Cetacean sightings during aerial surveys in the JAX USWTR study region during November 25, 2010 - December 23, 2010.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
21-Dec-10	10:48	On Effort	30.508612	-80.348717	9	<i>S. frontalis</i>	Atlantic Spotted Dolphin	8
21-Dec-10	11:05	On Effort	30.510515	-80.597130	9	<i>S. frontalis</i>	Atlantic Spotted Dolphin	3
21-Dec-10	11:28	On Effort	30.435426	-80.344608	8	<i>T. truncatus</i>	Bottlenose Dolphin	12
21-Dec-10	11:33	On Effort	30.436438	-80.276994	8	<i>S. frontalis</i>	Atlantic Spotted Dolphin	7
21-Dec-10	12:17	On Effort	30.368144	-80.578741	7	<i>T. truncatus</i>	Bottlenose Dolphin	2
21-Dec-10	13:13	On Effort	30.241160	-80.471661	5	<i>T. truncatus</i>	Bottlenose Dolphin	3
21-Dec-10	15:49	On Effort	30.098785	-80.357685	3	DELP	Unidentified Delphinid	1

Table 3 Sea turtle sightings during aerial surveys in the JAX USWTR study region during November 25, 2010 - December 23, 2010.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
21-Dec-10	10:13	On effort	30.566615	-80.419618	10	<i>C. caretta</i>	Loggerhead Sea Turtle	1
21-Dec-10	10:19	On effort	30.566655	-80.162673	10	<i>C. caretta</i>	Loggerhead Sea Turtle	1
21-Dec-10	10:44	On effort	30.500082	-80.273992	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
21-Dec-10	10:58	On effort	30.499508	-80.376568	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
21-Dec-10	11:01	On effort	30.499440	-80.479355	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
21-Dec-10	11:02	On effort	30.499097	-80.522188	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
21-Dec-10	11:02	On effort	30.499495	-80.533364	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
21-Dec-10	11:03	On effort	30.500007	-80.570782	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
21-Dec-10	11:14	On effort	30.499482	-80.650043	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
21-Dec-10	11:20	On effort	30.432541	-80.629558	8	TURT	Unidentified Sea Turtle	2
21-Dec-10	11:24	On effort	30.432923	-80.475892	8	TURT	Unidentified Sea Turtle	1
21-Dec-10	11:25	On effort	30.433188	-80.437960	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
21-Dec-10	11:32	On effort	30.433169	-80.300485	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
21-Dec-10	12:09	On effort	30.366295	-80.334287	7	<i>C. caretta</i>	Loggerhead Sea Turtle	1
21-Dec-10	12:10	On effort	30.365846	-80.381900	7	<i>C. caretta</i>	Loggerhead Sea Turtle	1
21-Dec-10	12:11	On effort	30.366225	-80.418890	7	<i>D. coriacea</i>	Leatherback Sea Turtle	1
21-Dec-10	12:12	On effort	30.366265	-80.456993	7	<i>C. caretta</i>	Loggerhead Sea Turtle	1
21-Dec-10	12:12	On effort	30.365672	-80.442734	7	TURT	Unidentified Sea Turtle	1
21-Dec-10	12:31	On effort	30.299060	-80.617140	6	TURT	Unidentified Sea Turtle	1
21-Dec-10	12:34	On effort	30.299203	-80.509580	6	<i>C. caretta</i>	Loggerhead Sea Turtle	1
21-Dec-10	12:38	On effort	30.299098	-80.358631	6	<i>C. caretta</i>	Loggerhead Sea Turtle	1
21-Dec-10	12:40	On effort	30.299540	-80.279930	6	<i>C. caretta</i>	Loggerhead Sea Turtle	1
21-Dec-10	13:07	On effort	30.232879	-80.307462	5	<i>C. caretta</i>	Loggerhead Sea Turtle	1
21-Dec-10	15:41	On effort	30.100790	-80.278333	3	<i>C. caretta</i>	Loggerhead Sea Turtle	1
21-Dec-10	15:55	On effort	30.100307	-80.598120	3	TURT	Unidentified Sea Turtle	1
21-Dec-10	15:56	On effort	30.100349	-80.630957	3	<i>C. caretta</i>	Loggerhead Sea Turtle	1

Table 4. Vessel survey effort table for the JAX USWTR study region during November 25, 2010 - December 23, 2010

Date	Line	Sea State	Km Surveyed	Survey Time (hrs:min)	At Sea Time (hrs:min)	Platform
18-Dec-10	10	3	68.9	3:37	12:59	R/V Volute

Table 5. Cetacean and sea turtle sightings for vessel surveys in JAX study region during November 25, 2010 - December 23, 2010.

Date	Time	On/Off Effort	Latitude	Longitude	Line	Species	Common Name	Group Size
18-Dec-10	15:20	On	30.570332	-80.249725	10	<i>C.caretta</i>	Loggerhead Sea Turtle	1

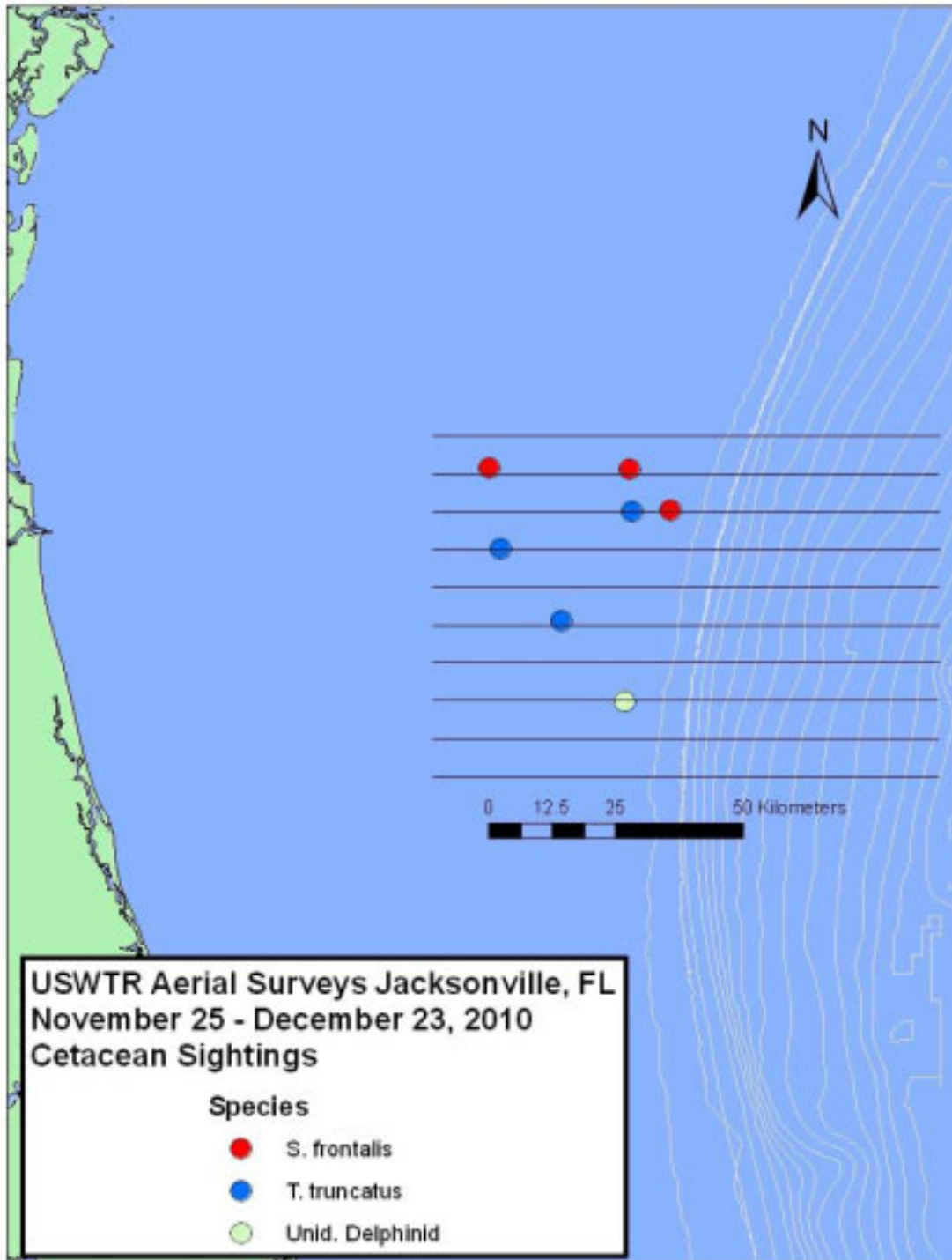


Figure 1. The locations of cetaceans sighted while conducting aerial surveys during the November 25, 2010 - December 23, 2010 reporting period of the JAX USWTR study region.

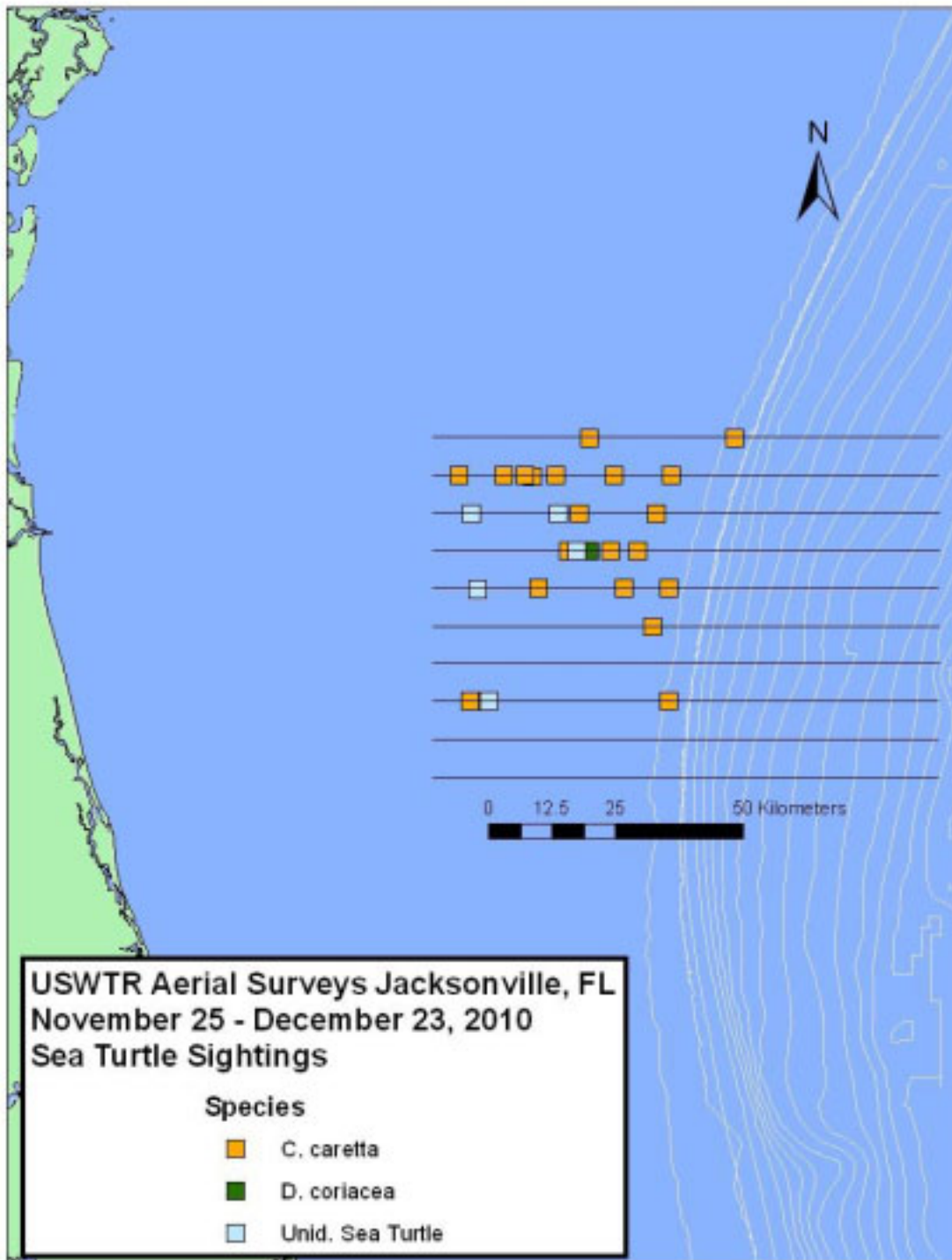


Figure 2. The locations of sea turtles sighted during aerial surveys from November 25, 2010 - December 23, 2010 in the JAX USWTR study region.

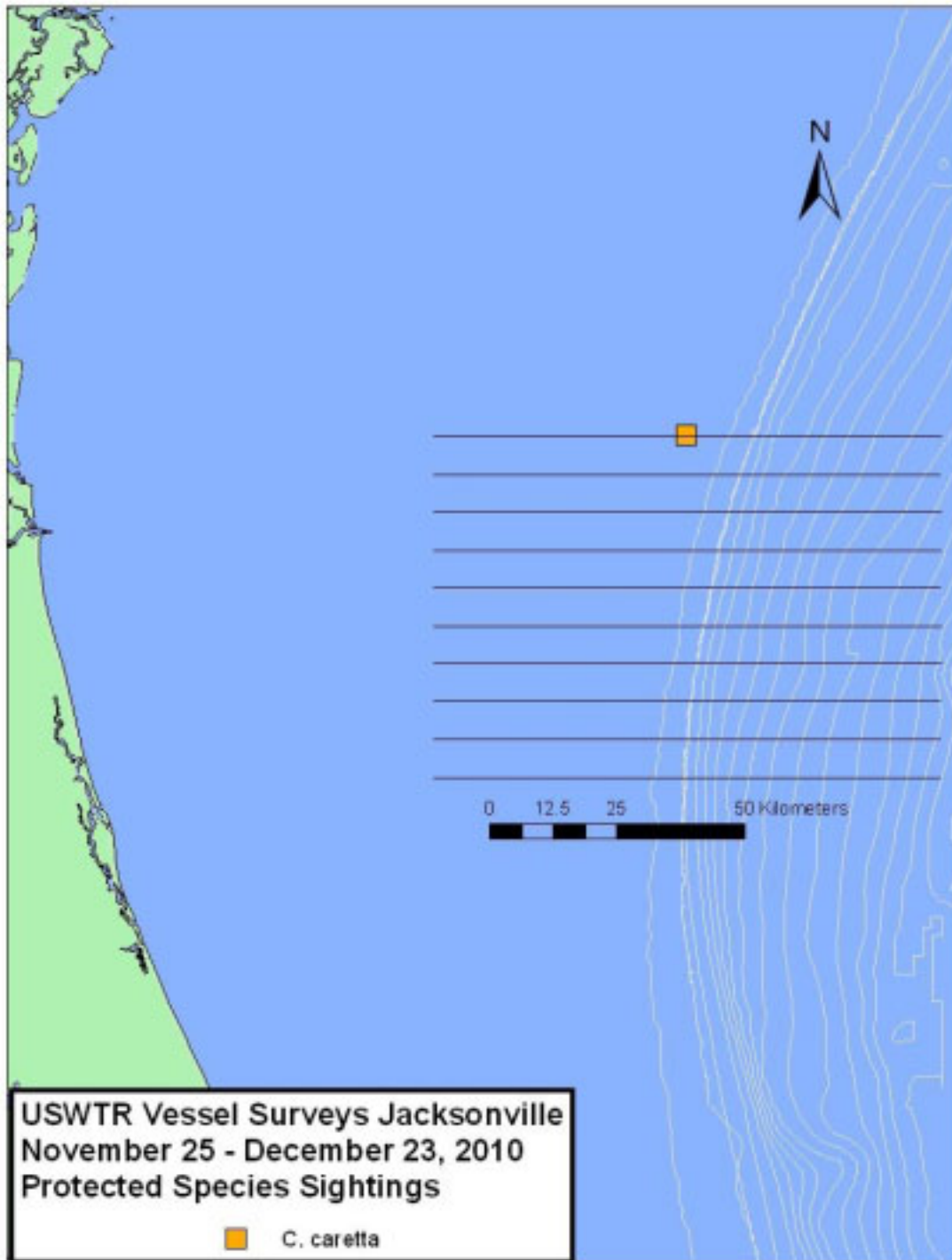


Figure 3. Cetaceans and sea turtles observed during vessel surveys of the JAX USWTR study region, November 25, 2010 - December 23, 2010.

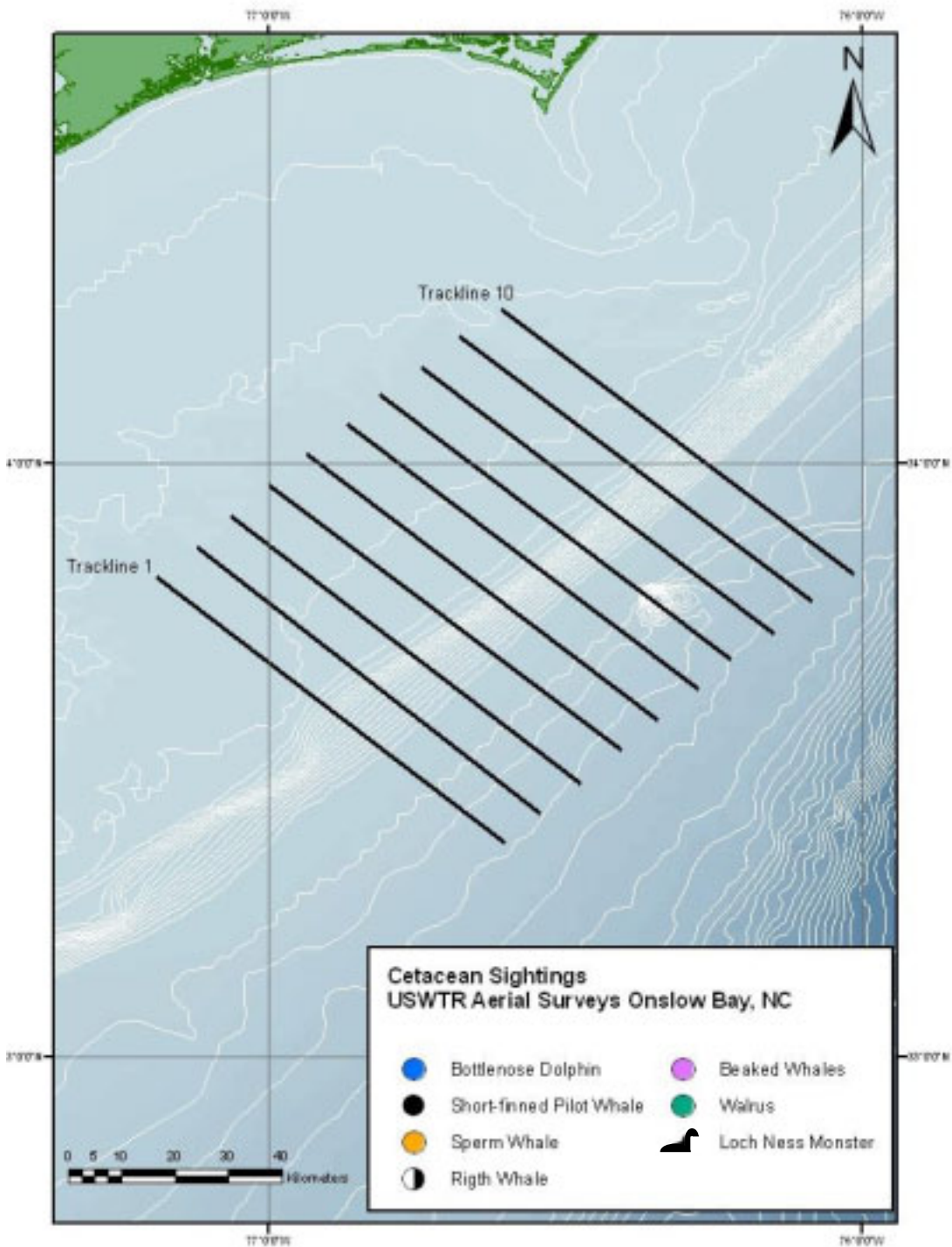


Figure 4. The locations of possible cetaceans and other marine mega-fauna sighted (if we had conducted effort) during aerial surveys from November 25, 2010 - December 23, 2010 of the Onslow Bay USWTR study region.

Monitoring of Protected Species in the Proposed Onslow Bay and Jacksonville USWTRs

Progress Report: December 25, 2010 through January 24, 2011

Planning (Task 1, 2 & 3)

Andy Read met with Ann Pabst and William McLellan to conduct a planning session on future USWTR and AFAST survey activities. JAX aerial surveys from May – Oct 2010 were published on the OBIS SEAMAP website.

Purchasing (Task 1).

No purchasing was conducted during the reporting period.

Travel (Task 1 & 3)

Andy Read traveled to UNCW for a USWTR AFAST planning meeting.

JAX Survey Activity (Task 2)

Aerial Surveys

Aerial surveys were performed on December 29th and 30th and again on January 15th and 16th, for a total of 24 track lines flown during the reporting period. Six track lines were surveyed on December 29th, eight on December 30th, six on January 15th and four on January 16th (Table 1). Survey conditions ranged from excellent to poor (when effort was cancelled), with Beaufort Sea State conditions ranging from 1 to 5 (Table 1). Twenty five on-effort cetacean sightings were observed: bottlenose dolphins (*Tursiops truncatus*, 12 encounters), Atlantic spotted dolphins (*Stenella frontalis*, eight encounters), minke whales (*Balaenoptera acutorostrata*, two encounters), humpback whale (*Megaptera novaeangliae*, one encounter) and two groups of dolphins which could not be identified to species (Table 2; Figure 1). This constitutes the first time a humpback whale has been encountered in the study area since JAX USWTR surveys commenced in January 2009. In addition to the on-effort sightings, two groups of bottlenose dolphins were encountered while the plane was off-effort in the survey area. A total of 75 sea turtles were observed during the reporting period; 43 loggerhead sea turtles (*Caretta caretta*), four leatherback sea turtles (*Dermochelys coriacea*; two on effort and two off effort), and 28 unidentified sea turtles (Table 3, Figure 2).

Vessel Surveys

A vessel survey was planned for 5 January 2011. However, the survey was aborted on the morning of the 5th due to the captain falling ill. A vessel survey of line 8 was conducted on 20 January 2011 in excellent survey conditions (Table 4). Sightings included one group of bottlenose dolphins, as well as six loggerhead, three leatherback and three unidentified sea turtles (Table 5, Figure 3). In addition, three North Atlantic right whales (*Eubalena glacialis*) were encountered a few kilometers offshore of Amelia Island during transit to the range. The sighting was called in to the Florida Wildlife Research Initiative right

whale survey team who relayed the information to FACSFACJAX. Photo-ID images were obtained of the right whales which will be sent to the New England Aquarium for individual identification. The Early Warning System (EWS) surveys were not flying on the day of this sighting so these data contribute to the overall coverage of the EWS surveys.

Towed Passive Acoustics

The PAM computer was sent back to the manufacturer where it was discovered that extensive corrosion had taken place. Due to the cost of repairing the unit and the likelihood of the problem reoccurring it was determined that it would be better to replace the mounted computer with a laptop computer of similar quality, mimicking the PAM setup used in the Onslow Bay USWTR surveys. The new laptop computer should be ordered in the next several days and allow for passive acoustic monitoring to resume early next month.

Onslow Bay Survey Activity (Task 5)

Aerial Surveys

One survey was conducted on January 14th, covering all ten tracklines. Survey conditions were good to fair with Beaufort Sea State conditions ranging from 2 to 3 (Table 6). The observations were dominated by seven sightings of spotted dolphins (*Stenella frontalis*) followed by one sighting of unidentified delphinids which were not re-sighted to collect photo-identification (Table 7, Figure 4). Loggerhead sea turtles (*Caretta caretta*), were observed on almost every trackline along with a few unidentified sea turtles (Table 8, Figure 5).

Vessel Surveys

Due to unfavorable weather conditions for the majority of the month we were not able to complete any surveys.

Towed Passive Acoustics

No towed passive acoustic surveys were conducted during the reporting period.

No injuries were reported and no problems were encountered during the reporting period.

Exercise Monitoring (Task 7)

Table 1. Aerial survey effort table for the JAX USWTR study region during December 25, 2010 - January 24, 2011.

Date	Line	Sea State	Kilometers Flown	HOBBS Hours
29-Dec-10	1	1-4	80.9	4.4
29-Dec-10	2	2-5	87.6	
29-Dec-10	3	2-5	86.7	
29-Dec-10	4	2-3	86.5	
29-Dec-10	5	2-3	85.3	
29-Dec-10	6	2-3	86.6	
30-Dec-10	10	1-2	84.3	7.7
30-Dec-10	9	1-2	86.6	
30-Dec-10	8	1-2	84.2	
30-Dec-10	7	1-2	86.0	
30-Dec-10	6	2	80.9	
30-Dec-10	5	1-3	80.5	
30-Dec-10	4	1-2	86.3	
30-Dec-10	3	1-3	86.9	
15-Jan-11	10	2-5	86.0	3.7
15-Jan-11	9	2-4	85.2	
15-Jan-11	8	2-4	85.9	
15-Jan-11	7	3-4	86.0	
15-Jan-11	6	3-4	86.7	
15-Jan-11	5	2-4	86.5	
16-Jan-11	1	2-4	85.2	3.1
16-Jan-11	2	2-3	85.4	
16-Jan-11	3	2-4	86.8	
16-Jan-11	4	3-4	86.6	

Table 2. Cetacean sightings during aerial surveys in the JAX USWTR study region during December 25, 2010 - January 24, 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
29-Dec-10	12:53	On effort	29.968804	-79.974424	1	Unid. Delphinid	Unidentified Delphinid	2
29-Dec-10	13:06	On effort	29.968734	-79.834176	1	<i>T. truncatus</i>	Bottlenose Dolphin	7
29-Dec-10	13:30	On effort	30.034135	-80.260091	2	<i>T. truncatus</i>	Bottlenose Dolphin	17
29-Dec-10	13:43	On effort	30.032205	-80.553900	2	<i>T. truncatus</i>	Bottlenose Dolphin	12
30-Dec-10	8:55	On effort	30.562893	-80.519634	10	<i>T. truncatus</i>	Bottlenose Dolphin	4
30-Dec-10	9:09	On effort	30.562619	-80.291194	10	<i>S. frontalis</i>	Atlantic Spotted Dolphin	5
30-Dec-10	9:38	On effort	30.502363	-79.807404	9	<i>T. truncatus</i>	Bottlenose Dolphin	9
30-Dec-10	10:04	On effort	30.498796	-80.321313	9	<i>S. frontalis</i>	Atlantic Spotted Dolphin	40
30-Dec-10	10:11	On effort	30.494795	-80.369824	9	<i>S. frontalis</i>	Atlantic Spotted Dolphin	25
30-Dec-10	10:18	On effort	30.498913	-80.451449	9	<i>T. truncatus</i>	Bottlenose Dolphin	2
30-Dec-10	10:31	On effort	30.504672	-80.668439	9	<i>T. truncatus</i>	Bottlenose Dolphin	2
30-Dec-10	10:56	On effort	30.426356	-80.227854	8	<i>T. truncatus</i>	Bottlenose Dolphin	1
30-Dec-10	11:01	On effort	30.426861	-80.217773	8	<i>T. truncatus</i>	Bottlenose Dolphin	13
30-Dec-10	11:14	On effort	30.434864	-79.856500	8	<i>B. acutorostrata</i>	Minke Whale	2
30-Dec-10	11:29	On effort	30.372719	-79.850767	7	<i>T. truncatus</i>	Bottlenose Dolphin	15
30-Dec-10	11:46	On effort	30.372465	-80.280112	7	<i>S. frontalis</i>	Atlantic Spotted Dolphin	6
30-Dec-10	11:50	On effort	30.365033	-80.310898	7	<i>S. frontalis</i>	Atlantic Spotted Dolphin	3
30-Dec-10	14:09	On effort	30.310022	-80.479380	6	<i>T. truncatus</i>	Bottlenose Dolphin	43
30-Dec-10	14:18	On effort	30.304107	-80.425841	6	<i>S. frontalis</i>	Atlantic Spotted Dolphin	10
30-Dec-10	14:19	On effort	30.297977	-80.353320	6	<i>S. frontalis</i>	Atlantic Spotted Dolphin	21
30-Dec-10	14:27	Off effort	30.272449	-80.284592	6	<i>T. truncatus</i>	Bottlenose Dolphin	6
30-Dec-10	14:43	On effort	30.302666	-79.920360	6	<i>M. novaeangliae</i>	Humpback Whale	1
30-Dec-10	15:04	On effort	30.298252	-79.854173	6	<i>B. acutorostrata</i>	Minke Whale	2
30-Dec-10	15:36	On effort	30.233559	-80.469845	5	Unid. Delphinid	Unidentified Delphinid	5
15-Jan-11	12:27	Off effort	30.499651	-80.242933	9	<i>T. truncatus</i>	Bottlenose Dolphin	11
16-Jan-11	9:20	On effort	29.973825	-80.340072	1	<i>T. truncatus</i>	Bottlenose Dolphin	20
16-Jan-11	10:02	On effort	30.030912	-80.433461	2	<i>S. frontalis</i>	Atlantic Spotted Dolphin	10

Table 3 (2x pages), Sea turtle sightings during aerial surveys in the JAX USWTR study region during December 25, 2010 - January 24, 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
29-Dec-10	12:32	On effort	29.967067	-80.565826	1	Unid. Sea Turtle	Unid. Sea Turtle	1
29-Dec-10	12:36	On effort	29.966836	-80.407213	1	<i>C. caretta</i>	Loggerhead Sea Turtle	1
29-Dec-10	12:37	On effort	29.964841	-80.383397	1	<i>C. caretta</i>	Loggerhead Sea Turtle	1
29-Dec-10	13:35	On effort	30.031841	-80.323731	2	<i>C. caretta</i>	Loggerhead Sea Turtle	1
29-Dec-10	13:40	On effort	30.031792	-80.488313	2	<i>C. caretta</i>	Loggerhead Sea Turtle	1
29-Dec-10	13:52	On effort	30.029756	-80.604828	2	Unid. Sea Turtle	Unid. Sea Turtle	1
29-Dec-10	13:54	On effort	30.029794	-80.673515	2	<i>C. caretta</i>	Loggerhead Sea Turtle	1
29-Dec-10	14:01	On effort	30.098878	-80.565720	3	Unid. Sea Turtle	Unid. Sea Turtle	1
29-Dec-10	14:03	On effort	30.099961	-80.508531	3	<i>C. caretta</i>	Loggerhead Sea Turtle	1
29-Dec-10	14:03	On effort	30.098953	-80.494248	3	<i>C. caretta</i>	Loggerhead Sea Turtle	1
29-Dec-10	14:05	On effort	30.098477	-80.419212	3	<i>C. caretta</i>	Loggerhead Sea Turtle	1
29-Dec-10	14:49	On effort	30.166379	-80.516372	4	Unid. Sea Turtle	Unid. Sea Turtle	1
29-Dec-10	14:59	On effort	30.230968	-80.648902	5	<i>C. caretta</i>	Loggerhead Sea Turtle	1
29-Dec-10	15:04	On effort	30.231865	-80.460292	5	Unid. Sea Turtle	Unid. Sea Turtle	1
29-Dec-10	15:05	On effort	30.231583	-80.446258	5	<i>C. caretta</i>	Loggerhead Sea Turtle	1
29-Dec-10	15:53	On effort	30.301315	-80.632418	6	<i>C. caretta</i>	Loggerhead Sea Turtle	1
29-Dec-10	15:53	On effort	30.302121	-80.613631	6	Unid. Sea Turtle	Unid. Sea Turtle	1
30-Dec-10	8:50	On effort	30.565911	-80.651504	10	Unid. Sea Turtle	Unid. Sea Turtle	1
30-Dec-10	9:04	On effort	30.566432	-80.411119	10	Unid. Sea Turtle	Unid. Sea Turtle	1
30-Dec-10	9:05	On effort	30.566504	-80.358845	10	<i>C. caretta</i>	Loggerhead Sea Turtle	1
30-Dec-10	9:06	On effort	30.566528	-80.324543	10	Unid. Sea Turtle	Unid. Sea Turtle	1
30-Dec-10	9:22	On effort	30.564670	-80.187764	10	Unid. Sea Turtle	Unid. Sea Turtle	2
30-Dec-10	9:24	On effort	30.567033	-80.147850	10	<i>C. caretta</i>	Loggerhead Sea Turtle	3
30-Dec-10	9:58	On effort	30.500009	-80.167716	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
30-Dec-10	9:59	On effort	30.499799	-80.195258	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
30-Dec-10	10:00	On effort	30.500455	-80.227556	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
30-Dec-10	10:25	On effort	30.499953	-80.504669	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
30-Dec-10	10:27	On effort	30.499651	-80.582232	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
30-Dec-10	10:29	On effort	30.499455	-80.650346	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
30-Dec-10	10:41	On effort	30.432833	-80.588273	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
30-Dec-10	10:42	On effort	30.432938	-80.553769	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
30-Dec-10	10:51	On effort	30.433056	-80.375919	8	Unid. Sea Turtle	Unid. Sea Turtle	1
30-Dec-10	10:55	On effort	30.433294	-80.262975	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
30-Dec-10	10:55	On effort	30.433323	-80.261189	8	Unid. Sea Turtle	Unid. Sea Turtle	4
30-Dec-10	11:35	On effort	30.366581	-79.933994	7	Unid. Sea Turtle	Unid. Sea Turtle	1
30-Dec-10	11:43	On effort	30.366392	-80.220094	7	<i>C. caretta</i>	Loggerhead Sea Turtle	1
30-Dec-10	11:43	On effort	30.366375	-80.220692	7	Unid. Sea Turtle	Unid. Sea Turtle	1
30-Dec-10	11:45	On effort	30.366477	-80.266340	7	<i>C. caretta</i>	Loggerhead Sea Turtle	1
30-Dec-10	11:48	Off effort	30.364026	-80.282192	7	<i>D. coriacea</i>	Leatherback sea Turtle	1
30-Dec-10	11:53	On effort	30.366179	-80.362848	7	<i>C. caretta</i>	Loggerhead Sea Turtle	1

30-Dec-10	11:54	On effort	30.365933	-80.390889	7	Unid. Sea Turtle	Unid. Sea Turtle	1
30-Dec-10	11:55	On effort	30.366218	-80.430795	7	Unid. Sea Turtle	Unid. Sea Turtle	1
30-Dec-10	11:56	On effort	30.365989	-80.463593	7	Unid. Sea Turtle	Unid. Sea Turtle	1
30-Dec-10	11:59	Off effort	30.366975	-80.498821	7	<i>D. coriacea</i>	Leatherback sea Turtle	1
30-Dec-10	12:04	On effort	30.366342	-80.549808	7	<i>C. caretta</i>	Loggerhead Sea Turtle	1
30-Dec-10	12:04	On effort	30.366108	-80.566493	7	<i>C. caretta</i>	Loggerhead Sea Turtle	1
30-Dec-10	12:05	On effort	30.366054	-80.604936	7	<i>C. caretta</i>	Loggerhead Sea Turtle	1
30-Dec-10	12:06	On effort	30.365919	-80.621155	7	<i>D. coriacea</i>	Leatherback sea Turtle	1
30-Dec-10	14:23	On effort	30.299912	-80.318747	6	Unid. Sea Turtle	Unid. Sea Turtle	3
30-Dec-10	15:15	On effort	30.233088	-79.957084	5	Unid. Sea Turtle	Unid. Sea Turtle	2
30-Dec-10	15:48	On effort	30.165743	-80.615990	4	<i>D. coriacea</i>	Leatherback sea Turtle	1
30-Dec-10	15:54	On effort	30.165966	-80.397294	4	<i>C. caretta</i>	Loggerhead Sea Turtle	1
15-Jan-11	12:43	On effort	30.498677	-80.589508	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
15-Jan-11	12:51	On effort	30.429464	-80.624916	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
15-Jan-11	12:53	On effort	30.433324	-80.530516	8	Unid. Sea Turtle	Unid. Sea Turtle	1
15-Jan-11	12:54	On effort	30.434580	-80.503338	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
15-Jan-11	13:39	On effort	30.364705	-80.624028	7	<i>C. caretta</i>	Loggerhead Sea Turtle	1
15-Jan-11	13:50	On effort	30.300718	-80.505796	6	<i>C. caretta</i>	Loggerhead Sea Turtle	1
15-Jan-11	13:57	On effort	30.301304	-80.235411	6	<i>C. caretta</i>	Loggerhead Sea Turtle	1
15-Jan-11	14:31	On effort	30.231968	-80.447529	5	<i>C. caretta</i>	Loggerhead Sea Turtle	1
16-Jan-11	9:09	On effort	29.965874	-80.629504	1	<i>C. caretta</i>	Loggerhead Sea Turtle	1
16-Jan-11	10:08	On effort	30.030654	-80.495997	2	<i>C. caretta</i>	Loggerhead Sea Turtle	1
16-Jan-11	10:10	On effort	30.030465	-80.564686	2	<i>C. caretta</i>	Loggerhead Sea Turtle	2
16-Jan-11	10:11	On effort	30.030581	-80.585095	2	<i>C. caretta</i>	Loggerhead Sea Turtle	1
16-Jan-11	11:10	On effort	30.164851	-80.664417	4	Unid. Sea Turtle	Unid. Sea Turtle	1

Table 4. Vessel survey effort table for the JAX USWTR study region during December 25, 2010 - January 24, 2011.

Date	Line	Sea State	Km Surveyed	Survey Time (hrs:min)	At Sea Time (hrs:min)	Platform
20-Jan-11	8	1-2	68.4	3:50	14:05	R/V Volute

Table 5. Cetacean and sea turtle sightings for vessel surveys in JAX study region during December 25, 2010 - January 24, 2011.

Date	Time	On/off effort	Latitude	Longitude	Line	Species	Common Name	Group Size
20-Jan-11	15:17	On	30.434164	-80.183160	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Jan-11	15:22	On	30.433147	-80.200943	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Jan-11	15:24	On	30.433980	-80.203440	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Jan-11	15:25	On	30.434349	-80.201185	8	<i>T. truncatus</i>	Bottlenose Dolphin	10
20-Jan-11	15:40	Off	30.432354	-80.228212	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Jan-11	15:59	On	30.430939	-80.293312	8	Unid. Sea turtle	Unid. Sea Turtle	1
20-Jan-11	16:04	On	30.431515	-80.311682	8	Unid. Sea turtle	Unid. Sea Turtle	1
20-Jan-11	16:05	On	30.431569	-80.314342	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Jan-11	16:08	On	30.431864	-80.324618	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Jan-11	16:10	On	30.431629	-80.331010	8	Unid. Sea turtle	Unid. Sea Turtle	1
20-Jan-11	16:24	On	30.430800	-80.380847	8	<i>D. coriacea</i>	Leatherback Sea Turtle	1
20-Jan-11	16:37	On	30.432569	-80.425163	8	<i>D. coriacea</i>	Leatherback Sea Turtle	1
20-Jan-11	16:44	On	30.433707	-80.447288	8	<i>D. coriacea</i>	Leatherback Sea Turtle	1

Table 6. Aerial survey effort table for the Onslow Bay USWTR study region during December 25, 2010 - January 24, 2011.

Date	Line	Sea State	Kilometers Flown	HOBBS Hours
14-Jan-2011	10	2 to 3	72.6	7.0
14-Jan-2011	9	2 to 3	73.1	
14-Jan-2011	8	2 to 3	75.7	
14-Jan-2011	7	2 to 3	73.5	
14-Jan-2011	6	2 to 3	74.0	
14-Jan-2011	5	2 to 3	70.7	
14-Jan-2011	4	2 to 3	70.1	
14-Jan-2011	3	2 to 3	75.0	
14-Jan-2011	2	2 to 3	74.4	
14-Jan-2011	1	2 to 3	74.9	

Table 7. Cetacean sightings during aerial surveys in the Onslow Bay USWTR study region during December 25, 2010 - January 24, 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
14-Jan-11	8:56	Off	34.165669	-76.482446	10	<i>S. frontalis</i>	Spotted dolphin	22
14-Jan-11	9:05	On	34.086145	-76.365575	10	<i>S. frontalis</i>	Spotted dolphin	26
14-Jan-11	10:35	Off	34.070243	-76.725518	7	<i>S. frontalis</i>	Spotted dolphin	25
14-Jan-11	10:51	On	34.035643	-76.822912	6	<i>S. frontalis</i>	Spotted dolphin	50
14-Jan-11	11:31	On	33.833874	-76.66378	5	<i>S. frontalis</i>	Spotted dolphin	180
14-Jan-11	11:51	Off	33.980883	-76.883005	5	<i>S. frontalis</i>	Spotted dolphin	25
14-Jan-11	13:55	On	33.921761	-76.936736	4	<i>S. frontalis</i>	Spotted dolphin	15
14-Jan-11	14:12	On	33.606519	-76.523409	4	Unidentified delphinid	Unidentified delphinid	2

Table 8. Sea turtle sightings during aerial surveys in the Onslow Bay USWTR study region during December 25, 2010 - January 24, 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
14-Jan-11	8:53	On	34.188853	-76.506836	10	Unidentified sea turtle	Unidentified sea turtle	1
14-Jan-11	9:03	On	34.098154	-76.383224	10	Unidentified sea turtle	Unidentified sea turtle	1
14-Jan-11	9:40	On	34.063839	-76.47772	9	C. caretta	loggerhead sea turtle	1
14-Jan-11	9:42	On	34.111119	-76.541089	9	C. caretta	loggerhead sea turtle	3
14-Jan-11	9:42	On	34.109279	-76.538746	9	Unidentified sea turtle	Unidentified sea turtle	1
14-Jan-11	9:45	On	34.164724	-76.812029	9	C. caretta	loggerhead sea turtle	1
14-Jan-11	9:47	On	34.212212	-76.674437	9	C. caretta	loggerhead sea turtle	1
14-Jan-11	9:51	On	34.147125	-76.713873	8	C. caretta	loggerhead sea turtle	2
14-Jan-11	9:58	On	33.983754	-76.492322	8	C. caretta	loggerhead sea turtle	2
14-Jan-11	10:00	On	33.932577	-76.424801	8	Unidentified sea turtle	Unidentified sea turtle	1
14-Jan-11	10:28	On	33.968219	-76.806244	7	Unidentified sea turtle	Unidentified sea turtle	1
14-Jan-11	10:30	On	34.005198	-76.855395	7	Unidentified sea turtle	Unidentified sea turtle	2
14-Jan-11	10:32	On	34.036183	-76.894704	7	C. caretta	loggerhead sea turtle	1
14-Jan-11	10:33	On	34.059413	-76.724498	7	C. caretta	loggerhead sea turtle	1
14-Jan-11	10:33	On	34.061762	-76.727518	7	Unidentified sea turtle	Unidentified sea turtle	1
14-Jan-11	10:44	On	34.097414	-76.775415	7	C. caretta	loggerhead sea turtle	1
14-Jan-11	10:55	On	34.008381	-76.791485	6	C. caretta	loggerhead sea turtle	2
14-Jan-11	10:55	On	34.002353	-76.784055	6	C. caretta	loggerhead sea turtle	1
14-Jan-11	10:57	On	33.962465	-76.732330	6	C. caretta	loggerhead sea turtle	2
14-Jan-11	10:57	On	33.955172	-76.721506	6	Unidentified sea turtle	Unidentified sea turtle	2
14-Jan-11	11:02	On	33.850397	-76.584250	6	C. caretta	loggerhead sea turtle	3
14-Jan-11	11:27	On	33.772420	-76.816253	5	C. caretta	loggerhead sea turtle	1
14-Jan-11	11:40	On	33.899045	-76.782669	5	C. caretta	loggerhead sea turtle	3
14-Jan-11	11:41	On	33.919890	-76.811349	5	C. caretta	loggerhead sea turtle	2
14-Jan-11	14:36	On	33.696255	-76.782737	3	C. caretta	loggerhead sea turtle	1
14-Jan-11	14:36	On	33.711718	-76.803939	3	C. caretta	loggerhead sea turtle	4
14-Jan-11	14:45	On	33.896123	-77.043701	3	C. caretta	loggerhead sea turtle	1
14-Jan-11	14:53	On	33.768162	-77.000595	2	C. caretta	loggerhead sea turtle	2
14-Jan-11	14:56	On	33.701709	-76.91464	2	C. caretta	loggerhead sea turtle	1
14-Jan-11	15:25	On	33.617809	-76.939637	1	C. caretta	loggerhead sea turtle	1
14-Jan-11	15:28	On	33.660948	-76.996333	1	Unidentified sea turtle	Unidentified sea turtle	1

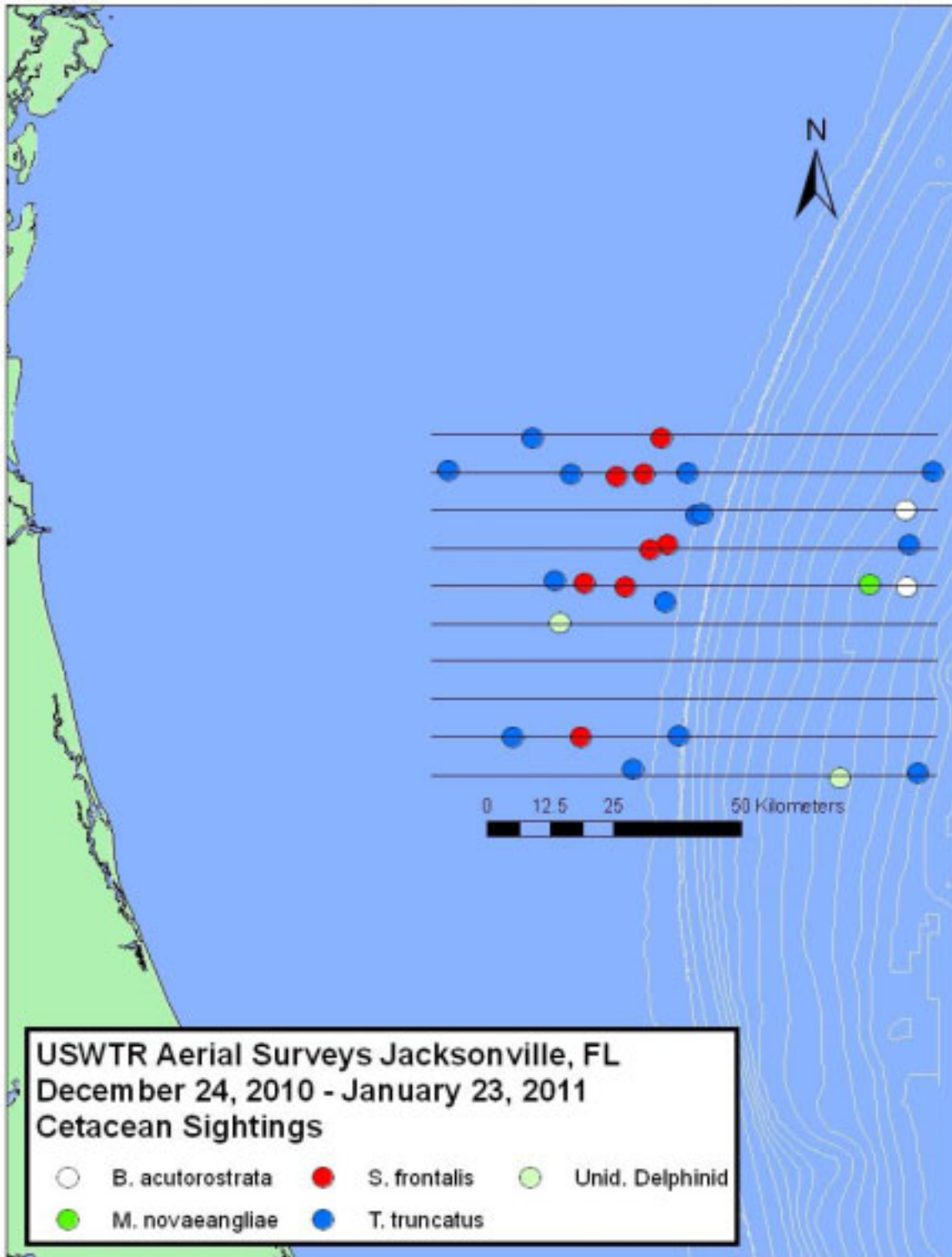


Figure 1. The locations of cetaceans sighted while conducting aerial surveys during the December 25, 2010 - January 24, 2011 reporting period in the JAX USWTR study region.

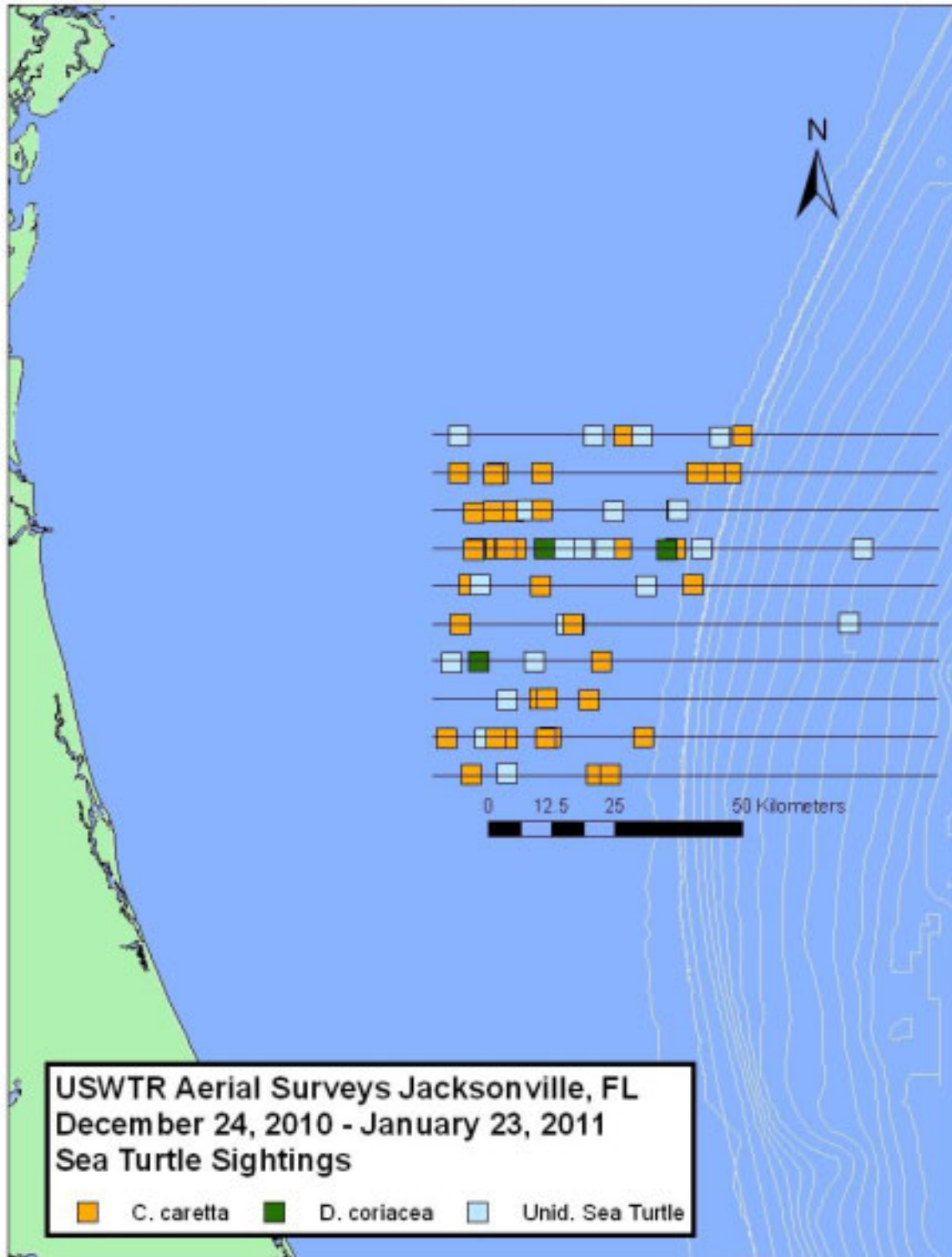


Figure 2. The locations of sea turtles sighted during aerial surveys from December 25, 2010 - January 24, 2011 in the JAX USWTR study region.

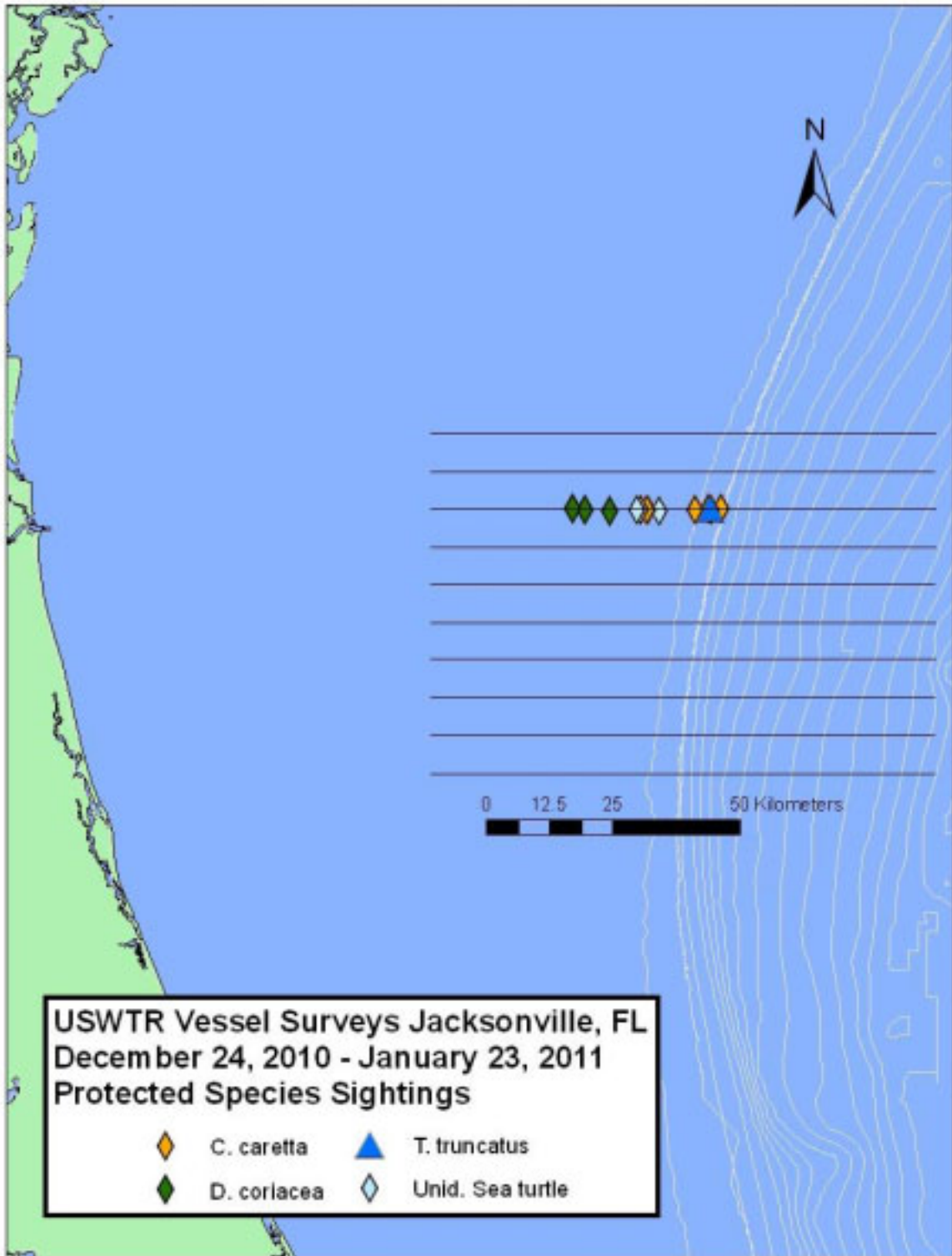


Figure 3. Cetaceans and sea turtles observed during vessel surveys of the JAX USWTR study region, December 25, 2010 - January 24, 2011.

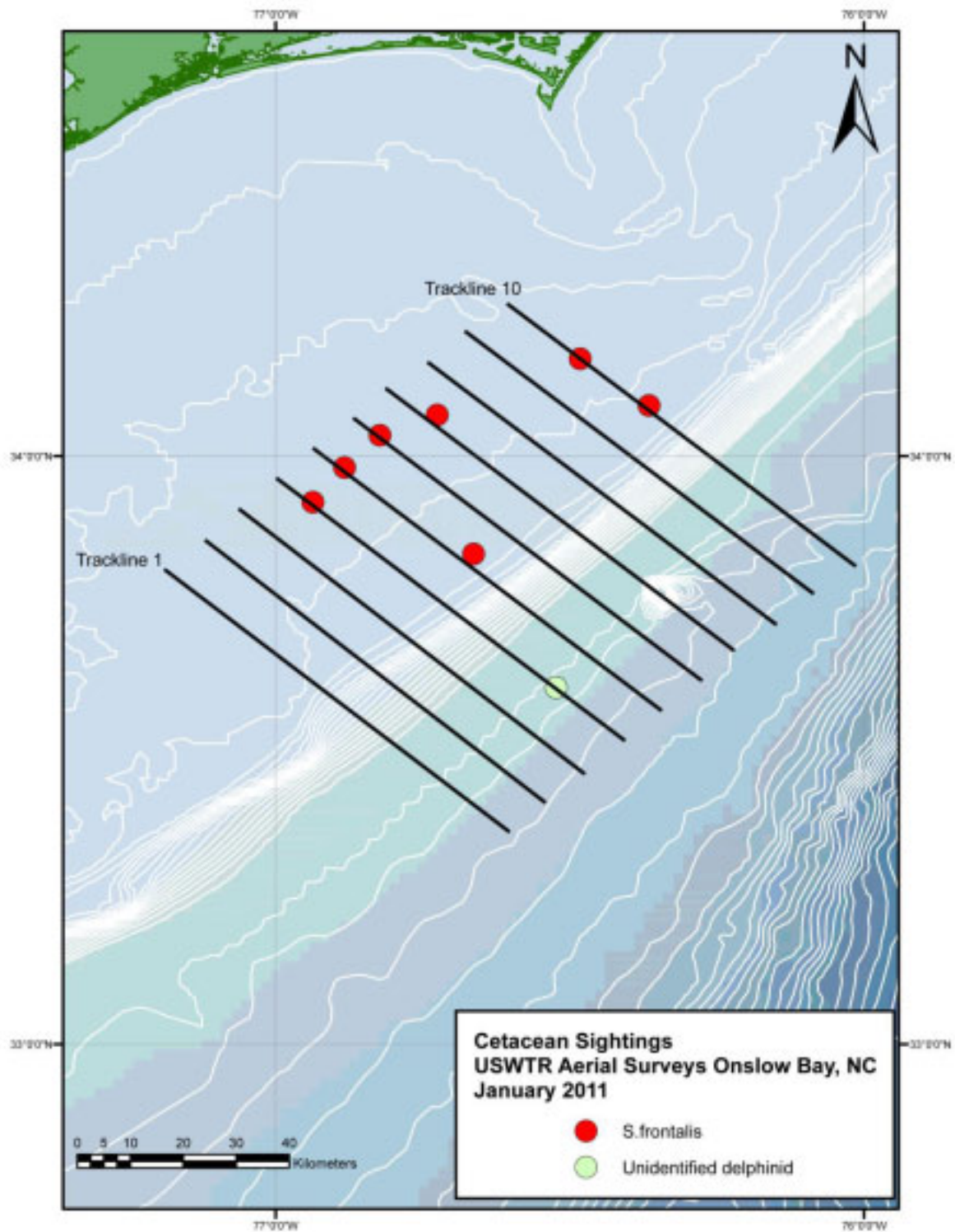


Figure 4. The locations of cetaceans sighted during aerial surveys from December 25, 2010 - January 24, 2011 of the Onslow Bay USWTR study region.

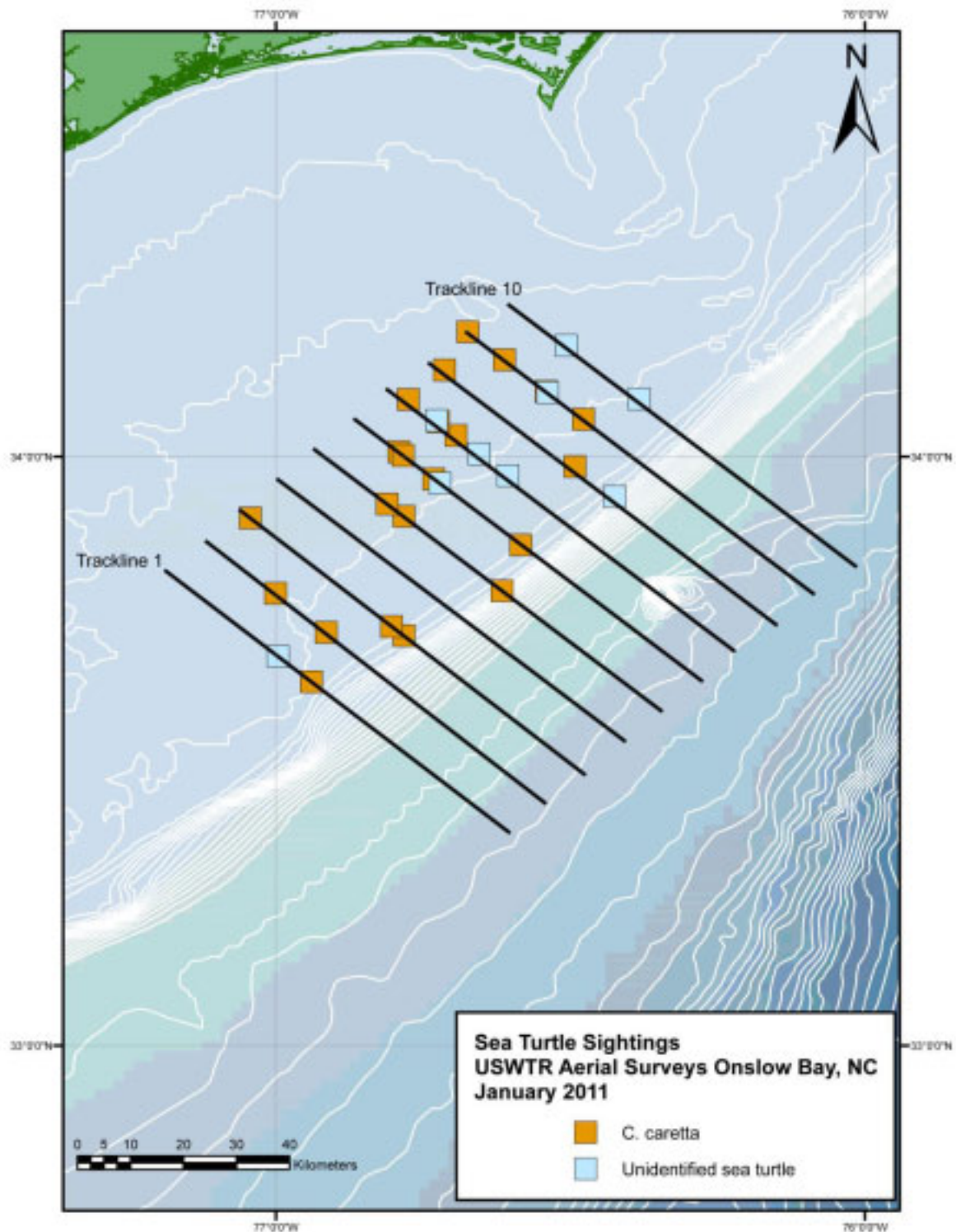


Figure 5. The locations of turtles sighted during aerial surveys from December 25, 2010 - January 24, 2011 of the Onslow Bay USWTR study region.

Monitoring of Protected Species at the CHPT and JAX Sites

Progress Report: January 2011

JAX Survey Activity

Aerial Surveys

Aerial surveys were conducted on January 15th, 16th and 31st for a total of 20 track lines flown during the reporting period. Six track lines were conducted on January 15th, four on January 16th and ten on January 31st. Survey conditions ranged from excellent to poor, with Beaufort Sea State conditions ranging from 2 to 5 (Table 1). Eighteen on-effort cetacean sightings were recorded: bottlenose dolphins (*Tursiops truncatus*, eight encounters), Atlantic spotted dolphins (*Stenella frontalis*, nine encounters), and Risso's dolphin (*Grampus griseus*, one encounter) (Figure 1; Table 2). In addition, one group of bottlenose dolphins was observed off-effort. A total of 83 sea turtles were observed during the reporting period; 51 loggerhead sea turtles (*Caretta caretta*), six leatherback sea turtles (*Dermochelys coriacea*), and 26 unidentified sea turtles (Figure 2, Table 3).

Vessel Surveys

A vessel survey was planned for 5 January 2011. However, the survey was canceled that morning due to the captain falling ill. A vessel survey of trackline 8 was conducted on 20 January 2011 in excellent survey conditions (Table 4). Sightings included one group of bottlenose dolphins, as well as six loggerhead, three leatherback and three unidentified sea turtles (Figure 3, Table 5). In addition, three North Atlantic right whales (*Eubalena glacialis*) were encountered a few kilometers offshore of Amelia Island during transit to the range. The sighting was called in to the Florida Wildlife Research Initiative right whale survey team who relayed the information to the Sighting Advisory Network. Photo-ID images were obtained of the right whales which will be sent to the New England Aquarium for individual identification. A vessel survey of trackline 5 was conducted on 30 January 2011 in fair to good survey conditions (Table 4). Sightings on 30 January 2011 included one group of bottlenose dolphins and three loggerhead sea turtles (Figure 3, Table 5).

Towed Passive Acoustics

The PAM computer was sent back to the manufacturer where it was discovered that extensive corrosion had taken place. Due to the cost of repairing the unit and the likelihood of the problem recurring it was determined that it would be better to replace the mounted computer with a laptop computer of similar quality, mimicking the PAM setup used in the Onslow Bay USWTR surveys. The new laptop computer should be ordered in the next several days and allow for passive acoustic monitoring to resume early next month.

CHPT Survey Activity

Aerial Surveys

One survey was conducted on January 14th, covering all ten tracklines. Survey conditions were good to fair with Beaufort Sea State conditions ranging from 2 to 3 (Table 6). The observations were dominated by seven sightings of spotted dolphins followed by one sighting of unidentified delphinids which were not re-sighted to collect photo-identification (Table 7, Figure 4).

Loggerhead sea turtles, were observed on almost every trackline along with a few unidentified sea turtles (Table 8, Figure 5).

Vessel Surveys

Due to unfavorable weather conditions for the majority of the month we were not able to complete any surveys.

Towed Passive Acoustics

No towed passive acoustic surveys were conducted during the reporting period.

Table 1. Aerial survey effort table for the JAX study region during January 2011.

Date	Line	Sea State	Kilometers Flown	HOBBS Hours
15-Jan-11	10	2-5	86.0	3.7
15-Jan-11	9	2-4	85.2	
15-Jan-11	8	2-4	85.9	
15-Jan-11	7	3-4	86.0	
15-Jan-11	6	3-4	86.7	
15-Jan-11	5	2-4	86.5	
16-Jan-11	1	2-4	85.2	3.1
16-Jan-11	2	2-3	85.4	
16-Jan-11	3	2-4	86.8	
16-Jan-11	4	3-4	86.6	
31-Jan-11	10	2-4	83.1	7.8
31-Jan-11	9	2-3	83.3	
31-Jan-11	8	2-3	85.4	
31-Jan-11	7	2-3	84.1	
31-Jan-11	6	2-3	86.5	
31-Jan-11	5	2-3	84.1	
31-Jan-11	4	2-3	85.9	
31-Jan-11	3	2-3	82.5	
31-Jan-11	2	2-3	77.4	
31-Jan-11	1	2	84.1	

Table 2. Cetacean sightings during aerial surveys in the JAX study region during January 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
15-Jan-11	12:27	Off effort	30.499651	-80.242933	9	<i>T. truncatus</i>	Bottlenose Dolphin	11
16-Jan-11	9:20	On effort	29.973825	-80.340072	1	<i>T. truncatus</i>	Bottlenose Dolphin	20
16-Jan-11	10:02	On effort	30.030912	-80.433461	2	<i>S. frontalis</i>	Atlantic Spotted Dolphin	10
31-Jan-11	9:57	On effort	30.560639	-80.351907	10	<i>T. truncatus</i>	Bottlenose Dolphin	2
31-Jan-11	10:16	On effort	30.568143	-79.910576	10	<i>G. griseus</i>	Risso's Dolphin	8
31-Jan-11	10:38	On effort	30.498119	-80.251884	9	<i>S. frontalis</i>	Atlantic Spotted Dolphin	50
31-Jan-11	10:44	On effort	30.499485	-80.305212	9	<i>T. truncatus</i>	Bottlenose Dolphin	1
31-Jan-11	11:12	On effort	30.431978	-80.248953	8	<i>S. frontalis</i>	Atlantic Spotted Dolphin	40
31-Jan-11	12:00	On effort	30.381811	-80.661452	7	<i>S. frontalis</i>	Atlantic Spotted Dolphin	6
31-Jan-11	13:00	On effort	30.234102	-80.573657	5	<i>S. frontalis</i>	Atlantic Spotted Dolphin	25
31-Jan-11	15:06	On effort	30.171833	-80.068726	4	<i>T. truncatus</i>	Bottlenose Dolphin	1
31-Jan-11	15:40	On effort	30.106392	-80.384853	3	<i>T. truncatus</i>	Bottlenose Dolphin	4
31-Jan-11	15:47	On effort	30.094753	-80.489454	3	<i>S. frontalis</i>	Atlantic Spotted Dolphin	18
31-Jan-11	15:56	On effort	30.105711	-80.638341	3	<i>S. frontalis</i>	Atlantic Spotted Dolphin	26
31-Jan-11	16:04	On effort	30.030898	-80.643081	2	<i>S. frontalis</i>	Atlantic Spotted Dolphin	3
31-Jan-11	16:11	On effort	30.027308	-80.600764	2	<i>S. frontalis</i>	Atlantic Spotted Dolphin	35
31-Jan-11	16:26	On effort	30.039486	-80.103293	2	<i>T. truncatus</i>	Bottlenose Dolphin	14
31-Jan-11	16:32	On effort	30.026680	-80.011872	2	<i>T. truncatus</i>	Bottlenose Dolphin	5
31-Jan-11	17:12	On effort	29.963541	-80.621873	1	<i>T. truncatus</i>	Bottlenose Dolphin	5

Table 3 (2x pages), Sea turtle sightings during aerial surveys in the JAX study region during January 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
15-Jan-11	12:43	On effort	30.498677	-80.589508	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
15-Jan-11	12:51	On effort	30.429464	-80.624916	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
15-Jan-11	12:53	On effort	30.433324	-80.530516	8	Unid. Sea Turtle	Unid. Sea Turtle	1
15-Jan-11	12:54	On effort	30.434580	-80.503338	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
15-Jan-11	13:39	On effort	30.364705	-80.624028	7	<i>C. caretta</i>	Loggerhead Sea Turtle	1
15-Jan-11	13:50	On effort	30.300718	-80.505796	6	<i>C. caretta</i>	Loggerhead Sea Turtle	1
15-Jan-11	13:57	On effort	30.301304	-80.235411	6	<i>C. caretta</i>	Loggerhead Sea Turtle	1
15-Jan-11	14:31	On effort	30.231968	-80.447529	5	<i>C. caretta</i>	Loggerhead Sea Turtle	1
16-Jan-11	9:09	On effort	29.965874	-80.629504	1	<i>C. caretta</i>	Loggerhead Sea Turtle	1
16-Jan-11	10:08	On effort	30.030654	-80.495997	2	<i>C. caretta</i>	Loggerhead Sea Turtle	1
16-Jan-11	10:10	On effort	30.030465	-80.564686	2	<i>C. caretta</i>	Loggerhead Sea Turtle	2
16-Jan-11	10:11	On effort	30.030581	-80.585095	2	<i>C. caretta</i>	Loggerhead Sea Turtle	1
16-Jan-11	11:10	On effort	30.164851	-80.664417	4	Unid. Sea Turtle	Unid. Sea Turtle	1
31-Jan-11	9:48	On effort	30.587360	-80.587309	10	Unid. Sea Turtle	Unid. Sea Turtle	1
31-Jan-11	10:04	On effort	30.587617	-80.275119	10	<i>C. caretta</i>	Loggerhead Sea Turtle	1
31-Jan-11	10:07	On effort	30.587475	-80.161273	10	<i>C. caretta</i>	Loggerhead Sea Turtle	1
31-Jan-11	10:08	On effort	30.587605	-80.137428	10	<i>C. caretta</i>	Loggerhead Sea Turtle	1
31-Jan-11	10:31	On effort	30.498793	-80.064842	9	<i>D. coriacea</i>	Leatherback Sea Turtle	1
31-Jan-11	10:45	On effort	30.500076	-80.332382	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
31-Jan-11	10:48	On effort	30.498798	-80.477174	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
31-Jan-11	10:52	On effort	30.498452	-80.608619	9	<i>C. caretta</i>	Loggerhead Sea Turtle	1
31-Jan-11	11:04	On effort	30.434179	-80.465965	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
31-Jan-11	11:09	On effort	30.434416	-80.281121	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
31-Jan-11	11:25	On effort	30.434009	-79.841999	8	Unid. Sea Turtle	Unid. Sea Turtle	1
31-Jan-11	11:46	On effort	30.366907	-80.291166	7	Unid. Sea Turtle	Unid. Sea Turtle	1
31-Jan-11	11:48	On effort	30.364935	-80.366955	7	Unid. Sea Turtle	Unid. Sea Turtle	1
31-Jan-11	12:09	On effort	30.300565	-80.600835	6	<i>C. caretta</i>	Loggerhead Sea Turtle	1
31-Jan-11	12:17	On effort	30.301058	-80.316613	6	<i>C. caretta</i>	Loggerhead Sea Turtle	1
31-Jan-11	12:18	On effort	30.300959	-80.279119	6	<i>C. caretta</i>	Loggerhead Sea Turtle	1
31-Jan-11	12:18	On effort	30.300930	-80.290607	6	Unid. Sea Turtle	Unid. Sea Turtle	1
31-Jan-11	12:19	On effort	30.300927	-80.230412	6	<i>C. caretta</i>	Loggerhead Sea Turtle	1
31-Jan-11	12:19	On effort	30.301011	-80.257288	6	Unid. Sea Turtle	Unid. Sea Turtle	2
31-Jan-11	12:50	On effort	30.231986	-80.297323	5	Unid. Sea Turtle	Unid. Sea Turtle	1
31-Jan-11	12:51	On effort	30.231856	-80.330541	5	Unid. Sea Turtle	Unid. Sea Turtle	1

31-Jan-11	12:52	On effort	30.231885	-80.375229	5	<i>C. caretta</i>	Loggerhead Sea Turtle	1
31-Jan-11	12:53	On effort	30.231997	-80.400370	5	Unid. Sea Turtle	Unid. Sea Turtle	1
31-Jan-11	12:55	On effort	30.231586	-80.489020	5	<i>C. caretta</i>	Loggerhead Sea Turtle	1
31-Jan-11	12:58	On effort	30.231659	-80.517978	5	<i>C. caretta</i>	Loggerhead Sea Turtle	1
31-Jan-11	13:03	On effort	30.231226	-80.657225	5	<i>C. caretta</i>	Loggerhead Sea Turtle	3
31-Jan-11	13:03	On effort	30.231268	-80.660506	5	<i>C. caretta</i>	Loggerhead Sea Turtle	1
31-Jan-11	14:48	On effort	30.166430	-80.675526	4	<i>C. caretta</i>	Loggerhead Sea Turtle	1
31-Jan-11	14:48	On effort	30.166428	-80.658743	4	<i>C. caretta</i>	Loggerhead Sea Turtle	2
31-Jan-11	14:49	On effort	30.166457	-80.637597	4	<i>C. caretta</i>	Loggerhead Sea Turtle	1
31-Jan-11	14:51	On effort	30.167293	-80.550326	4	<i>C. caretta</i>	Loggerhead Sea Turtle	2
31-Jan-11	14:52	On effort	30.167572	-80.509541	4	<i>C. caretta</i>	Loggerhead Sea Turtle	1
31-Jan-11	14:53	On effort	30.167586	-80.487293	4	<i>C. caretta</i>	Loggerhead Sea Turtle	3
31-Jan-11	14:54	On effort	30.167780	-80.450588	4	<i>D. coriacea</i>	Leatherback Sea Turtle	1
31-Jan-11	14:54	On effort	30.167725	-80.458966	4	Unid. Sea Turtle	Unid. Sea Turtle	1
31-Jan-11	14:56	On effort	30.167359	-80.354739	4	<i>C. caretta</i>	Loggerhead Sea Turtle	1
31-Jan-11	14:57	On effort	30.167124	-80.322774	4	Unid. Sea Turtle	Unid. Sea Turtle	1
31-Jan-11	14:58	On effort	30.167153	-80.291557	4	Unid. Sea Turtle	Unid. Sea Turtle	1
31-Jan-11	14:59	On effort	30.167220	-80.257117	4	Unid. Sea Turtle	Unid. Sea Turtle	1
31-Jan-11	15:00	On effort	30.167274	-80.229883	4	<i>C. caretta</i>	Loggerhead Sea Turtle	1
31-Jan-11	15:00	On effort	30.167220	-80.233473	4	Unid. Sea Turtle	Unid. Sea Turtle	1
31-Jan-11	15:36	On effort	30.102364	-80.297123	3	<i>C. caretta</i>	Loggerhead Sea Turtle	3
31-Jan-11	15:37	On effort	30.099545	-80.357763	3	<i>C. caretta</i>	Loggerhead Sea Turtle	2
31-Jan-11	15:37	On effort	30.099564	-80.355657	3	<i>C. caretta</i>	Loggerhead Sea Turtle	1
31-Jan-11	15:43	On effort	30.099876	-80.428187	3	<i>C. caretta</i>	Loggerhead Sea Turtle	1
31-Jan-11	15:44	On effort	30.099341	-80.470969	3	Unid. Sea Turtle	Unid. Sea Turtle	1
31-Jan-11	15:49	On effort	30.100326	-80.530911	3	Unid. Sea Turtle	Unid. Sea Turtle	1
31-Jan-11	15:50	On effort	30.099224	-80.585887	3	<i>C. caretta</i>	Loggerhead Sea Turtle	1
31-Jan-11	16:02	On effort	30.031272	-80.660210	2	<i>D. coriacea</i>	Leatherback Sea Turtle	1
31-Jan-11	16:15	On effort	30.032605	-80.461696	2	<i>D. coriacea</i>	Leatherback Sea Turtle	1
31-Jan-11	16:19	On effort	30.032590	-80.294185	2	Unid. Sea Turtle	Unid. Sea Turtle	5
31-Jan-11	16:20	On effort	30.032608	-80.252951	2	<i>D. coriacea</i>	Leatherback Sea Turtle	1
31-Jan-11	17:01	On effort	29.964732	-80.325029	1	<i>D. coriacea</i>	Leatherback Sea Turtle	1
31-Jan-11	17:02	On effort	29.964832	-80.348751	1	Unid. Sea Turtle	Unid. Sea Turtle	1
31-Jan-11	17:07	On effort	29.964697	-80.556553	1	Unid. Sea Turtle	Unid. Sea Turtle	1

Table 4. Vessel survey effort table for the JAX study region during January 2011.

Date	Line	Sea State	Km Surveyed	Survey Time (hrs:min)	At Sea Time (hrs:min)	Platform
20-Jan-11	8	1-2	68.4	3:50	14:05	R/V Volute
30-Jan-11	5	2-3	71.47	3:45	11:58	R/V Volute

Table 5. Cetacean and sea turtle sightings for vessel surveys in JAX study region during January 2011.

Date	Time	On/off effort	Latitude	Longitude	Line	Species	Common Name	Group Size
20-Jan-11	15:17	On	30.434164	-80.183160	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Jan-11	15:22	On	30.433147	-80.200943	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Jan-11	15:24	On	30.433980	-80.203440	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Jan-11	15:25	On	30.434349	-80.201185	8	<i>T. truncatus</i>	Bottlenose Dolphin	10
20-Jan-11	15:40	Off	30.432354	-80.228212	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Jan-11	15:59	On	30.430939	-80.293312	8	Unid. Sea turtle	Unid. Sea Turtle	1
20-Jan-11	16:04	On	30.431515	-80.311662	8	Unid. Sea turtle	Unid. Sea Turtle	1
20-Jan-11	16:05	On	30.431569	-80.314342	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Jan-11	16:08	On	30.431864	-80.324618	8	<i>C. caretta</i>	Loggerhead Sea Turtle	1
20-Jan-11	16:10	On	30.431629	-80.331010	8	Unid. Sea turtle	Unid. Sea Turtle	1
20-Jan-11	16:24	On	30.430800	-80.380847	8	<i>D. coriacea</i>	Leatherback Sea Turtle	1
20-Jan-11	16:37	On	30.432569	-80.425163	8	<i>D. coriacea</i>	Leatherback Sea Turtle	1
20-Jan-11	16:44	On	30.433707	-80.447288	8	<i>D. coriacea</i>	Leatherback Sea Turtle	1
30-Jan-11	15:13	On	30.237409	-80.267497	5	<i>C. caretta</i>	Loggerhead Sea Turtle	1
30-Jan-11	15:57	On	30.229119	-80.392660	5	<i>T. truncatus</i>	Bottlenose Dolphin	3
30-Jan-11	16:06	On	30.230197	-80.423403	5	<i>C. caretta</i>	Loggerhead Sea Turtle	1
30-Jan-11	16:35	On	30.231654	-80.522741	5	<i>C. caretta</i>	Loggerhead Sea Turtle	1

Table 6. Aerial survey effort table for the CHPT study region during January 2011.

Date	Line	Sea State	Kilometers Flown	HOBBS Hours
14-Jan-2011	10	2 to 3	72.6	7.0
14-Jan-2011	9	2 to 3	73.1	
14-Jan-2011	8	2 to 3	75.7	
14-Jan-2011	7	2 to 3	73.5	
14-Jan-2011	6	2 to 3	74.0	
14-Jan-2011	5	2 to 3	70.7	
14-Jan-2011	4	2 to 3	70.1	
14-Jan-2011	3	2 to 3	75.0	
14-Jan-2011	2	2 to 3	74.4	
14-Jan-2011	1	2 to 3	74.9	

Table 7. Cetacean sightings during aerial surveys in the CHPT study region during January 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
14-Jan-11	8:56	Off	34.165669	-76.482446	10	<i>S. frontalis</i>	Spotted dolphin	22
14-Jan-11	9:05	On	34.086145	-76.365575	10	<i>S. frontalis</i>	Spotted dolphin	26
14-Jan-11	10:35	Off	34.070243	-76.725518	7	<i>S. frontalis</i>	Spotted dolphin	25
14-Jan-11	10:51	On	34.035843	-76.822912	6	<i>S. frontalis</i>	Spotted dolphin	50
14-Jan-11	11:31	On	33.833874	-76.66378	5	<i>S. frontalis</i>	Spotted dolphin	180
14-Jan-11	11:51	Off	33.980883	-76.883005	5	<i>S. frontalis</i>	Spotted dolphin	25
14-Jan-11	13:55	On	33.921761	-76.936736	4	<i>S. frontalis</i>	Spotted dolphin	15
14-Jan-11	14:12	On	33.606519	-76.523409	4	Unidentified delphinid	Unidentified delphinid	2

Table 8. Sea turtle sightings during aerial surveys in the CHPT study region during January 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
14-Jan-11	8:53	On	34.188853	-76.506836	10	Unidentified sea turtle	Unidentified sea turtle	1
14-Jan-11	9:03	On	34.098154	-76.383224	10	Unidentified sea turtle	Unidentified sea turtle	1
14-Jan-11	9:40	On	34.063839	-76.47772	9	<i>C. caretta</i>	loggerhead sea turtle	1
14-Jan-11	9:42	On	34.111119	-76.541089	9	<i>C. caretta</i>	loggerhead sea turtle	3
14-Jan-11	9:42	On	34.109279	-76.538746	9	Unidentified sea turtle	Unidentified sea turtle	1
14-Jan-11	9:45	On	34.164724	-76.612029	9	<i>C. caretta</i>	loggerhead sea turtle	1
14-Jan-11	9:47	On	34.212212	-76.674437	9	<i>C. caretta</i>	loggerhead sea turtle	1
14-Jan-11	9:51	On	34.147125	-76.713873	8	<i>C. caretta</i>	loggerhead sea turtle	2
14-Jan-11	9:58	On	33.983754	-76.492322	8	<i>C. caretta</i>	loggerhead sea turtle	2
14-Jan-11	10:00	On	33.932577	-76.424801	8	Unidentified sea turtle	Unidentified sea turtle	1
14-Jan-11	10:28	On	33.988219	-76.606244	7	Unidentified sea turtle	Unidentified sea turtle	1
14-Jan-11	10:30	On	34.005198	-76.655395	7	Unidentified sea turtle	Unidentified sea turtle	2
14-Jan-11	10:32	On	34.036183	-76.694704	7	<i>C. caretta</i>	loggerhead sea turtle	1
14-Jan-11	10:33	On	34.059413	-76.724498	7	<i>C. caretta</i>	loggerhead sea turtle	1
14-Jan-11	10:33	On	34.051762	-76.727518	7	Unidentified sea turtle	Unidentified sea turtle	1
14-Jan-11	10:44	On	34.097414	-76.775415	7	<i>C. caretta</i>	loggerhead sea turtle	1
14-Jan-11	10:55	On	34.008381	-76.791485	6	<i>C. caretta</i>	loggerhead sea turtle	2
14-Jan-11	10:55	On	34.002353	-76.784055	6	<i>C. caretta</i>	loggerhead sea turtle	1
14-Jan-11	10:57	On	33.962465	-76.732330	6	<i>C. caretta</i>	loggerhead sea turtle	2
14-Jan-11	10:57	On	33.955172	-76.721506	6	Unidentified sea turtle	Unidentified sea turtle	2
14-Jan-11	11:02	On	33.850397	-76.584250	6	<i>C. caretta</i>	loggerhead sea turtle	3
14-Jan-11	11:27	On	33.772420	-76.616253	5	<i>C. caretta</i>	loggerhead sea turtle	1
14-Jan-11	11:40	On	33.899045	-76.782669	5	<i>C. caretta</i>	loggerhead sea turtle	3
14-Jan-11	11:41	On	33.919890	-76.811349	5	<i>C. caretta</i>	loggerhead sea turtle	2
14-Jan-11	14:36	On	33.696255	-76.782737	3	<i>C. caretta</i>	loggerhead sea turtle	1
14-Jan-11	14:36	On	33.711718	-76.803939	3	<i>C. caretta</i>	loggerhead sea turtle	4
14-Jan-11	14:45	On	33.896123	-77.043701	3	<i>C. caretta</i>	loggerhead sea turtle	1
14-Jan-11	14:53	On	33.768162	-77.000595	2	<i>C. caretta</i>	loggerhead sea turtle	2
14-Jan-11	14:56	On	33.701709	-76.81464	2	<i>C. caretta</i>	loggerhead sea turtle	1
14-Jan-11	15:25	On	33.617809	-76.939637	1	<i>C. caretta</i>	loggerhead sea turtle	1
14-Jan-11	15:28	On	33.660948	-76.986333	1	Unidentified sea turtle	Unidentified sea turtle	1

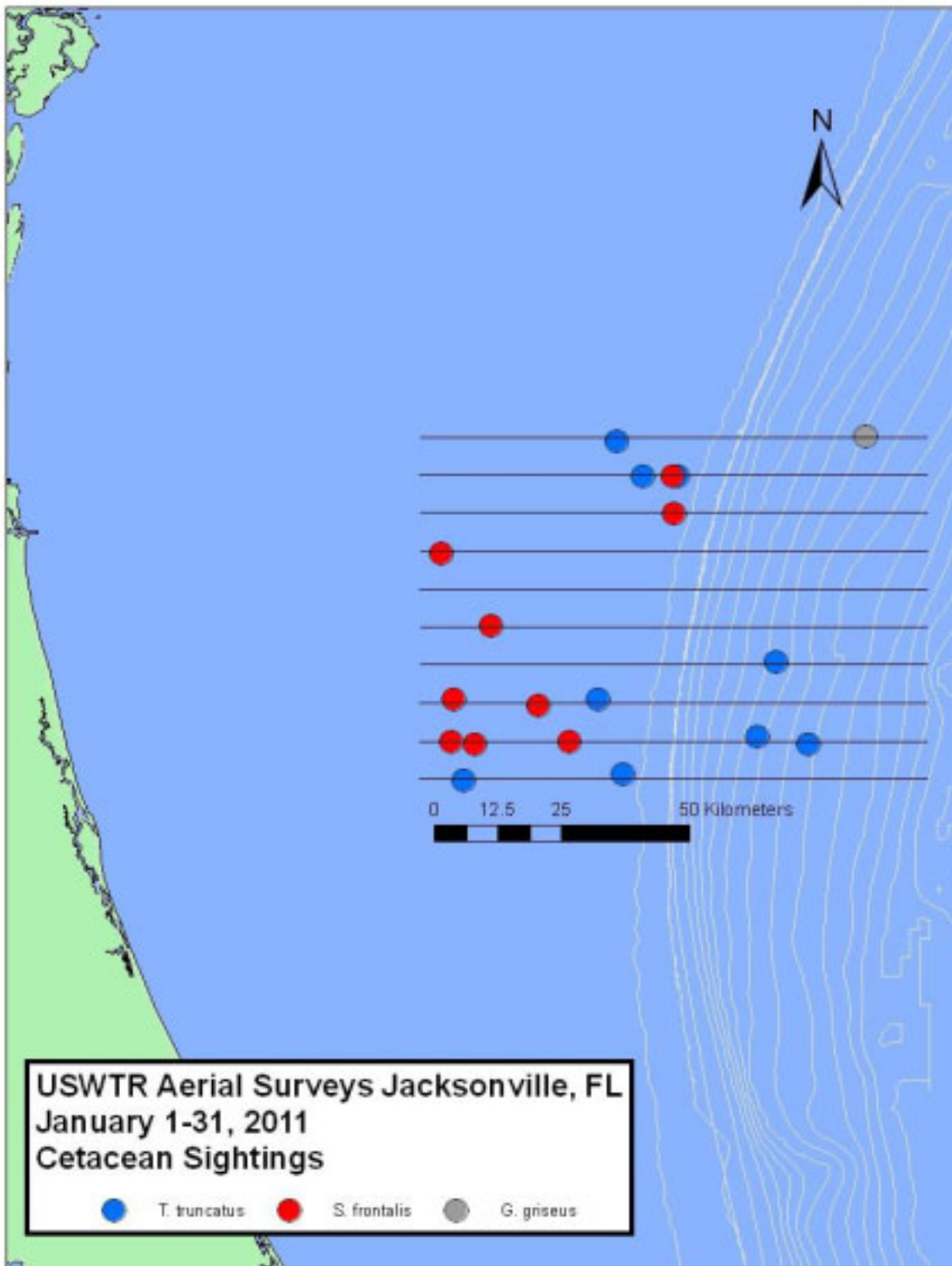


Figure 1. The locations of cetaceans sighted while conducting aerial surveys of the JAX study region in January 2011.

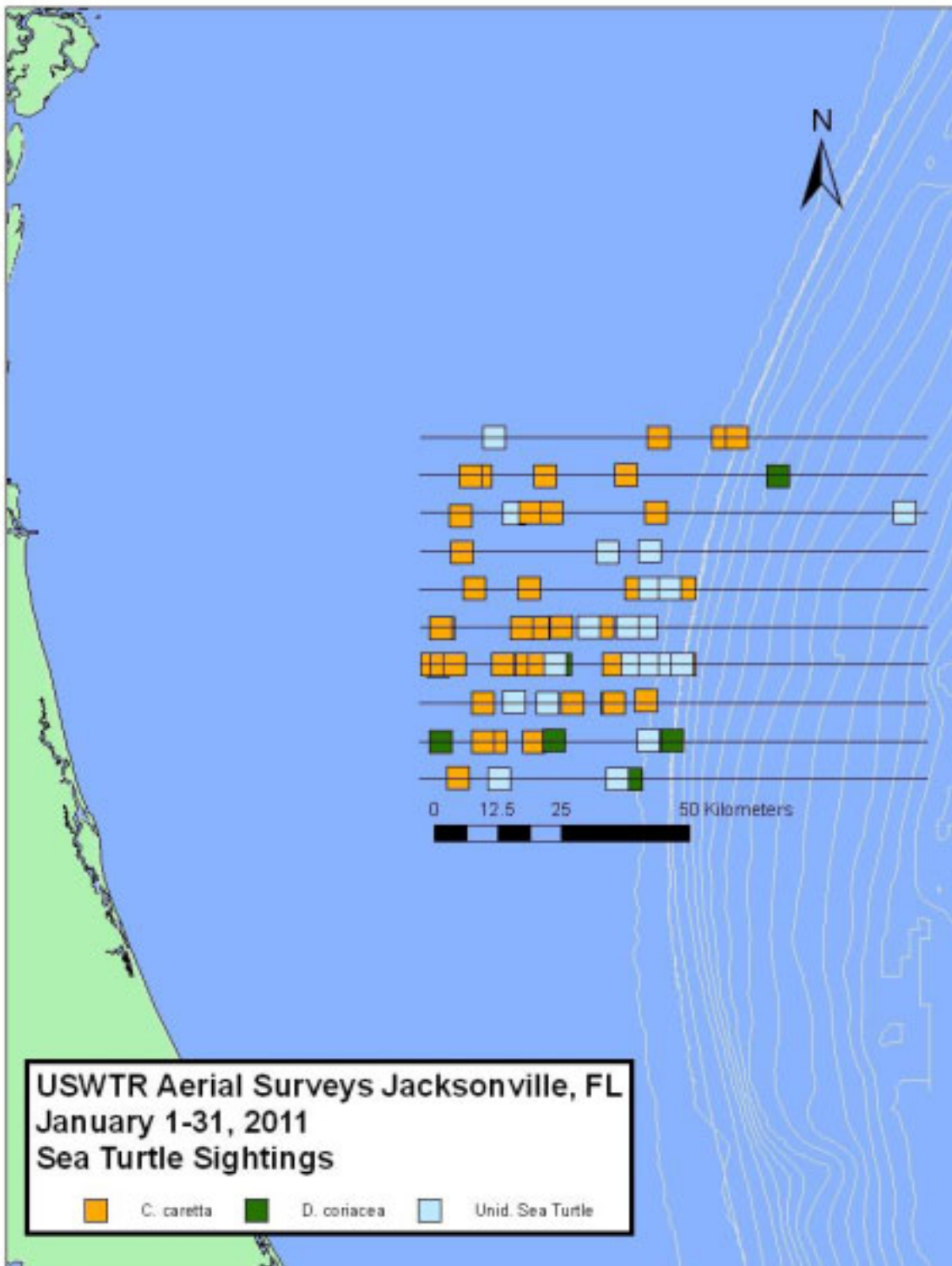


Figure 2. The locations of sea turtles sighted during aerial surveys of the JAX study region in January 2011.

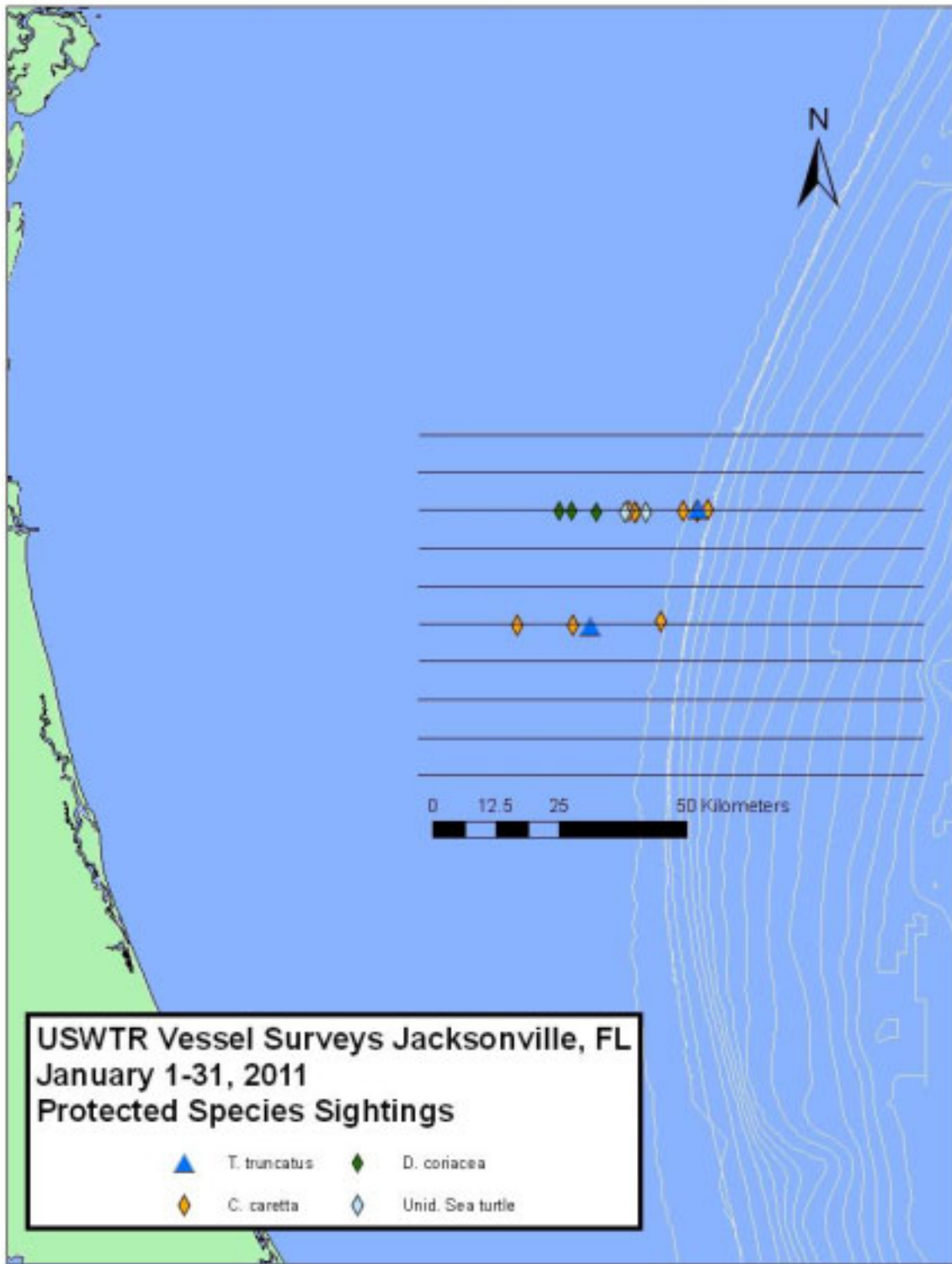


Figure 3. Cetaceans and sea turtles observed during vessel surveys of the JAX study region in January 2011.

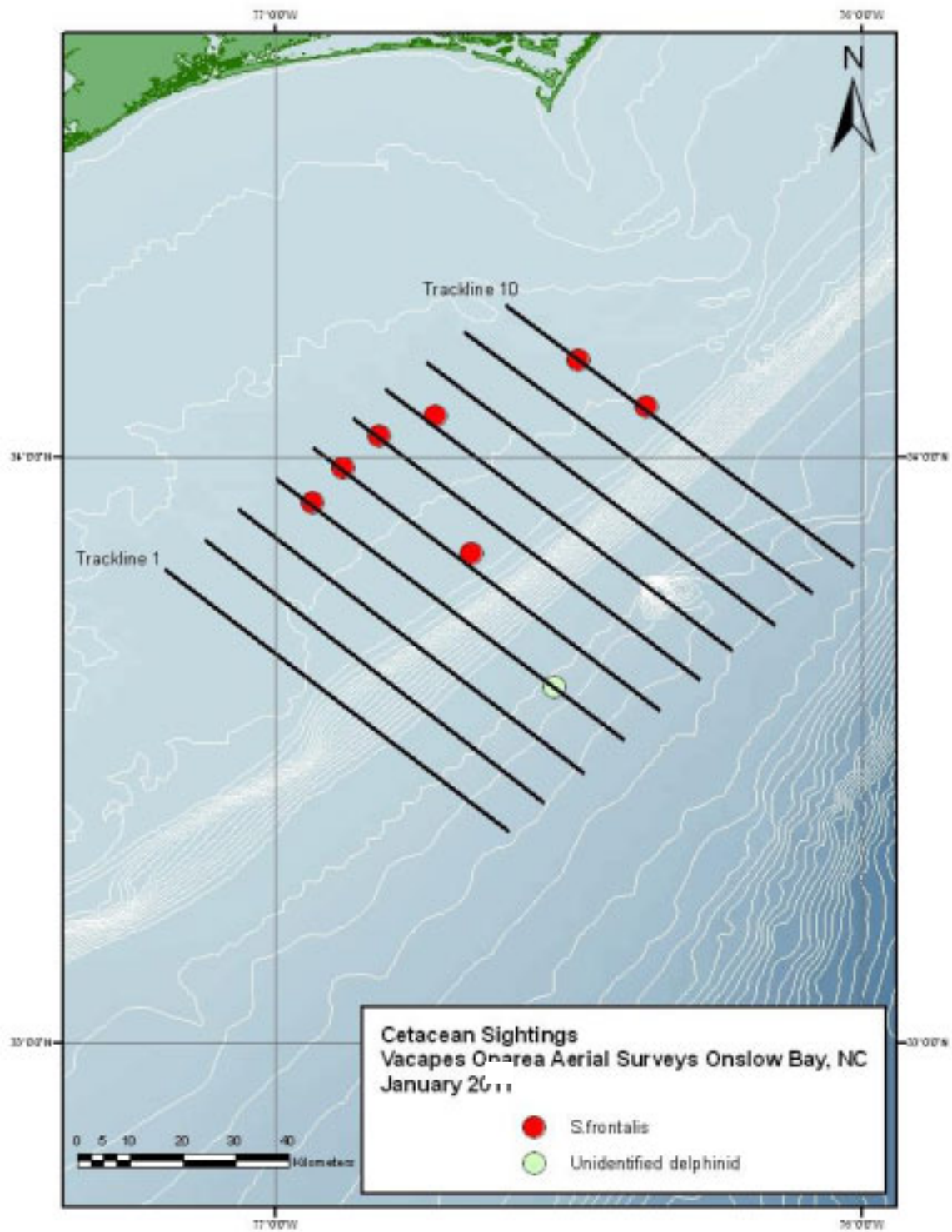


Figure 4. The locations of cetaceans sighted during aerial surveys of the CHPT study region in January 2011.

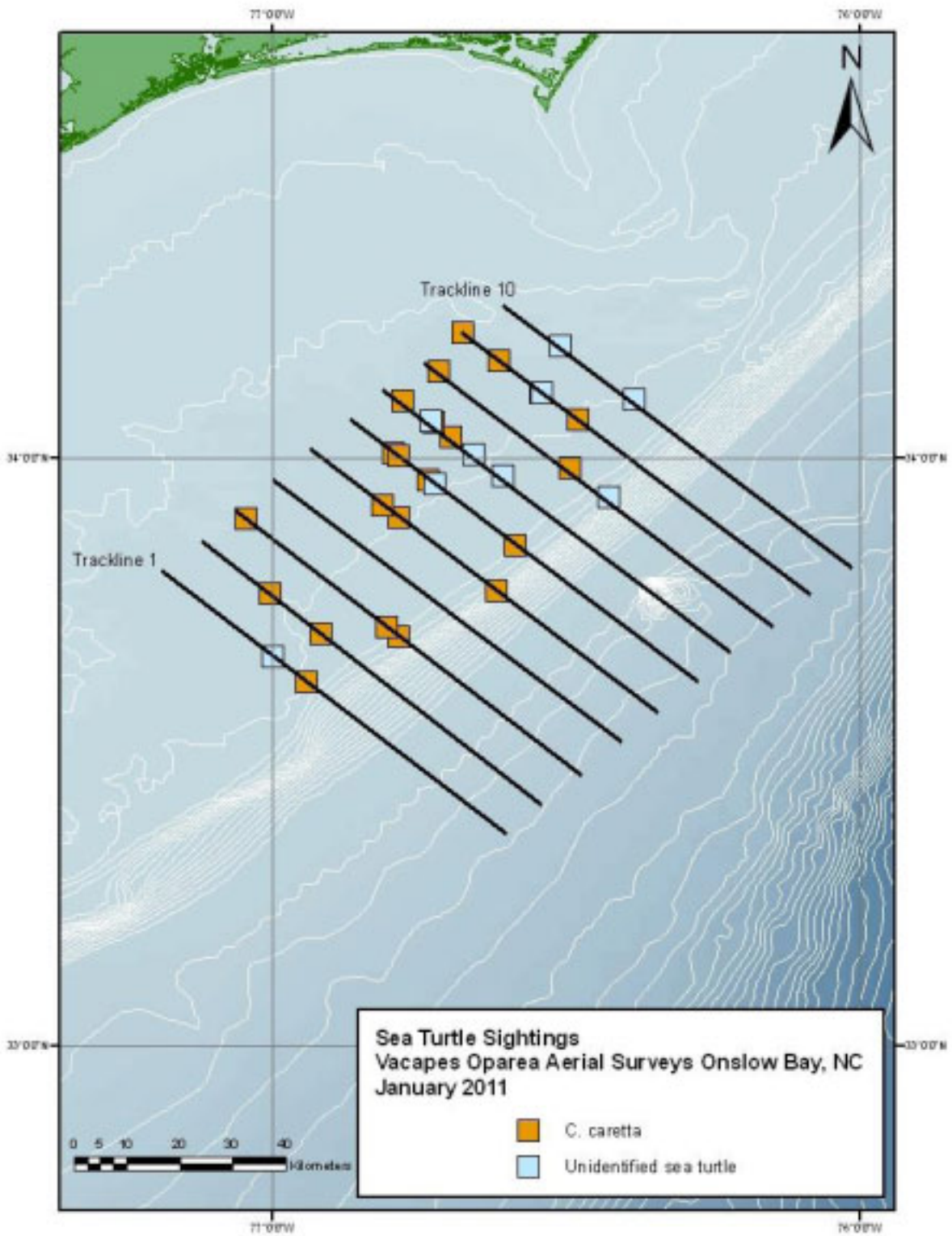


Figure 5. The locations of turtles sighted during aerial surveys of the CHPT study region in January 2011.

Monitoring of Protected Species at the CHPT and JAX Sites

Progress Report: February 2011

JAX Survey Activity

Aerial Surveys

High winds and seas interspersed with days of dense fog and low ceilings hampered survey effort throughout the reporting period. Aerial surveys were performed on February 22nd, 26th and 27th for a total of 14 track lines flown during the month of February. Four tracklines were surveyed on February 22nd, four on the 26th and six on the 27th. Additional tracklines were attempted on the 22nd, but had to be terminated due to high sea state. Survey conditions ranged from poor to excellent, with Beaufort Sea State conditions ranging from 1 to 5 (Table 1). A total of 23 cetacean groups were recorded. Sightings consisted of Atlantic spotted dolphins (*Stenella frontalis*, ten encounters), bottlenose dolphins (*Tursiops truncatus*, 11 encounters), and one minke whale (*Balaenoptera acutorostrata*) (Figure 1, Table 2). An additional group of bottlenose dolphins was observed off-effort. Furthermore, two whale sharks (*Rhincodon typus*) were observed; one each on the 26th and the 27th. These represent the third and fourth sightings of this protected species in the survey area since the inception of monthly aerial surveys. A total of 127 sea turtles were observed during the reporting period; 100 loggerhead sea turtles (*Caretta caretta*), one leatherback sea turtles (*Dermochelys coriacea*) and 26 unidentified sea turtles (Figure 2, Table 3).

Vessel Surveys

A vessel survey on 13 February 2011 was aborted during transit to the range due to deteriorating sea conditions (Table 4).

Passive Acoustic Monitoring

Due to the upcoming re-organization and re-focusing of vessel surveys in May 2011, a new PAM computer was not purchased. Passive acoustic monitoring will be attempted using the back-up vessel lap top.

JAX HARPs

Both JAX HARPs we recovered and redeployed on February 1 and 2, 2011. The recovered instruments had both recorded for the duration of the deployment and the data are currently being processed.

CHPT Survey Activity

Aerial Surveys

A small weather window in Onslow Bay allowed for one day of flights covering 8 lines in Onslow Bay (Table 5). Favorable survey conditions allowed for 11 cetacean sightings to be made; this is roughly two times the number of sightings ever previously obtained in the month of February. Sightings were dominated by bottlenose dolphins (8 sightings) including one group estimated at 230 animals (Table 6, Figure 3). The team also recorded two sightings of a new species in the Onslow Bay range, the Minke whale (*Balaenoptera acutorostrata*). The first sighting was of a mom / calf pair seen just off of the shelf break. Measurements made from the images collected showed that the calf was approximately 45% of the mother's total length. While the animal did not display neonatal characteristic such as fetal folds its relative size and more robust body appearance suggest it is a young of the year. The second minke sighting was of a single animal traveling below the surface. Increased sea states prevented any re-sights of this animal. A single sighting of two unidentified cetaceans was recorded on the offshore end of line 7. One of the animals was roughly 10-12ft long,

deep bodied and light grey in coloration. The other animal appeared significantly larger and remained submerged so that only its silhouette could be made out. A total of 70 sea turtle sightings were also recorded this month (Table 7, Figure 3).

Vessel Surveys

Due to unfavorable weather conditions for the entire reporting period no vessel surveys were conducted.

Towed Passive Acoustics

No towed passive acoustic surveys were conducted during the reporting period.

Table 1. Aerial survey effort for the JAX study region during February 2011.

Date	Line	Sea State	Kilometers Flown	HOBBS Hours
22-Feb-11	1	2-5	85.6	4.5
22-Feb-11	2	2-5	88.2	
22-Feb-11	3	2-4	86.3	
22-Feb-11	4	2-4	85.4	
26-Feb-11	5	1-2	86.6	4.4
26-Feb-11	6	1-2	81.5	
26-Feb-11	7	1-2	84.8	
26-Feb-11	8	1-2	84.6	
27-Feb-11	1	1-3	85.2	5.3
27-Feb-11	2	1-3	83.8	
27-Feb-11	3	1-3	82.6	
27-Feb-11	4	1-3	79.3	
27-Feb-11	8	2-3	83.2	
27-Feb-11	9	2-3	86.3	

Table 2. Cetacean sightings during aerial surveys in the JAX study region during February 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
22-Feb-11	14:40	On effort	30.021563	-80.461713	2	<i>S. frontalis</i>	Atlantic Spotted Dolphin	25
22-Feb-11	14:51	On effort	30.025984	-80.499021	2	<i>S. frontalis</i>	Atlantic Spotted Dolphin	6
22-Feb-11	15:06	On effort	30.031494	-80.568841	2	<i>T. truncatus</i>	Bottlenose Dolphin	3
26-Feb-11	14:21	On effort	30.235706	-80.573331	5	<i>S. frontalis</i>	Atlantic Spotted Dolphin	4
26-Feb-11	14:29	On effort	30.239116	-80.631891	5	<i>T. truncatus</i>	Bottlenose Dolphin	6
26-Feb-11	14:41	On effort	30.304738	-80.648357	6	<i>S. frontalis</i>	Atlantic Spotted Dolphin	5
26-Feb-11	15:05	On effort	30.311289	-80.305520	6	<i>T. truncatus</i>	Bottlenose Dolphin	2
26-Feb-11	15:17	On effort	30.301623	-80.067897	6	<i>T. truncatus</i>	Bottlenose Dolphin	9
26-Feb-11	15:55	On effort	30.358155	-80.447163	7	<i>T. truncatus</i>	Bottlenose Dolphin	7
26-Feb-11	16:16	On effort	30.430237	-80.458247	8	<i>S. frontalis</i>	Atlantic Spotted Dolphin	35
27-Feb-11	13:30	On effort	29.967210	-80.530466	1	<i>T. truncatus</i>	Bottlenose Dolphin	3
27-Feb-11	14:18	On effort	30.033213	-80.476815	2	<i>T. truncatus</i>	Bottlenose Dolphin	6
27-Feb-11	14:27	On effort	30.037012	-80.525749	2	<i>S. frontalis</i>	Atlantic Spotted Dolphin	7
27-Feb-11	14:29	Off effort	30.041570	-80.547525	2	<i>T. truncatus</i>	Bottlenose Dolphin	17
27-Feb-11	14:47	On effort	30.096030	-80.497417	3	<i>S. frontalis</i>	Atlantic Spotted Dolphin	16
27-Feb-11	15:23	On effort	30.167562	-79.972130	4	<i>B. acutorostrata</i>	Minke Whale	1
27-Feb-11	15:31	On effort	30.174200	-80.040481	4	<i>T. truncatus</i>	Bottlenose Dolphin	16
27-Feb-11	15:40	On effort	30.162715	-80.157747	4	<i>T. truncatus</i>	Bottlenose Dolphin	1
27-Feb-11	15:49	On effort	30.177897	-80.287122	4	<i>S. frontalis</i>	Atlantic Spotted Dolphin	25
27-Feb-11	15:52	On effort	30.172691	-80.299677	4	<i>S. frontalis</i>	Atlantic Spotted Dolphin	17
27-Feb-11	16:02	On effort	30.171754	-80.541038	4	<i>S. frontalis</i>	Atlantic Spotted Dolphin	22
27-Feb-11	16:35	On effort	30.440695	-80.475763	8	<i>T. truncatus</i>	Bottlenose Dolphin	3
27-Feb-11	16:47	On effort	30.433840	-80.438006	8	<i>T. truncatus</i>	Bottlenose Dolphin	4

Table 3 (2x pages). Sea turtle sightings during aerial surveys in the JAX study region during February 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
22-Feb-11	13:44	On effort	29.966818	-80.660606	1	<i>C. caretta</i>	Loggerhead Sea Turtle	1
22-Feb-11	13:44	On effort	29.966978	-80.640238	1	Unid. Sea Turtle	Unid. Sea Turtle	1
22-Feb-11	13:45	On effort	29.967308	-80.626281	1	<i>C. caretta</i>	Loggerhead Sea Turtle	2
22-Feb-11	13:46	On effort	29.966994	-80.566500	1	<i>C. caretta</i>	Loggerhead Sea Turtle	3
22-Feb-11	13:46	On effort	29.966990	-80.566403	1	Unid. Sea Turtle	Unid. Sea Turtle	1
22-Feb-11	14:30	On effort	30.035297	-80.326647	2	<i>C. caretta</i>	Loggerhead Sea Turtle	1
22-Feb-11	14:58	On effort	30.032073	-80.535932	2	<i>C. caretta</i>	Loggerhead Sea Turtle	1
22-Feb-11	15:12	On effort	30.031150	-80.591389	2	<i>C. caretta</i>	Loggerhead Sea Turtle	1
22-Feb-11	15:25	On effort	30.101537	-80.474860	3	<i>C. caretta</i>	Loggerhead Sea Turtle	1
22-Feb-11	16:11	On effort	30.165337	-80.516026	4	<i>C. caretta</i>	Loggerhead Sea Turtle	1
26-Feb-11	13:29	On effort	30.567788	-80.232145	10	<i>C. caretta</i>	Loggerhead Sea Turtle	1
26-Feb-11	14:09	On effort	30.231828	-80.209716	5	Unid. Sea Turtle	Unid. Sea Turtle	1
26-Feb-11	14:12	On effort	30.231829	-80.313792	5	<i>C. caretta</i>	Loggerhead Sea Turtle	1
26-Feb-11	14:17	On effort	30.231852	-80.495478	5	<i>C. caretta</i>	Loggerhead Sea Turtle	1
26-Feb-11	14:17	On effort	30.231898	-80.501625	5	<i>C. caretta</i>	Loggerhead Sea Turtle	1
26-Feb-11	14:18	On effort	30.231883	-80.516600	5	Unid. Sea Turtle	Unid. Sea Turtle	1
26-Feb-11	14:19	On effort	30.231790	-80.569734	5	Unid. Sea Turtle	Unid. Sea Turtle	1
26-Feb-11	14:26	On effort	30.235304	-80.612776	5	Unid. Sea Turtle	Unid. Sea Turtle	1
26-Feb-11	14:27	On effort	30.235487	-80.621822	5	<i>C. caretta</i>	Loggerhead Sea Turtle	1
26-Feb-11	14:35	On effort	30.233292	-80.689102	5	Unid. Sea Turtle	Unid. Sea Turtle	1
26-Feb-11	14:52	On effort	30.301322	-80.575981	6	<i>C. caretta</i>	Loggerhead Sea Turtle	1
26-Feb-11	14:52	On effort	30.300654	-80.589913	6	<i>C. caretta</i>	Loggerhead Sea Turtle	1
26-Feb-11	14:56	On effort	30.301641	-80.429819	6	<i>C. caretta</i>	Loggerhead Sea Turtle	1
26-Feb-11	14:56	On effort	30.301748	-80.450982	6	Unid. Sea Turtle	Unid. Sea Turtle	1
26-Feb-11	14:56	On effort	30.301655	-80.431261	6	Unid. Sea Turtle	Unid. Sea Turtle	1
26-Feb-11	14:57	On effort	30.301615	-80.420155	6	<i>C. caretta</i>	Loggerhead Sea Turtle	1
26-Feb-11	15:11	On effort	30.301793	-80.254187	6	<i>C. caretta</i>	Loggerhead Sea Turtle	1
26-Feb-11	15:51	On effort	30.368117	-80.363477	7	<i>C. caretta</i>	Loggerhead Sea Turtle	1
26-Feb-11	15:53	On effort	30.365664	-80.433418	7	Unid. Sea Turtle	Unid. Sea Turtle	1
26-Feb-11	15:59	On effort	30.366209	-80.479756	7	<i>C. caretta</i>	Loggerhead Sea Turtle	1
26-Feb-11	16:03	On effort	30.364713	-80.656447	7	Unid. Sea Turtle	Unid. Sea Turtle	1
26-Feb-11	16:04	On effort	30.365467	-80.683258	7	<i>C. caretta</i>	Loggerhead Sea Turtle	1
26-Feb-11	16:08	On effort	30.433745	-80.664470	8	Unid. Sea Turtle	Unid. Sea Turtle	3
26-Feb-11	16:09	On effort	30.434388	-80.634695	8	<i>D. coriacea</i>	Leatherback sea Turtle	1

26-Feb-11	16:09	On effort	30.434283	-80.645431	8	Unid. Sea Turtle	Unid. Sea Turtle	1
26-Feb-11	16:13	On effort	30.434617	-80.504245	8	C. caretta	Loggerhead Sea Turtle	1
26-Feb-11	16:13	On effort	30.434674	-80.484045	8	Unid. Sea Turtle	Unid. Sea Turtle	1
26-Feb-11	16:23	On effort	30.434936	-80.300403	8	C. caretta	Loggerhead Sea Turtle	1
26-Feb-11	16:23	On effort	30.434965	-80.289328	8	Unid. Sea Turtle	Unid. Sea Turtle	1
26-Feb-11	16:24	On effort	30.434899	-80.271530	8	Unid. Sea Turtle	Unid. Sea Turtle	1
26-Feb-11	16:26	On effort	30.434870	-80.184141	8	Unid. Sea Turtle	Unid. Sea Turtle	1
27-Feb-11	13:27	On effort	29.966375	-80.563818	1	C. caretta	Loggerhead Sea Turtle	2
27-Feb-11	13:27	On effort	29.966347	-80.574907	1	C. caretta	Loggerhead Sea Turtle	1
27-Feb-11	13:37	On effort	29.965274	-80.495560	1	C. caretta	Loggerhead Sea Turtle	2
27-Feb-11	13:38	On effort	29.966401	-80.463228	1	C. caretta	Loggerhead Sea Turtle	4
27-Feb-11	13:38	On effort	29.966494	-80.452263	1	C. caretta	Loggerhead Sea Turtle	2
27-Feb-11	13:40	On effort	29.966561	-80.384777	1	C. caretta	Loggerhead Sea Turtle	3
27-Feb-11	13:40	On effort	29.966522	-80.381962	1	C. caretta	Loggerhead Sea Turtle	3
27-Feb-11	13:41	On effort	29.966590	-80.350686	1	C. caretta	Loggerhead Sea Turtle	5
27-Feb-11	13:42	On effort	29.966566	-80.298922	1	C. caretta	Loggerhead Sea Turtle	3
27-Feb-11	13:42	On effort	29.966507	-80.317926	1	C. caretta	Loggerhead Sea Turtle	2
27-Feb-11	13:43	On effort	29.966479	-80.266772	1	C. caretta	Loggerhead Sea Turtle	2
27-Feb-11	13:49	On effort	29.966408	-80.052856	1	C. caretta	Loggerhead Sea Turtle	1
27-Feb-11	14:08	On effort	30.031455	-80.157431	2	C. caretta	Loggerhead Sea Turtle	2
27-Feb-11	14:11	On effort	30.031410	-80.246792	2	C. caretta	Loggerhead Sea Turtle	2
27-Feb-11	14:12	On effort	30.031319	-80.289172	2	C. caretta	Loggerhead Sea Turtle	2
27-Feb-11	14:12	On effort	30.031295	-80.307353	2	C. caretta	Loggerhead Sea Turtle	2
27-Feb-11	14:13	On effort	30.031196	-80.332198	2	C. caretta	Loggerhead Sea Turtle	1
27-Feb-11	14:13	On effort	30.031327	-80.347275	2	C. caretta	Loggerhead Sea Turtle	1
27-Feb-11	14:15	On effort	30.031259	-80.418648	2	C. caretta	Loggerhead Sea Turtle	2
27-Feb-11	14:15	On effort	30.031353	-80.402040	2	C. caretta	Loggerhead Sea Turtle	2
27-Feb-11	14:16	On effort	30.031217	-80.457653	2	Unid. Sea Turtle	Unid. Sea Turtle	1
27-Feb-11	14:34	On effort	30.033009	-80.573731	2	C. caretta	Loggerhead Sea Turtle	1
27-Feb-11	14:35	On effort	30.032233	-80.578686	2	Unid. Sea Turtle	Unid. Sea Turtle	2
27-Feb-11	14:36	On effort	30.030550	-80.645545	2	C. caretta	Loggerhead Sea Turtle	4
27-Feb-11	14:37	On effort	30.030569	-80.655974	2	Unid. Sea Turtle	Unid. Sea Turtle	1
27-Feb-11	14:42	On effort	30.100199	-80.673186	3	C. caretta	Loggerhead Sea Turtle	8
27-Feb-11	14:42	On effort	30.100403	-80.679259	3	C. caretta	Loggerhead Sea Turtle	2
27-Feb-11	14:43	On effort	30.100683	-80.642881	3	C. caretta	Loggerhead Sea Turtle	1
27-Feb-11	14:46	On effort	30.100919	-80.521558	3	C. caretta	Loggerhead Sea Turtle	2
27-Feb-11	14:51	On effort	30.101108	-80.422833	3	C. caretta	Loggerhead Sea Turtle	1
27-Feb-11	15:00	On effort	30.101345	-80.298866	3	C. caretta	Loggerhead Sea Turtle	2
27-Feb-11	15:00	On effort	30.101363	-80.288381	3	C. caretta	Loggerhead Sea Turtle	3
27-Feb-11	15:00	On effort	30.101345	-80.298866	3	Unid. Sea Turtle	Unid. Sea Turtle	2
27-Feb-11	16:17	On effort	30.165543	-80.645988	4	C. caretta	Loggerhead Sea Turtle	3
27-Feb-11	16:56	On effort	30.434435	-80.165085	8	C. caretta	Loggerhead Sea Turtle	2
27-Feb-11	17:23	On effort	30.499116	-80.389218	9	C. caretta	Loggerhead Sea Turtle	1
27-Feb-11	17:26	On effort	30.498730	-80.496969	9	Unid. Sea Turtle	Unid. Sea Turtle	1

Table 4. Vessel survey effort for the JAX study region during February 2011.

Date	Line	Sea State	Km Surveyed	Survey Time (hrs:min)	At Sea Time (hrs:min)	Platform
13-Feb-11	n/a	n/a	n/a	n/a	5:25	R/V Volute

Table 5. Aerial survey effort for the CHPT study region during February 2011.

Date	Line	Sea State	Kilometers Flown	HOBBS Hours
24-Feb-2011	1	2 to 3	73.9	6.7
24-Feb-2011	2	2 to 3	72.1	
24-Feb-2011	3	2 to 3	73.4	
24-Feb-2011	4	1 to 3	63.2	
24-Feb-2011	5	2 to 3	71.8	
24-Feb-2011	6	2 to 3	70.8	
24-Feb-2011	7	2 to 3	72.8	
24-Feb-2011	8	2 to 3	74.9	

Table 6. Cetacean sightings during aerial surveys in the CHPT study region during the February 2011 reporting period.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
24-Feb-11	9:22	On	33.482840	-76.753731	1	T. truncatus	Bottlenose dolphin	32
24-Feb-11	9:41	On	33.492367	-76.654561	2	T. truncatus	Bottlenose dolphin	4
24-Feb-11	10:23	On	33.574638	-76.622563	3	T. truncatus	Bottlenose dolphin	18
24-Feb-11	10:31	On	33.511343	-76.545763	3	T. truncatus	Bottlenose dolphin	10
24-Feb-11	10:46	On	33.614701	-76.525724	4	T. truncatus	Bottlenose dolphin	79
24-Feb-11	10:55	On	33.684479	-76.620831	4	B. acutorostrata	Minkie whale	2
24-Feb-11	11:23	On	33.788800	-76.776595	4	T. truncatus	Bottlenose dolphin	10
24-Feb-11	11:34	On	33.953879	-76.990195	4	T. truncatus	Bottlenose dolphin	29
24-Feb-11	14:00	On	33.690618	-76.487107	5	T. truncatus	Bottlenose dolphin	230
24-Feb-11	14:19	On	33.748897	-76.455229	6	B. acutorostrata	Minkie whale	1
24-Feb-11	15:20	On	33.800181	-76.365204	7	Unid. Ceta	Unidentified Cetacean	2

Table 7. Sea turtle sightings during aerial surveys in the CHPT study region during the February 2011 reporting period.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
24-Feb-11	9:09	On	33.719509	-77.069443	1	Unid. Sea turtle	Unid. Sea turtle	1
24-Feb-11	9:13	On	33.645559	-76.974561	1	C. caretta	Loggerhead sea turtle	1
24-Feb-11	9:14	On	33.618935	-76.938437	1	C. caretta	Loggerhead sea turtle	2
24-Feb-11	9:14	On	33.619269	-76.938821	1	Unid. Sea turtle	Unid. Sea turtle	2
24-Feb-11	9:15	On	33.597017	-76.909920	1	C. caretta	Loggerhead sea turtle	4
24-Feb-11	9:53	On	33.662785	-76.867977	2	Unid. Sea turtle	Unid. Sea turtle	3
24-Feb-11	9:54	On	33.675894	-76.884657	2	C. caretta	Loggerhead sea turtle	4
24-Feb-11	9:54	On	33.685808	-76.897150	2	Unid. Sea turtle	Unid. Sea turtle	2
24-Feb-11	9:56	On	33.737374	-76.964016	2	C. caretta	Loggerhead sea turtle	3
24-Feb-11	9:58	On	33.767216	-77.002908	2	C. caretta	Loggerhead sea turtle	3
24-Feb-11	9:58	On	33.780268	-77.019627	2	C. caretta	Loggerhead sea turtle	3
24-Feb-11	10:11	On	33.789476	-76.901109	3	Unid. Sea turtle	Unid. Sea turtle	1
24-Feb-11	10:11	On	33.792454	-76.904927	3	Unid. Sea turtle	Unid. Sea turtle	1
24-Feb-11	10:12	On	33.777383	-76.885820	3	C. caretta	Loggerhead sea turtle	2
24-Feb-11	10:13	On	33.738566	-76.834942	3	C. caretta	Loggerhead sea turtle	4
24-Feb-11	10:14	On	33.722991	-76.814817	3	C. caretta	Loggerhead sea turtle	7
24-Feb-11	10:14	On	33.737269	-76.833281	3	Unid. Sea turtle	Unid. Sea turtle	2
24-Feb-11	11:21	On	33.771842	-76.744451	4	Unid. Sea turtle	Unid. Sea turtle	3
24-Feb-11	11:27	On	33.823472	-76.811523	4	C. caretta	Loggerhead sea turtle	3
24-Feb-11	11:30	On	33.909657	-76.928834	4	C. caretta	Loggerhead sea turtle	3
24-Feb-11	11:32	On	33.936554	-76.962420	4	C. caretta	Loggerhead sea turtle	2
24-Feb-11	13:36	On	33.981979	-76.888589	5	Unid. Sea turtle	Unid. Sea turtle	1
24-Feb-11	13:37	On	33.958201	-76.857117	5	Unid. Sea turtle	Unid. Sea turtle	2
24-Feb-11	13:40	On	33.900009	-76.781176	5	Unid. Sea turtle	Unid. Sea turtle	3
24-Feb-11	13:41	On	33.889136	-76.740064	5	Unid. Sea turtle	Unid. Sea turtle	2
24-Feb-11	14:45	On	33.939408	-76.704795	6	C. caretta	Loggerhead sea turtle	2
24-Feb-11	14:49	On	34.027767	-76.821492	6	C. caretta	Loggerhead sea turtle	2
24-Feb-11	14:59	On	34.035509	-76.689916	7	Unid. Sea turtle	Unid. Sea turtle	1
24-Feb-11	15:03	On	33.947791	-76.575646	7	Unid. Sea turtle	Unid. Sea turtle	1

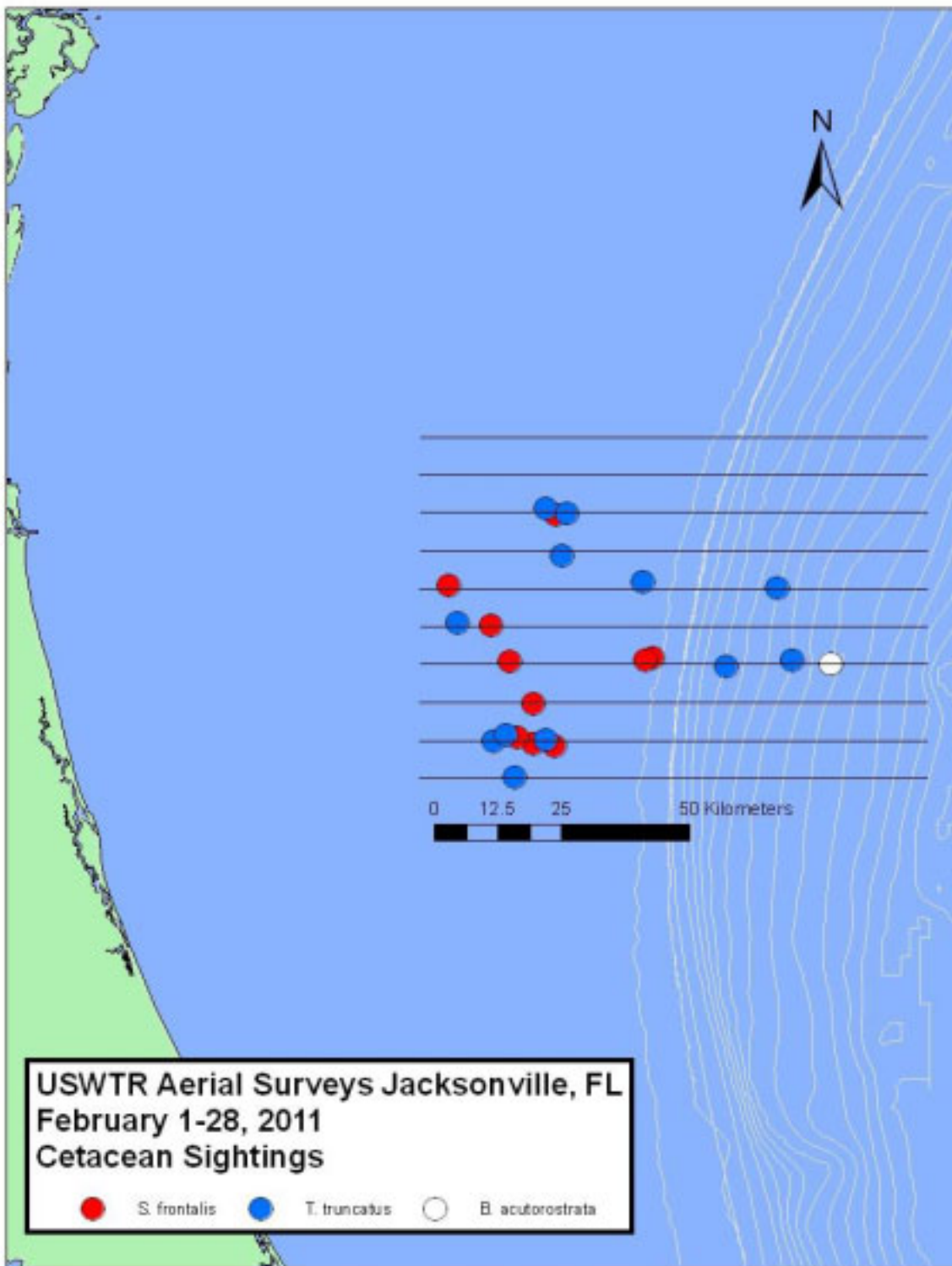


Figure 1. The locations of cetaceans sighted while conducting aerial surveys of the JAX study region in February 2011.

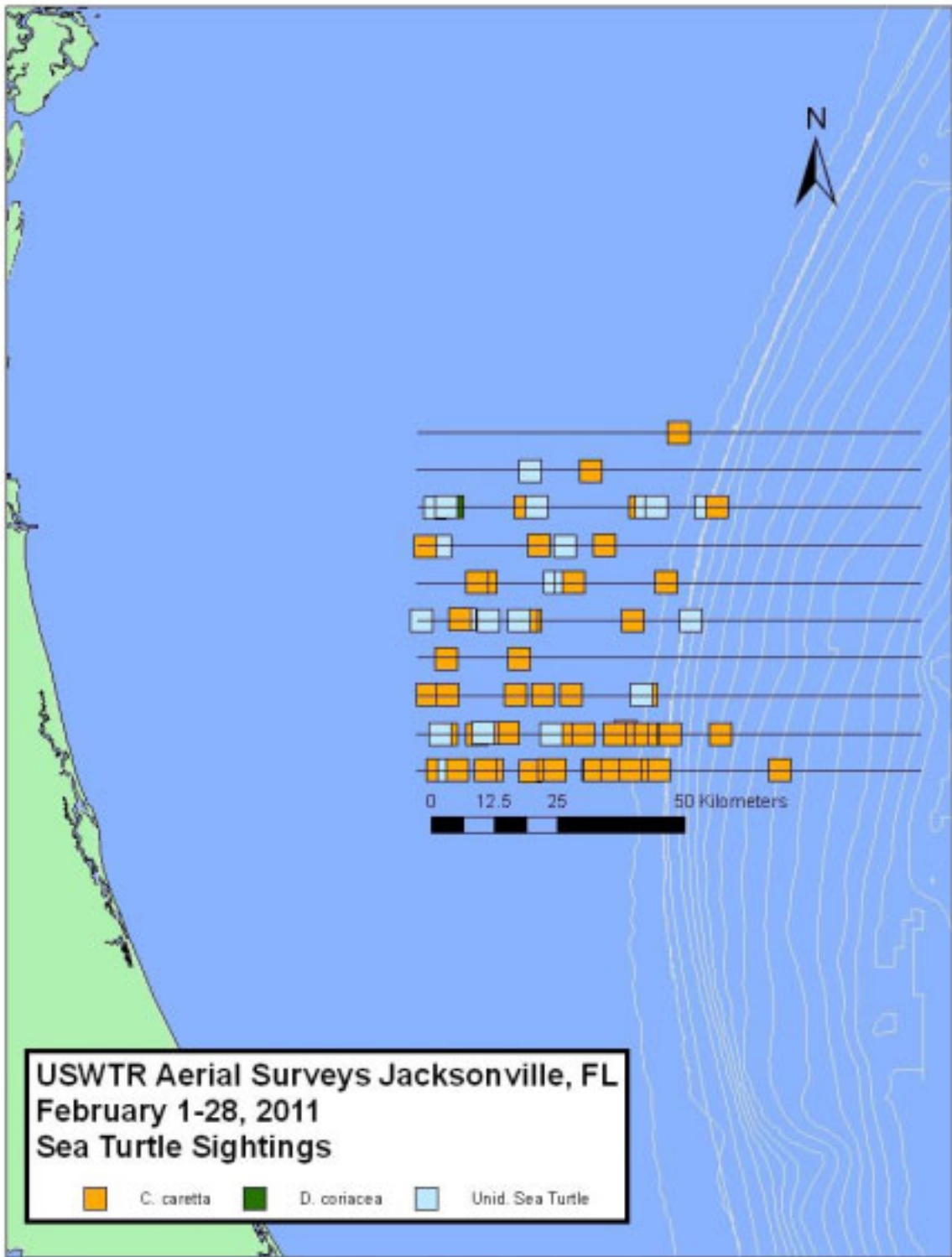


Figure 2. The locations of sea turtles sighted during aerial surveys of the JAX study region in February 2011.

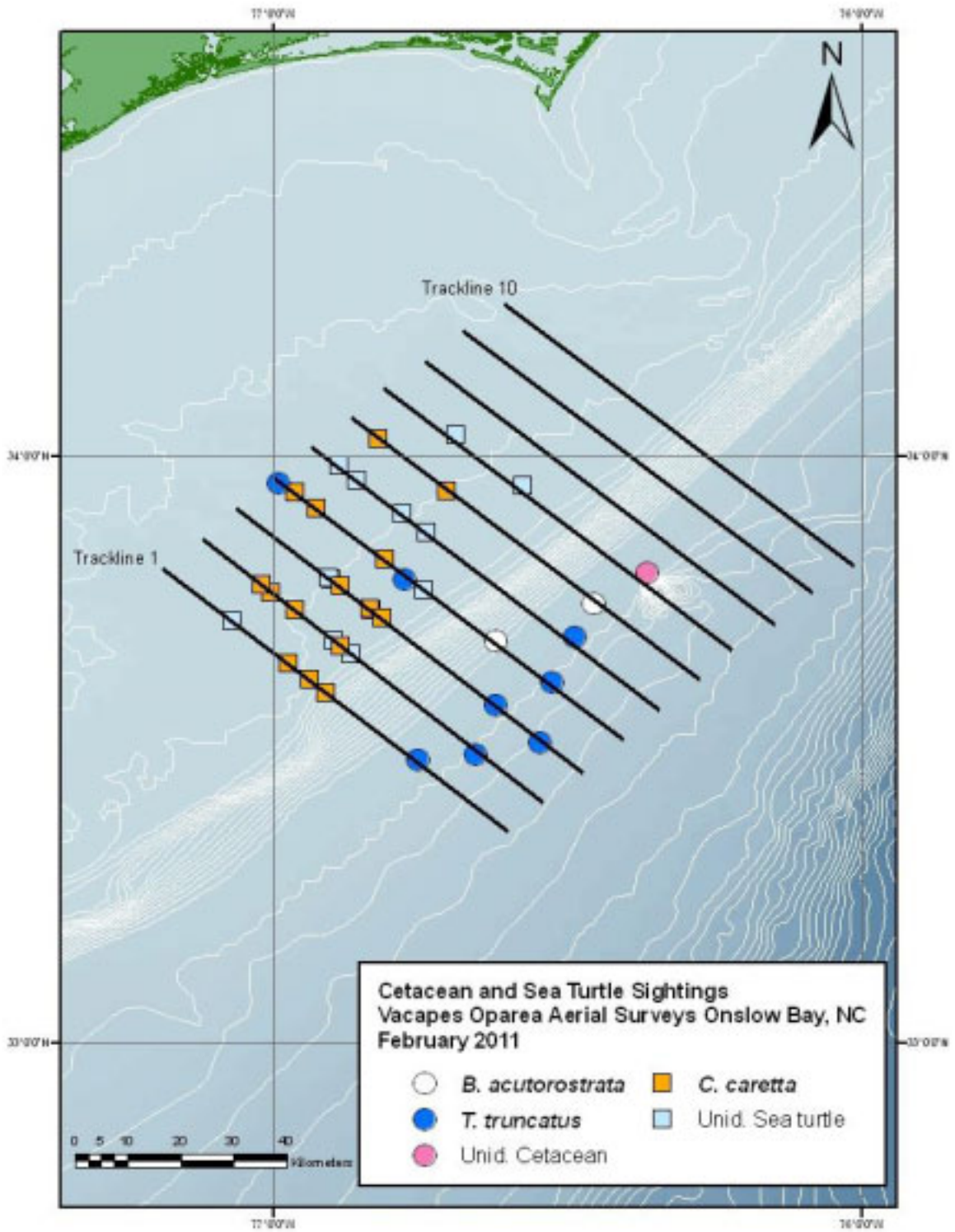


Figure 3. Cetacean and sea turtle sightings from CHPT aerial surveys during the February 2011 reporting period.

Monitoring of Protected Species in VACAPES/CHPT range and Jacksonville USWTR

Progress Report: March 2011

JAX Survey Activity

Aerial Surveys

No aerial surveys were conducted during the reporting period with effort being concentrated on conducting vessels surveys.

Vessel Surveys

Vessel surveys were conducted on March 14th, 18th and 19th 2011 in fair to good survey conditions. Additional vessel surveys were conducted on the 17th and 28th of March 2011 but were aborted during transit to the range due to rough seas (Table 1). On effort sightings included six groups of Atlantic spotted dolphins, four groups of bottlenose dolphins, and ten loggerhead sea turtles the range (Table 2, Figure 1). One additional loggerhead sea turtle was observed off effort (Table 2, Figure 1).

Passive Acoustic Monitoring

Due to the upcoming reorganization and re-focusing of vessel surveys in May 2011, a new PAM computer was not purchased. Passive acoustic monitoring was attempted using the back-up vessel laptop computer. However, the MOTU unit showed signs of corrosion and was found to be inoperable, precluding passive acoustic monitoring during the reporting period.

JAX HARPs

Both JAX HARPs were recovered and redeployed on February 1 and 2, 2011. The recovered instruments had both recorded for the duration of the deployment and the data are currently being processed.

VACAPES/CHPT Survey Activity

Aerial Surveys

A small weather window in Onslow Bay allowed for two days of flights on March 17th and 18th covering 12 lines in Onslow Bay and an off shore survey leg (Table 3). Conditions on March 17th improved as the day went on, allowing 4 cetacean sightings to be recorded. Three of these were bottlenose dolphins and the fourth was of a pair of adult humpback whales (*Megaptera novaeangliae*). These humpbacks represent a new cetacean species that had not been recorded in the Onslow Bay range surveys (Table 4, Figure 2). There were 63 sea turtle sightings also recorded on the 17th and were found exclusively on the continental shelf (Table 5, Figure 2). On March 18th the team flew two tracklines as well as an offshore survey leg on which they recorded an unidentified cetacean sighting. A single animal approximately 18-25ft long was observed in the distance breaching clear of the water on two occasions but was not relocated after the initial observation. The animal had a dark grey body with a tapered shape to its head, but since the animal could not be identified with 100% certainty (we postulate it was a Cuvier's beaked whale) it remains classified as an unidentified cetacean. It is listed as an off effort sighting as it did not occur within the USWTR range survey lines. Conditions continued to deteriorate causing shut down of effort on the 18th.

Vessel Surveys

Due to unfavorable weather conditions for the entire reporting period no vessel surveys were conducted.

Towed Passive Acoustics

No towed passive acoustic surveys were conducted during the reporting period.

Table 1. Vessel survey effort for the JAX USWTR study region during March 2011.

Date	Line	Sea State	km Surveyed	Survey Time (hrs:min)	At Sea Time (hrs:min)	Platform
14-Mar-11	9	2-3	70.06	3:41	12:43	R/V Volute
17-Mar-11	N/A	N/A	0	0:00	4:35	R/V Volute
18-Mar-11	1	1-3	68.17	4:53	11:32	R/V Volute
19-Mar-11	3	1-4	67.53	4:45	11:34	R/V Volute
28-Mar-11	N/A	N/A	0	0:00	1:28	R/V Volute

Table 2. Cetacean and sea turtle sightings during vessel surveys in the JAX USWTR study region during March 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Trackline	Species	Common Name	GroupSize
14-Mar-11	14:02	On	30.504240	-80.201100	9	<i>C. caretta</i>	Loggerhead Turtle	1
14-Mar-11	14:21	On	30.498642	-80.264958	9	<i>C. caretta</i>	Loggerhead Turtle	1
14-Mar-11	14:33	On	30.500407	-80.307000	9	<i>C. caretta</i>	Loggerhead Turtle	1
14-Mar-11	14:40	On	30.500929	-80.334462	9	<i>C. caretta</i>	Loggerhead Turtle	1
14-Mar-11	15:19	On	30.497974	-80.463931	9	<i>C. caretta</i>	Loggerhead Turtle	1
18-Mar-11	13:41	On	29.960266	-80.317640	1	<i>S. frontalis</i>	Atlantic spotted dolphin	13
18-Mar-11	14:32	On	29.962617	-80.452758	1	<i>S. frontalis</i>	Atlantic spotted dolphin	13
18-Mar-11	14:37	On	29.962946	-80.468815	1	<i>C. caretta</i>	Loggerhead Turtle	1
18-Mar-11	14:47	On	29.959904	-80.471961	1	<i>T. truncatus</i>	Bottlenose dolphin	2
18-Mar-11	15:28	On	29.962886	-80.569365	1	<i>C. caretta</i>	Loggerhead Turtle	1
18-Mar-11	15:48	Off	29.966482	-80.606741	1	<i>C. caretta</i>	Loggerhead Turtle	1
18-Mar-11	16:17	On	29.963524	-80.666746	1	<i>T. truncatus</i>	Bottlenose dolphin	2
18-Mar-11	16:28	On	29.966926	-80.686155	1	<i>T. truncatus</i>	Bottlenose dolphin	7
19-Mar-11	13:40	On	30.094966	-80.345900	3	<i>C. caretta</i>	Loggerhead Turtle	1
19-Mar-11	14:12	On	30.094912	-80.427132	3	<i>S. frontalis</i>	Atlantic spotted dolphin	10
19-Mar-11	14:36	On	30.091197	-80.459400	3	<i>S. frontalis</i>	Atlantic spotted dolphin	3
19-Mar-11	14:55	On	30.090951	-80.479763	3	<i>S. frontalis</i>	Atlantic spotted dolphin	11
19-Mar-11	14:59	On	30.091822	-80.492740	3	<i>C. caretta</i>	Loggerhead Turtle	1
19-Mar-11	15:17	On	30.096712	-80.522160	3	<i>T. truncatus</i>	Bottlenose dolphin	15
19-Mar-11	15:48	On	30.098136	-80.620448	3	<i>C. caretta</i>	Loggerhead Turtle	1
19-Mar-11	15:49	On	30.098109	-80.620698	3	<i>S. frontalis</i>	Atlantic spotted dolphin	22

Table 3. Aerial survey effort for the VACAPES/CHPT study region during March 2011.

Date	Line	Sea State	Kilometers Flown	HOBBS Hours
17-Mar-2011	1	3 to 4	73.9	7.2
17-Mar-2011	2	3 to 4	73.8	
17-Mar-2011	3	2 to 4	79.4	
17-Mar-2011	4	2 to 4	74.7	
17-Mar-2011	5	2 to 4	73.4	
17-Mar-2011	6	2 to 3	69.6	
17-Mar-2011	7	2	74.2	
17-Mar-2011	8	2 to 3	74.8	
17-Mar-2011	9	2 to 3	73.2	
17-Mar-2011	10	2	74.1	
18-Mar-2011	1	2 to 3	74.3	3
18-Mar-2011	10	3 to 4	73.6	

Table 4. Cetacean sightings during aerial surveys in the VACAPES/CHPT study region during the March 2011 reporting period.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
17-Mar-11	13:47	On	33.710799	-76.537303	5	<i>T. truncatus</i>	Bottlenose dolphin	12
17-Mar-11	14:10	On	33.748012	-76.463278	6	<i>T. truncatus</i>	Bottlenose dolphin	33
17-Mar-11	14:23	On	33.906008	-76.669755	6	<i>M. novaeangliae</i>	Humpback whale	2
17-Mar-11	14:44	On	34.051842	-76.857337	6	<i>T. truncatus</i>	Bottlenose dolphin	45
18-Mar-11	9:34	On	33.182662	-76.244391	Off shore B	Unid. Ceta	Unidentified Cetacean	1

Table 5. Sea turtle sightings during aerial surveys in the VACAPES/CHPT study region during the March 2011 reporting period.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
17-Mar-11	10:43	On	33.894761	-77.045043	3	C. caretta	Loggerhead sea turtle	1
17-Mar-11	10:50	On	33.760309	-76.889333	3	C. caretta	Loggerhead sea turtle	1
17-Mar-11	11:20	On	33.743925	-76.709258	4	Unid. Sea turtle	Unid. Sea turtle	1
17-Mar-11	11:21	On	33.755109	-76.720625	4	C. caretta	Loggerhead sea turtle	1
17-Mar-11	11:22	On	33.781783	-76.754548	4	C. caretta	Loggerhead sea turtle	1
17-Mar-11	11:26	On	33.863079	-76.863503	4	C. caretta	Loggerhead sea turtle	1
17-Mar-11	11:28	On	33.890740	-76.904585	4	C. caretta	Loggerhead sea turtle	2
17-Mar-11	13:31	On	34.001301	-76.909599	5	Unid. Sea turtle	Unid. Sea turtle	2
17-Mar-11	13:32	On	33.981530	-76.883782	5	C. caretta	Loggerhead sea turtle	3
17-Mar-11	13:34	On	33.933850	-76.821523	5	C. caretta	Loggerhead sea turtle	4
17-Mar-11	13:36	On	33.902461	-76.783902	5	C. caretta	Loggerhead sea turtle	4
17-Mar-11	13:39	On	33.849383	-76.716858	5	C. caretta	Loggerhead sea turtle	4
17-Mar-11	13:40	On	33.818811	-76.678426	5	C. caretta	Loggerhead sea turtle	3
17-Mar-11	14:20	On	33.865390	-76.606475	6	C. caretta	Loggerhead sea turtle	3
17-Mar-11	14:20	On	33.863822	-76.604417	6	Unid. Sea turtle	Unid. Sea turtle	1
17-Mar-11	14:53	On	34.096856	-76.767596	7	C. caretta	Loggerhead sea turtle	3
17-Mar-11	14:57	On	34.024504	-76.674396	7	C. caretta	Loggerhead sea turtle	3
17-Mar-11	14:58	On	34.008353	-76.654004	7	C. caretta	Loggerhead sea turtle	3
17-Mar-11	14:59	On	33.991532	-76.632180	7	C. caretta	Loggerhead sea turtle	5
17-Mar-11	15:00	On	33.965575	-76.598819	7	C. caretta	Loggerhead sea turtle	3
17-Mar-11	15:29	On	33.983039	-76.496641	8	Unid. Sea turtle	Unid. Sea turtle	1
17-Mar-11	15:32	On	34.137255	-76.698999	8	Unid. Sea turtle	Unid. Sea turtle	2
17-Mar-11	15:46	On	34.078102	-76.494504	9	Unid. Sea turtle	Unid. Sea turtle	1
17-Mar-11	15:47	On	34.170745	-76.615344	9	C. caretta	Loggerhead sea turtle	7
17-Mar-11	16:27	On	34.231002	-76.557888	10	C. caretta	Loggerhead sea turtle	3

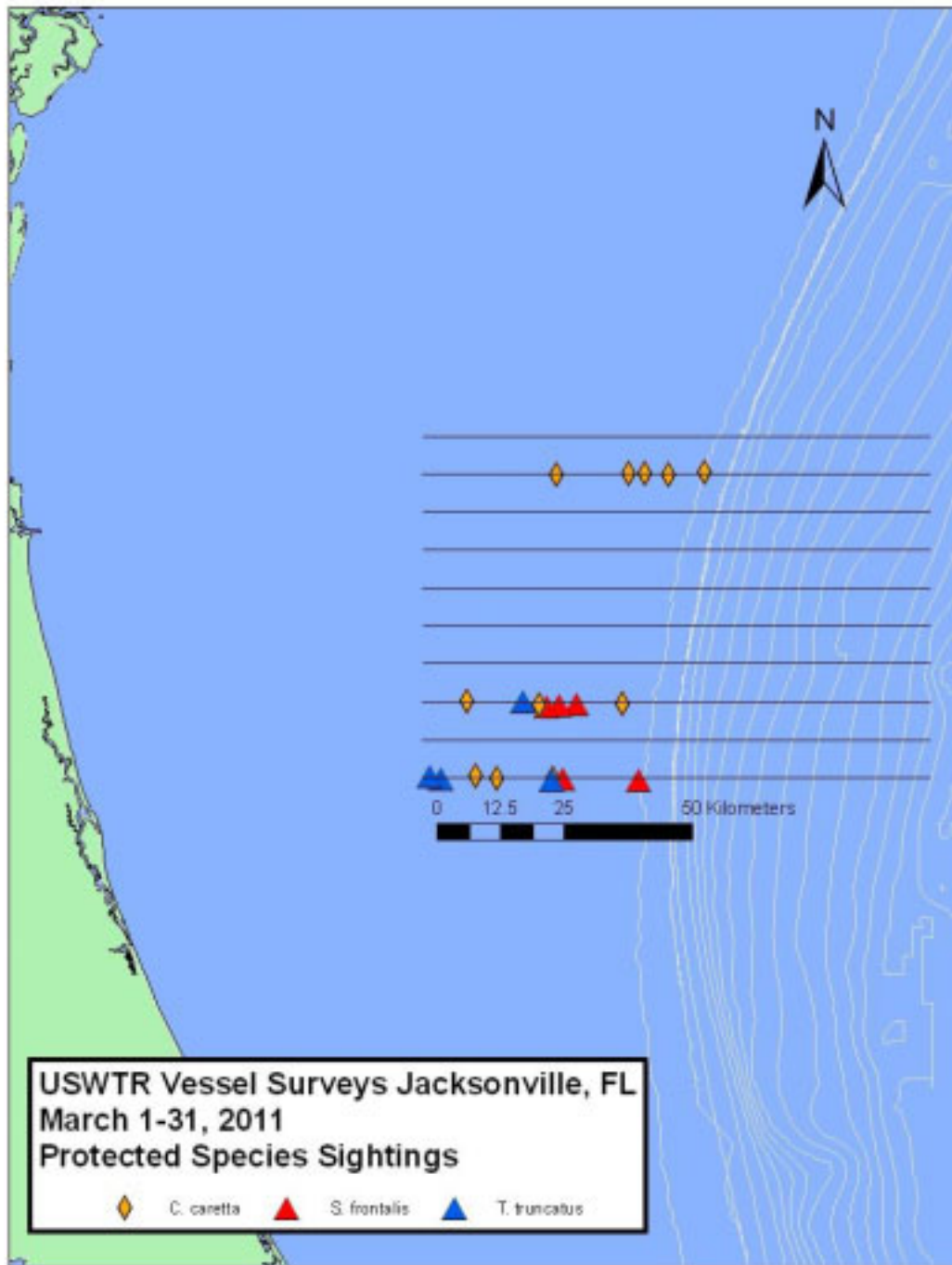


Figure 1. The locations of cetaceans and sea turtles sighted while conducting vessel surveys of the JAX USWTR study region in March 2011.

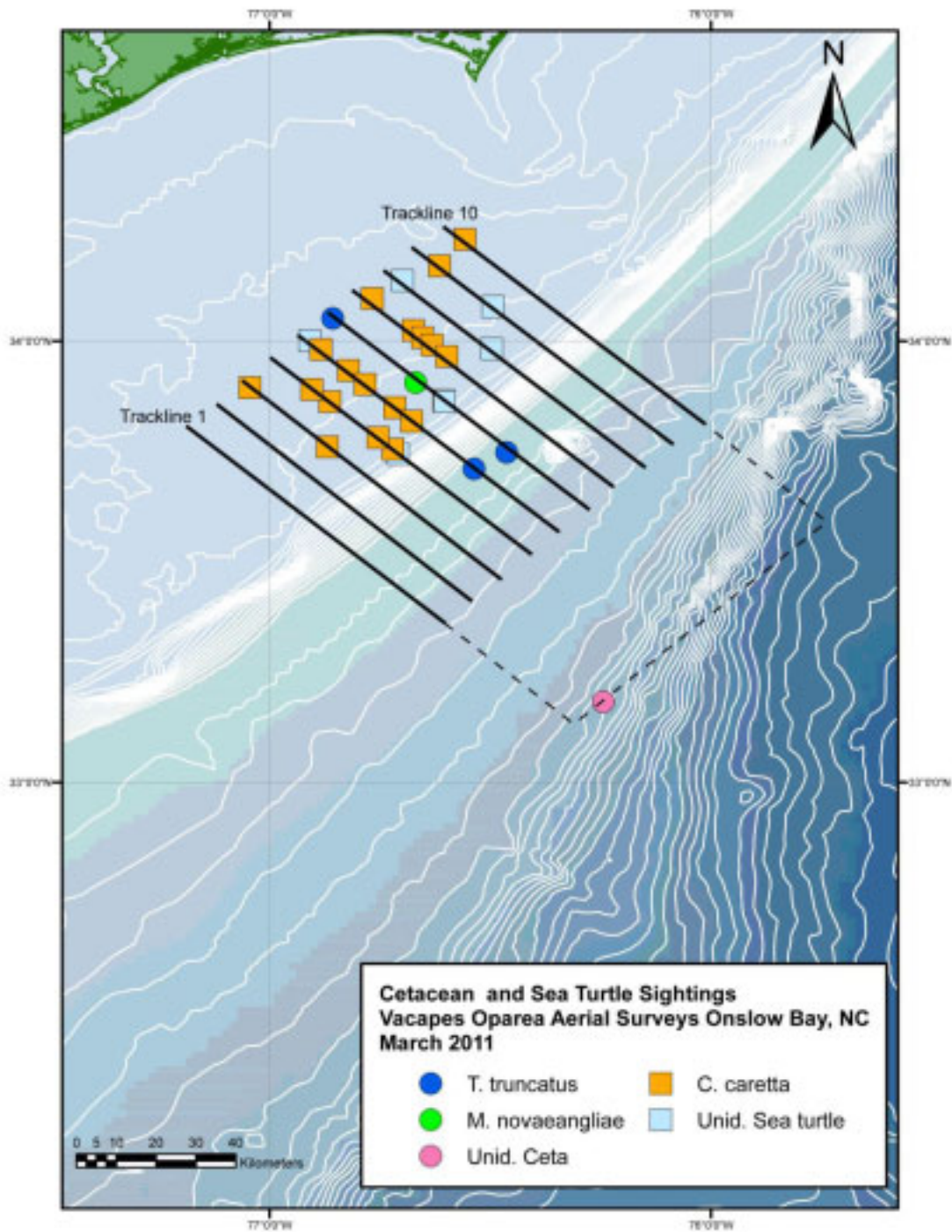


Figure 2. Cetacean and sea turtle sightings from Onslow bay aerial surveys during the March 2011 reporting period.

Monitoring of Protected Species in Onslow Bay AFAST and Jacksonville USWTR

Progress Report: April 2011.

JAX Survey Activity

Aerial Surveys

Aerial surveys were performed on April 8th and 9th for a total of 18 tracklines flown during the reporting period. Eight tracklines were surveyed on April 8th and ten on April 9th. Survey conditions ranged from excellent to poor, with Beaufort Sea State conditions ranging from 1 to 4 (Table 1). Sightings consisted of Atlantic spotted dolphins (*Stenella frontalis*: 14 encounters), bottlenose dolphins (*Tursiops truncatus*: seven encounters), and Risso's dolphins (*Grampus griseus*: one encounter). In addition, dolphins which could not be identified to species were observed twice (Figure 1; Table 2). A total of 80 sea turtles were recorded during the reporting period: 53 loggerhead sea turtles (*Caretta caretta*), one leatherback sea turtle (*Dermochelys coriacea*), and 26 unidentified sea turtles (Figure 2, Table 3).

On the morning of April 10th, prior to the arrival of observers and survey pilots, a plane taxiing into the airport in Fernandina Beach hit the parked survey plane with its left wing tip. Nobody was in the survey plane, and hence, no one was injured. However, the right rudder of the survey plane sustained considerable damage which rendered it inoperable. This event effectively cancelled the planned aerial survey effort for the remainder of the week.

Vessel Surveys

No vessel surveys were performed during the present reporting period.

Passive Acoustic Monitoring

No passive acoustic monitoring was performed during the present reporting period.

Onslow Bay Survey Activity

Aerial Surveys

A single day of survey effort was conducted on April 20, 2011 covering six tracklines as well as a coastal survey (Table 4). Overall survey conditions deteriorated during effort resulting in no cetacean sightings and only three sea turtle sightings all classified and unidentified (Table 5, Figure 3).

Vessel Surveys

No vessel surveys were performed during the present reporting period.

Towed Passive Acoustics

No passive acoustic monitoring was performed during the present reporting period.

Table 1. Aerial survey effort table for the JAX USWTR study region during April 1, 2011 through April 30, 2011.

Date	Line	Sea State	Kilometers Flown	HOBBS Hours
8-Apr-11	1	1 - 3	85.5	7.5
8-Apr-11	2	1 - 3	84.8	
8-Apr-11	3	1 - 3	85.3	
8-Apr-11	4	1 - 3	85.8	
8-Apr-11	5	1 - 2	86.4	
8-Apr-11	6	1 - 2	86.6	
8-Apr-11	7	1	84.4	
8-Apr-11	8	1 - 2	86.5	
9-Apr-11	10	2 - 4	86.2	7.1
9-Apr-11	9	1 - 4	84.1	
9-Apr-11	8	1 - 4	85.5	
9-Apr-11	7	1 - 4	86.2	
9-Apr-11	6	1 - 4	86.5	
9-Apr-11	5	1 - 4	85.7	
9-Apr-11	4	1 - 3	85.8	
9-Apr-11	3	1 - 3	85.3	
9-Apr-11	2	1 - 3	84.2	
9-Apr-11	1	1 - 3	86.3	

Table 2. Cetacean sightings for aerial surveys in JAX study region during April 1, 2011 through April 30, 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
8-Apr-11	10:01	On	29.958717	80.588615	1	<i>S. frontalis</i>	Atlantic spotted dolphin	26
8-Apr-11	10:36	Off	30.007336	79.783349	2	<i>T. truncatus</i>	Bottlenose dolphin	17
8-Apr-11	11:03	On	30.032401	80.481389	2	<i>Unid. Delphinid</i>	Unid. Delphinid	Unknown
8-Apr-11	11:15	On	30.021469	80.618234	2	<i>S. frontalis</i>	Atlantic spotted dolphin	30
8-Apr-11	11:21	On	30.030219	80.688079	2	<i>Unid. Delphinid</i>	Unid. Delphinid	Unknown
8-Apr-11	11:49	On	30.102726	80.094447	3	<i>T. truncatus</i>	Bottlenose dolphin	4
8-Apr-11	12:18	On	30.167368	80.130928	4	<i>G. griseus</i>	Risso's dolphin	8
8-Apr-11	12:34	On	30.167375	80.470162	4	<i>S. frontalis</i>	Atlantic spotted dolphin	2
8-Apr-11	12:52	On	30.169687	80.657295	4	<i>S. frontalis</i>	Atlantic spotted dolphin	8
8-Apr-11	14:43	On	30.236528	80.682972	5	<i>S. frontalis</i>	Atlantic spotted dolphin	8
8-Apr-11	15:45	On	30.311985	80.528641	6	<i>S. frontalis</i>	Atlantic spotted dolphin	4
8-Apr-11	16:02	On	30.366095	80.599045	7	<i>T. truncatus</i>	Bottlenose dolphin	3
8-Apr-11	16:21	On	30.373425	80.289226	7	<i>S. frontalis</i>	Atlantic spotted dolphin	75
8-Apr-11	16:38	On	30.359322	79.859038	7	<i>T. truncatus</i>	Bottlenose dolphin	7
8-Apr-11	16:57	On	30.434931	80.053184	8	<i>T. truncatus</i>	Bottlenose dolphin	4
8-Apr-11	17:12	On	30.427251	80.267381	8	<i>S. frontalis</i>	Atlantic spotted dolphin	40
8-Apr-11	17:28	On	30.434722	80.684533	8	<i>S. frontalis</i>	Atlantic spotted dolphin	25
9-Apr-11	10:03	On	30.494210	80.415287	9	<i>S. frontalis</i>	Atlantic spotted dolphin	40
9-Apr-11	10:20	On	30.487590	80.647595	9	<i>S. frontalis</i>	Atlantic spotted dolphin	5
9-Apr-11	10:30	On	30.439739	80.629138	8	<i>S. frontalis</i>	Atlantic spotted dolphin	11
9-Apr-11	12:22	On	30.226524	80.578210	5	<i>S. frontalis</i>	Atlantic spotted dolphin	9
9-Apr-11	14:28	On	30.162229	79.922369	4	<i>T. truncatus</i>	Bottlenose dolphin	3
9-Apr-11	14:58	On	30.102658	80.502276	3	<i>S. frontalis</i>	Atlantic spotted dolphin	27
9-Apr-11	15:16	On	30.029456	80.529475	2	<i>T. truncatus</i>	Bottlenose dolphin	2

Table 3. Sea turtle sightings for aerial surveys in JAX study region during April 1, 2011 through April 30, 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
8-Apr-11	10:00	On	29.965172	-80.619943	1	Unid. Sea turtle	Unid. Sea turtle	1
8-Apr-11	10:16	On	29.965628	-80.345769	1	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	10:59	On	30.032166	-80.385954	2	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	11:13	On	30.031897	-80.565697	2	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	11:19	On	30.031180	-80.647987	2	Unid. Sea turtle	Unid. Sea turtle	1
8-Apr-11	11:30	On	30.099639	-80.649817	3	Unid. Sea turtle	Unid. Sea turtle	1
8-Apr-11	11:31	On	30.099752	-80.602456	3	Unid. Sea turtle	Unid. Sea turtle	1
8-Apr-11	11:33	On	30.099829	-80.563002	3	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	11:34	On	30.100019	-80.506430	3	Unid. Sea turtle	Unid. Sea turtle	1
8-Apr-11	11:41	On	30.100368	-80.288343	3	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	12:30	On	30.166681	-80.366156	4	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	12:44	On	30.165900	-80.484845	4	Unid. Sea turtle	Unid. Sea turtle	1
8-Apr-11	12:47	On	30.166306	-80.602228	4	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	14:54	On	30.232363	-80.655348	5	Unid. Sea turtle	Unid. Sea turtle	2
8-Apr-11	14:54	On	30.232333	-80.653807	5	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	14:55	On	30.232493	-80.619538	5	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	14:58	On	30.232385	-80.506370	5	<i>C. caretta</i>	Loggerhead turtle	2
8-Apr-11	15:01	On	30.232612	-80.423495	5	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	15:04	On	30.232714	-80.320226	5	Unid. Sea turtle	Unid. Sea turtle	2
8-Apr-11	15:34	On	30.300559	-80.248027	6	Unid. Sea turtle	Unid. Sea turtle	1
8-Apr-11	15:36	On	30.300571	-80.299291	6	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	15:38	On	30.300532	-80.368148	6	Unid. Sea turtle	Unid. Sea turtle	1
8-Apr-11	15:42	On	30.300304	-80.508909	6	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	15:51	On	30.299962	-80.546441	6	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	15:52	On	30.300028	-80.580529	6	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	15:54	On	30.299873	-80.635660	6	Unid. Sea turtle	Unid. Sea turtle	1
8-Apr-11	15:55	On	30.299808	-80.676812	6	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	16:00	On	30.367471	-80.651398	7	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	16:12	On	30.365576	-80.531460	7	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	16:12	On	30.365451	-80.550049	7	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	16:13	On	30.365465	-80.502398	7	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	16:13	On	30.365412	-80.498101	7	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	16:17	On	30.365579	-80.367364	7	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	16:18	On	30.365569	-80.323089	7	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	16:19	On	30.365664	-80.312941	7	<i>C. caretta</i>	Loggerhead turtle	2
8-Apr-11	16:30	On	30.365491	-80.097127	7	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	17:09	On	30.433837	-80.195421	8	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	17:18	On	30.433829	-80.369985	8	<i>D. coriacea</i>	Leatherback turtle	1
8-Apr-11	17:22	On	30.433617	-80.511859	8	<i>C. caretta</i>	Loggerhead turtle	1
8-Apr-11	17:22	On	30.433600	-80.525009	8	<i>C. caretta</i>	Loggerhead turtle	1
9-Apr-11	9:15	On	30.566299	-80.625208	10	<i>C. caretta</i>	Loggerhead turtle	1
9-Apr-11	9:30	On	30.566644	-80.112980	10	<i>C. caretta</i>	Loggerhead turtle	1
9-Apr-11	10:16	On	30.499420	-80.590455	9	Unid. Sea turtle	Unid. Sea turtle	3
9-Apr-11	10:29	On	30.432826	-80.644487	8	<i>C. caretta</i>	Loggerhead turtle	1
9-Apr-11	10:36	On	30.432788	-80.575298	8	Unid. Sea turtle	Unid. Sea turtle	1
9-Apr-11	10:44	On	30.433342	-80.295976	8	<i>C. caretta</i>	Loggerhead turtle	1
9-Apr-11	11:22	On	30.365708	-80.524888	7	<i>C. caretta</i>	Loggerhead turtle	1
9-Apr-11	11:24	On	30.365659	-80.600996	7	<i>C. caretta</i>	Loggerhead turtle	1
9-Apr-11	11:35	On	30.299591	-80.512338	6	<i>C. caretta</i>	Loggerhead turtle	1

Table 3 (continued). Sea turtle sightings for aerial surveys in JAX study region during April 1, 2011 through April 30, 2011.

9-Apr-11	11:39	On	30.298151	-80.382236	6	C. caretta	Loggerhead turtle	1
9-Apr-11	12:26	On	30.232698	-80.639705	5	C. caretta	Loggerhead turtle	1
9-Apr-11	14:02	On	30.164790	-80.683810	4	C. caretta	Loggerhead turtle	1
9-Apr-11	14:03	On	30.165788	-80.652395	4	C. caretta	Loggerhead turtle	1
9-Apr-11	14:03	On	30.165740	-80.637335	4	C. caretta	Loggerhead turtle	1
9-Apr-11	14:10	On	30.166000	-80.387061	4	C. caretta	Loggerhead turtle	1
9-Apr-11	15:06	On	30.100137	-80.646144	3	C. caretta	Loggerhead turtle	1
9-Apr-11	15:07	On	30.100016	-80.677992	3	Unid. Sea turtle	Unid. Sea turtle	1
9-Apr-11	15:07	On	30.100068	-80.667747	3	C. caretta	Loggerhead turtle	1
9-Apr-11	15:12	On	30.031304	-80.641287	2	C. caretta	Loggerhead turtle	1
9-Apr-11	15:14	On	30.031434	-80.568195	2	Unid. Sea turtle	Unid. Sea turtle	1
9-Apr-11	15:23	On	30.031599	-80.456260	2	Unid. Sea turtle	Unid. Sea turtle	1
9-Apr-11	15:24	On	30.031637	-80.445007	2	C. caretta	Loggerhead turtle	1
9-Apr-11	15:25	On	30.031764	-80.408565	2	C. caretta	Loggerhead turtle	1
9-Apr-11	15:25	On	30.031789	-80.386973	2	Unid. Sea turtle	Unid. Sea turtle	1
9-Apr-11	16:02	On	29.965911	-80.401763	1	C. caretta	Loggerhead turtle	1
9-Apr-11	16:06	On	29.965834	-80.522033	1	C. caretta	Loggerhead turtle	1
9-Apr-11	16:06	On	29.965806	-80.534064	1	Unid. Sea turtle	Unid. Sea turtle	1
9-Apr-11	16:06	On	29.965836	-80.536574	1	Unid. Sea turtle	Unid. Sea turtle	4
9-Apr-11	16:07	On	29.965749	-80.557951	1	C. caretta	Loggerhead turtle	1
9-Apr-11	16:09	On	29.965600	-80.616516	1	C. caretta	Loggerhead turtle	1
9-Apr-11	16:11	On	29.965455	-80.697509	1	C. caretta	Loggerhead turtle	1

Table 4. Aerial survey effort table for the Onslow Bay USWTR study region during April 1, 2011 through April 30, 2011.

Date	Line	Sea State	Kilometers Flown	HOBBS Hours
20-Apr-2011	5	2 to 4	74.6	4.2
21-Apr-2011	6	3 to 4	74.5	
22-Apr-2011	7	3 to 4	73.8	
23-Apr-2011	8	3 to 4	73.9	
24-Apr-2011	9	3 to 4	72.7	
25-Apr-2011	10	3 to 4	73.9	

Table 5. Sea turtle sightings for aerial surveys in Onslow Bay study region during April 1, 2011 through April 30, 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
20-Apr-11	9:57	On	34.000936	-76.911701	5	Unid sea turtle	Unid sea turtle	1
20-Apr-11	10:44	On	34.039669	-76.829316	6	Unid sea turtle	Unid sea turtle	1
20-Apr-11	11:46	On	34.081714	-76.497370	9	Unid sea turtle	Unid sea turtle	1

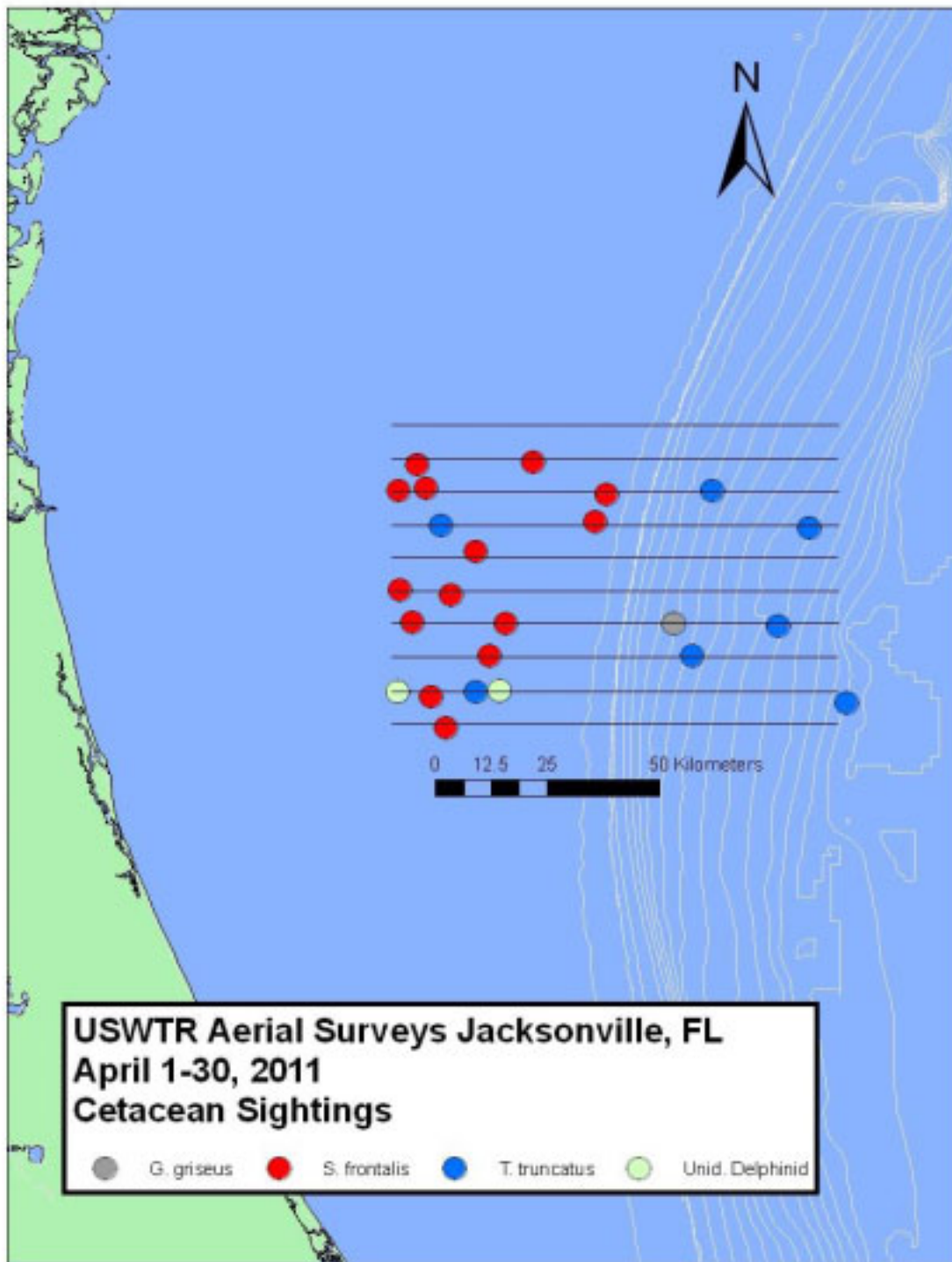


Figure 1. Cetaceans observed during vessel surveys of the JAX USWTR study region, April 1, 2011 through April 30, 2011.

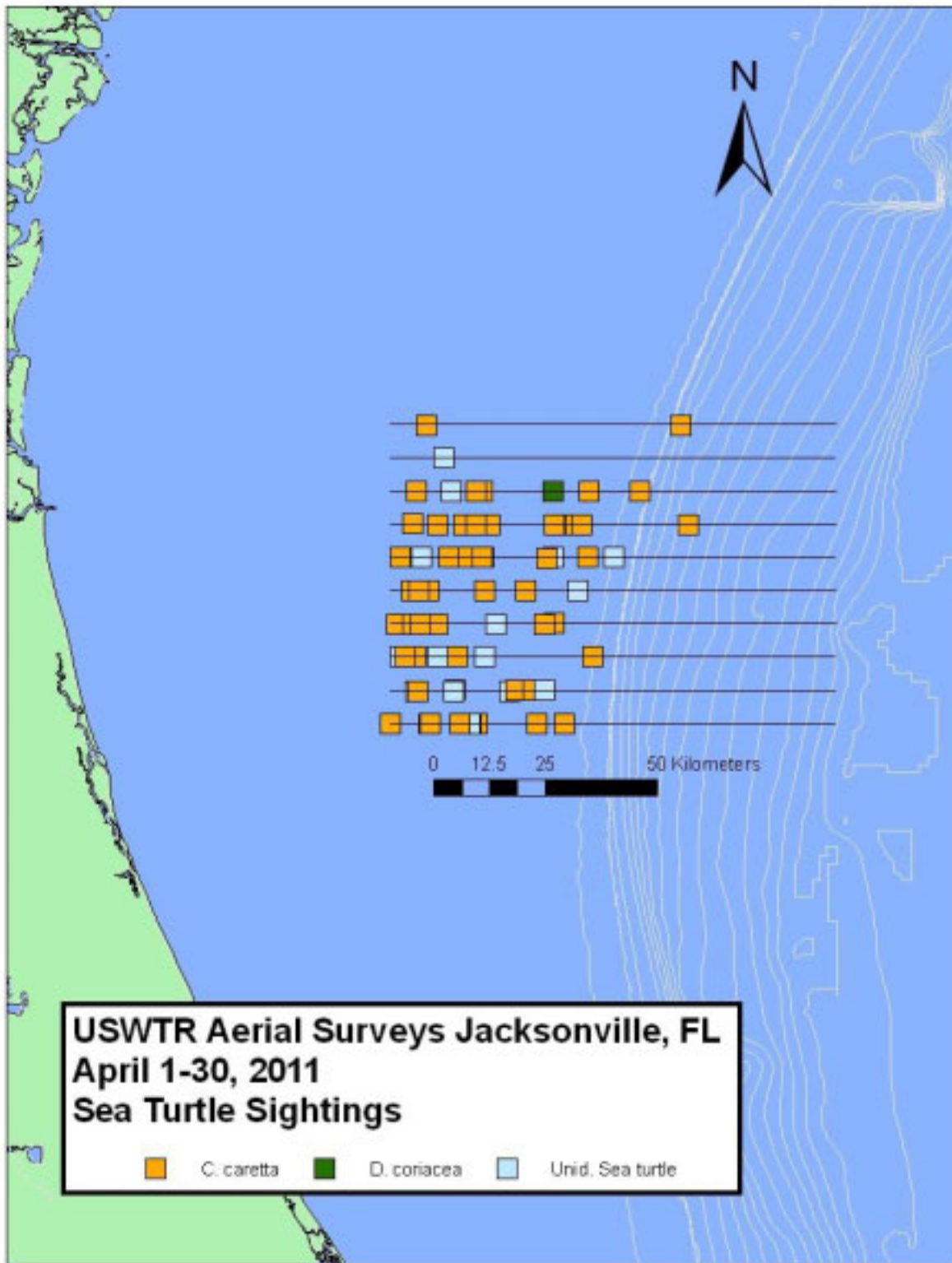


Figure 2. Sea turtles observed during vessel surveys of the JAX USWTR study region, April 1, 2011 through April 30, 2011.

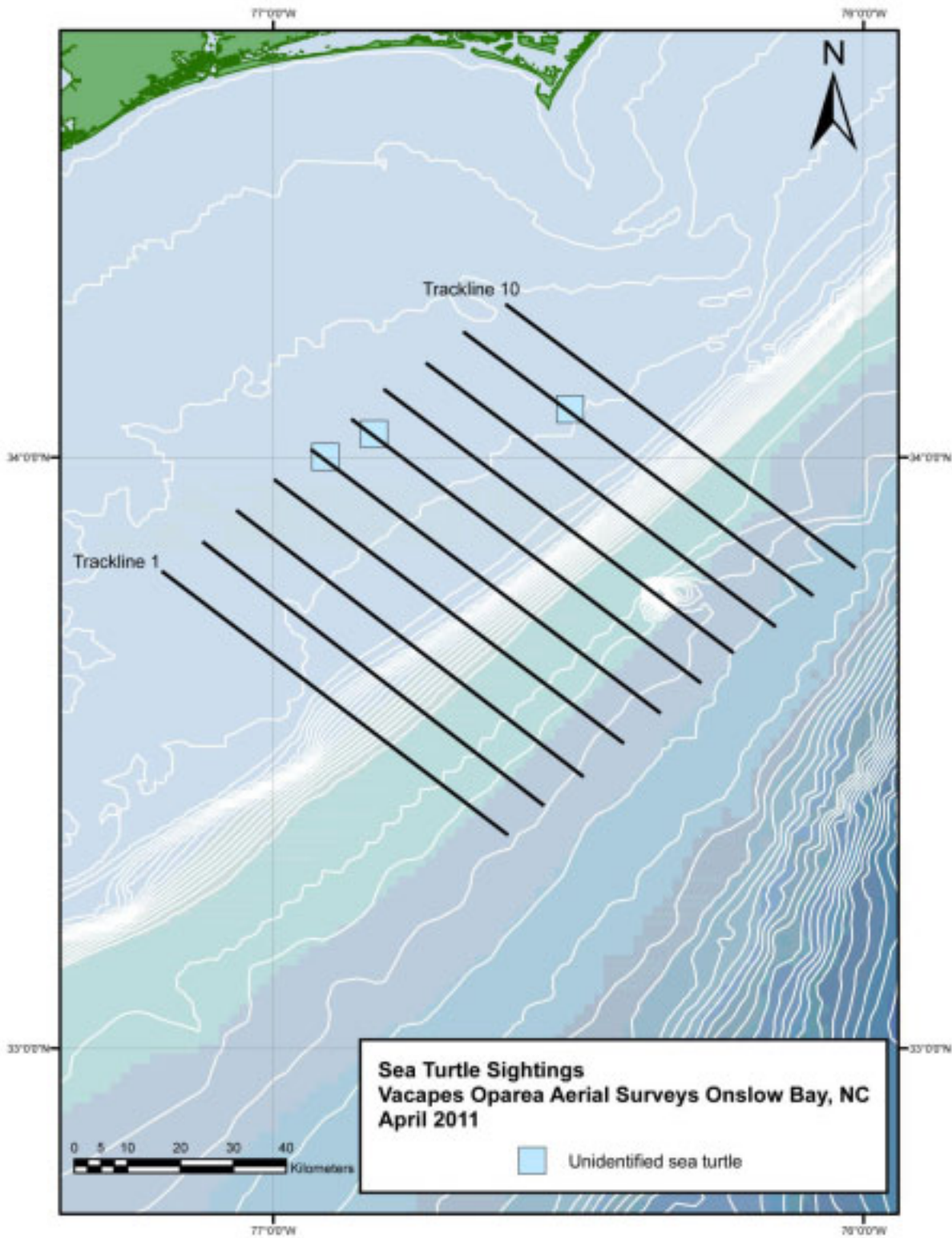


Figure 3. Sea turtles observed during vessel surveys of the Onslow Bay USWTR study region, April 1, 2011 through April 30, 2011.

Monitoring of Protected Species in the VACAPES, CHPT and JAX Sites

Progress Report to HDR: May 1 2011 through May 31 2011

Planning

A meeting was held on 9 May at the Duke University Marine Laboratory (DUML) to focus and formalize all AFAST survey efforts in the upcoming year. In attendance were members of Navy NAVFAC Norfolk, HDR, DUML and UNCW. The agenda covered changes to upcoming vessel effort and moving aerial survey effort north to cover Cape Hatteras.

VACAPES Aerial Survey Activity

May marks the first month that aerial survey effort has been directed to an area offshore of Cape Hatteras, NC (hereafter referred to as VACAPES). Fifteen primary and ten secondary tracklines, generally 74 km long and space 8 km apart, were identified for survey effort during the May 9th meeting at DUML. Two days of aerial survey effort were conducted this month (Table 1) to gather data for protected species abundance estimation and to assist with vessel activities in this area. On May 26 the team flew 4.5 tracklines under moderate survey conditions and recorded four cetacean sightings. The sea state and the animals' diving behavior made it difficult to relocate any of the animals sighted and, thus, no photographs were collected. On May 27 conditions had improved and aerial survey operations were conducted on top of the vessel operations. Aerial operations monitored vessel activity through radio contact and relayed sighting information as requested. A total of 13 cetacean sightings, representing seven species, were encountered across six tracklines (Table 2, Figure 1). These sightings included a single beaked whale as well as a herd of Fraser's dolphins (*Lagenodelphis hosei*), a species of dolphin not yet observed during any Navy surveys (and only observed once in any other directed survey in the western North Atlantic!). Included are images collected in the field where characteristic features of each species can be seen (Figures 2 and 3) and we also compared these images to those in cetacean field guides.

A review of all images collected during each sighting was performed by the survey team before definitive species identification was made. All sightings are labeled to the lowest taxonomic classification that could be determined with 100% certainty. During two sightings, while pursuing a group of cetaceans identified from the trackline, the survey team encountered a second separate group of cetaceans that was of a different species. In both cases, the two species were not determined to be associated or interacting with one another and, thus, were counted as separate sightings. While these two sightings are displayed on our survey map as separate sightings, in the tables, they will appear as off effort sightings. Cetacean sightings over the two days appeared to be concentrated over the area of the shelf break and further offshore (Figure 1). Sea turtles sightings were restricted to our second day of effort and animals appeared to be concentrated inshore of the shelf break (Table 3, Figure 1).

Aerial Survey Days Conducted at VACAPES = 2 days

CHPT Vessel Survey Activity

Vessel surveys were conducted on May 22, 2011 in a Beaufort Sea State 2 to 3 (Table 4). Surveys started south and worked north because the satellite sea surface temperature image on the vessel showed an eddy featured in the southern section of the box. There was one on effort sighting of bottlenose dolphins and one off effort sighting of Atlantic spotted dolphins that were seen on transit back to port (Table 5, Figure 4).

Vessel Survey Days Conducted at CHPT = 1

JAX Aerial Survey Activity

Two days of effort were conducted in the JAX survey area covering 16 tracklines (Table 6). On May 19 six tracklines were flown under moderate survey conditions during which two cetacean sightings were recorded. The following day survey conditions improved, resulting in 13 cetacean sightings of four species that were encountered (Table 7, Figure 5). Similarly there was a sharp increase in the number of sea turtles encountered on the second day (Table 8, Figure 6).

Aerial Survey Days Conducted at JAX = 2

Date	Line	Sea State	Kilometers Flown	HOBBS Hours
26-May-2011	34	3 to 4	73.7	6.3
26-May-2011	35	3 to 4	75.5	
26-May-2011	36	4	43.8	
26-May-2011	27	3 to 4	74.5	
26-May-2011	26	3 to 4	73.6	
27-May-2011	41	1 to 3	74.6	7.1
27-May-2011	40	2 to 3	71.7	
27-May-2011	39	1 to 4	72.8	
27-May-2011	38	3 to 4	72.8	
27-May-2011	37	3 to 4	74.0	
27-May-2011	36	2 to 4	74.5	

Table 1. Aerial survey effort table for the VACAPES study region for May 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
26-May-11	10:18	On	35.341992	-74.589329	34	Mesoplodon	Unidentified beaked whale	2
26-May-11	10:45	On	35.408504	-74.475161	35	Unidentified cetacean	Unidentified cetacean	1
26-May-11	11:37	On	35.490571	-74.799096	36	Unidentified delphinid	Unidentified delphinid	4
26-May-11	14:31	Off	34.647059	-74.926513	27-26	P. macrocephalus	Sperm whale	1
27-May-11	9:42	On	35.824427	-74.887357	41	D. delphis	Common dolphins	300
27-May-11	9:54	On	35.847822	-74.836262	41	G. macrorhynchus	Short-finned pilot whale	46
27-May-11	10:08	On	35.823289	-74.753615	41	G. macrorhynchus	Short-finned pilot whale	13
27-May-11	10:18	On	35.831716	-74.600833	41	P. macrocephalus	Sperm whale	2
27-May-11	10:45	On	35.761017	-74.779985	40	G. macrorhynchus	Short-finned pilot whale	13
27-May-11	10:52	On	35.768861	-74.831074	40	G. macrorhynchus	Short-finned pilot whale	23
27-May-11	11:21	On	35.688751	-74.748692	39	G. macrorhynchus	Short-finned pilot whale	13
27-May-11	11:25	On	35.700880	-74.723435	39	P. macrocephalus	Sperm whale	1
27-May-11	11:40	On	35.698266	-74.534039	39	G. macrorhynchus	Short-finned pilot whale	10
27-May-11	11:40	Off	35.698266	-74.534039	39	S. bredanensis	Rough-toothed dolphin	4
27-May-11	12:07	Off	35.630056	-74.684793	38	Mesoplodon	Unidentified beaked whale	1
27-May-11	12:07	On	35.630056	-74.684793	38	S. frontalis	Atlantic spotted dolphin	50
27-May-11	14:20	On	35.562988	-74.604346	37	L. hovei	Fraser's dolphin	75

Table 2. Cetacean sightings for aerial surveys in the VACAPES study region for May 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
27-May-11	9:34	On	35.835266	-75.124045	41	C. caretta	Loggerhead sea turtle	1
27-May-11	9:35	On	35.836552	-75.087009	41	C. caretta	Loggerhead sea turtle	3
27-May-11	9:36	On	35.835776	-75.049181	41	C. caretta	Loggerhead sea turtle	4
27-May-11	9:38	On	35.835099	-74.962938	41	C. caretta	Loggerhead sea turtle	3
27-May-11	10:58	On	35.765202	-75.027065	40	C. caretta	Loggerhead sea turtle	1
27-May-11	11:00	On	35.763215	-75.108749	40	C. caretta	Loggerhead sea turtle	2
27-May-11	11:06	On	35.695536	-75.073269	39	Unid. Sea turtle	Unid. Sea turtle	1
27-May-11	11:06	On	35.695171	-75.091161	39	C. caretta	Loggerhead sea turtle	1

Table 3. Sea turtle sightings for aerial surveys in the VACAPES study region for May 2011.

Date	Sea State	km surveyed	Survey Time (hrs:min)	At Sea Time (hrs:min)	Platform
22-May-11	2 to 3	70.56	5:31	10:15	Sensation

Table 4. Vessel survey effort table for the CHPT study area for May 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Species	Common Name	Group Size
22-May-11	13:17	On	33.72524	-76.68037	T. truncatus	Bottlenose dolphin	35
22-May-11	15:13	On	33.88683	-76.57581	S. frontalis	Atlantic spotted dolphin	20

Table 5. Cetacean sightings for vessel surveys in CHPT study area for May 2011.

Date	Line	Sea State	Kilometers Flown	HOBBS Hours
19-May-2011	1	2 to 4	84.9	3.9
19-May-2011	2	2 to 4	86.9	
19-May-2011	3	2 to 4	86.4	
19-May-2011	4	2 to 4	84.6	
19-May-2011	5	2 to 4	86.0	
19-May-2011	6	3 to 4	84.5	
20-May-2011	10	1 to 3	85.9	7.2
20-May-2011	9	1 to 3	82.5	
20-May-2011	8	1 to 3	76.4	
20-May-2011	7	1 to 3	78.5	
20-May-2011	6	1 to 3	81.1	
20-May-2011	5	1 to 3	85.3	
20-May-2011	4	1 to 3	79.4	
20-May-2011	3	2 to 3	86.8	
20-May-2011	2	1 to 3	83.9	
20-May-2011	1	1 to 3	80.7	

Table 6. Aerial survey effort table for the JAX study area for May 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
19-May-11	12:49	On	29.984261	-80.668475	1	S. frontalis	Atlantic spotted dolphin	50
19-May-11	13:23	On	29.974699	-80.003449	1	T. truncatus	Bottlenose dolphin	4
20-May-11	8:09	On	30.569307	-80.694923	10	S. frontalis	Atlantic spotted dolphin	7
20-May-11	8:17	On	30.564627	-80.653456	10	S. frontalis	Atlantic spotted dolphin	21
20-May-11	9:00	On	30.489995	-80.212291	9	T. truncatus	Bottlenose dolphin	4
20-May-11	9:28	On	30.434336	-80.554982	8	T. truncatus	Bottlenose dolphin	4
20-May-11	9:49	On	30.439923	-80.099134	8	G. griseus	Risso's dolphin	5
20-May-11	10:03	On	30.444134	-79.822932	8	T. truncatus	Bottlenose dolphin	20
20-May-11	10:16	On	30.365678	-79.997541	7	G. macrohynchus	Short-finned pilot whale	5
20-May-11	10:34	On	30.364594	-80.446151	7	S. frontalis	Atlantic spotted dolphin	30
20-May-11	10:49	On	30.309490	-80.560544	6	S. frontalis	Atlantic spotted dolphin	7
20-May-11	10:56	On	30.302858	-80.429018	6	S. frontalis	Atlantic spotted dolphin	30
20-May-11	11:36	On	30.224460	-80.424656	5	S. frontalis	Atlantic spotted dolphin	32
20-May-11	13:22	On	30.153661	-80.434027	4	T. truncatus	Bottlenose dolphin	20
20-May-11	14:43	On	29.973099	-80.091205	1	G. griseus	Risso's dolphin	4

Table 7. Cetacean sightings for aerial surveys in JAX study area for May 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
19-May-11	12:59	On	29.964633	-80.630986	1	C. caretta	Loggerhead sea turtle	1
19-May-11	13:50	On	30.031720	-80.420043	2	C. caretta	Loggerhead sea turtle	1
20-May-11	8:21	On	30.563317	-80.594384	10	C. caretta	Loggerhead sea turtle	1
20-May-11	8:22	On	30.570936	-80.533392	10	C. caretta	Loggerhead sea turtle	1
20-May-11	8:22	On	30.571048	-80.534645	10	Unid. Sea turtle	Unid. Sea turtle	1
20-May-11	8:23	On	30.568593	-80.507757	10	C. caretta	Loggerhead sea turtle	3
20-May-11	8:23	On	30.568551	-80.487928	10	D. coriacea	Leatherback sea turtle	1
20-May-11	8:25	On	30.566482	-80.426244	10	C. caretta	Loggerhead sea turtle	1
20-May-11	8:30	On	30.569400	-80.251935	10	C. caretta	Loggerhead sea turtle	1
20-May-11	8:31	On	30.570856	-80.194309	10	C. caretta	Loggerhead sea turtle	1
20-May-11	8:54	On	30.498565	-80.116498	9	C. caretta	Loggerhead sea turtle	1
20-May-11	9:07	On	30.501528	-80.287647	9	Unid. Sea turtle	Unid. Sea turtle	1
20-May-11	9:08	On	30.499577	-80.332452	9	C. caretta	Loggerhead sea turtle	1
20-May-11	9:13	On	30.503105	-80.516748	9	C. caretta	Loggerhead sea turtle	3
20-May-11	9:13	On	30.503138	-80.522753	9	Unid. Sea turtle	Unid. Sea turtle	1
20-May-11	9:14	On	30.503081	-80.548323	9	C. caretta	Loggerhead sea turtle	3
20-May-11	9:15	On	30.502137	-80.594772	9	D. coriacea	Leatherback sea turtle	1
20-May-11	9:16	On	30.501133	-80.623520	9	C. caretta	Loggerhead sea turtle	2
20-May-11	9:18	On	30.498873	-80.690317	9	C. caretta	Loggerhead sea turtle	2
20-May-11	9:32	On	30.432442	-80.523462	8	C. caretta	Loggerhead sea turtle	2
20-May-11	9:40	On	30.433467	-80.331421	8	C. caretta	Loggerhead sea turtle	1
20-May-11	9:43	On	30.436814	-80.247596	8	C. caretta	Loggerhead sea turtle	3
20-May-11	10:24	On	30.359595	-80.234776	7	C. caretta	Loggerhead sea turtle	1
20-May-11	10:26	On	30.363308	-80.318090	7	C. caretta	Loggerhead sea turtle	1
20-May-11	10:27	On	30.364440	-80.341010	7	C. caretta	Loggerhead sea turtle	1
20-May-11	10:28	On	30.365086	-80.358189	7	C. caretta	Loggerhead sea turtle	4
20-May-11	10:28	On	30.365062	-80.358036	7	C. caretta	Loggerhead sea turtle	1
20-May-11	10:38	On	30.367065	-80.568512	7	C. caretta	Loggerhead sea turtle	3
20-May-11	10:46	On	30.297975	-80.649067	6	C. caretta	Loggerhead sea turtle	1
20-May-11	10:47	On	30.300188	-80.602648	6	C. caretta	Loggerhead sea turtle	3
20-May-11	10:47	On	30.298844	-80.631170	6	C. caretta	Loggerhead sea turtle	2
20-May-11	10:54	On	30.299032	-80.445236	6	C. caretta	Loggerhead sea turtle	2
20-May-11	11:01	On	30.294179	-80.379454	6	C. caretta	Loggerhead sea turtle	2
20-May-11	11:32	On	30.230868	-80.337989	5	C. caretta	Loggerhead sea turtle	3
20-May-11	11:43	On	30.232893	-80.597608	5	Unid. Sea turtle	Unid. Sea turtle	1
20-May-11	13:02	On	30.163427	-80.680120	4	C. caretta	Loggerhead sea turtle	1
20-May-11	13:03	On	30.163652	-80.640505	4	C. caretta	Loggerhead sea turtle	3
20-May-11	13:03	On	30.164600	-80.624201	4	C. caretta	Loggerhead sea turtle	2
20-May-11	13:04	On	30.168266	-80.583449	4	C. caretta	Loggerhead sea turtle	3
20-May-11	13:05	On	30.165525	-80.557704	4	C. caretta	Loggerhead sea turtle	2
20-May-11	13:58	On	30.101198	-80.356753	3	C. caretta	Loggerhead sea turtle	1
20-May-11	14:00	On	30.100958	-80.422810	3	C. caretta	Loggerhead sea turtle	3
20-May-11	14:03	On	30.100869	-80.544252	3	D. coriacea	Leatherback sea turtle	1
20-May-11	14:04	On	30.100802	-80.610242	3	C. caretta	Loggerhead sea turtle	3
20-May-11	14:10	On	30.025693	-80.653680	2	D. coriacea	Leatherback sea turtle	1
20-May-11	14:10	On	30.024418	-80.663238	2	C. caretta	Loggerhead sea turtle	5
20-May-11	14:13	On	30.027429	-80.533176	2	C. caretta	Loggerhead sea turtle	1
20-May-11	14:17	On	30.025733	-80.449377	2	C. caretta	Loggerhead sea turtle	1
20-May-11	14:54	On	29.986176	-80.315247	1	C. caretta	Loggerhead sea turtle	3
20-May-11	14:56	On	29.980720	-80.423502	1	C. caretta	Loggerhead sea turtle	1
20-May-11	14:57	On	29.980417	-80.431152	1	C. caretta	Loggerhead sea turtle	4
20-May-11	14:58	On	29.975730	-80.490040	1	C. caretta	Loggerhead sea turtle	1
20-May-11	14:59	On	29.976062	-80.513108	1	C. caretta	Loggerhead sea turtle	2
20-May-11	15:07	On	29.963615	-80.657786	1	C. caretta	Loggerhead sea turtle	1
20-May-11	15:08	On	29.968576	-80.688942	1	C. caretta	Loggerhead sea turtle	1

Table 8. Sea turtle sightings for aerial surveys in JAX study area for May 2011.

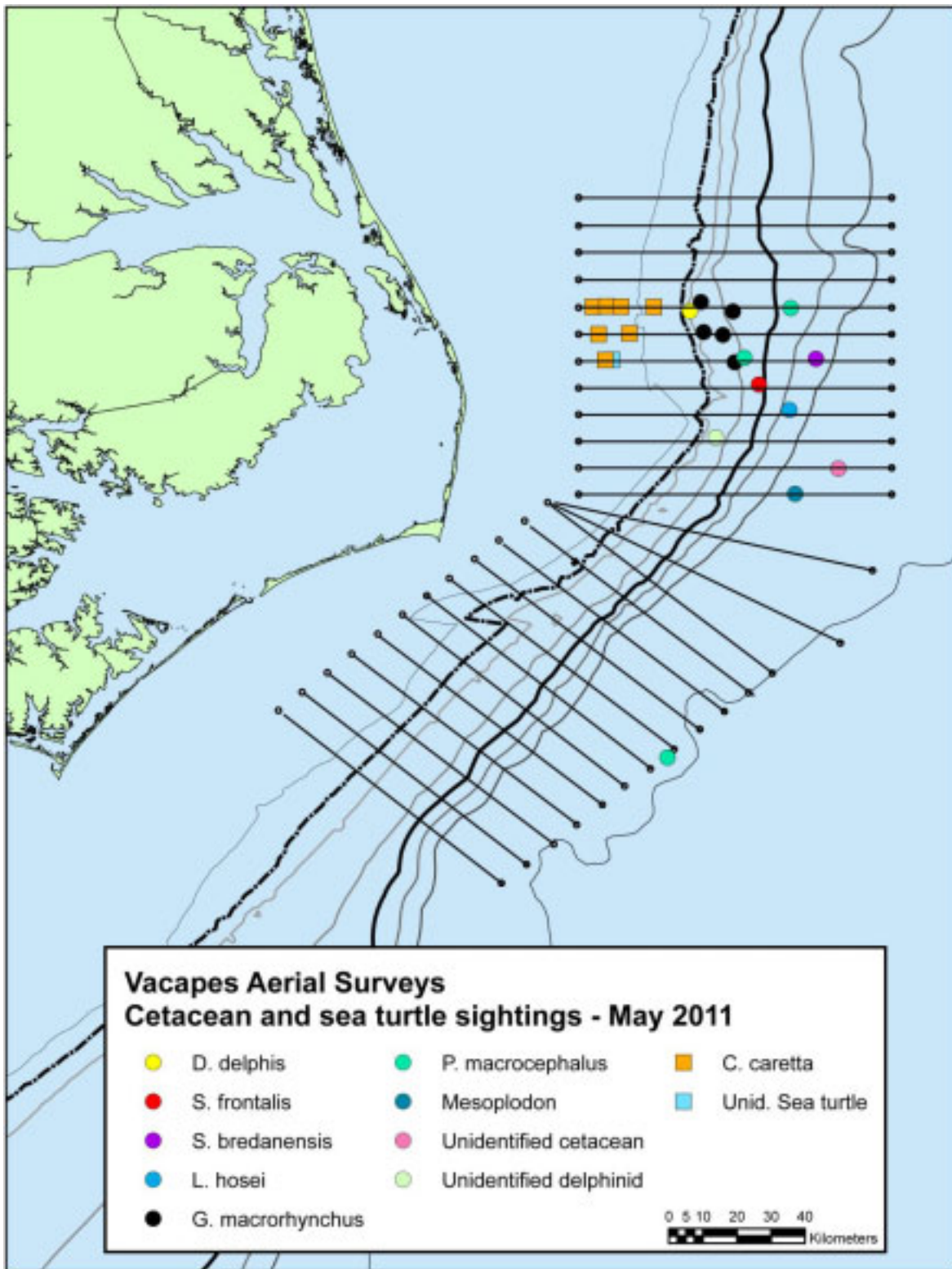


Figure 1. Cetaceans and sea turtles observed during aerial surveys in the VACAPES study area for May 2011.

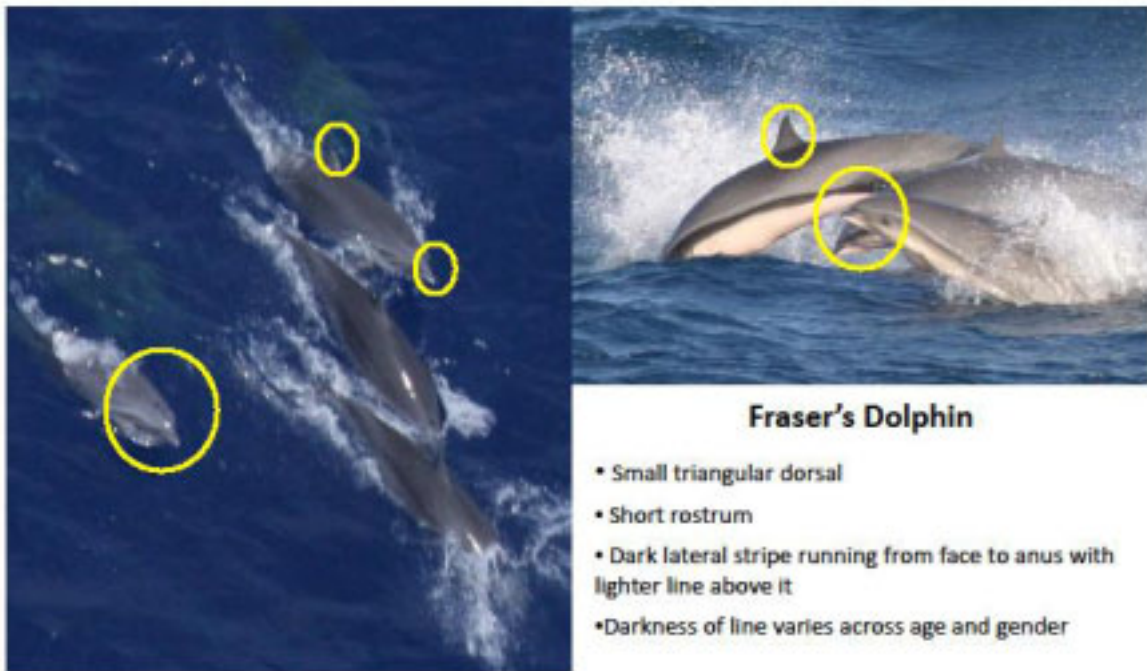


Figure 2. Characteristics of Fraser's dolphins used for species identification of a new species sighted in the VACAPES study region in May 27 2011 (left image). Right image from Jefferson's field guide.



Figure 3. Image of beaked whale (*Mesoplodon* spp.) collected in the VACAPES region in May 27 2011.

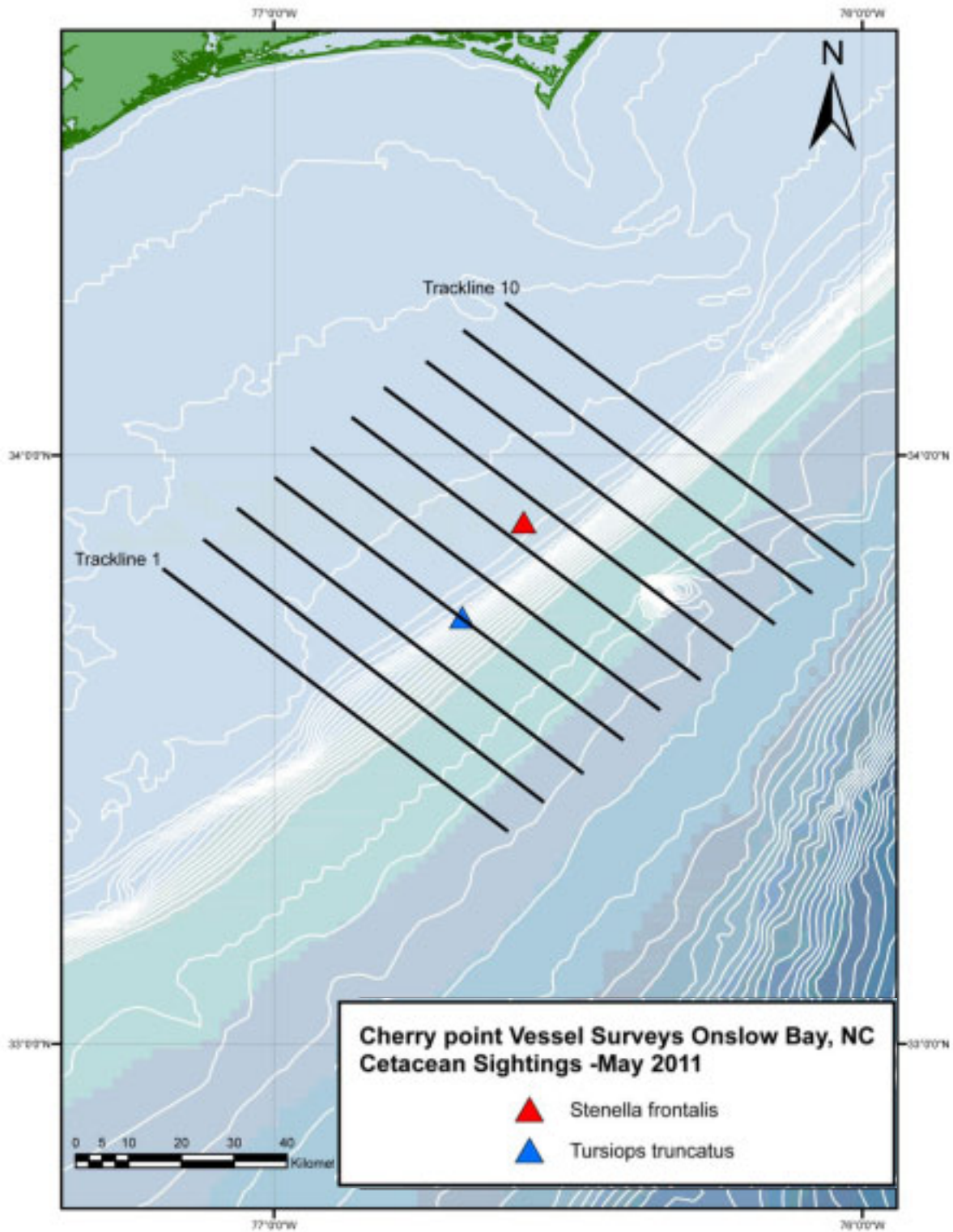


Figure 4. Cetaceans observed during vessel surveys of the CHPT study area for May 2011.

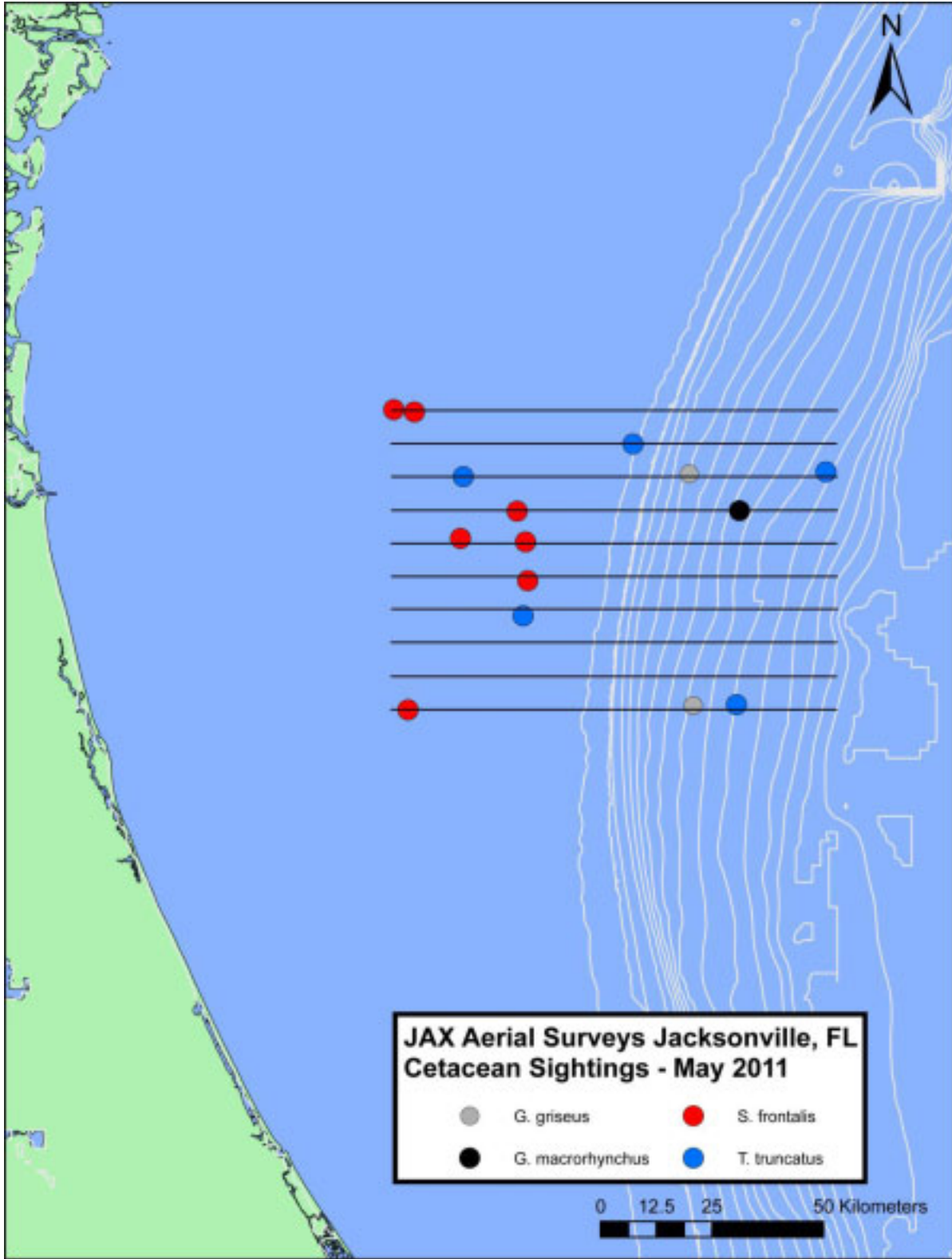


Figure 5. Cetaceans observed during aerial surveys of the JAX study area for May 2011.

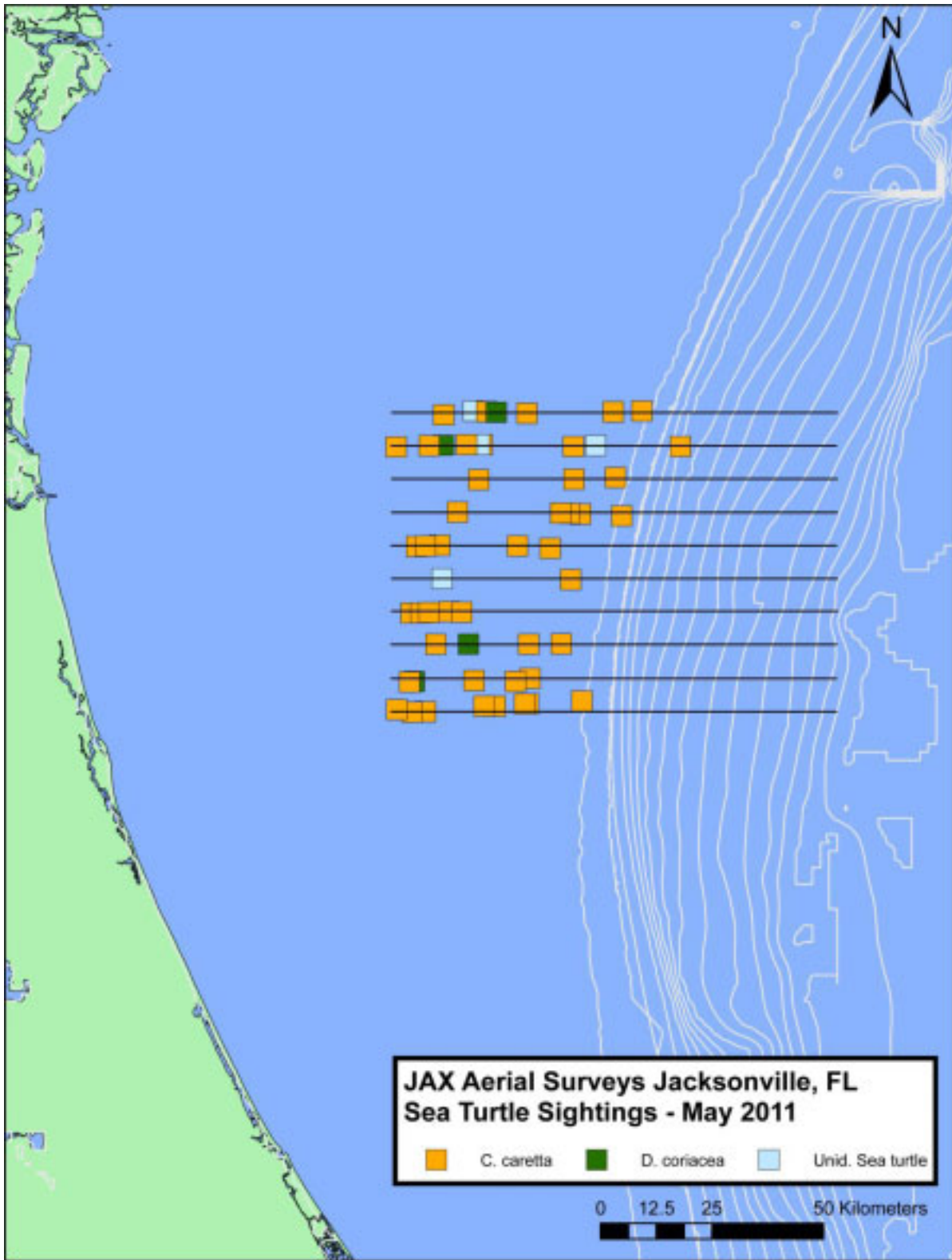


Figure 6. Sea turtles observed during vessel surveys of the JAX study area for May 2011.

Monitoring of Protected Species in the Hatteras, Onslow and JAX Sites

Progress Report to HDR: June 1 2011 through June 30 2011

Hatteras Aerial Survey Activity

Thirteen tracklines were covered during two days of effort in the Hatteras survey area (Table 1). Fair conditions on June 14th resulted in six cetacean encounters which included three groups of bottlenose dolphins (*Tursiops truncatus*), one group of short-finned pilot whales (*Globicephala macrorhynchus*), one group of Cuvier's beaked whales (*Ziphius cavirostris*) and one group of animals for which no species identification was obtained and is labeled as unidentified delphinids (Table 2, Figure 1). On June 15th survey conditions had begun to deteriorate limiting the number of lines flown as well as the number of encounters. The one cetacean sighting observed was a single large bodied animal with a squared head, small pectoral fins and light grey to white body coloration. This encounter took place beyond the second shelf break east of Cape Hatteras. The animal behaved differently from other large cetaceans observed in the area as it moved very fast and changed directions multiple times while just below the surface before diving out of sight. While the team could not identify this animal to species with 100% certainty we are able to rule out it being either a beaked whale or sperm whale. The only other cetacean fitting this description is the Northern bottlenose whale (*Hyperoodon ampullatus*). Since this survey team has not previously encountered this species, and having no images to reference from the encounter, this sighting is listed as an unidentified cetacean. In future months if this species is observed and positively identified within the survey area we may be able to reclassify this sighting with greater confidence. Sightings of sea turtles followed a similar pattern as cetaceans with more sightings occurring on June 14th (Table 3 Figure 1).

Aerial Survey Days Conducted at Hatteras = 2 days

JAX Aerial Survey Activity

Surveys in the Jacksonville survey area were hampered by dense smoke generated by the Honey prairie fire in the Okefenokee national wildlife refuge in southern Georgia. While sea states were low during both survey days, visibility was obscured at times due to smoke far offshore which limited our effort to just 12 tracklines (Table 4). Sightings of cetaceans and sea turtles were low on both days and were limited to the inshore waters (Table 5, 6 and Figure 2). Continuous monitoring of this fire will be a necessary part of our flight scheduling in the upcoming months due to its high potential to effect conditions in the offshore survey area.

Aerial Survey Days Conducted at JAX = 2

Date	Line	Sea State	Kilometers Flown	HOBBS Hours
14-Jun-2011	25	3 to 4	72.6	7.3
14-Jun-2011	26	3 to 4	73.6	
14-Jun-2011	27	2 to 4	73.9	
14-Jun-2011	28	2 to 3	74.5	
14-Jun-2011	29	2 to 3	73.9	
14-Jun-2011	30	2 to 3	73.5	
14-Jun-2011	31	2 to 3	70.3	
14-Jun-2011	32	2 to 3	81.3	
14-Jun-2011	33	2 to 3	79.3	
15-Jun-2011	34	4	75.4	3.8
15-Jun-2011	35	3 to 4	74.2	
15-Jun-2011	36	3 to 4	74.5	
15-Jun-2011	37	4	74.4	

Table 1. Aerial survey effort table for the Hatteras study area for June 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
14-Jun-11	10:18	On	34.782421	-75.319607	25	Unid. Cetacean	Unid. Cetacean	1
14-Jun-11	11:36	On	34.928116	-75.116029	28	T. truncatus	Bottlenose dolphin	18
14-Jun-11	11:48	On	34.985284	-75.185588	28	T. truncatus	Bottlenose dolphin	2
14-Jun-11	15:03	On	35.154789	-75.023044	31	T. truncatus	Bottlenose dolphin	7
14-Jun-11	15:03	On	35.154789	-75.023044	31	Z. cavirostris	Cuvier's beaked whale	4
14-Jun-11	15:19	On	35.116018	-74.960536	31	G. macrorhynchus	Short-finned pilot whale	10
15-Jun-11	10:43	On	35.473016	-74.519779	36	Unid. Cetacean	Unid. Cetacean	1

Table 2. Cetacean sightings for aerial surveys in the Hatteras study area for June 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
14-Jun-11	14:24	On	34.941260	-74.867651	30	Unid. Sea turtle	Unid. Sea turtle	1
14-Jun-11	14:45	On	35.307595	-75.222878	31	Unid. Sea turtle	Unid. Sea turtle	1
14-Jun-11	14:46	On	35.288607	-75.198856	31	C. caretta	Loggerhead sea turtle	2
14-Jun-11	14:47	On	35.273869	-75.179852	31	C. caretta	Loggerhead sea turtle	1
14-Jun-11	16:07	On	35.304731	-75.207323	32	C. caretta	Loggerhead sea turtle	1
14-Jun-11	16:08	On	35.306071	-75.210438	32	C. caretta	Loggerhead sea turtle	1
14-Jun-11	16:13	On	35.296437	-75.152838	33	C. caretta	Loggerhead sea turtle	1
14-Jun-11	16:17	On	35.272652	-75.021882	33	Unid. Sea turtle	Unid. Sea turtle	1
15-Jun-11	9:32	On	35.336853	-75.117561	34	C. caretta	Loggerhead sea turtle	1
15-Jun-11	9:34	On	35.339465	-75.029025	34	C. caretta	Loggerhead sea turtle	1

Table 3. Sea turtle sightings for aerial surveys in the Hatteras study region for June 2011.

Date	Line	Sea State	Kilometers Flown	HOBBS Hours
21-Jun-2011	10	2	86.3	5
21-Jun-2011	9	2	85.3	
21-Jun-2011	8	2	84.0	
21-Jun-2011	7	2	85.6	
21-Jun-2011	1	2	85.0	
21-Jun-2011	2	2	86.2	
22-Jun-2011	1	3	86.8	3.8
22-Jun-2011	2	3	86.4	
22-Jun-2011	3	3	85.7	
22-Jun-2011	4	3	86.4	
22-Jun-2011	5	3	86.2	
22-Jun-2011	6	3	85.7	

Table 4. Aerial survey effort table for the Jacksonville study area for June 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
21-Jun-11	14:53	On	29.962702	-80.256426	1	T. truncatus	Bottlenose dolphin	3

Table 5. Cetacean sightings for aerial surveys in Jacksonville study area for June 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
21-Jun-11	9:55	On	30.563783	-80.625810	10	Unid. Sea turtle	Unid. Sea turtle	1
21-Jun-11	9:57	On	30.565614	-80.539043	10	C. caretta	Loggerhead sea turtle	1
21-Jun-11	10:40	On	30.501802	-80.511094	9	C. caretta	Loggerhead sea turtle	1
21-Jun-11	11:00	On	30.431047	-80.629434	8	D. coriacea	Leatherback sea turtle	1
21-Jun-11	11:06	On	30.430739	-80.425020	8	C. caretta	Loggerhead sea turtle	1
21-Jun-11	14:41	On	29.962703	-80.616160	1	C. caretta	Loggerhead sea turtle	1
21-Jun-11	14:42	On	29.962624	-80.582059	1	C. caretta	Loggerhead sea turtle	1
21-Jun-11	14:45	On	29.962816	-80.478623	1	C. caretta	Loggerhead sea turtle	2
21-Jun-11	14:45	On	29.962926	-80.505692	1	Unid. Sea turtle	Unid. Sea turtle	1
21-Jun-11	14:47	On	29.962978	-80.414404	1	Unid. Sea turtle	Unid. Sea turtle	1
21-Jun-11	14:48	On	29.963266	-80.376980	1	C. caretta	Loggerhead sea turtle	1
21-Jun-11	14:49	On	29.963335	-80.351298	1	C. caretta	Loggerhead sea turtle	1
21-Jun-11	15:36	On	30.034537	-80.352847	2	Unid. Sea turtle	Unid. Sea turtle	1
21-Jun-11	15:45	On	30.034162	-80.677171	2	C. caretta	Loggerhead sea turtle	1
22-Jun-11	10:02	On	30.034230	-80.61002	2	Unid. Sea turtle	Unid. Sea turtle	1
22-Jun-11	11:16	On	30.230267	-80.329166	5	C. caretta	Loggerhead sea turtle	1
22-Jun-11	11:57	On	30.301741	-80.58448	6	C. caretta	Loggerhead sea turtle	1

Table 6. Sea turtle sightings for aerial surveys in Jacksonville study area for June 2011.

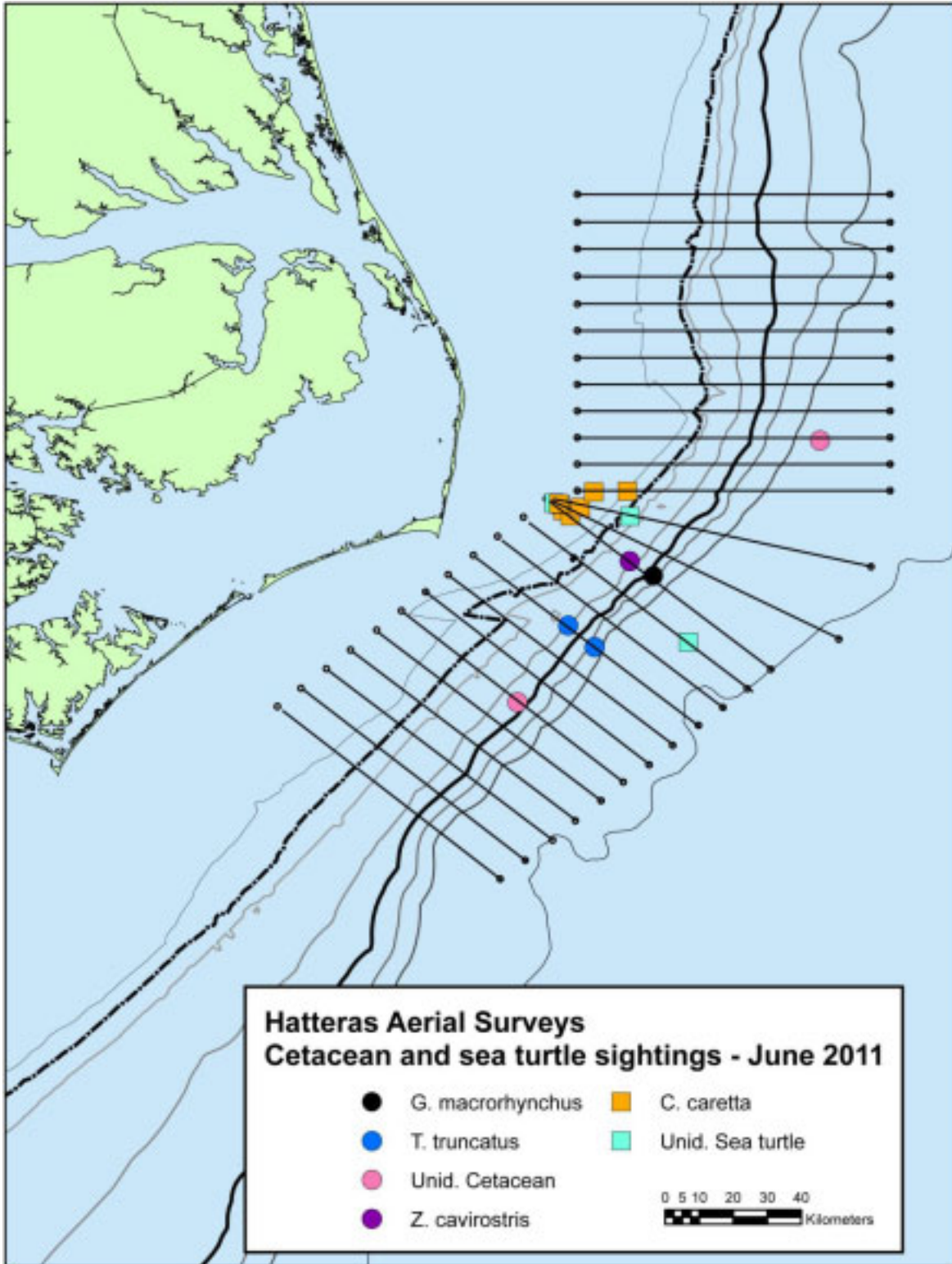


Figure 1. Cetaceans and sea turtles observed during aerial surveys in the Hatteras study area for June 2011.

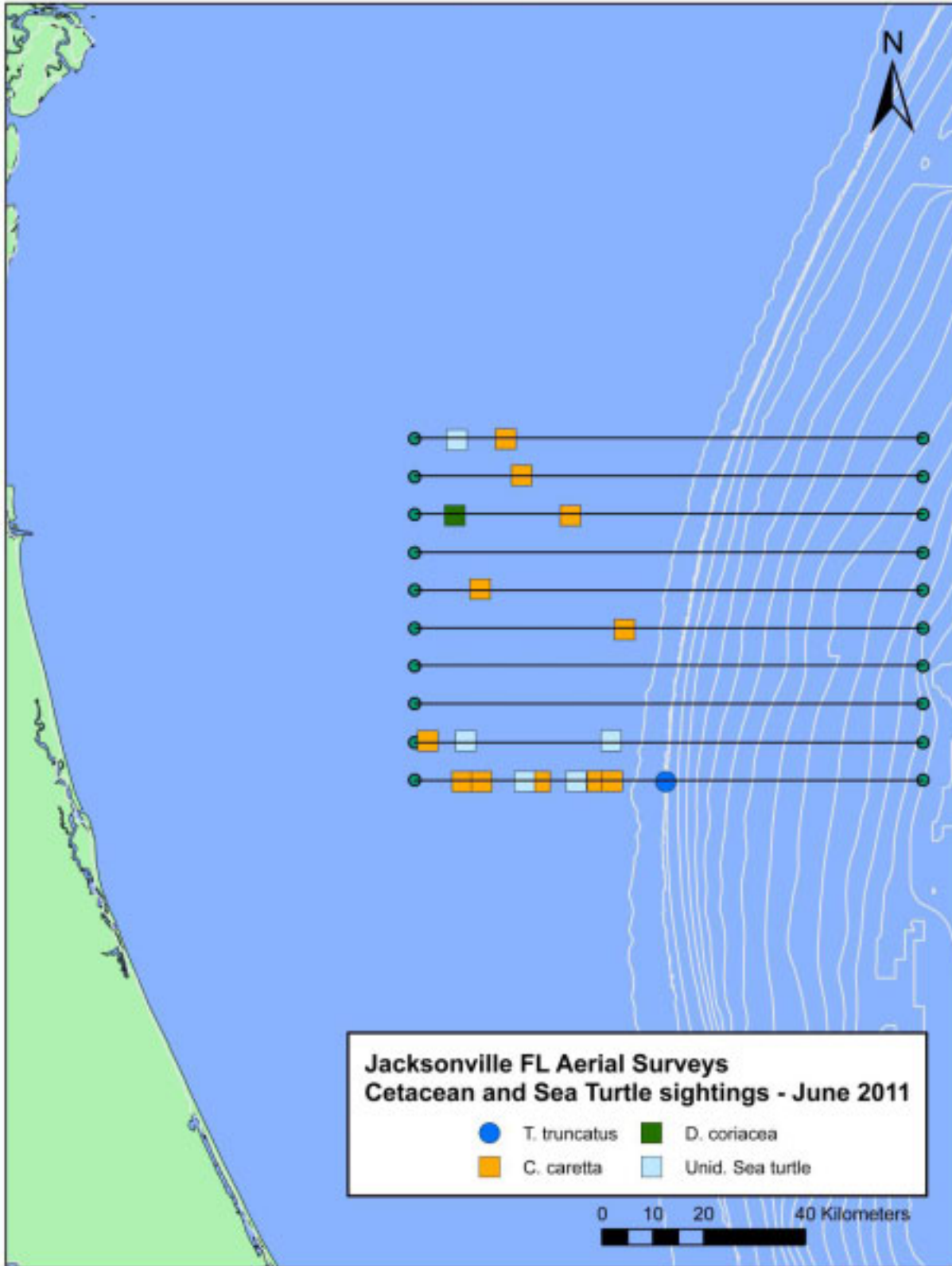


Figure 2. Cetaceans and sea turtles observed during aerial surveys in the Jacksonville study area for June 2011.

Monitoring of Protected Species in the Hatteras, Onslow and JAX Sites

Progress Report to HDR: July 1 2011 through July 31 2011

Hatteras Aerial Survey Activity

A total of 14 tracklines were covered this month during two days of effort in the Cape Hatteras survey area. On both days, conditions worsened during the afternoon as increasing winds elevated Beaufort Sea States (Table 1). Cetacean sightings were closely linked to this variation in sea state with 15 of the 19 sightings occurring during morning flights (Table 2, Figure 1). Sightings were dominated by sperm whales (*Physeter macrocephalus*), followed closely by short-finned pilot whales (*Globicephala macrorhynchus*) and bottlenose dolphins (*Tursiops truncatus*). A single group of three beaked whales (*Mesoplodon* spp.) was also recorded on line 26 on the second day of flights. As in past months, few sea turtle sightings were recorded in the survey area despite favorable conditions on both days (Table 3, Figure 1).

Aerial Survey Days Conducted at Hatteras = 2 days

Onslow Bay Vessel Survey Activity

A vessel survey was conducted on 1 July 2011 in a Beaufort Sea State 2 to 3 (Table 4). No cetaceans or sea turtles were observed while on effort. One off-effort sighting of Atlantic spotted dolphins (*Stenella frontalis*) was recorded during the transit back to port (Table 5, Figure 2). Three hundred photo-id images were obtained; no biopsy samples were collected.

Vessel Survey Days Conducted at Onslow Bay = 1 day

Jacksonville Aerial Survey Activity

Two days of effort were conducted in the Jacksonville, FL survey area. On each day the team covered the complete set of ten tracklines with survey conditions ranging from fair to good (Table 6). Cetacean sightings included bottlenose dolphin, spotted dolphins, Risso's dolphins (*Grampus griseus*), and one sighting for which no identification could be made and is, therefore, recorded as an unidentified delphinid (Table 7, Figure 3). Turtle sightings were dominated by loggerheads (*Caretta caretta*), although a single leatherback sea turtle (*Dermochelys coriacea*) was recorded on the second day (Table 8, Figure 4).

Aerial Survey Days Conducted at JAX = 2 days

Jacksonville Vessel Survey Activity

Due to the forthcoming changes in survey methodology for Jacksonville vessel surveys, an appropriate survey platform was not available in the month of July, and therefore, no vessel surveys were conducted.

Vessel Survey Days Conducted at JAX = 0 days

Other Accomplishments

Two observers completed emergency egress training (dunk training) in Lafayette, LA during July. These observers are now able to conduct aerial surveys at all sites of AFAST monitoring along the US east coast.

The manuscript “Foley, H.J., Holt, R.C., Hardee, R.E., Nilsson, P.B., Jackson, K.A., Read, A.J., Pabst, D.A. and W.A. McLellan. 2011. Observations of a western North Atlantic right whale (*Eubalaena glacialis*) birth offshore of the protected Southeast U.S. critical habitat. *Marine Mammal Science*. 27(3): E234-E240.” has been published online in *Marine Mammal Science* in July 2011. A .pdf is attached.

Table 1. Aerial survey effort table for the Hatteras study area for July 2011.

Date	Line	Sea State	Kilometers Flown	HOBBS Hours
30-Jul-2011	40	1 to 3	76.5	6.8
30-Jul-2011	39	2 to 3	73.2	
30-Jul-2011	38	2 to 3	74.1	
30-Jul-2011	37	3	72.9	
30-Jul-2011	36	3	74.6	
30-Jul-2011	35	3	76.1	
31-Jul-2011	34	2 to 3	74.9	6.0
31-Jul-2011	33	2 to 3	80.1	
31-Jul-2011	32	2 to 3	80.7	
31-Jul-2011	31	2 to 3	72.6	
31-Jul-2011	30	2 to 3	73.6	
31-Jul-2011	29	2 to 4	73.5	
31-Jul-2011	25	3 to 4	73.5	
31-Jul-2011	26	3 to 4	73.1	

Table 2. Cetacean sightings for aerial surveys in the Hatteras study area for July 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
30-Jul-11	10:09	On	35.827493	-74.853076	40	<i>G. macrohynchus</i>	Short-finned pilot whale	90
30-Jul-11	10:09	On	35.827493	-74.853076	40	<i>T. truncatus</i>	Bottlenose dolphin	11
30-Jul-11	10:19	On	35.839234	-74.818899	40	<i>G. macrohynchus</i>	Short-finned pilot whale	25
30-Jul-11	10:34	On	35.842294	-74.763221	40	<i>T. truncatus</i>	Bottlenose dolphin	25
30-Jul-11	10:48	On	35.837776	-74.534692	40	<i>T. truncatus</i>	Bottlenose dolphin	8
30-Jul-11	10:56	On	35.829427	-74.482279	40	<i>T. truncatus</i>	Bottlenose dolphin	12
30-Jul-11	11:08	On	35.769256	-74.376584	39	<i>P. macrocephalus</i>	Sperm whale	1
30-Jul-11	11:11	On	35.764706	-74.414867	39	<i>P. macrocephalus</i>	Sperm whale	3
30-Jul-11	11:19	On	35.766473	-74.508376	39	<i>T. truncatus</i>	Bottlenose dolphin	30
30-Jul-11	11:29	On	35.753212	-74.701881	39	<i>G. macrohynchus</i>	Short-finned pilot whale	4
30-Jul-11	11:41	On	35.758390	-74.789591	39	<i>G. macrohynchus</i>	Short-finned pilot whale	6
30-Jul-11	13:56	On	35.681309	-74.533918	38	<i>P. macrocephalus</i>	Sperm whale	2
30-Jul-11	14:23	On	35.619175	-74.785925	37	<i>G. macrohynchus</i>	Short-finned pilot whale	43
30-Jul-11	15:02	On	35.560734	-74.398325	36	<i>P. macrocephalus</i>	Sperm whale	2
31-Jul-11	10:16	On	35.146405	-74.870301	32	<i>P. macrocephalus</i>	Sperm whale	3
31-Jul-11	10:20	On	35.147153	-74.870689	32	<i>G. macrohynchus</i>	Short-finned pilot whale	8
31-Jul-11	10:48	Off	34.867745	-74.645303	32-31	<i>P. macrocephalus</i>	Sperm whale	2
31-Jul-11	11:01	On	35.143140	-74.982232	31	<i>P. macrocephalus</i>	Sperm whale	1
31-Jul-11	14:57	On	34.825875	-75.238322	26	<i>Mesoplodon</i>	Unidentified beaked whale	3

Table 3. Sea turtle sightings for aerial surveys in the Hatteras study region for July 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
30-Jul-11	9:59	On	35.827789	-75.113373	40	Unid. Sea turtle	Unid. Sea turtle	1
31-Jul-11	9:06	On	35.338411	-75.143553	34	Unid. Sea turtle	Unid. Sea turtle	1
31-Jul-11	9:07	On	35.341623	-75.093226	34	Unid. Sea turtle	Unid. Sea turtle	1
31-Jul-11	10:03	On	35.289371	-75.180516	32	C. caretta	Loggerhead sea turtle	1
31-Jul-11	10:33	On	35.034067	-74.647836	32	C. caretta	Loggerhead sea turtle	1
31-Jul-11	11:09	On	35.279238	-75.188611	31	C. caretta	Loggerhead sea turtle	1
31-Jul-11	11:15	On	35.258476	-75.284707	30	C. caretta	Loggerhead sea turtle	1

Table 4. Vessel survey effort table for the Onslow Bay study area for July 2011.

Date	Sea State	Km surveyed	Survey Time (hrs:min)	At Sea Time	Platform
1-Jul-11	2 to 3	102.0	6:11	11:00	Sensation

Table 5. Cetacean sightings for vessel surveys in the Onslow Bay study area for July 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Species	Common Name	Group Size
1-Jul-11	14:16	Off	33.99230	-76.41005	S. frontalis	Atlantic spotted dolphin	10

Table 6. Aerial survey effort table for the Jacksonville study area for July 2011.

Date	Line	Sea State	Kilometers Flown	HOBBS Hours
20-Jul-2011	10	3 to 4	85.9	7.4
20-Jul-2011	9	2 to 4	86.0	
20-Jul-2011	8	2 to 4	86.3	
20-Jul-2011	7	2 to 4	86.2	
20-Jul-2011	6	2 to 4	85.5	
20-Jul-2011	5	2 to 4	86.3	
20-Jul-2011	4	2 to 3	86.1	
20-Jul-2011	3	2 to 3	85.8	
20-Jul-2011	2	2	86.5	
20-Jul-2011	1	2 to 3	86.4	
21-Jul-2011	1	2 to 3	86.4	7.0
21-Jul-2011	2	2 to 3	86.5	
21-Jul-2011	3	2 to 3	86.3	
21-Jul-2011	4	2 to 3	84.5	
21-Jul-2011	5	2 to 3	84.4	
21-Jul-2011	6	2 to 3	86.5	
21-Jul-2011	7	2 to 3	84.2	
21-Jul-2011	8	2 to 3	83.8	
21-Jul-2011	9	2 to 3	86.0	
21-Jul-2011	10	2 to 3	85.0	

Table 7. Cetacean sightings for aerial surveys in the Jacksonville study area for July 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
20-Jul-11	9:02	On	30.505652	-80.426843	9	<i>S. frontalis</i>	Spotted dolphin	13
20-Jul-11	9:57	On	30.366602	-80.105149	7	<i>G. griseus</i>	Risso's dolphin	23
20-Jul-11	9:57	On	30.366602	-80.105149	7	<i>T. truncatus</i>	Bottlenose dolphin	23
20-Jul-11	10:10	On	30.371936	-80.164104	7	<i>G. griseus</i>	Risso's dolphin	28
20-Jul-11	10:27	On	30.367646	-80.322849	7	<i>S. frontalis</i>	Spotted dolphin	13
20-Jul-11	13:54	On	30.100653	-79.847793	3	<i>T. truncatus</i>	Bottlenose dolphin	11
20-Jul-11	14:16	On	30.092634	-80.431332	3	<i>T. truncatus</i>	Bottlenose dolphin	3
20-Jul-11	15:25	On	29.954577	-80.651344	1	<i>T. truncatus</i>	Bottlenose dolphin	8
21-Jul-11	10:00	On	30.160364	-80.130149	4	<i>T. truncatus</i>	Bottlenose dolphin	14
21-Jul-11	10:45	On	30.229362	-79.981972	5	<i>T. truncatus</i>	Bottlenose dolphin	6
21-Jul-11	13:03	On	30.350203	-80.247303	7	<i>S. frontalis</i>	Spotted dolphin	35
21-Jul-11	13:13	On	30.361196	-80.134629	7	<i>G. griseus</i>	Risso's dolphin	20
21-Jul-11	13:46	On	30.438755	-80.505104	8	<i>T. truncatus</i>	Bottlenose dolphin	3
21-Jul-11	14:51	On	30.571109	-80.463937	10	<i>S. frontalis</i>	Spotted dolphin	35
21-Jul-11	15:09	On	30.571359	-80.584509	10	Unid. Delphinid	Unid. Delphinid	6

Table 8. Sea turtle sightings for aerial surveys in the Jacksonville study area for July 2011.

Date	Time	On/Off Effort	Latitude	Longitude	Track Number	Species	Common Name	Group Size
20-Jul-11	9:14	On	30.499873	-80.550273	9	<i>C. caretta</i>	Loggerhead sea turtle	1
20-Jul-11	9:17	On	30.499632	-80.656476	9	<i>C. caretta</i>	Loggerhead sea turtle	1
20-Jul-11	10:25	On	30.366516	-80.293864	7	<i>C. caretta</i>	Loggerhead sea turtle	1
20-Jul-11	10:40	On	30.366396	-80.435558	7	<i>C. caretta</i>	Loggerhead sea turtle	1
20-Jul-11	10:45	On	30.365933	-80.637356	7	<i>C. caretta</i>	Loggerhead sea turtle	1
20-Jul-11	13:29	On	30.165666	-80.527449	4	<i>C. caretta</i>	Loggerhead sea turtle	1
20-Jul-11	13:30	On	30.165821	-80.491398	4	<i>C. caretta</i>	Loggerhead sea turtle	1
20-Jul-11	13:31	On	30.165857	-80.445849	4	<i>C. caretta</i>	Loggerhead sea turtle	4
20-Jul-11	13:33	On	30.166005	-80.372607	4	<i>C. caretta</i>	Loggerhead sea turtle	6
20-Jul-11	14:14	On	30.101023	-80.423350	3	<i>C. caretta</i>	Loggerhead sea turtle	2
20-Jul-11	14:23	On	30.099880	-80.516003	3	<i>C. caretta</i>	Loggerhead sea turtle	1
20-Jul-11	14:28	On	30.100297	-80.687030	3	<i>C. caretta</i>	Loggerhead sea turtle	2
20-Jul-11	14:33	On	30.030950	-80.607076	2	<i>C. caretta</i>	Loggerhead sea turtle	3
20-Jul-11	14:34	On	30.031057	-80.580981	2	<i>C. caretta</i>	Loggerhead sea turtle	3
20-Jul-11	14:37	On	30.031183	-80.462095	2	<i>C. caretta</i>	Loggerhead sea turtle	4
20-Jul-11	14:41	On	30.031322	-80.338196	2	<i>C. caretta</i>	Loggerhead sea turtle	3
20-Jul-11	15:21	On	29.965944	-80.602271	1	<i>C. caretta</i>	Loggerhead sea turtle	1
21-Jul-11	8:30	On	29.965011	-80.448075	1	<i>C. caretta</i>	Loggerhead sea turtle	1
21-Jul-11	9:09	On	30.032517	-80.415447	2	<i>C. caretta</i>	Loggerhead sea turtle	1
21-Jul-11	9:10	On	30.032463	-80.441155	2	Unid. Sea turtle	Unid. Sea turtle	3
21-Jul-11	9:23	On	30.099443	-80.585964	3	<i>C. caretta</i>	Loggerhead sea turtle	1
21-Jul-11	10:11	On	30.167043	-80.380911	4	<i>C. caretta</i>	Loggerhead sea turtle	3
21-Jul-11	10:13	On	30.166989	-80.447232	4	<i>D. coriacea</i>	Leatherback sea turtle	1
21-Jul-11	10:17	On	30.166719	-80.572771	4	<i>C. caretta</i>	Loggerhead sea turtle	2
21-Jul-11	11:15	On	30.300884	-80.320357	6	<i>C. caretta</i>	Loggerhead sea turtle	1
21-Jul-11	11:22	On	30.300257	-80.579987	6	<i>C. caretta</i>	Loggerhead sea turtle	3
21-Jul-11	11:24	On	30.300194	-80.646221	6	<i>C. caretta</i>	Loggerhead sea turtle	2
21-Jul-11	13:57	On	30.433714	-80.587289	8	<i>C. caretta</i>	Loggerhead sea turtle	3
21-Jul-11	14:09	On	30.498872	-80.455609	9	<i>C. caretta</i>	Loggerhead sea turtle	2
21-Jul-11	14:17	On	30.499061	-80.172581	9	<i>C. caretta</i>	Loggerhead sea turtle	1
21-Jul-11	14:46	On	30.567579	-80.399094	10	<i>C. caretta</i>	Loggerhead sea turtle	1

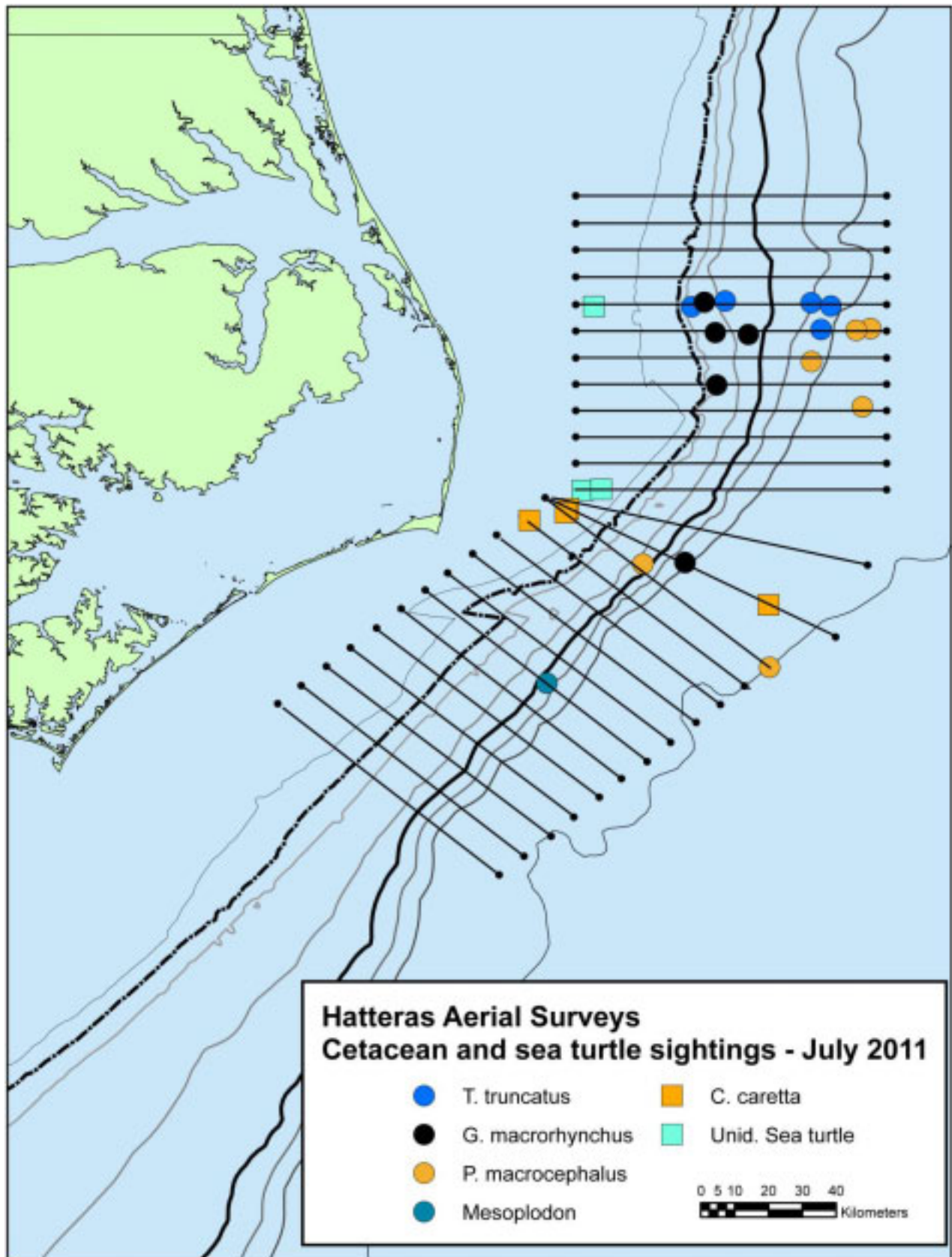


Figure 1. Cetaceans and sea turtles observed during aerial surveys in the Hatteras study area for July 2011.

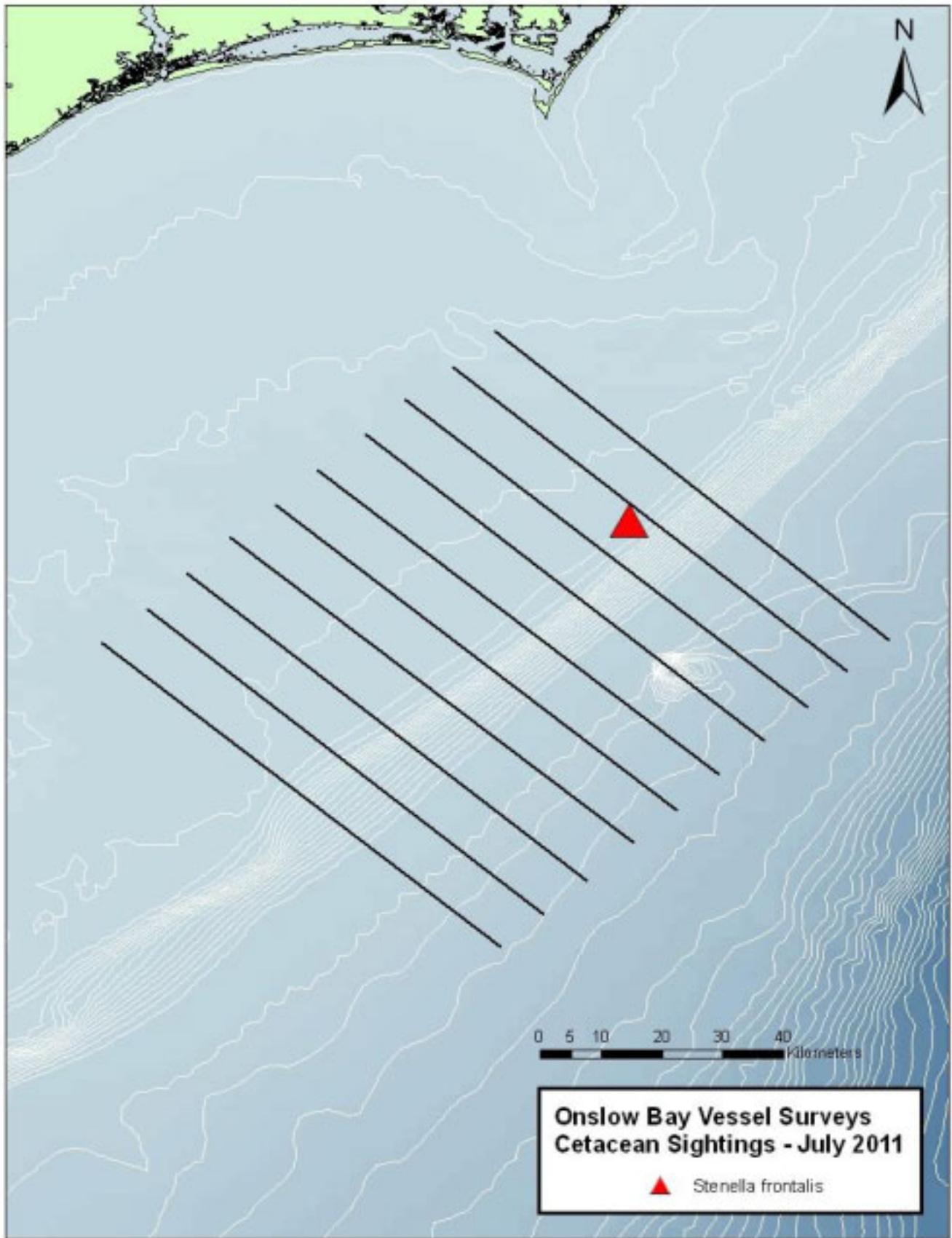


Figure 2. Cetaceans observed during vessel surveys in the Onslow Bay study area for July 2011.

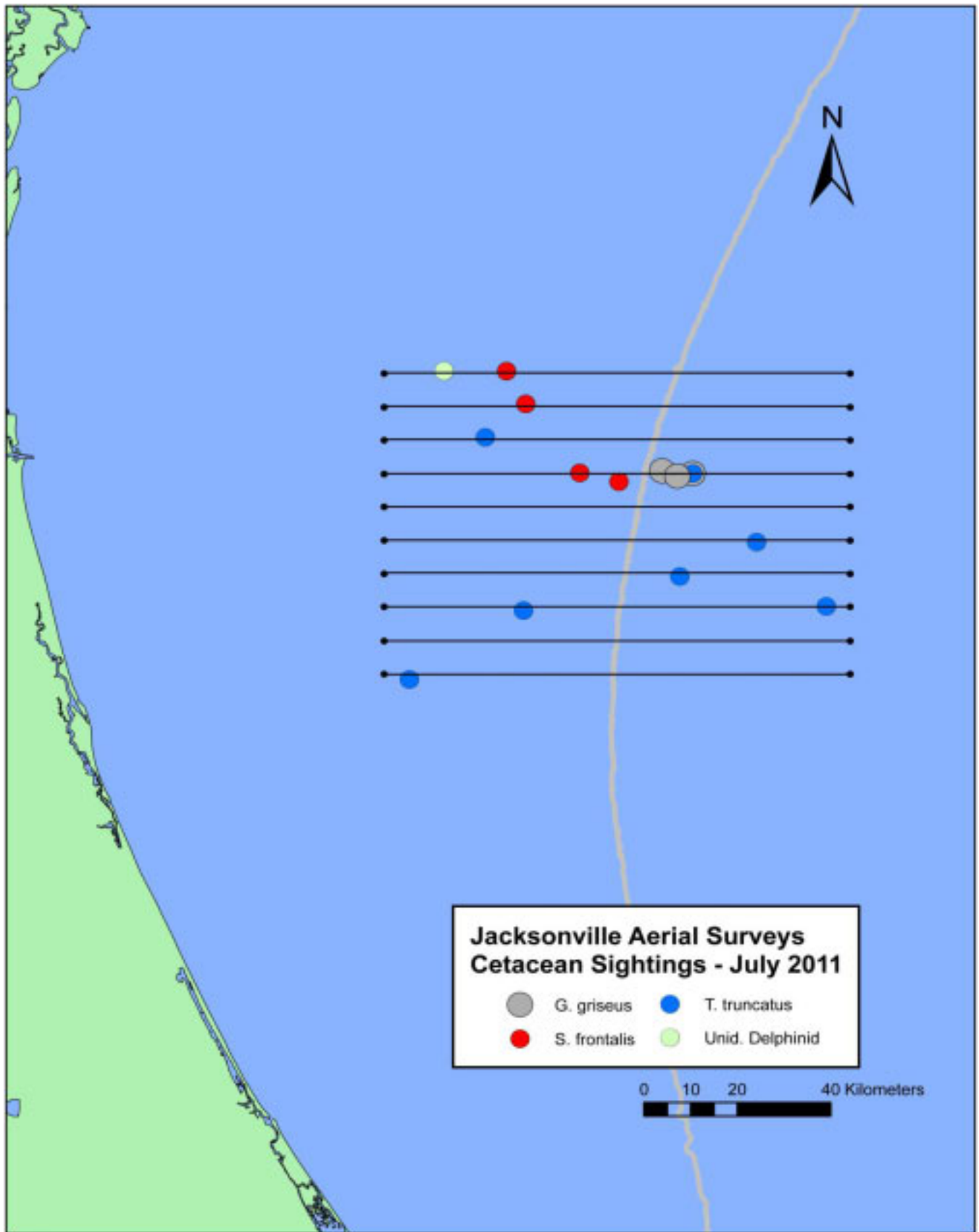


Figure 3. Cetaceans observed during aerial surveys in the Jacksonville study area for July 2011.

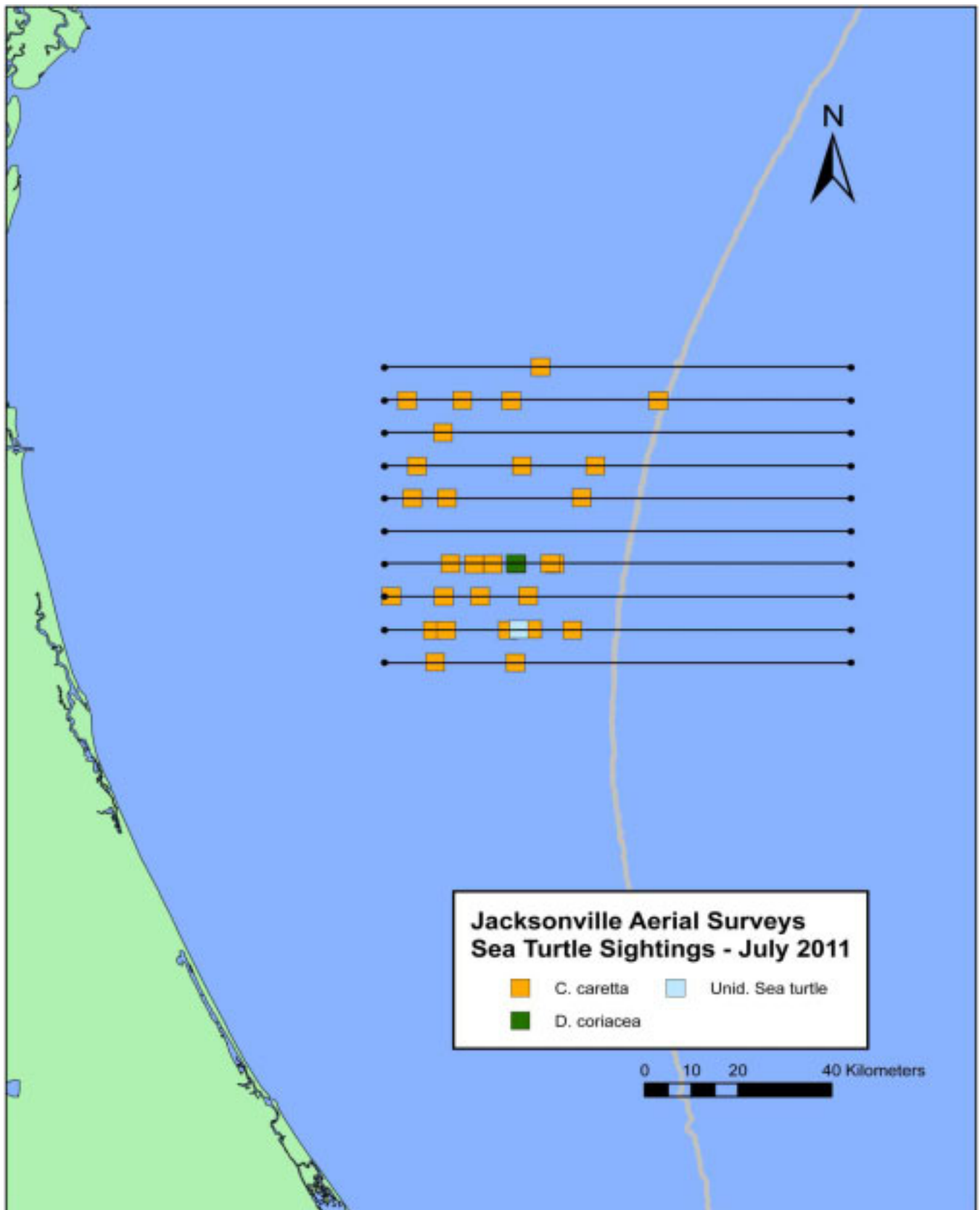


Figure 4. Sea turtles observed during aerial surveys in the Jacksonville study area for July 2011.

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