



Alaska Research Associates, Inc.

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Memorandum

To: Monty Worthington, ORPC AK
From: Marc Bourdon, Tamara McGuire, LGL
Date: August 3, 2010
Re: LGL Monthly Progress Report -August 2010

This is a progress report of a study by LGL Alaska Research Associates, Inc., sponsored by ORPC Alaska to monitor beluga whale presence, relative abundance, and behavior off of the north side of Fire Island, Upper Cook Inlet, Alaska. Information presented in this report provides baseline data on beluga whale presence, relative abundance, and surface behavior in and near the Cook Inlet Tidal Energy Project Proposed Deployment Area. This report covers beluga whale observation activities during August 2010.

Objectives

The study has two primary objectives:

1. Estimate the frequency of occurrence, relative abundance, and surface behavior of beluga whales in and near the proposed Deployment Area during ice-free months of 2010.
2. Provide information to ORPC on beluga whale sightings and locations relative to the Cook Inlet Tidal Energy Project.

Monitoring Effort

Monitoring was conducted on five days during August 2010 (44.10 hours total, Table 1) from the observation site near Race Point, Fire Island. Observation teams chartered a small fixed-wing aircraft to travel daily between Anchorage and Fire Island. Observers looked for belugas during the flights, and had a grid-cell map, a GPS, and a clinometer onboard to record the flight paths and any belugas sighted. Figure 1 displays the flight paths.

Environmental Conditions

Environmental conditions were recorded for every hour of observation during the month of August. Sighting conditions were ranked as good, fair, or poor, based on the presence of wind, whitecaps, sun glare, rain, haze, snow, and fog. Sighting conditions were reported as good on zero days, fair on five days, and poor on zero days. Observers were able to see to the far shore (along the Susitna Flats) on all observation days. Mean wind speed was 6.7 km/h, with values ranging from 0-22.0 km/h. Seas were generally calm, with a mean Beaufort Sea State of 1.95 (1 = ripples, without foam crests, and 2 = small wavelets, crests do not break). Mean air temperature was 15.6° C, with values ranging from 12.1° to 21.2° C. Rain was noted during eight hours over three days; fog was noted during seven hours over two days.

Vessels and Vessel Activity

All vessel activity in or near the proposed Deployment Area was monitored by the observation crew in August. Vessels were observed transiting in or near the proposed Deployment Area: two tugs were seen on one day; a skiff was seen on one day; and the Terrasond vessel was seen on two days (during the deployment of the acoustic monitoring equipment).

Bird Sightings

Observers looked for and recorded birds on the water in and near the proposed Deployment Area during all observation days in August. No birds were observed in or near the proposed Deployment Area in August.

Beluga Whale Sightings

Belugas were sighted on three of the five observation days in August (Table 2). Belugas were not seen in or near the proposed Deployment Area (Tables 1 and 2). Locations of the sightings during August are shown in Figures 2 through 5. Belugas were seen on August 26th during the crew-transport flight near Westchester Lagoon (Figure 5).

Additional Marine Mammal Sightings

No additional marine mammals were sighted.

Upcoming Field Research

Visual monitoring is scheduled to occur for seven days between September 2 and September 9 in an effort to compare visual and acoustic monitoring. Following September 9, visual observations will continue twice a week until November 12 (weather permitting).

Table 1. Monitoring effort during August 2010 is summarized by date and location.

Day	Date	Shift Start	Shift Stop	Total Hours of Observation	Belugas Sighted	Belugas sighted in or near the proposed Deployment Area?
1	2010AUGUST03	9:20	16:10	6.80	YES	NO
2	2010AUGUST10	9:20	16:16	7.10	YES	NO
3	2010AUGUST17	9:10	16:06	6.90	NO	NO
4	2010AUGUST26	11:07	22:20	12.15	YES	NO
5	2010AUGUST27	7:30	16:45	11.15	NO	NO

Table 2. Beluga whale sightings during August 2010 are summarized by date.

Date	Time	White	Gray	Calves	Unknown	Total	Group	1° Activity ¹	2° Activity	Spread ²	Direction ³	Formation ⁴	Belugas sighted within or near proposed Deployment Area?
2010 AUGUST03	11:20 - 15:30	11	0	0	0	11	1	U	U	U	U	U	No
2010 AUGUST10	9:35 - 14:33	5	0	0	0	5	1	U	U	U	U	U	No
2010 AUGUST26	15:03 - 16:51	6	0	0	0	6	1	U	U	U	U	U	No

1 Activity		2 Spreads (Body Length)		3 Direction		4 Formations			
Traveling	T	Resting	R	<1	1	Variable	V	Circular	C
Socialize	S	Spy Hop	SH	1-3	3	Unknown	U	Parallel	P
Dive	D	Milling	M	4-7	7	North	N	Linear	L
Feeding Observed	FO	Other	O	8-12	12	South	S	Echelon	E
Feeding Suspected	FS	Unknown	U	>13	13	East	E	No Formation	NF
				Unknown	U	West	W	Unknown	U

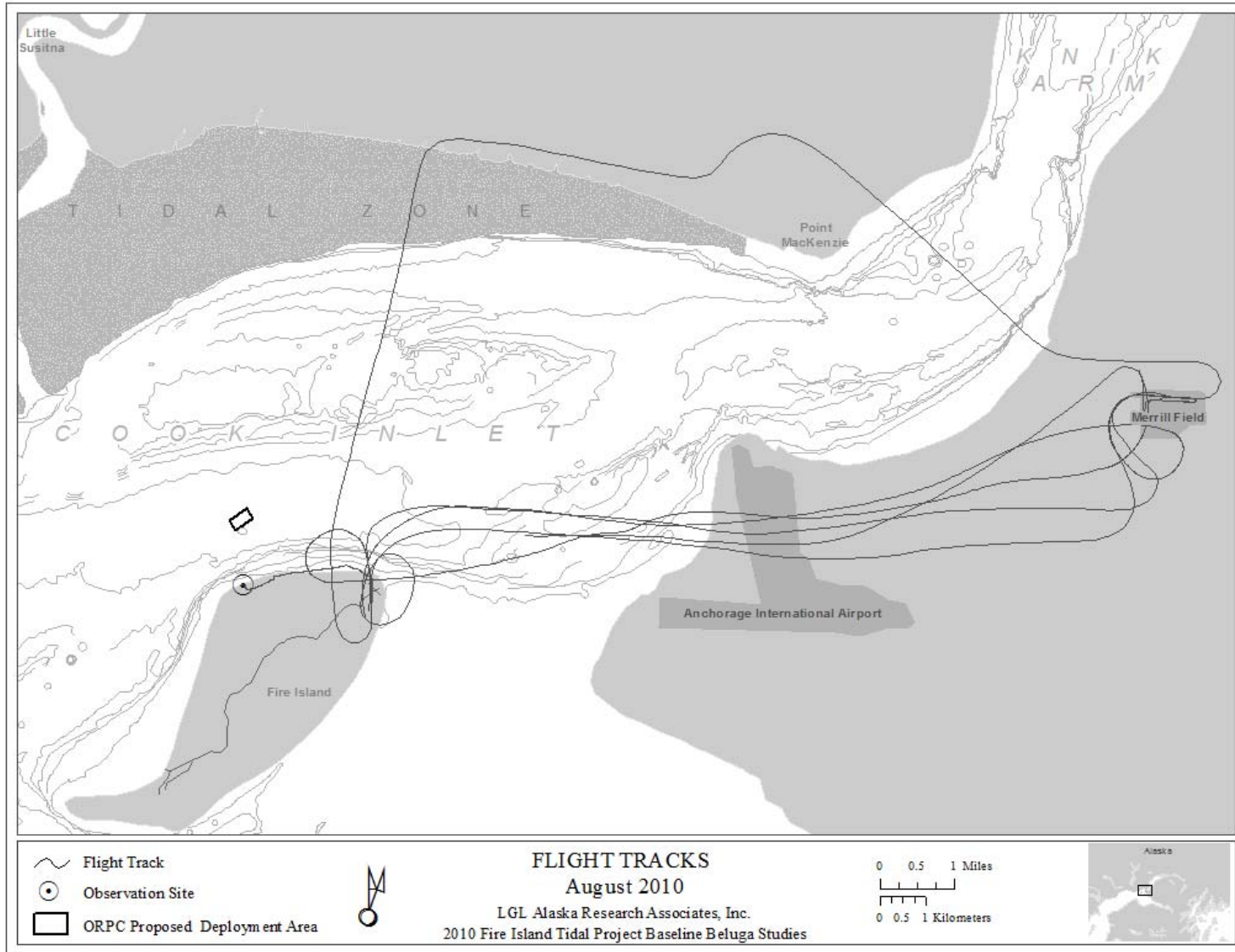


Figure 1. Paths of crew-transport flights in August 2010.

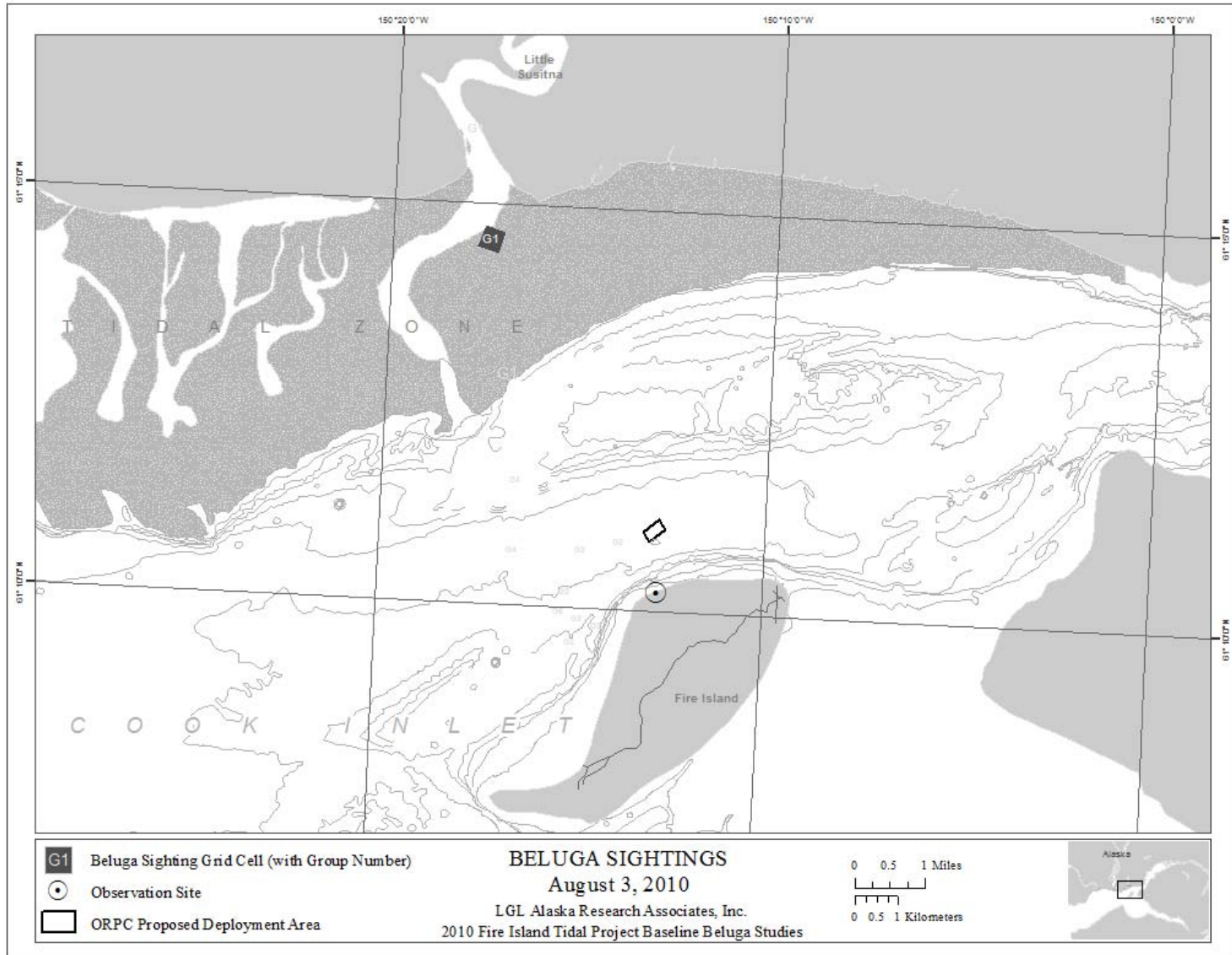


Figure 2. Locations of beluga whales sighted on August 3, 2010.

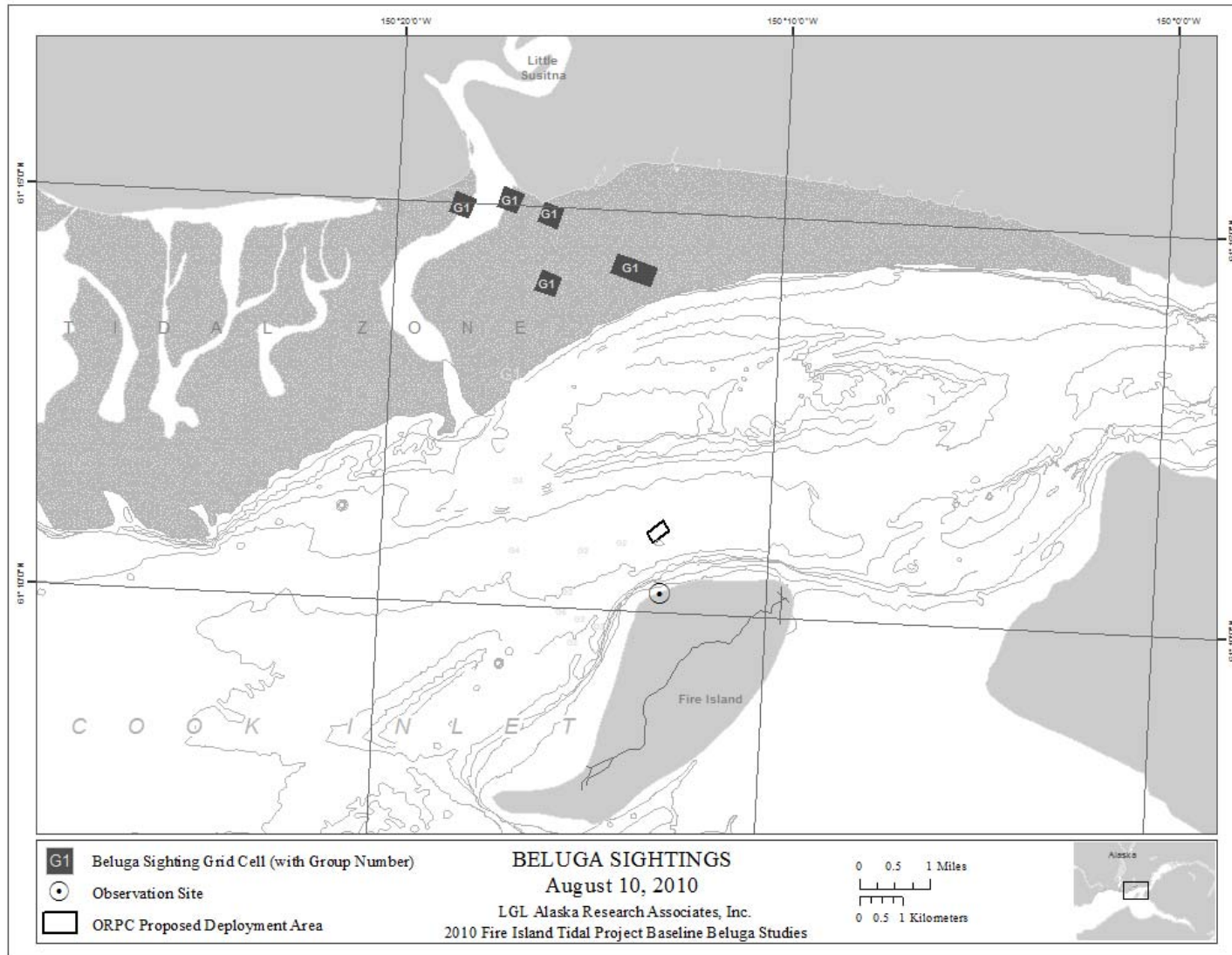


Figure 3. Locations of beluga whales sighted on August 10, 2010.

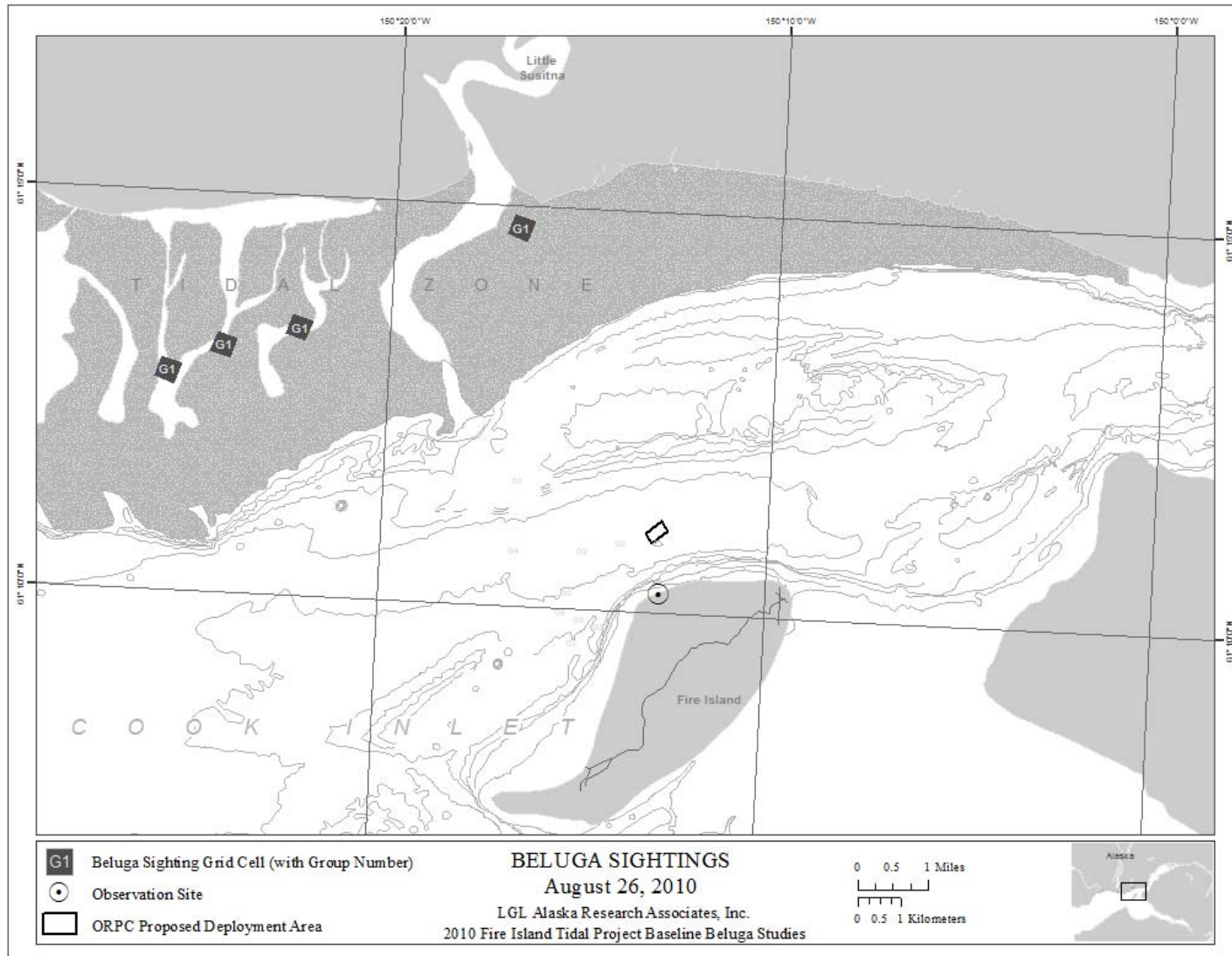


Figure 4. Locations of beluga whales sighted on August 26, 2010.

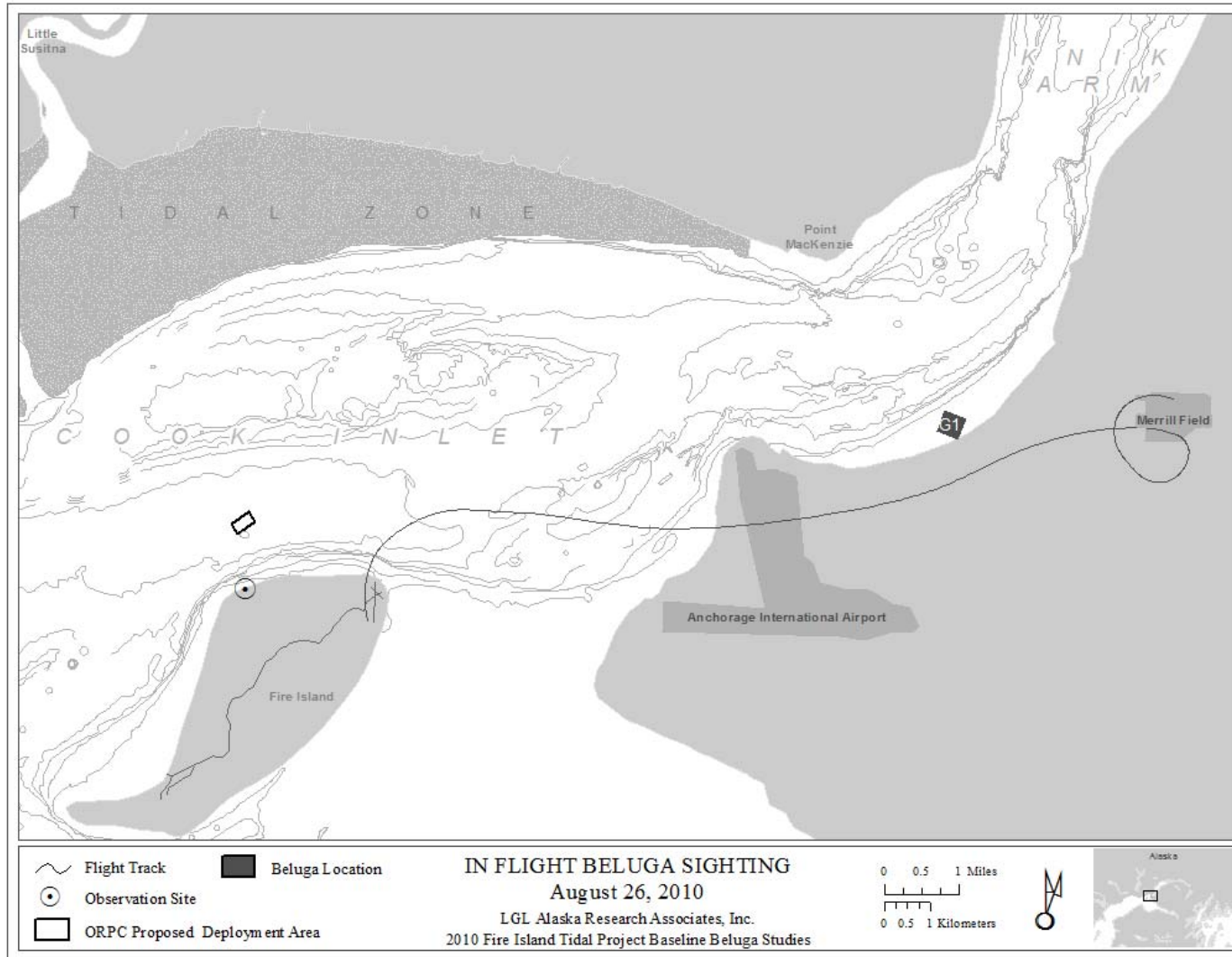


Figure 5. Location of beluga whales sighted on August 26, 2010 during crew transportation.