



Alaska Research Associates, Inc.

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Memorandum

To: Monty Worthington, ORPC AK
From: Tamara McGuire, Marc Bourdon, LGL
Date: June 1, 2010
Re: LGL Monthly Progress Report -May 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 May 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 six days during May 2010 (42.17 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. Observations were not conducted the week of May 10-14 due to high winds preventing the use of the crew transport aircraft.

Environmental Conditions

Environmental conditions were recorded for every hour of observation during the month of May. 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 four days, fair on one day, and poor on one day. Observers were able to see to the far shore (along the Susitna Flats) on all observation days. Mean wind speed was 4.3 km/h, with values ranging from 0-13.5 km/h. Seas were generally calm, with a mean Beaufort Sea State of 0.5 (1 = ripples, without foam crests, and 2 = small wavelets, crests do not break). Mean air temperature was 16.3° C, with values ranging from 8.0° –25.8 ° C. Rain was noted during one hour of a single day; otherwise precipitation (rain, snow) did not occur during observation hours.

Vessels and Vessel Activity

All vessel activity in or near the proposed Deployment Area was monitored by the observation crew in May. Vessels were observed transiting in or near the proposed Deployment Area: a tug was seen on one day; tugs with barges were seen on two days; container ships were seen on two days; skiffs were seen on two days; and a motorized barge was seen on one day.

Bird Sightings

Observers looked for and recorded birds on the water in and near the proposed Deployment Area during all observation days in May. Only one bird event was observed for this month, during which five gulls, three loons, and 30 surf scoters were all seen near the proposed Deployment Area during the same hour on May 21, 2010.

Beluga Whale Sightings

Belugas were sighted on five of the six observation days in May (Table 1). Belugas were sighted near the proposed Deployment Area on two observation days. Locations of the sightings during May are shown in Figures 2 through 6. Beluga calves were seen in two different groups on May 4, and in one group on May 18 (Table 2). Belugas were not seen during any of the crew-transport flights.

Additional Marine Mammal Sightings

A harbor seal was sighted on May 27 (Figure 7).

Upcoming Field Research

May 4 was the first day of the 2010 field season, which is scheduled to run until November 12 (weather permitting). Monitoring is scheduled to occur two days per week, with an average of seven hours of monitoring per day.

Table 1. Monitoring effort during May 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	2010MAY04	9:10	16:10	7.00	Yes	Yes
2	2010MAY05	9:10	16:10	7.00	No	No
3	2010MAY18	9:13	16:13	7.00	Yes	Yes
4	2010MAY21	8:58	16:00	7.00	Yes	No
5	2010MAY27	9:10	16:20	7.17	Yes	No
6	2010MAY28	9:03	16:03	7.00	Yes	No

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

Date	Time	White	Gray	Calves	Unknown	Total	Group 1°		Activity	Spread ²	Direction ³	Formation ⁴	Belugas sighted within or near proposed Deployment Area?
							#	Activity ^{2°}					
2010MAY04	10:35-10:35	1	0	0	0	1	1	T	U	na	W	NF	No
2010MAY04	10:57-11:36	1	0	1	0	2	2	T	D	3	W	L	Yes
2010MAY04	11:26-11:26	1	0	0	0	1	3	T	U	na	W	NF	No
2010MAY04	12:13-12:13	1	0	0	0	1	4	T	U	na	SW	NF	No
2010MAY04	15:25-15:25	0	0	1	5	6	5	T	U	13	NE	NF	No
2010MAY18	10:41-10:55	2	0	2	0	4	1	T	D	3	S	U	Yes
2010MAY21	08:58-9:46	52	5	0	0	57	1	T	U	U	U	NF	No
2010MAY21	13:39-14:51	34	0	0	0	34	2	U	U	U	U	U	No
2010MAY27	11:15-11:15	100	0	0	0	100	1	U	U	U	U	U	No
2010MAY28	9:35-9:35	0	0	0	58	58	1	FS	M	>13	na	L	No
2010MAY28	13:04-16:05	0	0	0	62	62	2	T/FS	M	>13	W	L	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			Parallel	P
Dive	D	Milling	M	4-7	7			Linear	L
Feeding Observed	FO	Other	O	8-12	12			Echelon	E
Feeding Suspected	FS	Unknown	U	>13	13			No Formation	NF
				Unknown	U			Unknown	U

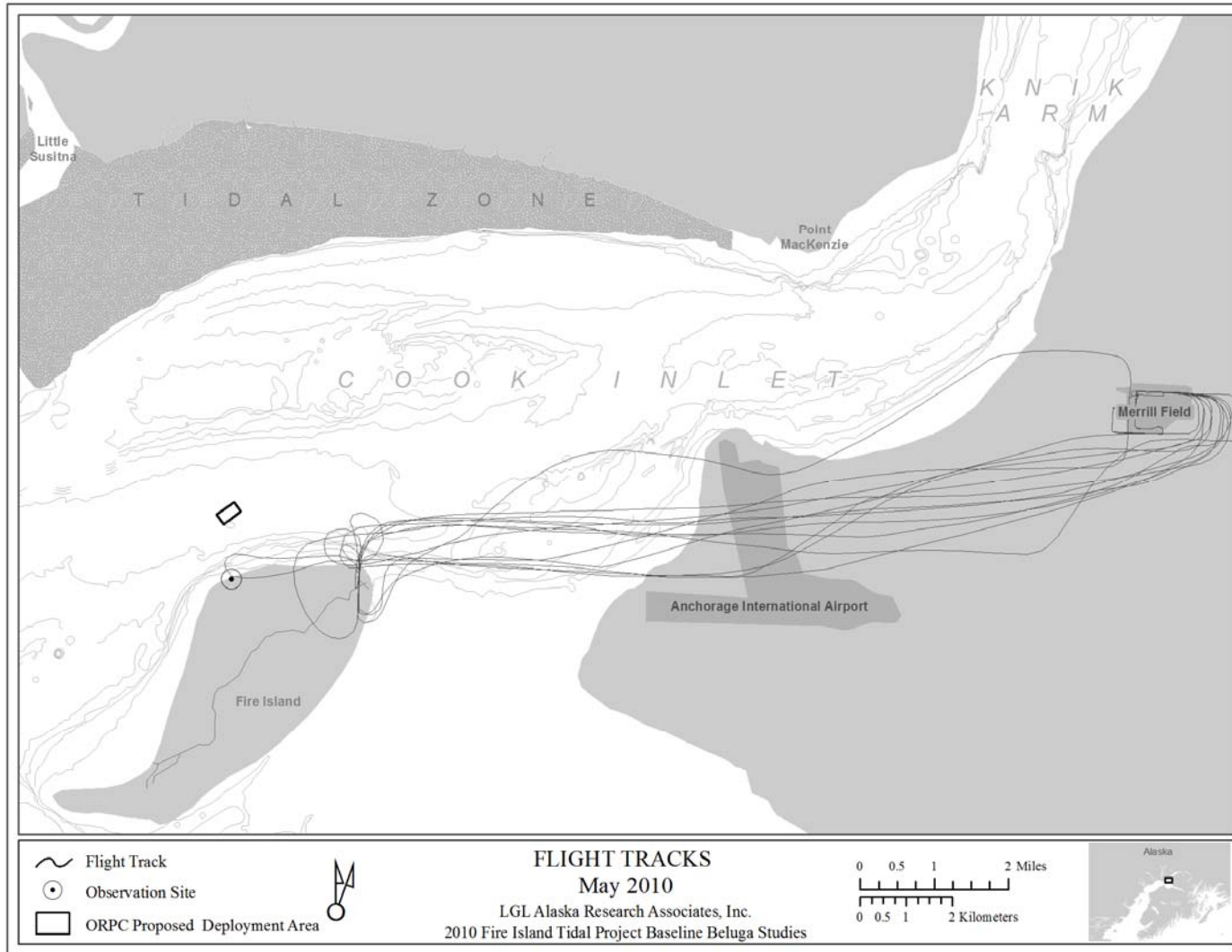


Figure 1. Paths of crew-transport flights in May 2010.

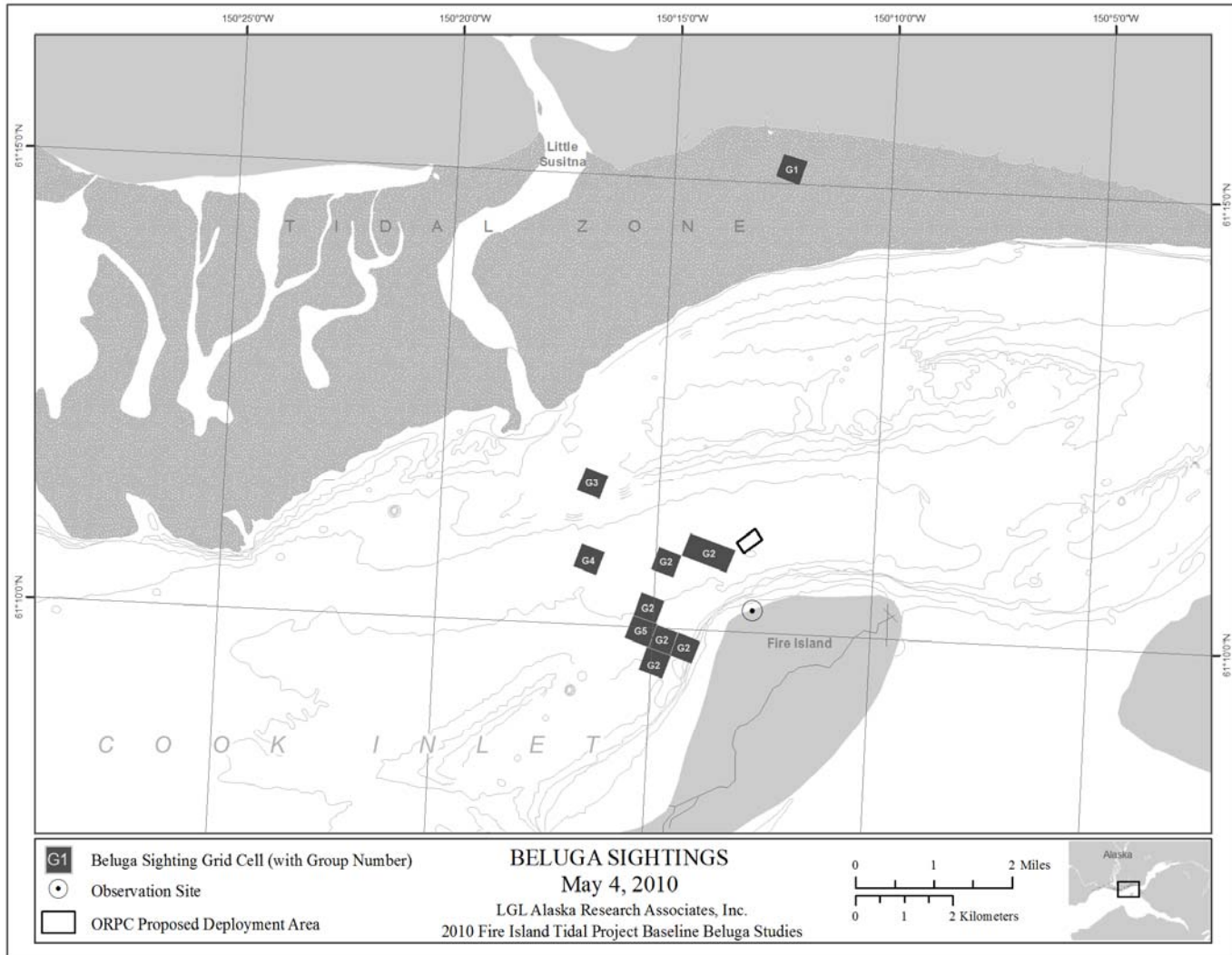


Figure 2. Locations of beluga whales sighted on May 4, 2010.

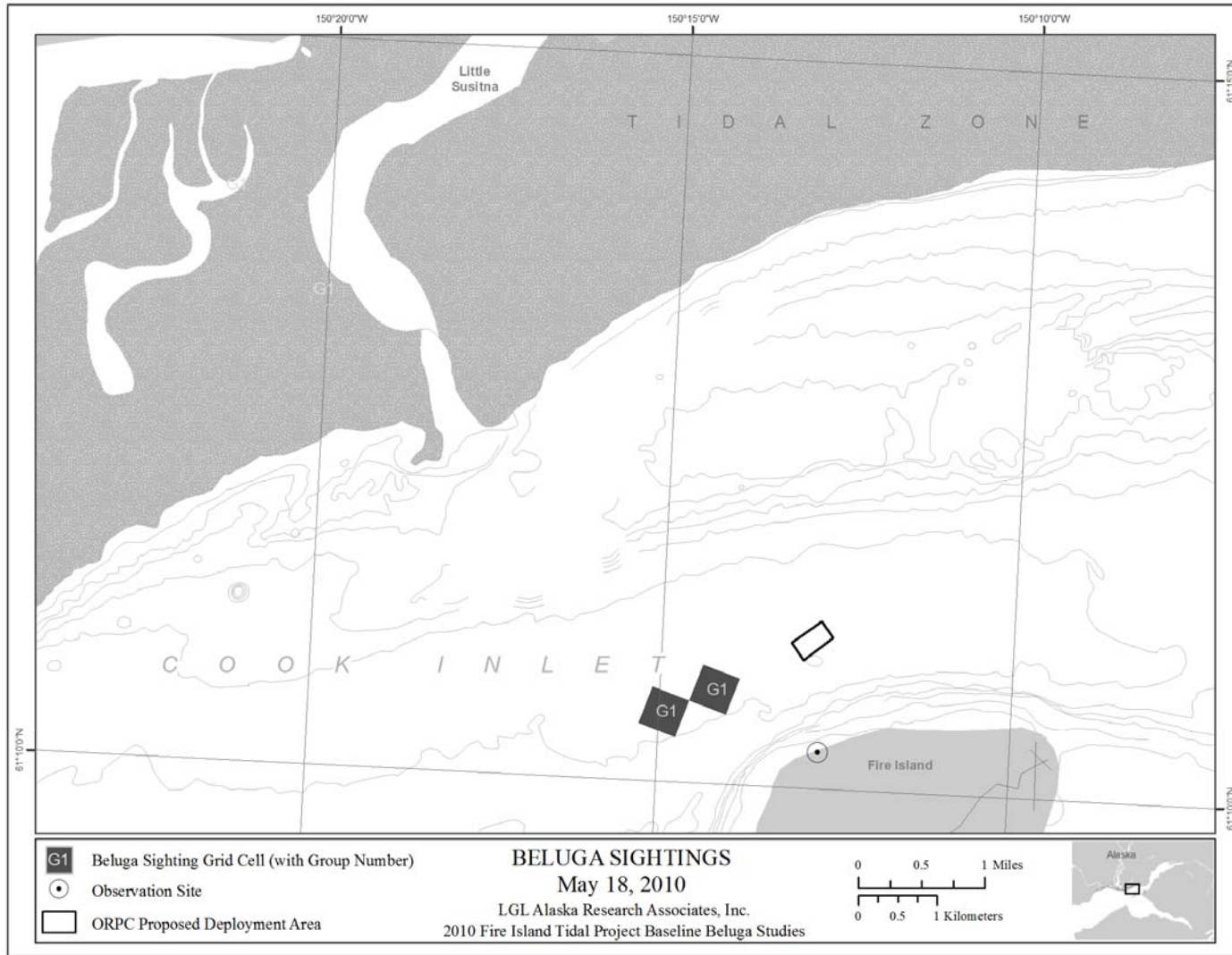


Figure 3. Locations of beluga whales sighted on May 18, 2010.

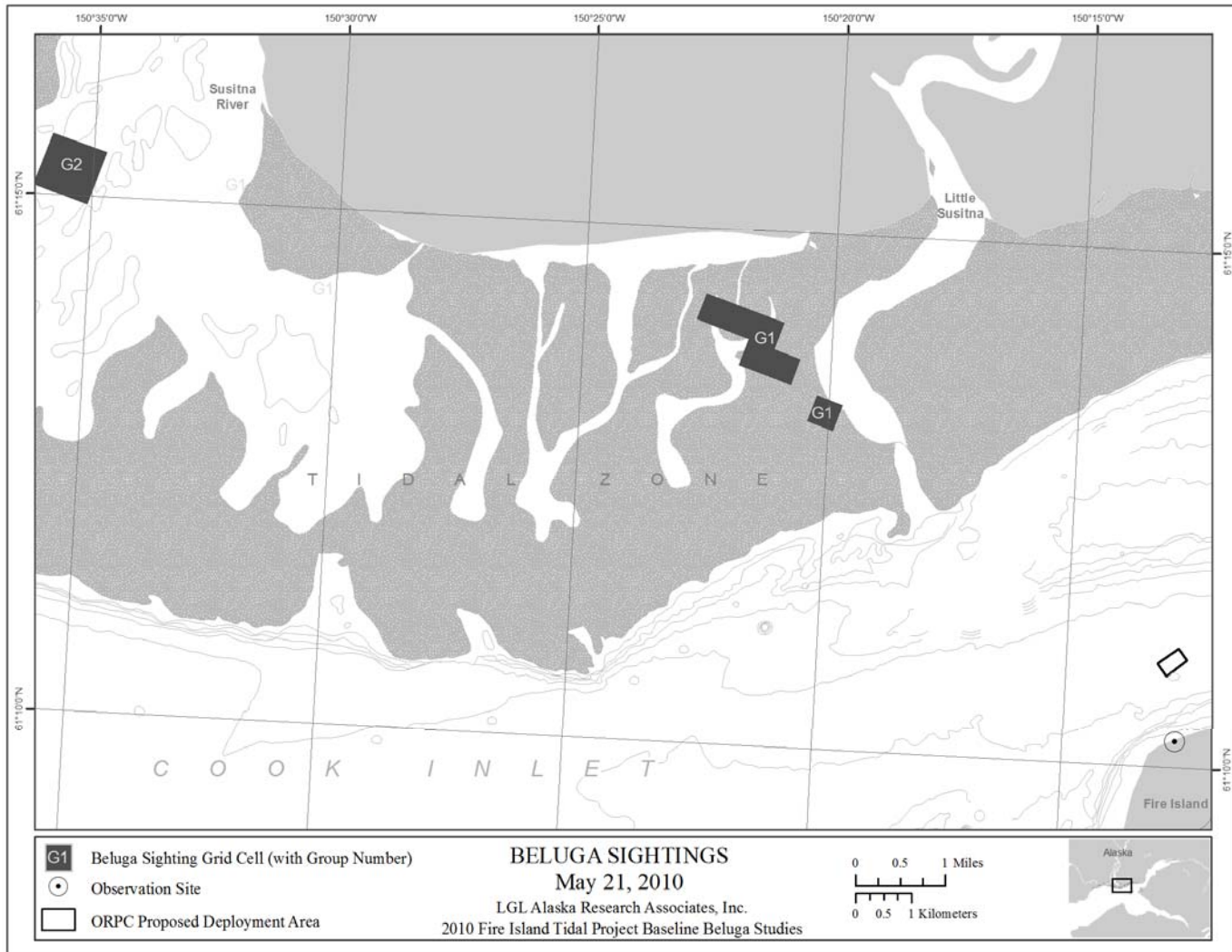


Figure 4. Locations of beluga whales sighted on May 21, 2010.

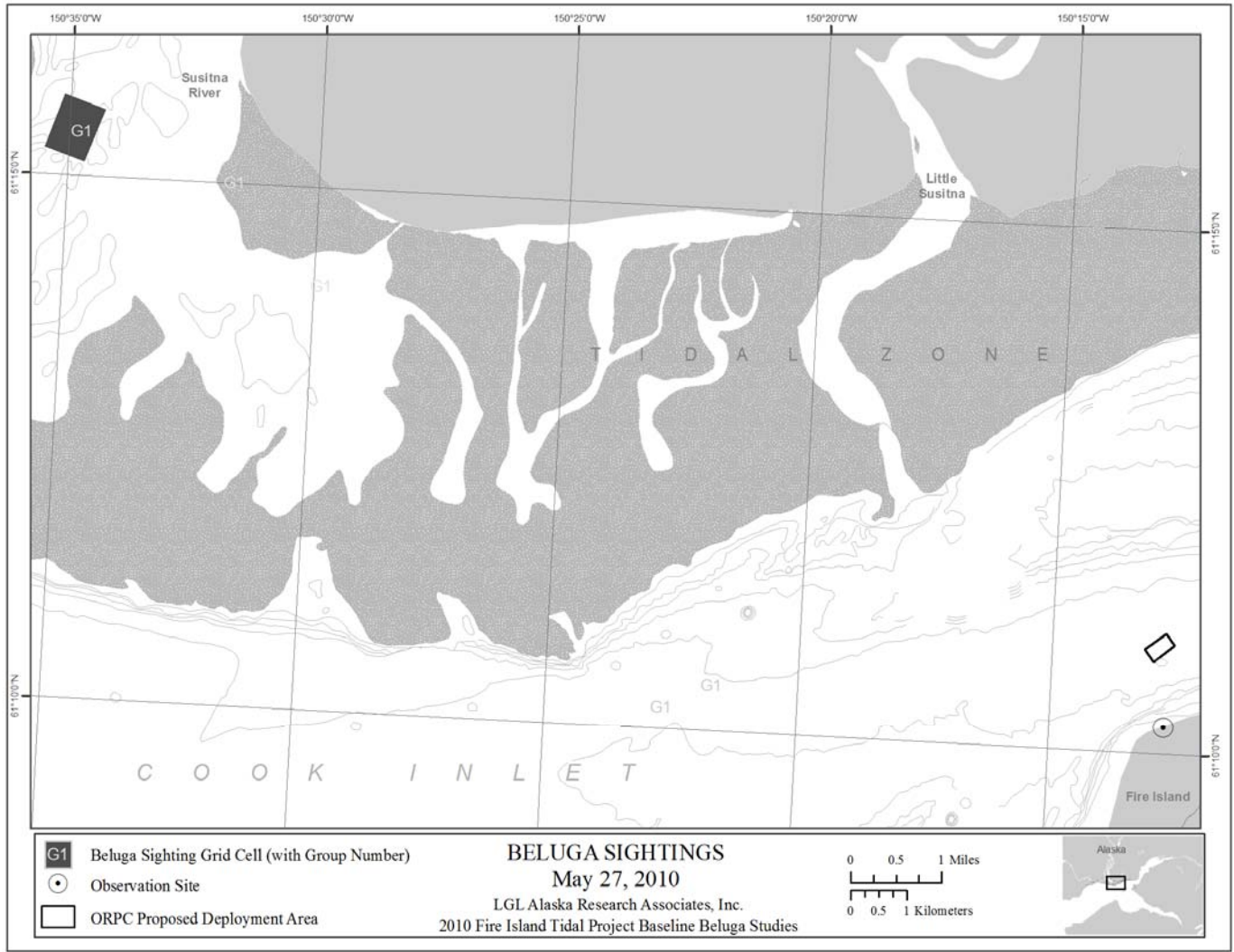


Figure 5. Locations of beluga whales sighted on May 27, 2010.

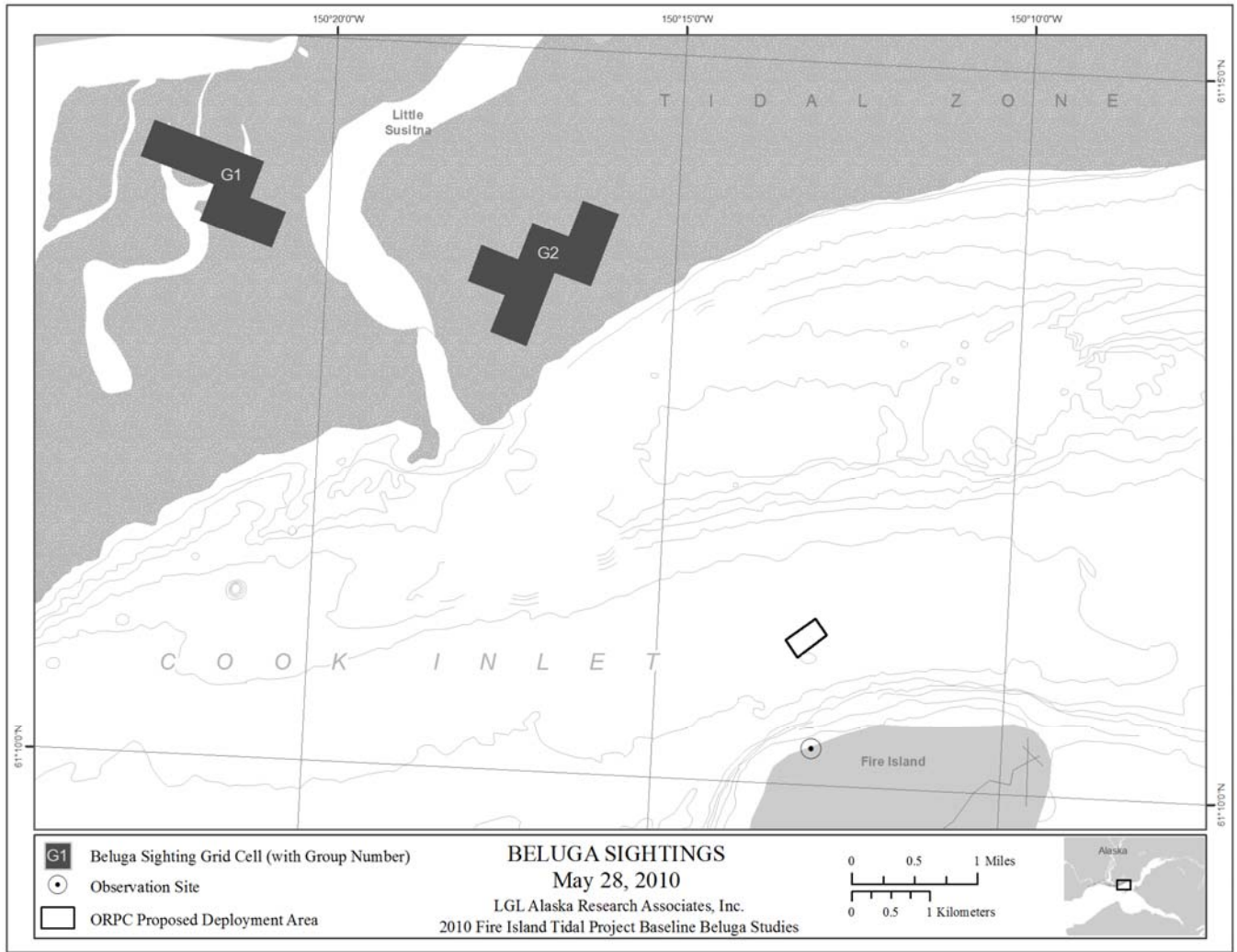


Figure 6. Locations of beluga whales sighted on May 28, 2010.

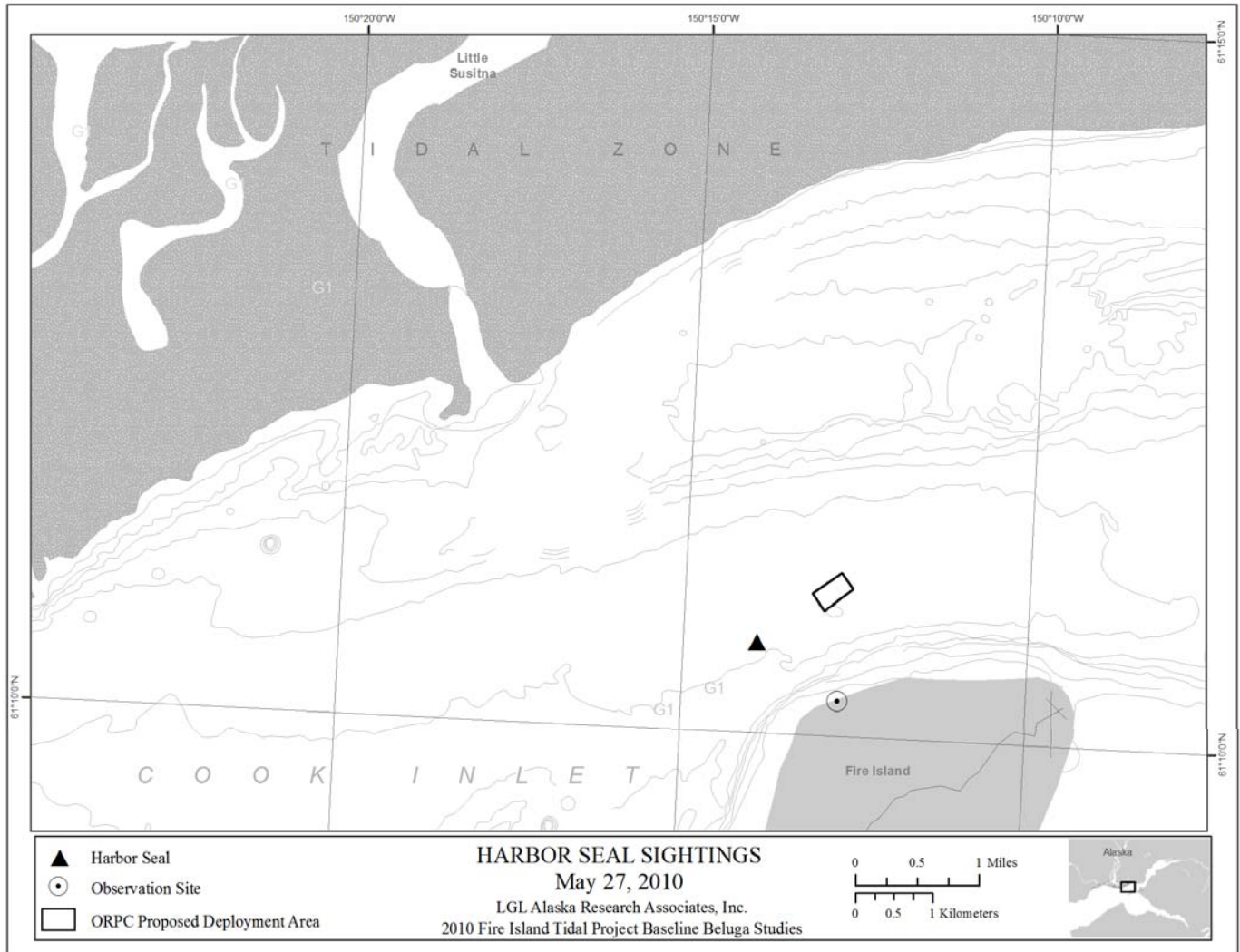


Figure 7. Location of harbor seal sighted on May 27, 2010.