



Alaska Research Associates, Inc.

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Memorandum

To: Monty Worthington, ORPC Alaska
From: Marc Bourdon, Tamara McGuire, LGL
Date: November 5, 2010
Re: LGL Monthly Progress Report -October 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 October 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 seven days during October 2010 (44.96 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 October. 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 two 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 7.2 km/h, with values ranging from 0-28.8 km/h. Seas were generally calm, with a mean Beaufort Sea State of 1.3 (1 = ripples, without foam crests, and 2 = small wavelets, crests do not break). Mean air temperature was 3.5° C, with values ranging from -3.8 to 7.9° C. Rain was noted during twelve 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 October. Vessels were observed transiting in or near the proposed Deployment Area: a barge was seen on one day, and the Terrasond vessel 'Landing Craft' was seen on two days (during the deployment and recovery of passive acoustic monitoring equipment that is part of ORPC's DOE funded beluga monitoring project).

Bird Sightings

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

Beluga Whale Sightings

Belugas were sighted on two of the seven observation days in October (Table 2). Two belugas were briefly seen near the proposed Deployment Area on October 21 and one beluga was briefly seen near the proposed Deployment Area on October 23 (Tables 1 and 2). Locations of the sightings during October are shown in Figures 2 and 3. No belugas were seen during the crew-transport flights.

Additional Marine Mammal Sightings

No additional marine mammals were sighted.

Upcoming Field Research

Visual monitoring is scheduled to continue twice a week until November 12 (weather permitting).

Table 1. Monitoring effort during October 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	2010OCT06	9:50	16:30	6.67	NO	NO
2	2010OCT11	9:50	16:30	6.67	NO	NO
3	2010OCT15	9:40	16:30	6.83	NO	NO
4	2010OCT21	9:50	15:00	5.17	YES	YES
5	2010OCT22	9:50	17:00	7.17	NO	NO
6	2010OCT23	10:05	17:05	7.00	YES	YES
7	2010OCT25	10:33	16:00	5.45	NO	NO

Table 2. Beluga whale sightings during October 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?
2010OCT21	11:25	1	1	0	0	2	1	T	U	1	W	N/A	Y
2010OCT23	14:57 – 15:00	1	0	0	0	1	1	T	U	N/A	NE	N/A	Y

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

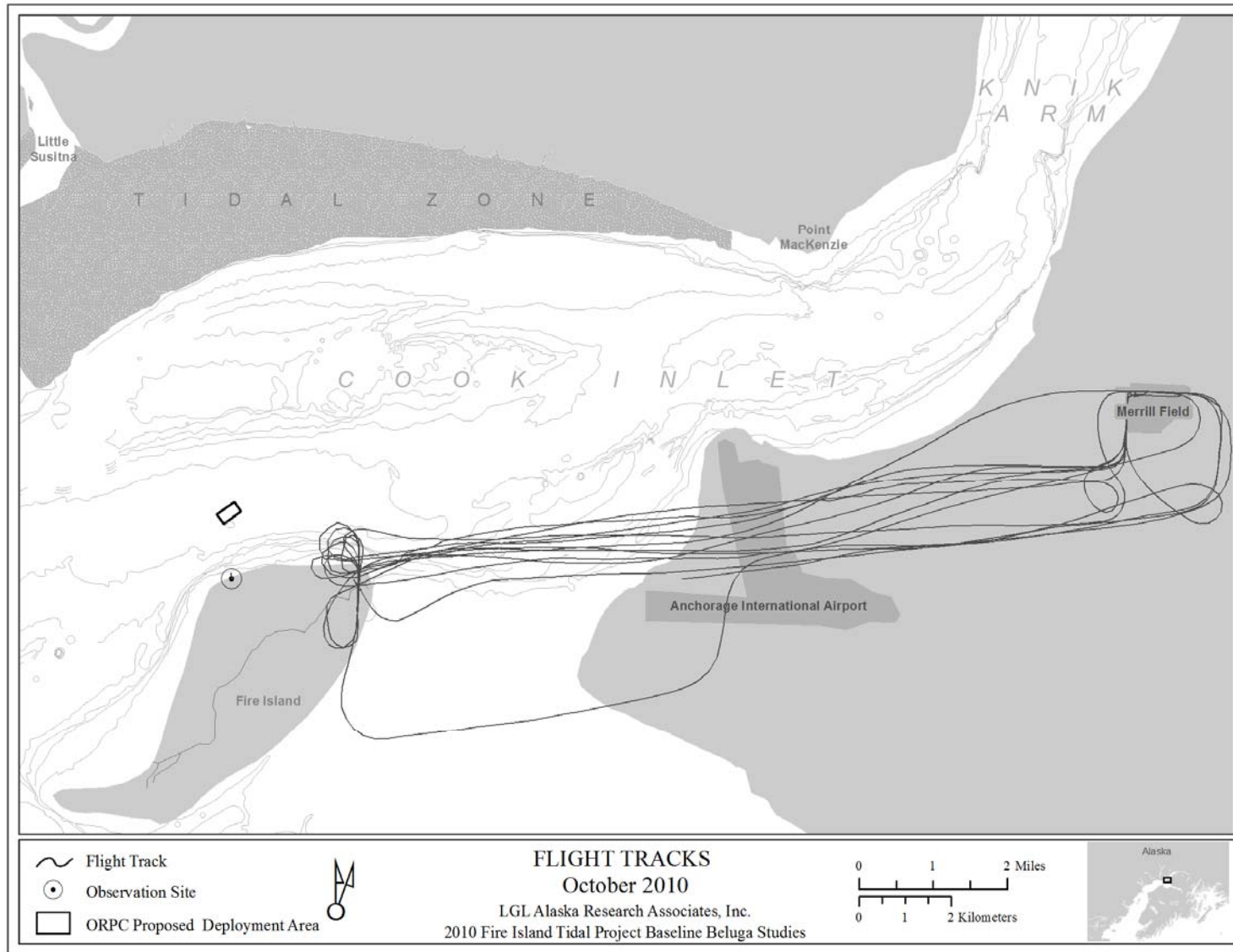


Figure 1. Paths of crew-transport flights in October 2010.

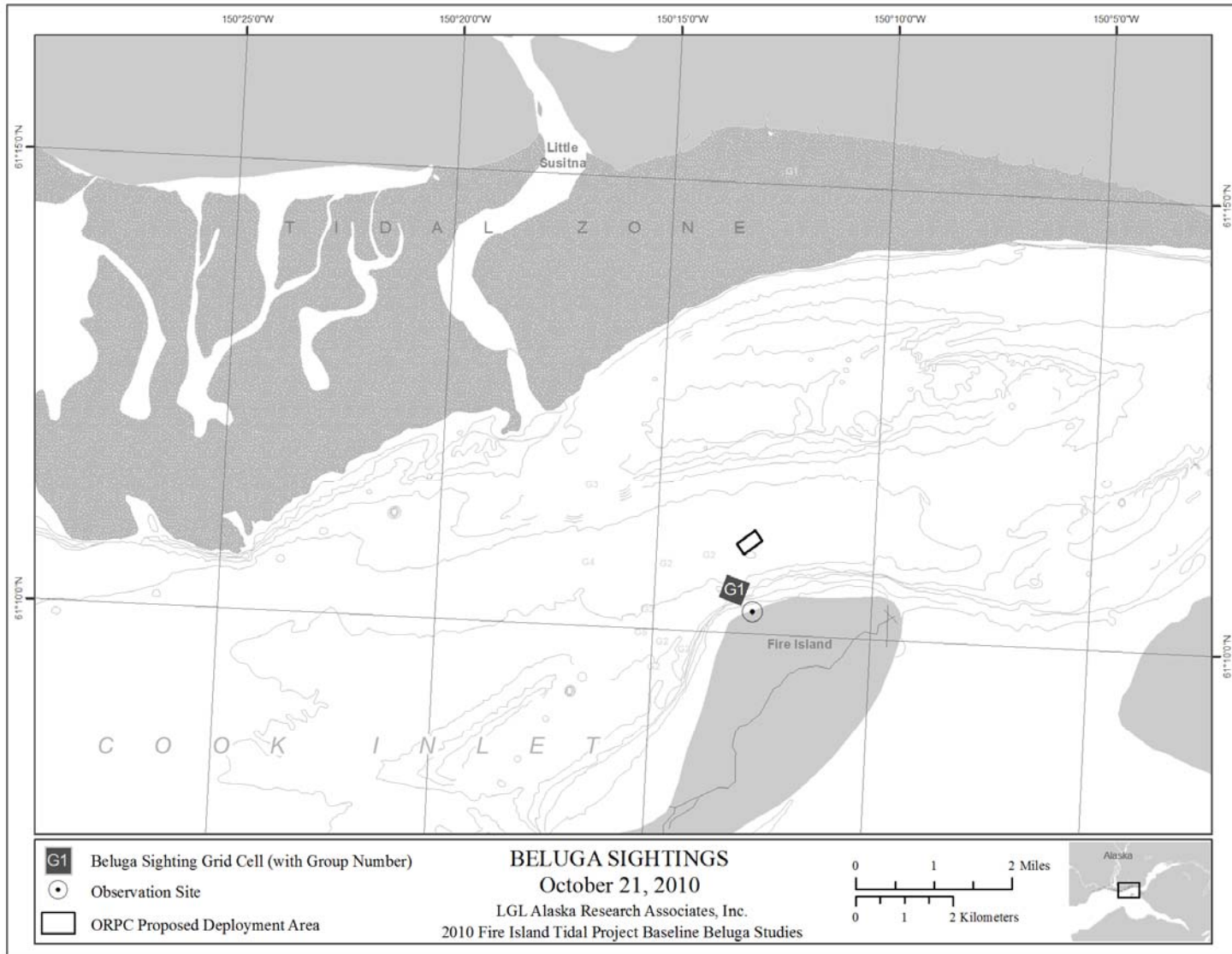


Figure 2. Location of beluga whales sighted on October 21, 2010.

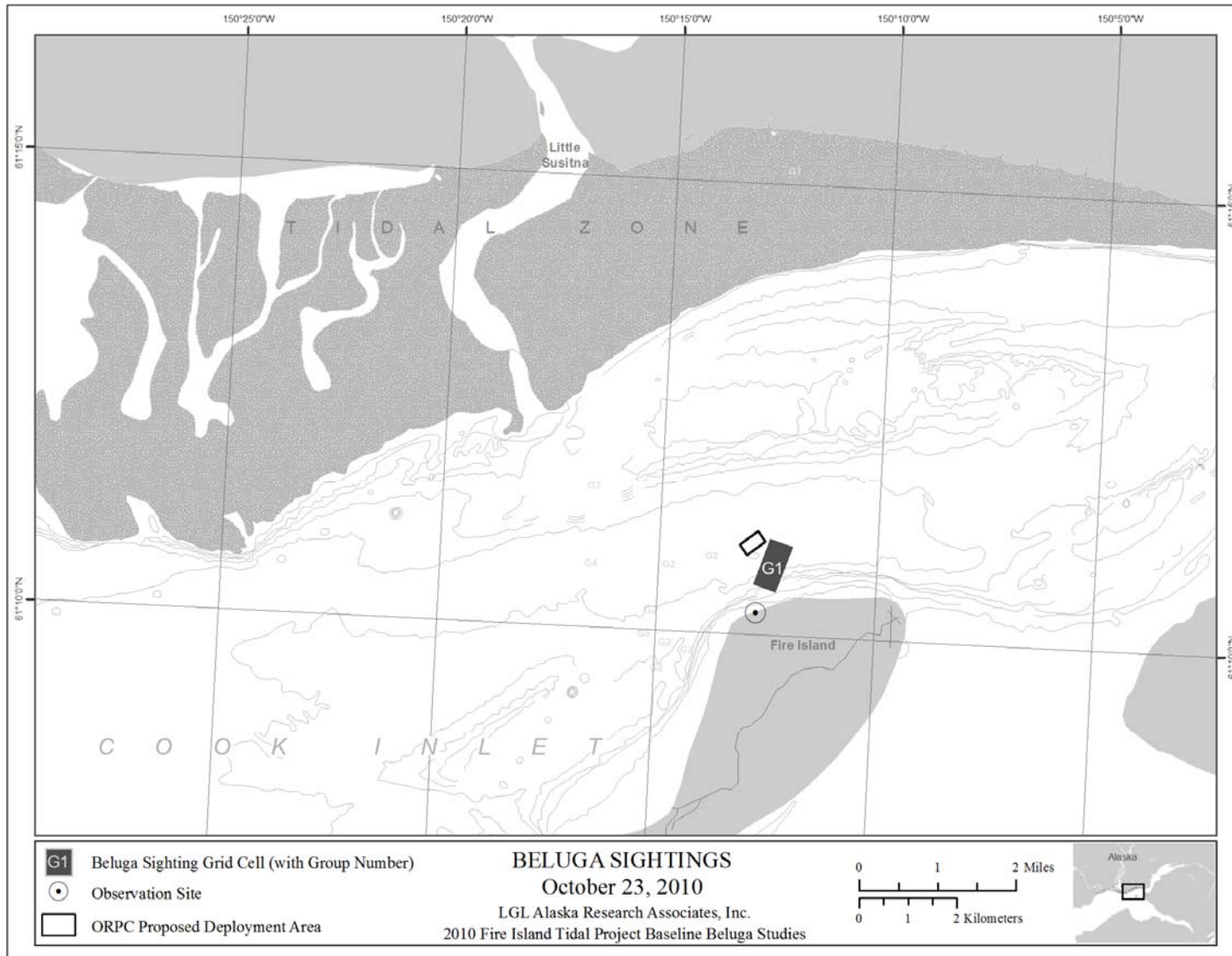


Figure 3. Location of beluga whale sighted on October 23, 2010.