

# **Chuitna Coal Project**

## **Monthly project report for marine fish and mammal studies – April 1 through April 30, 2006**

Submitted electronically

To

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## **Introduction**

This progress report covers surveys conducted in the month of April, 2006 to describe marine fish and mammals on the west side of upper Cook Inlet. April marked the start of surveys for the project, and consisted entirely of land-based observations for marine mammals in the area near Ladd Landing.

The observations in April were conducted on six days in April, all at the Ladd Landing station (Figure 1). Observations began on April 13, slightly ahead of schedule. Each observation consisted of six hours spent by a single observer, for a total of 36 observational hours in April. Weather and sea conditions were good to excellent for marine mammal observations on all six dates. The only marine mammals seen were harbor seals (*Phoca vitulina*). Additional surveys of marine mammals and fish will begin in May, and will be addressed in following progress reports.

Much of April was dedicated to project logistics, equipment preparation, staff mobilization, and development of scientific protocols. Major aspects of these efforts are also included in this progress report.

## **Surveys – effort and results**

### **Land-based whale observations**

#### *Locations*

Observation stations were scouted in the Ladd area from land and from a helicopter on March 29, 2006. Based on this survey, a small clearing was selected for the main observation station at Ladd Landing. This station, referred to hereafter as LLS, is on a bluff located just north of the parking area at Ladd Landing (Figure 1). The bluff is classified as higher than 10 m; the exact height will be surveyed in May. The station has a clear field of view for approximately 200 degrees (Photos 1 and 2); visibility is not expected to decrease once leaves appear in the spring. The Chuitna River mouth lies to the south and is not in the field of view (Photo 2).

#### *Effort*

Observation were made for six hours on each of six days in April, for a total of 36 observation hours (Table 1). Observations were from approximately 09:00-15:00 each shift, with a total range from 08:30 to 15:20. These observations covered each of the six major tidal stages a minimum of three times (Table 1).

### *Beluga whale sightings*

No beluga whales (*Delphinapterus leucas*) were sighted during the month of April (Table 1).

### *Other marine mammal sightings*

A single harbor seal was sighted once on April 19, three times on April 21, and once on April 24 (Table 1). It is not known if this was the same seal or different ones each time. Four of these sightings were directly off shore (within 1000 m) of the observation site; the fifth was approximately 2000 m off shore of the Ladd townsite near the Chuitna River mouth. No other marine mammals were seen in April (Table 1).

### *Survey conditions*

Weather and sea conditions were favorable for marine mammal observations during all survey dates in April. Sea state (Beaufort scale) was always 2 or less, meaning that it ranged from flat calm to small wavelets, and did not have breaking crests that could interfere with marine mammal sightings (Figure 2). Visibility was always greater than 10 km, with the mountains on the eastern shore nearly always visible. Overall, conditions were rated “Excellent” 83% of the time and “Average” the remaining 17%. Small amounts of sea ice were present intermittently, through April. This ice was blocks of beach ice that were intermittently grounded and floated free from the intertidal zone.

### *Anecdotal and non-LGL whale information*

Two local residents were queried about beluga whale observations in April. Peter Merryman was queried about whale sightings on April 28. Mr. Merryman had been in Anchorage for the past 2 weeks, and had not heard of whales arriving to the area around Tyonek yet.

Bob Freeman volunteered to keep a field notebook for beluga whale observations in the Ladd / Beluga area. On April 30, Mr. Freeman observed three adult beluga whales while unloading a barge at Grant’s Landing. The whales were heading north at approximately 20:00, on a high flood tide scheduled to peak at 21:15 PM in Anchorage.

### **Boat-based whale surveys**

This program was scheduled to begin in early May and will be described in the next progress report (due June 15). Efforts through April included gear preparation, preparing the database, and planning to get the boat and trailer from Anchorage to Ladd.

### **Fish surveys – intertidal and offshore**

This program was schedule to begin in early May and will be described in the next progress report (due June 15). Efforts through April included retrofitting the survey vessel for acoustic and trawl gear, preparing the net gear, testing the boats, and finding a wet slip in Anchorage.

## **Data analysis and reporting**

Data analysis in April consisted of designing and preparing the databases for the eventual entry of marine mammal, fish, and environmental condition data. A grid of cells measuring 1 km by 1 km was also prepared in April for the eventual plotting of marine mammal and fish data (Figure 1). This document marks the first report due to date.

## **Project logistics and coordination**

### *Items from April*

Housing and travel logistics were coordinated with Conce Rock in April, and all went smoothly. A wet slip for the fish survey vessel (*R/V Nerka*) based in Anchorage was secured at the end of April, and will be rented monthly through at least May. Housing for the field crew at Ladd was secured via a monthly rental, which will allow the crew to work odd hours and weekends with minimal disruption or rescheduling difficulties.

The only major item unaddressed through April was the transfer of the *R/V Leucas* and its trailer from Anchorage to Ladd. This vessel will be used for marine mammal and intertidal fish surveys beginning in May.

### *Upcoming work in May*

Three major logistical needs stand out for May. The first is getting the *R/V Leucas* and its trailer from Anchorage to Ladd. The second is finding a feasible method for launching and retrieving the *R/V Leucas*. The most feasible launch site cannot be accessed by the project truck; assistance will likely be needed from an ATV or from Bob Freeman's custom truck. The third is selecting up to 11 beach seining sites that can be accessed from the water. These issues were all being pursued as of early May.

### Tables

Table 1. Observer effort and marine mammal group sightings by date and tidal stage at the land-based observation station at Ladd Landing (LLS) in April 2006. Marine mammal sightings are for discrete groups of animals. Tidal stages are based on predictions at Anchorage, Alaska.

Date	Observation hours	Tidal stages						Beluga whale groups	Harbor seal groups	Other marine mammal groups
		High slack	High ebb	Low ebb	Low slack	Low flood	High flood			
April 13, 2006	6.0		X	X	X			0	0	0
April 18, 2006	6.0	X	X	X			X	0	0	0
April 19, 2006	6.0	X	X	X			X	0	1	0
April 21, 2006	6.0	X	X			X	X	0	3	0
April 24, 2006	6.0			X	X	X	X	0	1	0
April 27, 2006	6.0		X	X	X	X		0	0	0
Total	36.0							0	5	0

## Figures

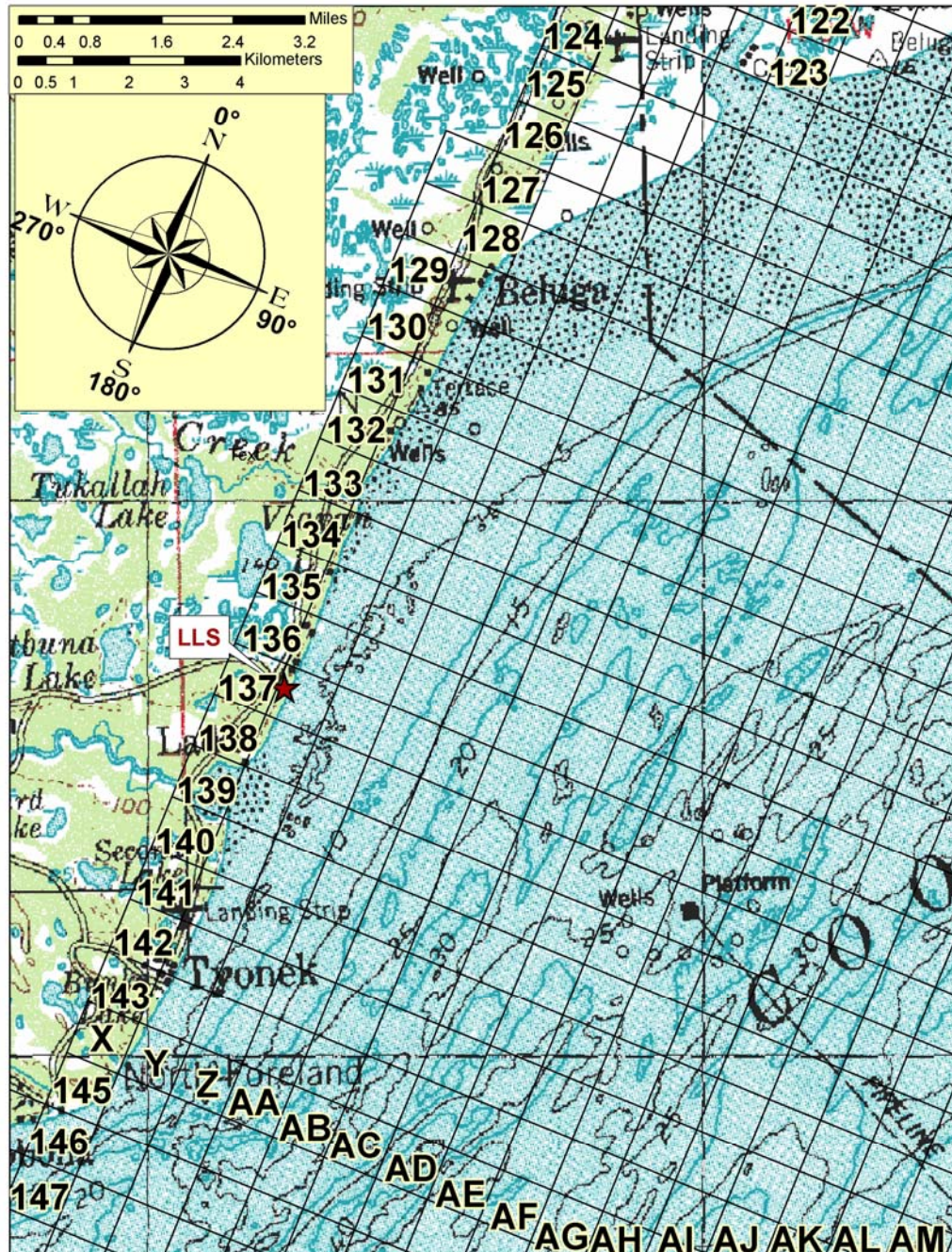


Figure 1. Map showing location of observation station at Ladd Landing, with 1 km x 1 km grid cells superimposed on marine area. Marine mammal sightings will be placed into grid cells to track movements and distribution throughout the project.

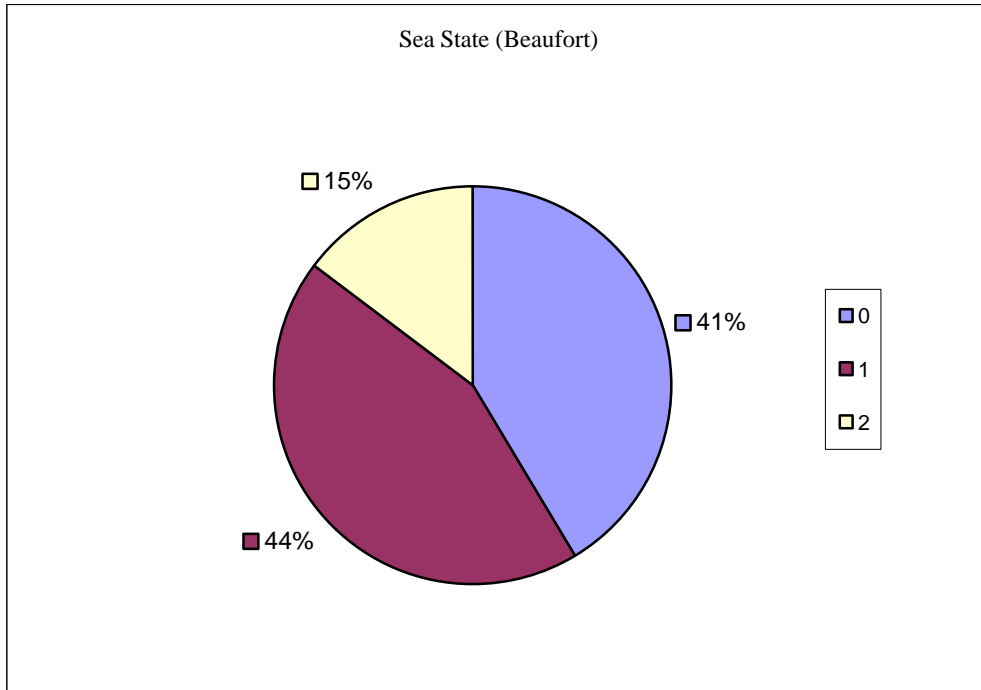


Figure 2. Beaufort sea state for land-based observations at the Ladd Landing station (LLS) in April 2006. Potential conditions range from 0 (sea like a mirror) through 4 (small waves with frequent white horses).

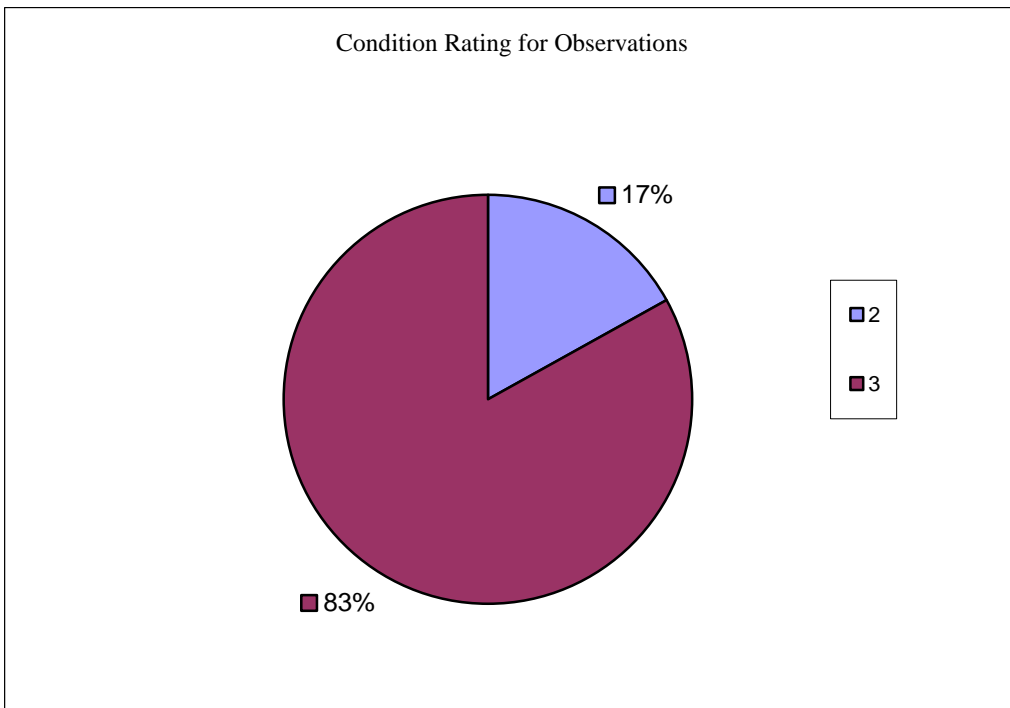


Figure 3. Overall observation condition ratings for land-based observations at the Ladd Landing station (LLS) in April 2006. Potential conditions range from 1 (worst) to 3 (best).



**Photos**



Photo 1. View to north from observation station at Ladd Landing, April 2006.



Photo 2. View to south from observation station at Ladd Landing, April 2006.



Photo 3. Harbor seal sighted from observation station at Ladd Landing in April, 2006.