

2013 Transportation Action Strategy

Marine Mammal Survey Report

Coeur Alaska Kensington Mine



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Introduction

Coeur Alaska's Berners Bay/Lynn Canal Transportation Plan (January 2008) includes the adoption of standard operating guidelines to ensure minimal disruption of marine mammals in the area from marine traffic. Some guidelines are designed to minimize impacts throughout the year, while others are specific to the spring eulachon and herring spawning runs when marine mammals congregate in large groups within Berners Bay. This report describes monitoring activities conducted during the April/May 2013 eulachon spawning season. The Coeur Alaska crew transportation vessel during this period was the M/V Majestic Fjord, a 65ft catamaran with four inbound diesel jet engines and crew of three people that transited between Yankee Cove and Slate Cove daily (Figure 1). A one-way trip from Yankee Cove to Slate Cove takes approximately 40 minutes and consumes around 55-60 gallons of fuel (personal comm. Clint Songer, F/V Majestic Fjord captain).

Methods

Designation of the eulachon spawning season requires some information to be gathered regarding marine mammal activity within Berners Bay as this is a good indicator that eulachon migration is underway. One source of this information is the ADFG herring spawning aerial survey data for Lynn Canal, posted on the internet at <http://documents.cfl.adfg.state.ak.us/Topic-Contents.po#Herring>. These updates usually include a brief summary of the location of marine mammal concentrations. Coeur also conducts marine based surveys to monitor marine mammal numbers within Berners Bay. These surveys are undertaken by Coeur environmental personnel or contractors with marine mammal observation experience. Survey results are faxed to the NMFS Office of Protected Resources within 48 hours. When Coeur's marine mammal surveys and ADFG herring surveys show a substantial increase in marine mammals within Berners Bay the eulachon spawning season is declared to have commenced.

During the eulachon spawning run a marine mammal observer accompanies the Coeur transportation vessel on all crew transfers to help adjust the daily routing into Slate Cove to avoid congregations of fish and marine mammals. The marine observer keeps

watch from the bridge of the vessel and uses binoculars as needed to identify marine mammals. Photography is used to assist with counting total numbers present since at any one time a portion of the group may be submersed or in motion and difficult to count.

Vessel trips are also kept to no more than three per day (except for emergency environmental or safety situations), and the vessel is required to maintain a maximum speed of 13 knots within the bay (with Berners Bay designated as the area inside of Point St. Mary and Point Bridget, see Figure 1). Fuel and, if possible, concentrate shipments by barge are also restricted during the eulachon spawning period. The spawning period typically occurs approximately April 15 to May 15, typically about 2-3 weeks. Marine mammal observations are categorized into two zones: Berners Bay and outside Berners Bay. All observations, including date, time, observer, weather, visibility, wave height/conditions, and counts of marine mammals, are recorded on a data sheet (see Figure 2). Each one-way trip is recorded on its own sheet.

Results

Between April 22 and May 13, sixty-four marine mammal observation surveys were completed aboard the M/V Majestic Fjord (see Table 2). The official eulachon run transportation regulations as determined by Coeur Alaska and NMFS were put into effect on April 22, 2013. Special measures taken during the eulachon run included: having a marine observer on the vessel during all trips and maintaining a maximum speed of 13 knots within Berners Bay. Regular transit speed is approximately 21-25 knots. Transportation vessel trips during the eulachon run were limited to 1-2 trips daily (see Table 1). No more than 2 trips per day were conducted during the 2013 eulachon spawning window.

The majority of pinniped activity was observed inside Berners Bay (see Table 3). A total of 1064 Steller sea lions were counted during the observation period; 857 of these sightings (80.5%) occurred within Berners Bay. The vast majority (99.7%) of the 1389 harbor seal sightings also occurred within Berners Bay. Most of these sightings were at pinniped haulout areas, such as the entrance to Slate Cove and Point Saint Mary. Gatherings of up to 60 harbor seals on haulouts and rafts of up to 100 Steller sea lions

were observed. Pinniped activity was highest from April 22 – April 29 with activity again from May 5 – 13.

The majority of cetaceans were observed outside of Berners Bay with 159 humpback whale, 108 porpoise, and 31 killer whale sightings (49.8%, 83.1%, and 91.2% of the total sightings respectively). Humpback sightings were fairly consistent through the observation period, with at least one humpback being spotted most days and a maximum of 8 whales on May 5, 6, 7 and 8. Killer whales were first seen on May 2, and were most commonly seen moving in small pods. Porpoise sightings were inconsistent and sporadic, ranging in group size from 1- 17 individuals, during the duration of the observation period. No recordable encounters with marine mammals occurred during the 2013 eulachon spawning season.

Discussion

Historic records showed eulachon arriving in the Berners Bay area usually in late April and early May (Harris et al 2005).

The three week restrictions were placed at the right time in 2013 to cover the greatest marine mammal activity surrounding the herring run. Careful observation of marine mammals and birds from the end of March is necessary in order to prepare for the official three-week period of transportation restrictions and ensure the goal of minimizing marine mammal encounters is achieved. The speed restriction helps reduce the likelihood of a collision with a marine mammal and also reduces the impact of engine noise underwater on whales and Steller sea lions. The population of humpback whales in the North Pacific increased at around 7% per year since commercial whaling ceased in 1966 (Calambokidis et al 2008), but they are still considered endangered species owing to a worldwide population estimate being at only 8% of the historical population size (NMFS 1991). The Steller sea lion population east of Cape Suckling is not considered endangered, but vessel operations must still comply with the Marine Mammal Protection Act of 1972. The measures taken under Coeur's Transportation Action Strategy are designed to ensure compliance with this Federal law.

References

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www.fakr.noaa.gov/protectedresources/whales/default/htm

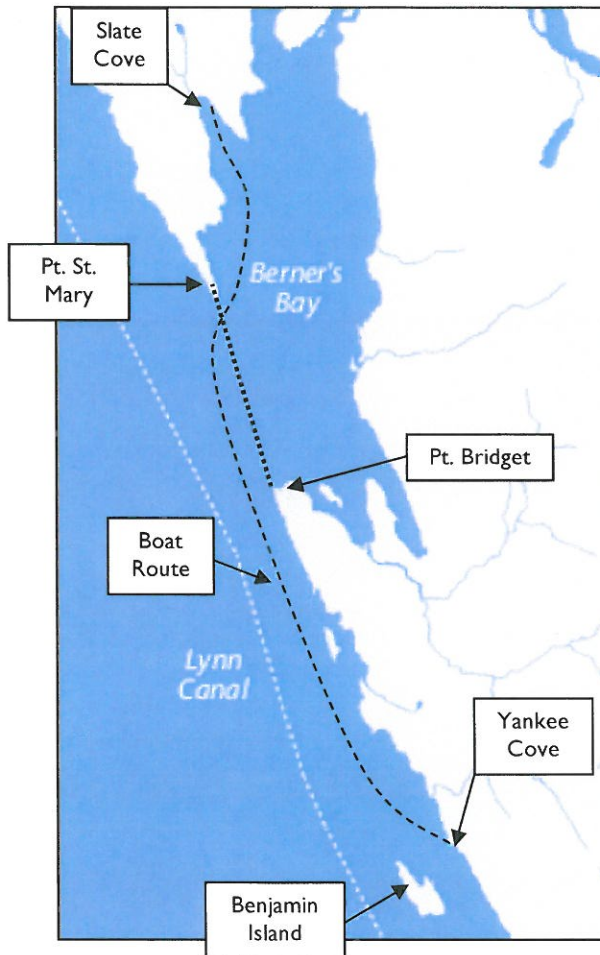


Figure 1: Boat route to Slate Cove from Yankee Cove. Line between Pt Bridget and Pt St Mary defines the area inside which the 13 knot speed limit applies.

Table 1: M/V Majestic Fjord Schedule, Spring/Summer 2013

Day	Morning	Evening	Departure	Total trips
Monday	5:40am	4:50pm	Yankee Cove	2
Tuesday	5:40am	4:50pm	Yankee Cove	2
Wednesday	5:40am	4:50pm	Yankee Cove	2
Thursday	5:40am	4:50pm	Yankee Cove	2
Friday	No Boat	4:50pm	Yankee Cove	1
Saturday	No Boat	No Boat	Yankee Cove	0
Sunday	No Boat	4:40pm	Yankee Cove	1

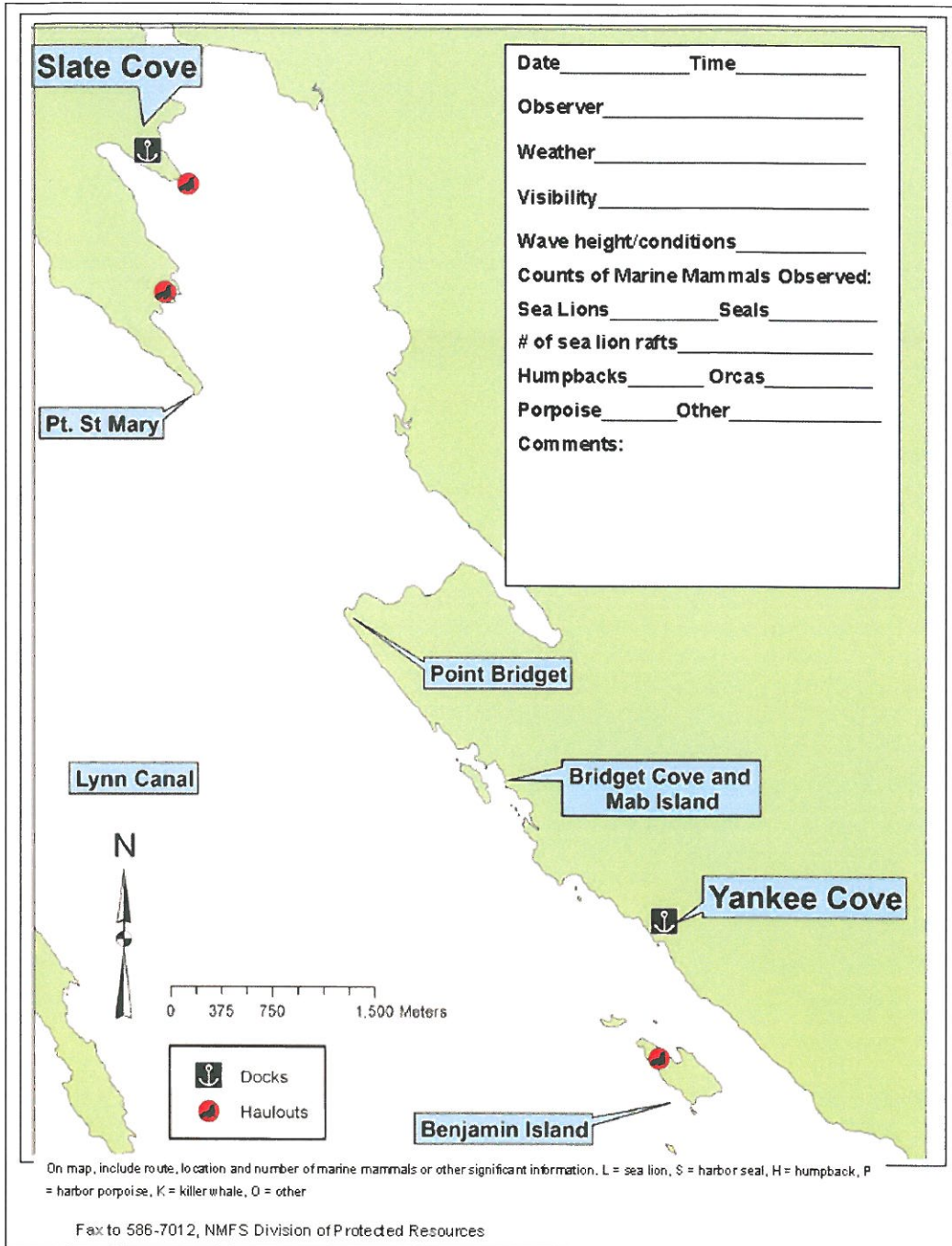


Figure 2: Data sheet

Table 2: Summary of Marine Mammal Observations

No.	Date	Time	Observer	Vessel	Route	Weather	Visibility	Wave Ht
1	4/22/2013	5:45	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Mostly Cloudy	13+ Miles	0ft
2	4/22/2013	6:35	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Mostly Cloudy	13+ Miles	0ft
3	4/22/2013	16:50	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Light Rain	7 Miles	0ft
4	4/22/2013	17:25	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Light Rain	7 Miles	0ft
5	4/23/2013	5:45	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Mostly Sunny	13+ Miles	0ft
6	4/23/2013	6:31	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Mostly Sunny	13+ Miles	0ft
7	4/23/2013	16:50	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Mostly Cloudy	13+ Miles	1ft
8	4/23/2013	17:40	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Mostly	13+ Miles	1ft
9	4/24/2013	5:40	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Light Rain	5 Miles	0ft
10	4/24/2013	6:30	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Light Rain	5 Miles	0ft
11	4/24/2013	16:51	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Light Rain	10 miles	2-4ft chop
12	4/24/2013	17:35	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Light Rain	13+ Miles	2-4ft chop
13	4/25/2013	5:42	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Light Rain	5 Miles	2-3ft
14	4/25/2013	6:30	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Light Rain	5 Miles	2-3ft
15	4/25/2013	16:50	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Light Snow/Fog	1 Mile	0ft
16	4/25/2013	17:40	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Light Snow/Fog	1 Mile	0ft
17	4/26/2013	16:55	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Heavy Snow/Fog	1 Mile	2-3ft
18	4/26/2013	18:00	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Heavy Snow/Fog	1 Mile	2-3ft
19	4/28/2013	16:40	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Sunny	13+ Miles	5-6ft
20	4/28/2013	18:00	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Sunny	13+ Miles	5-6ft
21	4/29/2013	5:50	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Sunny	13+ miles	6-8ft
22	4/29/2013	6:55	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Sunny	13+ miles	6-8ft
23	4/29/2013	16:50	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Sunny	13+ Miles	0ft
24	4/29/2013	17:40	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Sunny	13+ Miles	0ft
25	4/30/2013	5:45	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Light Fog/Light Snow	2 Miles	0ft
26	4/30/2013	6:35	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Light Fog/Light Snow	2 Miles	0ft
27	4/30/2013	16:50	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Partly Cloudy	3 Miles	3ft
28	4/30/2013	17:35	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Partly Cloudy	3 Miles	3ft
29	5/1/2013	5:45	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Light Showers/Fog	4 Miles	0ft
30	5/1/2013	6:30	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Light Showers/Fog	4 Miles	0ft
31	5/1/2013	16:50	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Mostly Cloudy/Fog	1 Mile	3ft
32	5/1/2013	17:40	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Mostly Cloudy/ Fog	1 Mile	3ft
33	5/2/2013	5:45	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Mostly Cloudy	13+ Miles	0ft
34	5/2/2013	6:30	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Mostly Cloudy	13+ Miles	0ft
35	5/2/2013	16:55	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Mostly Cloudy	13+ Miles	1-2ft
36	5/2/2013	17:40	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Mostly Cloudy	13+ Miles	1-2ft
37	5/3/2013	17:00	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Mostly Cloudy/Fog	2 Miles	0ft
38	5/3/2013	17:40	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Mostly Cloudy/Fog	2 Miles	0ft
39	5/5/2013	16:38	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Partly Cloudy	13+ miles	0ft
40	5/5/2013	17:25	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Partly Cloudy	13+ miles	0ft

Table 2: Summary of Marine Mammal Observations

41	5/6/2013	5:40	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Mostly Cloudy	13+ miles	0ft
42	5/6/2013	6:30	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Mostly Cloudy	13+ miles	0ft
43	5/6/2013	16:50	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Sunny	13+ Miles	0ft
44	5/6/2013	17:40	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Sunny	13+ Miles	0ft
45	5/7/2013	5:40	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Sunny	13+ Miles	0ft
46	5/7/2013	6:25	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Sunny	13+ Miles	0ft
47	5/7/2013	16:55	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Sunny	13+ Miles	1-2ft
48	5/7/2013	17:50	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Sunny	13+ Miles	1-2ft
49	5/8/2013	5:40	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Sunny	13+ Miles	0ft
50	5/8/2013	6:25	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Sunny	13+ Miles	0ft
51	5/8/2013	16:55	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Sunny	13+ Miles	1ft
52	5/8/2013	17:40	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Sunny	13+ Miles	1ft
53	5/9/2013	5:40	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Sunny	13+ Miles	0ft
54	5/9/2013	6:30	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Sunny	13+ Miles	0ft
55	5/9/2013	16:55	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Sunny	13+ Miles	0ft
56	5/9/2013	17:40	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Sunny	13+ Miles	0ft
57	5/10/2013	16:55	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Sunny	13+ Miles	1ft
58	5/10/2013	17:40	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Sunny	13+ Miles	1ft
59	5/12/2013	16:40	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Mostly Cloudy	10 Miles	0ft
60	5/12/2013	17:35	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Mostly Cloudy	10 miles	0ft
61	5/13/2013	6:35	A.Armstrong	M/V Majestic Fjord	Yankee Cove to Slate Cove	Light Showers/Fog	1 Mile	0ft
62	5/13/2013	5:50	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Light Showers/Fog	1 Mile	0ft
63	5/13/2013	16:55	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Light Showers/Fog	1 Mile	0ft
64	5/13/2013	17:30	A.Armstrong	M/V Majestic Fjord	Slate Cove to Yankee Cove	Light Showers/Fog	1 Mile	0ft
		Totals						

Table 3: Summary of Marine Mammal Counts

No.	Date	Time	Counts of MM Observed Berners Bay						Counts of MM Observed Outside Berners Bay						Counts of MM Observed - Total						Notes			
			L	S	Rafts	H	P	K	O	L	S	Rafts	H	P	K	O	L	S	Rafts	H		P	K	O
1	4/22/2013	5:45	100	50	1	2											100	50	1	3	2	0	0	
2	4/22/2013	6:35	150	50	2					5							150	50	2	5	0	0	0	
3	4/22/2013	16:50	110		2	2				30	3	5					140	0	5	7	0	0	0	
4	4/22/2013	17:25	80		4	3				1	1						81	0	4	4	0	0	0	
5	4/23/2013	5:45		4		6				2	2						2	4	0	8	0	0	0	
6	4/23/2013	6:31	6		2	1											6	0	2	1	0	0	0	
7	4/23/2013	16:50	22	50	2	3				4							22	50	2	7	0	0	0	Large quantity of eagles on Point St Mary
8	4/23/2013	17:40	66	53	2					20	2	2					86	53	4	2	0	0	0	
9	4/24/2013	5:40	59	30	3									2			59	30	3	0	2	0	0	Very hard to see due to the fog
10	4/24/2013	6:30	15	30	2	1				3	1	1					18	30	3	2	0	0	0	Very hard to see due to the fog
11	4/24/2013	16:51	7	8	1	9											7	8	1	9	0	0	0	
12	4/24/2013	17:35		8		4											0	8	0	5	0	0	0	Hard to see due to the waves
13	4/25/2013	5:42	13		4	3				1							14	0	4	3	0	0	0	Hard to see due to the waves
14	4/25/2013	6:30	5	3	1	2				1							6	3	1	2	0	0	0	Hard to see due to the waves
15	4/25/2013	16:50	13	30	2	6				1	1						14	31	2	6	0	0	0	
16	4/25/2013	17:40	36	40	1	3								1			36	40	1	4	0	0	0	
17	4/26/2013	16:55	23	3	4	2											23	3	4	2	0	0	0	
18	4/26/2013	18:00	9		2	3											9	0	2	3	0	0	0	Hard to see due to the waves and the fog
19	4/28/2013	16:40	32		2	2							4				32	0	2	6	0	0	0	Hard to see due to the waves
20	4/28/2013	18:00	2							1							3	0	0	0	0	0	0	Hard to see due to the waves
21	4/29/2013	5:50	52		3	6											52	0	3	6	0	0	0	Hard to see due to the waves
22	4/29/2013	6:55	5		1	3											5	0	1	3	0	0	0	
23	4/29/2013	16:50				5				3	1	1					3	0	1	6	0	0	0	
24	4/29/2013	17:40			1	2								2			0	2	0	2	2	0	0	
25	4/30/2013	5:45	2			4				32	2	4	7				34	0	2	8	7	0	0	
26	4/30/2013	6:35	3			3				11	2	3					14	0	2	6	0	0	0	
27	4/30/2013	16:50	1			4							4				1	0	0	8	0	0	0	
28	4/30/2013	17:35	5		1	1								1			5	0	1	2	0	0	0	
29	5/1/2013	5:45	6	3	1	3				11	3						17	3	4	3	0	0	0	
30	5/1/2013	6:30	3		1	3				1				1			4	0	1	4	0	0	0	

Table 3: Summary of Marine Mammal Counts

No.	Date	Time	Counts of MM Observed Berners Bay						Counts of MM Observed Outside Berners Bay						Counts of MM Observed - Total						Notes			
			L	S	Rafts	H	P	K	O	L	S	Rafts	H	P	K	O	L	S	Rafts	H		P	K	O
31	5/1/2013	16:50	4														4	0	0	0	0	0	0	
32	5/1/2013	17:40	12		4	1											12	0	4	1	0	0	0	
33	5/2/2013	5:45	2		1	3					2	12	4				2	0	0	3	15	4	0	
34	5/2/2013	6:30	2		1	12					1	16	1				2	0	0	2	28	1	0	
35	5/2/2013	16:55	3		1												3	0	0	1	0	0	0	
36	5/2/2013	17:40			8												0	0	0	8	0	0	0	
37	5/3/2013	17:00			2				5	1	1	2					5	0	1	3	2	0	0	
38	5/3/2013	17:40			3				2	1	7						2	0	1	10	0	0	0	
39	5/5/2013	16:38			50	8	3				4	15					0	50	0	12	18	0	0	
40	5/5/2013	17:25			1	1			2	1	1	8					2	2	1	9	0	0	0	
41	5/6/2013	5:40			82	1	2		15	1	8	7	6				15	82	1	9	9	6	0	Large quantity of seagulls on Point Bridget
42	5/6/2013	6:30	2		62	1	5				3						2	62	1	8	0	0	0	
43	5/6/2013	16:50			30	7					2						0	30	0	9	0	0	0	
44	5/6/2013	17:40			30	2					4	2					0	30	0	6	0	2	0	
45	5/7/2013	5:40			20	7					6						0	20	0	13	0	0	0	Large quantity of scoters on Point Bridget
46	5/7/2013	6:25	2		6	1	8		12	3	6						14	6	4	14	0	0	0	
47	5/7/2013	16:55			40	6			2	1	6	5					2	40	1	12	5	0	0	
48	5/7/2013	17:50			40						8						0	40	0	8	0	0	0	
49	5/8/2013	5:40			17	10			2	1	6						2	17	1	16	0	0	0	
50	5/8/2013	6:25	2		17	1	2		5	1	5	2	2				7	17	2	7	2	2	0	
51	5/8/2013	16:55			50				18	1	8	27					18	50	1	8	27	0	0	
52	5/8/2013	17:40			53						4	5					0	53	0	4	5	0	0	
53	5/9/2013	5:40			20				20	1	3	2					20	20	1	3	0	2	0	
54	5/9/2013	6:30			20				2		3	1					2	20	0	3	0	3	0	
55	5/9/2013	16:55	2		40	1	1				1						2	40	1	2	0	0	0	
56	5/9/2013	17:40			40						5						0	40	0	5	0	0	0	
57	5/10/2013	16:55			90				3	1	2	1	8				3	90	1	2	1	9	0	
58	5/10/2013	17:40			60						2		5				0	60	0	2	0	5	0	
59	5/12/2013	16:40			60	1			1		1	5					1	60	0	2	5	0	0	
60	5/12/2013	17:35			95												0	95	0	0	0	0	0	

Table 3: Summary of Marine Mammal Counts

No.	Date	Time	Counts of MM Observed Berners Bay							Counts of MM Observed Outside Berners Bay							Counts of MM Observed - Total							Notes	
			L	S	Rafts	H	P	K	O	L	S	Rafts	H	P	K	O	L	S	Rafts	H	P	K	O		
61	5/13/2013	6:35		20														20	0	4	0	0	0		
62	5/13/2013	5:50	1	20														1	20	0	1	0	0	0	
63	5/13/2013	16:55		30														0	30	0	4	0	0	0	
64	5/13/2013	17:30		30														0	30	0	2	0	0	0	
Totals			857	1385	52	161	22	3	0	207	4	27	159	108	31	0	1064	1389	79	320	130	34	0		