

# **2012 Transportation Action Strategy**

## **Marine Mammal Survey Report**

### **Coeur Alaska Kensington Mine**



Prepared by

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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 2012 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 27 and May 18, fifty-eight 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 27, 2012. 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 3 trips per day were conducted during the 2012 eulachon spawning window.

The majority of pinniped activity was observed inside Berners Bay (see Table 3). A total of 819 Steller sea lions were counted during the observation period; 646 of these sightings (78.9%) occurred within Berners Bay. The vast majority (99.9%) of the 793 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 40 Steller sea lions

were observed. Pinniped activity was highest from April 27-May 1 with activity peaking again on May 14 and 18.

The majority of cetaceans were observed outside of Berners Bay with 116 humpback whale, 92 porpoise, and 9 killer whale sightings (82.8%, 81.4%, and 64.3% of the total sightings respectively). Humpback sightings were fairly consistent through the observation period, with at least one humpback being spotted each day and a maximum of 8 whales on the 5:40am April 30<sup>th</sup> trip. Killer whales were first seen on April 29, and were most commonly seen moving in small pods. Porpoise sightings were inconsistent and sporadic, ranging in group size from 1- 23 individuals, during the duration of the observation period. No recordable encounters with marine mammals occurred during the 2012 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 2012 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.

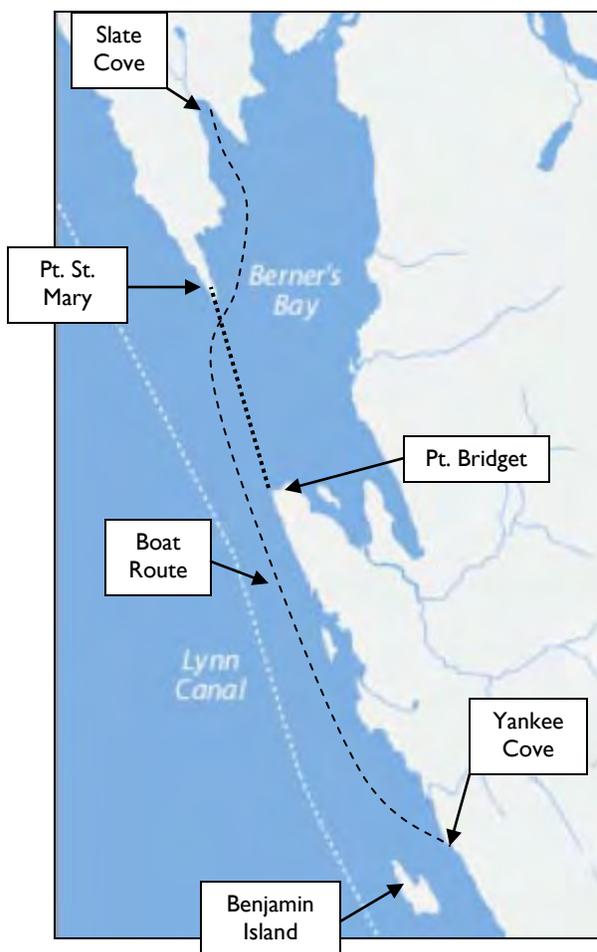
## References

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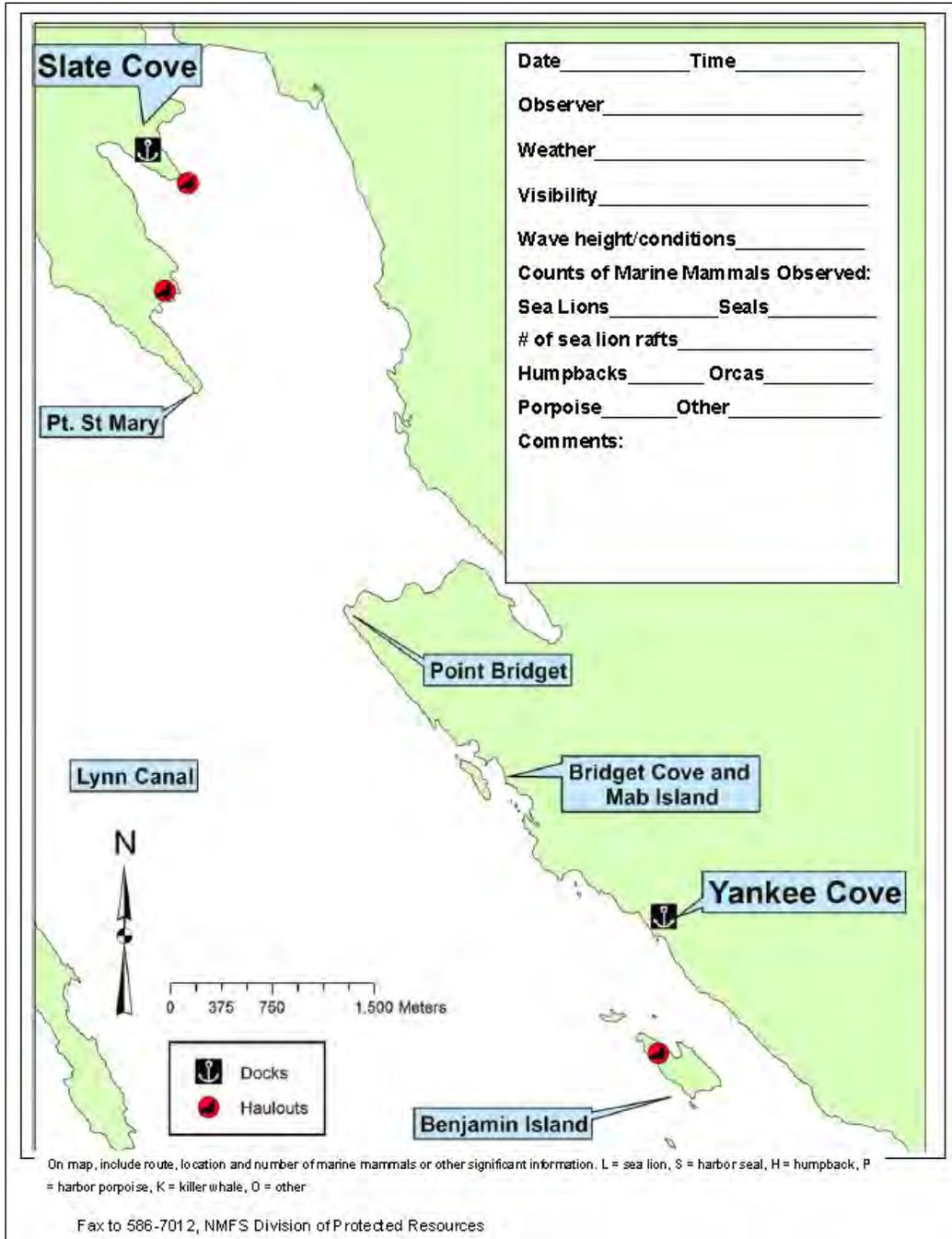
[www.fakr.noaa.gov/protectedresources/whales/default/htm](http://www.fakr.noaa.gov/protectedresources/whales/default/htm)



**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 2012

<b>Day</b>	<b>Morning</b>	<b>Evening</b>	<b>Departure</b>	<b>Total trips</b>
Monday	5:40am	4:30pm	Yankee Cove	2
Tuesday	5:40am	4:30pm	Yankee Cove	2
Wednesday	5:40am	4:30pm	Yankee Cove	2
Thursday	5:40am	4:30pm	Yankee Cove	2
Friday	No Boat	4:30pm	Yankee Cove	1
Saturday	No Boat	No Boat	Yankee Cove	0
Sunday	No Boat	4:30pm	Yankee Cove	1



**Figure 2: Data sheet**

**Table 2: Summary of Marine Observations**

No.	Date	Time	Observer	Vessel	Route	Weather	Visibility	Wave Ht
1	4/27/2012	16:45	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	scattered showers	13+ miles	3ft
2	4/27/2012	17:30	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	partly cloudy	13+ miles	3ft
3	4/29/2012	16:20	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	rain	10 miles	3ft
4	4/29/2012	17:10	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	rain	10 miles	3ft
5	4/30/2012	5:40	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	overcast	13 miles	less than 2ft
6	4/30/2012	6:30	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	overcast	13 miles	less than 2ft
7	4/30/2012	16:25	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	light rain	13 miles	less than 2ft
8	4/30/2012	17:15	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	light rain	9 miles	less than 2ft
9	5/1/2012	5:40	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	light rain	8 miles	less than 2ft
10	5/1/2012	6:30	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	light rain	9 miles	less than 2ft
11	5/1/2012	16:25	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	partly cloudy	10 miles	2-4ft chop
12	5/1/2012	17:15	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	partly cloudy	13+ miles	2-4ft chop
13	5/2/2012	5:37	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	rain	8 miles	2-4ft
14	5/2/2012	6:24	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	rain	8 miles	2-5ft
15	5/3/2012	5:35	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	overcast	13 miles	less than 2ft
16	5/3/2012	6:25	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	overcast	13 miles	less than 2ft
17	5/4/2012	16:30	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	partly cloudy	13 miles	1-2ft
18	5/4/2012	17:20	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	partly cloudy	13 miles	1-3ft
19	5/6/2012	16:00	Gerald	M/V Majestic Fjord	Yankee Cove to Slate Cove	overcast	13+ miles	less than 2ft
20	5/6/2012	17:00	Gerald	M/V Majestic Fjord	Slate Cove to Yankee Cove	overcast	13+ miles	less than 2ft
21	5/7/2012	5:38	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	light rain	13 miles	less than 2ft
22	5/7/2012	6:20	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	overcast	13 miles	less than 2ft
23	5/7/2012	16:44	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	rain	5 miles	2-3ft
24	5/7/2012	17:30	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	rain	5 miles	less than 3ft
25	5/8/2012	5:40	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	partly cloudy	13 miles	1-3ft
26	5/8/2012	6:32	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	partly cloudy	13 miles	1-3ft
27	5/8/2012	16:40	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	partly sunny	13+ miles	2-4ft chop
28	5/8/2012	17:30	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	partly sunny	13+ miles	2-4ft chop
29	5/9/2012	5:38	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	partly cloudy	13+ miles	1-3ft
30	5/9/2012	6:27	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	partly cloudy	13+ miles	1-3ft
31	5/9/2012	16:45	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	partly sunny	13+ miles	1-3ft
32	5/9/2012	17:36	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	overcast	13+ miles	1-4ft
33	5/10/2012	5:40	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	overcast	13+ miles	1-2ft
34	5/10/2012	6:32	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	partly cloudy	13+ miles	1-4ft white caps
35	5/10/2012	16:46	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	rain	6 miles	1-4ft
36	5/10/2012	17:30	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	rain	5 miles	1-4ft
37	5/11/2012	16:30	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	rain	5 miles	3-5ft
38	5/11/2012	17:17	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	rain	5 miles	1-5ft
39	5/13/2012	16:27	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	mostly sunny	13+ miles	less than 2ft
40	5/13/2012	17:15	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	mostly sunny	13+ miles	1-3ft

No.	Date	Time	Observer	Vessel	Route	Weather	Visibility	Wave Ht
41	5/14/2012	5:39	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	overcast	13+ miles	less than 2ft
42	5/14/2012	6:30	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	overcast	13+ miles	less than 2ft
43	5/14/2012	16:39	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	rain	6 miles	less than 2ft
44	5/14/2012	17:13	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	rain	6 miles	less than 2ft
45	5/15/2012	5:38	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	partly cloudy	13+ miles	less than 2ft
46	5/15/2012	6:30	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	partly cloudy	13+ miles	less than 2ft
47	5/15/2012	16:39	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	partly sunny	13+ miles	less than 2ft
48	5/15/2012	17:28	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	partly cloudy	13+ miles	less than 2ft
49	5/16/2012	5:35	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	light rain	8 miles	less than 2ft
50	5/16/2012	6:28	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	rain	7 miles	less than 2ft
51	5/16/2012	16:26	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	overcast	13+ miles	less than 2ft
52	5/16/2012	17:35	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	overcast	13+ miles	less than 2ft
53	5/17/2012	6:13	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	overcast	13+ miles	less than 2ft
54	5/17/2012	7:05	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	mostly sunny	13+ miles	less than 2ft
55	5/17/2012	16:35	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	sunny	13+ miles	less than 1ft
56	5/17/2012	17:25	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	sunny	13+ miles	less than 2ft
57	5/18/2012	16:28	Jake Ross	M/V Majestic Fjord	Yankee Cove to Slate Cove	overcast	13+ miles	less than 2ft
58	5/18/2012	17:18	Jake Ross	M/V Majestic Fjord	Slate Cove to Yankee Cove	overcast	13+ miles	less than 2ft

**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	4/27/2012	16:45	27		2											27		2	2					
2	4/27/2012	17:30	56		4					1						58		4	1					
3	4/29/2012	16:20	10		4	1							1		3	1		4	2			3		
4	4/29/2012	17:10	96		7	1		1								96		7	1			1		
5	4/30/2012	5:40	61		3								8			61		3	8					
6	4/30/2012	6:30	45		3	1							5			45		3	6					
7	4/30/2012	16:25	78		2								3	2		78		2	3	2				
8	4/30/2012	17:15	69		2					2			4			71		2	4					
9	5/1/2012	5:40	8	11		1				12			4			20	1		5					
10	5/1/2012	6:30	5	10						2			3			7	0		3					
11	5/1/2012	16:25	4			1				4			2			8			3					
12	5/1/2012	17:15	2			1				6			1			8			2					
13	5/2/2012	5:37	1			2				2			2			3			4					
14	5/2/2012	6:24	2										2			2			2					
15	5/3/2012	5:35	1	20						8			7	2		9	0		7	2				
16	5/3/2012	6:25	4			1							6			4			7					
17	5/4/2012	16:30	2										2			2			2					
18	5/4/2012	17:20											4						4					
19	5/6/2012	16:00				1													1					
20	5/6/2012	17:00				1							2	5					3	5				
21	5/7/2012	5:38		50		1	3			9			1	2	2	9	0		2	5	2			
22	5/7/2012	6:20		29			4			7						7	9			4				
23	5/7/2012	16:44		30						2			1			2	0		1					
24	5/7/2012	17:30	1	40						1			2			2	0		2					
25	5/8/2012	5:40	1	7												1	7							

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	
26	5/8/2012	6:32		7														7						
27	5/8/2012	16:40							1									1						
28	5/8/2012	17:30											2							2				
29	5/9/2012	5:38	1	25					5				2				6	2		2				
30	5/9/2012	6:27	1	25					1				2				2	2		2				
31	5/9/2012	16:45							2				1		4		2			1			4	
32	5/9/2012	17:36						4					2	15						2	5		4	
33	5/10/2012	5:40				4							2							6				
34	5/10/2012	6:32	1			2			1				1				2			3				
35	5/10/2012	16:46																						
36	5/10/2012	17:30							4				2				4			2				
37	5/11/2012	16:30							1				2				1			2				
38	5/11/2012	17:17							8		2		2	6			8	2		2	6			
39	5/13/2012	16:27				1			3				1				3			2				
40	5/13/2012	17:15		9									1	6				9		1	6			
41	5/14/2012	5:39		46					4				2				4	4		2				
42	5/14/2012	6:30		46					3				2	23			3	4		2	2			
43	5/14/2012	16:39	1	4					2				1				3	4		1				
44	5/14/2012	17:13		3					3		1		1	10			3	3	1	1	0			
45	5/15/2012	5:38	2	40		1			11				1				3	4		2				
46	5/15/2012	6:30	1	40	1				3				3				1	4	0	1	3			
47	5/15/2012	16:39		60			5		1				1				1	0		1	5			
48	5/15/2012	17:28		60		1			1				3				1	0		4				
49	5/16/2012	5:35	1						10					9			1				9			
50	5/16/2012	6:28							12	1							1	1						

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	
51	5/16/2012	16:26	25	13	2					7		1	5	2			32	13	3	5	2			
52	5/16/2012	17:35	27	13	2	1	8			4				10			31	13	2	1	18			
53	5/17/2012	6:13	1	28						13			2			14	28		2					
54	5/17/2012	7:05	6	26		1				7						13	26		1					
55	5/17/2012	16:35		35						3			3			3	35		3					
56	5/17/2012	17:25		32		1				4			4			4	32		5					
57	5/18/2012	16:28		43						1			2			1	43		2					
58	5/18/2012	17:18		40			1			1			3			1	40		3	1				
<b>Totals</b>			<b>646</b>	<b>792</b>	<b>32</b>	<b>24</b>	<b>21</b>	<b>5</b>	<b>0</b>	<b>172</b>	<b>1</b>	<b>4</b>	<b>116</b>	<b>92</b>	<b>9</b>	<b>0</b>	<b>819</b>	<b>793</b>	<b>36</b>	<b>140</b>	<b>113</b>	<b>14</b>	<b>0</b>	

L= Steller sea lion; S= harbor seal; Rafts= Steller sea lion rafts; H= humpback =whale; P= harbor and Dals porpoise; K=killer whale/Orca; O=other marine mammals

