

Figure 5. Distribution and abundance of sea otters in the survey area. The black line shows the survey route. The survey covered the shoreline from the north end of Volcano Bay to the entrance of Alimuda Bay.

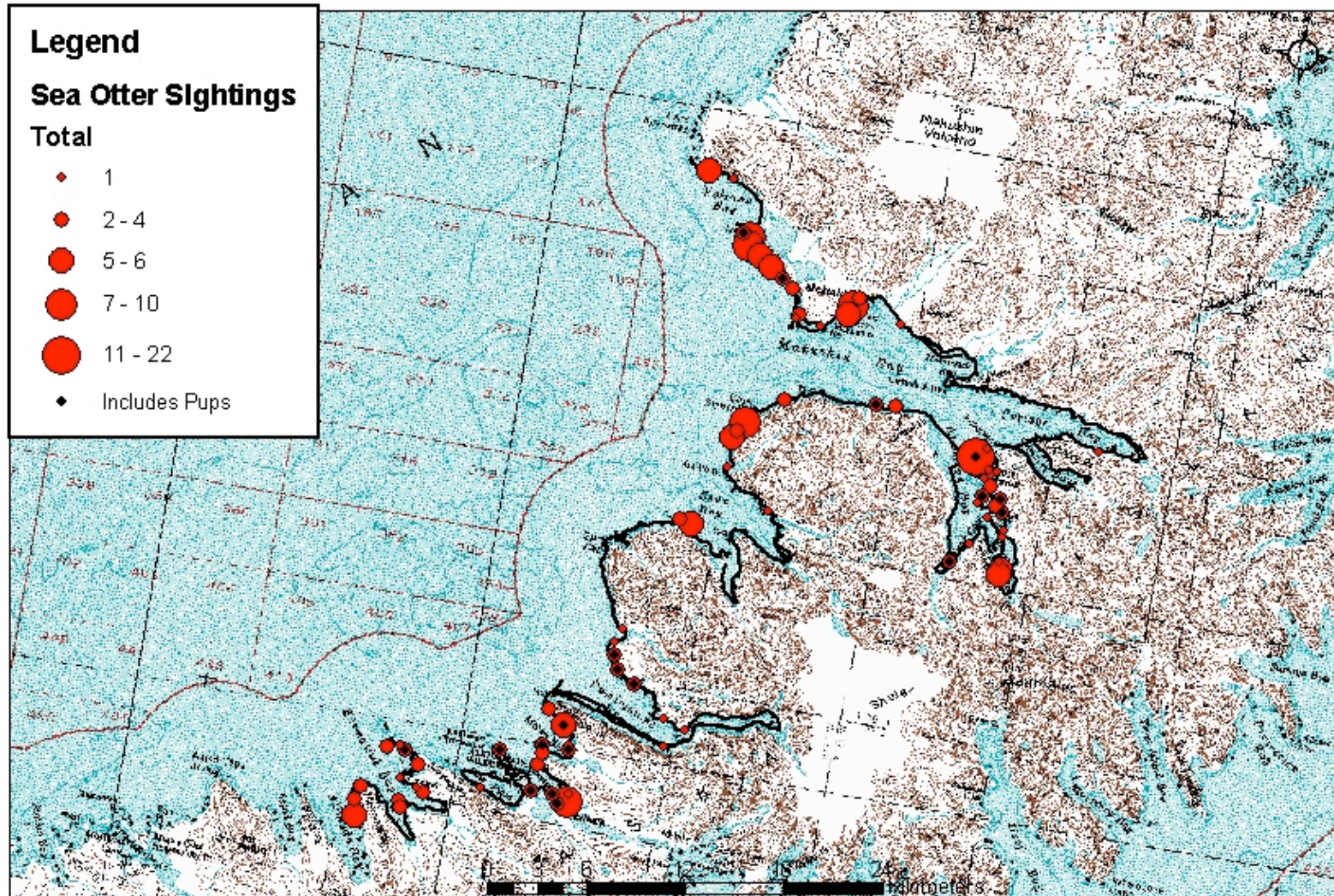


Table 1. Survey results for Anderson Bay, Naginak Cove and Udamak Cove

Date: January 11, 2005

Survey personnel: Randall Davis and Fred Weltz

Survey vessel: 17 ft aluminum skiff; boat speed ca. 6 knots

Weather: mostly cloudy/overcast; winds light and variable; Beaufort 1-2

Survey conditions: good

Time	WPT	Lat		Long		# adult otters	pups	General behavior	Notes
		Deg	Min	Deg	Min				
10:30	1	53	39.518	166	47.980				
10:37	2	53	37.894	166	47.429				
10:59	3	53	37.893	166	47.419				
11:13	4	53	38.294	166	48.403				
11:13	5	53	38.318	166	48.364	1		normal	feeding on crab
11:18	6	53	38.500	166	48.350	1		normal	
11:25	7	53	38.747	166	48.550	1		normal	
11:43	8	53	39.393	166	48.469				
11:47	9	53	39.576	166	48.548	1		normal	
11:52	10	53	39.811	166	48.550	1		normal	
12:00	11	53	40.357	166	48.840	2	1	normal	
12:06	12	53	40.782	166	49.025	2	1	normal	dependent pup
12:18	13	53	41.140	166	49.768	2		normal	
12:30	14	53	40.775	166	50.105	1	1	normal	dependent pup
12:39	15	53	40.520	166	50.282	1		normal	
12:47	16	53	40.550	166	49.305	2		normal	
12:55	17	53	40.105	166	49.621	1		normal	
13:08	18	53	39.169	166	48.868				end morning survey
14:29	19	53	39.106	166	49.160				start afternoon survey
14:46	20	53	39.173	166	50.318	1		normal	
15:03	21	53	38.461	166	51.118	1	1	normal	
15:33	22	53	39.076	166	51.400				
15:49	23	53	40.346	166	51.394				
16:05	24	53	41.502	166	52.170				
16:10	25	53	41.928	166	51.040				

16:12	26	53	41.978	166	50.876	19	3	normal	
16:33	27	53	41:495	166	49.895	1		normal	
16:36	28	53	41.654	166	50.040	1		normal	
16:42	29	53	42.336	166	50.314	1		normal	
16:53	30	53	41.671	166	49.514	1		normal	
17:00	31	53	41.36	166	49.636				end survey
Total						41	7		
Grand total						48			

Table 2. Survey results for Cannery Bay

Date: January 12, 2005

Survey personnel: Randall Davis and Fred Weltz

Survey vessel: 17 ft aluminum skiff; boat speed ca. 6 knots

Weather: overcast; moderate wind (5-15 knots); Beaufort 2-3

Survey conditions: moderate to poor

Time	WPT	Lat		Long		# adult otters	pups	General behavior	Notes	
		Deg	Min	Deg	Min					
10:56	32	53	41.928	166	44.637				Start survey	
11:05	33	53	42.037	166	44.885					
11:13	34	53	42.104	166	46.128					
11:24	35	53	42.594	166	47.139					
11:37	36	53	42.540	166	49.659					
11:52	37	53	41.936	166	47.540					
12:11	38	53	41.706	166	45.333					
13:17	39	53	41.841	166	44.547				End survey	
Total						0	0			
Grand total						0				

Table 3. Sea Otter Survey of Peter Island

Date: January 13, 2005

Survey personnel: Randall Davis and Fred Weltz

Survey vessel: 17 ft aluminum skiff; boat speed ca. 6 knots

Weather: overcast; light to variable wind (5-15 knots); Beaufort 2-3

Survey conditions: moderate

Time	WPT	Lat		Long		# adult otters	pups	General behavior	Notes
		Deg	Min	Deg	Min				
10:42	40	53	41.858	166	50.758				Start survey
11:00	41	53	41.861	166	50.725	7	3	normal	pups very young
11:05	42	53	41.883	166	50.957				oil sheen
11:10	43	53	42.107	166	51.187				oil sheen
11:15	44	53	42.280	166	51.387				wind out of NE, oil sheen
	45	53	42.176	166	51.112				oil sheen
	46	53	41.990	166	50.999				oil sheen
11:27	47	53	41.824	166	51.090				oil sheen
11:33	48	53	41.489	166	50.872	3		normal	
11:40	49	53	41.392	166	50.067	1		normal	
11:44	50	53	41.726	166	50.173	1		normal	
12:10	51	53	41.447	166	50.859				
Total						12	3		
Grand total						15			

Table 4. Survey results for Humpback Bay

Date: January 13, 2005

Survey personnel: Randall Davis and Fred Weltz

Survey vessel: 17 ft aluminum skiff; boat speed ca. 6 knots

Weather: overcast; light to variable wind (5-15 knots); Beaufort 2-3

Survey conditions: moderate

Time	WPT	Lat		Long		# adult otters	pups	General behavior	Notes
		Deg	Min	Deg	Min				
14:28	52	53	44.421	166	53.177				Start survey
14:42	53	53	44.374	166	52.820				
14:53	54	53	44.642	166	51.904				
15:04	55	53	45.119	166	51.993				
15:30	56	53	45.336	166	52.676				
15:40	57	53	45.162	166	53.743				
15:50	58	53	45.452	166	54.892				End survey
Total						0	0		
Grand total						0			

Table 5. Survey results for Peter Island

Date: January 14, 2005

Survey personnel: Randall Davis and Fred Weltz

Survey vessel: 17 ft aluminum skiff; boat speed ca. 6 knots

Weather: overcast; light to variable wind (5-15 knots); Beaufort 2-3

Survey conditions: moderate

Time	WPT	Lat		Long		# adult otters	pups	General behavior	Notes	
		Deg	Min	Deg	Min					
12:20	59	53	41.680	166	50.962				Start survey	
12:27	60	53	41.869	166	50.686	4	2	normal	pups very young	
12:33	61	53	41.834	166	50.349	2		normal		
12:48	62	53	41.443	166	50.744					
12:53	63	53	41.638	166	50.821	2		normal	8 harbor seals; no visible sheen in cove where it had occurred on Jan 13	
Total						8	2			
Grand total						10				

Table 6. Survey results for Skan Bay (Cof Point to Spray Cape)

Date: January 15, 2005

Survey personnel: Randall Davis and Fred Weltz

Survey vessel: 17 ft aluminum skiff; boat speed ca. 6 knots

Weather: partly cloudy; winds light and variable with gusts; Beaufort 1-2

Survey conditions: good

Time	WPT	Lat		Long		# adult otters	pups	General behavior	Notes
		Deg	Min	Deg	Min				
11:36	67	53	39.337	167	3.692			Start survey	
11:42	68	53	39.415	167	3.218			3 harbor seals, 1 sea lion	
11:54	69	53	39.217	167	2.036			5 harbor seals; oily debris	
12:02	70	53	38.965	167	1.585	1	normal		
12:15	71	53	38.511	167	0.521			oily debris on beach	
12:30	72	53	38.238	167	0.511			very oily beach, image	
13:15	73	53	37.568	167	59.800				
13:35	74	53	38.116	167	3.001				
13:58	75	53	36.721	167	2.491			heavy mousse on beach	
14:10	76	53	36.258	167	2.524			heavily oiled harbor seal	
14:45	77	53	37.177	167	3.234				
15:26	78	53	38.101	167	5.474				
15:29	79	53	38.023	167	5.573	5	normal	3 sea lions, 3 harbor seals	
15:39	80	53	38.108	167	6.238	2	normal		
16:00	81	53	37.657	167	8.121			18 harbor seals	
16:07	82	53	37.457	167	8.711			10 harbor seals, 2 sea lions	
16:18	83	53	36.963	167	8.789			end of survey, 16 geese	
Total						7		0	
Grand total						7			



Table 7. Survey results for Pumicestone Bay (Spray Cape to Kashega Point)

Date: January 16, 2005

Survey personnel: Randall Davis and Fred Weltz

Survey vessel: 17 ft aluminum skiff; boat speed ca. 6-8 knots

Weather: partly cloudy; winds light and variable; Beaufort 0-1

Survey conditions: very good

Time	WPT	Lat		Long		# adult otters	pups	General behavior	Notes
		Deg	Min	Deg	Min				
10:52	84	53	36.983	167	9.010				Start survey
11:02	85	53	36.795	167	9.948				4 harbor seals, ca. 50 Emperor geese
11:11	86	53	36.336	167	9.955				Sea lion haul out, ca. 50 animals
11:33	87	53	35.179	167	9.199				
11:45	88	53	34.693	167	8.790				5 harbor seals, ca. 30 Emperor geese
11:52	89	53	34.173	167	8.138	1		normal	
12:03	90	53	33.734	167	8.427	1		normal	15 harbor seals
12:17	91	53	33.265	167	8.302	1	1	normal	
12:30	92	53	32.821	167	7.977	2	1	normal	Head Pumicestone Bay, ca. 50 Emp. geese
12:43	93	53	32.447	167	6.920	1	1	normal	
13:21	94	53	31.540	167	4.905	1		normal	
13:31	95	53	31.336	167	3.702	1		normal	
13:46	96	53	32.374	166	59.117				End morning survey Kashega Point
15:19	100	53	31.714	167	11.152				
15:38	101	53	31.419	167	8.559				
15:44	102	53	31.162	167	7.740				4 harbor seals
15:54	103	53	30.888	167	6.088				
16:06	104	53	30.652	167	4.665	1		normal	
16:29	105	53	31.639	167	2.276				
16:40	106	53	31.960	167	0.194				
16:53	107	53	32.044	166	58.633				
17:02	108	53	32.416	166	59.265	2		normal	End survey

J. Connor had seen 2 otters in morning

Total	8	3
Grand total	11	

Table 8. Survey results for Kashega Bay (Kashega Point to Sedanka Point)

Date: January 17, 2005

Survey personnel: Randall Davis and Fred Weltz

Survey vessel: 17 ft aluminum skiff; boat speed ca. 6-8 knots

Weather: mostly cloudy; winds light; Beaufort 1-2 with a swell along the southwest coast of the bay

Survey conditions: very good

Time	WPT	Lat		Long		# adult otters	pups	General behavior	Notes
		Deg	Min	Deg	Min				
10:40	109	53	31.727	167	11.201			normal	Start survey
10:54	110	53	31.124	167	11.241	4		normal	1 harbor seal, 1 cow
11:07	111	53	30.686	167	10.257	3	2	normal	dependent pup
11:22	112	53	30.064	167	9.801	1		normal	
11:24	113	53	29.923	167	9.723	3	1	normal	pup was older; female feeding
11:40	114	53	29.718	167	10.782				
11:46	115	53	29.909	167	11.187	1	1	normal	pup was older; 6 seals
12:00	116	53	29.631	167	11.131	2		normal	
12:06	117	53	29.265	167	11.228	3		normal	
12:22	118	53	28.529	167	9.229	1		normal	
12:30	119	53	28.256	167	9.251	7		normal	
12:37	120	53	28.138	167	9.800	2	1	normal	pup was older; 3 seals
12:42	121	53	28.379	166	10.149	1	1	normal	dependent pup
12:52	122	53	28.392	167	11.355	3	1	normal	dependent pup
13:17	123	53	29.485	167	13.396	1	1	normal	dependent pup; 8 harbor seals
13:41	124	53	28.466	167	12.187				
13:54	125	53	27.787	167	12.094				trace of sheen on water
14:10	126	53	28.168	167	14.079	1		normal	
14:18	127	53	28.476	167	15.198				End survey
Total						33	6		
Grand total						39			

Table 9. Survey results for north shore of Makushin Bay (Humpback Bay to Makushin Point)

Date: January 18, 2005

Survey personnel: Randall Davis and Fred Weltz

Survey vessel: 17 ft aluminum skiff; boat speed ca. 6 knots

Weather: mostly cloudy; light wind (5-15 knots); Beaufort 1-2

Survey conditions: good

Time	WPT	Lat		Long		# adult otters	pups	General behavior	Notes
		Deg	Min	Deg	Min				
10:44	128	53	45.185	166	53.661				Start survey
11:05	129	53	45.824	166	56.322	1		normal	
11:25	130	53	46.376	166	58.834	2		normal	
11:30	131	53	46.082	166	59.099	8		normal	
11:34	132	53	45.774	166	59.290	6		normal	
11:44	133	53	45.253	167	0.668	1		normal	End survey
Total						18	0		
Grand total						18			

Table 10. Survey results for Portage Bay (Cathedral Rocks to Cannery Point)

Date: January 18, 2005

Survey personnel: Randall Davis and Fred Wertz

Survey vessel: 17 ft aluminum skiff; boat speed ca. 6-8 knots

Weather: mostly cloudy; light wind (5-15 knots); Beaufort 1-2

Survey conditions: good

Time	WPT	Lat		Long		# adult otters	pups	General behavior	Notes
		Deg	Min	Deg	Min				
12:14	135	53	44.288	166	52.937				Start survey
12:28	136	53	44.291	166	50.947				
12:46	137	53	44.132	166	48.385				
13:06	138	53	44.011	166	46.011				10 harbor seals Oiley beach, remediation in progress
13:34	139	53	43.632	166	42.910				
13:45	140	53	43.014	166	41.611				
14:23	141	53	43.004	166	43.692				
14:28	142	53	42.930	166	44.262	1		normal	possible male patrolling
14:59	143	53	42.973	166	47.842				End survey
Total						1	0		
Grand total						1			

Table 11. Survey results for Peter Island

Date: January 19, 2005

Survey personnel: Randall Davis and Fred Weltz

Survey vessel: 17 ft aluminum skiff; boat speed ca. 6 knots

Weather: partly cloudy; light wind (5 knots); Beaufort 0-1

Survey conditions: very good

Time	WPT	Lat		Long		# adult otters	pups	General behavior	Notes	
		Deg	Min	Deg	Min					
10:37	144	53	41.763	166	51.236				Start survey	
10:43	145	53	41.863	166	50.936	1	1	normal	oiled bird carcass in water	
10:56	146	53	41.774	166	50.212	1		normal	grooming	
11:03	147	53	41.359	166	50.187	2		normal		
11:13	148	53	41.710	166	50.998				End survey	
Total						4	1			
Grand total						5				

Table 12. Survey results for the south shore of Makushin Bay and outer coast (Tarsolf Point to entrance of Skan Bay)

Date: January 19, 2005

Survey personnel: Randall Davis and Fred Weltz

Survey vessel: 17 ft aluminum skiff; boat speed ca. 6 knots

Weather: partly cloudy; light wind (5 knots); Beaufort 0-1

Survey conditions: very good

Time	WPT	Lat		Long		# adult otters	pups	General behavior	Notes
		Deg	Min	Deg	Min				
11:22	149	53	42.818	166	53.448				Start survey
11:39	150	53	43.102	166	55.692	2		normal	
11:49	151	53	43.044	166	56.792	2	1	normal	
12:18	152	53	43.090	166	59.902				
12:35	153	53	42.620	167	1.809	1		normal	
12:55	154	53	41.638	167	3.746	7		normal	
13:02	155	53	41.340	167	4.094	3		normal	
13:07	156	53	41.063	167	4.315	6		normal	
13:22	157	53	40.100	167	4.182	1		normal	
13:33	158	53	39.472	167	3.419				End of survey
Total						22	1		
Grand total						23			

Table 13. Survey results for Volcano Bay and south coast to Makushin Point

Date: January 19, 2005

Survey personnel: Randall Davis and Fred Weltz

Survey vessel: 17 ft aluminum skiff; boat speed ca. 6 knots

Weather: partly cloudy; light wind (5 knots); Beaufort 0-1

Survey conditions: very good

Time	WPT	Lat		Long		# adult otters	pups	General behavior	Notes
		Deg	Min	Deg	Min				
14:31	159	53	47.990	167	6.276				Start survey
14:37	160	53	47.765	167	5.868	1	1	normal	
14:43	161	53	47.622	167	5.488	10		normal	
14:46	162	53	47.325	167	5.481	7		normal	20 harbor seals
14:55	163	53	47.140	167	4.696	5		normal	
15:01	164	53	46.843	167	3.954	5		normal	
15:08	165	53	46.517	167	3.209	2	1	normal	mom with older pup
15:14	166	53	46.249	167	2.630	3		normal	
15:28	167	53	45.459	167	1.960	3		normal	22 harbor seals
15:38	168	53	45.249	167	0.687				
15:44	169	53	45.322	167	2.057	1		normal	
15:52	170	53	45.068	167	2.369				
16:08	171	53	48.034	167	5.891				
16:22	172	53	48.870	167	5.355				
16:35	173	53	49.396	167	6.985	1		normal	
16:46	174	53	49.511	167	8.357	5		normal	2 harbor seals
16:58	175	53	49.870	167	9.556				End of survey
Total						43	2		
Grand total						45			



Table 14. Survey results for Kismaliuk Bay and the entrance of Alimuda Bay

Date: January 20, 2005

Survey personnel: Randall Davis and Fred Weltz

Survey vessel: 17 ft aluminum skiff; boat speed ca. 6 knots

Weather: mostly cloudy; light wind (5 knots); Beaufort 1-2

Survey conditions: good

Time	WPT	Lat		Long		# adult otters	pups	General behavior	Notes
		Deg	Min	Deg	Min				
12:36	176	53	28.840	167	19.516	2		normal	Start survey, 30 harbor seals
12:51	177	53	28.985	167	18.894	1		normal	
12:59	178	53	28.851	167	18.507	2	1	normal	dependent pup
13:18	179	53	28.467	167	17.641	2		normal	
13:35	180	53	28.096	167	17.967				
13:43	181	53	27.952	167	18.480	1		normal	
13:53	182	53	27.719	167	17.493	1		normal	hauled out on rock
13:59	183	53	27.611	167	17.118	2		normal	
14:27	184	53	27.081	167	17.160				
14:41	185	53	27.175	167	18.368	4		normal	hauled out on rock
14:42	186	53	26.966	167	18.147	3		normal	
15:25	187	53	26.566	167	18.495				
15:47	188	53	27.434	167	19.620				
15:57	189	53	27.408	167	20.542	4		normal	
16:14	190	53	26.972	167	20.737	5	1	normal	dependent pup
16:23	191	53	26.442	167	20.539	5		normal	End of survey
Total						32	2		
Grand total						34			