Appendix D1. Numbers and densities of murres along the Strait of Juan de Fuca and outer coast of Washington in 2000 (see methods section for further details regarding sampling areas and methods).

Date	Replicate	Zone	Stratum	Primary Sampling Unit	Transect	Transect length (km)	No. of Murres	Murres per km^2
27 JUNE	1	1	1	1	A	5.39	15	13.91
27 JUNE	1	1	1	1	B	4.55	4	4.40
27 JUNE	1	1	1	1	C	4.66	0	0.00
27 JUNE	1	1	1	1	D	4.72	0	0.00
27 JUNE	1	1	1	1	Zig-Zag	14.21	2	0.70
30 JUNE	1	1	1	2	A	4.81	1	1.04
30 JUNE	1	1	1	2	B	3.83	0	0.00
30 JUNE	1	1	1	2	C	5.02	0	0.00
28 JUNE	1	1	1	2	D	4.65	0	0.00
28 JUNE	1	1	1	2	Zig-Zag	13.86	0	0.00
not done	1	1	1	3	A	0	0	0.00
not done	1	1	1	3	B	0	0	0.00
not done	1	1	1	3	C	0	0	0.00
not done	1	1	1	3	D	0	0	0.00
not done	1	1	1	3	Zig-Zag	0	0	0.00
not done	1	1	1	4	A	0	0	0.00
not done	1	1	1	4	B	0	0	0.00
not done	1	1	1	4	C	0	0	0.00
not done	1	1	1	4	D	0	0	0.00
not done	1	1	1	4	Zig-Zag	0	0	0.00
22 JUNE	1	1	1	5	A	3.12	0	0.00
22 JUNE	1	1	1	5	B	4.86	0	0.00
22 JUNE	1	1	1	5	C	5.66	0	0.00
22 JUNE	1	1	1	5	D	4.23	0	0.00
22 JUNE	1	1	1	5	Zig-Zag	15.20	0	0.00
22 JUNE	1	1	1	6	A	4.85	0	0.00
22 JUNE	1	1	1	6	B	4.25	0	0.00
22 JUNE	1	1	1	6	C	5.97	0	0.00
22 JUNE	1	1	1	6	D	5.36	1	0.93
22 JUNE	1	1	1	6	Zig-Zag	15.41	4	1.30
6 JULY	1	1	1	7	A	3.47	0	0.00
6 JULY	1	1	1	7	B	4.84	0	0.00
6 JULY	1	1	1	7	C	4.20	0	0.00
not done	1	1	1	7	D	0	0	0.00
6 JULY	1	1	1	7	Zig-Zag	6.59	1	0.76
7 JULY	1	1	1	8	A	5.61	0	0.00
7 JULY	1	1	1	8	B	5.40	0	0.00
7 JULY	1	1	1	8	C	4.59	0	0.00
7 JULY	1	1	1	8	D	4.99	0	0.00
7 JULY	1	1	1	8	Zig-Zag	15.24	0	0.00
20 JULY	1	2	1	1	A	4.64	24	25.86
20 JULY	1	2	1	1	B	4.47	106	118.57
20 JULY	1	2	1	1	C	4.17	29	34.77
20 JULY	1	2	1	1	D	4.57	8	8.75
20 JULY	1	2	1	1	Zig-Zag	24.54	110	22.41
19 JULY	1	2	1	2	A	5.11	1	0.98
19 JULY	1	2	1	2	B	4.93	2	2.03
19 JULY	1	2	1	2	C	5.17	0	0.00
19 JULY	1	2	1	2	D	4.93	1	1.01
19 JULY	1	2	1	2	Zig-Zag	23.75	27	5.68
18 JULY	1	2	1	3	A	1.69	0	0.00
18 JULY	1	2	1	3	B	4.62	0	0.00
18 JULY	1	2	1	3	C	5.12	2	1.95

18 JULY	1	2	1	3	D	4.82	0	0.00
18 JULY	1	2	1	3	Zig-Zag	23.42	51	10.89
26 JULY	1	2	1	4	A	4.99	2	2.00
26 JULY	1	2	1	4	B	5.36	0	0.00
26 JULY	1	2	1	4	C	5.10	5	4.90
26 JULY	1	2	1	4	D	4.51	20	22.17
26 JULY	1	2	1	4	Zig-Zag	23.58	224	47.50
not done	1	2	1	5	A	0	0	0
not done	1	2	1	5	B	0	0	0
not done	1	2	1	5	C	0	0	0
not done	1	2	1	5	D	0	0	0
not done	1	2	1	5	Zig-Zag	0	0	0
11 JULY	1	2	1	6	A	4.20	7	8.33
11 JULY	1	2	1	6	B	5.43	0	0.00
11 JULY	1	2	1	6	C	4.66	0	0.00
11 JULY	1	2	1	6	D	5.25	0	0.00
11 JULY	1	2	1	6	Zig-Zag	23.66	13	2.75
13 June	1	2	1	7	A	4.02	0	0.00
13 June	1	2	1	7	B	4.35	0	0.00
13 June	1	2	1	7	C	4.37	0	0.00
13 June	1	2	1	7	D	5.13	0	0.00
13 June	1	2	1	7	Zig-Zag	27.55	28	5.08
6 JUNE	1	2	1	8	A	3.50	0	0.00
6 JUNE	1	2	1	8	B	5.56	1	0.90
6 JUNE	1	2	1	8	C	5.22	0	0.00
6 JUNE	1	2	1	8	D	5.08	3	2.95
6 JUNE	1	2	1	8	Zig-Zag	23.91	21	4.39
2 JUNE	1	2	2	9	A	5.18	0	0.00
2 JUNE	1	2	2	9	B	5.21	0	0.00
2 JUNE	1	2	2	9	C	5.82	0	0.00
2 JUNE	1	2	2	9	D	5.43	1	0.92
2 JUNE	1	2	2	9	Zig-Zag	16.29	66	20.26
24 MAY	1	2	2	10	A	5.11	0	0.00
24 MAY	1	2	2	10	B	5.08	0	0.00
24 MAY	1	2	2	10	C	2.44	0	0.00
24 MAY	1	2	2	10	D	5.44	6	5.51
24 MAY	1	2	2	10	Zig-Zag	17.22	4	1.16
23 MAY	1	2	2	11	A	9.83	1	0.51
23 MAY	1	2	2	11	B	5.38	4	3.72
23 MAY	1	2	2	11	C	5.82	0	0.00
23 MAY	1	2	2	11	D	6.78	0	0.00
23 MAY	1	2	2	11	Zig-Zag	19.19	8	2.08
23 MAY	1	2	2	12	A	4.81	2	2.08
23 MAY	1	2	2	12	B	5.94	8	6.73
23 MAY	1	2	2	12	C	5.12	7	6.84
23 MAY	1	2	2	12	D	5.12	0	0.00
23 MAY	1	2	2	12	Zig-Zag	23.09	102	22.09
1 JUNE	1	2	2	13	A	4.96	0	0.00
1 JUNE	1	2	2	13	B	5.53	0	0.00
1 JUNE	1	2	2	13	C	5.13	0	0.00
1 JUNE	1	2	2	13	D	5.65	0	0.00
1 JUNE	1	2	2	13	Zig-Zag	21.05	88	20.90
7 JUNE	1	2	2	14	A	4.68	5	5.34
7 JUNE	1	2	2	14	B	5.30	32	30.19
7 JUNE	1	2	2	14	C	5.31	93	87.57
7 JUNE	1	2	2	14	D	5.62	77	68.51
7 JUNE	1	2	2	14	Zig-Zag	29.35	190	32.37
					Total:	747.8	1407	mean=9.41

Appendix D2. Numbers and densities of Murres along the Strait of Juan de Fuca and outer coast of Washington in 2001 (see methods section for further details regarding sampling areas and methods).

Date	Replicate	Zone	Stratum	Primary Sampling Unit	Transect	Transect Length (km)	No. of Murres	Murres per km^2
16 May	1	2	1	1	A	6.70	1	0.75
16 May	1	2	1	1	B	6.82	1112	815.25
17 May	1	2	1	1	C	4.31	2	2.32
17 May	1	2	1	1	D	4.73	0	0.00
17 May	1	2	1	1	ZZ	23.89	344	72.00
17 May	1	2	1	2	A	5.15	0	0.00
17 May	1	2	1	2	B	4.80	7	7.29
17 May	1	2	1	2	C	4.39	0	0.00
17 May	1	2	1	2	D	5.15	3	2.91
18 May	1	2	1	2	ZZ	21.32	87	20.40
22 May	1	2	1	3	A	4.20	1	1.19
22 May	1	2	1	3	B	4.60	0	0.00
22 May	1	2	1	3	C	5.15	1	0.97
22 May	1	2	1	3	D	5.11	14	13.70
24 May	1	2	1	3	ZZ	23.96	65	13.56
24 May	1	2	1	4	A	4.94	18	18.22
24 May	1	2	1	4	B	4.95	0	0.00
24 May	1	2	1	4	C	5.18	30	28.96
24 May	1	2	1	4	D	4.71	150	159.24
22 May	1	2	1	4	ZZ	23.98	884	184.32
24 May	1	2	1	5	A	4.64	26	28.02
24 May	1	2	1	5	B	5.05	0	0.00
24 May	1	2	1	5	C	5.33	0	0.00
24 May	1	2	1	5	D	5.25	0	0.00
25 May	1	2	1	5	ZZ	23.97	119	24.82
15 June	1	2	1	6	A	4.43	17	19.19
15 June	1	2	1	6	B	4.80	1	1.04
15 June	1	2	1	6	C	4.76	0	0.00
15 June	1	2	1	6	D	5.20	0	0.00
15 June	1	2	1	6	ZZ	23.85	48	10.06
13 June	1	2	1	7	A	4.57	23	25.16
13 June	1	2	1	7	B	4.89	0	0.00
13 June	1	2	1	7	C	4.80	3	3.13
13 June	1	2	1	7	D	5.09	2	1.96
13 June	1	2	1	7	ZZ	23.84	23	4.82
13 June	1	2	1	8	A	4.45	0	0.00
13 June	1	2	1	8	B	4.77	1	1.05
13 June	1	2	1	8	C	4.92	8	8.13
13 June	1	2	1	8	D	5.09	73	71.71
13 June	1	2	1	8	ZZ	23.77	98	20.61
30 May	1	2	2	9	A	6.05	93	76.86
30 May	1	2	2	9	B	5.33	0	0.00
30 May	1	2	2	9	C	5.58	0	0.00
30 May	1	2	2	9	D	5.50	3	2.73
31 May	1	2	2	9	ZZ	37.69	159	21.09
19 June	1	2	2	10	A	5.51	3	2.72
19 June	1	2	2	10	B	5.42	0	0.00
19 June	1	2	2	10	C	5.37	0	0.00
19 June	1	2	2	10	D	5.12	0	0.00
19 June	1	2	2	10	ZZ	38.21	242	31.67
30 May	1	2	2	11	A	4.28	32	37.38
30 May	1	2	2	11	B	5.52	1	0.91
30 May	1	2	2	11	C	5.50	0	0.00

30 May	1	2	2	11	D	4.55	1	1.10
20 June	1	2	2	11	ZZ	37.91	601	79.27
7 June	1	2	2	12	A	5.37	17	15.83
7 June	1	2	2	12	B	0	0	0
7 June	1	2	2	12	C	5.34	0	0.00
7 June	1	2	2	12	D	5.41	0	0.00
7 June	1	2	2	12	ZZ	38.52	117	15.19
6 June	1	2	2	13	A	5.24	2	1.91
6 June	1	2	2	13	B	5.42	1	0.92
6 June	1	2	2	13	C	5.41	15	13.86
6 June	1	2	2	13	D	5.47	82	74.95
6 June	1	2	2	13	ZZ	38.54	328	42.55
8 June	1	2	2	14	A	5.31	0	0.00
8 June	1	2	2	14	B	5.26	7	6.65
8 June	1	2	2	14	C	5.12	22	21.48
8 June	1	2	2	14	D	4.84	1	1.03
6 June	1	2	2	14	ZZ	38.40	158	20.57
17 July	2	2	1	1	A	4.39	56	63.78
17 July	2	2	1	1	B	3.98	112	140.70
17 July	2	2	1	1	C	4.28	96	112.15
17 July	2	2	1	1	D	4.75	39	41.05
18 July	2	2	1	1	ZZ	23.61	158	33.46
24 July	2	2	1	2	A	5.69	34	29.88
24 July	2	2	1	2	B	4.84	38	39.26
24 July	2	2	1	2	C	3.74	1	1.34
24 July	2	2	1	2	D	5.06	38	37.55
24 July	2	2	1	2	ZZ	23.69	81	17.10
26 July	2	2	1	3	A	4.35	0	0.00
26 July	2	2	1	3	B	4.25	10	11.76
26 July	2	2	1	3	C	5.31	19	17.89
26 July	2	2	1	3	D	5.01	68	67.86
26 July	2	2	1	3	ZZ	24.09	169	35.08
24 July	2	2	1	4	A	4.61	17	18.44
24 July	2	2	1	4	B	4.87	17	17.45
24 July	2	2	1	4	C	5.12	289	282.23
24 July	2	2	1	4	D	5.06	633	625.49
26 July	2	2	1	4	ZZ	23.84	538	112.84
13 July	2	2	1	5	A	4.37	142	162.47
13 July	2	2	1	5	B	4.57	0	0.00
13 July	2	2	1	5	C	5.24	1	0.95
13 July	2	2	1	5	D	3.09	12	19.42
13 July	2	2	1	5	ZZ	23.65	208	43.97
11 July	2	2	1	6	A	4.52	21	23.23
11 July	2	2	1	6	B	5.33	0	0.00
11 July	2	2	1	6	C	4.75	2	2.11
11 July	2	2	1	6	D	5.22	0	0.00
11 July	2	2	1	6	ZZ	23.85	315	66.04
12 July	2	2	1	7	A	4.55	6	6.59
12 July	2	2	1	7	B	4.90	24	24.49
12 July	2	2	1	7	C	4.86	136	139.92
12 July	2	2	1	7	D	5.06	166	164.03
12 July	2	2	1	7	ZZ	23.83	424	88.96
12 July	2	2	1	8	A	4.44	48	54.05
12 July	2	2	1	8	B	4.44	3	3.38
12 July	2	2	1	8	C	4.85	11	11.34
12 July	2	2	1	8	D	4.92	14	14.23
12 July	2	2	1	8	ZZ	23.61	399	84.50
					Total:	1153.35	9404	mean=40.8

Appendix D3. Numbers and densities of murres observed during "grid" transects conducted around Carroll and Jagged Islands in 2001 (see methods section for further details regarding sampling areas and methods).

Grid Location	Date	Replicate Number	AM or PM	Leg of Grid	Length (km)	No. of Murres	Murres per km^2
Carroll/Jagged	26 June	1	AM	A	4.98	130	130.52
Carroll/Jagged	26 June	1	PM	A	5.37	66	61.45
Carroll/Jagged	26 June	1	AM	B	5.08	313	308.07
Carroll/Jagged	26 June	1	PM	B	5.08	37	36.42
Carroll/Jagged	26 June	1	AM	C	5.02	68	67.73
Carroll/Jagged	26 June	1	PM	C	4.66	1200	1287.55
Carroll/Jagged	26 June	1	AM	D	5.02	244	243.03
Carroll/Jagged	26 June	1	PM	D	5.04	205	203.37
Carroll/Jagged	26 June	1	AM	E	4.84	12	12.40
Carroll/Jagged	26 June	1	PM	E	4.82	66	68.46
Carroll/Jagged	28 June	2	AM	A	5.07	19	18.74
Carroll/Jagged	28 June	2	PM	A	5.01	11	10.98
Carroll/Jagged	28 June	2	AM	B	5.09	19	18.66
Carroll/Jagged	28 June	2	PM	B	5.01	40	39.92
Carroll/Jagged	28 June	2	AM	C	4.24	27	31.84
Carroll/Jagged	28 June	2	PM	C	4.65	79	84.95
Carroll/Jagged	28 June	2	AM	D	5.04	16	15.87
Carroll/Jagged	28 June	2	PM	D	5.13	134	130.60
Carroll/Jagged	28 June	2	AM	E	5.04	24	23.81
Carroll/Jagged	28 June	2	PM	E	4.78	6	6.28
Carroll/Jagged	29 June	3	AM	A	5.03	19	18.89
Carroll/Jagged	29 June	3	PM	A	4.98	25	25.10
Carroll/Jagged	29 June	3	AM	B	5.01	28	27.94
Carroll/Jagged	29 June	3	PM	B	5.03	22	21.87
Carroll/Jagged	29 June	3	AM	C	4.85	106	109.28
Carroll/Jagged	29 June	3	PM	C	4.79	108	112.73
Carroll/Jagged	29 June	3	AM	D	5.06	141	139.33
Carroll/Jagged	29 June	3	PM	D	5.06	268	264.82
Carroll/Jagged	29 June	3	AM	E	4.84	11	11.36
Carroll/Jagged	29 June	3	PM	E	4.86	4	4.12
Carroll/Jagged	10 July	4	AM	A	5.10	8	7.84
Carroll/Jagged	10 July	4	PM	A	5.03	180	178.93
Carroll/Jagged	10 July	4	AM	B	5 .00	59	59.00
Carroll/Jagged	10 July	4	PM	B	5.03	324	322.07
Carroll/Jagged	10 July	4	AM	C	5.06	511	504.94
Carroll/Jagged	10 July	4	PM	C	5.06	224	221.34
Carroll/Jagged	10 July	4	AM	D	5.05	113	111.88
Carroll/Jagged	10 July	4	PM	D	5.08	476	468.50
Carroll/Jagged	10 July	4	AM	E	5.01	220	219.56
Carroll/Jagged	10 July	4	PM	E	4.38	31	35.39
				Total:	198.28	5594	mean=141

Appendix D4. Numbers and densities of murres observed during "grid" transects conducted around the Quillayute Needles in 2001 (see methods section for further details regarding sampling areas and methods).

Grid Location	Date	Replicate Number	AM or PM	Leg of Grid	Leg Length (km)	No. of Murres	Murres per km^2
Needles	26 June	1	AM	A	5.04	104	103.17
Needles	26 June	1	PM	A	5.09	70	68.76
Needles	26 June	1	AM	B	5.22	82	78.54
Needles	26 June	1	PM	B	5.06	61	60.28
Needles	26 June	1	AM	C	4.58	120	131.00
Needles	26 June	1	PM	C	5.14	410	398.83
Needles	26 June	1	AM	D	4.11	1	1.22
Needles	26 June	1	PM	D	4.96	86	86.69
Needles	26 June	1	AM	E	0	0	0.00
Needles	26 June	1	PM	E	0	0	0.00
Needles	28 June	2	AM	A	5.12	100	97.66
Needles	28 June	2	PM	A	5.09	48	47.15
Needles	28 June	2	AM	B	5.01	104	103.79
Needles	28 June	2	PM	B	5.07	48	47.34
Needles	28 June	2	AM	C	5.12	114	111.33
Needles	28 June	2	PM	C	4.83	922	954.45
Needles	28 June	2	AM	D	3.08	1	1.62
Needles	28 June	2	PM	D	3.29	3	4.56
Needles	28 June	2	AM	E	0	0	0.00
Needles	28 June	2	PM	E	0	0	0.00
Needles	29 June	3	AM	A	5.11	239	233.86
Needles	29 June	3	PM	A	4.98	70	70.28
Needles	29 June	3	AM	B	5.16	105	101.74
Needles	29 June	3	PM	B	5.07	25	24.65
Needles	29 June	3	AM	C	5.17	401	387.81
Needles	29 June	3	PM	C	4.74	484	510.55
Needles	29 June	3	AM	D	4.98	45	45.18
Needles	29 June	3	PM	D	5.05	57	56.44
Needles	29 June	3	AM	E	0	0	0.00
Needles	29 June	3	PM	E	0	0	0.00
Needles	10 July	4	AM	A	5.12	43	41.99
Needles	10 July	4	PM	A	5.07	19	18.74
Needles	10 July	4	AM	B	5.12	57	55.66
Needles	10 July	4	PM	B	5.11	12	11.74
Needles	10 July	4	AM	C	5.15	148	143.69
Needles	10 July	4	PM	C	5.07	85	83.83
Needles	10 July	4	AM	D	5.10	100	98.04
Needles	10 July	4	PM	D	3.61	1	1.39
Needles	10 July	4	AM	E	0	0	0.00
Needles	10 July	4	PM	E	0.35	0	0.00
				Total:	155.77	4165	mean=134

Appendix D5. Numbers and densities of murres observed during "grid" transects conducted around the Grenville Rocks in 2001 (see methods section for further details regarding sampling areas and methods).

Grid Location	Date	Replicate Number	AM or PM	Leg of Grid	Leg Length (km)	No. of Murres	Murres per km^2
Pt. Grenville	22 June	1	AM	A	5.17	140	135.40
Pt. Grenville	22 June	1	PM	A	5.11	22	21.53
Pt. Grenville	22 June	1	AM	B	5.06	50	49.41
Pt. Grenville	22 June	1	PM	B	5.06	68	67.19
Pt. Grenville	22 June	1	AM	C	5.03	13	12.92
Pt. Grenville	22 June	1	PM	C	5.13	134	130.60
Pt. Grenville	22 June	1	AM	D	3.41	7	10.26
Pt. Grenville	22 June	1	PM	D	2.96	43	72.64
Pt. Grenville	22 June	1	AM	E	0	0	0.00
Pt. Grenville	22 June	1	PM	E	0	0	0.00
Pt. Grenville	4 July	2	AM	A	5.11	70	68.49
Pt. Grenville	4 July	2	PM	A	5.12	112	109.38
Pt. Grenville	4 July	2	AM	B	5.2	95	91.35
Pt. Grenville	4 July	2	PM	B	5.08	80	78.74
Pt. Grenville	4 July	2	AM	C	5.13	219	213.45
Pt. Grenville	4 July	2	PM	C	5.11	99	96.87
Pt. Grenville	4 July	2	AM	D	3.61	37	51.25
Pt. Grenville	4 July	2	PM	D	4.48	313	349.33
Pt. Grenville	5 July	3	AM	A	5.08	47	46.26
Pt. Grenville	5 July	3	PM	A	5.13	218	212.48
Pt. Grenville	5 July	3	AM	B	5.13	91	88.69
Pt. Grenville	5 July	3	PM	B	5.09	59	57.96
Pt. Grenville	5 July	3	AM	C	5.17	125	120.89
Pt. Grenville	5 July	3	PM	C	4.92	95	96.54
Pt. Grenville	5 July	3	AM	D	3.52	83	117.90
Pt. Grenville	5 July	3	PM	D	4.18	65	77.75
Pt. Grenville	6 July	4	AM	A	5.03	22	21.87
Pt. Grenville	6 July	4	PM	A	4.90	36	36.73
Pt. Grenville	6 July	4	AM	B	5.05	22	21.78
Pt. Grenville	6 July	4	PM	B	5.13	74	72.12
Pt. Grenville	6 July	4	AM	C	5.22	583	558.43
Pt. Grenville	6 July	4	PM	C	5.05	71	70.30
Pt. Grenville	6 July	4	AM	D	2.73	0	0.00
Pt. Grenville	6 July	4	PM	D	4.44	115	129.50
				Total:	151.54	3208	mean=106

Appendix D6. Numbers and densities of murres observed during "grid" transects conducted around Tatoosh Island in 2001 (see methods section for further details regarding sampling areas and methods).

Grid Location	Date	Replicate Number	AM or PM	Leg of Grid	Leg Length (km)	No. of Murres	Murres per km^2
Tatoosh Island	18 July	1	AM	A	4.77	32	33.54
Tatoosh Island	17 July	1	PM	A	5.04	4	3.97
Tatoosh Island	18 July	1	AM	B	5.21	126	120.92
Tatoosh Island	17 July	1	PM	B	5.06	31	30.63
Tatoosh Island	18 July	1	AM	C	5.23	209	199.81
Tatoosh Island	17 July	1	PM	C	5.31	295	277.78
Tatoosh Island	18 July	1	AM	D	5.17	125	120.89
Tatoosh Island	17 July	1	PM	D	5.15	139	134.95
Tatoosh Island	18 July	1	AM	E	2.39	13	27.20
Tatoosh Island	17 July	1	PM	E	3.02	34	56.29
Tatoosh Island	20 July	2	AM	A	3.66	32	43.72
Tatoosh Island	18 July	2	PM	A	5.13	14	13.65
Tatoosh Island	20 July	2	AM	B	4.29	34	39.63
Tatoosh Island	18 July	2	PM	B	5.12	12	11.72
Tatoosh Island	20 July	2	AM	C	4.21	81	96.20
Tatoosh Island	18 July	2	PM	C	3.79	59	77.84
Tatoosh Island	20 July	2	AM	D	4.77	50	52.41
Tatoosh Island	18 July	2	PM	D	5.23	99	94.65
Tatoosh Island	20 July	2	AM	E	2.35	17	36.17
Tatoosh Island	18 July	2	PM	E	3.03	21	34.65
Tatoosh Island	27 July	3	AM	A	5.10	25	24.51
Tatoosh Island	19 July	3	PM	A	4.68	23	24.57
Tatoosh Island	27 July	3	AM	B	5.11	52	50.88
Tatoosh Island	19 July	3	PM	B	5.10	30	29.41
Tatoosh Island	27 July	3	AM	C	4.10	26	31.71
Tatoosh Island	19 July	3	PM	C	5.25	114	108.57
Tatoosh Island	27 July	3	AM	D	5.22	360	344.83
Tatoosh Island	19 July	3	PM	D	5.27	60	56.93
Tatoosh Island	27 July	3	AM	E	3.01	14	23.26
Tatoosh Island	19 July	3	PM	E	2.55	12	23.53
Tatoosh Island	31 July	4	AM	A	5.15	51	49.51
Tatoosh Island	27 July	4	PM	A	5.14	13	12.65
Tatoosh Island	31 July	4	AM	B	5.24	195	186.07
Tatoosh Island	27 July	4	PM	B	5.09	21	20.63
Tatoosh Island	31 July	4	AM	C	5.29	114	107.75
Tatoosh Island	27 July	4	PM	C	5.03	64	63.62
Tatoosh Island	31 July	4	AM	D	5.29	145	137.05
Tatoosh Island	27 July	4	PM	D	5.19	84	80.92
Tatoosh Island	31 July	4	AM	E	2.58	18	34.88
Tatoosh Island	27 July	4	PM	E	2.66	9	16.92
				Total:	179.98	2857	mean=79.4

Appendix D7. Numbers and densities of murres along the outer coast of Washington in 2002 (see methods section for further details regarding sampling areas and methods).

Date	PSU Number	PSU Segment	Replicate	Transect Length	Number of Murres	Murres per sq. km
18-Jun	1	A	1	4.62	2	2.16
18-Jun	1	B	1	4.59	387	421.57
18-Jun	1	C	1	4.15	35	42.17
18-Jun	1	D	1	4.69	97	103.41
31-May	1	Z	1	19.79	311	78.58
18-Jun	2	A	1	4.96	15	15.12
18-Jun	2	B	1	5.30	2	1.89
18-Jun	2	C	1	4.42	2	2.26
18-Jun	2	D	1	5.05	57	56.44
30-May	2	Z	1	24.41	363	74.35
6-Jun	3	A	1	4.26	0	0.00
6-Jun	3	B	1	2.61	0	0.00
6-Jun	3	C	1	5.08	0	0.00
6-Jun	3	D	1	4.96	0	0.00
6-Jun	3	Z	1	23.55	25	5.31
7-Jun	4	A	1	4.83	7	7.25
7-Jun	4	B	1	3.69	0	0.00
7-Jun	4	C	1	5.06	49	48.42
7-Jun	4	D	1	3.81	194	254.59
7-Jun	4	Z	1	24.06	295	61.31
6-Jun	5	A	1	4.55	3	3.30
6-Jun	5	B	1	3.78	0	0.00
6-Jun	5	C	1	5.23	1	0.96
6-Jun	5	D	1	4.78	0	0.00
5-Jun	5	Z	1	23.24	49	10.54
5-Jun	6	A	1	4.47	0	0.00
5-Jun	6	B	1	4.71	0	0.00
5-Jun	6	C	1	4.61	0	0.00
5-Jun	6	D	1	5.10	0	0.00
5-Jun	6	Z	1	23.70	34	7.17
5-Jun	7	A	1	4.69	0	0.00
5-Jun	7	B	1	4.88	0	0.00
5-Jun	7	C	1	4.97	0	0.00
5-Jun	7	D	1	5.14	1	0.97
4-Jun	7	Z	1	23.64	62	13.11
4-Jun	8	A	1	4.67	2	2.14
4-Jun	8	B	1	4.78	0	0.00
4-Jun	8	C	1	4.74	0	0.00
4-Jun	8	D	1	4.95	88	88.89
4-Jun	8	Z	1	23.59	526	111.49
26-Jun	9	A	1	5.40	19	17.59
26-Jun	9	B	1	5.29	1	0.95
26-Jun	9	C	1	4.67	30	32.12
26-Jun	9	D	1	5.49	29	26.41
25-Jun	9	Z	1	30.29	175	28.89
23-May	10	A	1	5.48	0	0.00
23-May	10	B	1	5.46	0	0.00

23-May	10	C	1	5.51	0	0.00
23-May	10	D	1	6.67	1	0.75
24-May	10	Z	1	13.62	17	6.24
12-Jul	11	A	1	3.53	1	1.42
12-Jul	11	B	1	5.51	10	9.07
12-Jul	11	C	1	5.26	2	1.90
12-Jul	11	D	1	4.27	1	1.17
12-Jul	11	Z	1	38.36	147	19.16
11-Jun	12	A	1	4.29	10	11.66
11-Jun	12	B	1	nd*	nd*	nd*
11-Jun	12	C	1	3.11	0	0.00
11-Jun	12	D	1	5.37	3	2.79
11-Jun	12	Z	1	35.96	150	20.86
11-Jun	13	A	1	5.25	5	4.76
11-Jun	13	B	1	3.28	0	0.00
11-Jun	13	C	1	7.23	38	26.28
11-Jun	13	D	1	5.55	7	6.31
11-Jun	13	Z	1	38.37	230	29.97
13-Jun	14	A	1	5.31	7	6.59
13-Jun	14	B	1	5.26	23	21.86
13-Jun	14	C	1	5.26	32	30.42
13-Jun	14	D	1	4.22	7	8.29
13-Jun	14	Z	1	33.77	819	121.26
14-Jun	Columbia River	NA	1	43.45	2	0.23
16-May	Grays Harbor	NA	1	58.17	27	2.32
22-May	Willapa Bay	NA	1	29.83	0	0.00
4-Jul	1	A	2	4.40	14	15.91
4-Jul	1	B	2	3.97	103	129.72
4-Jul	1	C	2	4.30	22	25.58
4-Jul	1	D	2	4.78	11	11.51
5-Jul	1	Z	2	23.32	298	63.89
19-Jun	2	A	2	5.55	1	0.90
19-Jun	2	B	2	4.78	4	4.18
19-Jun	2	C	2	3.93	1	1.27
19-Jun	2	D	2	4.97	18	18.11
3-Jul	2	Z	2	23.76	297	62.50
24-Jul	3	A	2	4.21	5	5.94
24-Jul	3	B	2	4.41	4	4.54
24-Jul	3	C	2	5.33	42	39.40
24-Jul	3	D	2	5.03	13	12.92
24-Jul	3	Z	2	23.05	310	67.25
22-Jul	4	A	2	4.53	1	1.10
22-Jul	4	B	2	4.64	4	4.31
22-Jul	4	C	2	4.92	5	5.08
22-Jul	4	D	2	4.82	70	72.61
22-Jul	4	Z	2	23.80	414	86.97
30-Jul	5	A	2	4.52	169	186.95
30-Jul	5	B	2	3.45	0	0.00
30-Jul	5	C	2	5.16	8	7.75
30-Jul	5	D	2	5.00	1	1.00
30-Jul	5	Z	2	23.81	388	81.48

30-Jul	6	A	2	4.48	3	3.35
30-Jul	6	B	2	5.32	1	0.94
30-Jul	6	C	2	4.78	0	0.00
30-Jul	6	D	2	5.19	8	7.71
30-Jul	6	Z	2	23.62	31	6.56
25-Jul	7	A	2	4.65	21	22.58
25-Jul	7	B	2	4.90	27	27.55
25-Jul	7	C	2	4.87	32	32.85
25-Jul	7	D	2	5.14	53	51.56
25-Jul	7	Z	2	23.95	235	49.06
25-Jul	8	A	2	4.39	34	38.72
25-Jul	8	B	2	4.71	10	10.62
25-Jul	8	C	2	4.78	85	88.91
25-Jul	8	D	2	5.14	91	88.52
25-Jul	8	Z	2	23.91	981	205.14

Appendix D8. Numbers and densities of murres observed during "grid" transects conducted around various murre breeding colonies in 2002 (Please see methods section for further details regarding sampling areas and methods).

Date	Grid Location	Time of Day	PSU grid Segment	Replicate	Transect Length (km)	Number of Murres
16-Jul	Carroll & Jagged Islands	AM	A	1	5.03	10
16-Jul	Carroll & Jagged Islands	AM	B	1	5.11	360
16-Jul	Carroll & Jagged Islands	AM	C	1	5.07	83
16-Jul	Carroll & Jagged Islands	AM	D	1	5.25	151
16-Jul	Carroll & Jagged Islands	AM	E	1	4.83	3
17-Jul	Carroll & Jagged Islands	AM	A	2	5.03	40
17-Jul	Carroll & Jagged Islands	AM	B	2	4.94	35
17-Jul	Carroll & Jagged Islands	AM	C	2	5.18	108
17-Jul	Carroll & Jagged Islands	AM	D	2	5.11	39
17-Jul	Carroll & Jagged Islands	AM	E	2	5.02	21
19-Jul	Carroll & Jagged Islands	AM	A	3	5.01	39
19-Jul	Carroll & Jagged Islands	AM	B	3	5.05	62
19-Jul	Carroll & Jagged Islands	AM	C	3	4.68	75
19-Jul	Carroll & Jagged Islands	AM	D	3	5.01	29
19-Jul	Carroll & Jagged Islands	AM	E	3	4.83	8
24-Jul	Carroll & Jagged Islands	AM	A	4	5.07	27
24-Jul	Carroll & Jagged Islands	AM	B	4	5.05	106
24-Jul	Carroll & Jagged Islands	AM	C	4	5.04	78
24-Jul	Carroll & Jagged Islands	AM	D	4	5.07	70
24-Jul	Carroll & Jagged Islands	AM	E	4	5.04	9
16-Jul	Carroll & Jagged Islands	PM	A	1	5.47	7
16-Jul	Carroll & Jagged Islands	PM	B	1	5.05	29
16-Jul	Carroll & Jagged Islands	PM	C	1	5.24	264
16-Jul	Carroll & Jagged Islands	PM	D	1	5.19	63
16-Jul	Carroll & Jagged Islands	PM	E	1	4.78	2
17-Jul	Carroll & Jagged Islands	PM	A	2	5.09	126
17-Jul	Carroll & Jagged Islands	PM	B	2	5.09	116
17-Jul	Carroll & Jagged Islands	PM	C	2	5.21	198
17-Jul	Carroll & Jagged Islands	PM	D	2	5.05	21
17-Jul	Carroll & Jagged Islands	PM	E	2	4.68	13
18-Jul	Carroll & Jagged Islands	PM	A	3	5.10	38
18-Jul	Carroll & Jagged Islands	PM	B	3	5.04	77
18-Jul	Carroll & Jagged Islands	PM	C	3	5.15	65
18-Jul	Carroll & Jagged Islands	PM	D	3	5.05	41
18-Jul	Carroll & Jagged Islands	PM	E	3	4.70	8
19-Jul	Carroll & Jagged Islands	PM	A	4	5.54	32
19-Jul	Carroll & Jagged Islands	PM	B	4	4.92	86
19-Jul	Carroll & Jagged Islands	PM	C	4	5.18	49
19-Jul	Carroll & Jagged Islands	PM	D	4	5.07	53
19-Jul	Carroll & Jagged Islands	PM	E	4	4.77	18
25-Jun	Grenville Rocks	AM	A	1	5.17	108
25-Jun	Grenville Rocks	AM	B	1	5.29	382
25-Jun	Grenville Rocks	AM	C	1	5.19	110
25-Jun	Grenville Rocks	AM	D	1	3.73	19
25-Jun	Grenville Rocks	AM	E	1	2.27	0
26-Jun	Grenville Rocks	AM	A	2	5.05	25

26-Jun	Grenville Rocks	AM	B	2	5.15	129
26-Jun	Grenville Rocks	AM	C	2	5.24	86
26-Jun	Grenville Rocks	AM	D	2	1.74	1
26-Jun	Grenville Rocks	AM	E	2	nd*	nd*
27-Jun	Grenville Rocks	AM	A	3	5.04	24
27-Jun	Grenville Rocks	AM	B	3	5.10	36
27-Jun	Grenville Rocks	AM	C	3	5.15	59
27-Jun	Grenville Rocks	AM	D	3	2.57	1
27-Jun	Grenville Rocks	AM	E	3	nd*	nd*
9-Jul	Grenville Rocks	AM	A	4	5.13	37
9-Jul	Grenville Rocks	AM	B	4	5.08	28
9-Jul	Grenville Rocks	AM	C	4	5.22	20
9-Jul	Grenville Rocks	AM	D	4	2.62	0
9-Jul	Grenville Rocks	AM	E	4	nd*	nd*
25-Jun	Grenville Rocks	PM	A	1	5.10	62
25-Jun	Grenville Rocks	PM	B	1	5.13	104
25-Jun	Grenville Rocks	PM	C	1	5.17	71
25-Jun	Grenville Rocks	PM	D	1	0.40	0
25-Jun	Grenville Rocks	PM	E	1	nd*	nd*
26-Jun	Grenville Rocks	PM	A	2	5.11	45
26-Jun	Grenville Rocks	PM	B	2	5.12	67
26-Jun	Grenville Rocks	PM	C	2	5.07	32
26-Jun	Grenville Rocks	PM	D	2	4.09	21
26-Jun	Grenville Rocks	PM	E	2	nd*	nd*
27-Jun	Grenville Rocks	PM	A	3	5.18	77
27-Jun	Grenville Rocks	PM	B	3	5.09	41
27-Jun	Grenville Rocks	PM	C	3	5.34	113
27-Jun	Grenville Rocks	PM	D	3	3.59	11
27-Jun	Grenville Rocks	PM	E	3	nd*	nd*
9-Jul	Grenville Rocks	PM	A	4	5.10	305
9-Jul	Grenville Rocks	PM	B	4	5.06	32
9-Jul	Grenville Rocks	PM	C	4	5.05	19-Jul
9-Jul	Grenville Rocks	PM	D	4	5.25	78
9-Jul	Grenville Rocks	PM	E	4	nd*	nd*
16-Jul	Quilleute Needles	AM	A	1	5.17	246
16-Jul	Quilleute Needles	AM	B	1	5.18	116
16-Jul	Quilleute Needles	AM	C	1	4.35	212
16-Jul	Quilleute Needles	AM	D	1	3.49	2
16-Jul	Quilleute Needles	AM	E	1	nd*	nd*
17-Jul	Quilleute Needles	AM	A	2	5.12	159
17-Jul	Quilleute Needles	AM	B	2	5.04	51
17-Jul	Quilleute Needles	AM	C	2	5.45	411
17-Jul	Quilleute Needles	AM	D	2	3.29	0
17-Jul	Quilleute Needles	AM	E	2	nd*	nd*
19-Jul	Quilleute Needles	AM	A	3	4.22	49
19-Jul	Quilleute Needles	AM	B	3	5.15	75
19-Jul	Quilleute Needles	AM	C	3	5.19	51
19-Jul	Quilleute Needles	AM	D	3	4.95	16
19-Jul	Quilleute Needles	AM	E	3	nd*	nd*
23-Jul	Quilleute Needles	AM	A	4	5.05	29
23-Jul	Quilleute Needles	AM	B	4	5.09	63

23-Jul	Quilleute Needles	AM	C	4	5.12	77
23-Jul	Quilleute Needles	AM	D	4	5.12	63
23-Jul	Quilleute Needles	AM	E	4	nd*	nd*
16-Jul	Quilleute Needles	PM	A	1	5.08	6
16-Jul	Quilleute Needles	PM	B	1	5.11	34
16-Jul	Quilleute Needles	PM	C	1	5.06	54
16-Jul	Quilleute Needles	PM	D	1	5.20	135
16-Jul	Quilleute Needles	PM	E	1	0.78	0
17-Jul	Quilleute Needles	PM	A	2	4.01	137
17-Jul	Quilleute Needles	PM	B	2	5.08	23
17-Jul	Quilleute Needles	PM	C	2	5.19	1706
17-Jul	Quilleute Needles	PM	D	2	3.60	12
17-Jul	Quilleute Needles	PM	E	2	nd*	nd*
19-Jul	Quilleute Needles	PM	A	3	5.15	36
19-Jul	Quilleute Needles	PM	B	3	5.54	108
19-Jul	Quilleute Needles	PM	C	3	5.44	248
19-Jul	Quilleute Needles	PM	D	3	2.09	3
19-Jul	Quilleute Needles	PM	E	3	nd*	nd*
24-Jul	Quilleute Needles	PM	A	4	5.05	87
24-Jul	Quilleute Needles	PM	B	4	5.06	112
24-Jul	Quilleute Needles	PM	C	4	4.88	145
24-Jul	Quilleute Needles	PM	D	4	4.87	17
24-Jul	Quilleute Needles	PM	E	4	nd*	nd*
18-Jun	Tatoosh Island	AM	A	1	5.11	38
18-Jun	Tatoosh Island	AM	B	1	5.29	94
18-Jun	Tatoosh Island	AM	C	1	5.13	124
18-Jun	Tatoosh Island	AM	D	1	5.22	129
18-Jun	Tatoosh Island	AM	E	1	3.17	40
19-Jun	Tatoosh Island	AM	A	2	5.21	336
19-Jun	Tatoosh Island	AM	B	2	5.21	271
19-Jun	Tatoosh Island	AM	C	2	3.95	117
19-Jun	Tatoosh Island	AM	D	2	5.18	59
19-Jun	Tatoosh Island	AM	E	2	1.13	15
3-Jul	Tatoosh Island	AM	A	3	5.08	13
3-Jul	Tatoosh Island	AM	B	3	5.10	35
3-Jul	Tatoosh Island	AM	C	3	4.07	109
3-Jul	Tatoosh Island	AM	D	3	5.14	29
3-Jul	Tatoosh Island	AM	E	3	2.82	35
19-Jun	Tatoosh Island	PM	A	1	5.10	9
19-Jun	Tatoosh Island	PM	B	1	5.06	94
19-Jun	Tatoosh Island	PM	C	1	5.41	296
19-Jun	Tatoosh Island	PM	D	1	5.03	10
19-Jun	Tatoosh Island	PM	E	1	3.07	7
20-Jun	Tatoosh Island	PM	A	2	5.09	3
20-Jun	Tatoosh Island	PM	B	2	5.18	20
20-Jun	Tatoosh Island	PM	C	2	3.88	77
20-Jun	Tatoosh Island	PM	D	2	5.22	33
20-Jun	Tatoosh Island	PM	E	2	2.77	14
3-Jul	Tatoosh Island	PM	A	3	nd*	nd*
3-Jul	Tatoosh Island	PM	B	3	2.06	4
3-Jul	Tatoosh Island	PM	C	3	5.25	70

3-Jul	Tatoosh Island	PM	D	3	5.30	40
3-Jul	Tatoosh Island	PM	E	3	1.61	26

* This segment of grid could not be completed because of ocean conditions

Appendix E. Average estimated annual attendance (afternoon counts during the egg/chick period) - Tatoosh Island Common Murres. a=afternoon, m=morning, Rk#=USFWS rock number, cr=crevice, ct=clifftop, n=no, y=yes, p=probably

M/A	Subcolony	Rk#	Hab.	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	02-01	Chks?	Comments
	rainbow rock 2	035	cr					212	200	193	154	46	160	113	141			born 1995
	rainbow rock 1	035	cr	50	63	24	35	38	15	43	37	2	40	32	36			
	rainbow rock - top	035	ct							4	13	36	0	2	0			born 1997, died 2000
	boom	021	ct	50														died 1991
	north island	022	cr	99	134	100	150	136	139	89	95	88	120	104	94	-		
	north island ridge	022	ct				22											born 1994; died 1995
	north island 2	022	cr					27	28	25	31	40	35	35	44	+	C	born 1995
	north island 3	022	cr											8	4	-		born 2001
	finger 1	022	cr				31	16	38	30	29	39	15	5	9	+		born 1994
	finger 2	022	cr							31	28	38	15	20	21	~		born 1997
	pole island	023	ct	1300	1532	1176	1264	1108	1284	652	240	732	750	630	690	+		91-98 plot=25%;99+ @
	lighthouse 1	021	cr	89	75	27	101	110	132	89	130	125	123	112	94	-		
	lighthouse 2	021	cr	3	0	1	8	6	9	8	5	10	7	11	8	-		
	lighthouse 3	021	cr	23	15	0	25	19	15	13	0	5	13	20	15	-		
	lighthouse 4	021	cr	11	25	8	6	28	35	25	41	34	20	3	1	-		
	lighthouse 5	021	cr					17	28	31	24	44	42	51	36	-	C	born 1995
	below lighthouse	021	cr												14			born 2002
	submarine	021	cr	50	30	42	43	44	51	46	50	52	57	52	61	+	C	
	below submarine	021	cr						5	0								born 1996, died 1997
	burning barrel	021	cr	6	9	0	6	2	16	13	16	22	19	15	19	+		
	burning barrel 2	021	cr					32	64	4	0	98	0		21			born 1995
	burning barrel 3	021	cr					2	13	13	8	25	16	20	16	-		born 1995
	above crisscross	021	cr				3	6	10	0	0	0	21	12	2	-		born 1994
	crisscross 1	021	cr	39	32	28	29	38	52	46	47	52	52	53	53	~	C	
	crisscross 2	021	cr	45	37	30	36	54	59	36	47	55	65	58	49	-	C	
	crisscross 3	021	cr	27	31	17	27	57	59	42	57	65	60	51	49	~	C	
	crisscross 4	021	cr	60	35	34	52	50	54	43	54	45	58	58	67	+	C	
	crisscross 5	021	cr	173	94	85	104	141	173	125	118	157	144	158	127	-	C	
	below crisscross	021	cr									15	36	76	59	-	E	born 1999
	below crisscross u	021	cr												6			born 2002
	r-crisscross	021	cr	15	21	10	26	36	9	22	2	10	15	15	12	-		
	r-crisscross lower	021	cr						21	0	2	78	3	9	0	-		born 1996
	fr-crisscross	021	cr	20	19	12	22	12	35	21	34	26	39	37	26	-		
	fr-crisscross 3	021	cr						15	3	0	34	7	0	6	+		born 1996
	tenniscourt 1	021	cr	79	36	30	29	40	40	31	39	40	42	40	35	-	C	
	tenniscourt 2	021	cr	50	29	23	20	26	30	26	28	29	31	25	23	~	C	
	tenniscourt 3	021	cr	82	91	71	64	77	95	90	93	100	113	108	92	-	C	
	tenniscourt 4	021	cr	25	23	21	21	19	20	26	27	35	37	39	34	-		
	TC4L																E	
	TC4M																C	
	TC4R																C	
	moustache	021	cr					3	0	11	0	2	0	9	0	-		born 1995, intermittent
	toadpoint 1	021	cr	50	27	25	43	60	61	99	135	138	100	130	133	~		
	toadpoint 2	021	cr	50	22	35	24	24	27	56	41	44	30	45	57	+		
	toadpoint 3	021	cr	50	15	15	19	23	35	38	26	36	15	11	40	+		
	toadpoint 4	021	cr							12	8	12	15	2	0	-		born 1997
	toadpoint 5	021	cr											56	17	-		born 2001
	toadpoint 6	021	cr											25	38	+		born 2001
	toadpoint 7	021	cr												6			born 2002
	tpclifftop 1	021	ct	48	30	26	7	15	19	38	32	36	11	38	45	+		partial count
	tpclifftop 2	021	ct	24	46	30	4	17	0	12	6	17	15	9	23	+	C	partial count
	main clifftop	021	ct	1500	1200	1300	1200	600										max count; died 1996
	mct-extension	021	ct						300	350	300	495	700	650	1200	+		born in 1996; estimate
	below mct	021	cr				10	0	0	0	0	0	18	0	0			born 1994
	way below mct	021	cr						31	68	54	67	48	48	43	-	C	born 1996
	petrified	021	ct	200	200	200	260	175	250	700	700	500	440	550	1000	+	C	area-based estimate
	TOTAL			**4214**	**3871**	**3370**	**3691**	**3270**	**3467**	**3204**	**2751**	**3524**	**3547**	**3545**	**4566**			
	# of nesting areas used			28	26	25	31	35	37	39	36	41	40	43	44			
	morn-aft multiplier			1.6	1.5	1.2	1.3	1.13	1.35	1.19	1.28	1.43	1.21	1.15	1.1			
	crevice total			1092	863	638	934	1355	1614	1448	1460	1708	1631	1666	1608			
	clifftop total			3122	3008	2732	2757	1915	1853	1756	1291	1816	1916	1879	2958			
	crevice %			26	22	19	25	41	47	45	53	48	46	47	35			

APPENDIX F:

From Kevin_Ryan@r1.fws.gov Fri Feb 14 09:14:51 2003
Date: Thu, 13 Feb 2003 09:46:24 -0800
From: Kevin_Ryan@r1.fws.gov
To: Thompcwt@dfw.wa.gov, jparrish@u.washington.edu
Cc: warhekiw@dfw.wa.gov
Subject: Tenyo Maru

Refuge Biologist Ulrich Wilson is currently finalizing his 2002 aerial survey data and the results will be forwarded to the Trustees upon completion.

I, as the Project Leader of the Washington Maritime National Wildlife Refuge Complex, endorse and support our collective proposal to conduct Phase II activities (deployment of social attraction devices) at Tatoosh Island, rather than within the Copalis NWR. It is my opinion that Phase II activities conducted at this location can be conducted in a safer environment, not be subjected to the restrictions imposed by the Wilderness Act, and would potentially benefit and may help restore Common Murres in areas impacted by the Tenyo Maru oil spill.

Kevin Ryan
Project Leader
Washington Maritime National Wildlife Refuge Complex
33 South Barr Road
Port Angeles, WA 98362
360/457-8451 - fax 360/457-9778