

Figure 1. Study area survey transects within the summer range of the Central Arctic Caribou Herd and location of the Prudhoe Bay, Kuparuk, and Milne Point oil fields, Arctic Coastal Plain, Alaska (Smith 1996).

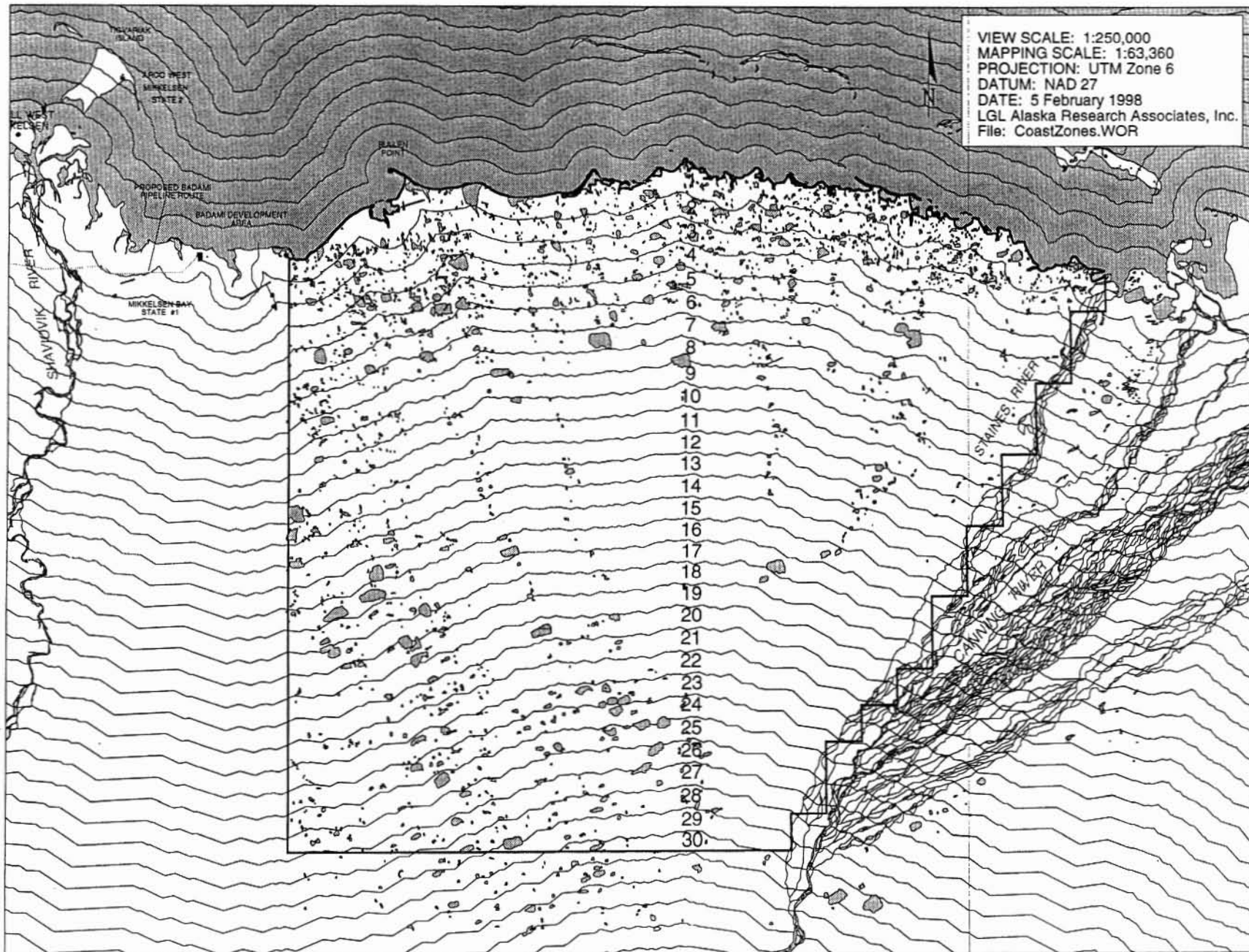


Figure 2. One kilometer intervals from the Beaufort Sea coast in the Bullen Point to Staines River study area, Alaska.

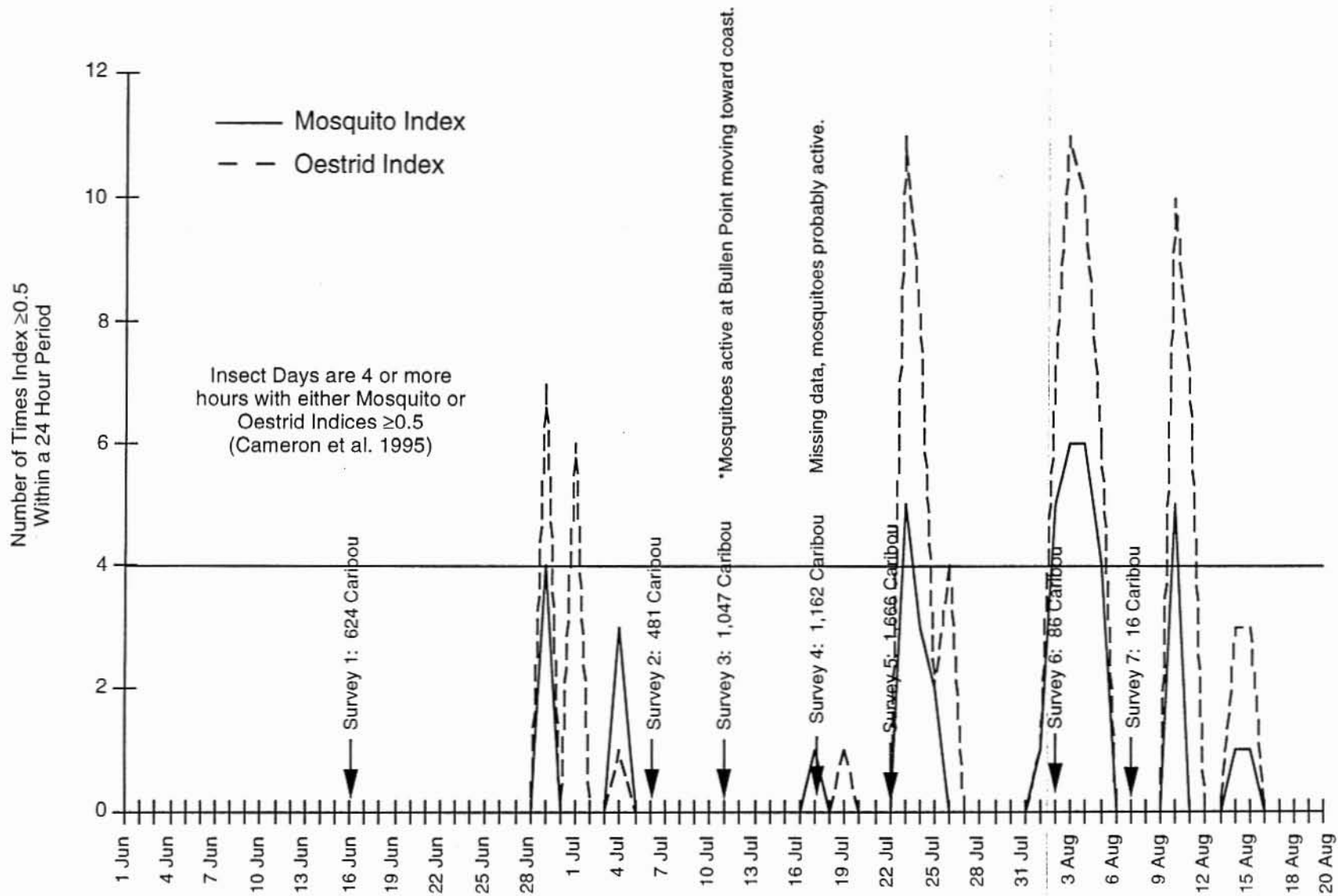


Figure 3. Mosquito and oestrid activity indices (Russell et al. 1993) based on hourly weather data collected at the Deadhorse Weather Station (ASCC 1997) and 1997 aerial caribou survey dates, Bullen Point to Staines River study area, Alaska.

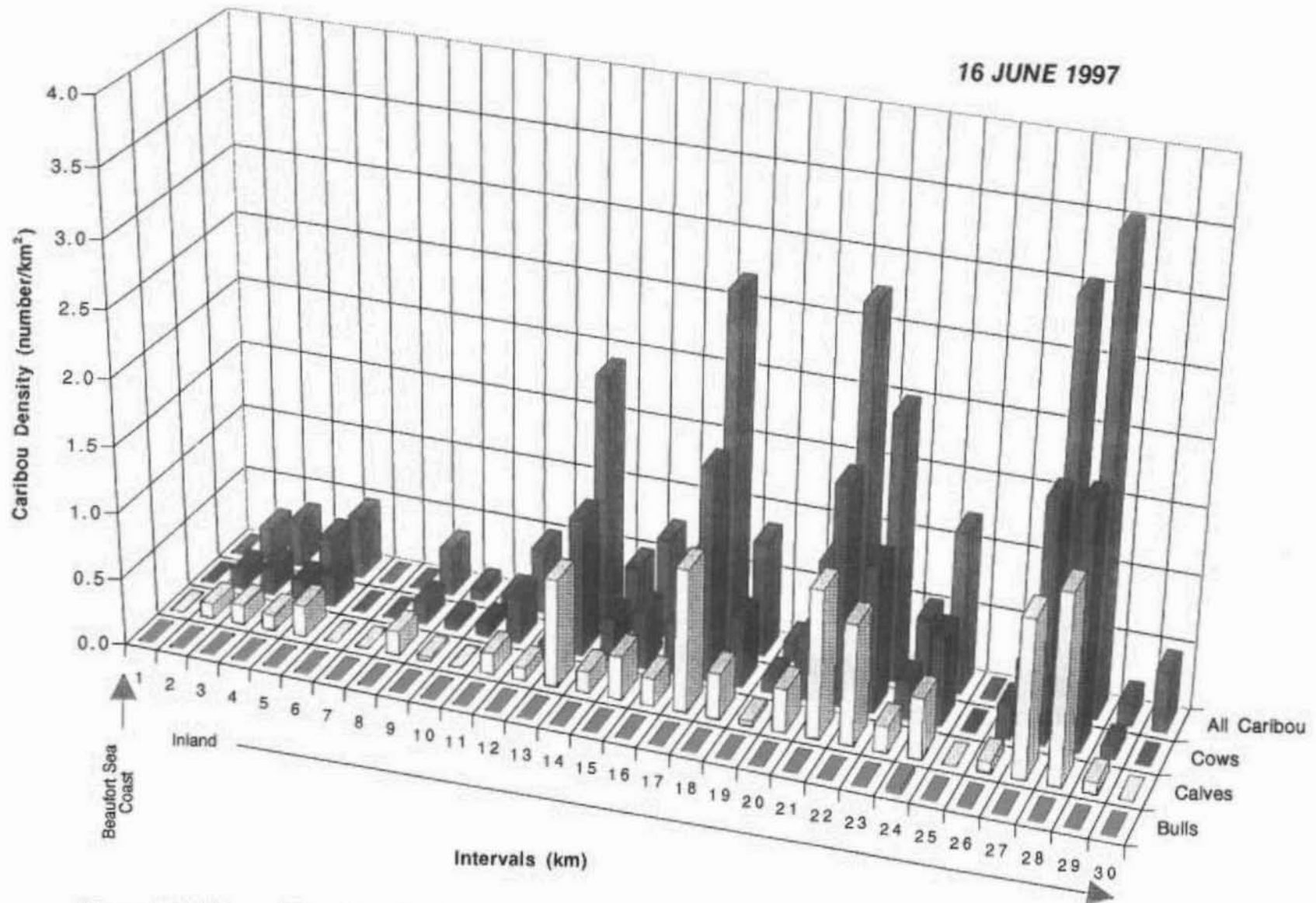


Figure 4. Calving period caribou density by 1-km intervals from the Beaufort Sea coast on 16 June 1997, Bullen Point to Staines River Study Area, Alaska.

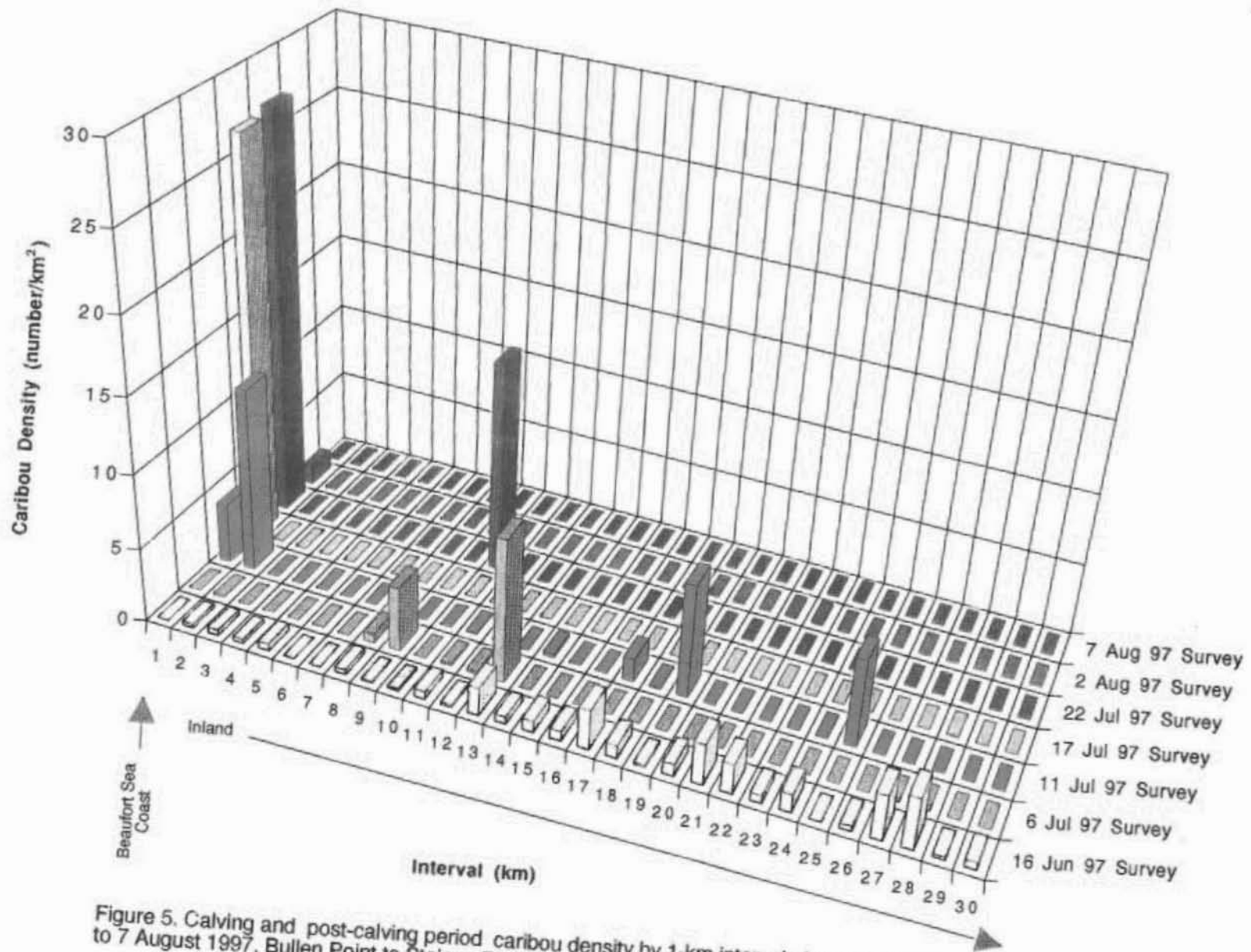


Figure 5. Calving and post-calving period caribou density by 1-km intervals from the Beaufort Sea coast from 16 June to 7 August 1997, Bullen Point to Staines River Study Area, Alaska.

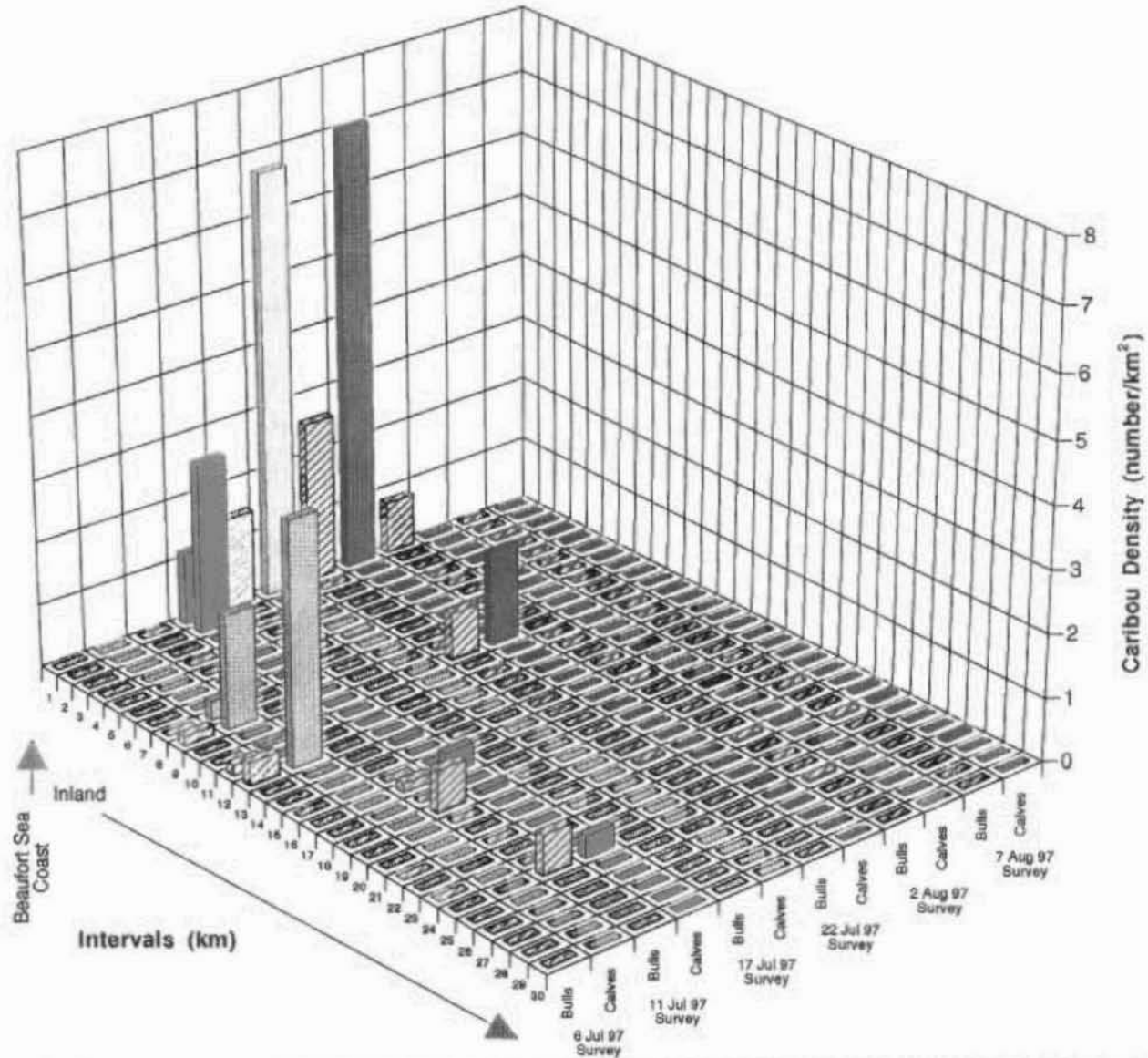


Figure 6. Comparison of post-calving period bull and calf caribou density by 1-km intervals from the Beaufort Sea coast from 6 July to 7 August 1997, Bullen Point to Staines River Study Area, Alaska.

Table 1. Area calculated from 1:63,360 base map files for 1-km distance intervals from the Beaufort Sea coast, Bullen Point to Staines River study area, Alaska, 1997.

Interval	Interval Area (km <sup>2</sup> )	Lake Area (km <sup>2</sup> )	Percent Water Area	Land Area (km <sup>2</sup> )	Percent Land Area	Percent of Study Area
1	48.04	4.64	9.7	43.40	90.3	5.4
2	39.78	3.59	9.0	36.18	91.0	4.4
3	38.23	2.81	7.4	35.41	92.6	4.3
4	37.72	2.67	7.1	35.04	92.9	4.2
5	37.17	2.71	7.3	34.46	92.7	4.1
6	35.43	1.69	4.8	33.74	95.2	4.0
7	35.39	1.58	4.5	33.81	95.5	4.0
8	35.33	0.99	2.8	34.34	97.2	3.9
9	34.12	0.76	2.2	33.36	97.8	3.8
10	33.61	0.40	1.2	33.21	98.8	3.8
11	33.50	0.63	1.9	32.87	98.1	3.7
12	33.17	0.75	2.3	32.42	97.7	3.7
13	31.76	0.64	2.0	31.12	98.0	3.5
14	31.71	0.47	1.5	31.24	98.5	3.5
15	31.70	0.72	2.3	30.99	97.7	3.5
16	30.65	1.55	5.1	29.10	94.9	3.4
17	30.04	0.97	3.2	29.06	96.8	3.4
18	30.10	0.81	2.7	29.29	97.3	3.4
19	29.86	0.79	2.6	29.07	97.4	3.3
20	28.52	0.78	2.7	27.74	97.3	3.2
21	28.40	0.37	1.3	28.03	98.7	3.2
22	26.95	0.30	1.1	26.66	98.9	3.0
23	26.70	1.12	4.2	25.58	95.8	3.0
24	25.26	1.13	4.5	24.12	95.5	2.8
25	25.14	1.29	5.1	23.85	94.9	2.8
26	24.94	0.84	3.4	24.10	96.6	2.8
27	20.07	0.64	3.2	19.43	96.8	2.2
28	15.51	0.70	4.5	14.81	95.5	1.7
29	12.24	0.33	2.7	11.91	97.3	1.4
30	4.56	0.15	3.3	4.41	96.7	0.5
Study Area Total	895.59	36.84		858.75		100

Table 2. Sex and age classifications for caribou and brown bear observed during sytematic aerial surveys in the Bullen Point to Staines River study area, Alaska, 16 June to 7 August 1997.

Survey	Date	Bulls	Cows	Calves	Unclass	Total	Number of Groups	Mean Group Size
<u>Caribou Sightings</u>								
1	16 Jun 97	1	358	251	14	624	81	7.7
2	6 Jul 97	21	223	192	45	481	10	48.1
3	11 Jul 97	38	326	172	511	1047	12	87.2
4	17 Jul 97	64	504	293	301	1162	8	145.2
5	22 Jul 97	139	554	355	618	1666	29	57.4
6	2 Aug 97	39	25	2	20	86	35	2.5
7	7 Aug 97	3	3	3	7	16	11	1.5
Totals		305	1993	1268	1516	5082	186	
<u>Brown Bear Sightings</u>								
1	16 Jun 97	0	0	0	1	1	1	1.0
4	17 Jul 97	0	0	0	2	2	2	1.0

Table 3. Summary of caribou observations just south of the Bullen Point to Staines River study area, Alaska, during systematic aerial surveys, 16 June to 7 August 1997.

Survey	Date	Bulls	Cows	Calves	Unclass	Total	Number of Groups
1	16 Jun 97	0	28	19	2	49	6
3	11 Jul 97	250	0	0	50	300	1
6	2 Aug 97	0	1	0	1	0	2



Table 4. Caribou density (numbers/km<sup>2</sup>) by sex/age class for 1-km intervals from the Beaufort Sea coast in the Bullen Point to Staines River study area, Alaska, 16 June to 7 August 1997.

Interval	One-Kilometer Intervals																														Area of Caribou Totals	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
Area	43.4	36.18	35.4	35	34.5	33.7	33.8	34.3	33.4	33.2	32.9	32.4	31.1	31.2	31	29.1	29.1	29.3	29.1	27.7	28	26.7	25.6	24.1	23.9	24.1	19.4	14.8	11.9	4.41	858.75	
<b>Survey 1--16 June (Calving Period)</b>																																
Bull Density	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Bull Number	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	1
Cow Density	0.00	0.14	0.20	0.14	0.23	0.00	0.00	0.17	0.06	0.09	0.33	0.03	1.03	0.32	0.42	0.38	1.58	0.51	0.10	0.47	1.64	1.09	0.27	0.66	0.00	0.25	1.80	1.82	0.08	0.00		
Cow Number	(0)	(5)	(7)	(5)	(8)	(0)	(0)	(6)	(2)	(3)	(11)	(1)	(32)	(10)	(13)	(11)	(46)	(15)	(3)	(13)	(46)	(29)	(7)	(16)	(0)	(6)	(35)	(27)	(1)	(0)	358	
Calf Density	0.00	0.11	0.14	0.11	0.23	0.00	0.00	0.17	0.03	0.00	0.15	0.09	0.80	0.16	0.32	0.21	1.07	0.34	0.03	0.32	1.11	0.90	0.20	0.46	0.00	0.08	1.18	1.42	0.08	0.00		
Calf Number	0	4	5	4	8	0	0	6	1	0	5	3	25	5	10	6	31	10	1	9	31	24	5	11	0	2	23	21	1	0	251	
Unclass Density	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.00	0.00	0.05	0.27	0.00	0.45		
Unclass Number	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	1	0	0	0	0	0	1	1	0	0	1	4	0	2	14	
Total Density	0.00	0.25	0.34	0.26	0.48	0.00	0.00	0.35	0.09	0.09	0.49	0.12	1.90	0.48	0.74	0.65	2.68	0.85	0.14	0.79	2.75	1.99	0.51	1.20	0.00	0.33	3.04	3.51	0.17	0.45		
Total Number	0	9	12	9	16	0	0	12	3	3	16	4	59	15	23	19	78	25	4	22	77	53	13	29	0	8	59	52	2	2	624	
<b>Survey 2--6 July (Post-Calving Period)</b>																																
Bull Density	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.15	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Bull Number	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(5)	(0)	(0)	(5)	(11)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	21
Calf Density	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	1.80	0.00	0.06	0.00	3.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Calf Number	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(60)	(0)	(2)	(0)	(120)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	192	
All Caribou Density	0.00	0.08	0.00	0.00	0.00	0.03	0.00	0.58	4.35	0.00	0.15	0.15	9.87	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
All Caribou Number	(0)	(3)	(0)	(0)	(0)	(1)	(0)	(20)	(145)	(0)	(5)	(5)	(301)	(0)	(0)	(0)	(0)	(0)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	481	
<b>Survey 3--11 July (Post-Calving Period)</b>																																
Bull Density	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.65	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.00	0.00	0.00	0.00		
Bull Number	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0)	(19)	(0)	(0)	(0)	(0)	(0)	(0)	(15)	(0)	(0)	(0)	(0)	(0)	(0)	38
Calf Density	1.15	2.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.34	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00		
Calf Number	(50)	(100)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(10)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(8)	(0)	(0)	(0)	(0)	(0)	(0)	172	
All Caribou Density	4.03	12.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.22	0.00	0.00	1.51	0.07	7.67	0.00	0.04	0.00	0.00	0.04	5.95	0.00	0.00	0.00	0.00	0.00		
All Caribou Number	(175)	(450)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(7)	(0)	(0)	(44)	(2)	(223)	(0)	(1)	(0)	(0)	(1)	(142)	(0)	(0)	(0)	(0)	(0)	1047	
<b>Survey 4--17 July (Post-Calving Period)</b>																																
Bull Density	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Bull Number	(64)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	64
Calf Density	6.73	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Calf Number	(292)	(0)	(0)	(0)	(0)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	293	
All Caribou Density	26.71	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00		
All Caribou Number (1159)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1)	(0)	(0)	1162	

Table 4. continued.

Interval	One-Kilometer Intervals																														Area of Caribou Totals	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
<b>Survey 5--22 July (Post-Calving Period)</b>																																
Bull Density	2.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	139
Bull Number	(112)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1)	(25)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	355	
Calf Density	7.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1666	
Calf Number	(305)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(50)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)			
All Caribou Density	27.10	0.06	0.03	0.00	0.03	0.03	0.06	0.00	0.03	14.33	0.06	0.03	0.00	0.00	0.00	0.03	0.03	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
All Caribou Number (1176)	(2)	(1)	(0)	(1)	(1)	(2)	(0)	(1)	(476)	(2)	(1)	(0)	(0)	(0)	(0)	(1)	(1)	(0)	(0)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)			
<b>Survey 6--2 August (Post-Calving Period)</b>																																
Bull Density	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	39	
Bull Number	(36)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1)	(0)	(0)	(0)	(0)	(0)	(1)	(0)	(0)	(0)	(0)	(1)	(0)	(0)	(0)	(0)	2	
Calf Density	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	86	
Calf Number	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)		
All Caribou Density	1.27	0.03	0.03	0.03	0.00	0.03	0.03	0.06	0.03	0.03	0.03	0.03	0.00	0.00	0.00	0.03	0.00	0.07	0.10	0.04	0.11	0.19	0.08	0.04	0.04	0.04	0.00	0.00	0.00	0.00		
All Caribou Number (55)	(1)	(1)	(1)	(0)	(1)	(1)	(2)	(1)	(1)	(1)	(1)	(0)	(0)	(0)	(1)	(0)	(2)	(3)	(1)	(3)	(5)	(2)	(1)	(1)	(1)	(0)	(0)	(0)	(0)			
<b>Survey 7--7 August (Post-Calving Period)</b>																																
Bull Density	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3	
Bull Number	(0)	(0)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1)	(0)	(0)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	3	
Calf Density	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.00	0.00	0.00	0.05	0.00	0.00	0.00	3		
Calf Number	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1)	(1)	(0)	(0)	(0)	(1)	(0)	(0)	(0)	16		
All Caribou Density	0.07	0.03	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.08	0.16	0.00	0.00	0.00	0.10	0.00	0.00	0.00			
All Caribou Number (3)	(1)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(2)	(4)	(0)	(0)	(0)	(2)	(0)	(0)	(0)			