Table 1. Sex and age classification of caribou observed during systematic aerial surveys in the Badami study area, Alaska, 17 June through 25 July 2000.[a]

Flight	Date	Number of Caribou					Number of Groups
		Bulls	Cows	Calves	Unclass	Total	
1	17 Jun 00	5	553	261	96	915	171
2	29 Jun 00	194	539	181	484	1,398	113
3	7 Jul 00	479	997	674	4,017	6,167	21
4	21 Jul 00	1,773	1,118	552	2,601	6,044	29
5	25 Jul 00	382	633	311	1,315	2,641	43

[a]The study area during the 17 June calving survey extended from the coastline south to lat 69°54.5′N; all post-calving surveys extended south to lat 70°N.

Table 2. Sex and age classification of caribou north of the Badami pipeline corridor during systematic aerial surveys in the Badami study area, Alaska, 17 June through 25 July 2000.[a]

Flight	Date	Number of Caribou					Number of Groups
		Bulls	Cows	Calves	Unclass	Total	
1	17 Jun 00	1	9	5	8	23	5
2	29 Jun 00	2	4	0	6	12	3
3	7 Jul 00	0	440	295	75	810	6
4	21 Jul 00	565	414	232	839	2,050	16
5	25 Jul 00	10	24	8	34	76	8

[a]The study area during the 17 June calving survey extended from the coastline south to lat 69°54.5′N; all post-calving surveys extended south to lat 70°N.

Table 3. Caribou group sightings by activity and habitat types (Walker 1983; see Table 4) recorded during aerial strip-transect surveys conducted in the Badami study area, Alaska, 17 June through 25 July 2000.

Flight Activity	Water Ia	Wet Sedge Tundra IIa	Wet Sedge/Moist Sedge Dwarf Shrub Tundra Complex IId	Wet Sedge/Moist Sedge/Barren Complex IIe	Moist/Wet Sedge Complex IVa	Moist Sedge, Dwarf Shrub Tundra Va	Moist Tussock Sedge, Dwarf Shrub Tundra Vb	Dry, Dwarf Shrub, Crustose Lichen Tundra Vc	Moist Graminoid, Dwarf Shrub Tundra/ Barren Complex Ve	Dry Barren/Dwarf Shrub Forb Grass Complex IXb	River Gravels Xa	Wet Mud Xb	Gravel Roads and Pads Xe	Wet Mud XIa	No Habitat Data	Total
Flight 1 -- 17 June 2000																
Rest	0	0	0	0	1	9	16	3	0	0	0	0	0	0	4	33
Stand	0	0	0	0	1	0	2	0	0	0	0	0	0	0	2	5
Feed	0	0	3	1	7	7	32	5	2	0	0	0	0	0	7	64
Walk	0	0	0	0	0	2	7	0	0	0	0	0	0	0	4	13
Trot	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	3
Run	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	4
Move	0	0	0	0	0	1	2	0	0	0	0	0	0	0	1	4
No Data	0	0	0	0	0	0	4	2	0	0	0	0	0	0	39	45
Total	0	0	3	1	9	21	68	10	2	0	0	0	0	0	57	171
Flight 2 -- 29 June 2000																
Rest	0	0	0	1	2	8	2	6	1	5	0	1	0	0	0	26
Stand	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Feed	0	0	0	1	10	11	4	20	1	2	0	0	1	0	1	51
Walk	0	0	0	0	2	2	1	3	0	0	0	0	1	0	0	9
Trot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Run	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
Move	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
No Data	0	0	0	0	0	1	2	0	0	2	0	0	0	0	18	23
Total	1	0	0	2	14	24	9	29	2	10	0	1	2	0	19	113
Flight 3 -- 7 July 2000																
Rest	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	3
Stand	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
Feed	0	0	0	0	0	2	0	2	0	0	2	0	0	0	0	6
Walk	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
Trot	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2
Run	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Move	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
No Data	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	4
Total	0	1	0	0	0	2	0	2	0	2	4	2	1	1	6	21
Flight 4 -- 21 July 2000																
Rest	0	0	0	0	0	0	1	0	0	0	1	0	0	1	1	4
Stand	1	0	0	0	0	1	0	0	0	1	2	0	0	0	0	5
Feed	0	0	0	0	0	1	0	2	0	0	1	0	0	0	3	7
Walk	0	0	0	0	0	0	1	3	0	0	3	0	0	1	1	9
Trot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Run	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
Move	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
No Data	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	1	0	0	0	0	2	2	5	0	1	8	0	0	2	8	29
Flight 5 -- 25 July 2000																
Rest	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	3
Stand	0	0	0	0	2	0	0	1	0	0	1	0	0	0	0	4
Feed	0	0	0	0	0	2	3	2	0	0	0	1	0	0	1	9
Walk	1	0	0	0	1	1	1	7	0	0	1	0	0	1	2	15
Trot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Run	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	3
Move	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3	5
No Data	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	4
Total	1	1	0	0	4	4	4	14	1	0	2	1	0	1	10	43

Table 4. Hierarchical vegetation categories in the Badami area based on Walker's (1983) vegetation classification.

LEVEL A Small-Scale Units	LEVEL B Landsat-Scale Units	LEVEL C Photo-Interpreted Map Units	LEVEL D Typical Plant Communities
A. Water	I. Water	Ia. Water (ponds, lakes, rivers, streams, saltwater)	No vegetation
B. Wet Tundra	II. Very Wet Tundra	IIb. Aquatic Graminoid Tundra (emergent vegetation)	Aquatic *Arctophila fulva* Grass Tundra Aquatic *Carex aquatilis* Sedge Tundra
		IId. Water/Tundra Complex (pond complex with emergent vegetation)	Typical communities listed in IIb, IIIa, and Va
	III. Wet Tundra	IIIa. Wet Sedge Tundra	Wet *Carex aquatilis, Scorpidium scorpioides* Sedge Tundra (wettest facies of wet alkaline tundra) Wet *Carex aquatilis, Eriophorum angustifolium, Pedicularis sudetica, Drepanocladus brevifolius* Sedge Tundra (wet alkaline tundra) Wet *Eriophorum angustifolium, Dupontia fisheri, Campylium stellatum* Graminoid Tundra (wet acidic tundra, coastal areas)
		IIIb. Wet Graminoid Tundra (wet saline tundra, saltmarsh)	Wet *Carex subspathacea, Puccinellia phryganodes, Stellaria humifusa, Cochlearia officinalis* Sedge Tundra
		IIIc. Wet Sedge Tundra/Water Complex (pond complex, no emergent vegetation)	Typical communities listed in IIIa and Va
		IIId. Wet Sedge/Moist Sedge, Dwarf Shrub Tundra Complex (wet patterned-ground complex)	Typical communities listed in IIIa and Va, and sometimes IIb
		IIIe. Wet Sedge/Moist Sedge/Barren complex (wet frost-scar tundra complex)	Typical communities listed in IIIa, Va and Ve
C. Moist Tundra	IV. Moist/Wet Tundra Complex	IVa. Moist Sedge, Dwarf Shrub/Wet Graminoid Tundra Complex (moist patterned ground complex)	Typical communities listed in IIIa and Va
	V. Moist or Dry Tundra	Va. Moist Sedge, Dwarf Shrub Tundra	Moist *Carex bigelowii, Eriophorum angustifolium, Dryas integrifolia, Salix reticulata, Tomenthypnum nitens, Thamnolia subuliformis* Sedge, Dwarf Shrub Tundra (moist alkaline tundra) Moist *Luzula arctica, Poa arctica, Saxifraga cernua, Salix planifolia, Dicranum elongatum, Ochrolechia frigida* Graminoid, Dwarf Shrub, Crustose Lichen Tundra (moist acidic tundra)

Table 4. Continued

LEVEL A Small-Scale Units	LEVEL B Landsat-Scale Units	LEVEL C Photo-Interpreted Map Units	LEVEL D Typical Plant Communities
C. Moist Tundra (continued)	V. Moist or Dry Tundra (continued)	Va. Moist Sedge, Dwarf Shrub Tundra (continued)	Moist *Carex aquatilis, Eriophorum angustifolium, Salix planifolia, Calliergon stellatum* Sedge, Dwarf Shrub Tundra (moist acidic tundra, wetter facies)
		Vc. Dry, Dwarf Shrub, Crustose Lichen Tundra (*Dryas* tundra, pingos, river bars)	Dry *Dryas integrifolia, Carex rupestris, Oxytropis nigrescens, Salix reticulata, Ditrichum flexicaule, Lecanora epibryon* Dwarf Shrub, Forb, Crustose Lichen Tundra (*Dryas* tundra, pingos)
			Dry *Dryas integrifolia, Astragalus alpinus, Oxytropis borealis, Salix reticulata, Distichium capillaceum, Lecanora epibryon* Dwarf Shrub, Forb, Crustose Lichen Tundra (*Dryas* tundra, river bars)
		Vd. Dry, Dwarf Shrub, Fruticose Lichen Tundra (dry acidic tundra)	Dry *Salix rotundifolia, Pedicularis kanei, Luzula arctica, Ploytichum* sp., *Alectoria nigricans, Cetraria islandica* Dwarf Shrub, Fruticose Lichen Tundra (dry acidic tundra near coast)
		Ve. Moist Graminoid, Dwarf Shrub Tundra/Barren Complex (frost-scar tundra complex)	Typical communities listed in Va plus either completely barren frost scars or communities such as: Dry *Saxifraga oppositifolia, Dryas integrifolia, Chrysanthemum integrifolium, Juncus biglumis, Arctagrostis latifolia, Ochrolechia frigida* Barren (alkaline frost scars)
E. Partially Vegetated and Barren	IX. Partially Vegetated	IXb. Dry Barren/Dwarf Shrub, Forb Grass Complex (forb rich river bars)	Typical communities listed in Ve, and mixed forb, grass and dwarf shrub communities such as:
			Dry *Bromus pumpellianus, Festuca rubra, Astragalus alpinus, Androsace chamaejasme, Salix ovalifolia* Grass, Forb, Dwarf Shrub Tundra (forb rich river bars)
			Dry *Dryas integrifolia, Artemisia borealis, A. glomerata, Salix ovalifolia, Androsace chamaejasme* Dwarf Shrub, Forb Tundra (*Dryas* river bars near arctic coast)
		IXe. Dry Barren/Grass Complex (coastal sand dune grassland)	Dry *Elymus arenarius* Grass Tundra (coastal sand dune grassland)
		IXf. Dry Barren/Dwarf Shrub Grass complex (sand dune steppe)	Dry *Artemisia borealis, A. glomerata, Deschampsia caespitosa, Trisetum spicatum* Dwarf Shrub, Grass Tundra (sand dune steppe)
		IXh. Wet Barren/Wet Sedge Tundra Complex (barren/saline tundra complex, saltmarsh)	Typical communities listed in IIIb

Table 4. Continued

LEVEL A Small-Scale Units	LEVEL B Landsat-Scale Units	LEVEL C Photo-Interpreted Map Units	LEVEL D Typical Plant Communities
E. Partially Vegetated and Barren (continued)	IX. Partially Vegetated (continued)	IXi. Dry Barren/Forb, Graminoid Complex (coastal barrens)	Dry *Cochlearia officinalis, Stellaria humifusa, Puccinellia phryganodes, P. andersonii, Salix ovalifolia, Potentilla pulchella* Forb, Graminoid Tundra (coastal saline barrens)
	X. Light-colored Barrens (ground cover <30%)	Xa. River Gravels	Completely barren or with communities listed under IXb and IXc.
		Xc. Barren Gravel Outcrops	Typical communities listed under Vd or IXe or the following among many others:
			Dry *Dryas octopetala, Lupinus arcticus, Potentilla biflora, Smelowski calycina,Saxifraga tricusoidata Salix phlebophylla, Silene acaulis* Dwarf Shrub Barren (gravel outcrops)
		Xe. Gravel Roads and Pads	Completely barren or partially vegetated with communities similar to IXb and IXc.
	XI. Dark-colored Barrens (ground cover <30%)	XIa. Wet Mud (drained lakes and ponds)	Completely barren or occasionally wtih colonizing species such as *Deschampsia caespitosa* and *Senecio congestus.*
		XIe. Bare Peat (mostly barren coastal areas caused by storm surges)	Completely barren or with sparse communities similar to IIIa, Va, and IXi.

Table 5. Caribou densities (caribou/km^2) by 1-km intervals from the Beaufort Sea coast in the Badami study area, Alaska, 17 June through 25 July 2000.

	One-Kilometer Intervals																															Area and Caribou
	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	31	32	>32	Totals
Calving Period																																		
Land Area (sq km^2)																																		
	110.6	30.5	43.2	41.2	42.9	40.8	42.1	42.9	41.9	42.2	39.5	41.2	41.7	39.3	40.5	40.5	41.5	41.1	41.0	42.4	42.6	42.5	40.3	42.7	42.1	39.9	33.6	36.1	27.7	24.6	22.0	19.1	20.1	1334.3
Survey 1--17 June																																		
Total	0.06	0.34	0.12	0.02	0.09	0.32	0.38	0.40	0.93	0.33	1.47	0.39	1.01	0.66	0.25	0.94	0.41	2.07	1.07	0.61	0.92	0.40	0.42	0.98	1.31	0.70	0.71	1.10	1.64	0.83	0.55	1.88	2.79	
	(7)	(17)	(5)	(1)	(4)	(13)	(16)	(17)	(39)	(14)	(58)	(16)	(42)	(26)	(10)	(38)	(17)	(85)	(44)	(26)	(39)	(17)	(17)	(42)	(55)	(28)	(21)	(33)	(40)	(23)	(12)	(36)	(56)	919
Calves	0.00	0.10	0.05	0.00	0.05	0.07	0.14	0.12	0.31	0.00	0.53	0.12	0.24	0.23	0.12	0.30	0.12	0.75	0.29	0.19	0.14	0.00	0.07	0.26	0.50	0.20	0.18	0.07	0.31	0.16	0.14	0.47	1.00	
	(0)	(5)	(2)	(0)	(2)	(5)	(6)	(5)	(13)	(0)	(21)	(5)	(10)	(9)	(5)	(12)	(5)	(31)	(12)	(8)	(6)	(0)	(3)	(11)	(21)	(8)	(6)	(2)	(11)	(4)	(3)	(9)	(20)	261
Post-Calving Period																																		
Land Area (sq km^2)																																		
	110.6	30.5	43.2	41.2	42.9	40.8	42.1	42.9	41.9	42.2	39.5	41.2	41.7	39.3	40.5	37.1	32.9	29.8	25.9	24.8	23.2	18.6	11.3	7.2	1.9									913.2
Survey 2--29 June																																		
Total	0.06	0.61	0.05	0.19	0.14	0.12	0.55	1.56	5.20	3.67	2.61	2.18	2.81	2.37	1.43	1.29	5.35	2.95	0.69	3.02	0.00	0.54	0.00	0.00	0.00									
	(7)	(51)	(2)	(8)	(6)	(5)	(23)	(67)	(218)	(155)	(103)	(90)	(117)	(93)	(58)	(48)	(176)	(88)	(18)	(75)	(0)	(10)	(0)	(0)	(0)									1598
Calves	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.23	1.31	1.02	0.89	0.24	0.00	0.38	0.05	0.03	0.15	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00									
	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(10)	(55)	(43)	(35)	(10)	(0)	(15)	(2)	(1)	(5)	(3)	(0)	(0)	(0)	(0)	(0)	(0)	(0)									181
Survey 3--7 July																																		
Total	10.42	26.75	64.31	21.46	0.05	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									
	(1152)	(1351)	(2778)	(884)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)									5167
Calves	3.09	0.99	3.77	2.86	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	0.00									
	(342)	(50)	(163)	(118)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)									674
Survey 4--21 July																																		
Total	18.53	5.98	12.60	28.81	0.02	0.05	47.51	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53									
	(2049)	(302)	(501)	(1187)	(1)	(2)	(2000)	(0)	(0)	(0)	(0)	(0)	(0)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1)									6044
Calves	2.10	0.99	1.39	2.67	0.00	0.00	2.38	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									
	(232)	(30)	(60)	(110)	(0)	(0)	(100)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)									554
Survey 5--25 July																																		
Total	0.68	0.00	0.09	0.10	0.05	0.00	0.00	0.00	0.10	0.47	26.56	0.05	0.07	4.58	2.22	7.01	6.47	6.71	0.35	7.26	8.32	8.06	0.09	0.14	0.00									
	(75)	(0)	(4)	(4)	(2)	(0)	(0)	(0)	(4)	(20)	(1049)	(2)	(3)	(180)	(90)	(261)	(213)	(300)	(9)	(180)	(193)	(150)	(1)	(1)	(0)									2641
Calves	0.07	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.05	3.04	0.00	0.00	1.02	0.00	1.62	0.09	0.00	0.00	0.00	1.34	2.42	0.00	0.00	0.00									
	(8)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(2)	(120)	(0)	(0)	(40)	(0)	(60)	(3)	(0)	(0)	(0)	(31)	(45)	(0)	(0)	(0)									311

APPENDIX A

2000 DATA

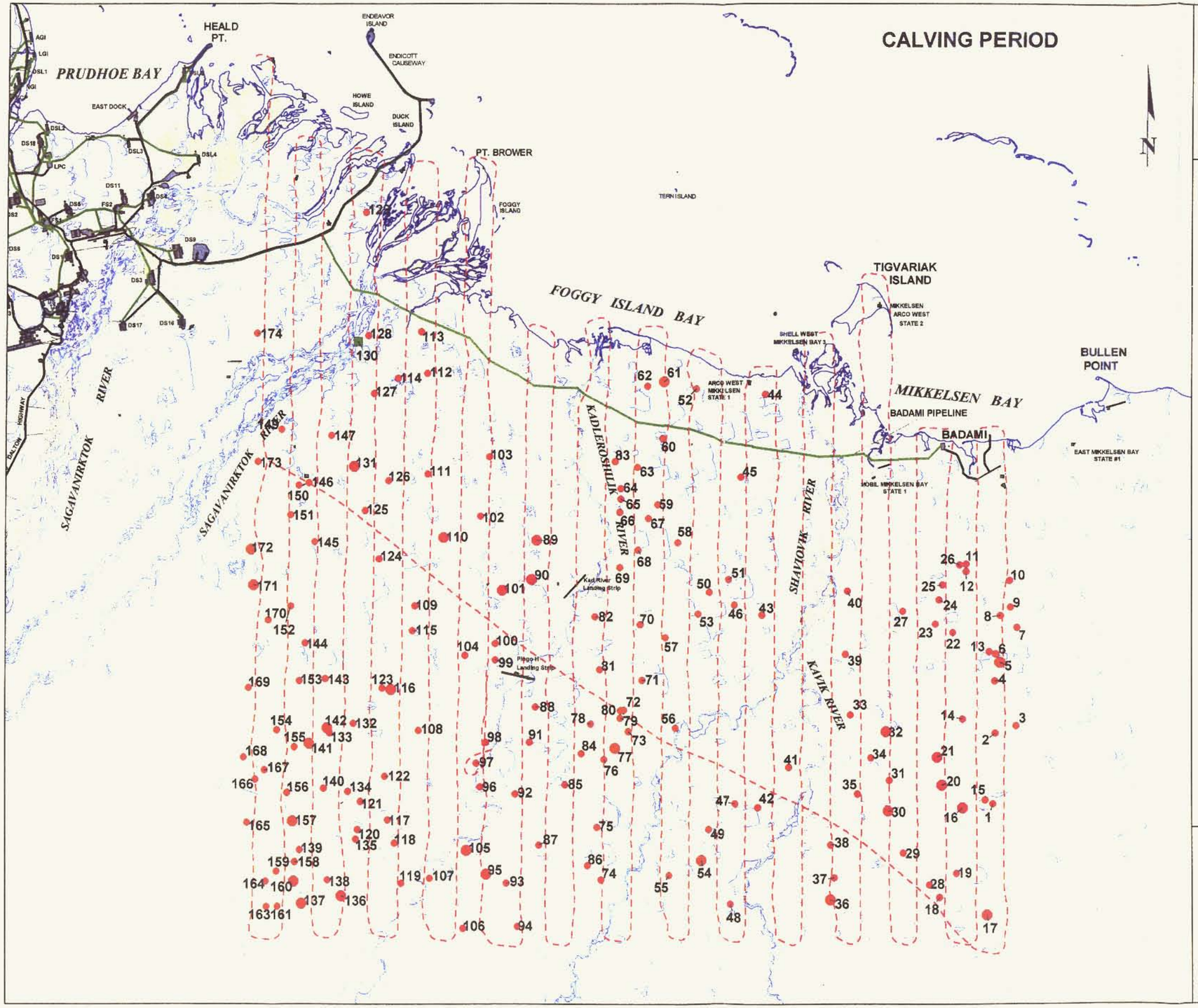

Figure A-1

Distribution of large mammals in the Badami study area, Alaska, on 17 June 2000.

Caribou Group Size

	Groups
Less than 10	144
10 to 100	27
101 to 250	0
Greater than 250	0

Muskoxen

22 Group Attribute Number (see Tables A-1 and A-2)

Survey Flight Line

Pipelines

Roads

Gravel Production and Exploration Facilities

Miles
1 0 1 2 3 4 5
1 0 1 2 3 4 5
Kilometers

Map Projection: UTM Zone 6
Datum: NAD 27
View Scale: 1:233,700
Mapping Scale: 1:63,360
Prepared by: LGL Alaska Research Associates
File: BD00ca_a1.wor

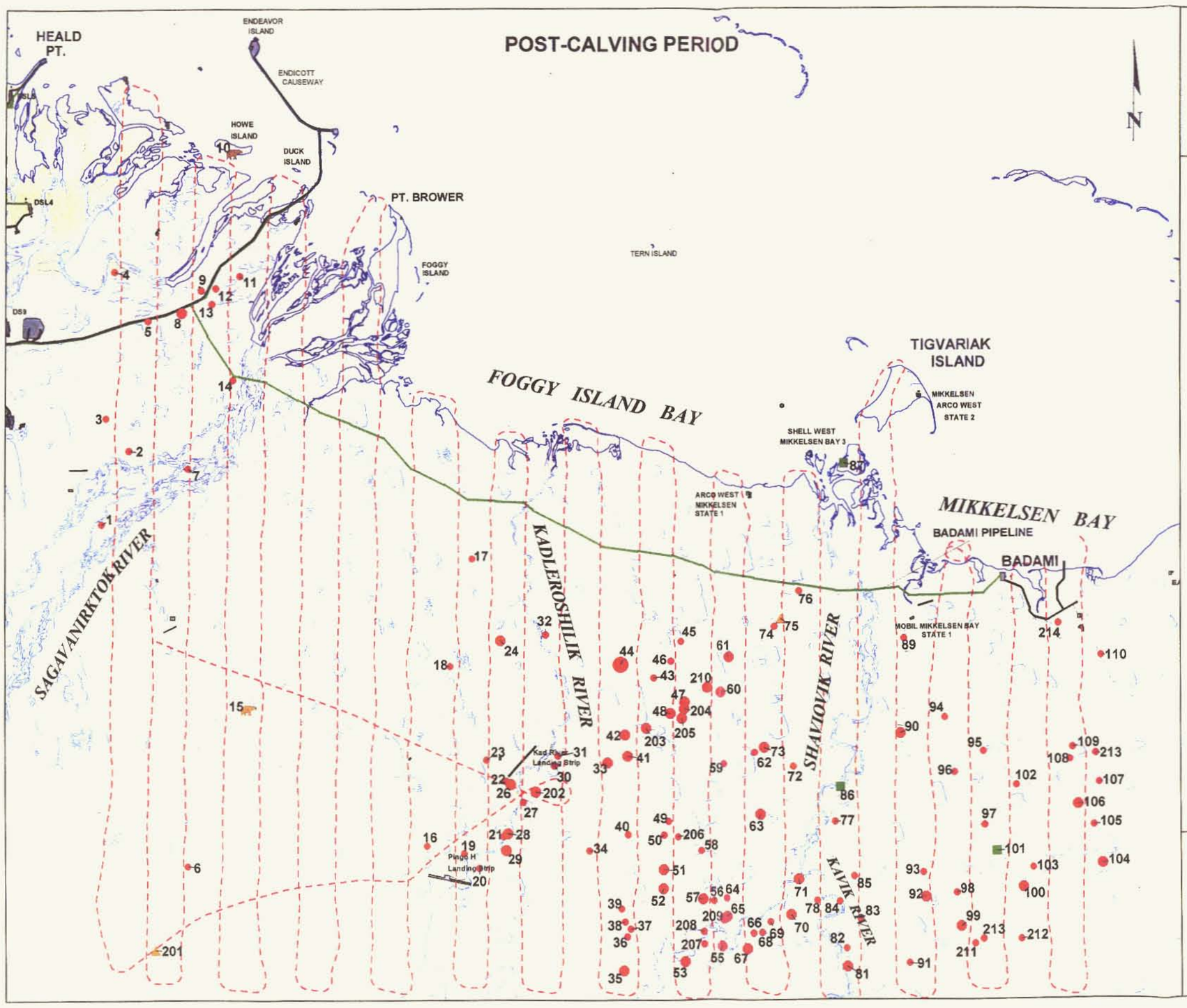

Figure A-2

Distribution of large mammals in the Badami study area, Alaska, on 29 June 2000.

Caribou Group Size

	Groups
Less than 10	75
10 to 100	37
101 to 250	1
Greater than 250	0

- Arctic Fox at Den
- Grizzly Bear
- Muskoxen

22 Group Attribute Number (see Tables A-1 and A-2)

- Survey Flight Line
- Pipelines
- Roads
- Gravel Production and Exploration Facilities

Miles
1 0 1 2 3 4 5
1 0 1 2 3 4 5
Kilometers

Map Projection: UTM Zone 6
Datum: NAD 27
View Scale: 1:178,000
Mapping Scale: 1:63,360
Prepared by: LGL Alaska Research Associates
File: BD00ca_a2.wor

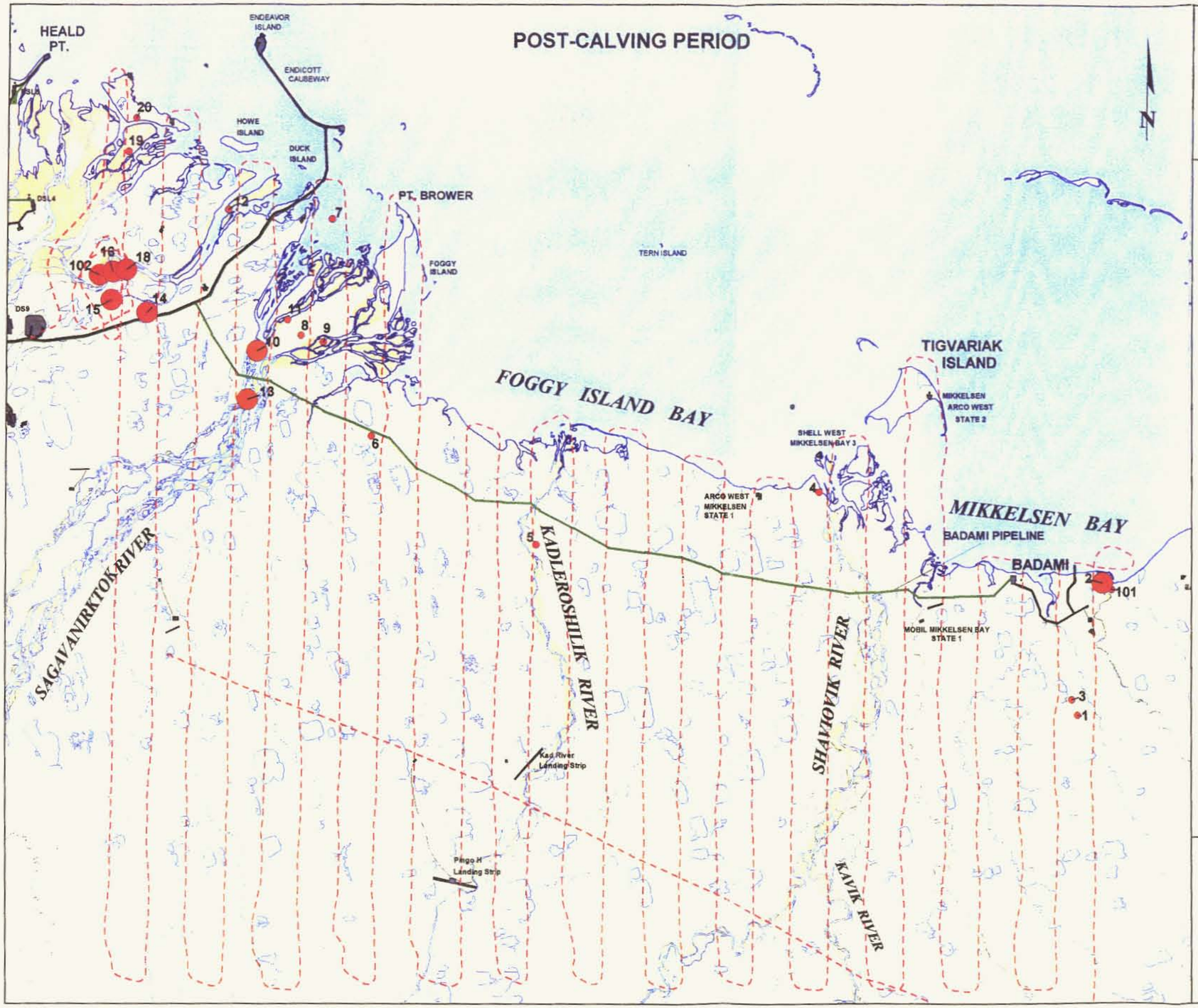

Figure A-3

Distribution of large mammals in the Badami study area, Alaska, on 7 July 2000.

Caribou Group Size

	Groups
Less than 10	13
10 to 100	0
101 to 250	0
Greater than 250	8

22 — Group Attribute Number (see Table A-1)

Survey Flight Line

Pipelines

Roads

Gravel Production and Exploration Facilities

Miles
1 0 1 2 3 4 5
1 0 1 2 3 4 5
Kilometers

Map Projection: UTM Zone 6
Datum: NAD 27
View Scale: 1:178,000
Mapping Scale: 1:63,360
Prepared by: LGL Alaska Research Associates
File: BD00ca_a3.wor

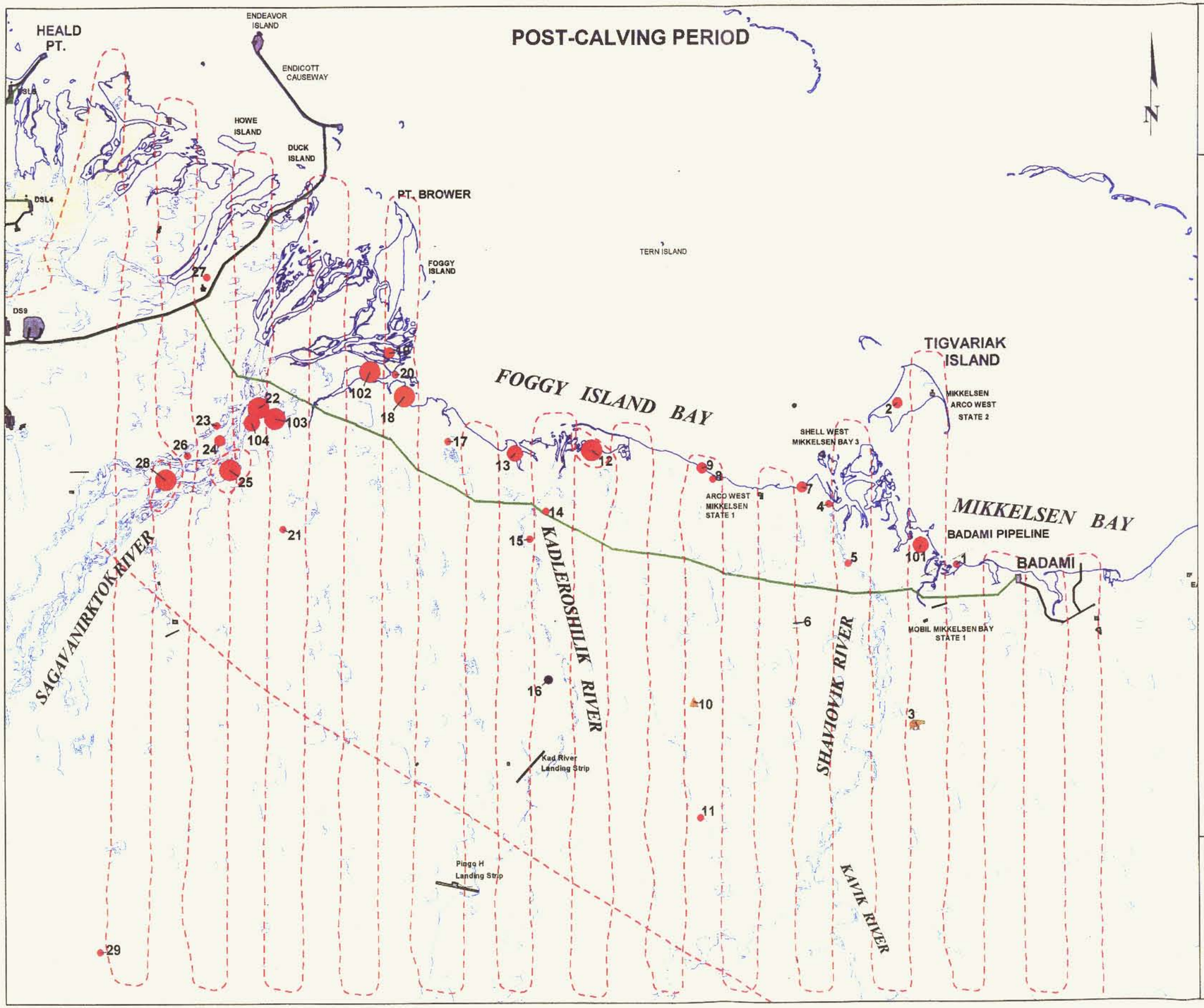

Figure A-4

Distribution of large mammals in the Badami study area, Alaska, on 21 July 2000.

Caribou Group Size

	Groups
Less than 10	14
10 to 100	5
101 to 250	3
Greater than 250	7

- Arctic Fox at Den
- Fox Den
- Grizzly Bear
- Moose

22 Group Attribute Number (see Tables A-1 and A-2)

- Survey Flight Line
- Pipelines
- Roads
- Gravel Production and Exploration Facilities

Miles

1 0 1 2 3 4 5

1 0 1 2 3 4 5

Kilometers

Map Projection: UTM Zone 6
Datum: NAD 27
View Scale: 1:178,000
Mapping Scale: 1:63,360
Prepared by: LGL Alaska Research Associates
File: BD00ca_a4.wor

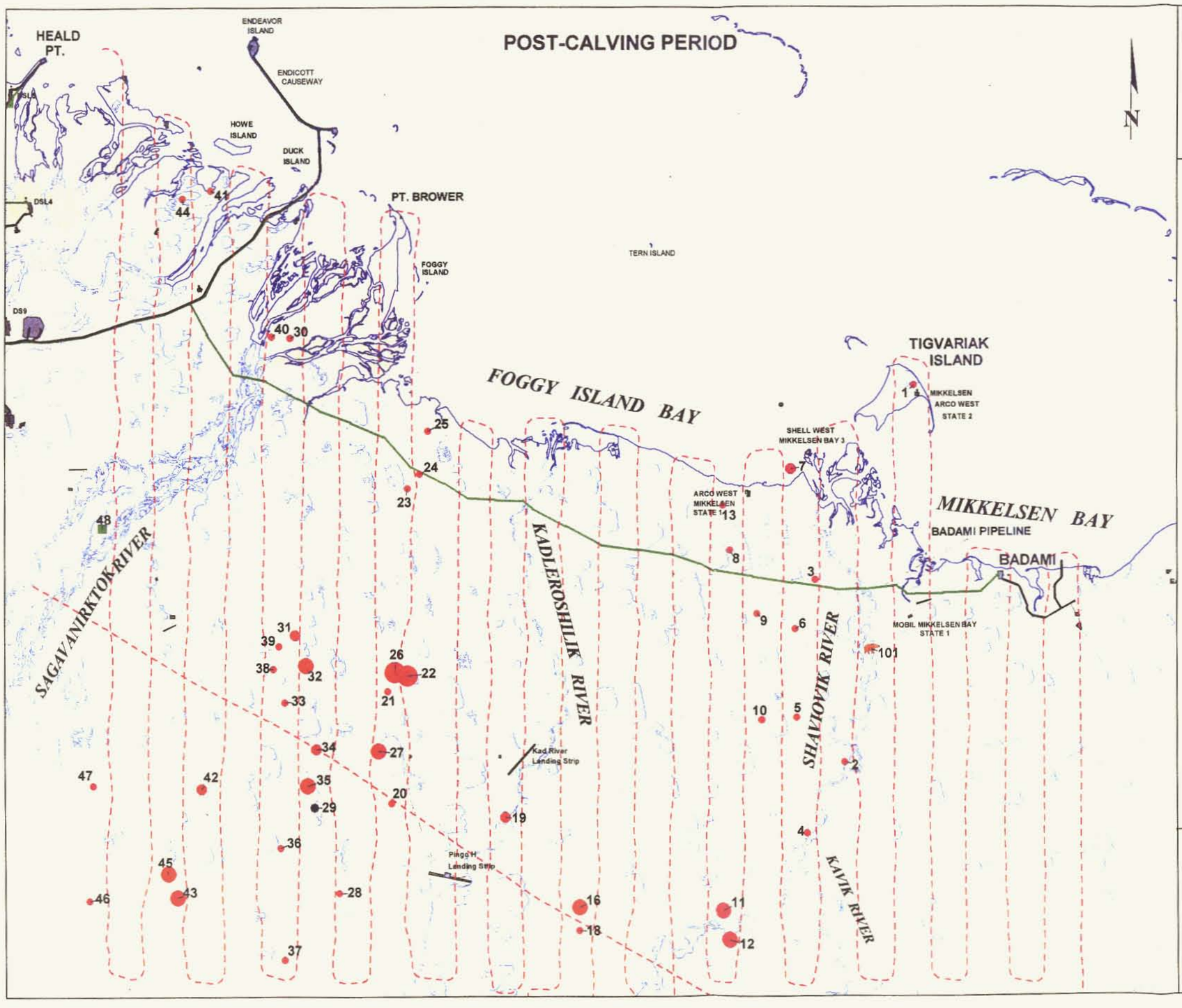

Figure A-5

Distribution of large mammals in the Badami study area, Alaska, on 25 July 2000.

Caribou Group Size

	Groups
Less than 10	28
10 to 100	5
101 to 250	8
Greater than 250	2

Grizzly Bear

Moose

Muskoxen

22 Group Attribute Number (see Tables A-1 and A-2)

Survey Flight Line

Pipelines

Roads

Gravel Production and Exploration Facilities

Miles
1 0 1 2 3 4 5
1 0 1 2 3 4 5
Kilometers

Map Projection: UTM Zone 6
Datum: NAD 27
View Scale: 1:178,000
Mapping Scale: 1:63,360
Prepared by: LGL Alaska Research Associates
File: BD00ca_a5.wor

Table A-1. Caribou sightings in the Badami study area, Alaska, summer 2000. Coordinates are longitude/latitude on the WGS 1984 ellipsoid. Time is Alaska Daylight Savings Time. See Table 4 for habitat code definitions.

Longitude°W	Latitude°N	Date	Time ADST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total	Behavior	Direction	Habitat
147.024080	69.970440	17 Jun 00	11:07:03	1	1	ca	0	1	0	0	1	feed		Vb
147.020148	70.005910	17 Jun 00	11:08:19	1	2	ca	0	1	1	0	2	walk	s	Vb
146.991081	70.009708	17 Jun 00	11:08:27	1	3	ca	0	1	1	0	2	rest		
147.020828	70.032198	17 Jun 00	11:09:16	1	4	ca	0	2	2	0	4	rest		Vb
147.013799	70.041642	17 Jun 00	11:09:37	1	5	ca	0	10	8	0	18			
147.019303	70.045875	17 Jun 00	11:09:47	1	6	ca	0	4	3	0	7			
146.989842	70.059204	17 Jun 00	11:10:16	1	7	ca	0	3	0	0	3	feed		
147.012882	70.065169	17 Jun 00	11:10:29	1	8	ca	0	3	3	0	6	rest		Va
146.999043	70.069348	17 Jun 00	11:10:38	1	9	ca	0	3	3	0	6			
146.999948	70.082972	17 Jun 00	11:11:08	1	10	ca	0	3	3	0	6			
147.062884	70.091191	17 Jun 00	11:16:41	1	11	ca	0	2	2	0	4			
147.062940	70.087538	17 Jun 00	11:16:48	1	12	ca	0	1	0	0	1			
147.028778	70.046986	17 Jun 00	11:18:10	1	13	ca	0	3	0	0	3	feed		Vb
147.068236	70.013111	17 Jun 00	11:19:17	1	14	ca	0	1	1	0	2	stand		
147.034823	69.972450	17 Jun 00	11:20:37	1	15	ca	0	1	0	0	1			
147.068581	69.968482	17 Jun 00	11:20:44	1	16	ca	0	25	10	0	35			
147.032879	69.914969	17 Jun 00	11:22:31	1	17	ca	0	5	5	0	10	feed		Vb
147.102183	69.923715	17 Jun 00	11:24:12	1	18	ca	0	4	1	0	5	walk	w	
147.077358	69.935770	17 Jun 00	11:24:38	1	19	ca	0	1	0	0	1	rest		
147.098771	69.979829	17 Jun 00	11:26:12	1	20	ca	0	12	10	0	22	move		Va
147.105745	69.993778	17 Jun 00	11:26:42	1	21	ca	0	7	3	0	10			
147.082573	70.056620	17 Jun 00	11:28:57	1	22	ca	0	3	0	0	3	walk		Vb
147.108127	70.060832	17 Jun 00	11:29:06	1	23	ca	0	1	1	0	2	stand		IVa
147.103273	70.073198	17 Jun 00	11:29:33	1	24	ca	0	1	1	0	2	feed		Va
147.097890	70.080680	17 Jun 00	11:29:49	1	25	ca	0	1	0	1	2	walk		Va

Table A-1. Continued.

Longitude°W	Latitude°N	Date	Time ADST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total	Behavior	Direction	Habitat
147.072548	70.090909	17 Jun 00	11:30:10	1	26	ca	0	2	0	0	2	feed		Vc
147.156449	70.067472	17 Jun 00	11:36:17	1	27	ca	0	2	0	0	2	feed		Vb
147.117495	69.930077	17 Jun 00	11:40:49	1	28	ca	0	0	0	4	4	feed		Vb
147.155850	69.945907	17 Jun 00	11:43:42	1	29	ca	0	1	0	1	2			
147.177891	69.967078	17 Jun 00	11:44:28	1	30	ca	0	12	8	0	20	rest		Va
147.176127	69.982309	17 Jun 00	11:45:01	1	31	ca	0	4	2	2	8			
147.181400	70.006665	17 Jun 00	11:45:53	1	32	ca	0	11	6	0	17			
147.234637	70.015218	17 Jun 00	12:01:53	1	33	ca	0	3	0	0	3	rest		Vb
147.203536	69.993616	17 Jun 00	12:02:35	1	34	ca	0	2	1	1	4	feed		Vb
147.223770	69.975485	17 Jun 00	12:03:11	1	35	ca	0	2	0	0	2			
147.263227	69.922563	17 Jun 00	12:06:42	1	36	ca	0	7	5	0	12	feed		IIId
147.257676	69.933507	17 Jun 00	12:07:06	1	37	ca	0	3	0	0	3	feed		Vb
147.263021	69.949835	17 Jun 00	12:07:41	1	38	ca	0	2	1	2	5	trot		Va
147.241895	70.045723	17 Jun 00	12:11:08	1	39	ca	0	1	0	0	1	walk	east	Vb
147.239207	70.077584	17 Jun 00	12:12:16	1	40	ca	0	3	2	0	5	feed		Vc
147.324265	69.988692	17 Jun 00	12:24:31	1	41	ca	0	3	0	0	3	rest		
147.368984	69.968441	17 Jun 00	12:30:05	1	42	ca	0	0	0	2	2	feed		IVa
147.364422	70.065142	17 Jun 00	12:33:35	1	43	ca	0	1	0	0	1	feed		IVa
147.361902	70.176856	17 Jun 00	12:37:32	1	44	ca	0	0	0	1	1	feed		IVa
147.396970	70.134879	17 Jun 00	12:40:17	1	45	ca	0	1	0	0	1	feed		
147.405098	70.070144	17 Jun 00	12:42:25	1	46	ca	0	1	0	0	1	rest		Vb
147.402768	69.970214	17 Jun 00	12:45:10	1	47	ca	0	1	0	0	1	rest		Vb
147.409062	69.919995	17 Jun 00	12:48:50	1	48	ca	0	8	0	0	8	rest		Vc
147.442772	69.957174	17 Jun 00	12:50:12	1	49	ca	0	2	1	2	5			
147.443847	70.076423	17 Jun 00	12:54:30	1	50	ca	0	3	1	0	4	feed		IVa
147.414426	70.083058	17 Jun 00	12:54:44	1	51	ca	0	1	0	0	1	feed		Vb
147.465653	70.179406	17 Jun 00	12:59:56	1	52	ca	1	3	1	0	5			
147.459977	70.065428	17 Jun 00	13:03:43	1	53	ca	0	3	1	0	4	feed		IIIe

Table A-1 Continued.

Longitude°W	Latitude°N	Date	Time ADST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total	Behavior	Direction	Habitat
147.453315	69.941754	17 Jun 00	13:07:44	1	54	ca	0	7	3	0	10	feed		Vb
147.501436	69.934321	17 Jun 00	13:10:25	1	55	ca	0	6	0	0	6	rest		Vb
147.493140	70.008006	17 Jun 00	13:13:05	1	56	ca	0	1	0	0	1	feed		Vb
147.509324	70.053422	17 Jun 00	13:14:43	1	57	ca	1	0	0	0	1	walk	n	Vb
147.491816	70.101586	17 Jun 00	13:16:26	1	58	ca	0	0	0	3	3			
147.522103	70.120633	17 Jun 00	13:17:06	1	59	ca	0	1	1	0	2	feed		Va
147.515741	70.154215	17 Jun 00	13:18:17	1	60	ca	0	1	1	0	2	feed		Vc
147.514585	70.182840	17 Jun 00	13:19:18	1	61	ca	0	6	4	1	11	rest		Vc
147.539531	70.180542	17 Jun 00	13:21:41	1	62	ca	0	0	0	1	1	rest		Vc
147.553112	70.139583	17 Jun 00	13:23:02	1	63	ca	0	1	1	0	2	rest		Va
147.577202	70.128594	17 Jun 00	13:23:24	1	64	ca	0	2	1	0	3			
147.576898	70.123358	17 Jun 00	13:23:35	1	65	ca	0	1	0	0	1			
147.578623	70.116672	17 Jun 00	13:23:48	1	66	ca	0	2	0	0	2			
147.536172	70.113650	17 Jun 00	13:23:54	1	67	ca	0	4	0	0	4			
147.551101	70.097597	17 Jun 00	13:24:25	1	68	ca	0	1	1	0	2	feed		Va
147.577506	70.088691	17 Jun 00	13:24:43	1	69	ca	0	3	1	0	4	feed		
147.546540	70.059847	17 Jun 00	13:25:39	1	70	ca	0	2	2	0	4	run	east	Vb
147.543346	70.031881	17 Jun 00	13:26:34	1	71	ca	0	1	1	1	3	rest		Va
147.570024	70.016712	17 Jun 00	13:27:03	1	72	ca	0	0	0	1	1	feed		
147.563148	70.005861	17 Jun 00	13:27:24	1	73	ca	0	5	0	0	5	feed		Vb
147.601419	69.931623	17 Jun 00	13:32:12	1	74	ca	0	2	0	0	2			
147.607683	69.957971	17 Jun 00	13:33:09	1	75	ca	0	8	0	0	8	run	n	Va
147.598222	69.991814	17 Jun 00	13:34:21	1	76	ca	0	1	0	0	1			
147.582663	69.997484	17 Jun 00	13:34:34	1	77	ca	0	10	0	0	10			
147.618175	70.009504	17 Jun 00	13:34:59	1	78	ca	0	3	0	0	3			
147.575300	70.012647	17 Jun 00	13:35:06	1	79	ca	0	6	2	0	8			
147.574679	70.016601	17 Jun 00	13:35:15	1	80	ca	0	0	0	1	1	feed		
147.605699	70.037085	17 Jun 00	13:35:59	1	81	ca	0	4	4	0	8	trot	w	Vb

Table A-1. Continued.

Longitude°W	Latitude°N	Date	Time ADST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total	Behavior	Direction	Habitat
147.613335	70.063618	17 Jun 00	13:36:56	1	82	ca	0	1	1	0	2	feed		Vb
147.585729	70.142331	17 Jun 00	13:39:44	1	83	ca	0	4	1	0	5			Vc
147.631578	69.994571	17 Jun 00	13:49:50	1	84	ca	0	1	0	1	2			
147.654757	69.978898	17 Jun 00	13:50:21	1	85	ca	1	3	0	0	4			
147.620884	69.938643	17 Jun 00	13:51:39	1	86	ca	0	0	0	1	1	feed		Vb
147.691816	69.948530	17 Jun 00	13:54:59	1	87	ca	0	3	0	1	4	feed		Vb
147.698462	70.017769	17 Jun 00	13:57:29	1	88	ca	0	0	0	1	1			
147.699900	70.101986	17 Jun 00	14:08:12	1	89	ca	0	12	6	0	18			
147.706722	70.082057	17 Jun 00	14:08:51	1	90	ca	0	11	8	0	19			
147.706635	70.000007	17 Jun 00	14:11:31	1	91	ca	0	1	0	1	2	run	s	Vb
147.727223	69.973945	17 Jun 00	14:12:22	1	92	ca	0	1	1	0	2	feed		Vb
147.738344	69.929424	17 Jun 00	14:13:47	1	93	ca	0	0	0	2	2			
147.722545	69.907734	17 Jun 00	14:14:30	1	94	ca	0	0	0	3	3	walk	e	
147.768578	69.933738	17 Jun 00	14:16:34	1	95	ca	0	8	3	0	11	walk	n	Vb
147.778733	69.977205	17 Jun 00	14:18:08	1	96	ca	0	3	3	1	7	rest		Vb
147.784924	69.989224	17 Jun 00	14:18:34	1	97	ca	0	1	1	0	2	run	n	Vb
147.771234	69.999666	17 Jun 00	14:56:18	1	98	ca	0	3	0	0	3	walk	e	
147.758625	70.041174	17 Jun 00	14:57:49	1	99	ca	0	1	0	0	1	stand		Vb
147.758991	70.049332	17 Jun 00	14:58:06	1	100	ca	0	2	1	0	3			Vb
147.749436	70.076457	17 Jun 00	14:59:05	1	101	ca	0	10	5	0	15	feed		Vb
147.783343	70.113846	17 Jun 00	15:00:25	1	102	ca	0	1	1	1	3	rest		Va
147.771468	70.143855	17 Jun 00	15:01:30	1	103	ca	0	1	0	0	1	rest		Vb
147.802732	70.043263	17 Jun 00	15:15:29	1	104	ca	0	2	2	0	4	feed		Vb
147.797404	69.945450	17 Jun 00	15:18:39	1	105	ca	0	7	3	0	10	feed		Va
147.801426	69.906605	17 Jun 00	15:19:53	1	106	ca	0	5	0	0	5	feed		Vb
147.850768	69.931416	17 Jun 00	15:21:30	1	107	ca	0	4	0	0	4	rest		
147.869715	70.005173	17 Jun 00	15:24:10	1	108	ca	0	1	0	0	1	walk		Va
147.877602	70.068045	17 Jun 00	15:26:27	1	109	ca	0	5	0	0	5	feed		Vc

Table A-1. Continued

Longitude°W	Latitude°N	Date	Time ADST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total	Behavior	Direction	Habitat
147.837127	70.102757	17 Jun 00	15:27:44	1	110	ca	1	0	0	15	16			Vc
147.861572	70.134756	17 Jun 00	15:28:53	1	111	ca	0	1	0	0	1	feed		IVa
147.864998	70.185703	17 Jun 00	15:30:42	1	112	ca	0	1	1	0	2	feed		Vc
147.875273	70.206508	17 Jun 00	15:31:27	1	113	ca	0	0	0	1	1	feed		Va
147.908288	70.182910	17 Jun 00	15:38:27	1	114	ca	0	0	0	1	1	feed		Vb
147.880553	70.055345	17 Jun 00	15:42:37	1	115	ca	0	1	0	0	1	rest		Va
147.910938	70.025529	17 Jun 00	15:43:35	1	116	ca	0	8	3	0	11			Vb
147.913441	69.960188	17 Jun 00	15:45:44	1	117	ca	0	0	0	4	4	rest		Vb
147.902881	69.948749	17 Jun 00	15:46:06	1	118	ca	0	1	1	0	2	walk	w	Vb
147.892358	69.928754	17 Jun 00	15:46:46	1	119	ca	0	2	1	0	3	rest		Vb
147.957534	69.955148	17 Jun 00	15:49:52	1	120	ca	0	3	0	0	3	feed		Vb
147.953714	69.969170	17 Jun 00	15:50:23	1	121	ca	0	2	1	0	3	feed		Vb
147.918571	69.982000	17 Jun 00	15:50:51	1	122	ca	0	0	0	6	6	move	e	Vb
147.924241	70.026309	17 Jun 00	15:52:25	1	123	ca	0	4	1	0	5	feed		IIId
147.931468	70.091467	17 Jun 00	15:54:46	1	124	ca	0	2	2	0	4	stand		
147.953512	70.115836	17 Jun 00	15:55:39	1	125	ca	0	2	1	0	3	rest		Vb
147.919188	70.131142	17 Jun 00	15:56:13	1	126	ca	0	0	0	1	1	rest		Vb
147.943437	70.175061	17 Jun 00	15:57:48	1	127	ca	0	1	1	0	2	rest		Va
147.953742	70.204211	17 Jun 00	15:58:52	1	128	ca	0	2	1	0	3	feed		IVa
147.961174	70.265942	17 Jun 00	16:03:43	1	129	ca	0	0	0	5	5			
147.970710	70.138048	17 Jun 00	16:07:53	1	131	ca	0	12	6	0	18	rest		IVa
147.965955	70.008373	17 Jun 00	16:12:07	1	132	ca	0	1	1	0	2	feed		Vb
148.001072	70.003347	17 Jun 00	16:12:17	1	133	ca	0	4	1	0	5	feed		IVa
147.972518	69.974109	17 Jun 00	16:13:14	1	134	ca	0	1	1	0	2	feed		Ve
147.959990	69.950318	17 Jun 00	16:14:02	1	135	ca	0	0	0	2	2	feed		Vb
147.980333	69.921896	17 Jun 00	16:14:59	1	136	ca	0	15	10	0	25	move	w	Vb
148.039308	69.917701	17 Jun 00	16:16:34	1	137	ca	0	9	8	0	17	feed		Vb
148.000660	69.929668	17 Jun 00	16:17:00	1	138	ca	0	6	2	0	8	walk	n	Vb

Table A-1. Continued.

Longitude°W	Latitude°N	Date	Time ADST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total	Behavior	Direction	Habitat
148.042802	69.944518	17 Jun 00	16:17:33	1	139	ca	0	0	0	1	1	feed		Vb
148.008393	69.975488	17 Jun 00	16:18:40	1	140	ca	0	0	0	1	1	walk	ne	
148.031008	69.997835	17 Jun 00	16:19:27	1	141	ca	0	12	10	0	22	feed		Vb
148.004529	70.005820	17 Jun 00	16:19:44	1	142	ca	0	14	8	0	22	rest		Vb
148.008556	70.030596	17 Jun 00	16:20:36	1	143	ca	0	0	0	4	4	feed		Vb
148.039148	70.048281	17 Jun 00	16:21:14	1	144	ca	0	1	1	0	2	rest		Vb
148.027823	70.099659	17 Jun 00	16:23:07	1	145	ca	0	1	0	0	1	feed		Vb
148.038370	70.129445	17 Jun 00	16:24:11	1	146	ca	0	1	1	0	2	feed		Va
148.005865	70.153505	17 Jun 00	16:25:03	1	147	ca	0	0	0	5	5	feed		
148.080231	70.156028	17 Jun 00	16:35:35	1	149	ca	1	0	0	0	1	feed		Ve
148.053148	70.127966	17 Jun 00	16:36:30	1	150	ca	0	1	0	0	1	feed		Vb
148.064289	70.113022	17 Jun 00	16:37:00	1	151	ca	0	4	2	0	6			
148.061337	70.066861	17 Jun 00	16:38:31	1	152	ca	0	1	1	0	2	trot	e	Vb
148.047357	70.029301	17 Jun 00	16:39:45	1	153	ca	0	0	0	3	3	feed		Vb
148.078878	70.004191	17 Jun 00	16:40:35	1	154	ca	0	1	0	0	1	feed		Vb
148.052768	69.995845	17 Jun 00	16:40:51	1	155	ca	0	4	1	0	5			
148.062732	69.972907	17 Jun 00	16:41:36	1	156	ca	0	2	2	0	4			
148.054219	69.958818	17 Jun 00	16:42:04	1	157	ca	0	12	10	0	22			Vb
148.049897	69.938470	17 Jun 00	16:42:44	1	158	ca	0	6	2	0	8			
148.076715	69.933601	17 Jun 00	16:42:54	1	159	ca	0	6	2	0	8	feed		IIId
148.050983	69.928767	17 Jun 00	16:43:03	1	160	ca	0	12	5	0	17	feed		
148.074119	69.916154	17 Jun 00	16:43:28	1	161	ca	0	1	1	0	2	rest		Vb
148.089982	69.915864	17 Jun 00	16:44:57	1	163	ca	0	2	1	0	3	move	n	
148.091757	69.928404	17 Jun 00	16:45:24	1	164	ca	0	0	0	4	4			Vb
148.120644	69.957733	17 Jun 00	16:46:29	1	165	ca	0	1	1	0	2	stand		Vb
148.109437	69.979192	17 Jun 00	16:47:15	1	166	ca	0	0	0	7	7			
148.096020	69.984182	17 Jun 00	16:47:26	1	167	ca	0	1	1	0	2	rest		Vb
148.126933	69.990383	17 Jun 00	16:47:39	1	168	ca	0	5	3	0	8	rest		Vb

Table A-1. Continued.

Longitude°W	Latitude°N	Date	Time ADST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total	Behavior	Direction	Habitat
148.121671	70.025346	17 Jun 00	16:48:55	1	169	ca	0	1	1	0	2	rest		Va
148.094269	70.059462	17 Jun 00	16:50:11	1	170	ca	0	1	1	0	2	feed		Vb
148.117166	70.077089	17 Jun 00	16:50:49	1	171	ca	0	25	11	0	36			
148.121935	70.095174	17 Jun 00	16:51:29	1	172	ca	0	6	6	0	12			
148.114492	70.139610	17 Jun 00	16:53:08	1	173	ca	0	1	1	0	2	feed		Va
148.119708	70.204256	17 Jun 00	16:55:26	1	174	ca	0	3	2	0	5	rest		Va
148.124972	70.168738	29 Jun 00	10:49:35	2	1	ca	6	0	0	0	6	rest		IXb
148.095138	70.197485	29 Jun 00	10:50:38	2	2	ca	0	3	0	0	3	feed		Va
148.122133	70.209911	29 Jun 00	10:51:05	2	3	ca	0	1	0	0	1	rest		Va
148.115797	70.266850	29 Jun 00	10:53:10	2	4	ca	0	0	0	1	1	rest		Xb
148.076394	70.247928	29 Jun 00	10:59:03	2	5	ca	0	0	0	3	3	feed		IVa
148.020648	70.036831	29 Jun 00	11:09:23	2	6	ca	2	0	0	2	4	rest		IVa
148.027568	70.190931	29 Jun 00	11:14:53	2	7	ca	4	0	0	1	5	feed		IXb
148.037721	70.251231	29 Jun 00	11:17:04	2	8	ca	2	0	0	8	10	feed		Vc
148.015662	70.259989	29 Jun 00	11:17:23	2	9	ca	0	2	0	3	5	walk		Xe
147.972378	70.265781	29 Jun 00	11:21:07	2	11	ca	0	2	0	1	3	rest		Va
147.999518	70.260923	29 Jun 00	11:21:17	2	12	ca	2	2	0	2	6	rest		Vc
148.003645	70.254800	29 Jun 00	11:21:30	2	13	ca	0	0	0	3	3	feed		Vc
147.978203	70.225572	29 Jun 00	11:22:27	2	14	ca	2	0	0	4	6	feed		IVa
147.750178	70.045981	29 Jun 00	12:16:25	2	16	ca	0	0	0	3	3	feed		Xe
147.702050	70.157059	29 Jun 00	12:25:11	2	17	ca	0	0	0	1	1	rest		Vc
147.725736	70.115222	29 Jun 00	12:26:34	2	18	ca	0	0	0	7	7			Vb
147.707665	70.043298	29 Jun 00	12:28:54	2	19	ca	9	0	0	0	9			
147.690854	70.037649	29 Jun 00	12:32:31	2	20	ca	4	0	0	0	4			IXb
147.663430	70.049912	29 Jun 00	12:32:57	2	21	ca	0	0	0	4	4	feed		Vc
147.660751	70.071042	29 Jun 00	12:33:42	2	22	ca	0	0	0	1	1	feed		Vb
147.683818	70.079200	29 Jun 00	12:34:00	2	23	ca	0	2	0	0	2			
147.668882	70.125369	29 Jun 00	12:35:40	2	24	ca	0	20	10	0	30	feed		Vc

Table A-1. Continued.

Longitude°W	Latitude°N	Date	Time ADST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total	Behavior	Direction	Habitat
147.655897	70.069913	29 Jun 00	12:43:19	2	26	ca	0	0	0	11	11			
147.627427	70.067149	29 Jun 00	12:43:24	2	202	ca	0	0	0	12	12			
147.641095	70.063226	29 Jun 00	12:43:32	2	27	ca	0	0	0	8	8	feed		Vc
147.658537	70.050932	29 Jun 00	12:43:56	2	28	ca	0	7	0	5	12	feed		Vc
147.660314	70.044492	29 Jun 00	12:44:09	2	29	ca	5	0	0	15	20	rest		Vc
147.606783	70.077203	29 Jun 00	12:49:19	2	30	ca	4	0	0	2	6	rest		IXb
147.603048	70.081057	29 Jun 00	12:49:27	2	31	ca	2	0	0	3	5	run		Ia
147.617707	70.127788	29 Jun 00	12:51:07	2	32	ca	3	0	0	3	6			
147.547449	70.078576	29 Jun 00	12:58:44	2	33	ca	0	10	0	20	30			
147.567217	70.044791	29 Jun 00	12:59:48	2	34	ca	0	0	0	5	5	feed		Va
147.527871	69.999136	29 Jun 00	13:02:16	2	35	ca	10	0	0	0	10	feed		Vb
147.524415	70.012066	29 Jun 00	13:02:44	2	36	ca	4	0	0	2	6	feed		IVa
147.520334	70.015131	29 Jun 00	13:02:51	2	37	ca	0	2	0	0	2	feed		IVa
147.526725	70.017758	29 Jun 00	13:02:56	2	38	ca	0	3	0	0	3	feed		IVa
147.530810	70.022817	29 Jun 00	13:03:07	2	39	ca	0	1	0	0	1	feed		IVa
147.523912	70.051128	29 Jun 00	13:04:08	2	40	ca	0	2	1	0	3	feed		Vc
147.524851	70.081213	29 Jun 00	13:05:13	2	41	ca	0	20	0	0	20			
147.527795	70.089466	29 Jun 00	13:05:31	2	42	ca	6	30	5	0	41			
147.503849	70.092104	29 Jun 00	13:05:37	2	203	ca	0	16	4	0	20	walk		Va
147.495576	70.111629	29 Jun 00	13:06:19	2	43	ca	0	0	0	1	1	walk	w	IVa
147.533459	70.116600	29 Jun 00	13:06:30	2	44	ca	0	70	20	20	110	rest		Vb
147.464371	70.125726	29 Jun 00	13:12:30	2	45	ca	0	2	0	0	2			
147.476033	70.118150	29 Jun 00	13:12:44	2	46	ca	0	1	0	2	3		n	Va
147.460061	70.102442	29 Jun 00	13:13:14	2	47	ca	0	50	20	0	70	rest		Va
147.460422	70.099677	29 Jun 00	13:13:19	2	204	ca	0	30	20	0	50			
147.476153	70.097850	29 Jun 00	13:13:22	2	48	ca	0	25	5	0	30	rest		IVa
147.462925	70.095996	29 Jun 00	13:13:26	2	205	ca	0	40	30	0	70	rest		Va
147.477676	70.056437	29 Jun 00	13:14:41	2	49	ca	0	2	2	5	9	feed		IVa

Table A-1. Continued.

Longitude°W	Latitude°N	Date	Time ADST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total	Behavior	Direction	Habitat
147.482744	70.051095	29 Jun 00	13:14:51	2	50	ca	0	0	0	2	2	feed		IVa
147.467008	70.050478	29 Jun 00	13:14:52	2	206	ca	1	0	0	1	2			
147.483082	70.037911	29 Jun 00	13:15:16	2	51	ca	0	4	0	6	10	walk		IVa
147.483399	70.030603	29 Jun 00	13:15:30	2	52	ca	0	6	3	4	13	feed		IVa
147.458433	70.002682	29 Jun 00	13:16:24	2	53	ca	20	0	0	40	60			IXb
147.415358	70.008533	29 Jun 00	13:17:53	2	55	ca	0	0	0	12	12	walk		Vb
147.436337	70.009257	29 Jun 00	13:17:55	2	207	ca	1	0	0	4	5			
147.436893	70.013939	29 Jun 00	13:18:05	2	208	ca	0	5	0	0	5	feed		IXb
147.412803	70.019212	29 Jun 00	13:18:16	2	209	ca	0	25	5	15	45	walk		Va
147.425062	70.025750	29 Jun 00	13:18:30	2	56	ca	2	0	0	3	5	feed		Va
147.437994	70.026372	29 Jun 00	13:18:31	2	57	ca	10	20	0	0	30			
147.439645	70.045028	29 Jun 00	13:19:11	2	58	ca	0	0	0	3	3	feed		Vb
147.413503	70.078493	29 Jun 00	13:20:23	2	59	ca	0	0	0	3	3	feed		Vc
147.418178	70.106124	29 Jun 00	13:21:21	2	60	ca	3	25	10	0	38	feed		Va
147.433876	70.107966	29 Jun 00	13:21:25	2	210	ca	0	20	15	5	40	rest		Va
147.408430	70.119835	29 Jun 00	13:21:50	2	61	ca	0	0	0	20	20	feed		Vc
147.378423	70.082993	29 Jun 00	13:28:12	2	62	ca	0	3	0	0	3	feed		Va
147.371520	70.059296	29 Jun 00	13:28:58	2	63	ca	9	0	0	2	11	rest		Vb
147.409968	70.026864	29 Jun 00	13:30:01	2	64	ca	0	0	0	2	2	feed		Vc
147.409243	70.019796	29 Jun 00	13:30:15	2	65	ca	4	0	0	20	24	walk	n	Vc
147.379260	70.013731	29 Jun 00	13:30:27	2	66	ca	0	0	0	8	8			
147.386139	70.007748	29 Jun 00	13:30:39	2	67	ca	8	10	0	10	28	rest		IXb
147.369529	70.014063	29 Jun 00	13:32:27	2	68	ca	4	0	0	0	4	rest		Va
147.360452	70.018120	29 Jun 00	13:32:36	2	69	ca	0	0	0	3	3	rest		Va
147.337437	70.020861	29 Jun 00	13:32:42	2	70	ca	5	5	0	20	30	walk	e	Vc
147.328914	70.034532	29 Jun 00	13:33:12	2	71	ca	7	0	0	5	12	walk	ne	Vc
147.335265	70.077676	29 Jun 00	13:34:45	2	72	ca	0	2	0	0	2	stand		Va
147.367847	70.084900	29 Jun 00	13:35:01	2	73	ca	3	0	0	8	11			Vb

Table A-1. Continued.

Longitude°W	Latitude°N	Date	Time ADST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total	Behavior	Direction	Habitat
147.356634	70.131678	29 Jun 00	13:36:41	2	74	ca	0	4	0	1	5			
147.329511	70.145430	29 Jun 00	13:37:11	2	76	ca	0	3	2	0	5	feed		Vc
147.288207	70.056566	29 Jun 00	13:43:34	2	77	ca	0	0	0	5	5	rest		IXb
147.308121	70.026278	29 Jun 00	13:44:32	2	78	ca	2	0	0	5	7	rest		Vc
147.274434	70.000917	29 Jun 00	13:46:40	2	81	ca	30	0	0	0	30	rest		IXb
147.275362	70.008011	29 Jun 00	13:46:54	2	82	ca	3	0	0	0	3			
147.259478	70.019432	29 Jun 00	13:47:17	2	83	ca	0	0	0	1	1	feed		Vb
147.282904	70.025909	29 Jun 00	13:47:31	2	84	ca	0	0	0	1	1	feed		Va
147.266426	70.035595	29 Jun 00	13:47:51	2	85	ca	1	0	0	0	1			
147.209832	70.127315	29 Jun 00	13:58:40	2	89	ca	0	0	0	1	1	feed		Va
147.213731	70.090544	29 Jun 00	13:59:51	2	90	ca	0	0	0	10	10	feed		IVa
147.203782	70.002472	29 Jun 00	14:02:40	2	91	ca	9	0	0	0	9	rest		IIIe
147.184658	70.027725	29 Jun 00	14:04:47	2	92	ca	0	10	0	0	10	feed		
147.187315	70.037308	29 Jun 00	14:05:07	2	93	ca	0	2	0	0	2	feed		Va
147.162851	70.096722	29 Jun 00	14:07:14	2	94	ca	0	0	0	2	2	feed		Va
147.119336	70.083455	29 Jun 00	14:13:17	2	95	ca	0	0	0	1	1	feed		Ve
147.152280	70.075475	29 Jun 00	14:13:33	2	96	ca	0	0	0	1	1	feed		Vc
147.118053	70.055241	29 Jun 00	14:14:13	2	97	ca	0	2	1	0	3	feed		Va
147.149942	70.029291	29 Jun 00	14:15:03	2	98	ca	0	0	0	1	1	feed		Va
147.145063	70.016513	29 Jun 00	14:15:29	2	99	ca	0	30	15	25	70	feed		Vc
147.129344	70.009862	29 Jun 00	14:15:42	2	211	ca	0	1	0	0	1	move	n	IXb
147.077684	70.011586	29 Jun 00	14:17:20	2	212	ca	0	0	0	2	2	feed		Vc
147.119581	70.011586	29 Jun 00	14:17:20	2	213	ca	0	0	0	1	1	rest		Va
147.075074	70.031433	29 Jun 00	14:18:02	2	100	ca	0	0	0	40	40	feed		Vc
147.083224	70.070511	29 Jun 00	14:19:28	2	102	ca	1	0	0	0	1	feed		Vc
147.034805	70.133058	29 Jun 00	14:23:40	2	214	ca	2	0	0	0	2			
147.063671	70.038775	29 Jun 00	14:26:44	2	103	ca	0	0	0	2	2	feed		Vc
146.985717	70.040280	29 Jun 00	14:30:27	2	104	ca	2	1	1	15	19	run	ne	Va

Table A-1. Continued.

Longitude°W	Latitude°N	Date	Time ADST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total	Behavior	Direction	Habitat
146.995380	70.055117	29 Jun 00	14:30:59	2	105	ca	0	3	2	0	5	rest		Vc
147.013152	70.063081	29 Jun 00	14:31:16	2	106	ca	0	15	10	5	30	rest		Vc
146.989311	70.071503	29 Jun 00	14:31:34	2	107	ca	0	0	0	1	1	feed		Vc
147.022374	70.080446	29 Jun 00	14:31:53	2	108	ca	0	0	0	1	1	feed		IIIe
146.993367	70.082711	29 Jun 00	14:31:58	2	213	ca	0	0	0	6	6	rest		Vc
147.019293	70.085118	29 Jun 00	14:32:03	2	109	ca	2	0	0	0	2	feed		Vc
146.987165	70.120613	29 Jun 00	14:33:22	2	110	ca	0	0	0	3	3	feed		Vc
147.024402	70.098706	7 Jul 00	10:44:19	3	1	ca	0	1	1	0	2	feed		Va
146.986706	70.147244	7 Jul 00	10:46:00	3	101	ca	4	0	0	0	4	run	w	
146.997165	70.149880	7 Jul 00	10:46:06	3	2	ca	24	47	47	215	333	stand		Xa
147.030918	70.104760	7 Jul 00	10:49:54	3	3	ca	0	0	0	1	1	trot	s	IIIa
147.317730	70.184434	7 Jul 00	11:31:20	3	4	ca	0	1	1	1	3	trot	w	
147.637636	70.163341	7 Jul 00	12:30:35	3	5	ca	0	0	0	1	1	feed		Va
147.824580	70.204430	7 Jul 00	13:05:23	3	6	ca	0	1	0	0	1	feed		Vc
147.874213	70.287527	7 Jul 00	13:22:42	3	7	ca	0	1	1	0	2	rest		XIa
147.906833	70.242722	7 Jul 00	13:25:32	3	8	ca	0	0	0	1	1	walk	e	Xe
147.881063	70.240332	7 Jul 00	13:25:36	3	9	ca	0	1	1	0	2			
147.956681	70.236504	7 Jul 00	13:42:18	3	10	ca	0	436	291	73	800	rest		IXb
147.922713	70.248543	7 Jul 00	13:42:42	3	11	ca	0	1	1	0	2	feed		Xa
147.992841	70.290586	7 Jul 00	13:45:48	3	12	ca	0	0	0	2	2	rest		Xa
147.966295	70.217791	7 Jul 00	13:48:06	3	13	ca	23	116	58	58	255	stand		IXb
148.081743	70.250738	7 Jul 00	14:09:54	3	14	ca	50	50	50	200	350	feed		Vc
148.122326	70.255368	7 Jul 00	14:27:15	3	15	ca	0	15	15	251	281			
148.136067	70.264813	7 Jul 00	14:28:20	3	102	ca	176	235	118	353	882	move	nw	
148.121362	70.266116	7 Jul 00	14:30:30	3	16	ca	52	90	90	2010	2242			Xb
148.105933	70.267011	7 Jul 00	14:33:45	3	18	ca	150	0	0	850	1000			Xb
148.106772	70.312035	7 Jul 00	14:35:30	3	19	ca	0	1	0	0	1	walk	e	
148.099259	70.324825	7 Jul 00	14:35:58	3	20	ca	0	1	0	1	2	feed		Xa

Table A-1. Continued.

Longitude°W	Latitude°N	Date	Time ADST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total	Behavior	Direction	Habitat
147.165675	70.156500	21 Jul 00	13:59:04	4	1	ca	4	0	0	0	4	rest		
147.232782	70.218478	21 Jul 00	14:02:59	4	2	ca	0	7	4	0	11	feed		Va
147.310762	70.179752	21 Jul 00	14:20:15	4	4	ca	0	1	1	0	2	feed		Xa
147.288255	70.157099	21 Jul 00	14:21:03	4	5	ca	1	0	0	0	1	stand		Xa
147.340323	70.186200	21 Jul 00	14:33:52	4	7	ca	5	9	2	2	18			
147.440825	70.189140	21 Jul 00	14:48:25	4	8	ca	0	2	0	0	2	walk	e	Xa
147.453463	70.193500	21 Jul 00	14:49:04	4	9	ca	10	0	0	20	30	stand		Xa
147.453710	70.060037	21 Jul 00	14:53:45	4	11	ca	0	1	0	0	1	run	se	
147.205894	70.164086	21 Jul 00	14:04:52	4	101	ca	10	55	35	80	180	stand		Va
147.577720	70.200000	21 Jul 00	15:06:09	4	12	ca	400	200	100	300	1000	move		
147.663446	70.198526	21 Jul 00	15:22:39	4	13	ca	0	20	10	80	110	feed		
147.628226	70.176405	21 Jul 00	15:23:23	4	14	ca	0	1	0	0	1	feed		
147.645816	70.165691	21 Jul 00	15:23:44	4	15	ca	0	0	0	1	1	walk	ne	Xa
147.738754	70.202908	21 Jul 00	15:37:58	4	17	ca	0	1	1	0	2	walk	nw	Vb
147.788471	70.219995	21 Jul 00	15:53:27	4	18	ca	35	110	75	155	375	feed		
147.806523	70.236568	21 Jul 00	15:58:24	4	19	ca	0	6	4	2	12	rest		XIa
147.828189	70.229231	21 Jul 00	15:58:39	4	102	ca	100	0	0	200	300	rest		Xa
147.799387	70.228317	21 Jul 00	15:58:41	4	20	ca	0	2	0	0	2	walk	e	XIa
147.923711	70.168752	21 Jul 00	16:35:00	4	21	ca	1	0	0	0	1	rest		Vb
147.934526	70.210888	21 Jul 00	16:36:28	4	103	ca	50	100	50	100	300	walk	se	Vc
147.953210	70.215021	21 Jul 00	16:36:37	4	22	ca	30	90	60	120	300	stand		IXb
147.960388	70.209350	21 Jul 00	16:43:50	4	104	ca	0	0	0	200	200	walk	e	
147.999455	70.207957	21 Jul 00	16:43:53	4	23	ca	2	0	0	0	2	feed		Vc
147.995794	70.202419	21 Jul 00	16:44:04	4	24	ca	25	10	10	40	85	walk	nw	Vc
147.983627	70.191021	21 Jul 00	16:45:32	4	25	ca	400	200	100	400	1100	walk	nw	Xa
148.030913	70.196387	21 Jul 00	17:00:08	4	26	ca	0	2	0	0	2	stand		Ia
148.013101	70.264495	21 Jul 00	17:02:34	4	27	ca	0	0	0	1	1	feed		Vc
148.055000	70.186977	21 Jul 00	17:11:08	4	28	ca	700	300	100	900	2000	run	e	Xa

Table A-1. Continued.

Longitude°W	Latitude°N	Date	Time ADST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total	Behavior	Direction	Habitat
148.120862	70.006998	21 Jul 00	17:18:59	4	29	ca	0	1	0	0	1	walk	e	Vc
147.197033	70.225263	25 Jul 00	10:31:36	5	1	ca	0	0	0	2	2	run	n	
147.275708	70.078576	25 Jul 00	10:42:59	5	2	ca	0	0	0	2	2	stand		Xa
147.309953	70.149294	25 Jul 00	10:49:58	5	3	ca	0	0	0	1	1	rest		Vc
147.318272	70.051329	25 Jul 00	10:53:21	5	4	ca	0	0	0	1	1	walk	n	Xa
147.330067	70.095822	25 Jul 00	10:59:14	5	5	ca	0	0	0	1	1	run	s	IIIa
147.331967	70.130131	25 Jul 00	11:00:24	5	6	ca	0	1	0	0	1	walk	nw	Vb
147.337899	70.192502	25 Jul 00	11:02:32	5	7	ca	10	20	5	20	55	walk	e	XIa
147.405885	70.160819	25 Jul 00	11:04:32	5	8	ca	0	0	0	2	2	walk	n	Va
147.374822	70.135949	25 Jul 00	11:05:23	5	9	ca	1	0	0	0	1	stand		IVa
147.368999	70.094796	25 Jul 00	11:06:47	5	10	ca	1	0	0	0	1	walk	n	IVa
147.412245	70.021110	25 Jul 00	11:09:19	5	11	ca	50	0	0	150	200	walk	n	Vc
147.404415	70.010092	25 Jul 00	11:09:42	5	12	ca	20	10	0	170	200	stand		Vc
147.414226	70.178154	25 Jul 00	11:17:04	5	13	ca	0	3	2	1	6	walk	n	Vc
147.576772	70.022266	25 Jul 00	11:40:32	5	16	ca	0	0	0	180	180			
147.577096	70.013404	25 Jul 00	11:43:59	5	18	ca	0	1	1	0	2	run	n	Vc
147.661538	70.056597	25 Jul 00	11:56:38	5	19	ca	10	30	20	10	70	walk	n	Ia
147.791310	70.061526	25 Jul 00	12:17:12	5	20	ca	1	0	0	0	1	stand		IVa
147.797035	70.104750	25 Jul 00	12:18:48	5	21	ca	0	2	0	0	2	walk	ne	Vc
147.774362	70.110895	25 Jul 00	12:19:02	5	22	ca	150	100	50	100	400	walk	n	Vc
147.776983	70.183690	25 Jul 00	12:21:47	5	23	ca	0	2	2	0	4	walk		
147.763265	70.189403	25 Jul 00	12:22:00	5	24	ca	1	0	0	0	1	feed		Vb
147.754350	70.206259	25 Jul 00	12:22:39	5	25	ca	0	0	0	4	4	walk	s	Vc
147.789006	70.112222	25 Jul 00	12:31:55	5	26	ca	50	100	50	300	500	move		
147.806635	70.081603	25 Jul 00	12:32:54	5	27	ca	20	75	40	45	180	move		
147.849576	70.026709	25 Jul 00	12:37:22	5	28	ca	0	0	0	1	1	rest		Vc
147.913391	70.241732	25 Jul 00	12:49:36	5	30	ca	0	0	0	4	4	rest		Va
147.902722	70.126041	25 Jul 00	12:53:09	5	31	ca	5	2	2	2	11	feed		Vb

Table A-1. Continued.

Longitude°W	Latitude°N	Date	Time ADST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total	Behavior	Direction	Habitat
147.889930	70.114353	25 Jul 00	12:53:30	5	32	ca	0	75	20	50	145	feed		
147.913557	70.099941	25 Jul 00	12:53:57	5	33	ca	2	0	0	0	2	feed		Vb
147.877086	70.081938	25 Jul 00	12:54:31	5	34	ca	30	0	0	60	90	move	n	Vc
147.886465	70.067882	25 Jul 00	12:54:58	5	35	ca	10	80	40	60	190	move	n	Vc
147.916341	70.043690	25 Jul 00	12:55:44	5	36	ca	0	0	0	8	8	walk	n	Vc
147.910603	70.000836	25 Jul 00	12:57:07	5	37	ca	0	1	0	0	1	feed		Vc
147.926989	70.112814	25 Jul 00	13:01:59	5	38	ca	4	0	0	0	4	feed		Vc
147.920828	70.121571	25 Jul 00	13:02:18	5	39	ca	5	0	0	4	9	feed		Va
147.934739	70.242161	25 Jul 00	13:06:49	5	40	ca	0	1	1	0	2	feed		Va
148.006935	70.298205	25 Jul 00	13:09:58	5	41	ca	1	0	0	0	1	feed		Xb
148.006307	70.066033	25 Jul 00	13:17:10	5	42	ca	0	5	3	5	13	walk	n	Vc
148.032123	70.024069	25 Jul 00	13:21:04	5	43	ca	0	75	45	30	150	move	w/nw	
148.038815	70.294893	25 Jul 00	13:31:04	5	44	ca	1	0	0	0	1			IVa
148.042799	70.033310	25 Jul 00	13:41:45	5	45	ca	10	50	30	100	190			
148.131670	70.022246	25 Jul 00	13:44:25	5	46	ca	0	0	0	1	1	walk	nw	
148.129274	70.066625	25 Jul 00	13:46:01	5	47	ca	0	0	0	1	1			

Table A-2. Muskoxen (mx), moose (mo), grizzly bear (bb), arctic fox (af), and fox den (afdn) sightings in the Badami study area, Alaska, summer 2000. Coordinates are longitude/latitude on the WGS 1984 ellipsoid. For grizzly bear and fox records, dependent young are listed as "Calves", adult males as "Bulls", and adult females as "Cows". Time is Alaska Daylight Savings Time. See Table 4 for habitat code definitions.

Longitude°W	Latitude°N	Date	Time ADST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total	Behavior	Direction	Habitat
147.968961	70.201122	17 Jun 00	16:05:49	1	130	mx	1	1	0	0	2	rest		Va
148.056239	70.004744	29 Jun 00	11:07:01	2	201	afdn	0	0	0	1	1			
147.981762	70.312410	29 Jun 00	11:19:42	2	10	bb	0	0	0	1	1			
147.954829	70.097281	29 Jun 00	11:34:30	2	15	bb	0	0	0	1	1	walk	e	IIIa
147.349632	70.134842	29 Jun 00	13:36:48	2	75	afdn	0	0	2	1	3			
147.281947	70.069840	29 Jun 00	13:49:03	2	86	mx	0	0	0	2	2	feed		Xa
147.278805	70.195274	29 Jun 00	13:53:29	2	87	mx	0	0	0	1	1	feed		Vc
147.104928	70.045231	29 Jun 00	14:18:33	2	101	mx	1	1	1	0	3	feed		Vc
147.209781	70.095172	21 Jul 00	14:07:13	4	3	bb	0	0	0	1	1	stand		Xa
147.348807	70.134125	21 Jul 00	14:31:55	4	6	afdn	0	0	0	0	0			
147.461868	70.104169	21 Jul 00	14:52:17	4	10	afdn	0	0	3	1	4			Vc
147.623652	70.112094	21 Jul 00	15:25:30	4	16	mo	0	1	0	0	1	stand		Ia
147.244566	70.122288	25 Jul 00	10:35:15	5	101	bb	0	0	0	1	1	run	s	Vc
147.878580	70.059514	25 Jul 00	12:38:34	5	29	mo	0	0	0	1	1	stand		
148.123584	70.166714	25 Jul 00	13:49:39	5	48	mx	1	0	0	5	6	trot	w	IXb

Table A-3. Incidental sightings of caribou recorded near the Badami study area, Alaska, during summer 2000 surveys. Coordinates are longitude/latitude on the WGS 1984 ellipsoid. Time is Alaska Daylight Savings Time. See Table 4 for habitat code definitions.

Longitude°W	Latitude°N	Date	Time ADST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total	Behavior	Direction	Habitat
148.099842	69.900113	17 Jun 00	16:44:16	1	162	ca	1	0	0	0	1			
147.478828	69.992471	29 Jun 00	13:16:43	2	54	ca	10	0	0	25	35	rest		Vc
147.302497	69.993283	29 Jun 00	13:45:35	2	79	ca	0	0	0	3	3	rest		IXb
147.268683	69.985554	29 Jun 00	13:46:06	2	80	ca	5	0	0	0	5	rest		XIIb
148.154016	70.251910	7 Jul 00	14:32:21	3	17	ca	0	13	13	174	200			IXb
148.173910	70.265757	21 Jul 00	17:34:12	4	30	ca	100	300	100	400	900	travel	nc	Xa
147.480971	69.981544	25 Jul 00	11:25:24	5	14	ca	50	100	25	150	325	stand		Vc
147.531596	69.991807	25 Jul 00	11:26:11	5	15	ca	20	100	50	90	260	move	nw	
147.618097	69.987435	25 Jul 00	11:43:02	5	17	ca	100	300	100	500	1000	run	nw	Vc

APPENDIX B

MOSQUITO AND OESTRID ACTIVITY INDICES

APPENDIX B. MOSQUITO AND OESTRID FLY ACTIVITY INDICES

Mosquito Activity Index (after Russell et al. 1993):

IF temperature >18 °C THEN $TI_m = 1$
IF temperature <6 °C THEN $TI_m = 0$
$TI_m = 1-((18-\text{temperature})/13)$
IF wind >6 mps then $WI_m = 0$
$WI_m = (6-\text{wind})/6$
then $I_m = TI_m \times WI_m$

where:

TI_m = Temperature Index for Mosquitoes
WI_m = Wind Index for Mosquitoes
I_m = Mosquito Activity Index

These parameters were translated into IF statements for TI_m and Wi_m with inputs as follows:

$TI_m = IF\ (T_h < 6, 0, IF(T_h > 18, 1, (1-((18-T_h)/13))))$
$WI_m = IF\ (V_h > 6, 0, ((6-V_h)/6))$
then $I_m = TI_m \times WI_m$

where:

T_h = Temperature in °C recorded hourly at Deadhorse Weather Station
V_h = Wind velocity in mps recorded hourly at Deadhorse Weather Station

Syntax is: IF (logical test, value if true, value if false)

Oestrid Fly Activity Index (after Mörschel 1999):

$$y = \frac{e^{(-2.9646+0.166xTemp-0.1951xWind)}}{1+e^{(-2.9646+0.166xTemp-0.1951xWind)}}$$

where:

y = Estimated probability of oestrid fly presence (between 0 and 1)
Temp = Temperature in °C recorded hourly at Deadhorse Weather Station
Wind = Wind speed in mps recorded hourly at Deadhorse Weather Station

The oestrid fly activity index (y) predicts presence/absence of oestrid flies with 83% reliability. Oestrid flies were considered present when y was ≥0.4

Bug Activity (after Walsh et al. 1992):

Bugs were considered active based on mean daily temperature and wind velocity as previous authors. Values used were:

T_m ≥13 °C based on daily mean temperature calculated from hourly records, Deadhorse Weather Station
V_m <6 mps based on daily mean wind velocity calculated from hourly records, Deadhorse Weather Station

Table B-1. Daily mean temperature and wind speed recorded at the Deadhorse Weather Station (ASCC 2001) with tabulations of hourly mosquito (Russell et al. 1993) and oestrid activity indices (Mörschel 1999), summer 2000. Bugs Active is 0=NO and 1=YES based on Walsh et al. 1992.

					Mosquito Index			Oestrid Index	
Date	Mean Temperature (°C)	*n*	Mean Wind Speed (mps)	*n*	Number of Records <0.5	Number of Records ≥0.5	Bugs Active	Number of Records <0.4	Number of Records ≥0.4
1 May 00	-11.79	24	4.05	24	24	0	0	24	0
2 May 00	-11.04	24	5.10	24	24	0	0	24	0
3 May 00	-11.22	23	4.99	23	23	0	0	23	0
4 May 00	-12.50	24	4.59	24	24	0	0	24	0
5 May 00	-11.17	24	4.91	24	24	0	0	24	0
6 May 00	-4.00	24	5.61	23	23	0	0	23	0
7 May 00	-9.58	24	4.89	24	24	0	0	24	0
8 May 00	-12.61	23	3.20	23	23	0	0	23	0
9 May 00	-16.08	24	3.26	24	24	0	0	24	0
10 May 00	-1.00	23	8.63	23	23	0	0	23	0
11 May 00	-5.70	23	7.70	24	23	0	0	23	0
12 May 00	-9.83	24	3.49	24	24	0	0	24	0
13 May 00	-16.75	24	1.67	24	24	0	0	24	0
14 May 00	-15.96	23	3.20	23	23	0	0	23	0
15 May 00	-13.86	22	4.21	22	22	0	0	22	0
16 May 00	-12.00	24	2.92	24	24	0	0	24	0
17 May 00	-10.74	19	3.51	23	19	0	0	19	0
18 May 00	-9.33	24	3.94	24	24	0	0	24	0
19 May 00	-10.88	24	2.85	24	24	0	0	24	0
20 May 00	-9.50	20	0.81	21	20	0	0	20	0
21 May 00	-8.27	22	3.67	23	22	0	0	22	0
22 May 00	-7.50	16	7.15	18	16	0	0	16	0
23 May 00	-6.54	24	3.00	24	24	0	0	24	0
24 May 00	-5.83	24	2.92	24	24	0	0	24	0
25 May 00	-5.13	24	4.97	24	24	0	0	24	0
26 May 00	-6.33	24	6.99	24	24	0	0	24	0
27 May 00	-7.50	22	8.49	22	22	0	0	22	0
28 May 00	-7.13	24	6.62	24	24	0	0	24	0
29 May 00	-5.79	24	5.19	24	24	0	0	24	0
30 May 00	-4.96	23	3.88	24	23	0	0	23	0
31 May 00	-3.35	23	3.49	23	23	0	0	23	0

Table B-1. Continued.

Date	Mean Temperature (°C)	*n*	Mean Wind Speed (mps)	*n*	Mosquito Index: Number of Records <0.5	Mosquito Index: Number of Records ≥0.5	Bugs Active	Oestrid Index: Number of Records <0.4	Oestrid Index: Number of Records ≥0.4
1 Jun 00	0.25	24	6.56	24	24	0	0	24	0
2 Jun 00	-1.50	24	6.82	24	24	0	0	24	0
3 Jun 00	-3.33	24	3.39	24	24	0	0	24	0
4 Jun 00	-3.63	24	5.04	24	24	0	0	24	0
5 Jun 00	-3.38	24	3.75	24	24	0	0	24	0
6 Jun 00	-0.83	24	4.87	24	24	0	0	24	0
7 Jun 00	1.29	24	4.97	24	24	0	0	24	0
8 Jun 00	3.21	24	3.92	24	24	0	0	24	0
9 Jun 00	1.29	24	5.12	24	24	0	0	24	0
10 Jun 00	-0.33	24	6.56	24	24	0	0	24	0
11 Jun 00	-0.46	24	2.29	24	24	0	0	24	0
12 Jun 00	0.85	20	3.97	21	20	0	0	20	0
13 Jun 00	1.40	20	4.40	20	20	0	0	20	0
14 Jun 00	6.15	20	2.86	20	20	0	0	20	0
15 Jun 00	8.54	24	2.66	24	24	0	0	24	0
16 Jun 00	10.23	22	3.93	22	22	0	0	22	0
17 Jun 00	9.13	24	3.52	24	24	0	0	24	0
18 Jun 00	9.05	22	4.89	22	22	0	0	22	0
19 Jun 00	8.58	24	3.30	24	24	0	0	24	0
20 Jun 00	10.58	24	4.57	24	23	1	0	24	0
21 Jun 00	8.77	22	5.31	22	22	0	0	22	0
22 Jun 00	13.71	24	4.22	24	24	0	1	22	2
23 Jun 00	15.67	24	4.91	24	24	0	1	24	0
24 Jun 00	16.67	24	4.27	24	22	2	1	20	4
25 Jun 00	16.33	24	4.44	24	22	2	1	21	3
26 Jun 00	13.83	24	4.78	24	21	3	1	23	1
27 Jun 00	8.29	24	5.98	24	24	0	0	24	0
28 Jun 00	4.79	24	6.41	24	24	0	0	24	0
29 Jun 00	4.17	24	3.26	24	24	0	0	24	0
30 Jun 00	7.00	23	3.80	23	23	0	0	23	0
1 Jul 00	9.67	24	6.71	24	24	0	0	24	0
2 Jul 00	6.08	24	5.92	24	24	0	0	24	0
3 Jul 00	7.08	24	3.19	24	24	0	0	24	0
4 Jul 00	13.08	24	7.35	24	24	0	0	24	0
5 Jul 00	5.47	15	9.81	15	15	0	0	15	0
6 Jul 00	10.67	18	5.26	18	18	0	0	18	0

Table B-1. Continued.

Date	Mean Temperature (°C)	*n*	Mean Wind Speed (mps)	*n*	Mosquito Index: Number of Records <0.5	Mosquito Index: Number of Records ≥0.5	Bugs Active	Oestrid Index: Number of Records <0.4	Oestrid Index: Number of Records ≥0.4
7 Jul 00	14.96	24	5.04	24	24	0	1	24	0
8 Jul 00	13.60	10	4.48	10	10	0	1	10	0
10 Jul 00	2.79	24	7.63	24	24	0	0	24	0
11 Jul 00	2.41	17	7.81	17	17	0	0	17	0
12 Jul 00	2.35	17	7.08	17	17	0	0	17	0
13 Jul 00	0.21	24	9.07	24	24	0	0	24	0
14 Jul 00	2.25	24	8.83	24	24	0	0	24	0
15 Jul 00	12.92	24	5.14	24	24	0	0	24	0
16 Jul 00	15.92	24	4.12	24	21	3	1	22	2
17 Jul 00	7.63	24	3.75	24	24	0	0	24	0
18 Jul 00	4.96	24	2.19	24	24	0	0	24	0
19 Jul 00	4.82	22	4.30	22	22	0	0	22	0
20 Jul 00	4.96	24	4.57	24	24	0	0	24	0
21 Jul 00	7.88	24	3.37	24	24	0	0	24	0
22 Jul 00	16.00	24	4.54	24	22	2	1	22	2
23 Jul 00	11.04	24	5.34	24	23	1	0	23	1
24 Jul 00	4.67	24	3.79	24	24	0	0	24	0
25 Jul 00	5.86	21	4.31	21	21	0	0	21	0
26 Jul 00	6.17	24	4.69	24	24	0	0	24	0
27 Jul 00	3.63	24	5.70	24	24	0	0	24	0
28 Jul 00	6.00	24	4.16	24	24	0	0	24	0
29 Jul 00	5.88	24	3.02	24	24	0	0	24	0
30 Jul 00	4.42	24	4.29	24	24	0	0	24	0
31 Jul 00	5.18	22	4.12	22	22	0	0	22	0
1 Aug 00	9.79	24	4.24	24	24	0	0	24	0
2 Aug 00	7.83	24	7.59	24	24	0	0	24	0
3 Aug 00	12.33	24	3.67	24	24	0	0	20	4
4 Aug 00	13.29	24	3.97	24	22	2	1	24	0
5 Aug 00	11.88	24	7.70	24	24	0	0	24	0
6 Aug 00	7.13	24	4.87	24	24	0	0	24	0
7 Aug 00	10.46	24	4.48	24	24	0	0	24	0
8 Aug 00	9.09	23	5.51	24	23	0	0	23	0
9 Aug 00	10.96	23	6.98	23	23	0	0	23	0
10 Aug 00	8.61	23	8.97	23	23	0	0	23	0
11 Aug 00	0.96	23	12.45	24	23	0	0	23	0
12 Aug 00	0.17	24	4.69	24	24	0	0	24	0

Table B-1. Continued.

Date	Mean Temperature (°C)	*n*	Mean Wind Speed (mps)	*n*	Mosquito Index: Number of Records <0.5	Mosquito Index: Number of Records ≥0.5	Bugs Active	Oestrid Index: Number of Records <0.4	Oestrid Index: Number of Records ≥0.4
13 Aug 00	0.38	24	5.29	24	24	0	0	24	0
14 Aug 00	0.50	24	4.05	24	24	0	0	24	0
15 Aug 00	1.42	24	2.87	24	24	0	0	24	0
16 Aug 00	8.73	22	2.94	24	18	4	0	21	1
17 Aug 00	8.48	23	3.94	23	23	0	0	23	0
18 Aug 00	6.04	23	4.72	24	23	0	0	23	0
19 Aug 00	5.08	24	3.09	24	24	0	0	24	0
20 Aug 00	1.48	23	5.26	23	23	0	0	23	0
21 Aug 00	0.67	18	5.00	18	18	0	0	18	0
22 Aug 00	0.04	24	5.92	24	24	0	0	24	0
23 Aug 00	-1.74	23	5.91	23	23	0	0	23	0
24 Aug 00	-1.64	22	4.78	24	22	0	0	22	0
25 Aug 00	-0.62	21	3.97	21	21	0	0	21	0
26 Aug 00	-1.96	24	4.29	24	24	0	0	24	0
27 Aug 00	-1.17	24	5.98	24	24	0	0	24	0
28 Aug 00	0.78	23	9.22	24	23	0	0	23	0
29 Aug 00	1.00	22	10.87	24	22	0	0	22	0
30 Aug 00	4.83	24	5.29	24	24	0	0	24	0