

Table A-1 Continued.

Longitude°W	Latitude°N	Date	Time ADST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total	Behavior	Direction	Habitat
146.233797	70.078692	28 Jun 00	13:19:31	2	18	ca	0	0	0	5	5			
146.232692	70.083741	28 Jun 00	13:19:41	2	19	ca	0	3	3	5	11	walk		IIIId
146.276220	70.094394	28 Jun 00	13:26:28	2	20	ca	0	3	1	1	5	feed		IIIe
146.274391	70.065034	28 Jun 00	13:27:29	2	21	ca	0	0	0	3	3	feed		Va
146.312300	70.059438	28 Jun 00	13:27:40	2	22	ca	0	0	0	4	4	rest		Vc
146.279705	70.055482	28 Jun 00	13:27:49	2	23	ca	0	3	0	0	3	feed		IIIe
146.309022	70.046994	28 Jun 00	13:28:06	2	24	ca	0	0	0	3	3	feed		Vc
146.280698	70.036311	28 Jun 00	13:28:29	2	25	ca	0	5	0	0	5			
146.322488	69.950806	28 Jun 00	13:32:15	2	29	ca	9	0	0	4	13	rest		Vc
146.308006	70.033103	28 Jun 00	13:28:36	2	204	ca	0	5	5	3	13	walk	s	Vb
146.303454	70.022183	28 Jun 00	13:29:00	2	205	ca	0	16	16	0	32	feed		Vb
146.304206	70.019907	28 Jun 00	13:29:05	2	206	ca	0	20	20	10	50	feed		Vb
146.292202	70.009659	28 Jun 00	13:29:27	2	26	ca	0	3	3	10	16			
146.284172	69.998472	28 Jun 00	13:29:51	2	27	ca	0	3	3	2	8	run		IIIId
146.302245	69.986279	28 Jun 00	13:30:17	2	28	ca	0	15	15	10	40	walk		IIIId
146.348818	69.985762	28 Jun 00	13:33:28	2	30	ca	0	20	20	5	45	rest		IIIId
146.334006	69.992498	28 Jun 00	13:33:42	2	31	ca	0	2	1	0	3			Vc
146.323514	69.995788	28 Jun 00	13:33:48	2	32	ca	0	4	2	0	6			Vc
146.321434	70.002142	28 Jun 00	13:34:01	2	33	ca	0	5	4	0	9	feed		IIIId
146.342740	70.007647	28 Jun 00	13:34:12	2	34	ca	0	2	2	1	5	rest		IIIe
146.349425	70.048328	28 Jun 00	13:35:36	2	35	ca	0	40	40	10	90			IIIe
146.331134	70.049263	28 Jun 00	13:35:38	2	207	ca	0	4	2	0	6	rest		IIIId
146.320337	70.061848	28 Jun 00	13:36:04	2	36	ca	0	2	0	0	2	feed		IIIId
146.355102	70.131347	28 Jun 00	13:38:28	2	37	ca	0	0	0	1	1	feed		IIIe
146.387469	70.099764	28 Jun 00	13:43:30	2	38	ca	0	6	5	0	11			
146.399814	70.076463	28 Jun 00	13:44:17	2	39	ca	0	0	0	3	3			
146.393950	70.064928	28 Jun 00	13:44:41	2	40	ca	0	2	1	0	3			
146.365382	70.047388	28 Jun 00	13:45:18	2	41	ca	0	25	20	5	50	feed		IIIId
146.387021	70.040669	28 Jun 00	13:45:32	2	42	ca	0	5	2	0	7			

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Table A-1 Continued.

Longitude°W	Latitude°N	Date	Time ADST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total	Behavior	Direction	Habitat
146.374373	70.036732	28 Jun 00	13:45:40	2	43	ca	0	1	0	0	1	rest		IIIe
146.387497	70.030577	28 Jun 00	13:45:53	2	44	ca	0	20	10	0	30			
146.374384	70.030103	28 Jun 00	13:45:54	2	208	ca	0	0	1	1	2	rest		IIIe
146.381964	70.025847	28 Jun 00	13:46:03	2	45	ca	0	5	2	2	9			
146.393106	69.993625	28 Jun 00	13:47:10	2	46	ca	0	0	0	15	15			
146.359224	69.992138	28 Jun 00	13:47:13	2	209	ca	0	0	0	3	3	rest		IIIId
146.382860	69.990483	28 Jun 00	13:47:17	2	47	ca	0	6	1	0	7			
146.415315	69.917554	28 Jun 00	13:51:08	2	48	ca	0	0	0	2	2			
146.396483	69.978582	28 Jun 00	13:53:15	2	49	ca	0	0	0	2	2			
146.402409	69.996799	28 Jun 00	13:53:52	2	50	ca	0	2	2	4	8			
146.413496	70.026594	28 Jun 00	13:54:53	2	51	ca	0	12	5	0	17			
146.435287	70.062396	28 Jun 00	13:56:07	2	52	ca	0	14	7	0	21	rest		Va
146.398299	70.077675	28 Jun 00	13:56:38	2	53	ca	0	0	0	2	2			
146.423936	70.081316	28 Jun 00	13:56:45	2	54	ca	0	8	8	3	19	feed		IIIe
146.442300	70.066623	28 Jun 00	14:05:08	2	55	ca	0	0	0	15	15	rest		IIIId
146.466742	70.060406	28 Jun 00	14:05:21	2	56	ca	0	1	0	0	1			
146.450109	70.049745	28 Jun 00	14:05:42	2	57	ca	4	0	0	0	4	feed		IIIId
146.465866	70.030907	28 Jun 00	14:06:20	2	58	ca	0	1	1	0	2			
146.442156	70.027617	28 Jun 00	14:06:27	2	59	ca	0	0	0	1	1	rest		IIIe
146.449971	70.025002	28 Jun 00	14:06:33	2	60	ca	0	6	4	0	10			
146.465845	70.020138	28 Jun 00	14:06:43	2	61	ca	0	5	2	5	12			
146.475567	70.012588	28 Jun 00	14:06:59	2	62	ca	0	0	0	20	20			
146.522838	69.953370	28 Jun 00	14:13:07	2	63	ca	0	4	0	0	4	rest		IIIe
146.491164	69.991646	28 Jun 00	14:14:25	2	64	ca	0	0	0	2	2			
146.520459	69.995444	28 Jun 00	14:14:33	2	65	ca	0	7	5	0	12	rest		IIIe
146.496058	70.014183	28 Jun 00	14:15:10	2	66	ca	0	0	0	2	2			
146.526822	70.020011	28 Jun 00	14:15:22	2	67	ca	0	15	10	5	30	rest		
146.508268	70.027036	28 Jun 00	14:15:37	2	68	ca	0	15	10	0	25			
146.526875	70.031288	28 Jun 00	14:15:45	2	210	ca	1	5	5	0	11	walk		IIIe

Table A-1 Continued.

Longitude°W	Latitude°N	Date	Time ADST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total	Behavior	Direction	Habitat
146.503739	70.035266	28 Jun 00	14:15:53	2	69	ca	0	50	25	20	95			
146.489336	70.052823	28 Jun 00	14:16:28	2	70	ca	0	3	0	0	3			
146.506574	70.058494	28 Jun 00	14:16:40	2	71	ca	0	4	1	0	5	run		IIIe
146.488798	70.063850	28 Jun 00	14:16:51	2	72	ca	0	40	30	20	90			
146.500814	70.069607	28 Jun 00	14:17:03	2	73	ca	0	4	2	0	6			
146.493288	70.073597	28 Jun 00	14:17:12	2	74	ca	0	1	1	0	2			
146.509187	70.076699	28 Jun 00	14:17:18	2	75	ca	0	30	30	10	70	feed		IIIId
146.520626	70.089703	28 Jun 00	14:17:46	2	76	ca	0	0	0	4	4	rest		Vc
146.520852	70.097029	28 Jun 00	14:18:02	2	77	ca	0	5	3	0	8	feed		IIIId
146.564035	70.030490	28 Jun 00	14:27:15	2	79	ca	0	0	0	5	5			
146.534924	70.026002	28 Jun 00	14:27:24	2	80	ca	0	5	2	2	9	rest		Ve
146.527960	70.019026	28 Jun 00	14:27:39	2	81	ca	0	0	3	0	3	feed		IIIe
146.586082	69.963277	28 Jun 00	14:34:21	2	82	ca	1	0	0	0	1			
146.580331	69.986173	28 Jun 00	14:35:07	2	83	ca	0	5	0	0	5			
146.572815	70.015256	28 Jun 00	14:36:05	2	84	ca	0	3	0	0	3			
146.598832	70.037010	28 Jun 00	14:36:49	2	85	ca	0	2	2	0	4			
146.576481	70.046072	28 Jun 00	14:37:08	2	86	ca	0	20	10	10	40			
146.600044	70.046158	28 Jun 00	14:37:08	2	211	ca	0	8	7	0	15	rest		Ve
146.577099	70.051240	28 Jun 00	14:37:18	2	87	ca	0	15	6	0	21			
146.608268	70.088472	28 Jun 00	14:38:36	2	88	ca	0	0	0	10	10	rest		Ve
146.597466	70.092925	28 Jun 00	14:38:46	2	89	ca	0	4	4	0	8	rest		IIIe
146.622640	70.140664	28 Jun 00	14:44:00	2	90	ca	0	2	0	0	2	run	e	Va
146.616532	70.084403	28 Jun 00	14:45:52	2	91	ca	0	15	5	5	25	feed		IIIe
146.648159	70.053405	28 Jun 00	14:46:52	2	92	ca	0	40	15	10	65			
146.642586	70.046284	28 Jun 00	14:47:06	2	93	ca	0	10	8	0	18			
146.654471	70.037838	28 Jun 00	14:47:23	2	94	ca	0	2	2	2	6			
146.623156	70.037236	28 Jun 00	14:47:24	2	212	ca	0	6	4	0	10			
146.639424	70.033785	28 Jun 00	14:47:31	2	95	ca	0	20	10	5	35			
146.629332	70.030687	28 Jun 00	14:47:37	2	213	ca	0	5	3	0	8	rest		IIIe

Table A-1 Continued.

Longitude°W	Latitude°N	Date	Time ADST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total	Behavior	Direction	Habitat
146.638795	70.027219	28 Jun 00	14:47:44	2	96	ca	0	5	3	0	8			
146.619385	69.984143	28 Jun 00	14:49:12	2	97	ca	4	0	0	0	4	feed		III d
146.648098	69.912098	28 Jun 00	14:52:44	2	98	ca	0	0	0	2	2			
146.665891	70.000405	28 Jun 00	14:55:47	2	99	ca	0	5	0	0	5			
146.667064	70.034660	28 Jun 00	14:56:57	2	100	ca	0	4	0	2	6			
146.685248	70.035746	28 Jun 00	14:56:59	2	214	ca	0	15	10	5	30	rest		III d
146.661494	70.041677	28 Jun 00	14:57:12	2	101	ca	0	10	3	2	15			
146.687790	70.043311	28 Jun 00	14:57:15	2	215	ca	0	5	5	0	10			III e
146.662441	70.050787	28 Jun 00	14:57:31	2	102	ca	0	20	12	7	39			
146.671742	70.065373	28 Jun 00	14:58:01	2	103	ca	0	0	0	1	1	rest		V a
146.664413	70.071301	28 Jun 00	14:58:13	2	104	ca	0	1	0	0	1			
146.670479	70.081134	28 Jun 00	14:58:35	2	105	ca	1	2	0	0	3			
146.681926	70.088253	28 Jun 00	14:58:50	2	106	ca	1	0	0	0	1	feed		V a
146.666737	70.091888	28 Jun 00	14:58:58	2	107	ca	0	3	4	0	7			
146.664761	70.095364	28 Jun 00	14:59:05	2	108	ca	0	8	7	0	15			
146.680718	70.096136	28 Jun 00	14:59:07	2	216	ca	0	20	20	10	50			III d
146.692815	70.108047	28 Jun 00	14:59:32	2	109	ca	0	0	0	3	3	feed		III e
146.650785	70.118277	28 Jun 00	14:59:54	2	110	ca	0	0	0	5	5			
146.718723	70.115475	28 Jun 00	15:04:50	2	111	ca	0	3	2	0	5			
146.727278	70.100008	28 Jun 00	15:05:20	2	112	ca	0	10	6	1	17			
146.719598	70.080687	28 Jun 00	15:05:57	2	113	ca	0	8	4	0	12			
146.714757	70.068083	28 Jun 00	15:06:21	2	114	ca	0	3	2	0	5			
146.701655	70.068046	28 Jun 00	15:06:21	2	217	ca	5	15	10	0	30			
146.713682	70.063993	28 Jun 00	15:06:29	2	115	ca	0	2	0	0	2			
146.705499	70.061382	28 Jun 00	15:06:34	2	218	ca	0	10	5	5	20			
146.727591	70.054315	28 Jun 00	15:06:48	2	116	ca	0	1	0	2	3			
146.731189	70.048861	28 Jun 00	15:06:58	2	117	ca	0	5	5	7	17			
146.699263	70.038508	28 Jun 00	15:07:18	2	118	ca	1	1	0	2	4			
146.725941	70.030869	28 Jun 00	15:07:33	2	119	ca	0	5	5	4	14			

Table A-1 Continued.

Longitude°W	Latitude°N	Date	Time ADST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total	Behavior	Direction	Habitat
146.703876	70.027366	28 Jun 00	15:07:40	2	219	ca	2	20	10	5	37			
146.697874	70.025659	28 Jun 00	15:07:43	2	120	ca	2	0	0	0	2			
146.778835	70.009512	28 Jun 00	15:16:04	2	121	ca	3	0	0	0	3	feed		Vc
146.778164	70.020321	28 Jun 00	15:16:27	2	122	ca	0	0	0	7	7			IIIe
146.748177	70.033900	28 Jun 00	15:16:55	2	123	ca	0	7	5	0	12			
146.772975	70.040528	28 Jun 00	15:17:09	2	124	ca	0	50	20	10	80			
146.763131	70.090720	28 Jun 00	15:18:58	2	125	ca	0	2	0	0	2			
146.734687	70.093431	28 Jun 00	15:19:04	2	126	ca	0	0	0	3	3			
146.771977	70.095916	28 Jun 00	15:19:09	2	127	ca	0	3	0	0	3	rest		Ve
146.754140	70.099011	28 Jun 00	15:19:16	2	128	ca	0	8	3	0	11			
146.772118	70.123436	28 Jun 00	15:20:09	2	129	ca	0	7	2	0	9	feed		Va
146.736476	70.141046	28 Jun 00	15:20:47	2	130	ca	0	0	0	3	3			
146.786648	70.143849	28 Jun 00	15:24:03	2	131	ca	0	1	1	0	2	feed		Va
146.793848	70.113298	28 Jun 00	15:25:01	2	132	ca	0	1	1	0	2	feed		IIIId
146.781852	70.062466	28 Jun 00	15:26:39	2	133	ca	0	5	0	0	5	rest		IIIe
146.817979	70.055515	28 Jun 00	15:26:52	2	134	ca	0	0	0	6	6			
146.788695	70.053920	28 Jun 00	15:26:55	2	220	ca	0	1	1	0	2	rest		IIIId
146.808558	70.050360	28 Jun 00	15:27:02	2	135	ca	0	12	10	10	32			
146.786094	70.044535	28 Jun 00	15:27:13	2	221	ca	0	5	0	0	5			
146.816690	70.040796	28 Jun 00	15:27:20	2	136	ca	0	0	0	3	3			
146.781955	70.036333	28 Jun 00	15:27:29	2	137	ca	0	6	3	0	9	feed		IIIe
146.784804	70.033659	28 Jun 00	15:27:34	2	222	ca	0	5	4	0	9	rest		IIIId
146.776491	70.021177	28 Jun 00	15:27:58	2	138	ca	0	0	0	4	4			
146.776350	70.015907	28 Jun 00	15:28:08	2	139	ca	0	0	0	7	7			
146.791573	70.012390	28 Jun 00	15:28:15	2	140	ca	5	0	0	0	5			
146.781090	70.006405	28 Jun 00	15:28:27	2	141	ca	3	0	0	0	3	walk		Xa
146.794756	69.991571	28 Jun 00	15:28:56	2	142	ca	0	1	0	0	1	rest		IIIId
146.810536	69.962001	28 Jun 00	15:29:54	2	143	ca	0	0	0	4	4			
146.813768	69.942280	28 Jun 00	15:30:34	2	144	ca	0	1	1	0	2			

Table A-1 Continued.

	Longitude°W	Latitude°N	Date	Time ADST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total	Behavior	Direction	Habitat
	146.835938	69.993605	28 Jun 00	15:35:40	2	145	ca	0	1	0	0	1	stand		Vc
	146.841758	70.017277	28 Jun 00	15:36:29	2	146	ca	2	0	0	0	2	rest		Va
	146.820833	70.020582	28 Jun 00	15:36:38	2	147	ca	0	0	0	11	11			
	146.835706	70.024353	28 Jun 00	15:36:46	2	148	ca	0	11	2	0	13			
	146.849166	70.030423	28 Jun 00	15:36:59	2	223	ca	0	20	10	5	35	feed		Va
	146.836003	70.030791	28 Jun 00	15:37:00	2	149	ca	0	30	15	0	45			
	146.826565	70.042821	28 Jun 00	15:37:25	2	150	ca	0	4	4	15	23			
	146.847500	70.044931	28 Jun 00	15:37:30	2	224	ca	0	7	1	0	8	rest		Va
	146.855347	70.049621	28 Jun 00	15:37:40	2	225	ca	0	10	6	0	16	rest		Va
	146.826143	70.054152	28 Jun 00	15:37:50	2	151	ca	0	1	1	6	8			
	146.852269	70.054747	28 Jun 00	15:37:51	2	226	ca	0	4	2	0	6	rest		Va
	146.828993	70.099011	28 Jun 00	15:39:26	2	152	ca	0	0	0	3	3			
	146.889632	70.094784	28 Jun 00	15:45:38	2	153	ca	0	2	0	0	2			
A-14	146.871856	70.038127	28 Jun 00	15:47:27	2	154	ca	1	0	0	2	3	feed		Ve
	146.940163	70.048090	28 Jun 00	15:57:21	2	155	ca	0	0	0	2	2	feed		Va
	146.915672	70.114805	28 Jun 00	15:59:45	2	156	ca	0	5	2	0	7			
	146.913453	70.144996	28 Jun 00	16:00:52	2	157	ca	0	0	0	1	1			
	146.960101	70.143873	28 Jun 00	16:02:37	2	158	ca	0	1	0	0	1	trot	n	Va
	146.984705	70.115556	28 Jun 00	16:03:31	2	159	ca	0	3	0	0	3			
	146.990173	70.071230	28 Jun 00	16:04:55	2	160	ca	0	0	0	3	3			
	146.984751	70.062475	28 Jun 00	16:05:12	2	161	ca	0	4	4	4	12			
	146.975936	70.055380	28 Jun 00	16:05:26	2	162	ca	0	30	20	10	60			
	146.948240	70.041439	28 Jun 00	16:05:53	2	163	ca	0	12	4	0	16	rest		IIIe
	146.981320	70.029266	28 Jun 00	16:06:16	2	164	ca	1	0	0	2	3			
	146.983700	69.952379	28 Jun 00	16:08:46	2	165	ca	0	1	0	0	1			
	146.056038	70.091621	6 Jul 00	11:07:26	3	1	ca	0	0	0	7	7	feed		Va
	146.189828	70.000915	6 Jul 00	11:31:08	3	2	ca	20	0	0	180	200	stand		IXb
	146.273422	69.990317	6 Jul 00	11:32:12	3	102	ca	0	76	76	60	212	move	w	Ia
	146.275027	70.124456	6 Jul 00	11:41:18	3	3	ca	2	0	0	0	2	feed		IIIe

Table A-1 Continued.

Longitude°W	Latitude°N	Date	Time ADST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total	Behavior	Direction	Habitat
146.275014	69.985917	6 Jul 00	11:48:10	3	4	ca	1	0	0	0	1	move	n	III d
146.394852	69.997150	6 Jul 00	12:05:39	3	5	ca	0	1	0	0	1	walk	e	V b
146.420642	70.135079	6 Jul 00	12:17:56	3	6	ca	0	0	0	1	1	feed		III e
146.413519	70.162683	6 Jul 00	12:18:54	3	7	ca	0	1	0	0	1	feed		III d
146.452577	70.024471	6 Jul 00	12:26:06	3	8	ca	0	0	0	1	1	feed		III d
146.523019	70.152810	6 Jul 00	12:39:53	3	9	ca	0	2	1	0	3	feed		V e
146.528907	70.162804	6 Jul 00	12:40:13	3	10	ca	0	1	1	0	2	feed		V a
146.597739	70.067438	6 Jul 00	12:58:03	3	11	ca	0	1	0	0	1	trot		III a
146.775072	70.172668	6 Jul 00	13:42:11	3	12	ca	9	0	0	0	9	swim		
146.798075	70.173933	6 Jul 00	13:43:20	3	13	ca	0	20	20	15	55			V c
146.782852	70.162742	6 Jul 00	13:43:45	3	103	ca	3	10	10	0	23	feed		V a
146.812061	70.157869	6 Jul 00	13:43:56	3	14	ca	0	0	0	1	1	walk	e	V a
146.831298	69.948916	6 Jul 00	13:54:51	3	15	ca	0	0	0	1	1	run	s	III a
146.862405	70.109831	6 Jul 00	14:00:20	3	16	ca	0	0	0	1	1	rest		III e
146.828928	70.169032	6 Jul 00	14:02:20	3	17	ca	25	20	0	100	145	move	e	X b
146.884279	70.166003	6 Jul 00	14:03:40	3	18	ca	10	20	10	30	70	move	e	
146.933535	69.944891	6 Jul 00	14:14:46	3	19	ca	0	0	0	1	1	rest		IX b
146.915040	70.162636	6 Jul 00	14:22:11	3	21	ca	0	0	0	10	10	feed		
146.034845	70.125997	20 Jul 00	16:55:41	4	1	ca	0	3	3	0	6	feed		V b
146.430664	70.063656	20 Jul 00	17:59:35	4	2	ca	0	2	2	2	6	rest		
146.471465	70.137777	20 Jul 00	18:06:21	4	3	ca	2	0	0	1	3	feed		III d
146.586326	70.067526	20 Jul 00	18:42:03	4	4	ca	0	0	0	2	2			
146.615399	70.165277	20 Jul 00	18:47:25	4	5	ca	0	0	0	1	1	rest		V c
146.650166	70.055043	20 Jul 00	18:51:11	4	6	ca	0	0	0	1	1	walk		III e
146.617238	70.035675	20 Jul 00	18:51:52	4	7	ca	0	0	0	1	1	feed		V a
146.783127	70.150721	20 Jul 00	19:28:44	4	8	ca	0	0	0	1	1	feed		III a
146.049692	70.070759	24 Jul 00	10:39:17	5	1	ca	1	0	0	0	1	feed		V a
146.015860	70.066636	24 Jul 00	10:39:25	5	2	ca	1	1	1	0	3			
146.052287	70.061920	24 Jul 00	10:39:35	5	3	ca	0	0	0	5	5	rest		V c

Table A-1 Continued.

Longitude°W	Latitude°N	Date	Time ADST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total	Behavior	Direction	Habitat
146.055101	70.056415	24 Jul 00	10:39:46	5	4	ca	0	1	1	1	3	feed		Vc
146.096581	70.040402	24 Jul 00	10:48:58	5	6	ca	0	0	0	1	1			
146.232698	70.015006	24 Jul 00	11:02:48	5	7	ca	3	2	0	10	15	feed		Ve
146.439506	69.993279	24 Jul 00	11:53:03	5	8	ca	0	0	0	1	1			
146.524541	70.115412	24 Jul 00	12:03:55	5	9	ca	1	0	0	0	1	walk	e	Ve
146.573089	69.922671	24 Jul 00	12:17:50	5	10	ca	0	0	0	1	1	move		Vc
146.692097	70.115124	24 Jul 00	12:45:02	5	11	ca	0	0	0	1	1	stand		Ve
146.904521	70.046604	24 Jul 00	13:42:26	5	13	ca	0	0	0	1	1	feed		IIIa
146.986656	70.119489	24 Jul 00	13:48:29	5	14	ca	0	0	0	1	1	stand		Vc

Table A-2 Muskoxen (mx), grizzly bear (bb), arctic fox (af), and fox den (afdn) sightings in the Bullen Point to Staines River 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
146.249430	70.076730	16 Jun 00	11:13:42	1	1	mx	0	0	0	2	2	rest		IVa
146.716046	70.175047	16 Jun 00	12:56:01	1	24	bb	0	0	0	1	1	walk		Xa
146.926835	70.093698	16 Jun 00	13:53:29	1	60	af	0	0	0	1	1			
146.028294	70.053859	28 Jun 00	12:54:14	2	1	mx	2	2	0	0	4	rest		
146.109268	70.070887	28 Jun 00	13:02:10	2	4	mx	0	0	0	12	12			
146.189180	70.024142	28 Jun 00	13:14:30	2	7	mx	0	0	0	3	3	feed		IXb
146.506000	70.111978	28 Jun 00	14:18:34	2	78	af	0	0	0	1	1			
146.111808	70.064644	6 Jul 00	11:17:32	3	101	af	0	0	0	1	1	trot	w	
146.933154	69.964903	6 Jul 00	14:15:28	3	20	afdn	0	0	0	1	1			
146.098743	70.033832	20 Jul 00	17:07:50	4	101	mx	0	0	0	4	4			
146.801941	70.015936	20 Jul 00	19:33:20	4	9	bb	0	1	3	0	4	rest		Vc
146.873500	70.064175	20 Jul 00	19:52:00	4	10	mx	1	3	0	0	4	stand		Xa
146.969226	70.105959	20 Jul 00	20:09:45	4	11	afdn	0	0	4	1	5			Vc
146.064354	70.100101	24 Jul 00	10:42:35	5	5	mx	1	0	0	8	9	feed		Vc
146.736568	69.990100	24 Jul 00	13:00:18	5	12	bb	0	0	0	1	1	walk	e	Vc

APPENDIX B

MOSQUITO AND OESTRID ACTIVITY INDICES

Appendix B. Mosquito and Oestrid Fly Activity Indices.

Mosquito Activity Index (after Russell 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 $WI_m = 0$

$WI_m = (6 - \text{wind}) / 6$

$I_m = TI_m \times WI_m$

where:

TI_m = Temperature Index for Mosquitoes

WI_m = Wind Index for Mosquitoes

I_m = Mosquito Activity Index

The above parameters were translated into the following IF statements for TI_m and WI_m :

$TI_m = \text{IF}(T_h < 6, 0, \text{IF}(T_h > 18, 1, (1 - ((18 - T_h) / 13))))$

$WI_m = \text{IF}(V_h > 6, 0, ((6 - V_h) / 6))$

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 of the above IF statements is: IF (logical test, value if true, value if false)

Oestrid Fly Activity Index (after Mörschel 1999):

$$y = \frac{e^{(-2.9646 + 0.166 \times \text{Temp} - 0.1951 \times \text{Wind})}}{1 + e^{(-2.9646 + 0.166 \times \text{Temp} - 0.1951 \times \text{Wind})}}$$

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

Table B-1. Daily mean temperature and wind speed recorded at the Deadhorse Weather Station (ASCC 2001) with tabulations of hourly mosquito (Russel 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.

Date	Mean Temperature (°C)		Mean Wind Speed (mps)		Mosquito Index			Oestrid Index	
	Mean Temperature (°C)	<i>n</i>	Mean Wind Speed (mps)	<i>n</i>	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

Table B-1. Continued.

Date	Mean Temperature (°C)	<i>n</i>	Mean Wind Speed (mps)	<i>n</i>	Mosquito Index			Oestrid Index	
					Number of Records <0.5	Number of Records ≥0.5	Bugs Active	Number of Records <0.4	Number of Records ≥0.4
31 May 00	-3.35	23	3.49	23	23	0	0	23	0
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

Table B-1. Continued.

Date	Mean Temperature (°C)	<i>n</i>	Mean Wind Speed (mps)	<i>n</i>	Mosquito Index			Oestrid Index	
					Number of Records <0.5	Number of Records ≥0.5	Bugs Active	Number of Records <0.4	Number of Records ≥0.4
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
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

Table B-1. Continued.

Date	Mean		Mean Wind		Mosquito Index			Oestrid Index	
	Temperature	<i>n</i>	Speed (mps)	<i>n</i>	Number of	Number of	Bugs	Number of	Number of
	(°C)				Records	Records	Active	Records	Records
	(°C)	<i>n</i>	Speed (mps)	<i>n</i>	<0.5	≥0.5		<0.4	≥0.4
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
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