

Table A-1. Caribou sightings in the Bullen Point to Staines River study area, Alaska, summer 1997. Coordinates are longitude, latitude and datum is NAD 27.

Longitude °W	Latitude °N	Date	TimeAST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total
146.103028	70.079638	06/16/97	13:20:50	1	2	ca	0	4	4	0	8
146.233675	70.137318	06/16/97	13:36:44	1	3	ca	0	5	3	0	8
146.388212	70.028446	06/16/97	13:58:40	1	4	ca	0	4	1	0	5
146.364926	70.035283	06/16/97	13:58:55	1	5	ca	0	1	0	0	1
146.411047	70.069085	06/16/97	14:09:15	1	6	ca	0	3	3	1	7
146.472555	70.038536	06/16/97	14:20:34	1	7	ca	0	5	4	0	9
146.440705	70.038490	06/16/97	14:20:34	1	7	ca	0	1	0	0	1
<del>146.470762</del>	<del>70.068675</del>	<del>06/16/97</del>	<del>14:21:42</del>	<del>1</del>	<del>8</del>	<del>ca</del>	<del>0</del>	<del>0</del>	<del>0</del>	<del>1</del>	<del>1</del>
146.483050	70.030115	06/16/97	14:32:25	1	9	ca	0	0	0	1	1
146.535901	69.926602	06/16/97	14:38:13	1	10	ca	0	1	0	0	1
146.533877	69.950048	06/16/97	14:39:05	1	11	ca	0	3	2	0	5
146.521883	69.994818	06/16/97	14:40:48	1	12	ca	0	2	1	0	3
146.560203	70.040312	06/16/97	14:42:30	1	13	ca	0	0	0	2	2
146.532778	70.141095	06/16/97	14:46:13	1	14	ca	0	3	3	0	6
146.579884	70.163988	06/16/97	14:49:16	1	15	ca	0	4	4	0	8
146.576127	70.055958	06/16/97	14:53:03	1	16	ca	0	2	1	0	3
146.590834	70.026760	06/16/97	14:54:02	1	17	ca	0	7	1	0	8
146.599247	69.937223	06/16/97	14:57:05	1	18	ca	0	6	0	0	6
146.571926	69.927968	06/16/97	14:57:24	1	19	ca	0	0	0	4	4
146.645665	69.961811	06/16/97	15:01:04	1	20	ca	0	2	0	1	3
146.623431	70.003209	06/16/97	15:02:38	1	21	ca	0	2	2	0	4
146.618744	70.016430	06/16/97	15:03:08	1	23	ca	0	1	0	0	1
146.617052	70.149687	06/16/97	15:08:09	1	24	ca	0	5	4	0	9
146.667325	70.164143	06/16/97	15:10:47	1	25	ca	0	1	0	0	1
146.679498	70.138776	06/16/97	15:11:38	1	26	ca	0	5	5	0	10
146.677774	70.029233	06/16/97	15:15:21	1	27	ca	0	1	0	0	1
146.656634	70.007380	06/16/97	15:16:06	1	28	ca	0	1	1	0	2
146.668928	69.971305	06/16/97	15:17:19	1	29	ca	0	5	4	0	9
146.668950	69.935042	06/16/97	15:18:33	1	30	ca	0	5	4	0	9
146.658476	69.935042	06/16/97	15:18:33	1	30	ca	0	2	1	0	3
146.657866	69.929855	06/16/97	15:18:44	1	31	ca	0	5	3	0	8
146.651548	69.920790	06/16/97	15:19:02	1	32	ca	0	1	1	0	2
146.719278	69.934136	06/16/97	15:21:14	1	34	ca	0	3	0	0	3
146.729029	69.970508	06/16/97	15:22:36	1	35	ca	0	0	0	1	1
146.722648	69.985759	06/16/97	15:23:11	1	36	ca	0	5	3	0	8
146.704586	69.986330	06/16/97	15:23:12	1	37	ca	0	12	8	0	20
146.703050	70.025497	06/16/97	15:24:40	1	38	ca	0	5	4	0	9
146.705401	70.036345	06/16/97	15:25:05	1	39	ca	0	1	1	0	2
146.722110	70.155449	06/16/97	15:29:33	1	40	ca	0	1	1	0	2
146.741000	69.987414	06/16/97	15:37:35	1	41	ca	0	15	10	0	25
146.754538	69.975721	06/16/97	15:37:58	1	42	ca	0	10	8	0	18
146.759590	69.966752	06/16/97	15:38:17	1	43	ca	0	2	2	0	4
146.759485	69.956185	06/16/97	15:38:38	1	44	ca	0	5	5	0	10
146.782149	69.916053	06/16/97	15:41:24	1	47	ca	0	21	18	0	39
146.793124	69.978379	06/16/97	15:43:46	1	48	ca	0	5	2	0	7
146.782021	69.982324	06/16/97	15:43:55	1	49	ca	0	4	3	0	7

Table A-1. Continued.

Longitude °W	Latitude °N	Date	TimeAST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total
146.799079	70.009366	06/16/97	15:44:55	1	50	ca	0	6	4	0	10
146.810507	70.041635	06/16/97	15:46:09	1	51	ca	0	1	0	0	1
146.831387	70.142012	06/16/97	15:53:29	1	52	ca	0	1	1	0	2
146.836687	69.990425	06/16/97	15:58:31	1	53	ca	0	2	0	0	2
146.831524	69.982615	06/16/97	15:58:47	1	54	ca	0	1	0	0	1
146.839514	69.969844	06/16/97	15:59:12	1	55	ca	0	2	2	0	4
146.826606	69.959342	06/16/97	15:59:33	1	56	ca	0	1	1	0	2
146.818339	69.918828	06/16/97	16:00:56	1	57	ca	0	0	0	1	1
146.871115	69.915484	06/16/97	16:02:18	1	60	ca	0	22	18	0	40
146.864340	69.958552	06/16/97	16:03:55	1	61	ca	0	10	8	0	18
146.881454	69.979285	06/16/97	16:04:42	1	62	ca	0	2	1	0	3
146.894513	69.988333	06/16/97	16:05:04	1	63	ca	0	3	1	0	4
146.874700	69.992242	06/16/97	16:05:13	1	64	ca	0	3	3	0	6
146.878789	70.008642	06/16/97	16:05:50	1	65	ca	0	3	3	0	6
146.890159	70.036512	06/16/97	16:06:54	1	66	ca	0	7	4	0	11
146.860692	70.048100	06/16/97	16:07:20	1	67	ca	0	29	22	0	51
146.889266	70.064890	06/16/97	16:07:58	1	68	ca	0	10	4	0	14
146.891796	70.078122	06/16/97	16:08:29	1	69	ca	0	2	1	0	3
146.916464	70.087341	06/16/97	16:39:58	1	70	ca	0	2	2	0	4
146.927099	70.065372	06/16/97	16:40:44	1	71	ca	0	3	0	0	3
146.917969	69.988041	06/16/97	16:43:22	1	72	ca	0	2	2	0	4
146.913596	69.963669	06/16/97	16:44:12	1	73	ca	0	1	2	0	3
146.925634	69.950514	06/16/97	16:44:40	1	74	ca	0	7	6	0	13
146.907640	69.934954	06/16/97	16:45:12	1	75	ca	1	0	0	0	1
146.922379	69.930234	06/16/97	16:45:22	1	76	ca	0	9	6	0	15
146.954557	69.938485	06/16/97	16:48:03	1	78	ca	0	1	0	0	1
146.968233	69.966449	06/16/97	16:49:07	1	79	ca	0	1	1	0	2
146.955131	69.972098	06/16/97	16:49:19	1	80	ca	0	7	5	0	12
146.958397	69.993220	06/16/97	16:50:08	1	81	ca	0	3	3	0	6
146.978793	69.996834	06/16/97	16:51:12	1	82	ca	0	27	20	0	47
146.956609	70.010396	06/16/97	16:52:11	1	83	ca	0	7	6	0	13
146.971627	70.012586	06/16/97	16:52:31	1	84	ca	0	5	4	0	9
146.970383	70.045815	06/16/97	16:53:35	1	85	ca	0	1	3	0	4
146.967423	70.054703	06/16/97	16:53:55	1	86	ca	0	1	1	0	2
146.592870	69.911579	06/16/97	14:59	1	88	ca	0	0	0	2	2
146.280359	69.992534	07/06/97	13:13:31	2	1	ca	0	0	0	1	1
146.432454	70.067917	07/06/97	13:42:06	2	2	ca	1	40	40	10	91
146.599042	70.081757	07/06/97	14:29:15	2	3	ca	0	3	2	0	5
146.620240	70.103505	07/06/97	14:36:15	2	4	ca	5	60	60	20	145
146.652812	70.107885	07/06/97	14:54:32	2	6	ca	0	10	10	0	20
146.676208	70.127453	07/06/97	14:55:15	2	7	ca	0	0	0	1	1
146.710147	70.064590	07/06/97	15:01:19	2	8	ca	2	100	70	10	182
146.751262	70.062781	07/06/97	15:15:06	2	9	ca	8	10	10	0	28
146.780422	70.065402	07/06/97	15:45:10	2	10	ca	5	0	0	0	5
146.925356	70.143471	07/06/97	16:22:23	2	11	ca	0	0	0	3	3
146.230873	70.005692	07/11/97	12:45:15	3	1	ca	4	10	10	20	44
146.300012	70.041661	07/11/97	12:56:42	3	2	ca	0	5	2	0	7
146.392119	70.009699	07/11/97	13:23:30	3	4	ca	0	0	0	2	2
146.471953	69.961207	07/11/97	13:38:10	3	5	ca	15	8	8	111	142

Table A-1. Continued.

Longitude °W	Latitude °N	Date	TimeAST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total
146.519353	70.012605	07/11/97	13:46:29	3	6	ca	3	2	2	5	12
146.563896	70.008580	07/11/97	13:59:33	3	8	ca	12	0	0	168	180
146.585613	69.966753	07/11/97	14:06:02	3	9	ca	0	1	0	0	1
146.732133	70.084718	07/11/97	15:01:33	3	10	ca	0	0	0	2	2
146.941529	70.146066	07/11/97	16:02:29	3	11	ca	0	200	100	150	450
146.972830	70.149942	07/11/97	16:04:20	3	12	ca	0	100	50	25	175
146.978871	69.961294	07/11/97	16:10:57	3	13	ca	0	0	0	1	1
146.754680	69.997930	07/11/97	13:45	3	14	ca	4	0	0	27	31
146.266194	70.175388	07/17/97	12:03:58	4	1	ca	1	0	0	0	1
146.240896	70.174423	07/17/97	12:04:20	4	2	ca	0	200	100	100	400
146.309998	70.181796	07/17/97	12:21:29	4	4	ca	0	2	2	1	5
146.391839	70.128454	07/17/97	12:37:47	4	5	ca	0	1	1	0	2
146.384756	70.182305	07/17/97	12:39:49	4	6	ca	13	0	0	0	13
146.402556	70.179656	07/17/97	13:02:32	4	8	ca	50	200	100	100	450
146.649907	70.171749	07/17/97	13:44:40	4	9	ca	0	100	90	100	290
146.769378	69.910976	07/17/97	14:41:13	4	12	ca	0	1	0	0	1
146.127779	70.160046	07/22/97	16:07:10	5	2	ca	10	2	2	0	14
146.141012	70.050324	07/22/97	16:11:04	5	3	ca	0	0	0	1	1
146.254870	70.161525	07/22/97	16:20:27	5	4	ca	1	1	0	1	3
146.248850	69.970909	07/22/97	16:26:59	5	5	ca	1	0	0	0	1
146.299502	70.170596	07/22/97	16:35:00	5	6	ca	0	1	1	0	2
146.340492	70.177260	07/22/97	16:36:24	5	7	ca	1	30	20	20	71
146.311740	70.090598	07/22/97	16:40:58	5	8	ca	1	0	0	0	1
146.341133	70.082561	07/22/97	16:41:14	5	9	ca	0	0	0	1	1
146.365524	70.179396	07/22/97	16:55:46	5	10	ca	0	8	1	0	9
146.391917	70.181853	07/22/97	16:56:20	5	11	ca	20	40	40	30	130
146.425606	70.160401	07/22/97	16:58:19	5	12	ca	0	1	0	0	1
146.417704	70.134273	07/22/97	16:59:10	5	13	ca	0	1	0	0	1
146.472740	70.184675	07/22/97	17:18:04	5	14	ca	0	1	1	0	2
146.514262	70.183626	07/22/97	17:18:51	5	15	ca	0	1	1	0	2
146.515749	70.189295	07/22/97	17:19:14	5	16	ca	0	5	5	15	25
146.563515	70.073224	07/22/97	17:36:18	5	17	ca	0	0	0	1	1
146.544056	70.183440	07/22/97	17:40:33	5	18	ca	0	10	3	0	13
146.586166	70.181843	07/22/97	17:41:24	5	19	ca	0	1	1	0	2
146.601303	70.121392	07/22/97	17:43:24	5	20	ca	0	0	0	2	2
146.607346	70.126465	07/22/97	17:59:28	5	21	ca	0	0	0	1	1
146.682350	70.159890	07/22/97	18:02:46	5	22	ca	0	1	0	0	1
146.715738	70.010899	07/22/97	18:16:16	5	23	ca	0	0	0	1	1
146.714798	70.080451	07/22/97	18:18:54	5	24	ca	0	1	0	0	1
146.732638	70.158938	07/22/97	18:21:53	5	25	ca	0	0	0	1	1
146.774694	70.180057	07/22/97	18:23:25	5	26	ca	60	150	150	240	600
146.734903	70.019669	07/22/97	18:54:12	5	27	ca	0	0	0	1	1
146.850896	70.178184	07/22/97	19:10:07	5	28	ca	0	0	0	3	3
146.861011	70.172116	07/22/97	19:10:17	5	29	ca	20	100	80	100	300
146.840270	70.081332	07/22/97	19:15:13	5	30	ca	25	200	50	200	475
146.065072	70.104545	08/02/97	11:47:07	6	1	ca	0	1	0	0	1
146.104296	70.072028	08/02/97	11:49:02	6	2	ca	0	2	0	0	2
146.272784	69.963898	08/02/97	12:13:12	6	3	ca	0	1	1	0	2
146.279287	69.989853	08/02/97	12:14:31	6	4	ca	0	1	0	0	1

Table A-1. Continued.

Longitude °W	Latitude °N	Date	TimeAST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total
146.310144	70.181778	08/02/97	12:21:55	6	5	ca	0	1	1	0	2
146.432884	70.117132	08/02/97	12:43:37	6	6	ca	0	0	0	1	1
146.447466	70.075733	08/02/97	12:58:01	6	7	ca	0	0	0	1	1
146.646172	69.988962	08/02/97	13:37:24	6	9	ca	0	0	0	1	1
146.650079	70.006787	08/02/97	13:38:03	6	10	ca	0	0	0	1	1
146.654410	69.986729	08/02/97	13:51:48	6	11	ca	0	0	0	1	1
146.659140	69.980942	08/02/97	13:52:00	6	12	ca	1	0	0	0	1
146.731086	69.965269	08/02/97	13:57:30	6	13	ca	0	0	0	1	1
146.731912	69.981817	08/02/97	13:58:05	6	14	ca	0	0	0	1	1
146.786620	70.178840	08/02/97	14:28:57	6	15	ca	35	13	0	0	48
146.791055	69.939092	08/02/97	14:41:27	6	16	ca	0	1	0	0	1
146.780915	69.952578	08/02/97	14:41:56	6	17	ca	0	0	0	1	1
146.816180	69.959075	08/02/97	14:42:11	6	18	ca	0	1	0	0	1
146.780215	69.972093	08/02/97	14:42:40	6	19	ca	0	0	0	1	1
146.792303	70.026259	08/02/97	14:44:40	6	20	ca	1	0	0	0	1
146.793423	70.094566	08/02/97	14:47:12	6	21	ca	0	1	0	0	1
146.774067	70.156555	08/02/97	14:49:34	6	22	ca	0	0	0	1	1
146.785058	70.176219	08/02/97	14:50:18	6	23	ca	0	0	0	2	2
146.856842	70.152425	08/02/97	14:52:16	6	24	ca	0	0	0	1	1
146.834111	70.076998	08/02/97	14:54:51	6	25	ca	0	1	0	0	1
146.860662	70.059625	08/02/97	14:55:27	6	26	ca	0	0	0	1	1
146.817840	69.990020	08/02/97	14:57:59	6	27	ca	0	0	0	1	1
146.857335	69.983434	08/02/97	14:58:13	6	28	ca	0	0	0	1	1
146.871634	69.996312	08/02/97	15:05:00	6	29	ca	0	1	0	0	1
146.910422	70.167983	08/02/97	15:12:09	6	30	ca	0	0	0	1	1
146.941618	69.988019	08/02/97	15:18:25	6	31	ca	0	0	0	1	1
146.959098	69.911452	08/02/97	15:22:03	6	33	ca	1	0	0	0	1
146.944020	69.949567	08/02/97	15:23:29	6	34	ca	0	0	0	1	1
146.973761	70.095256	08/02/97	15:28:56	6	35	ca	0	1	0	0	1
146.982073	70.151163	08/02/97	15:31:05	6	36	ca	1	0	0	0	1
146.961125	70.151163	08/02/97	15:31:05	6	36	ca	0	0	0	1	1
146.141522	70.149360	08/07/97	17:49:40	7	2	ca	0	0	0	1	1
146.390461	70.155793	08/07/97	18:34:22	7	3	ca	1	0	0	1	2
146.569237	70.170385	08/07/97	19:19:06	7	4	ca	0	0	0	2	2
146.574846	69.983257	08/07/97	19:25:56	7	5	ca	0	1	1	0	2
146.571554	69.979056	08/07/97	19:26:06	7	6	ca	1	0	0	0	1
146.644267	69.970894	08/07/97	19:31:35	7	7	ca	0	0	0	1	1
146.825362	69.953738	08/07/97	20:51:21	7	8	ca	0	1	1	0	2
146.864535	69.913896	08/07/97	20:54:00	7	9	ca	0	1	1	0	2
146.897829	69.977865	08/07/97	20:56:17	7	10	ca	0	0	0	1	1
146.899747	70.152802	08/07/97	21:04:26	7	11	ca	0	0	0	1	1
146.961046	69.969366	08/07/97	21:16:32	7	12	ca	1	0	0	0	1

Table A-2. Brown bear sightings in the Bullen Point to Staines River study area, Alaska, summer 1997. Coordinates are longitude, latitude and datum is NAD 27.

Longitude °W	Latitude °N	Date	TimeAST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total
146.637307	70.011983	06/16/97	15:02:58	1	22	bb	0	0	0	1	1
146.259058	69.985934	07/17/97	12:11:50	4	3	bb	0	0	0	1	1
146.724580	69.986131	07/17/97	13:58:06	4	10	bb	0	0	0	1	1

Table A-3. Caribou sightings south of the defined Bullen Point to Staines River survey area, Alaska, summer 1997. Coordinates are longitude, latitude and datum is NAD 27.

Longitude °W	Latitude °N	Date	TimeAST	Flight	Attribute	Species	Bulls	Cows	Calves	Unclass	Total
146.692232	69.908506	06/16/97	15:20:17	1	33	ca	0	18	14	0	32
146.737406	69.904119	06/16/97	15:40:24	1	45	ca	0	4	2	0	6
146.806534	69.908235	06/16/97	15:41:08	1	46	ca	0	3	1	0	4
146.860998	69.901839	06/16/97	16:01:40	1	58	ca	0	1	0	0	1
146.880674	69.906232	06/16/97	16:01:57	1	59	ca	0	2	2	0	4
146.903796	69.907682	06/16/97	16:46:10	1	77	ca	0	0	0	2	2
146.377428	69.905912	07/11/97	13:18:47	3	3	ca	250	0	0	50	300
146.495005	69.910177	08/02/97	13:12:30	6	8	ca	0	1	0	0	1
146.936315	69.903612	08/02/97	15:21:35	6	32	ca	0	0	0	1	1

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**APPENDIX B.**

**1997 PHOTODOCUMENTATION**

Revised counts based on photodocumentation, copies of the photodocumentation and a summary of changes are presented in Photos 1 to 11 and Table B-1. Eight attributes were corrected based on photodocumentation, two from 11 July 1997, three from 17 July 1997, and three from 22 July 1997 systematic surveys. Additional groups were photographed, but transparencies were not of sufficient quality to reliably distinguish individual caribou. Group size was increased for most of the revised counts. The number of bulls decreased by an average of  $-7$  animals  $\pm 23.3$  95CI, number of cows increased by an average of  $41 \pm 77.5$  95CI, number of calves increased by an average of  $47 \pm 94.0$  95CI, number of unclassified caribou increased by an average of  $47 \pm 68.4$  95CI, and number of total caribou increased by an average of  $129 \pm 181.2$  95CI. Changes within sex/age classes generally were proportional to the original group compositions.

- PHOTO 1: Caribou--Sourdough Survey Area  
Attribute 5, 15 Bulls, 8 Cows, 8 Calves,  
111 Unclassified, 142 Total  
146.471953 W, 69.961207 N  
11 July 1997, Lynn Noel
- PHOTO 2: Caribou--Sourdough Survey Area  
Attribute 14, 4 Bulls, 0 Cows, 0 Calves,  
27 Unclassified, 31 Total  
146.754680 W, 69.997930 N  
11 July 1997, Lynn Noel
- 
- PHOTO 3: Caribou--Sourdough Survey Area  
Attribute 8, 12 Bulls, 0 Cows, 0 Calves,  
168 Unclassified, 180 Total  
146.563896 W, 70.008580 N  
11 July 1997, Lynn Noel
- PHOTO 4: Caribou--Sourdough Study Area  
Attribute 2, 0 Bulls, 200 Cows, 100 Calves,  
100 Unclassified, 400 Total.  
146.240896°W, 70.174423°N  
17 July 1997, Lynn Noel
- PHOTO 5: Caribou--Sourdough Study Area  
Attribute 8, 50 Bulls, 200 Cows, 100 Calves,  
100 Unclassified, 450 Total  
146.402556°W, 70.179656°N  
17 July 1997, Lynn Noel
- PHOTO 6: Caribou--Sourdough Study Area  
Attribute 8, 50 Bulls, 200 Cows, 100 Calves,  
100 Unclassified, 450 Total  
146.402556°W, 70.179656°N  
17 July 1997, Lynn Noel
- PHOTO 7: Caribou--Sourdough Study Area  
Attribute 9, 0 Bulls, 100 Cows, 90 Calves,  
100 Unclassified, 290 Total  
146.649907°W, 70.1717491°N  
17 July 1997, Lynn Noel
- PHOTO 8: Caribou--Sourdough Study Area  
Attribute 7, 1 Bulls, 30 Cows, 30 Calves,  
34 Unclassified, 95 Total  
146.340492 W, 70.177260 N  
22 July 1997, Lynn Noel
- PHOTO 9: Caribou--Sourdough Study Area  
Attribute 26, 60 Bulls, 350 Cows, 350 Calves,  
240 Unclassified, 1000 Total  
146.774694° W, 70.180057° N  
22 July 1997, Lynn Noel



PHOTO 10: Caribou--Sourdough Study Area  
Attribute 26, 60 Bulls, 350 Cows, 350 Calves,  
240 Unclassified, 1000 Total  
146.774694° W, 70.180057° N  
22 July 1997, Lynn Noel

PHOTO 11: Caribou--Sourdough Study Area  
Attribute 30, 30 Bulls, 325 Cows, 200 Calves,  
320 Unclassified, 875 Total  
146.840270° W, 70.081332° N  
22 July 1997, Lynn Noel

Table B-1. Sex and age structure for caribou groups with corrections based on photographic analysis, Bullen Point to Staines River study area, Alaska, summer 1997. Abbreviations are: Uncorr. = uncorrected number (field estimate), Corr. = corrected number (photo count), and Diff. = difference between corrected and uncorrected number. Corrected attribute data is presented in Table A-1.

B-4

Attribute	Date	Bulls			Cows			Calves			Unclassified			Total Caribou		
		Uncorr.	Corr.	Diff.	Uncorr.	Corr.	Diff.	Uncorr.	Corr.	Diff.	Uncorr.	Corr.	Diff.	Uncorr.	Corr.	Diff.
5	11 Jul	80	15	-65	3	8	5	3	8	5	10	111	101	96	142	46
8	11 Jul	12	12	0	0	0	0	0	0	0	23	168	145	35	180	145
2	17 Jul	0	0	0	200	200	0	25	100	75	150	100	-50	375	400	25
8	17 Jul	50	50	0	200	200	0	200	100	-100	100	100	0	550	450	-100
9	17 Jul	0	0	0	100	100	0	50	90	40	50	100	50	200	290	90
7	22 Jul	1	1	0	30	30	0	20	30	10	20	34	14	71	95	24
26	22 Jul	60	60	0	150	350	200	150	350	200	240	240	0	600	1000	400
30	22 Jul	25	30	5	200	325	125	50	200	150	200	320	120	475	875	400
Average Difference				-7.50			41.25			47.50			47.50			128.75
Standard Deviation				23.30			77.49			93.96			68.42			181.20
95 Percent Confidence Interval				16.15			53.70			65.11			47.41			125.56



Photo #3

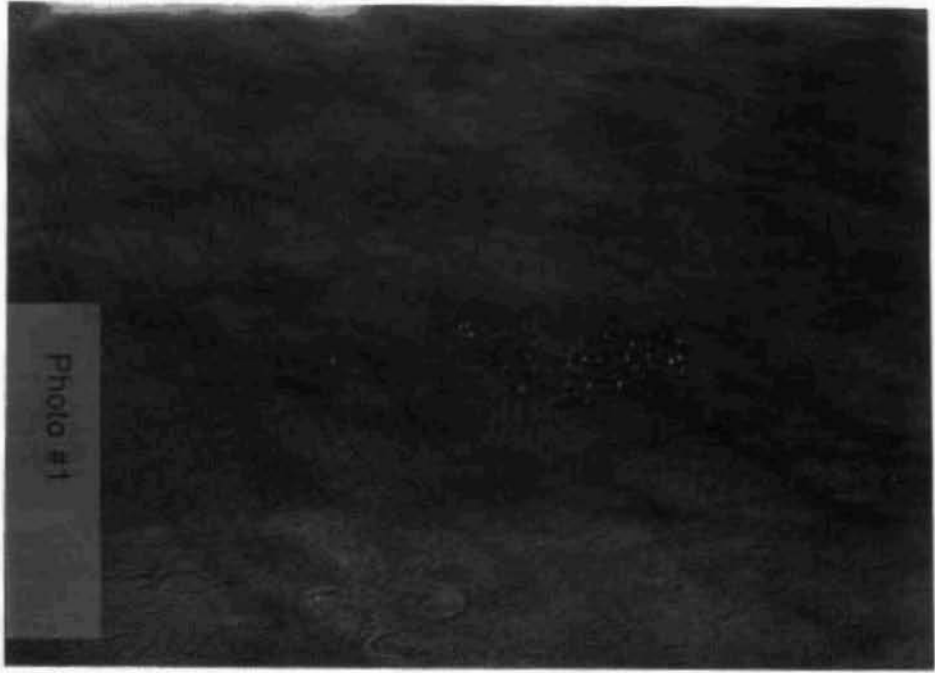


Photo #1



Photo #4

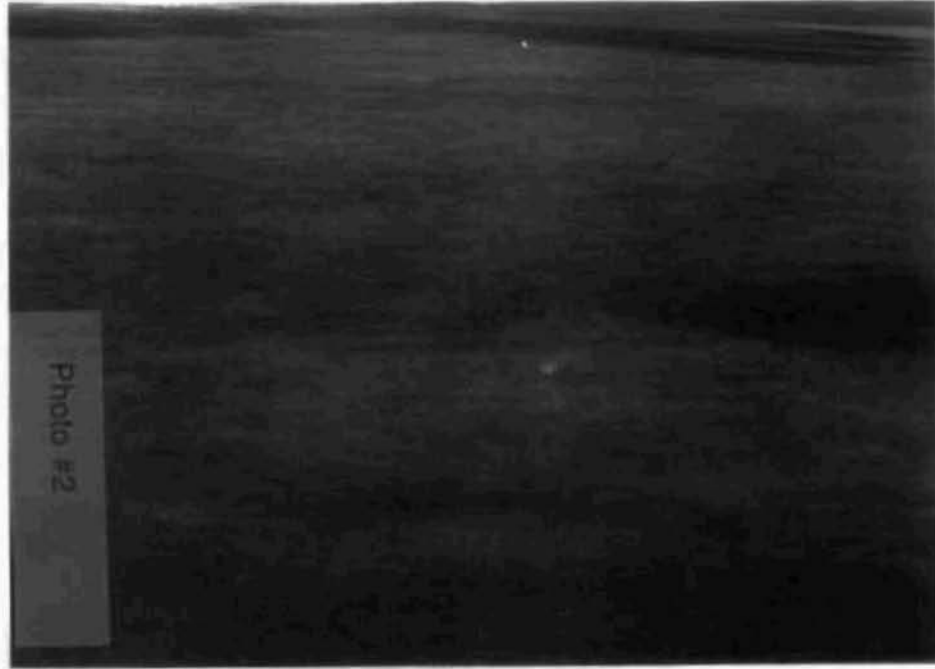


Photo #2

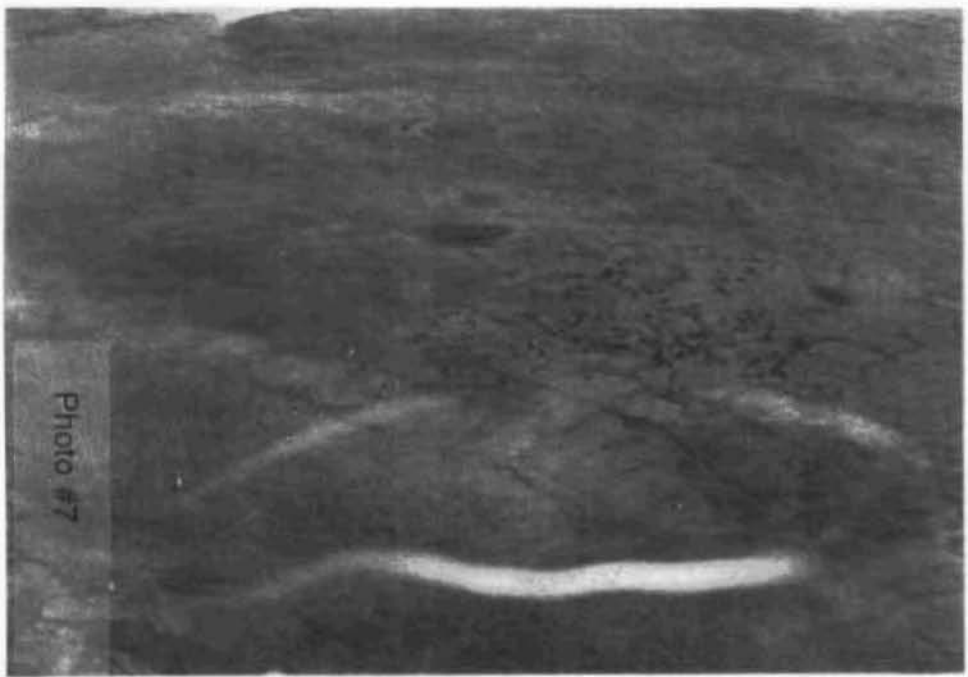


Photo #7



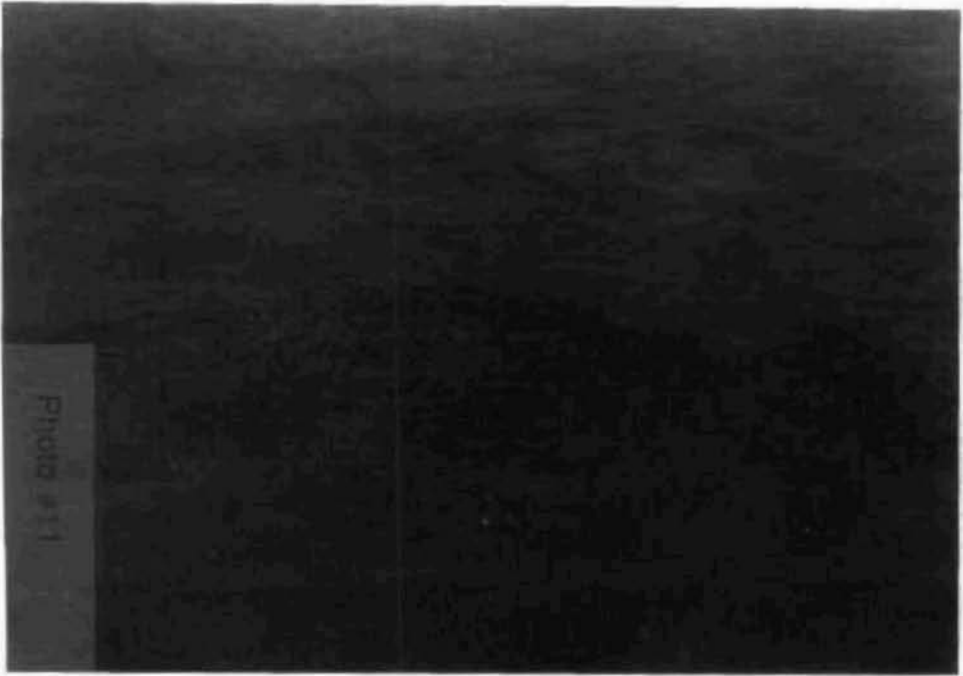
Photo #5



Photo #8



Photo #6



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**APPENDIX C.**

**MOSQUITO AND OESTRID ACTIVITY INDICES**

### Mosquito Activity Index

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

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

$T_h$  = 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)

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

### Oestrid Activity Index

IF temperature >18°C THEN  $TI_o = 1$   
IF temperature <13°C THEN  $TI_o = 0$   
 $TI_o = 1 - ((18 - \text{temperature}) / 10)$   
 $WI_o = (9 - \text{wind}) / 9$   
 $I_o = TI_o \times WI_o$

where:

$TI_o$  = Temperature Index for Oestrids  
 $WI_o$  = Wind Index for Oestrids  
 $I_o$  = Oestrid Activity Index  
 $T_h$  = Temperature in °C recorded hourly at Deadhorse Weather Station  
 $V_h$  = Wind velocity in mps recorded hourly at Deadhorse Weather Station

These parameters were translated into IF statements for  $TI_o$  and  $WI_o$  which were then multiplied to give  $I_o$ .

$TI_o = \text{IF}(T_h < 13, 0, \text{IF}(T_h > 18, 1, (1 - ((18 - T_h) / 10))))$   
 $WI_o = \text{IF}(V_h > 9, 0, ((9 - V_h) / 9))$   
and  $I_o = TI_o \times WI_o$

Table C-1. Daily average temperature and wind velocity recorded at the Deadhorse Weather Station (ASCC 1997), with tabulations of hourly mosquito and oestrid activity indices (Russell et al. 1993). Daily totals of four or more hours with either mosquito or oestrid indices  $\geq 0.5$  were considered "Insect Days" (Cameron et al. 1995).

Date	Mean Temperature (°C)	n	Mean Wind Speed (mps)	n	Mosquito Index		Oestrid Index		Total Number of Records
					Number of Records <0.5	Number of Records $\geq 0.5$	Number of Records <0.5	Number of Records $\geq 0.5$	
1 May 97	-4.97	(33)	2.20	(33)	33	0	33	0	33
2 May 97	-6.26	(34)	2.65	(34)	34	0	34	0	34
3 May 97	-6.92	(36)	3.10	(36)	36	0	36	0	36
4 May 97	-8.57	(21)	3.75	(21)	21	0	21	0	21
5 May 97	-11.00	(23)	4.20	(23)	23	0	23	0	23
6 May 97	-12.04	(23)	6.33	(23)	23	0	23	0	23
7 May 97	-12.21	(24)	5.48	(24)	24	0	24	0	24
8 May 97	-11.00	(27)	2.95	(27)	27	0	27	0	27
9 May 97	-11.60	(20)	2.06	(20)	20	0	20	0	20
10 May 97									
11 May 97	-4.40	(5)	5.59	(5)	5	0	5	0	5
12 May 97	-3.59	(22)	6.93	(22)	22	0	22	0	22
13 May 97	-1.55	(22)	3.90	(22)	22	0	22	0	22
14 May 97	0.97	(30)	1.90	(30)	30	0	30	0	30
15 May 97	-1.38	(32)	2.84	(32)	32	0	32	0	32
16 May 97	-2.36	(28)	3.77	(28)	28	0	28	0	28
17 May 97	1.18	(17)	3.13	(17)	17	0	17	0	17
18 May 97	2.05	(20)	3.94	(20)	20	0	20	0	20
19 May 97	3.35	(23)	1.82	(23)	23	0	23	0	23
20 May 97	2.32	(25)	2.78	(25)	25	0	25	0	25
21 May 97	-0.53	(34)	3.92	(34)	34	0	34	0	34
22 May 97	-2.94	(34)	3.84	(34)	34	0	34	0	34
23 May 97	-6.16	(32)	3.07	(32)	32	0	32	0	32
24 May 97	-7.79	(29)	4.32	(29)	29	0	29	0	29
25 May 97	-6.00	(30)	6.08	(30)	30	0	30	0	30
26 May 97	-0.87	(23)	2.89	(23)	23	0	23	0	23
27 May 97	1.43	(28)	4.01	(28)	28	0	28	0	28
28 May 97	0.11	(27)	4.66	(28)	28	0	28	0	28
29 May 97	-0.64	(25)	3.36	(26)	26	0	26	0	26
30 May 97	-2.16	(25)	2.93	(25)	25	0	25	0	25
31 May 97	-2.33	(27)	4.57	(27)	27	0	27	0	27
1 Jun 97	-4.54	(24)	6.37	(24)	24	0	24	0	24
2 Jun 97	-4.59	(22)	6.46	(22)	22	0	22	0	22
3 Jun 97	-1.39	(28)	7.44	(28)	28	0	28	0	28
4 Jun 97	1.67	(30)	7.30	(30)	30	0	30	0	30
5 Jun 97	3.27	(22)	5.57	(22)	22	0	22	0	22
6 Jun 97	4.76	(25)	2.56	(25)	25	0	25	0	25
7 Jun 97	3.69	(26)	2.16	(26)	26	0	26	0	26
8 Jun 97	2.52	(31)	3.18	(31)	31	0	31	0	31
9 Jun 97	-0.46	(26)	2.97	(26)	26	0	26	0	26
10 Jun 97	0.33	(33)	2.87	(33)	33	0	33	0	33



Table C-1. Continued.

Date	Mean Temperature (°C)	n	Mean Wind Speed (mps)	n	Mosquito Index		Oestrid Index		Total Number of Records
					Number of Records <0.5	Number of Records ≥0.5	Number of Records <0.5	Number of Records ≥0.5	
11 Jun 97	1.43	(23)	4.42	(23)	23	0	23	0	23
12 Jun 97	2.23	(31)	3.17	(31)	31	0	31	0	31
13 Jun 97	3.57	(21)	4.04	(22)	22	0	22	0	22
14 Jun 97	3.34	(32)	3.10	(33)	33	0	33	0	33
15 Jun 97	4.42	(31)	2.78	(31)	31	0	31	0	31
16 Jun 97	5.73	(26)	2.94	(26)	26	0	26	0	26
17 Jun 97	2.58	(26)	3.69	(26)	26	0	26	0	26
18 Jun 97	3.28	(32)	3.32	(32)	32	0	32	0	32
19 Jun 97	3.76	(17)	3.01	(17)	17	0	17	0	17
20 Jun 97	4.86	(21)	4.25	(21)	21	0	21	0	21
21 Jun 97	3.89	(28)	3.37	(28)	28	0	28	0	28
22 Jun 97	6.14	(28)	2.95	(28)	28	0	28	0	28
23 Jun 97	6.93	(28)	2.62	(29)	29	0	29	0	29
24 Jun 97	13.71	(24)	4.14	(24)	24	0	24	0	24
25 Jun 97	8.18	(28)	4.95	(28)	28	0	28	0	28
26 Jun 97	4.33	(33)	3.49	(33)	33	0	33	0	33
27 Jun 97	3.30	(20)	4.50	(20)	20	0	20	0	20
28 Jun 97	5.00	(26)	4.97	(26)	26	0	26	0	26
29 Jun 97	9.71	(28)	3.76	(29)	25	4	22	7	29
30 Jun 97	11.82	(22)	3.97	(23)	23	0	23	0	23
1 Jul 97	11.22	(23)	3.51	(23)	23	0	17	6	23
2 Jul 97	4.90	(31)	5.41	(31)	31	0	31	0	31
3 Jul 97	5.74	(27)	4.15	(27)	27	0	27	0	27
4 Jul 97	8.77	(30)	2.64	(30)	27	3	29	1	30
5 Jul 97	5.48	(27)	3.85	(27)	27	0	27	0	27
6 Jul 97	3.16	(25)	5.00	(25)	25	0	25	0	25
7 Jul 97	3.11	(28)	5.68	(28)	28	0	28	0	28
8 Jul 97	2.10	(30)	5.81	(30)	30	0	30	0	30
9 Jul 97	3.46	(24)	6.18	(24)	24	0	24	0	24
10 Jul 97	3.68	(22)	6.12	(22)	22	0	22	0	22
11 Jul 97	4.45	(20)	4.00	(20)	20	0	20	0	20
12 Jul 97	4.97	(30)	3.74	(30)	30	0	30	0	30
13 Jul 97	4.39	(23)	6.95	(23)	23	0	23	0	23
14 Jul 97	5.77	(26)	2.28	(26)	26	0	26	0	26
15 Jul 97	9.36	(22)	3.88	(22)	22	0	22	0	22
16 Jul 97	6.16	(31)	5.62	(31)	31	0	31	0	31
17 Jul 97	7.58	(12)	2.20	(12)	11	1	12	0	12
18 Jul 97	7.25	(16)	6.79	(16)	16	0	16	0	16
19 Jul 97	9.29	(24)	2.83	(25)	25	0	24	1	25
20 Jul 97	9.33	(30)	3.36	(30)	30	0	30	0	30
21 Jul 97	7.38	(26)	5.67	(26)	26	0	26	0	26
22 Jul 97	8.79	(28)	2.92	(28)	28	0	28	0	28
23 Jul 97	13.04	(25)	2.47	(25)	20	5	14	11	25
24 Jul 97	16.00	(24)	3.56	(24)	21	3	16	8	24
25 Jul 97	11.56	(27)	2.93	(27)	25	2	25	2	27
26 Jul 97	14.20	(15)	3.93	(15)	15	0	11	4	15

Table C-1. Continued.

Date	Mean Temperature (°C)	n	Mean Wind Speed (mps)	n	Mosquito Index		Oestrid Index		Total Number of Records
					Number of Records <0.5	Number of Records ≥0.5	Number of Records <0.5	Number of Records ≥0.5	
27 Jul 97	6.81	(31)	5.15	(31)	31	0	31	0	31
28 Jul 97	4.60	(30)	3.96	(30)	30	0	30	0	30
29 Jul 97	6.85	(27)	5.10	(27)	27	0	27	0	27
30 Jul 97	8.04	(25)	6.86	(25)	25	0	25	0	25
31 Jul 97	8.29	(28)	3.80	(28)	28	0	28	0	28
1 Aug 97	11.20	(15)	3.00	(15)	14	1	14	1	15
2 Aug 97	13.68	(22)	2.63	(22)	17	5	15	7	22
3 Aug 97	16.39	(23)	3.32	(23)	17	6	12	11	23
4 Aug 97	15.95	(22)	3.55	(22)	16	6	12	10	22
5 Aug 97	14.61	(23)	2.43	(23)	19	4	17	6	23
6 Aug 97	11.67	(33)	2.93	(33)	33	0	33	0	33
7 Aug 97	9.88	(26)	2.75	(26)	26	0	26	0	26
8 Aug 97	11.50	(34)	4.68	(34)	34	0	34	0	34
9 Aug 97	8.79	(28)	3.56	(28)	28	0	28	0	28
10 Aug 97	12.35	(23)	3.39	(23)	18	5	13	10	23
11 Aug 97	15.61	(28)	4.22	(29)	29	0	22	7	29
12 Aug 97	9.89	(27)	3.42	(27)	27	0	27	0	27
13 Aug 97	9.04	(28)	3.10	(28)	28	0	28	0	28
14 Aug 97	12.12	(25)	2.67	(26)	25	1	23	3	26
15 Aug 97	13.48	(25)	4.32	(25)	24	1	22	3	25
16 Aug 97	7.42	(24)	4.51	(24)	24	0	24	0	24
17 Aug 97	4.72	(29)	4.36	(29)	29	0	29	0	29
18 Aug 97	3.54	(24)	5.29	(24)	24	0	24	0	24
19 Aug 97	7.10	(30)	6.51	(30)	30	0	30	0	30
20 Aug 97	4.69	(35)	2.86	(35)	35	0	35	0	35
21 Aug 97	7.26	(34)	2.76	(34)	34	0	34	0	34
22 Aug 97	8.55	(33)	3.08	(34)	34	0	34	0	34
23 Aug 97	5.46	(28)	5.07	(28)	28	0	28	0	28
24 Aug 97	3.00	(27)	8.60	(27)	27	0	27	0	27
25 Aug 97	2.82	(28)	9.49	(28)	28	0	28	0	28
26 Aug 97	3.22	(27)	8.67	(27)	27	0	27	0	27
27 Aug 97	4.39	(23)	1.49	(24)	24	0	24	0	24
28 Aug 97	4.65	(31)	1.19	(32)	32	0	32	0	32
29 Aug 97	5.06	(36)	4.22	(36)	36	0	36	0	36
30 Aug 97	4.40	(30)	5.41	(30)	30	0	30	0	30