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Federal Aid in Wildlife Restoration
Annual Report
1 July 2004 – 30 June 2005

2005 Report

Deer Pellet-Group Surveys in Southeast Alaska

by

Paul Converse

Alaska Department of Fish and Game
Division of Wildlife Conservation
Douglas, Alaska

February 2006

State of Alaska

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INTRODUCTION

This report summarizes the deer pellet-group survey work conducted by the Alaska Department of Fish and Game and the United States Forest Service in 2005. Pellet-group data are used by biologists to monitor deer population trends in specific watersheds throughout the region. The data also permit general comparisons of deer numbers from area to area within the region. The reader is referred to Kirchhoff and Pitcher (1988) for a more detailed discussion of objectives, sample design, and field methodology of this program.

RESULTS

During 2005, 21 watersheds (or value comparison units – VCUs) were surveyed. Results by transect are detailed in Table 1; results by elevation are in Table 2. Statistical data for all VCUs is available in Appendix 1, while winter weather conditions are provided in Appendix 2. Brief summaries of deer population trends by game management unit, and figures showing pellet-density by VCU over time follow.

Subunit 1A – Three VCUs were surveyed in this subunit during 2005 (Figure 1). At Helm Bay, on the Cleveland Peninsula, deer pellet densities continue to remain extremely low. Two VCUs on Gravina Island (Dall Head and Gravina) were partially surveyed; pellet densities appear to have increased, although accuracy may have been affected by low sample size.

Figure 1. Pellet-groups (Mean and 95% CI) per plot, by sampling year, for Subunit 1A VCUs surveyed in 2005.

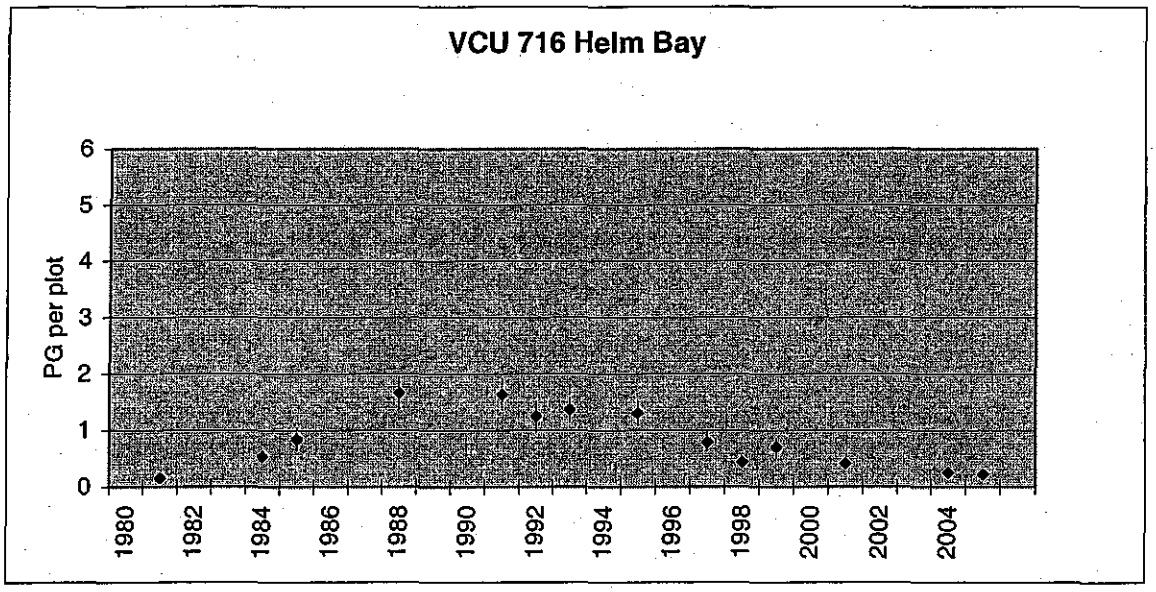
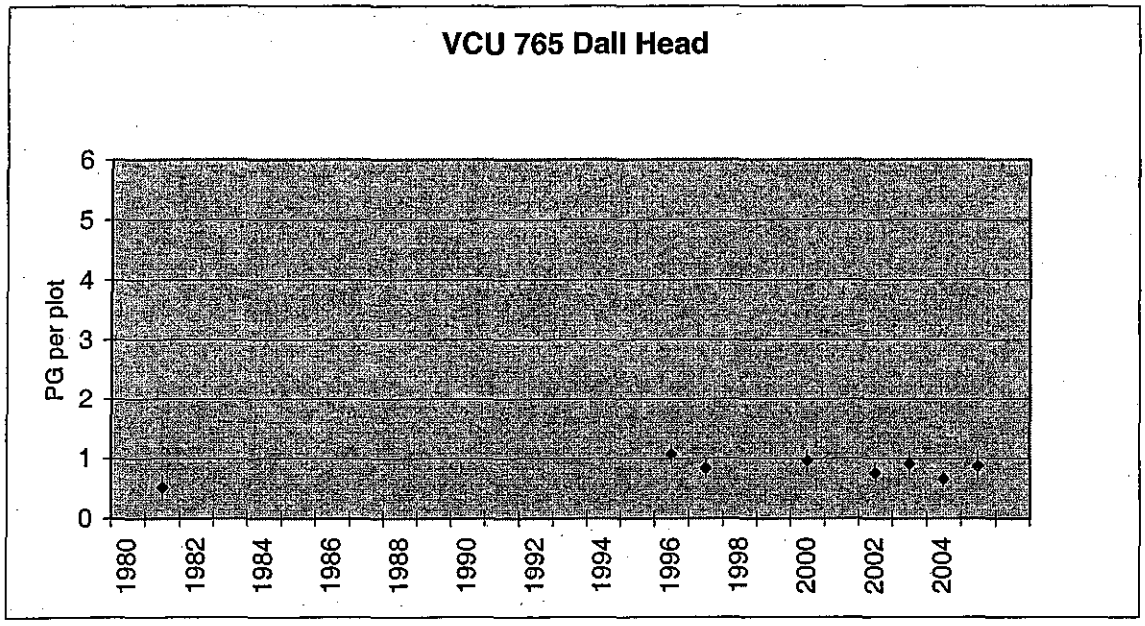
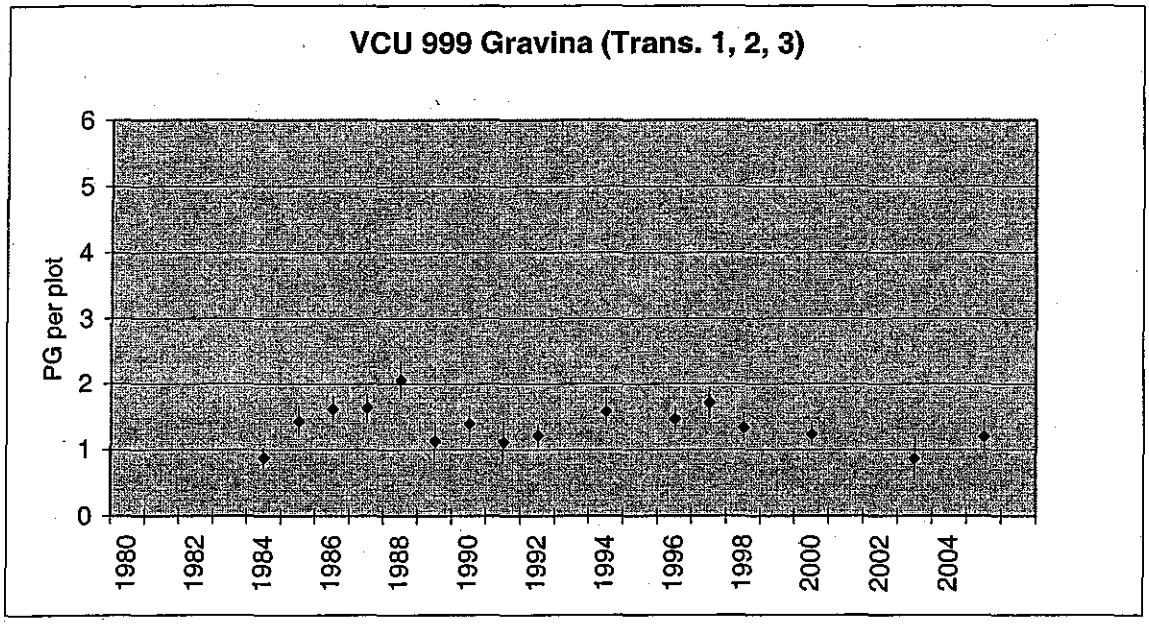


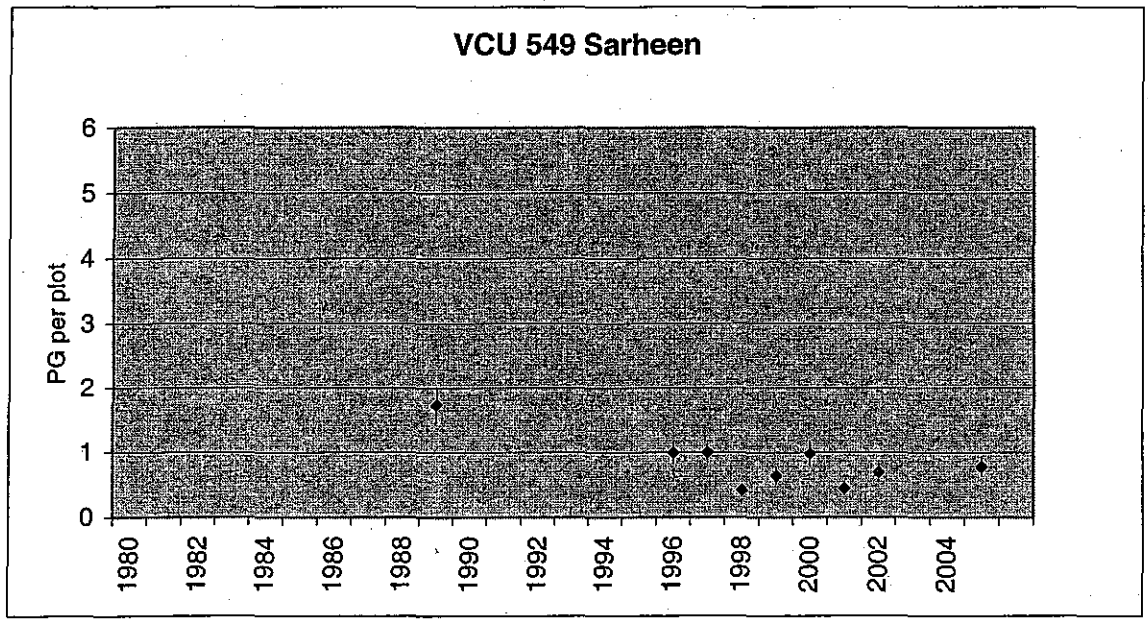
Figure 1. Continued.





Unit 2 – Four VCUs were surveyed on Prince of Wales Island (Figure 2). Results were mixed: while pellet densities remained stable at Sarheen and Thorne Lake, they increased at Snakey Lakes and decreased at Little Ratz. Overall, POW deer pellet densities remain at low to moderate levels.

Figure 2. Pellet-groups (Mean and 95% CI) per plot, by sampling year, for Unit 2 VCUs surveyed in 2005.



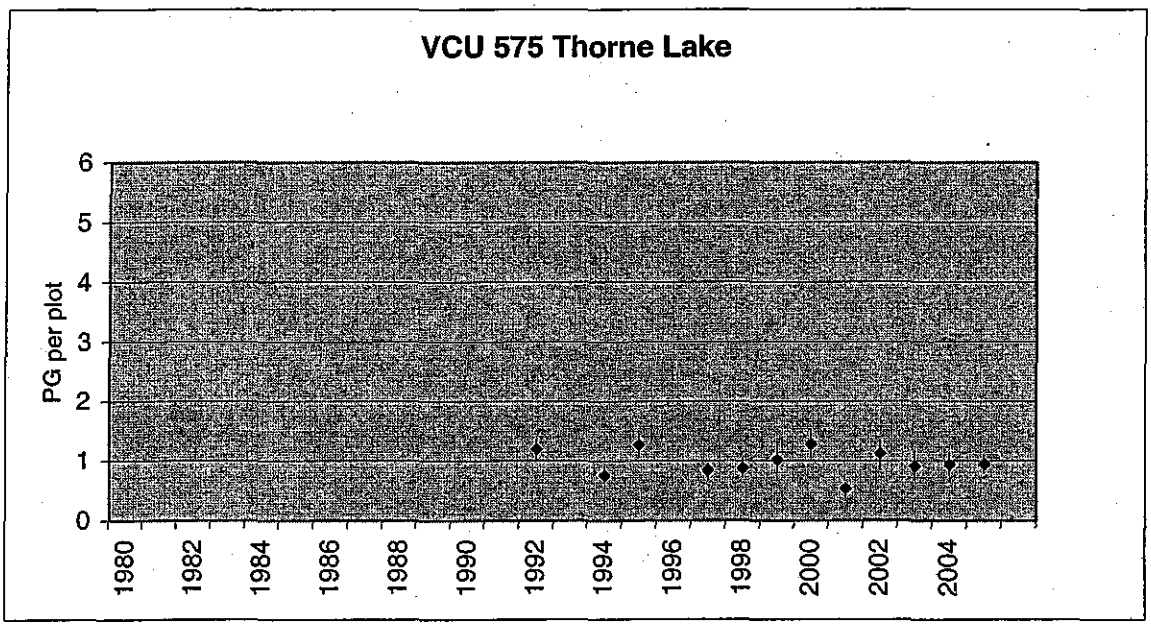
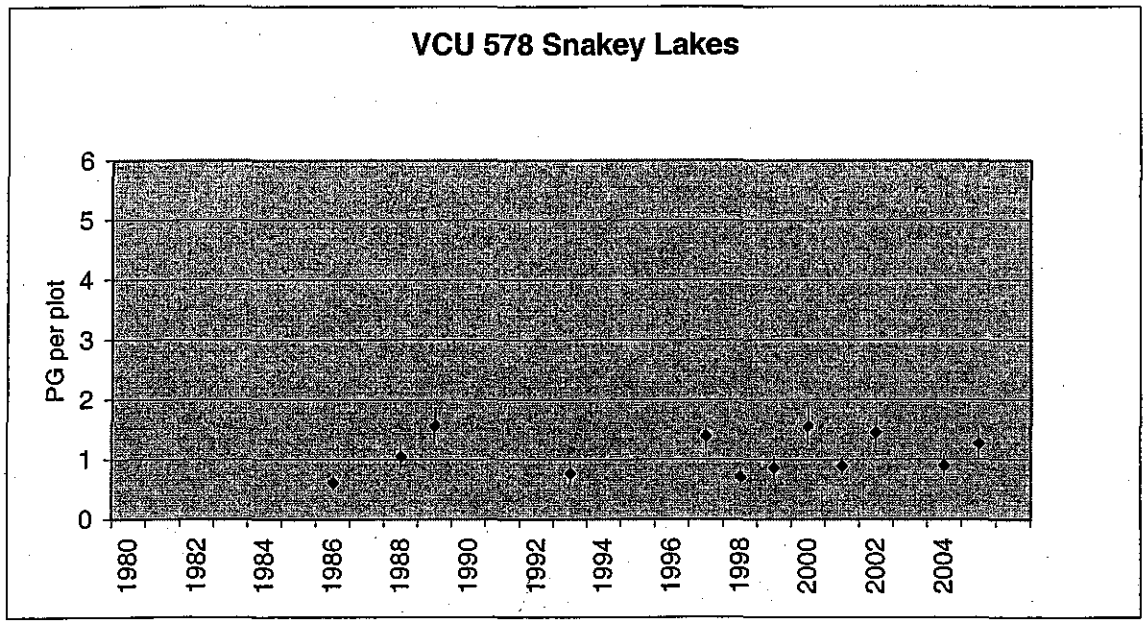
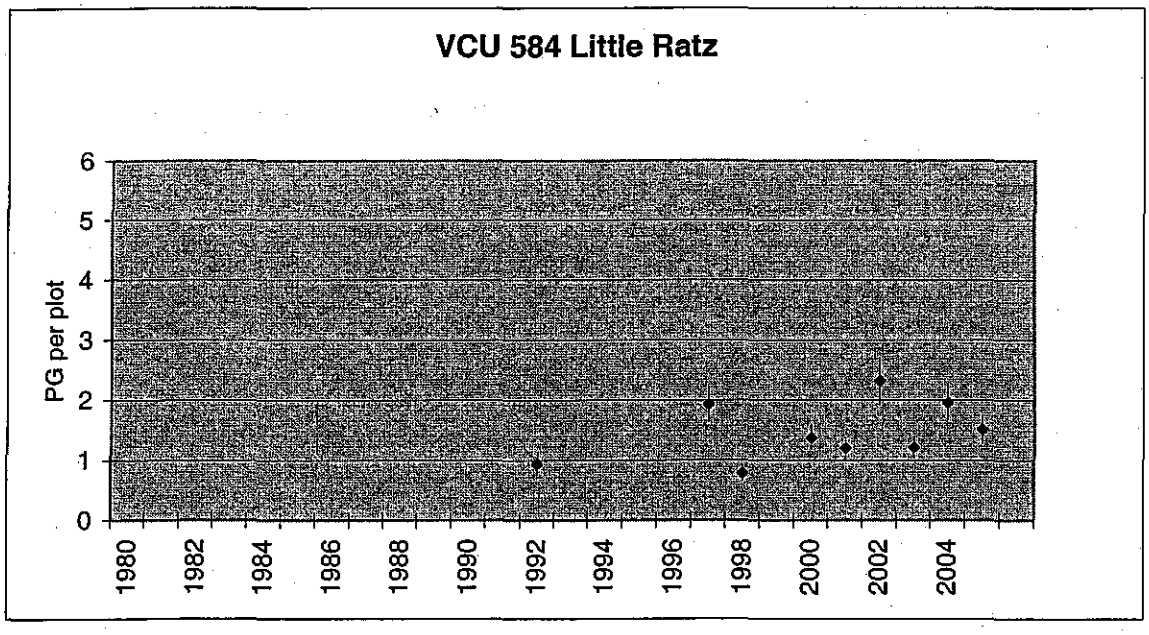


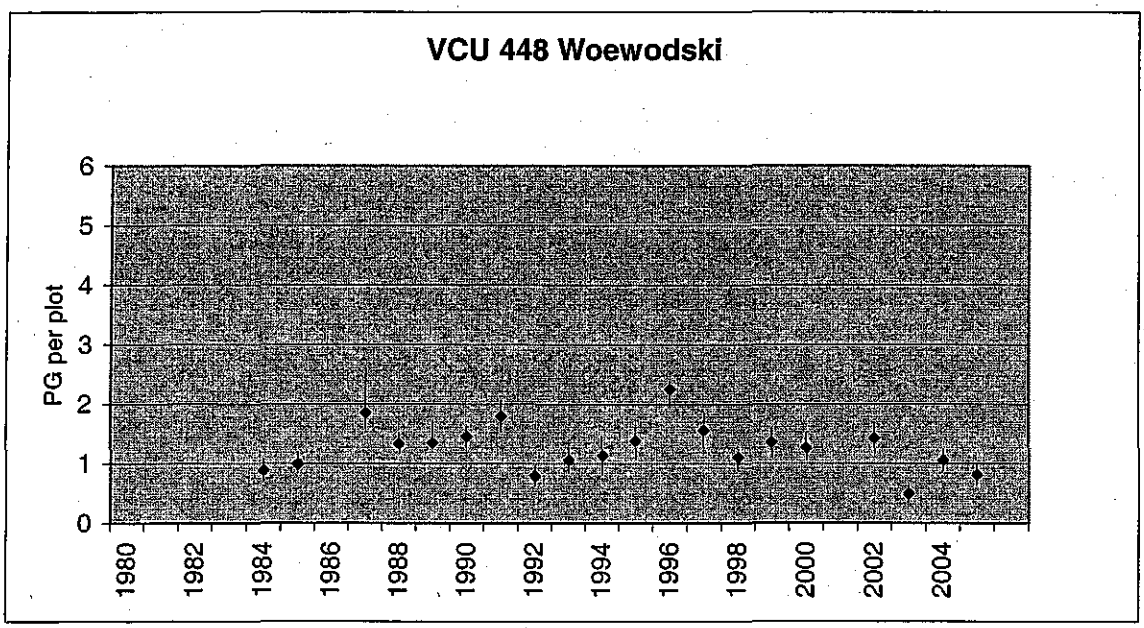
Figure 2. Continued.





Subunit 1B and Unit 3 – Two of the islands in Unit 3 were surveyed (Figure 3). On Mitkof Island, (VCU 448 Woewodski) pellet densities were down from 2004, but remained above the very low level recorded in 2003. Pellet group densities on Zarembo (VCUs 456-459) either remained stable or increased from 2004.

Figure 3. Pellet-groups (Mean and 95% CI) per plot, by sampling year, for Unit 3 VCUs surveyed in 2005.



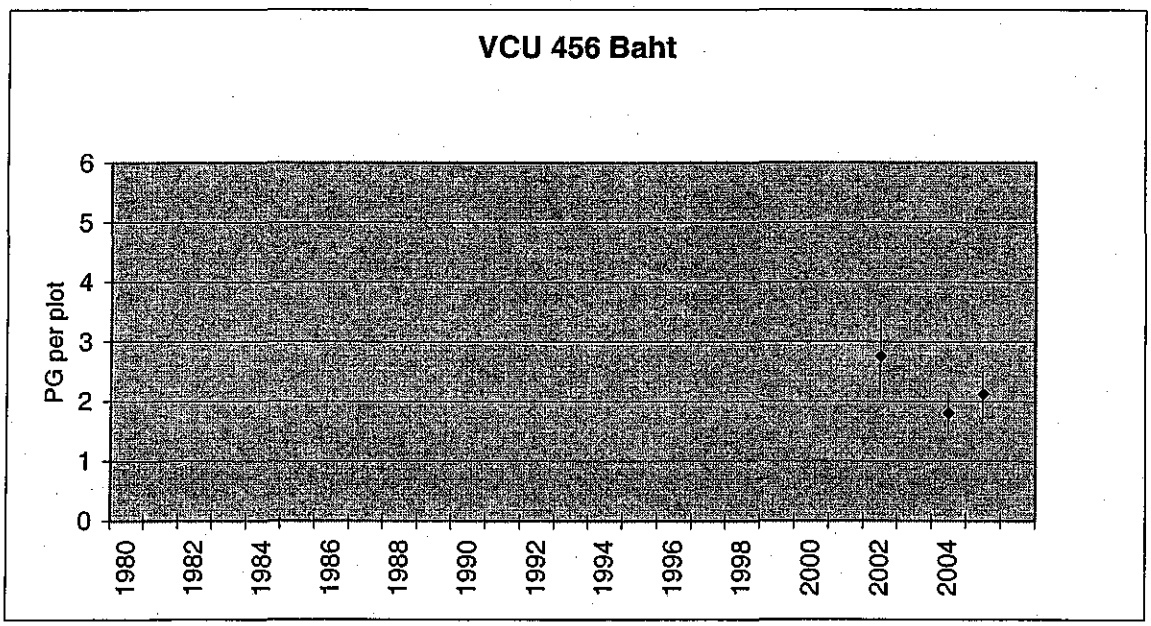
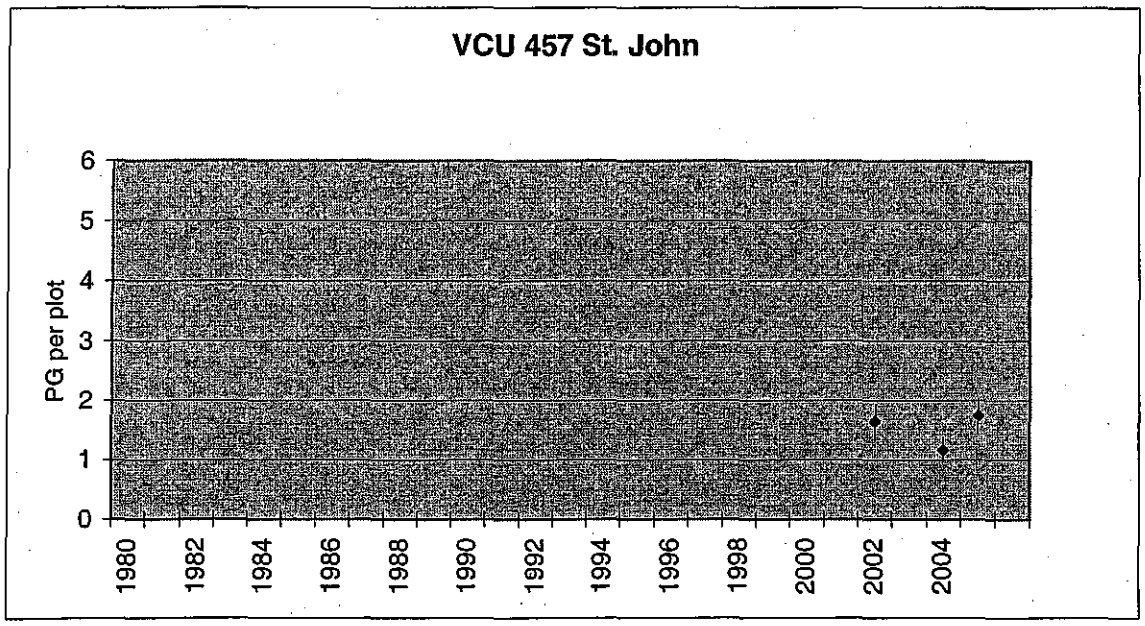


Figure 3. Continued.



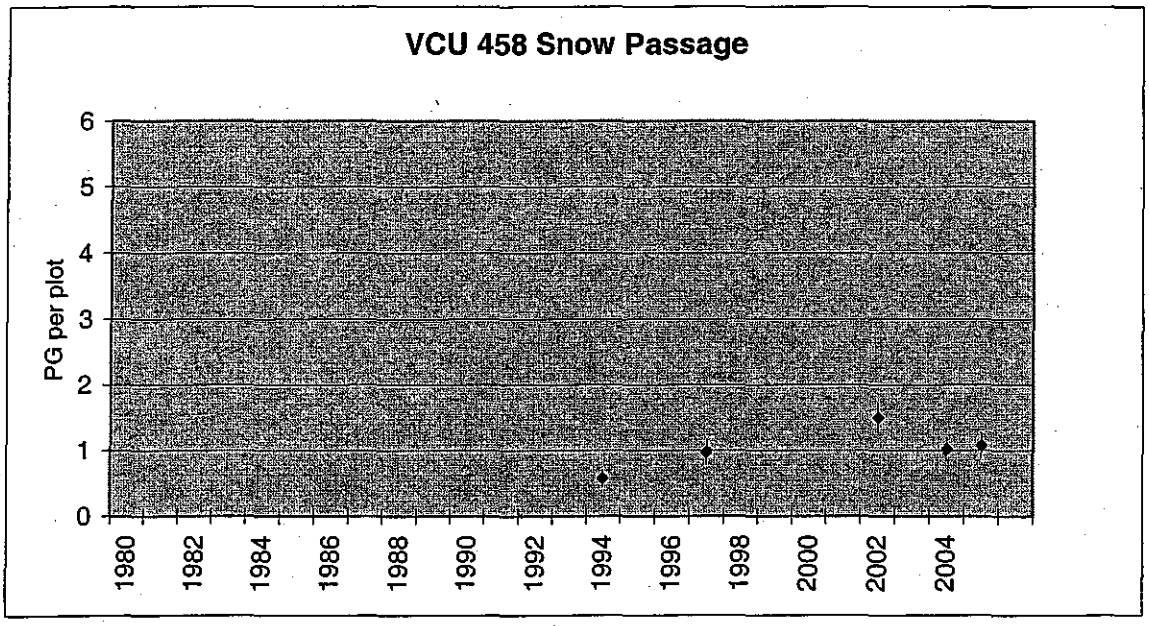
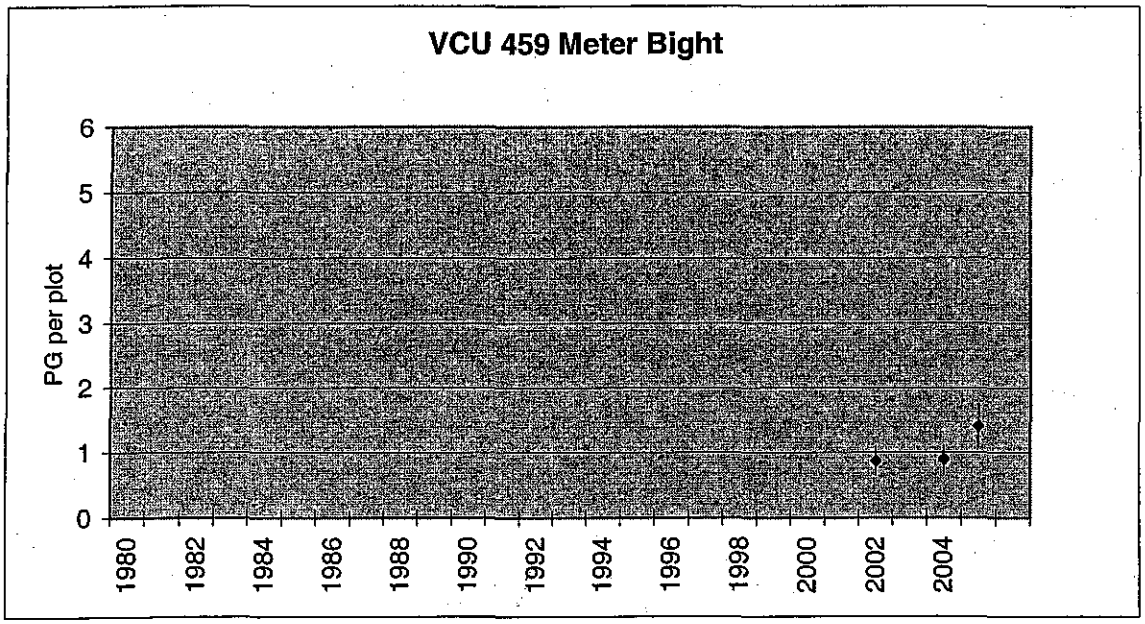


Figure 3. Continued.



Unit 4 – Seven VCUs were surveyed throughout an area ranging from Sitka to Peril, Chatham and Icy Straits (Figure 4). Deer pellet densities at Hawk Inlet on Admiralty Island more than doubled from 2002; the mean of 2.69 pellet-groups per plot surpassed even the previous high for that VCU, recorded in 1987. On Pleasant Island, in Icy Strait, pellet densities decreased from the 2002 but remain at moderate levels. On Chichagof Island, where the Suntaheen, Pavlof and Finger Mt. VCUs were surveyed, pellet densities remained at moderate to high levels. Results from surveys around Sitka were mixed: while deer pellet densities at Nakwasina were down from last year, densities at nearby Sea Lion Cove increased.

Figure 4. Pellet-groups (Mean and 95% CI) per plot, by sampling year, for Unit 4 VCUs surveyed in 2005.

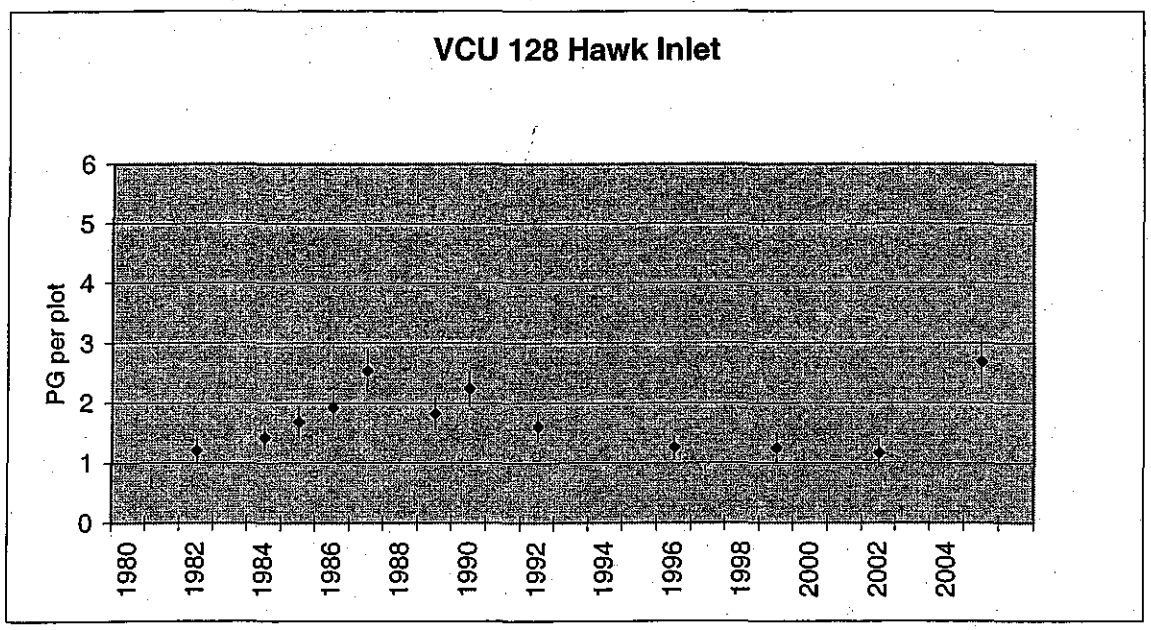
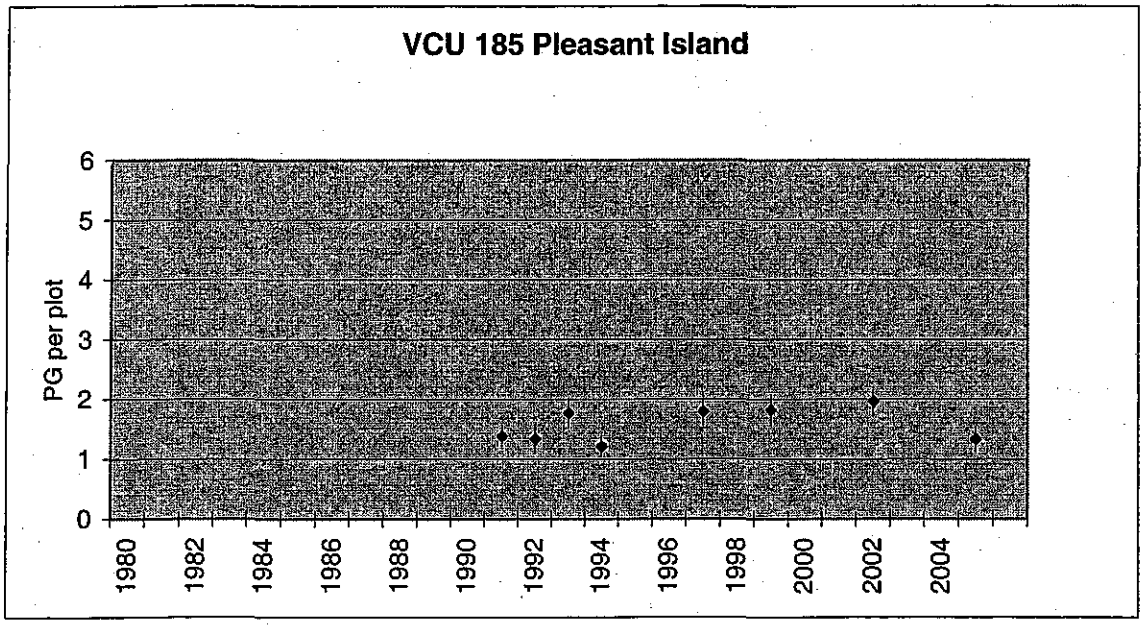


Figure 4. Continued.



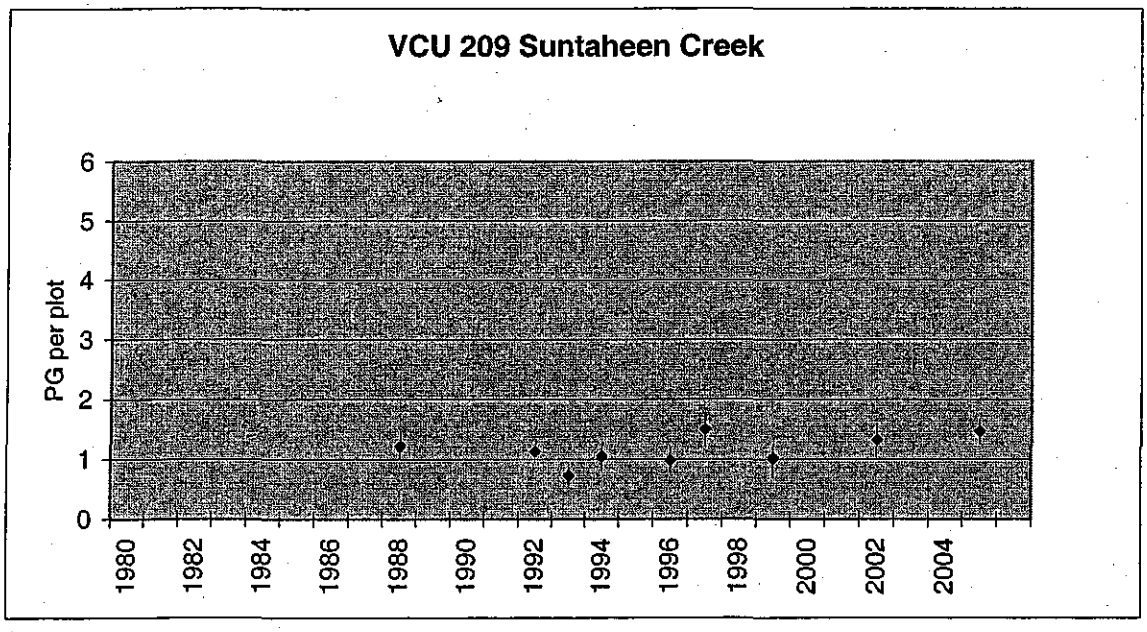
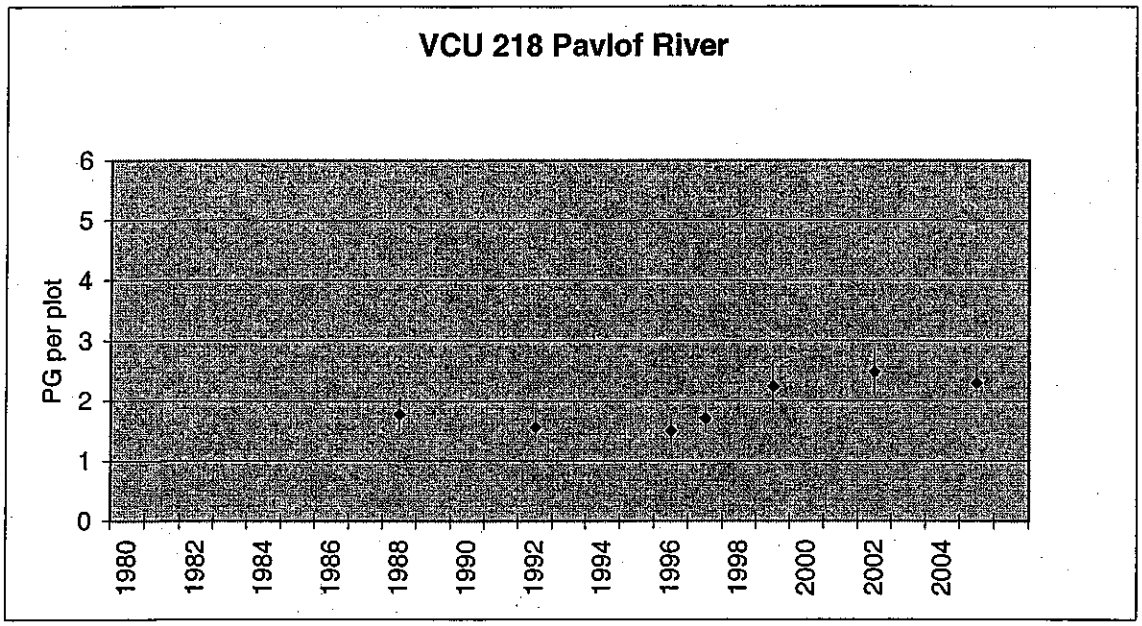


Figure 4. Continued.



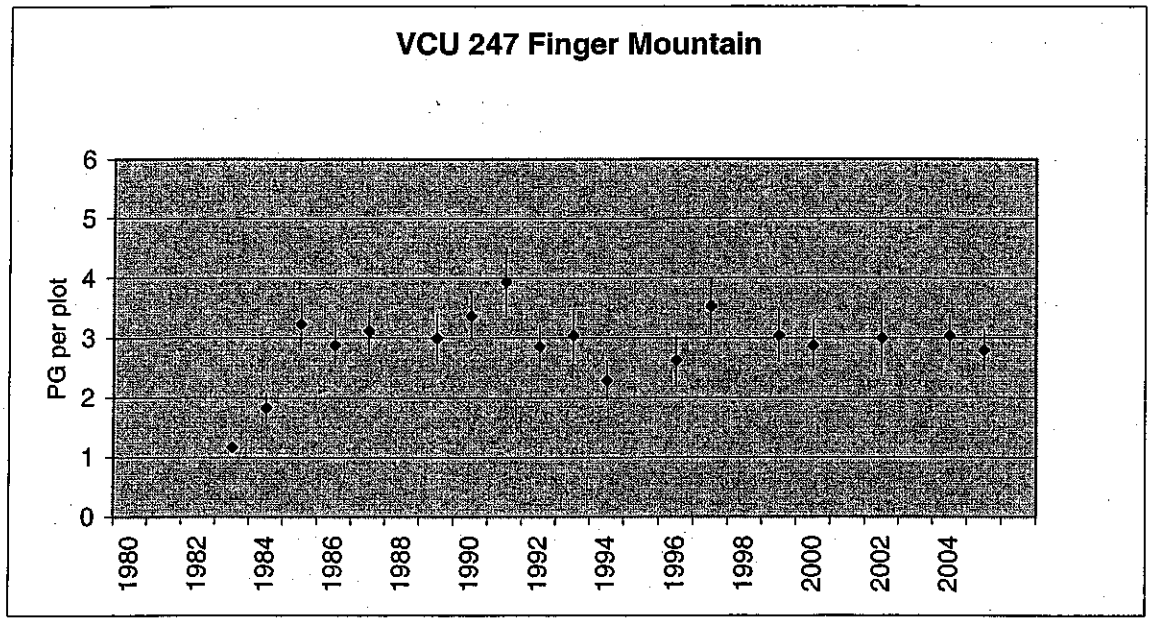
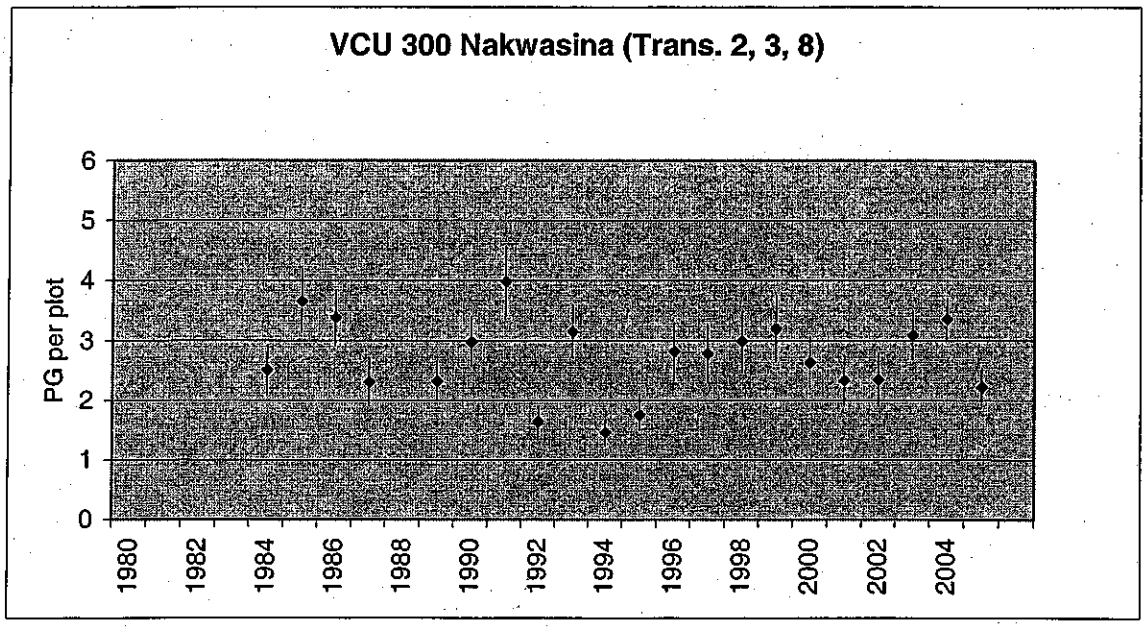
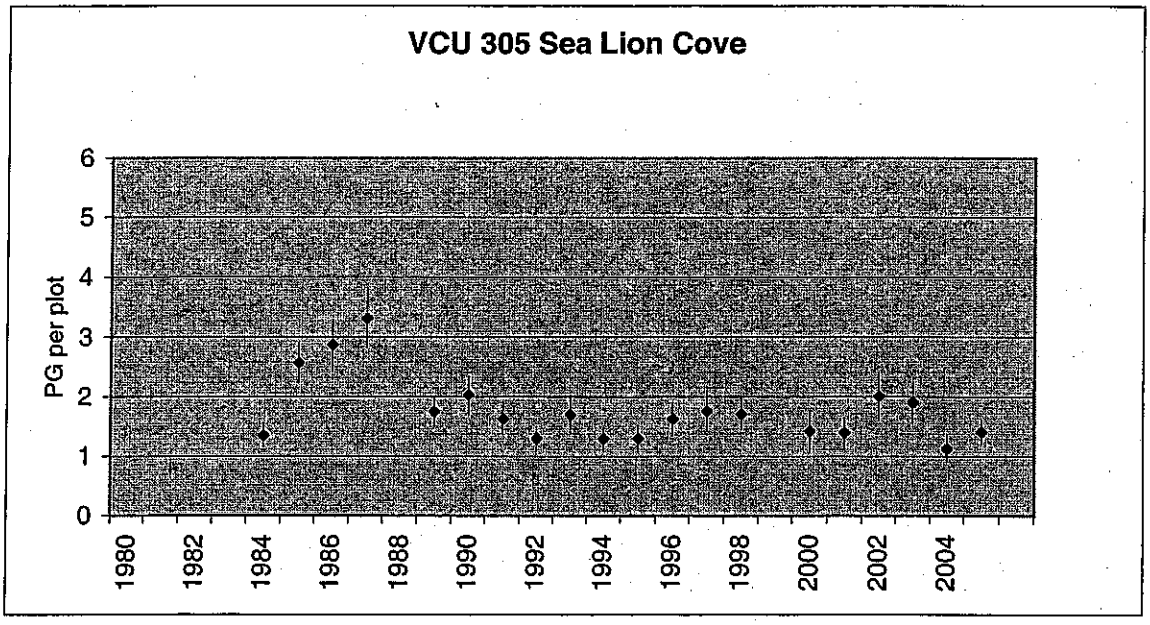


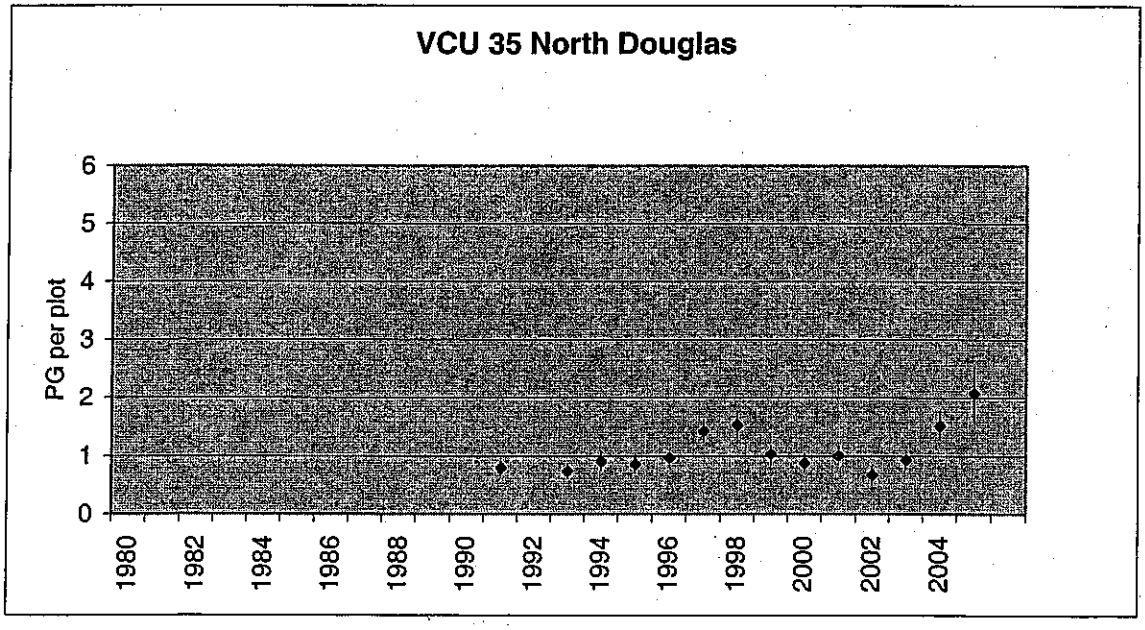
Figure 4. Continued.





Subunit 1C – In 2005, partial surveys were made of two Juneau-area VCUs (Figure 5). Although an increase in pellet density was found at both North Douglas and Shelter Island, accuracy may have been affected by the limited sample size.

Figure 5. Pellet-groups (Mean and 95% CI) per plot, by sampling year, for Subunit 1C VCUs surveyed in 2005.



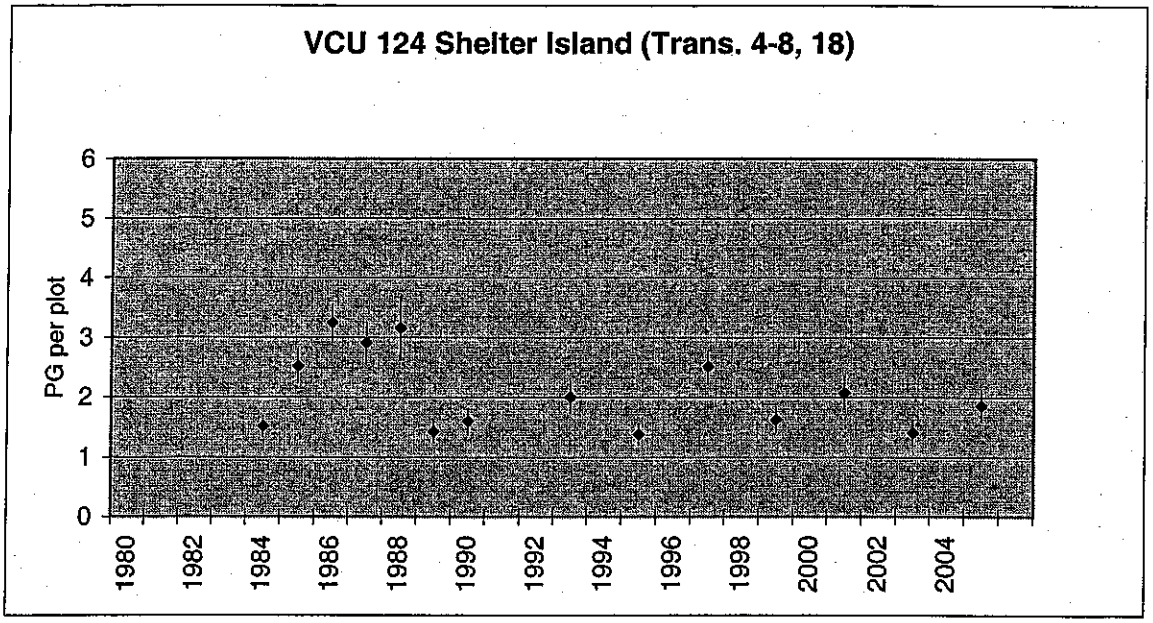


Table 1. Pellet-groups per plot, by VCU and Transect, Spring 2005.

				Mean	Plots
VCU	35	Transect	1	2.47	77
			3	1.68	74
	124	Transect	4	1.60	50
			5	1.28	50
			6	2.04	50
			18	2.52	50
	128	Transect	1	1.35	104
			2	1.52	93
			3	4.69	125
	185	Transect	1	1.56	97
			2	1.10	125
			3	1.42	90
	209	Transect	1	1.64	103
			2	1.38	123
			3	1.34	103
	218	Transect	1	2.62	108
			2	2.57	125
			3	1.56	90
	247	Transect	1	2.49	123
			2	2.94	117
			3	3.10	59
	300	Transect	2	1.46	70
			3	2.77	79
			8	2.30	105
	305	Transect	1	1.22	101
			2	1.88	100
			3	.84	51
	448	Transect	1	1.07	95
			2	.64	91
			3	.78	93
	456	Transect	6	2.14	101
	457	Transect	4	1.26	80
			5	2.04	68
			9	2.03	65
	458	Transect	1	1.08	102
			2	1.33	80
			3	.84	80

Table 1. Pellet-groups per plot, by VCU and Transect, Spring 2005.

				Mean	Plots
VCU	459	Transect	7	.87	75
			8	1.91	80
	549	Transect	1	.70	105
			2	.74	100
			3	1.04	52
	575	Transect	1	.66	86
			2	.86	87
			3	.99	77
			4	1.70	37
	578	Transect	3	1.51	63
			4	2.01	70
			5	.61	102
	584	Transect	1	1.49	120
			2	1.68	47
			3	1.40	70
			4	1.54	54
	716	Transect	1	.13	109
			2	.59	70
			3	.07	107
	765	Transect	2	1.40	90
			3	.32	88
	999	Transect	1	1.40	90
			2	1.05	115

Table 2. Pellet-groups per plot, by VCU and Elevation, Spring 2005.

			Mean	Plots
VCU	35	0-500 ft	1.22	64
		501-1000 ft	2.26	54
		over 1000 ft	3.45	33
	124	0-500 ft	1.81	150
		501-1000 ft	2.00	50
	128	0-500 ft	2.00	111
		501-1000 ft	3.37	183
		over 1000 ft	1.00	28
	185	0-500 ft	1.24	197
		501-1000 ft	1.50	115
	209	0-500 ft	1.50	285
		501-1000 ft	1.14	22
		over 1000 ft	1.09	22
	218	0-500 ft	2.44	282
		501-1000 ft	1.17	29
		over 1000 ft	1.83	12
	247	0-500 ft	2.81	183
		501-1000 ft	3.09	67
		over 1000 ft	2.27	49
	300	0-500 ft	2.65	110
		501-1000 ft	1.69	52
		over 1000 ft	2.00	92
	305	0-500 ft	1.50	113
		501-1000 ft	1.27	94
		over 1000 ft	1.44	45
	448	0-500 ft	.55	94
		501-1000 ft	.86	63
		over 1000 ft	1.04	122
	456	0-500 ft	2.23	52
		501-1000 ft	2.04	49
	457	0-500 ft	1.62	148
		501-1000 ft	1.33	12
		over 1000 ft	2.19	53
	458	0-500 ft	1.04	180
		501-1000 ft	1.12	60
		over 1000 ft	1.27	22

Table 2. Pellet-groups per plot, by VCU and Elevation, Spring 2005.

			Mean	Plots
VCU	459	0-500 ft	.36	11
		501-1000 ft	1.79	68
		over 1000 ft	1.21	76
	549	0-500 ft	.90	163
		501-1000 ft	.57	94
	575	0-500 ft	.99	110
		501-1000 ft	.94	141
		over 1000 ft	.81	36
	578	0-500 ft	1.11	161
		501-1000 ft	1.39	31
		over 1000 ft	1.77	43
	584	0-500 ft	1.49	148
		501-1000 ft	1.29	58
		over 1000 ft	1.68	85
	716	0-500 ft	.10	197
		501-1000 ft	.36	42
		over 1000 ft	.60	47
	765	0-500 ft	.87	178
	999	0-500 ft	1.41	92
		501-1000 ft	1.02	55
		over 1000 ft	1.05	58

LITERATURE CITED

Kirchhoff, M.D., and K.W. Pitcher. 1988. Deer pellet-group surveys in Southeast Alaska, 1981-1987. Alaska Department of Fish and Game. Federal Aid in Wildlife Restoration Progress Report Project W-22-6, Job 2.9 Juneau. 113pp.

APPENDIX I

Pellet-group Count Statistics From Southeast Alaska

1981-2005

Appendix 1. Pellet-group count statistics from Southeast Alaska, 1981-2005.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	95% CI
20	Comet	9,662	12%	1994	180	0.00	0.00-0.00
27	Auke Bay	15,245	45%	1987	381	0.99	0.87-1.12
35	North Douglas	4,430	49%	1991	300	0.80	0.65-0.96
				93	324	0.74	0.62-0.87
				94	315	0.91	0.74-1.09
				95	306	0.86	0.70-1.02
				96	323	0.97	0.81-1.12
				97	323	1.43	1.24-1.62
				98	321	1.54	1.32-1.77
				99	273	1.03	0.86-1.19
				00	282	0.88	0.71-1.04
				01	335	1.01	0.85-1.17
				02	200	0.68	0.50-0.85
				03	267	0.93	0.77-1.09
				04	288	1.52	1.28-1.76
				05	**151**	**2.08**	**1.61-2.54**
36	Inner Point	3,965	44%	1985	256	1.30	1.10-1.51
				86	235	1.97	1.68-2.25
				87	262	1.76	1.53-2.00
				88	200	1.21	1.02-1.39
				89	258	1.31	1.08-1.53
				92	204	2.05	1.75-2.36
				95	254	1.41	1.21-1.60
				96	240	1.68	1.45-1.91
				97	252	2.36	2.08-2.64
				98	280	0.84	0.69-0.98
				99	239	1.06	0.87-1.25
				00	280	1.09	0.90-1.28
				02	198	0.82	0.64-1.00
				03	272	0.76	0.60-0.92
				04	242	0.88	0.68-1.08
38	Rhine Creek	6,357	2%	1997	108	0.31	0.14-0.47
65	Sumdum Glacier	40,906	15%	1987	262	1.76	1.53-2.00
82	Negro Creek	12,212	31%	1989	312	0.21	0.13-0.29
89	Farragut Bay	na	na	1994	314	0.02	0.00-0.04

Appendix 1. Continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	Pellet-Group 95% CI
94	Sullivan Island	3,985	78%	1990	250	1.39	1.17-1.62
117	Couverden	9,933	10%	1993	350	0.35	0.27-0.44
124	Shelter Island (All Transects)	6,162	43%	1984	713	1.46	1.33-1.60
				85	774	1.82	1.67-1.97
				86	727	2.20	2.02-2.37
124	Shelter Island (Trans. 4-8, 18)			1984	300	1.52	1.34-1.70
				85	296	2.52	2.24-2.81
				86	292	3.24	2.91-3.57
				87	288	2.91	2.57-3.24
				88	130	3.16	2.62-3.70
				89	300	1.43	1.23-1.62
				90	300	1.60	1.37-1.82
				93	250	2.00	1.73-2.26
				95	297	1.38	1.20-1.56
				97	312	2.51	2.23-2.78
				99	290	1.63	1.42-1.85
				01	231	2.07	1.79-2.36
				03	300	1.41	1.19-1.63
				05	**200**	**1.86**	**1.59-2.13**
124	Lincoln Island			1998	207	1.52	1.27-1.77
125	Barlow Cove	13,712	24%	1982	2,567	1.07	1.01-1.12
				84	347	1.69	1.46-1.92
				85	347	1.55	1.35-1.76
				90	270	1.42	1.18-1.65
127	Calm Station	4,941	66%	1982	1,054	1.65	1.53-1.77
128	Hawk Inlet	14,318	57%	1982	1,605	1.21	0.99-1.42
				84	339	1.42	1.22-1.63
				85	270	1.69	1.43-1.95
				86	286	1.92	1.64-2.19
				87	278	2.54	2.19-2.89
				89	364	1.82	1.56-2.08
				90	250	2.24	1.94-2.53
				92	319	1.61	1.38-1.83
				96	325	1.26	1.07-1.46
				99	176	1.25	1.00-1.50
				02	183	1.17	0.93-1.42
				05	**322**	**2.69**	**2.30-3.08**

Appendix 1. Continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	95% CI
140	Dorn Island	9,485	81%	1984	230	1.27	1.02-1.53
148	Lake Kathleen	14,693	57%	1987	207	2.13	1.76-2.49
150	Lake Florence	21,342	52%	1988	294	1.48	1.27-1.69
162	Thayer Lake	25,342	79%	1987	313	2.81	2.49-3.12
				89	283	2.04	1.75-2.32
				94	282	2.27	1.98-2.56
				98	308	2.13	1.87-2.38
171	Hood Bay	44,355	79%	1987	358	2.31	1.99-2.63
				89	366	1.77	1.54-2.00
				90	375	1.85	1.61-2.09
				92	360	1.91	1.64-2.18
				94	371	1.64	1.41-1.88
				00	349	1.04	0.87-1.21
				03	220	1.41	1.17-1.65
182	Pybus Bay	41,501	62%	1981	390	1.34	1.16-1.52
				84	300	1.02	0.86-1.18
				85	269	1.86	1.60-2.12
				86	235	2.00	1.70-2.29
				87	242	2.03	1.69-2.37
				89	199	2.00	1.63-2.36
				90	221	1.72	1.44-2.01
				92	236	1.13	0.97-1.30
				95	205	1.48	1.23-1.74
				98	256	1.37	1.16-1.59
185	Pleasant Island	8,738	16%	1991	311	1.38	1.18-1.57
				92	210	1.34	1.09-1.59
				93	305	1.77	1.52-2.02
				94	356	1.22	1.04-1.40
				97	300	1.80	1.54-2.06
				99	223	1.82	1.55-2.08
				02	351	1.96	1.71-2.20
				05	**312**	**1.33**	**1.11-1.55**

Appendix 1. Continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	95% CI
189	Port Althorp	8,040	27%	1988	195	1.80	1.47-2.13
				91	223	1.92	1.55-2.29
				92	261	1.36	1.11-1.60
				93	248	1.39	1.15-1.62
				94	253	1.31	1.06-1.56
				98	281	1.48	1.27-1.70
				01	225	1.81	1.49-2.13
190	Idaho Inlet	53,183	22%	1988	258	1.34	1.09-1.60
				92	219	0.94	0.69-1.19
				93	305	0.56	0.45-0.68
				94	294	0.71	0.58-0.84
				98	273	1.11	0.92-1.30
				01	308	0.94	0.78-1.11
				04	296	1.05	0.85-1.25
202	Port Frederick	16,619	52%	1988	242	1.87	1.62-2.13
				96	226	1.02	0.82-1.23
208	First No. 2	6,613	32%	1983	1,155	1.12	1.01-1.22
209	Suntaheen Cr.	13,198	49%	1988	272	1.22	1.00-1.44
				92	271	1.13	0.94-1.33
				93	265	0.73	0.58-0.88
				94	272	1.05	0.81-1.29
				96	276	0.98	0.77-1.18
				97	263	1.50	1.23-1.77
				99	112	1.02	0.69-1.34
				02	218	1.32	1.03-1.60
				05	**329**	**1.46**	**1.25-1.66**
211	Point Augusta	4,688	63%	1983	757	1.78	1.62-2.01
				93	286	2.08	1.80-2.36
				97	234	3.30	2.90-3.70
218	Pavlof River	18,866	50%	1988	325	1.78	1.50-2.06
				92	341	1.56	1.32-1.81
				96	349	1.50	1.30-1.70
				97	313	1.71	1.47-1.94
				99	213	2.24	1.83-2.67
				02	249	2.48	2.10-2.87
				05	**323**	**2.30**	**2.06-2.55**

Appendix 1. Continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	Pellet-Group 95% CI
221	Whip Station	4,708	53%	1981	193	0.86	0.64-1.08
222	Sand Station	12,231	50%	1981	253	0.60	0.48-0.73
223	Upper Tenakee	3,833	54%	1988	253	1.47	1.24-1.70
				92	265	0.58	0.47-0.70
				93	249	0.47	0.36-0.58
				94	319	0.61	0.48-0.74
				96	263	0.56	0.38-0.75
231	Saltery Bay	18,478	31%	1988	256	2.02	1.69-2.35
				92	256	0.96	0.79-1.14
				93	227	0.76	0.56-0.96
				94	193	0.97	0.79-1.15
				96	152	1.90	1.47-2.33
				97	170	1.99	1.59-2.39
234	Inbetween	6,002	62%	1981	35	0.49	0.08-0.89
235	Kadashan	33,641	53%	1981	96	0.54	0.32-0.76
				88	221	2.67	2.18-3.16
				92	282	1.62	1.38-1.86
				93	385	1.12	0.95-1.30
				94	294	1.39	1.18-1.60
				95	195	2.64	2.20-3.07
				96	204	2.36	1.96-2.76
236	Corner Bay	10,930	66%	1981	60	0.35	0.17-0.53
				92	206	2.27	1.91-2.64
				93	50	1.72	1.25-2.19
				94	198	1.69	1.41-1.98
246	Broad Island	17,145	38%	1981	209	1.41	1.18-1.63

Appendix 1. Continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	Pellet-Group 95% CI
247	Finger Mountain	15,918	38%	1983	2,145	1.17	1.11-1.24
				84	302	1.83	1.57-2.09
				85	279	3.23	2.79-3.67
				86	277	2.88	2.57-3.19
				87	236	3.11	2.71-3.52
				89	305	2.99	2.57-3.40
				90	225	3.36	2.99-3.74
				91	150	3.93	3.36-4.51
				92	207	2.85	2.48-3.22
				93	179	3.03	2.60-3.47
				94	275	2.29	1.96-2.62
				96	221	2.62	2.20-3.04
				97	227	3.53	3.05-4.02
				99	169	3.04	2.59-3.50
				00	217	2.87	2.45-3.30
				02	162	2.99	2.37-3.60
				04	229	3.03	2.67-3.39
				05	**299**	**2.79**	**2.45-3.13**
249	Lisianski	19,677	24%	1988	255	0.97	0.79-1.14
				91	170	1.53	1.22-1.84
				95	317	0.70	0.56-0.85
				98	321	0.88	0.75-1.02
254	Soapstone	17,695	29%	1988	274	1.92	1.67-2.17
				91	270	2.05	1.77-2.33
				93	243	1.88	1.59-2.16
				94	310	1.34	1.16-1.52
				95	283	1.48	1.27-1.69
				01	246	1.95	1.65-2.25
271	Chichagof	20,680	10%	1991	301	1.39	1.19-1.58
				95	303	0.98	0.83-1.14
				98	319	1.34	1.16-1.53
				01	291	1.23	1.04-1.43
				04	303	1.15	0.99-1.31
275	Cobol	14,618	49%	1984	224	1.15	0.92-1.37
				91	185	2.96	2.37-3.54
				95	218	1.45	1.16-1.74
				98	219	2.19	1.86-2.51
				01	180	1.94	1.59-2.30
				04	232	2.97	2.48-3.46

Appendix 1. Continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	Pellet-Group 95% CI
279	Rapids Point	7,637	65%	1983	2,734	0.77	0.73-0.81
281	Ushk Bay	20,770	38%	1981	94	0.63	0.41-0.85
288	Range Creek	6,929	33%	1983	1,788	0.51	0.46-0.55
				84	303	0.71	0.61-0.92
				85	224	1.32	1.02-1.62
				97	353	1.44	1.21-1.67
				03	355	1.65	1.43-1.87
295	Lake Eva	12,362	65%	1987	172	1.81	1.46-2.15
296	Portage Arm	16,101	59%	1981	213	0.53	0.39-0.68
				90	214	3.09	2.70-3.48
				97	39	1.59	0.86-2.32
				03	103	2.77	2.28-3.26
298	M. Arm Kelp Bay	28,424	21%	1990	306	2.68	2.35-3.01
				97	100	2.67	2.04-3.30
				03	140	1.41	1.12-1.70
300	Nakwasina (All Transects)	19,575	48%	1984	196	2.51	2.14-2.88
				85	1046	3.92	3.67-4.17
				86	715	3.50	3.26-3.76
300	Nakwasina (Trans. 2,3,8)	19,575	48%	1984	138	2.51	2.10-2.93
				85	218	3.65	3.13-4.17
				86	205	3.38	2.91-3.84
				87	195	2.31	1.90-2.71
				89	244	2.32	2.00-2.65
				90	255	2.98	2.56-3.40
				91	175	3.98	3.39-4.57
				92	223	1.64	1.37-1.90
				93	188	3.15	2.70-3.60
				94	230	1.46	1.24-1.68
				95	216	1.75	1.48-2.10
				96	210	2.82	2.35-3.29
				97	188	2.79	2.31-3.27
				98	217	2.99	2.48-3.49
				99	146	3.20	2.64-3.76
				00	181	2.64	2.23-3.05
				01	186	2.33	1.91-2.75
				02	132	2.35	1.90-2.80
				03	221	3.09	2.68-3.50
				04	211	3.36	3.02-3.70
				05	**254**	**2.22**	**1.91-2.52**

Appendix 1. Continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	Pellet-Group 95% CI
305	Sea Lion Cove	9,293	69%	1984	320	1.36	1.15-1.58
				85	292	2.57	2.23-2.91
				86	235	2.87	2.44-3.29
				87	226	3.31	2.82-3.80
				89	303	1.75	1.50-2.00
				90	227	2.03	1.71-2.35
				91	219	1.63	1.36-1.91
				92	239	1.30	1.08-1.51
				93	198	1.70	1.38-2.02
				94	221	1.29	1.09-1.48
				95	210	1.30	1.08-1.52
				96	225	1.63	1.35-1.90
				97	223	1.76	1.43-2.10
				98	241	1.71	1.44-1.99
				00	201	1.42	1.09-1.76
				01	231	1.40	1.14-1.66
				02	119	2.01	1.60-2.41
				03	249	1.90	1.55-2.25
				04	206	1.13	0.90-1.36
				05	**252**	**1.40**	**1.20-1.61**
308	South Kruzof	71,158	25%	1993	345	1.62	1.41-1.83
				94	370	1.71	1.52-1.90
				99	365	1.38	1.16-1.58
315	Basin Kelp Bay	8,460	60%	1990	151	1.85	1.41-2.28
321	Redoubt Bay	9,045	58%	1989	304	2.17	1.88-2.47
339	Cape Ommaney	13,725	32%	1988	172	1.74	1.43-2.05
				00	270	1.26	1.02-1.49
				03	221	1.56	1.31-1.81
344	Whale Bay	na	na	00	260	1.40	1.17-1.62
				03	279	1.70	1.43-1.97
348	West Crawfish	57,434	16%	1989	360	1.35	1.36-1.57
				00	211	1.34	1.07-1.61
				03	313	1.31	1.07-1.55

Appendix 1. Continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	95% CI
361	Knight Island	10,419	40%	1991	100	0.81	0.61-1.01
				92	100	0.95	0.74-1.16
				94	90	0.44	0.25-0.64
				96	153	0.00	0.00-0.00
				97	192	0.03	0.01-0.05
				03	117	0.22	not avail
363	Humpback	7,721	74%	1991	118	0.01	0.00-0.03
368	Yakutat Islands	1,021	99%	1991	415	0.32	0.24-0.39
				92	243	0.48	0.37-0.58
				93	106	1.07	0.81-1.32
				94	251	0.66	0.52-0.80
				96	379	0.59	0.48-0.69
				97	344	0.59	0.48-0.70
				00	145	0.90	0.85-0.95
				02	200	0.66	not avail
				03	325	0.58	not avail
				04	274	0.86	not avail
369	Ankau	na	na	1991	116	0.03	0.00-0.05
400	Security Bay	28,040	79%	1984	360	0.02	0.01-0.04
				89	304	0.25	0.16-0.34
				95	268	0.22	0.15-0.29
				00	200	0.09	0.05-0.14
403	Pillar Bay	28,227	65%	1988	337	0.16	0.10-0.22
				00	265	0.18	0.13-0.23
408	Malmesbury	18,151	68%	1990	206	0.11	0.05-0.18
				00	254	0.06	0.03-0.09
417	Conclusion Island	12,561	99%	1987	207	2.66	2.32-3.01
				89	200	0.95	0.72-1.18
				91	200	0.71	0.53-0.88
				96	191	1.45	1.19-1.70
427	Big John Bay	32,711	29%	1994	300	0.38	0.29-0.48
428	Rocky Pass	49,403	35%	1989	298	0.40	0.27-0.53
431	Point Barrie	22,187	27%	1988	357	0.23	0.17-0.29
				93	375	0.77	0.64-0.90

Appendix 1. Continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	Pellet-Group 95% CI
434a	Big Level Island	727	61%	1981	399	1.54	1.45-1.63
				83	336	1.56	
				86	382	1.66	1.41-1.90
				89	227	1.07	
				91	456	2.16	1.90-2.41
				99	427	2.00	1.74-2.26
434b	Little Level Island	263	92%	1981	114	2.48	2.02-2.94
				83	136	2.34	
				86	122	1.39	1.07-1.70
				89	137	1.52	
				91	132	3.59	3.07-4.11
				99	123	2.84	2.28-3.40
435	Castle River	32,724	36%	1984	312	0.19	0.12-0.26
				87	305	0.51	0.37-0.65
				89	312	0.40	0.25-0.56
				94	310	0.32	0.24-0.40
				98	281	0.36	0.28-0.44
437	E. Duncan	23,744	55%	1990	227	1.12	0.92-1.32
				92	213	0.78	0.63-0.94
				98	153	1.04	0.77-1.30
				02	254	1.89	1.59-2.19
442	Portage Bay	11,269	49%	1993	282	0.43	0.31-0.56
				95	277	0.43	0.33-0.53
				98	285	0.39	0.29-0.49

Appendix 1. Continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	Pellet-Group 95% CI
448	Woewodski	20,931	53%	1984	295	0.88	0.69-1.08
				85	209	1.00	0.82-1.19
				87	195	1.65	1.85-2.61
				88	433	1.33	1.16-1.51
				89	417	1.35	1.24-1.73
				90	355	1.46	1.28-1.64
				91	316	1.80	1.52-2.07
				92	248	0.79	0.62-0.97
				93	230	1.06	0.85-1.27
				94	152	1.14	0.82-1.46
				95	157	1.38	1.08-1.67
				96	243	2.25	1.95-2.55
				97	282	1.56	1.27-1.84
				98	282	1.10	0.91-1.29
				99	196	1.36	1.11-1.60
				00	226	1.27	1.05-1.50
				02	220	1.43	1.17-1.68
				03	216	0.50	0.36-0.64
				04	250	1.06	0.87-1.25
				05	**279**	**0.82**	**0.65-0.98**
448a	Woewodski Island	20,931	53%	1991	461	1.86	1.66-2.05
				94	510	1.30	1.15-1.46
449	Frederick	6,835	70%	1981	945	0.08	0.06-0.11
				90	180	0.55	0.36-0.74
				92	227	0.54	0.42-0.65
452	Blind Slough	30,655	55%	1990	324	1.35	1.15-1.56
				92	114	1.04	0.77-1.30
				93	265	1.28	1.04-1.51
				97	245	1.61	1.34-1.88
454	Dry	11,033	74%	1981	91	0.92	0.56-1.28
				93	210	1.44	1.17-1.72
				97	188	1.26	0.88-1.39

Appendix 1. Continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	95% CI
455	Vank	8,437	99%				
	a) Sokolof			1981	900	1.73	1.61-1.85
				99	360	0.92	0.76-1.08
	b) Rynda			1981	281	0.25	0.18-0.32
				99	280	0.27	0.18-0.36
	c) Greys			1981	284	0.25	0.18-0.32
456	Baht	16,972	69%	2002	109	2.75	2.10-3.41
				04	108	1.80	1.45-2.15
				05	**101**	**2.12**	**1.73-2.51**
457	St. John	26,112	53%	2002	220	1.65	1.38-1.93
				04	229	1.17	0.96-1.38
				05	**213**	**1.75**	**1.44-2.03**
458	Snow Passage	31,572	46%	1994	345	0.58	0.45-0.70
				97	315	0.98	0.80-1.16
				02	280	1.50	1.28-1.72
				04	306	1.02	0.84-1.20
				05	**262**	**1.08**	**0.89-1.27**
459	Meter	42,438	46%	2002	180	0.87	0.64-1.10
				04	180	0.89	0.68-1.10
				05	**155**	**1.41**	**1.75-1.07**
461	Woronkofski (All Transects)	14,500	63%	1985	646	1.63	1.45-1.81
461	Woronkofski (Trans. 10,11,12)			1985	218	2.01	1.62-2.39
				87	201	2.23	1.85-2.61
				89	223	2.52	2.18-2.85
				91	203	1.59	1.32-1.85
				93	225	0.22	0.13-0.31
				94	224	0.26	0.18-0.34
				99	216	0.11	0.06-0.17
				04	227	0.08	0.03-0.13

Appendix 1. Continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	Pellet-Group 95% CI
467	Mosman	25,573	54%	1993	304	0.07	0.03-0.11
473	Onslow	28,947	55%	1984	321	0.37	0.28-0.46
				85	334	0.59	0.48-0.70
				86	347	0.72	0.59-0.84
				87	336	0.42	0.31-0.55
				88	329	0.44	0.32-0.55
				91	322	0.66	0.51-0.80
				93	341	0.68	0.55-0.82
				94	340	0.88	0.74-1.02
				97	346	0.73	0.59-0.86
				02	332	0.97	0.81-1.13
474	Fisherman's Cove (Canoe)			2001	228	0.11	0.06-0.17
480	Fools Inlet	30,906	44%	1994	194	0.54	0.38-0.70
				01	201	0.61	0.45-0.77
489	Muddy River	40,275	37%	1996	348	1.53	1.26-1.80
490	Horn	9,815	55%	1998	250	0.60	0.47-0.74
				03	290	0.67	0.53-0.81
504	Madan	na	60%	2001	244	0.23	0.14-0.31
511	Harding	na	20%	2001	207	0.02	0.00-0.05
524	Frosty Bay	17,959	41%	1991	266	0.70	0.55-0.86
527	Protection	6,257	100%	1997	332	1.15	0.99-1.30
				98	281	0.59	0.47-0.71
				00	325	0.56	0.46-0.66
				02	349	0.70	0.56-0.83
				03	319	0.69	0.53-0.85
528	Mt. Calder	9,232	83%	1988	252	2.14	1.78-2.49
				97	272	1.17	0.96-1.39
				99	165	0.48	0.31-0.62

Appendix 1. Continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	95% CI
532	Red Bay	15,145	66%	1987	177	0.32	0.18-0.47
				94	256	0.94	0.74-1.14
				96	281	1.19	0.97-1.41
				97	248	1.07	0.89-1.25
				98	283	0.73	0.59-0.88
				01	337	0.76	0.61-0.90
				02	289	1.49	1.28-1.71
				03	314	1.15	0.94-1.34
				04	315	0.85	0.68-1.02
539	Exchange Cove	10,406	74%	1988	266	1.39	1.15-1.64
				92	125	1.10	0.83-1.38
				97	303	1.25	1.04-1.46
549	Sarheen	11,875	52%	1989	310	1.73	1.44-2.01
				96	334	1.00	0.83-1.16
				97	330	1.00	0.85-1.14
				98	355	0.42	0.33-0.51
				99	284	0.64	0.51-0.78
				00	293	0.98	0.78-1.17
				01	319	0.45	0.36-0.55
				02	263	0.69	0.54-0.83
				05	**257**	**0.78**	**0.64-0.93**
554	Sarkar	32,183	60%	1988	298	1.28	1.06-1.50
				92	125	1.10	0.83-1.38
				94	292	0.92	0.77-1.07
				97	263	0.61	0.48-0.74
				98	312	0.29	0.21-0.37
				99	281	0.74	0.60-0.88
				01	330	0.45	0.35-0.55
				02	283	0.76	0.62-0.90
				03	333	0.50	0.38-0.62
				04	340	0.61	0.51-0.71
561	Warm Chuck	12,348	85%	1984	326	1.02	1.02-1.38
				85	295	1.60	1.36-1.84
				89	302	2.21	1.91-2.50
				91	291	2.05	1.73-2.37
				96	276	1.39	1.17-1.61
				97	247	1.21	1.01-1.41
				98	246	1.29	1.08-1.51
				00	288	0.99	0.81-1.16
				02	221	1.17	0.94-1.39

Appendix 1. Continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	Pellet-Group 95% CI
564	Coronation	19,107	69%	1983	696	1.20	1.04-1.36
				85	228	2.34	
				88	408	1.41	1.17-1.66
				89	293	1.63	1.28-1.98
				97	289	0.44	0.34-0.55
				01	336	0.85	0.67-1.03
569	Baker	31,802	68%	1991	256	0.08	0.04-0.12
				97	250	0.14	0.08-0.20
575	Thorne Lake	17,970	68%	1992	334	1.20	1.03-1.37
				94	293	0.76	0.62-0.91
				95	299	1.27	1.09-1.45
				97	303	0.84	0.66-0.96
				98	316	0.87	0.71-1.03
				99	231	1.02	0.83-1.21
				00	311	1.28	1.06-1.51
				01	327	0.53	0.42-0.63
				02	284	1.12	0.90-1.35
				03	123	0.91	0.66-1.16
				04	218	0.94	0.75-1.13
				05	**287**	**0.94**	**0.79-1.10**
578	Snakey Lakes	6,431	84%	1986	279	0.62	0.51-0.73
				88	300	1.05	0.84-1.26
				89	200	1.56	1.26-1.86
				93	356	0.77	0.61-0.93
				97	310	1.39	1.17-1.60
				98	225	0.71	0.55-0.87
				99	250	0.86	0.67-1.05
				00	263	1.55	1.24-1.86
				01	358	0.89	0.74-1.03
				02	180	1.45	1.19-1.71
				04	203	0.89	0.72-1.06
				05	**235**	**1.27**	**1.03-1.51**
581	Luck Lake	19,818	67%	1986	178	1.74	1.41-2.07
				88	300	2.11	1.80-2.41
				93	175	1.10	0.87-1.32
				01	320	0.60	0.47-0.72

Appendix 1. Continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	95% CI
584	Little Ratz	12,392	65%	1992	272	0.94	0.76-1.13
				97	255	1.93	1.64-2.21
				98	282	0.78	0.64-0.91
				00	304	1.38	1.18-1.59
				01	287	1.20	1.00-1.39
				02	195	2.32	1.92-2.71
				03	335	1.21	1.03-1.39
				04	228	1.96	1.68-2.24
				05	**291**	**1.51**	**1.28-1.73**
587	Tuxekan	12,129	77%	1988	300	1.06	0.84-1.28
				97	314	1.04	0.87-1.22
				98	353	0.48	0.37-0.58
				99	328	1.26	1.03-1.49
621	12 Mile	23,344	59%	1985	196	0.31	0.19-0.43
				86	300	0.64	0.48-0.81
				87	370	0.65	0.49-0.81
				88	302	0.62	0.46-0.77
				89	235	0.78	0.59-0.98
				90	176	1.18	0.84-1.52
				91	231	1.84	1.48-2.21
				92	250	0.43	0.32-0.55
				93	258	0.84	0.63-1.05
				94	324	0.93	0.76-1.09
				97	202	1.45	1.10-1.79
				98	280	0.83	0.63-1.02
				02	220	0.51	0.38-0.63
625	Trocadero	16,624	75%	1995	235	1.74	1.41-2.06
				97	235	1.18	0.97-1.38
				98	267	0.97	0.78-1.16
				02	332	0.93	0.75-1.10
628	Pt. Amagura	10,477	26%	1997	255	1.04	0.83-1.24
				98	325	0.93	0.78-1.08

Appendix 1. Continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	Pellet-Group 95% CI
635	Port Refugio	9,118	50%	1985	317	2.69	2.27-3.12
				86	324	2.52	2.09-2.96
				87	369	1.76	1.46-2.07
				88	270	1.15	0.90-1.40
				89	507	0.80	0.68-0.93
				90	232	1.25	1.03-1.48
				91	367	1.13	0.95-1.32
				92	254	0.76	0.57-0.95
				93	213	1.35	0.98-1.71
				94	280	1.85	1.51-2.19
				97	276	0.82	0.65-1.00
				98	315	0.78	0.61-0.96
				00	272	0.94	0.75-1.13
				02	317	1.12	0.93-1.31
679	Kitkun Bay	15,359	75%	1988	240	0.31	0.20-0.42
				89	273	0.89	0.71-1.07
				95	264	0.40	0.28-0.52
				97	261	0.31	0.19-0.44
685	Nutkwa	17,079	73%	1988	234	0.09	0.02-0.16
716	Helm Bay	16,127	57%	1981	704	0.16	0.12-0.19
				84	302	0.54	0.44-0.65
				85	181	0.85	0.65-1.05
				88	247	1.66	1.38-1.95
				91	240	1.63	1.35-1.92
				92	169	1.25	0.96-1.53
				93	286	1.37	1.16-1.59
				95	284	1.31	1.09-1.52
				97	265	0.79	0.65-0.99
				98	232	0.44	0.34-0.55
				99	182	0.70	0.53-0.87
				01	251	0.41	0.30-0.51
				04	170	0.25	0.15-0.35
				05	**286**	**0.22**	**0.15-0.29**
719	Port Stewart	21,482	55%	1993	289	1.22	1.03-1.42
				95	278	1.61	1.35-1.87
				97	289	1.29	1.08-1.50
				99	182	0.77	0.57-0.97
				01	289	0.21	0.13-0.29

Appendix 1. Continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	Pellet-Group 95% CI
722	Spacious Bay	31,461	44%	1993	300	0.54	0.43-0.64
				95	283	0.45	0.35-0.54
				97	276	0.43	0.33-0.53
				99	161	0.09	0.04-0.13
				01	285	0.06	0.02-0.09
738	Margaret	19,286	67%	1985	515	0.57	0.47-0.66
				86	251	0.84	0.69-1.00
				88	110	1.31	0.96-1.67
				89	129	0.62	0.44-0.80
				90	274	0.56	0.44-0.68
				91	272	0.76	0.58-0.94
				93	281	0.31	0.23-0.39
				95	304	0.70	0.56-0.84
				97	297	0.56	0.43-0.68
				99	264	0.47	0.98-1.45
				01	279	0.44	0.34-0.54
748	George Inlet	19,448	28%	1981	110	0.21	0.09-0.33
				84	344	0.27	0.19-0.35
				85	313	0.52	0.39-0.65
				89	169	1.41	1.08-1.75
				90	240	1.03	0.82-1.25
				91	168	1.49	1.15-1.84
				92	195	0.65	0.49-0.81
				94	309	0.95	0.79-1.11
				96	305	0.98	0.76-1.19
				98	314	0.52	0.40-0.65
				00	270	0.51	0.38-0.64
				02	227	0.18	0.09-0.28
				04	309	0.25	0.18-0.32
752	Whitman Lake	6,015	38%	1981	45	0.18	0.02-0.33
				87	187	0.16	0.09-0.23
				90	193	0.46	0.32-0.59
				92	189	0.20	0.12-0.28
				97	181	0.81	0.63-0.98
				98	209	0.47	0.33-0.61

Appendix 1. Continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	95% CI
758	Carroll Pt.	11,629	34%	1985	118	0.66	0.46-0.86
				86	118	0.75	0.56-0.95
				88	85	1.15	0.81-1.48
				92	87	0.28	0.14-0.41
				94	125	0.70	0.49-0.90
				98	125	0.51	0.38-0.64
				02	84	0.36	0.21-0.50
759	Moth Bay	7,652	23%	1985	140	0.59	0.42-0.74
				86	156	0.98	0.79-1.17
				88	78	0.71	0.46-0.97
				92	136	0.48	0.30-0.66
				94	136	0.94	0.71-1.17
				98	176	0.68	0.53-0.82
				02	150	1.09	0.84-1.34
760	Lucky Cove	12,377	43%	1985	335	1.16	1.00-1.33
				86	258	1.16	0.95-1.32
				88	65	1.01	0.68-1.34
				90	263	1.10	0.92-1.27
				91	271	1.39	1.07-1.70
761	Vallenar			2003	96	0.99	0.74-1.24
764	Blank Inlet	3,640	19%	1981	108	1.24	0.89-1.59
765	Dall Head	4,803	63%	1981	69	0.52	0.31-0.74
				96	295	1.07	0.90-1.24
				98	287	0.84	0.67-1.01
				00	285	0.96	0.77-1.14
				02	284	0.76	0.59-0.94
				03	279	0.91	0.71-1.11
				04	282	0.66	0.53-0.79
				05	**177**	**0.87**	**0.62-1.12**
767	Duke Island	39,171	17%	1996	294	0.05	0.02-0.09
				00	282	0.13	0.08-0.18
				02	292	0.19	0.12-0.26

Appendix 1. Continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	Pellet-Group 95% CI
769	Alava Bay	13,563	60%	1985	311	0.52	0.39-0.65
				86	326	0.85	0.68-1.01
				91	143	1.64	1.22-2.05
				94	326	0.79	0.64-0.94
				96	324	0.93	0.77-1.09
				98	335	0.66	0.52-0.79
				00	329	0.75	0.56-0.93
				02	107	1.22	0.90-1.55
				04	313	0.92	0.75-1.09
772	Wasp Cove	4,882	90%	1985	271	0.41	0.31-0.51
				86	300	0.50	0.38-0.62
				89	145	0.58	0.39-0.77
				91	207	0.13	0.07-0.18
821	Winstanley Island	14,104	45%	1991	49	0.27	0.11-0.42
859	Very Inlet	na	na	2002	306	0.11	0.07-0.16
999	Gravina (All Transects)	na	na	1981	226	1.06	0.89-1.22
				84	1,087	0.86	0.78-0.94
				85	1,172	1.23	1.13-1.32
				86	1,267	1.40	1.30-1.50
999	Gravina (Trans. 1,2,3)			1984	376	0.88	0.73-1.03
				85	224	1.44	1.20-1.67
				86	346	1.62	1.43-1.81
				87	334	1.63	1.41-1.84
				88	278	2.06	1.78-2.35
				89	182	1.13	0.86-1.41
				90	279	1.40	1.12-1.68
				91	154	1.12	0.80-1.43
				92	302	1.22	1.05-1.38
				94	331	1.58	1.37-1.79
				96	338	1.47	1.28-1.67
				97	274	1.71	1.47-1.95
				98	307	1.34	1.12-1.56
				00	267	1.24	1.06-1.42
				03	78	0.87	0.54-1.20
				05	**205**	**1.20**	**0.95-1.46**

APPENDIX II

Winter Weather Conditions

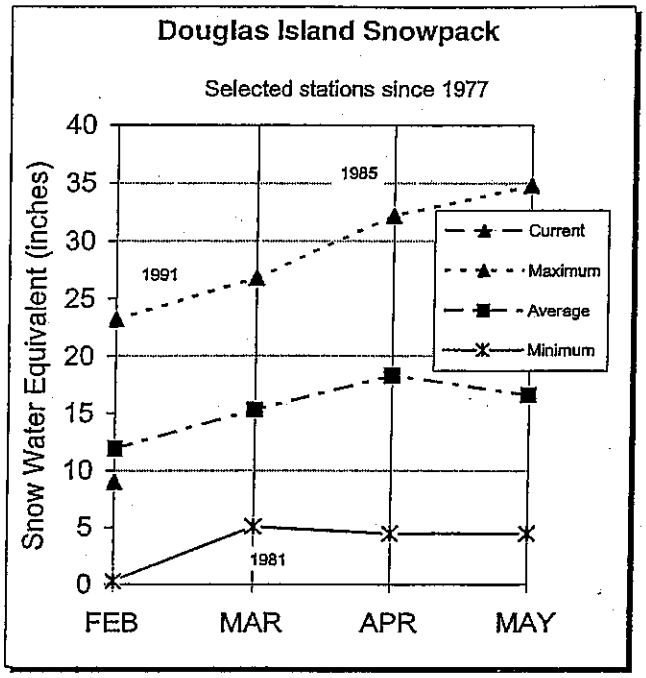
2005

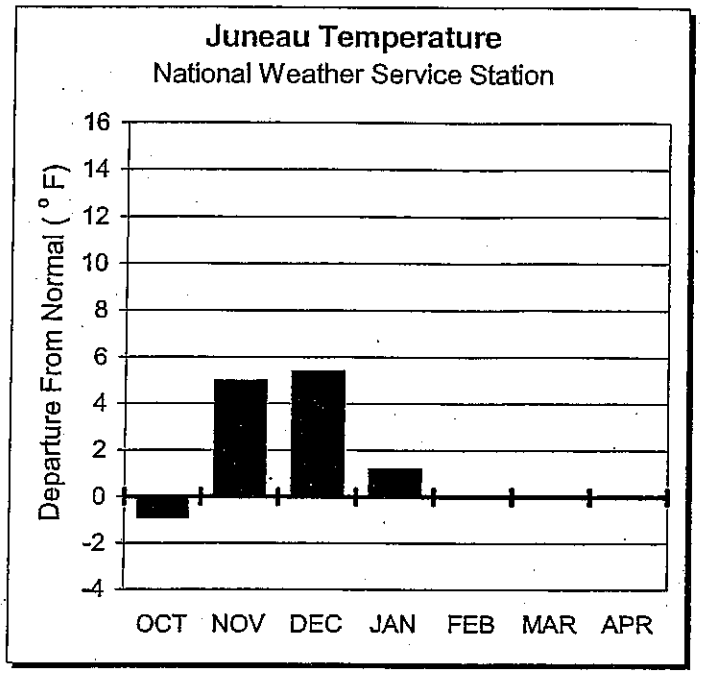
Winter Weather Conditions

January - April 2005

Data from: Alaska Snow Surveys, USDA Soil Conservation Service, Anchorage, AK.
Monthly reports on file, ADF&G, Douglas.

SOUTHEAST*





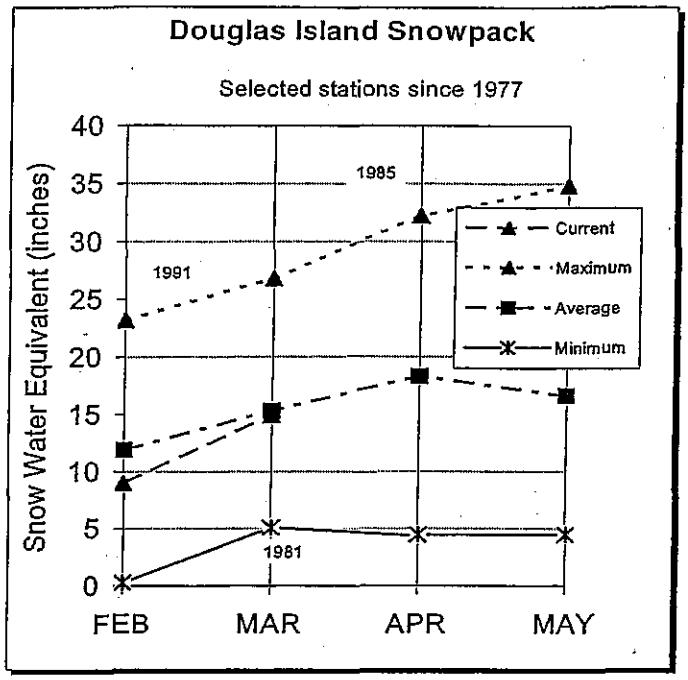
Current Basin Conditions

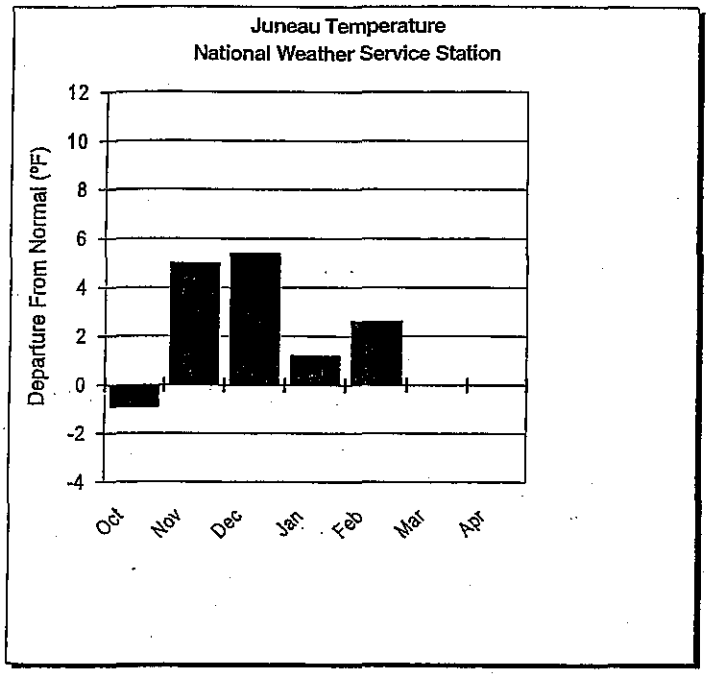
The Petersburg Ridge snow course has set a record low snow measurement for February 1st, with 7 inches of snow depth and 2.8 inches of water content. The record extends back to 1979 and the previous low was in 2003, with 12 inches and 3.5 inches of water content. The average is 57 inches of snow depth and 16.9 inches of water content.

The Swan Lake snow courses had very little snow for their January 1st measurement, ranging from 5 inches of snow at Lost Lake (425 feet) to 38 inches of snow depth and 11.8 inches of water content at Lake Grace Pass. Last year Lake Grace Pass had 77 inches of depth with 25.3 inches of water content.

* For further information contact the Natural Resources Conservation Service in Anchorage.

Southeast





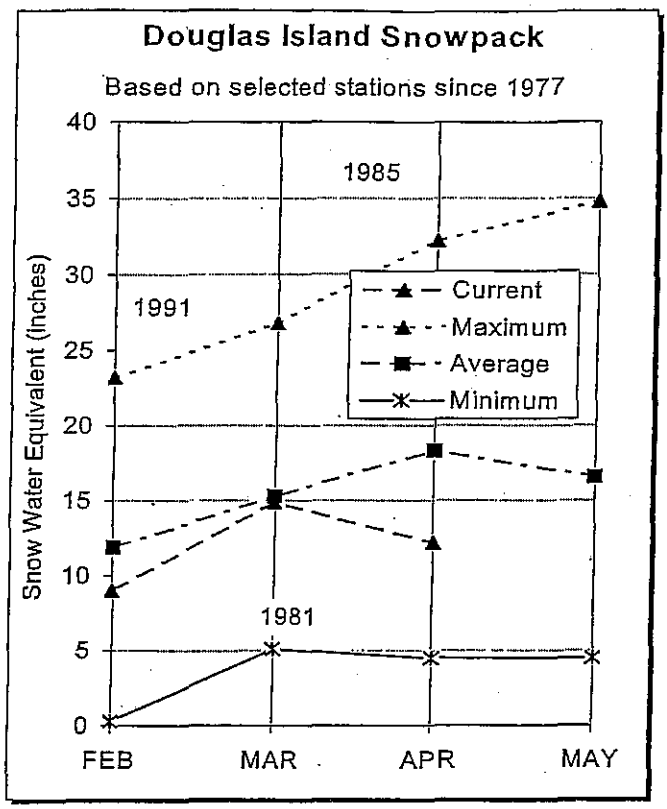
Snowcover:

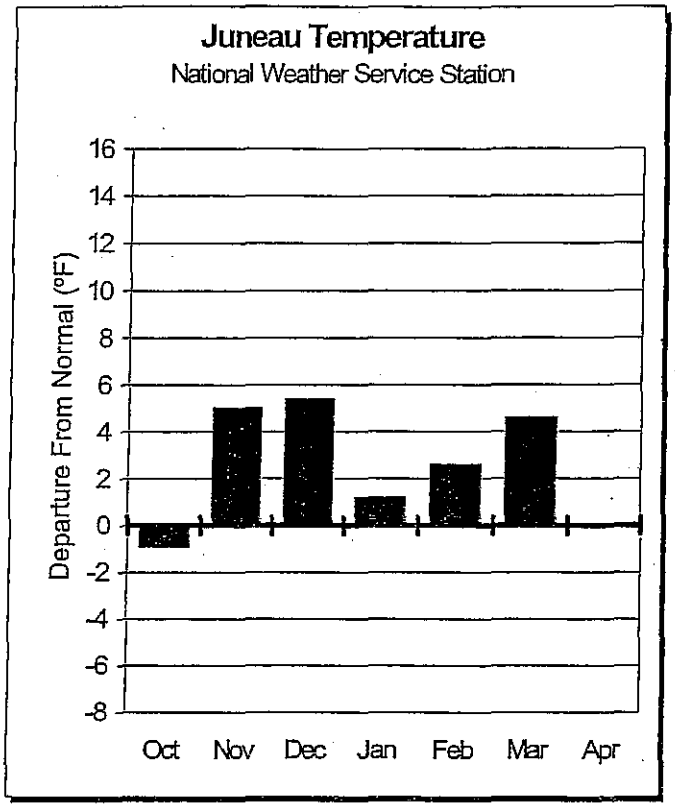
The Petersburg Ridge snow course recovered to 50 percent of normal, having set a record low water content last month of 2.8 inches, the current depth is 34 inches with a water content of 10.8 inches.

Moving north to Snettisham, the Speel River snow course is 102 percent of normal water content.

Continuing north, the Cropley Lake snow course on Douglas Island is 105 percent of normal and then Moore Creek Bridge north of Skagway is 99 percent of normal water content.

SOUTHEAST*





Snowcover:

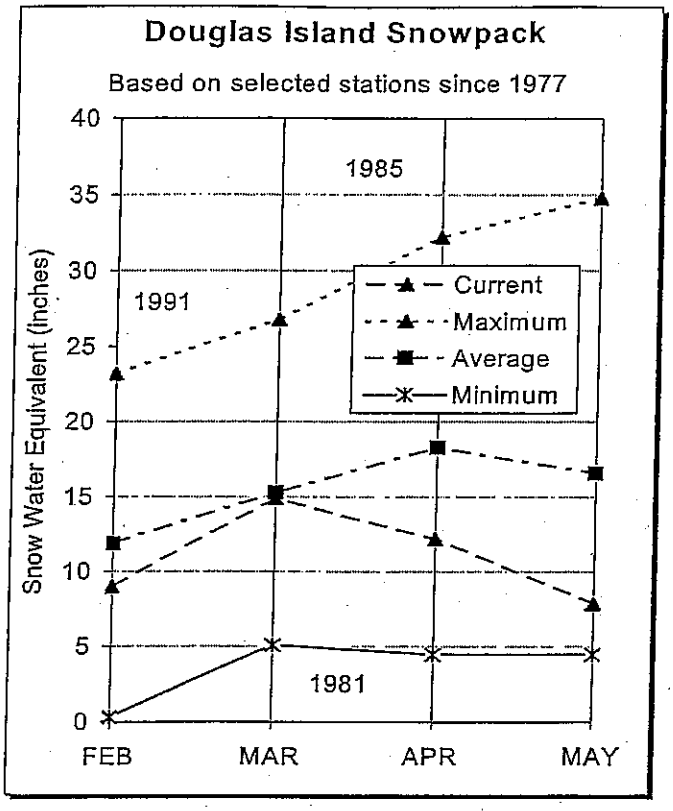
The Swan Lake snow course water contents are 44 percent of normal, ranging from .5 inches of water content at Lost Lake to 26.7 inches of water content at Lake Grace Pass which is 94 percent of normal and 52 percent of last year. The Swan Lake precipitation gauge has received 137.8 inches since October 1st, 132 percent of normal.

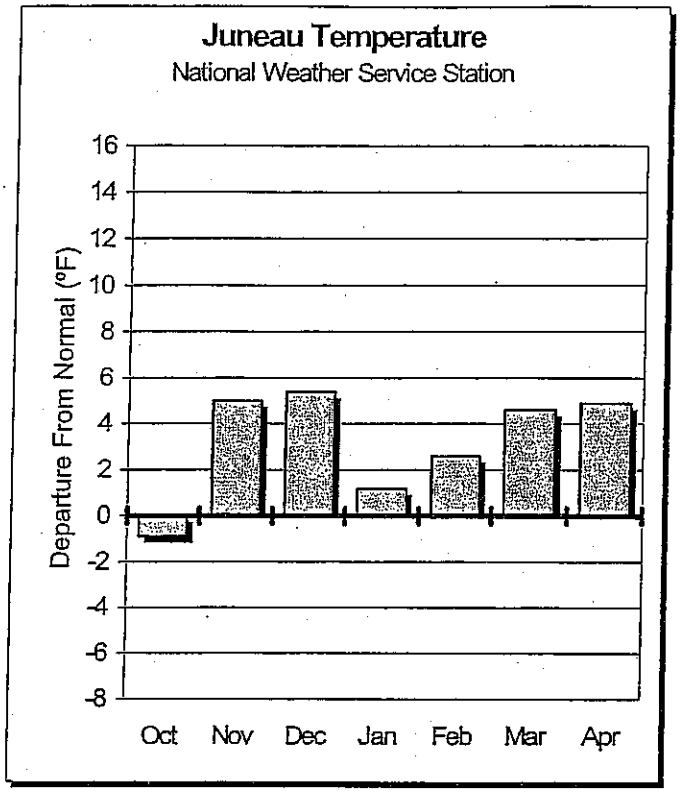
Moving north to Skagway, the Moore Creek Bridge snow is right at normal with 20.0 inches of water content.

Gold Creek near Juneau volume flow forecast is 94 percent of normal for the April through July time period.

* For further information contact the Natural Resources Conservation Service in Anchorage.

SOUTHEAST*





Snowcover:

The Moore Creek Bridge snow course water content is 90 percent of normal, 18.9 inches were measured.
The Cropley Lake snow course is the only snow course with snow on Douglas Island, having 44 inches of depth and 20.4 inches of water content, 62 percent of normal.
The Long Lake SNOTEL site at the Snettisham Hydro-electric project has 70 inches and 30.9 inches of water content.

* For further information contact the Natural Resources Conservation Service in Anchorage.