Federal Aid in Wildlife Restoration
Annual Report
1 July 2003 – 30 June 2004

2004 Report

Deer Pellet-Group Surveys in Southeast Alaska

by

Paul Converse

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

February 2005

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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 2004. 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 2004, 24 watersheds (or value comparison units – VCUs) were surveyed. For each VCU, transect locations, physiographic information, deer population density, and trend are described. Complete results for each VCU are found in Table 1. A brief summary of deer population trend by game management unit follows:

Subunit 1A – Four deer pellet surveys were conducted in the Ketchikan area in 2004. Two transects were conducted at Helm Bay, while the usual three transects were conducted at Alava Bay, George Inlet, and Dall Head. Results were typical of the area, reflecting continued low density of deer.

Unit 2 – Five VCUs were surveyed on Prince of Wales Island in 2004. Pellet-group densities were down in two VCUs, stable in one VCU, and up in two VCUs.

Subunit 1B and Unit 3 – Six VCUs were surveyed in central Southeast Alaska in 2004. On Zarembo Island, pellet counts decreased by one-third from 2003 levels. Deer pellet density on Mitkof Island, which had declined 65% to a record low in 2003, rebounded in 2004 to a more moderate 1.06 pellet-groups per plot. That number, however, was still lower than the density of 1.43 pellet-groups per plot recorded in 2002. Continuing a trend of very low deer pellet densities, Woronkofski Island exhibited the lowest pellet counts recorded in Southeast Alaska this year.

Unit 4 – In 2004 the area of emphasis for Unit 4 deer pellet surveys was Chichagof Island. Although pellet-group densities at Cobol were up more than 50% from 2001 levels (equaling the previous high for that VCU), densities for the majority of Chichagof remained similar to those recorded in previous years. While pellet density at Sea Lion Cove on northern Kruzof Island decreased more than 40% from 2003, the mean pellet count at Nakwasina increased slightly to the highest level recorded in that VCU since 1991.

Subunit 1C – Two VCUs were surveyed in Unit 1C in 2004, both of which are located on Douglas Island. Pellet-group density at Inner Point increased slightly and density at North Douglas increased 63%.

NARRATIVES

North Douglas (VCU 35) – Douglas Island is located immediately opposite the city of Juneau and is heavily used by Juneau hunters. Three transects were established at the north end of the island in 1991. Traversing moderate-volume hemlock stands, the transects rise to over 1000 feet in elevation. Deer pellet-group density in 2004 was 1.52 pellet-groups per plot, up 63% from the previous year, and just short of the all-time high.

Inner Point (VCU 36) – This small drainage, located on the west side of Douglas Island, is popular with Juneau deer hunters. Consisting primarily of low-volume forest, this VCU is also brushy, particularly at lower elevations. Pellet-group density in 2004 was 0.88 pellet-groups per plot, up slightly from 2003.

Idaho Inlet (VCU 190) – Three transects were established in Idaho Inlet on northern Chichagof Island in 1988. This is a cold, steep walled inlet. All three transects, which traverse low to mid-volume hemlock-spruce forest, typically retain some snow at higher elevations. Pellet-group density in 2004 was 1.05 pellet-groups per plot.

Finger Mt. (VCU 247) – The Finger River drainage, in lower Hoonah Sound, has consistently exhibited some of the highest deer pellet-group densities in Southeast. Three transects were established here in 1983. Transect 1 climbs to the top of an 1100-foot knob and then undulates up and down from there. Transect 2 parallels the Finger River and usually has a tremendous amount of deer sign. Transect 3 is short and rises steeply to 1500 feet in elevation. All three transects have a SW facing aspect. Deer pellet-group density, at 3.03 pellet-groups per plot, was nearly identical to 2003.

Chichagof (VCU 271) – Three transects were established in Klag Bay, on the west coast of Chichagof, in 1991. Transect 1 crosses a peninsula from east to west and samples muskeg and low-volume old-growth forest. Transect 2 climbs to 1500 feet on Doolth Mountain. Transect 3 samples a SW facing slope at the head of the bay and traverses muskeg, non-commercial forest, and low-volume old growth. In 2004 deer pellet-group density for this VCU was moderate, at 1.15 pellet-groups per plot.

Cobol (275) – This VCU, first sampled in 1984, is located in Slocum Arm on the west side of Chichagof Island. The three transects in this VCU traverse low-volume old-growth, reaching sub-alpine vegetation at approximately 1000 feet in elevation. Pellet-group density in 2004 was high at 2.97 pellet-groups per plot, an increase of 53% from the last survey in 2001.

Nakwasina (VCU 300) – This VCU north of Sitka is popular with local hunters and has been sampled almost every year since 1984. All three transects have southerly aspects and traverse mid-volume forest to elevations of 1500 feet. In 2004, deer pellet-group density was 3.36, the highest pellet-group density for this VCU since 1991 and the highest density of any VCU surveyed in Southeast during 2004.

Sea Lion Cove (VCU 305) – Located on northern Kruzof Island, this VCU has been sampled almost every year since 1984. Transects 1 and 3 are short and steep, traversing low to mid-volume timber until breaking into sub-alpine vegetation at approximately 900 feet elevation. Transect 2, which also traverses low to mid-volume timber, is forested all the way to 1500 feet in elevation. Deer pellet-group density in 2004 was 1.13, 41% lower than in 2003 and the lowest ever recorded in this VCU.

Yakutat Islands (VCU 368) – This VCU incorporates several islands found in Yakutat Bay: Krutoi, Kriwoi, Khantaak, and Dolgoi. One or two transects were established on each island in 1991. The habitat consists primarily of mid-volume hemlock with a blueberry understory. While the islands are not considered ideal deer habitat, their maritime climate, low annual snowfall, and relative lack of predators probably contribute to the persistence of deer on these islands. Kriwoi, Dolgoi and Khantaak islands were surveyed in 2004. Khantaak Island continues to exhibit a low but stable pellet-group density; Dolgoi Island exhibited a modest increase in pellet-group density, and counts on Kriwoi Island increased to 1.33 pellet-groups per plot, 77% higher than in 2003.

Woewodski (VCU 448) – Three transects were established on southwestern Mitkof Island in 1984. All originate along the shoreline, traverse moderate volume timber to 1500 feet elevation, and are easily accessible by skiff from Petersburg. Deer pellet-group density in 2004 was 1.06 pellet-groups per plot – an increase of 112% from 2003, but still down 26% from 2002.

Baht (VCU 456) – In 2002, a new transect was established in this Zarembo Island VCU as part of a greater island-wide assessment of deer populations. The transect originates from the road near Little Baht Harbor, about 10.8 miles east of the St. John cabin. The transect traverses medium-volume forest and muskeg patches on a gentle north-facing slope before ending at a small lake at about 800 feet elevation. Deer pellet-group density in 2004 was 1.80 pellet-groups per plot, down 35% from 2002.

St. John (VCU 457) – In 2002, three new transects were established in this Zarembo Island VCU as part of a greater island-wide assessment of deer populations. All three transects originate from the road system. Mean deer pellet-group density in 2004 was 1.17 pellet-groups per plot, down 29% from 2002.

Snow Passage (VCU 458) – Three transects were established on the southwest shore of Zarembo Island in 1994. This particular VCU was picked for sampling because it is still largely un-logged and has favorable deer winter range characteristics. All three transects originate along the shoreline, traverse low to mid-volume timber, and include some second-growth. Deer pellet-group density in 2004 was 1.02 pellet-groups per plot, down 32% from 2002.

Meter Bight (VCU 459) – In 2002, two new transects were established in this Zarembo Island VCU in 2002 as part of a greater island-wide assessment of deer populations. Both transects originate from the road system, have southerly aspects, and are comprised of brushy low-volume forest interspersed with muskegs. Deer pellet-group density in 2004 was 0.89 pellet-groups per plot, virtually the same as in 2002.

Woronkofski Island (VCU 461) – This island VCU, located near Wrangell, was first sampled in 1985. A total of twelve transects were originally established on the island, but those transects on the south side of the island were found to be easiest to negotiate and most likely to be snow-free during spring surveys. Consequently, in subsequent years only transects 10, 11 and 12 have been surveyed. These three transects originate along the shoreline and traverse mid- to high-volume old-growth forest to an elevation of 1500 feet. Deer pellet-group densities were high on Woronkofski in the late 1980's; however, they plummeted to low levels in the early 1990s and have remained low ever since. Density in 2004 was 0.08 pellet-groups per plot, the lowest ever recorded for this VCU. Biologists believe predation by wolves was responsible for the rapid decline in the island's deer population.

Red Bay (VCU 532) – Located on northern Prince of Wales Island, this VCU was first sampled in 1987. Red Bay has been extensively logged, and in 2001, two new transects were added by the Forest Service in order to avoid second growth. Additional changes were made in 2002; since then, transects 4, 5 and 6 have been surveyed. Deer pellet-group density in 2004 was low at 0.85 pellet-groups per plot, representing a decrease of 26% from 2003.

Sarkar (VCU 554) – Three transects were established near Sarkar Lake on Prince of Wales Island in 1989. In 2001, transect 3 was replaced because of second growth. In 2002, transect 1 was replaced by transect 5, presumably for the same reason. The following year transect 1 was reinstated, and for the last two years transects 1, 2, and 5 have been surveyed. In 2004, deer pellet-group density was low at 0.61 pellet-groups per plot.

Thorne Lake (VCU 575) – Four transects were established in this central Prince of Wales Island VCU in 1992. All four transects originate along Road 3015 and are accessed by vehicle from Thorne Bay. Transect 1 primarily traverses a red cedar-western hemlock overstory with a blueberry understory. Transect 2 begins with a muskeg and low-volume forest and then encounters the edge of a clearcut. Habitat is mostly low to mid-volume forest, interspersed with muskegs. Transect 3 is relatively easy, traversing moderate to high-volume hemlock forest. Transect 4, rising steadily to 1500 feet, samples high-volume red cedar and spruce-hemlock forest. In 2004, transects 2, 3, and 4 were surveyed. Deer pellet-group density, at 0.94 pellet-groups per plot, was comparable to the preceding year.

Snakey Lakes (VCU 578) – This VCU, located on Prince of Wales Island, encompasses a portion of the Thorne River drainage. Four transects were established in this VCU by the Forest Service in 1986. Since then, roads and clearcuts have drastically altered the landscape. As a result, new starting points for transects 3 and 4 were established in 1993. In 2004, transect 1 was replaced by transect 5 due to habitat changes associated with second growth. Deer pellet-group density in 2004 was 0.89 pellet-groups per plot, a decrease of 39% from 2002.

Little Ratz (VCU 584) – Four transects were established in this VCU on the east coast of Prince of Wales Island in 1992. All transects are accessible by vehicle from Thorne Bay. Transect 1 traverses a clearcut and second growth before entering a red cedar-mountain hemlock forest. Transect 2 starts at the Sal Creek bridge. The first 24 plots go through a thinned clearcut; from there it's a short walk to Sal Creek. The return trip to the road goes back through low-volume old growth and a clearcut. Transect 3 leaves the road after the Sal Creek bridge is passed and goes through young spruce stands where blowdowns are common. Transect 4 leaves the road about two miles past Sal Creek and passes through rolling terrain with low to mid-volume timber. There is some nasty brush at the end. In 2004 transects 2, 3, and 4 were surveyed; deer pellet-group density was 1.96 pellet-groups per plot, an increase of 62% from 2003.

Helm Bay (VCU 716) – Helm Bay is located on the Cleveland Peninsula north of Ketchikan. Three transects were established here in 1984. Transect 1 is long, flat and traverses extensive muskeg and scrub forest. Transects 2 and 3 rise to 1500 feet in elevation and traverse mid-volume forest. In 2004 only transects 2 and 3 were completed; deer pellet-group density was a low 0.25 pellet-groups per plot.

George Inlet (VCU 748) – This VCU on Revilla Island is easily accessible by skiff from Ketchikan. Transect 1 is short, rising steeply to 1400 feet in elevation while traversing high-volume timber. Transects 2 and 3 are longer and flatter and contain a greater variety of forest types including cedar stands and muskeg. Deer pellet-group density in 2004 was low at 0.25 pellet-groups per plot.

Dall Head (VCU 765) – Three transects were established on the south end of Gravina Island in 1996. Much of Dall Head has been exposed to windthrow and fire and consequently there are large areas of second growth, including some well-stocked red cedar stands. Most of the understory is brushy conifer mixed with salal. Deer pellet-group density in 2004 was low at 0.66 pellet-groups per plot.

Alava Bay (VCU 769) – This VCU, located on the southeastern tip of Revilla Island, was first sampled in 1985. All three transects have steep sections and all are brushy with blueberry. Forest types are diverse, ranging from muskeg to high-volume old-growth. Deer pellet-group density was 0.92 pellet-groups per plot.

ACKNOWLEDGEMENTS

This publication, the latest in a long series of deer pellet reports, owes much to Mark J. Kirchhoff. An integral part of the deer monitoring crew since its inception in 1979, Mark assumed leadership of the program in the mid 1980's and, at the time of his retirement in 2004, had authored sixteen editions of this annual report. Much of the effort contained within is his.

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.

Table 1. Pellet-group count statistics from Southeast Alaska, 1981-2004.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	Pellet-Group 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**
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
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

Table 1. continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	95% CI
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
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
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

Table 1. continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	Pellet-Group 95% CI
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
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

Table 1. continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	95% CI
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
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
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

Table 1. continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	Pellet-Group 95% CI
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
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**

Table 1. continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	95% CI
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**
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

Table 1. continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	95% CI
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**
305	Sealion 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**

Table 1. continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	95% CI
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
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

Table 1. continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	Pellet-Group 95% CI
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
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

Table 1. continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	Pellet-Group 95% CI
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
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**
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

Table 1. continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	Pellet-Group 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**
457	St. John	26,112	53%	2002	220	1.65	1.38-1.93
				04	**229**	**1.17**	**0.96-1.38**
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**
459	Meter	42,438	46%	2002	180	0.87	0.64-1.10
				04	**180**	**0.89**	**0.68-1.10**
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**
467	Mosman	25,573	54%	1993	304	0.07	0.03-0.11

Table 1. continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	Pellet-Group 95% CI
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

Table 1. continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	Pellet-Group 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
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

Table 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**
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**
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

Table 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**
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

Table 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**
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

Table 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

Table 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**
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

Table 1. continued.

VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	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

APPENDIX I

New VCUs Sampled[a]

(No new VCUs were sampled in 2004)

[a] Transect location forms for these and all other VCU's are located in the ADF&G Southeast Regional Office, Douglas.

APPENDIX II

Winter Weather Conditions

2004

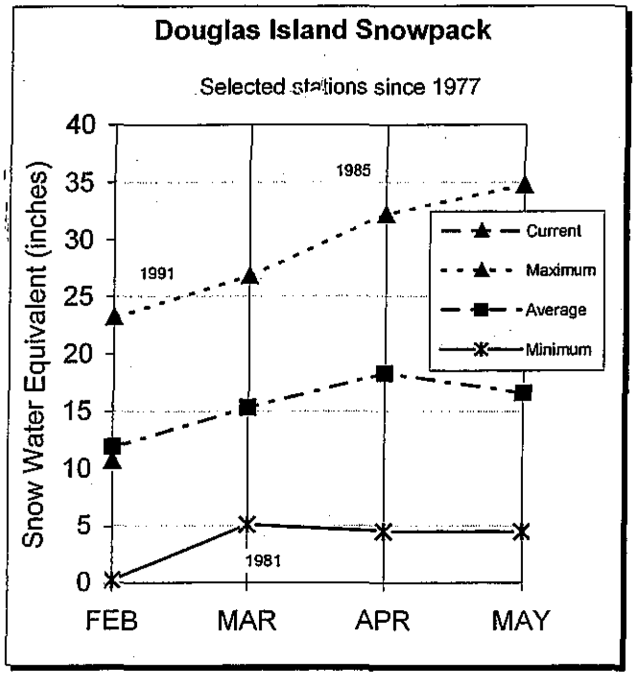
Winter Weather Conditions

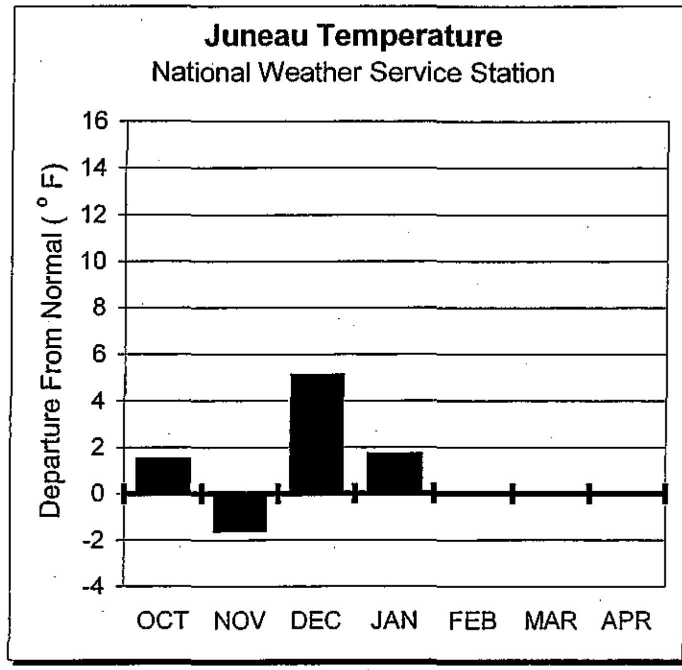
January - April 2004

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

SOUTHEAST*

February 2004





Current Basin Conditions

The Petersburg Ridge snow course, at 1650 feet, is right at normal snow water content; however, the Petersburg Reservoir snow course, at 550 feet, has very little snow, 4 inches and 0.5 inches water content, 11 percent of normal.

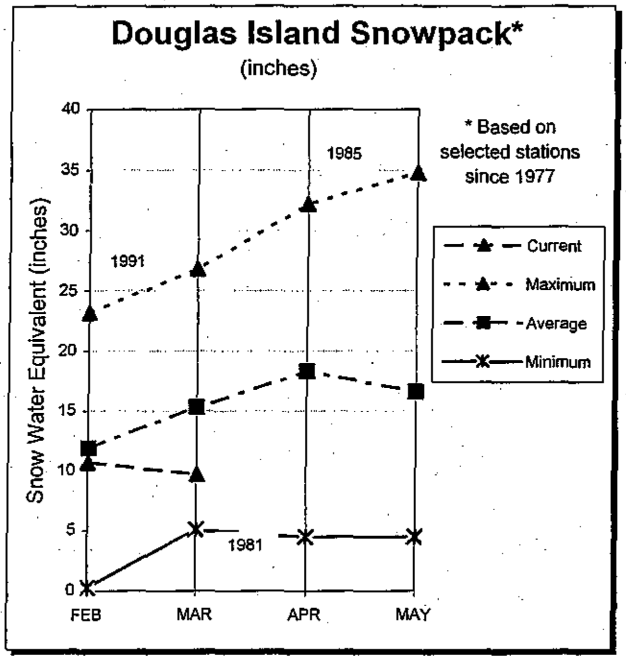
The Long Lake SNOTEL site, above the Snettisham Hydroelectric Power Plant, has 78 inches of snow depth and 24.8 inches of snow water content, 171 percent of last year.

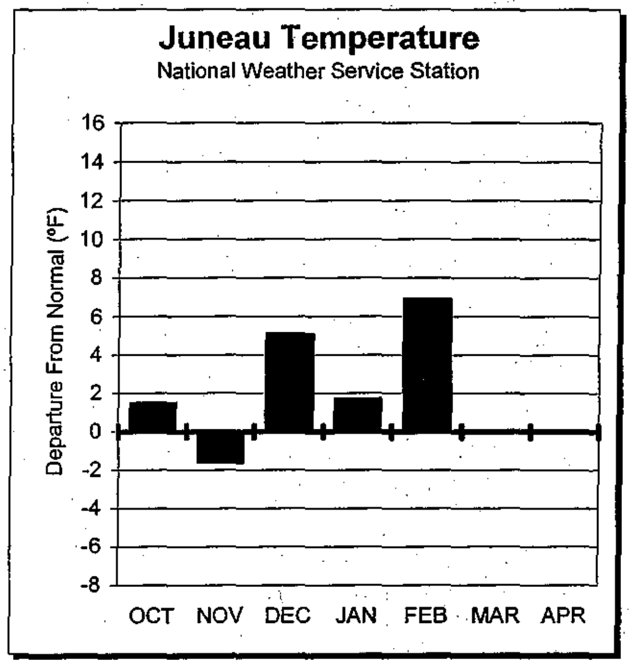
The Moore Creek Bridge snow course, north of Skagway, has 60 inches of snow and 17.4 inches of water content, 127 percent of normal, 242 percent of last year.

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

SOUTHEAST*

March 2004





Snowcover:

No snow was measured at 2 of the lower elevation snow courses in Southeast Alaska, Petersburg Reservoir near Petersburg and Fish Creek on Douglas Island.

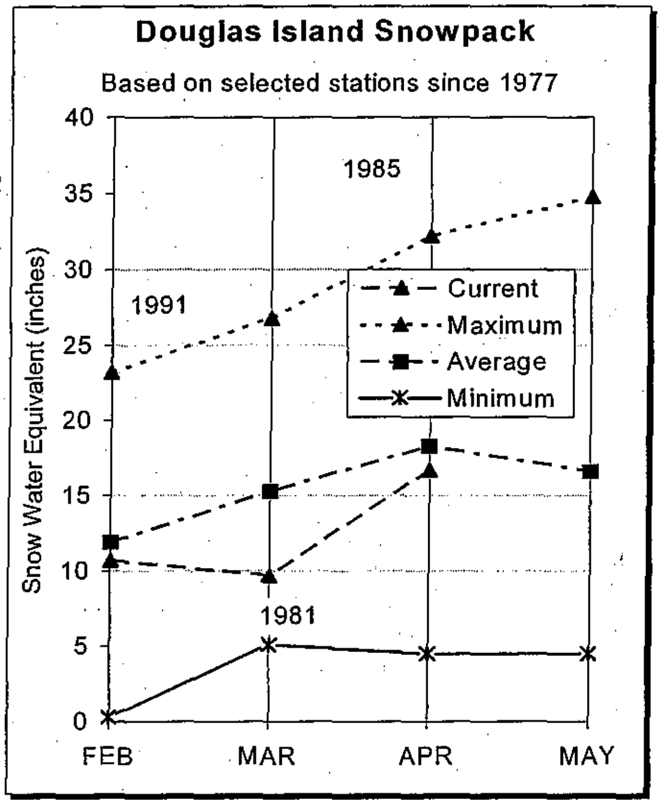
It is estimated that the Long Lake SNOTEL site had on February 27th 77 inches of snow depth and 28.5 inches of water content.

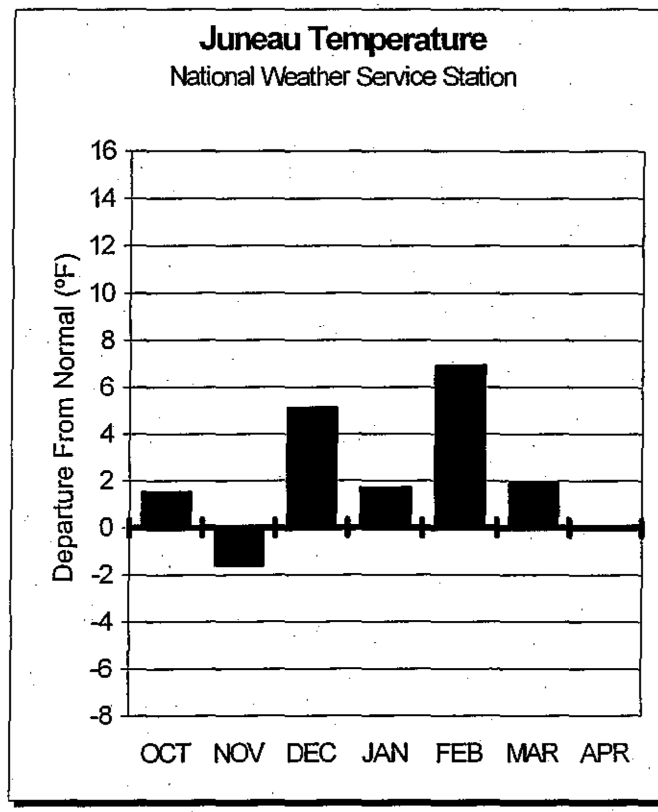
The Moore Creek Bridge snow course, as of March 1st, has 66 inches of snow and 22.9 inches of snow water content. The precipitation gauge at Moore Creek Bridge has received 19.8 inches since October 1st.

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

SOUTHEAST*

April 2004





<u>Snowcover:</u>

The Long Lake SNOTEL site, in the basin of the Snettisham Hydroelectric facility has 40.8 inches of snow water content, 158 percent of last year and probably near normal for a 30 year period.

The Swan Lake snow courses, in the basin providing water for power generation for the City of Ketchikan, are near normal water content. Lake Grace Pass has 118 inches of snow depth and 51.7 inches of water content.

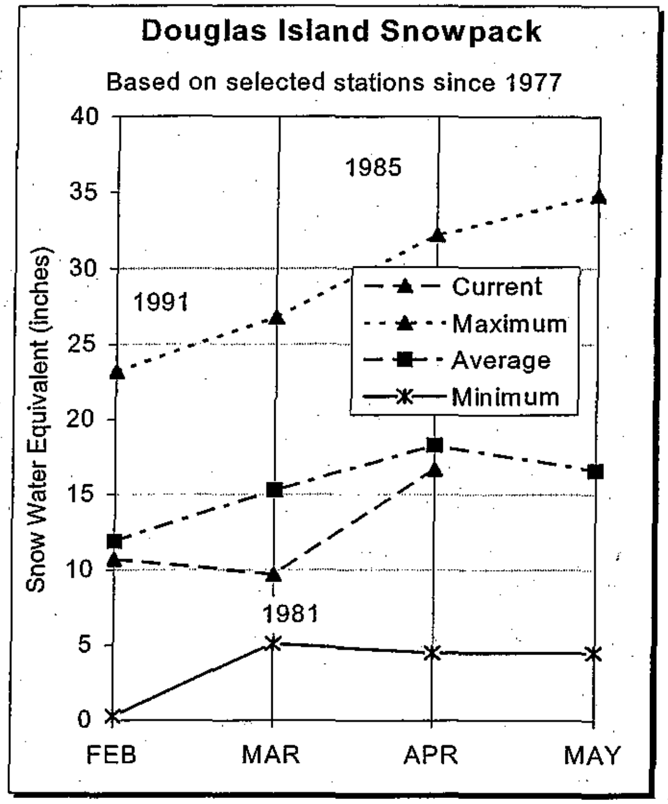
The Petersburg Ridge snow course is 106 percent of normal having increased snow water content 10.2 inches in the month of March. No snow at Petersburg Reservoir, elevation 550 feet, the average is 15 inches of snow depth.

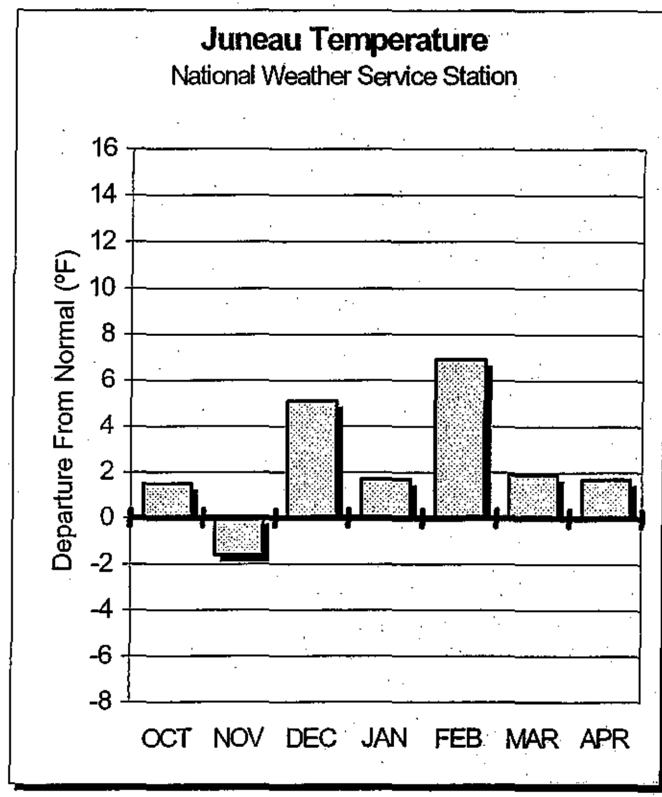
The Douglas Island snow courses, across from Juneau, are 91 percent of normal, up significantly from last month's 63 percent of normal.

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

SOUTHEAST*

May 2004





Snowcover:

The Petersburg Ridge snow course went from above normal last month to below normal this month, 91 percent.

The Moore Creek Bridge snow course, north of Skagway, is 144 percent of normal with 67 inches of snow depth and 27.2 inches of water content.

No report from the Douglas Island snow courses.

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

APPENDIX III

Pellet-Group Densities
Reported by Transect and Elevation

Table 2. Pellet-groups per plot, by VCU and Transect, Spring 2004

				Mean	Plots
VCU	35	Transect	1	1.32	79
			2	1.67	93
			3	1.55	116
	36	Transect	1	.84	67
			2	.41	100
			3	1.53	75
	190	Transect	1	1.24	85
			2	1.00	93
			3	.95	118
	247	Transect	1	3.66	50
			2	3.23	125
			3	2.00	54
	271	Transect	1	1.49	88
			2	.61	95
			3	1.33	120
	275	Transect	1	1.88	80
			2	1.91	93
			3	6.14	59
	300	Transect	2	2.64	50
			3	3.66	80
			8	3.52	81
	305	Transect	1	.94	51
			2	1.24	93
			3	1.13	62
	448	Transect	1	1.38	79
			2	.65	88
			3	1.20	83
	456	Transect	6	1.80	108
	457	Transect	4	1.15	81
			5	.96	68
			9	1.38	80
	458	Transect	1	.88	101
			2	1.00	85
			3	1.14	120
	459	Transect	7	1.06	80
			8	.75	100
	461	Transect	10	.10	87
			11	.03	60
			12	.09	80
	532	Transect	4	.94	125
			5	.62	85
			6	.93	105
	554	Transect	1	.87	125
			2	.21	90
			5	.64	125
	575	Transect	2	1.18	95
			3	.70	81
			4	.88	42

Table 2. Pellet-groups per plot, by VCU and Transect, Spring 2004

				Mean	Plots
VCU	578	Transect	3	.87	60
			4	1.38	47
			5	.66	96
	584	Transect	2	.71	58
			3	2.61	70
			4	2.24	100
	716	Transect	2	.31	70
			3	.21	100
	748	Transect	1	.19	69
			2	.40	120
			3	.13	120
	765	Transect	1	.84	104
			2	.64	91
			3	.46	87
	769	Transect	1	.71	120
			2	.82	93
			3	1.26	100

Tables

Table 3. Pellet-groups per plot, by VCU and Elevation, Spring 2004.

				Mean	Plots
VCU	35	Elevation	0-500 ft	1.22	116
			501-1000 ft	1.10	72
			over 1000 ft	2.18	100
	36	Elevation	0-500 ft	.74	156
			501-1000 ft	.84	45
			over 1000 ft	1.41	41
	190	Elevation	0-500 ft	1.28	181
			501-1000 ft	.68	92
			over 1000 ft	.70	23
	247	Elevation	0-500 ft	3.24	168
			501-1000 ft	2.73	40
			over 1000 ft	1.95	21
	271	Elevation	0-500 ft	1.21	241
			501-1000 ft	1.13	30
			over 1000 ft	.72	32
	275	Elevation	0-500 ft	3.13	86
			501-1000 ft	2.96	70
			over 1000 ft	2.82	76
	300	Elevation	0-500 ft	3.86	96
			501-1000 ft	3.16	50
			over 1000 ft	2.78	65
	305	Elevation	0-500 ft	1.08	112
			501-1000 ft	1.32	65
			over 1000 ft	.90	29
	448	Elevation	0-500 ft	.45	86
			501-1000 ft	.98	56
			over 1000 ft	1.59	108
	456	Elevation	0-500 ft	1.47	60
			501-1000 ft	2.21	48
	457	Elevation	0-500 ft	1.06	149
			501-1000 ft	2.64	14
			over 1000 ft	1.11	66
	458	Elevation	0-500 ft	.84	165
			501-1000 ft	1.01	73
			over 1000 ft	1.46	68
	459	Elevation	0-500 ft	.17	6
			501-1000 ft	.91	64
			over 1000 ft	.92	110
	461	Elevation	0-500 ft	.02	116
			501-1000 ft	.14	59
			over 1000 ft	.15	52
	532	Elevation	0-500 ft	.82	284
			501-1000 ft	1.13	31
	554	Elevation	0-500 ft	.61	340

Table 3. Pellet-groups per plot, by VCU and Elevation, Spring 2004.

				Mean	Plots
VCU	575	Elevation	0-500 ft	.84	135
			501-1000 ft	1.18	62
			over 1000 ft	.95	21
	578	Elevation	0-500 ft	.92	157
			501-1000 ft	.56	27
			over 1000 ft	1.11	19
	584	Elevation	0-500 ft	1.33	100
			501-1000 ft	2.59	51
			over 1000 ft	2.38	77
	716	Elevation	0-500 ft	.14	96
			501-1000 ft	.54	35
			over 1000 ft	.28	39
	748	Elevation	0-500 ft	.21	196
			501-1000 ft	.29	87
			over 1000 ft	.35	26
	765	Elevation	0-500 ft	.71	249
			501-1000 ft	.19	26
			over 1000 ft	.29	7
	769	Elevation	0-500 ft	.84	239
			501-1000 ft	1.10	39
			over 1000 ft	1.26	35