

Federal Aid in Wildlife Restoration
Annual Report
1 July 2002 – 30 June 2003

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Deer Pellet-Group Surveys in Southeast Alaska

by

Mark J. Kirchhoff

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

December 2003

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 2003. 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 2003, 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 – A limited number of deer pellet surveys were conducted in the Ketchikan area in 2003. One transect was run on both the Gravina and Vallenar VCUs, but the number of plots obtained were too low to make a statistically valid judgment of deer populations or trends. At Dall Head, the usual three transects were run. Results were typical of the area – continued low density of deer.

Unit 2 – Five VCUs were surveyed on Prince of Wales Island in 2003. Counts were down on four of the five watersheds surveyed. The average decline across the four watersheds was about 25%. The decline is presumably due to mortality from predation and hunting, although it may also reflect shifts in deer distribution away from these survey areas because of unusually mild winter weather.

Subunit 1B and Unit 3 – Only two VCUs were surveyed in central Southeast Alaska in 2003: Horn Cliffs on the mainland east of Petersburg, and the Woewodski transects on the SW corner of Mitkof Island. Deer density at Horn Cliffs appeared to be about the same as last time surveyed, but the Woewodski transects exhibited a dramatic decline to 0.50 pellet groups per plot. ADF&G and the Forest Service plan on running these transects again next year to see if this number is an anomaly, or part of a longer term trend.

Unit 4 – The highest deer densities in Southeast Alaska are typically found on Admiralty, Baranof, and Chichagof islands. In 2003 the majority of deer pellet surveys were made on Baranof Island. The results of the work show the expected high deer densities (1.9 pg/plot, or about 60 deer per square mile on the winter range). Deer pellet densities were about the same or higher in each VCU surveyed.

Subunit 1C – Three VCUs were surveyed in Unit 1C in 2003: Shelter Island, Inner Point, and North Douglas. Deer pellet counts on the two Douglas Island VCUs increased about 15% from the previous year surveyed. Shelter Island, on the other hand, showed a moderate decline.

Unit 5 – Six transects on the coastal islands adjacent to Yakutat were surveyed in April 2003. Survey results indicate that deer densities on Dolgoi Island remain low at 0.41 pellet groups per plot in 2003. Khantaak Island exhibited the exact same density--0.41 pellet groups per plot. Kriwoi Island had the highest pg/plot ratio of any island surveyed (0.75), and Knight Island had the lowest (0.22). Survey results indicate that deer remain scattered at low density throughout the islands.

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 end of the road in 1991. The transects rise to over 1000 feet in elevation and traverse moderate volume hemlock stands. Deer-pellet group density in 2003 was 0.93 pellet groups per plot.

Inner Point (VCU 36) – This drainage, located on the west side of Douglas Island, is popular with Juneau deer hunters. It is a small VCU containing mostly low-volume forest; it is also brushy, particularly at lower elevations. Pellet group density in 2003 was 0.76 pellet groups per plot.

Shelter Island (VCU 124) – Located north of Juneau in lower Lynn Canal, this VCU is composed of Shelter and Lincoln islands and is a popular destination for Juneau hunters. Shelter Island, the larger of the two, is primarily forested, while Lincoln Island contains more muskeg. The maximum elevation is 1,170 feet on the northern end of Shelter Island. This VCU was sampled intensively from 1984 to 1986, but this practice was discontinued in 1987, and now only transects 4, 5, 6, 7, 8, and 18 on the north end of Shelter Island are sampled. Pellet-group density in 2003 was moderate at 1.41 pellet groups per plot.

Hood Bay (VCU 171) – Three transects were established at Hood Bay, on the SW coast of Admiralty Island, in 1987. Hood Bay is an important deer hunting area for the residents of nearby Angoon. Transects 1 and 2 sample south-facing slopes to 1500 feet elevation. Transect 3 samples riparian habitat in the south arm of Hood Bay. Deer pellet-group density in 2003 was 1.41 pellet groups per plot.

Range Creek (VCU 288) – Located on northern Baranof Island along Peril Strait, this VCU was sampled intensively in 1983 and more moderately in 1984 and 1985. Because much of the area sampled is non-forested and because a canyon on one transect habitually forced crews to turn back, this VCU was discontinued for the next decade. It was sampled again in 1997, and also in 2003, when deer pellet counts were 1.65 pellet groups per plot.

Portage Arm (VCU 296) – Three transects were established in Portage Arm in Kelp Bay in 1990. The bay is heavily used by subsistence deer hunters from Angoon. In 2003, only one transect was completed in Portage Arm. Because the number of plots is so limited, little can be said about Portage Arm other than that deer appear to be fairly abundant there.

M. Arm Kelp Bay (VCU 298) – Four transects were established in Middle Arm in Kelp Bay in 1990. Only transects 1, 2, and 3 were completed in 2003. Deer pellet-group density was moderate at 1.41 pellet groups per plot.

Nakwasina (VCU 300) – This VCU north of Sitka is a popular local hunting area which has been sampled almost every year since 1984. All three transects traverse mid-volume forest to 1500 feet elevation and have a southerly aspect. Deer pellet-group density in 2003 was high at 3.09 pellet groups per plot.

Sealion 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 and run through low to mid-volume timber until breaking out into sub-alpine vegetation at approximately 900 feet elevation. Transect 2 also traverses low to mid-volume timber but is forested all the way to 1500 feet elevation. Deer pellet-group density in 2003 was 1.90 pellet groups per plot.

Cape Ommaney (VCU 339) – Four transects were established at Port Alexander on southern Baranof Island in 1988. Locations selected were favorite hunting grounds of the community and relatively easy to access in an area where high winds and seas are common. All three transects traverse mostly non-commercial forest interspersed with muskeg. Deer pellet-group density in 2003 was moderate at 1.56 pellet groups per plot.

Whale Bay (VCU 344) – Three new transects were established at Whale Bay on the west coast of Baranof Island in 2000. The location selected, Rakovoi Bay, provides a good anchorage for field work. The three transects traverse mostly non-commercial yellow cedar and hemlock, interspersed with muskeg. Deer pellet-group density was moderate at 1.70 pellet groups per plot.

West Crawfish (VCU 348) – In 1989 three transects were established in West Crawfish Inlet on the west coast of Baranof Island. Transect 1 starts at Cedar Pass and runs 125 plots through mostly muskeg and non-commercial forest. Transect 2 goes through similar habitat along a south-facing ridge up to 1500 feet elevation. Transect 3 starts in Shamrock Bay and is brushy and side-hill all the way. Deer pellet-group density in 2003 was moderate at 1.31 pellet groups per plot.

Knight Island (VCU 361) – Knight Island is the largest island in Yakutat Bay, and is part of the Russell Fiord Wilderness Area. The forest on Knight Island is primarily low volume hemlock with a dense understory of blueberry. One transect was run on Knight Island in 2003. Deer pellet-group density was low at 0.22 pellet groups per plot.

Yakutat Islands (VCU 368) – This VCU incorporates many of the islands found in Yakutat Bay: Krutoi, Kriwoi, Khantaak, and Dolgoi. One or two transects were established on each island in 1991. Habitat is generally mid-volume hemlock with a blueberry understory. While the islands are not ideal deer habitat, the maritime influence, less snow, and little or no predator presence probably explains the persistence of deer on these islands. In 2003 Kriwoi, Dolgoi, and Khantaak islands were surveyed. All had low densities – the highest of the three was Kriwoi Island at 0.75 pellet groups per plot.

Woewodski (VCU 448) – Three transects were located on southwestern Mitkof Island in 1984. They are all well-marked and easily accessible by skiff from Petersburg. All climb to 1500 feet elevation through moderate volume timber. Deer pellet-group density in 2003 was a low 0.50 pellet groups per plot.

Horn (VCU 490) – Three transects were established at Horn Cliffs in Frederick Sound in 1998 because a number of Petersburg residents use the area for deer hunting. The transects traverse muskeg and scrub forest at first, switching into mid- to high volume old growth as elevation is gained. Deer pellet-group density in 2003 was low at 0.67 pellet groups per plot, about the same number as the last time surveyed.

Protection (VCU 527) – Three transects were established in this northwest Prince of Wales Island VCU in 1997 in response to concerns by local Port Protection residents about area deer herds. The three transects start on the beach about a half mile west of Merrifield Bay and traverse lower volume timber up to about 500 feet elevation. Pellet-group density in 2003 was 0.69 pellet groups per plot.

Red Bay (VCU 532) – Located on northern Prince of Wales Island, this VCU was first sampled in 1987. Red Bay has been extensively logged, making it difficult to avoid second growth. In 2001, two new transects were added by the Forest Service to avoid this second growth. New transects 4 and 6 replaced old transects 1 and 2. Deer pellet-group density in 2003 was 1.15 pellet groups per plot.

Sarkar (VCU 554) – Three transects were established at Sarkar Lake on Prince of Wales Island in 1989. One of these transects was changed in 2001 because of impenetrable second growth. Deer pellet-group density in 2003 was 0.50 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 start along Road 3015 and are accessed by vehicle from Thorne Bay. The vegetation on Transect 1 is mostly a red cedar-western hemlock overstory and a blueberry understory. Transect 2 starts in a muskeg and low volume forest, but soon encounters the edge of a clearcut. Timber is mostly low to mid-volume with muskegs scattered throughout. Transect 3 is an easy transect through mostly moderate to high volume hemlock. Transect 4 is a steady climb to 1500 feet. The first half is dominated by western red cedar, the second half is spruce-hemlock forest. Volume class is high all the way. Only transects 3 and 4 were done in 2003. Deer pellet-group density was 0.91 pellet groups per plot.

Little Ratz (VCU 584) – Four transects were established in this VCU on the east coast of Prince of Wales Island in 1992. Access to all transects is by vehicle from Thorne Bay. Transect 1 starts at a rock face shortly after Mile 9. Second growth and a clearcut have to be traversed 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. Deer pellet-group density in 2003 was 1.21 pellet groups per plot.

Vallenar (VCU 761) – One new transect was run in Vallenar Bay, on the north end of Gravina Island, in 2003. Deer pellet-group density was 0.99 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 that are in second growth, including some well stocked red cedar stands. Most of the understory is brushy conifer mixed with salal. Deer pellet-group density in 2003 was 0.91 pellet groups per plot.

Gravina (VCU 999) – The northeast shore of Gravina Island was first sampled for deer pellet-group density in 1981. Between 1984 and 1986, the island was sampled intensively with over 1,000 plots being recorded each year. Starting in 1987, sampling was reduced to the three transects (1, 2, and 3) most accessible from the Ketchikan airport. Only one transect was run in this VCU in 2003. Pellet-group density was 0.87 pellet groups per plot.

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, 1981-2003.

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			
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				
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	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
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	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				

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
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
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			
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			

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
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	95% CI	
403	Pillar Bay	28,227	65%	1988	337	0.16	0.10-0.22	
					265	0.18	0.13-0.23	
408	Malmesbury	18,151	68%	1990	206	0.11	0.05-0.18	
					254	0.06	0.03-0.09	
417	Conclusion Island	12,561	99%	1987	207	2.66	2.32-3.01	
					200	0.95	0.72-1.18	
					200	0.71	0.53-0.88	
					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	
					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	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				
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	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
457	St. John	26,112	53%	2002	220	1.65	1.38-1.93
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
459	Meter	42,438	46%	2002	180	0.87	0.64-1.10
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
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

Table 1. continued.

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

Table 1. continued.

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

Table 1. continued.

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

Table 1. continued.

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

Table 1. continued.

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

Table 1. continued.

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

Table 1. continued.

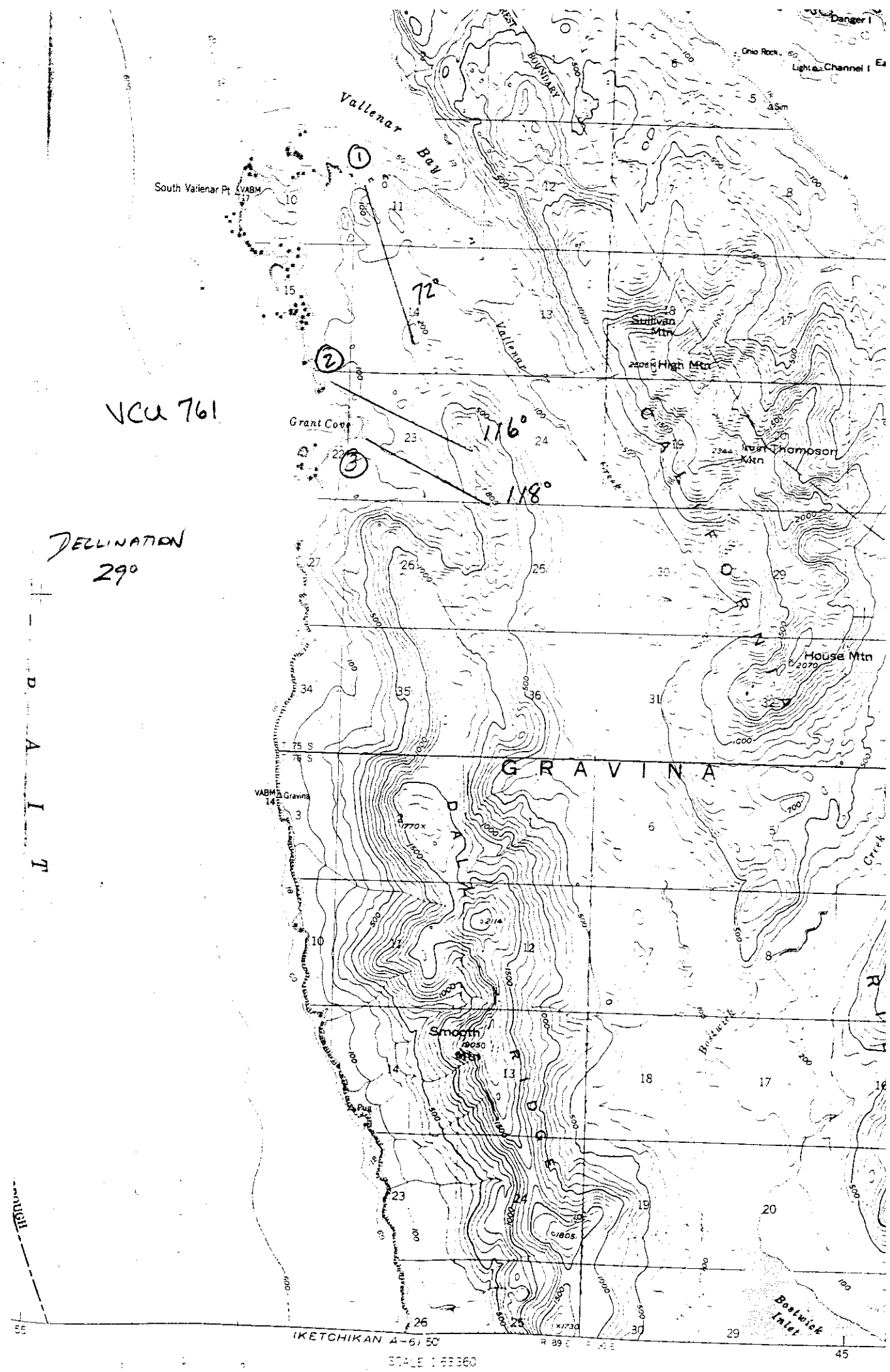
VCU	Name	Land Acres	% CFL	Year	Plots	Pellet-Group Mean	95% CI
999	Gravina (Trans. 1,2,3)			1984	376	0.88	0.73-1.03
				85	224	1.44	1.20-1.67
				86	346	1.62	1.43-1.81
				87	334	1.63	1.41-1.84
				88	278	2.06	1.78-2.35
				89	182	1.13	0.86-1.41
				90	279	1.40	1.12-1.68
				91	154	1.12	0.80-1.43
				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 1

New VCUs sampled in 2003

Deer Pellet-Group Surveys in Southeast Alaska

Published: December 2003



VCU 761

DECLINATION
290

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SCALE : 63360

45

Appendix 2

Winter Weather Conditions

2003 Deer Pellet-Group Surveys in Southeast Alaska

Published: December 2003

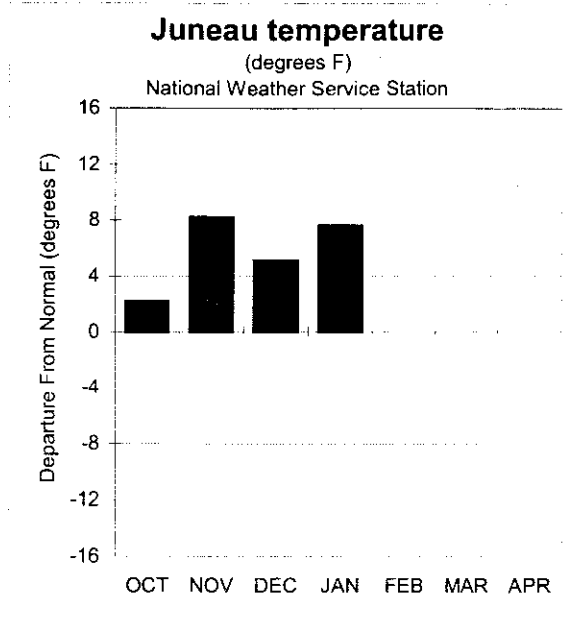
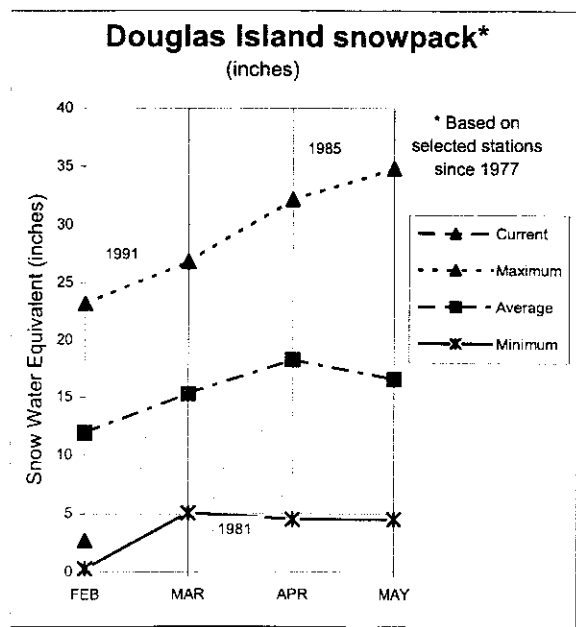
Winter Weather Conditions

January - April 2003

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

Southeast

February 1, 2003



SNOWCOVER:

This is the least amount of snow on February 1st for Douglas Island since 1981, when no snow was recorded at the Eagle Crest snow course, and 3 inches were recorded at the Cropley Lake snow course.

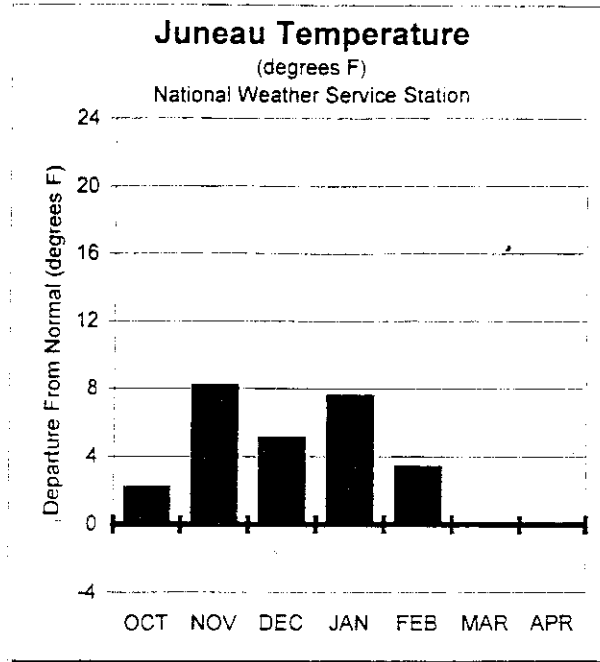
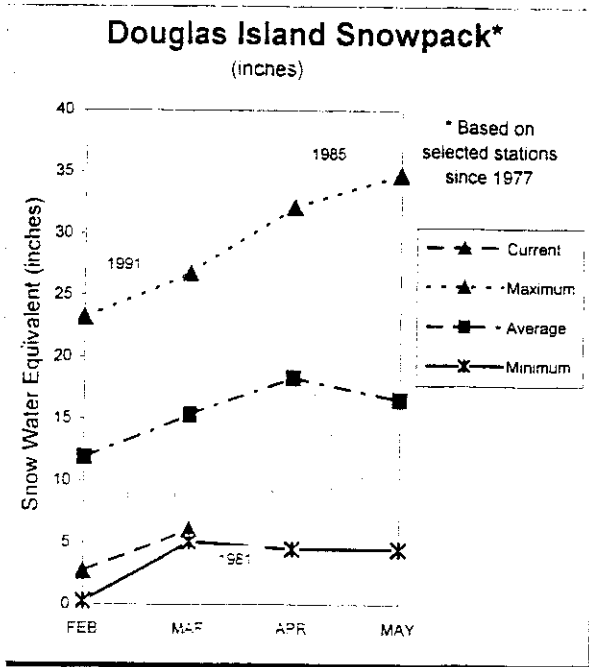
The Petersburg Ridge snow course has set a record minimum snow water content of 3.5 inches for February 1st this year. The previous record low for Petersburg Ridge was 8.6 inches in 1996.

The January measurements of the Swan Lake snow courses were extremely low, being about one third of last year's measurements. The snow course water content probably did not change percentage wise through the month of January.

For more information contact the Natural Resources Conservation Service office in Anchorage: (907) 271-2424.

SOUTHEAST*

MARCH 2003



Snowcover:

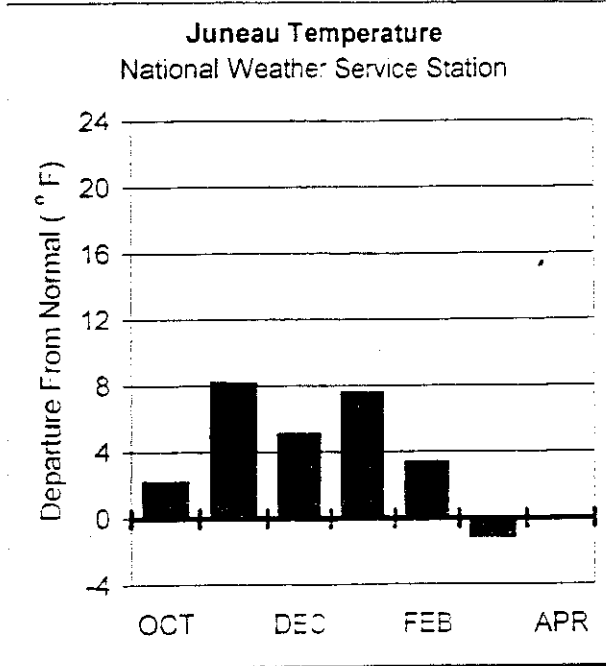
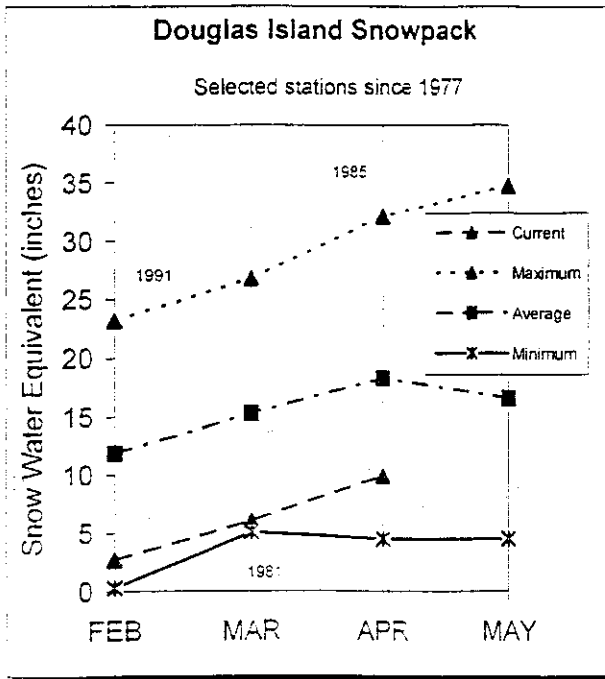
At the Petersburg Ridge snow course, only 1 year, 1981, has a lower snow water content than this year. In 1981 there was no snow.

On Douglas Island, the Cropley Lake snow course water content has had only 1 year, 1981, with a lower water content.

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

SOUTHEAST*

APRIL 2003



Current Basin Conditions

The Long Lake SNOTEL site in the basin of the Snettisham Hydroelectric facility, has 25.8 inches of snow water content, 60 percent of last year.

The Petersburg Ridge snow course is 49 percent of normal, the 2nd lowest measurement on record for April 1st, since recording began in 1979.

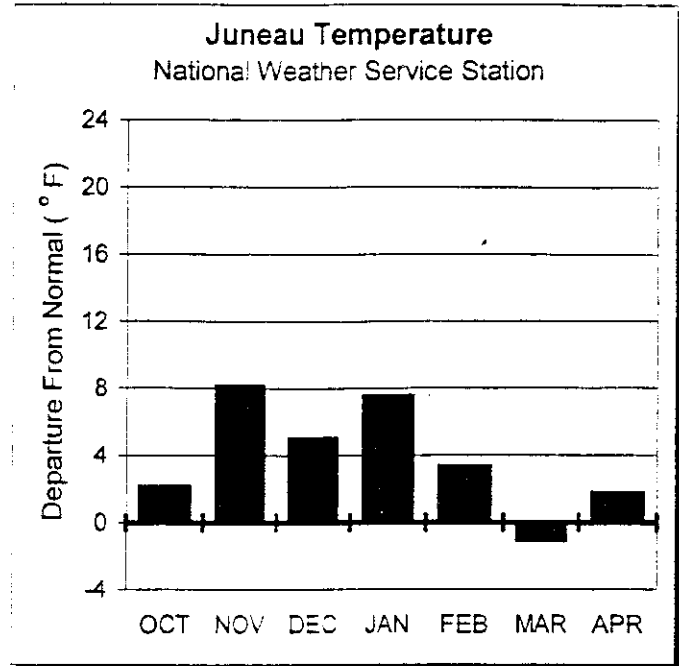
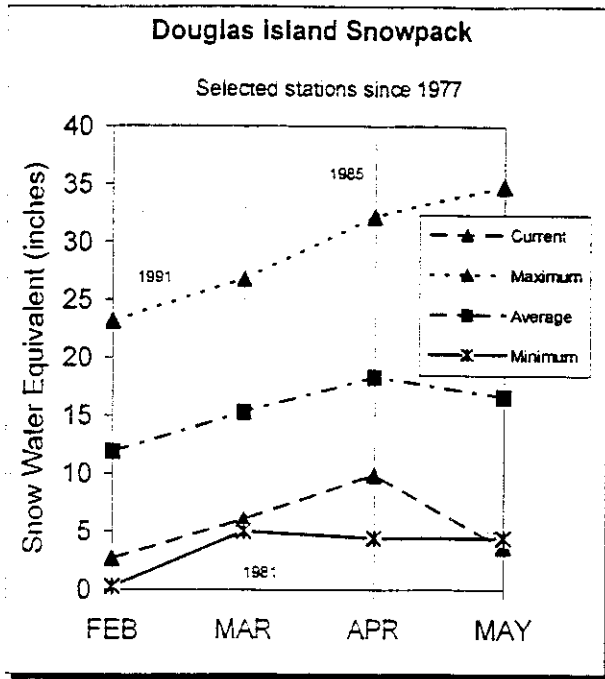
The Douglas Island snow courses, west of Juneau, are 54 percent of normal.

The Swan Lake snow courses, in the basin providing water for power generation for the City of Ketchikan, have 30 percent of last years water content.

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

SOUTHEAST*

MAY 2003



Current Basin Conditions

There is no snow at either Fish Creek or Eagle Crest snow courses, and Cropley Lake is 34 percent of normal on Douglas Island. This is a minimum of record snowpack for Douglas Island for May 1st.

Speel River snow course water content at the Snettisham Hydroelectric project is 39 percent of normal.

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

Appendix 3

Pellet-Group Densities Reported by Transect and Elevation

**2003 Deer Pellet-Group Surveys in Southeast Alaska
Published: December 2003**

Table 2. Pellet-groups per plot, by VCU and Transect, Spring 2003

				Mean	Plots
VCU	35	Transect	1	.96	80
			2	1.06	125
			3	.60	62
	36	Transect	1	.87	71
			2	.62	125
			3	.88	76
	124	Transect	4	2.70	50
			5	1.20	50
			6	1.18	50
			7	1.22	50
			8	1.32	50
			18	.82	50
	171	Transect	1	1.85	93
			2	.85	52
			3	1.25	75
	288	Transect	1	1.93	125
			2	1.03	105
			3	1.90	125
	296	Transect	5	2.77	103
	298	Transect	1	1.47	47
			2	1.39	93
	300	Transect	2	2.21	58
			3	4.81	80
			8	2.05	83
	305	Transect	1	1.63	92
			2	2.56	95
			3	1.29	62
	339	Transect	2	2.08	66
			3	1.39	75
			4	1.30	79
	344	Transect	1	1.63	103
			2	1.08	101
			3	2.63	75
	348	Transect	1	.59	125
			2	1.95	85
			3	1.64	103
	448	Transect	1	.50	52
			2	.49	85
			3	.51	79

Table 2. Continued.

				Mean	Plots
VCU	490	Transect	1	.84	120
			2	.53	83
			3	.57	87
	527	Transect	1	.76	82
			2	.63	112
			3	.70	125
	532	Transect	4	1.37	125
			5	1.48	88
			6	.55	100
	554	Transect	1	.66	125
			2	.40	105
			5	.40	103
	575	Transect	3	.63	78
			4	1.40	45
	584	Transect	1	1.22	90
			2	.86	59
			3	1.26	70
			4	1.34	116
	761	Transect	1	.99	96
	765	Transect	1	1.19	91
			2	1.19	90
			3	.41	98
	999	Transect	3	.87	78

Table 3. Pellet-groups per plot, by VCU and Elevation, Spring 2003

				Mean	Plots
VCU 35	Elevation	0-500 ft		1.00	105
		501-1000 ft		.80	131
		over 1000 ft		1.19	31
36	Elevation	0-500 ft		.71	189
		501-1000 ft		.95	44
		over 1000 ft		.79	39
124	Elevation	0-500 ft		1.48	269
		501-1000 ft		.77	30
		over 1000 ft		2.00	1
171	Elevation	0-500 ft		1.17	200
		501-1000 ft		3.85	20
288	Elevation	0-500 ft		1.42	255
		501-1000 ft		2.18	83
		over 1000 ft		2.59	17
296	Elevation	0-500 ft		2.77	103
298	Elevation	0-500 ft		1.22	107
		501-1000 ft		1.38	13
		over 1000 ft		2.45	20
300	Elevation	0-500 ft		3.46	92
		501-1000 ft		2.33	49
		over 1000 ft		3.14	80
305	Elevation	0-500 ft		1.40	102
		501-1000 ft		2.32	73
		over 1000 ft		2.18	74
339	Elevation	0-500 ft		1.39	177
		501-1000 ft		2.79	19
		over 1000 ft		1.88	24
344	Elevation	0-500 ft		1.30	237
		501-1000 ft		3.30	20
		over 1000 ft		4.50	22
348	Elevation	0-500 ft		1.16	148
		501-1000 ft		1.43	140
		over 1000 ft		1.52	25
448	Elevation	0-500 ft		.36	83
		501-1000 ft		.54	61
		over 1000 ft		.63	72

Table 3. continued

				Mean	Plots
VCU 490	Elevation	0-500 ft		.63	248
		501-1000 ft		.50	26
		over 1000 ft		1.63	16
527	Elevation	0-500 ft		.70	301
		501-1000 ft		.50	18
532	Elevation	0-500 ft		.99	268
		501-1000 ft		2.04	45
554	Elevation	0-500 ft		.50	333
575	Elevation	0-500 ft		.69	87
		501-1000 ft		1.71	17
		over 1000 ft		1.21	19
584	Elevation	0-500 ft		1.31	173
		501-1000 ft		1.65	81
		over 1000 ft		.53	81
761	Elevation	0-500 ft		.99	96
765	Elevation	0-500 ft		.95	268
		501-1000 ft		.00	11
999	Elevation	0-500 ft		.90	42
		501-1000 ft		.45	20
		over 1000 ft		1.31	16