

ALASKA DEPARTMENT OF FISH AND GAME
JUNEAU, ALASKA

STATE OF ALASKA
William A. Egan, Governor

DEPARTMENT OF FISH AND GAME
Walter Kirkness, Commissioner

DIVISION OF GAME
James W. Brooks, Director
Don H. Strode, Federal Aid Coordinator

SITKA BLACK-TAILED DEER REPORT

by

Harry R. Merriam

Volume IV
Annual Project Segment Report
Federal Aid in Wildlife Restoration
Project W-6-R-4, Work Plan A

The subject matter contained within these reports is often fragmentary in nature and the findings may not be conclusive; consequently, permission to publish the contents is withheld pending permission of the Department of Fish and Game.

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WORK PLAN SEGMENT REPORT
FEDERAL AID IN WILDLIFE RESTORATION

STATE: Alaska

PROJECT NO.: W-6-R-4 TITLE: Alaska Wildlife Investigations

WORK PLAN: A TITLE: Sitka Black-Tailed Deer Investigations

JOB NOS.: 1-a,b,c,d,e,f; and 3-a

PERIOD COVERED: July 1, 1962 to June 30, 1963

ABSTRACT

The deer population of Southeast Alaska remains relatively high and is estimated at about 200,000 animals. The trend has been upward since 1961-1962 when moderately heavy losses occurred in the northern areas. Spring road counts were relatively high, but fall alpine counts were much lower than for previous years.

Winter mortality was insignificant: only three carcasses were located in 50 areas throughout Southeast Alaska and these deaths were from causes other than starvation.

The 1962 hunter kill in Southeast Alaska was about 10,500. Hunter success was 76 per cent and the average hunter took 1.8 deer in 5.9 days in the field.

Range conditions throughout Southeast Alaska look good. Utilization of browse species averaged only 43 per cent as compared to 73 per cent in 1962.

Productivity data were incomplete at the writing of this report.

RECOMMENDATIONS

The statistical validity of techniques being utilized in deer censusing, range surveys and mortality surveys should be checked. More attention should be given to indications of deer present in alpine areas rather than relying on actual numbers of deer seen.

Additional browse transects should be established in the following areas:

Chichagof Island	-	Tenakee Inlet
" "	-	Port Frederick
Herbert Graves Island		
Admiralty Island	-	Lake Florence area
" "	-	Barlow Cove
" "	-	Funter Bay
" "	-	Glass Peninsula
Mainland	-	Thomas Bay
"	-	Port Stewart
Kupreanof Island	-	Tunehean Creek (Rocky Pass)
Vank Island		
Zarembo Island	-	Meter Bight
Kosciusko Island	-	Shakan or Shipley Bay
Tuxekan Island		
San Fernando Island		
Prince of Wales Island	-	Trocadero Bay
Gravina Island	-	Bostwick Inlet
Revilla Island	-	Traitor's Cove
" "	-	Thorne Arm

The status of deer herds located at Kodiak, Prince William Sound and Yakutat should be checked.

WORK PLAN SEGMENT REPORT
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OBJECTIVES

To determine population abundance and sex and age composition of deer herds.

To evaluate the extent, distribution and sex and age classes of natural deer mortality.

To secure information relative to the total kill, area and chronological distribution of the kill, hunter success, sex and age composition and physical characteristics of deer harvested.

To evaluate the condition of deer ranges and to determine changes due to deer use.

To obtain data on deer productivity and reproductive potential.

To evaluate the status of Kodiak Island deer.

TECHNIQUES

Alpine composition counts were continued in several areas adjacent to Petersburg. Counts were made in late July and early August, the period when deer are normally utilizing high ranges. Access to each location was by foot (helicopters have been used on some occasions in the past but they disturb the animals before an accurate count can be made). Each location was entered from the downwind side and the main ridge traversed through the open alpine country. A 40X spotting scope and 7 x 35 binoculars were used to facilitate determining sex and age composition.

Composition was recorded as fawns, adult males, adult females and unidentified adults. No attempt was made to differentiate yearlings from adults as it is often impossible to positively identify yearlings as such when there is no adult present for comparison. Composition counts were also made along the Mitkof Highway during the month of June between 4:30 a.m. and 7:30 a.m. A measure of deer abundance was obtained from hunter-success surveys and the distribution of age classes represented in the hunter harvest.

Deer mortality surveys were conducted in 50 localities throughout Southeast Alaska in March and April in conjunction with browse utilization surveys. Actual field work was accomplished by U. S. Forest Service personnel as part of a cooperative project in conjunction with range research. A search was made along each browse transect and the beach fringe which parallels the transect. Sex, age, condition, location and possible cause of death were recorded for each carcass. Bone marrow was examined to determine condition at the time of death.

Hunter harvest information in Southeast Alaska was obtained primarily from the Petersburg area. Fish and Game Aid David Randrup was allocated the responsibility for obtaining these data. Hunters were contacted whenever possible in the field and daily checks were made in Petersburg to locate successful hunters. Dressed weight and hind foot measurements were taken and the jaws and metacarpal bones collected to determine age and growth characteristics. Date, location and sex of kill were also recorded. Weights were of field-dressed deer with head, hide, and legs included. Hind foot measurements were from the tip of hoof to the proximal end of the calcaneous bone. Metacarpal bones were removed and dried and measured at a later date. Post season hunter surveys were made at Juneau, Sitka, Petersburg, Wrangell and Ketchikan in late December. Hunters were interviewed at random on the streets and questioned to determine success, number of deer killed per hunter, number of days hunted, areas hunted and sex and date of the kills.

Deer winter range conditions were evaluated according to the procedures outlined in the W-6-R-3 segment report. U. S. Forest Service personnel checked the utilization transects in 50 areas throughout Southeast Alaska. The condition of critical winter ranges was measured by the degree utilization of the predominant browse species Vaccinium ovalifolium and V. parvifolium. Field surveys were made during March and April after the period of winter use.

Information on productivity was obtained from composition counts, observations of fawns and examination of reproductive tracts obtained from deer taken by hunters.

The status evaluation of the Kodiak deer herd was limited to collection of hunter harvest data by Ronald Batchelor, Game Biologist at Kodiak. A postal survey was mailed to 15 per cent of the 1,172 hunting license holders and deer jaws were collected for age determination.

FINDINGS

Determination of Population Levels, Structures and Trends - Southeast Alaska

The present deer population in Southeast Alaska is estimated to be about 200,000. This is approximately the same level as in 1961 and an increase of 25,000 to 50,000 over 1962. Moderately heavy winter losses were sustained in the Petersburg-Juneau areas in 1961-1962; however, these have been compensated for by the low hunter harvest in the fall of 1962 and the unusually low losses from starvation during the past winter. The W-6-R-3 segment report described the winter losses in some areas north of Sumner Straits in Southeast Alaska in 1961. These losses were substantiated by low alpine counts and a decline in hunter success for the areas affected in 1962.

Only 106 deer were observed in alpine counts in 1962 compared to 464 in 1961. In both 1961 and 1962, the ratio of does to bucks in alpine areas was 34:100. In 1962, the ratio of fawns to adults was 5:100, compared to 3:100 in 1961. Table 1 summarizes the data obtained from composition counts made in 1962 and Figure 1 shows the location of the alpine counts.

Table 1. Alpine deer composition counts made on Kupreanof Island, Southeast Alaska, 1962.

<u>Location</u>	<u>Date</u>	<u>Fawns</u>	<u>Adult</u>		<u>Unident.</u>	<u>Total</u>
			<u>Bucks</u>	<u>Does</u>		
Kane Peak	7-26-62	2	11	4	3	20
Sherman Peak	7-26-62	1	6	2	1	10
Petersburg Mt.	7-27-62	0	7	3	2	12
Kupreanof Mt.	7-27-62	1	17	7	5	30
West Tonka Mt.	8- 7-62	0	5	2	1	8
Middle Peak	8- 7-62	0	10	3	2	15
Grief Mt.	8- 8-62	1	7	2	1	11
Totals		5	63	23	15	106

The marked decline in numbers of deer present in alpine areas in the late summer of 1962 cannot be entirely attributed to winter losses, but was also partially due to other factors. Spring came extremely late in Southeast Alaska in 1962, snow still being present in August where it is normally gone by early July. It is known that the new growth on plants is of higher nutritive quality than that of plants which reach maturity. Deer normally move upward in the spring and summer in step with the new growth of plants which becomes available with receding snow. During the summer of 1962, growth was retarded and higher quality forage was available for much longer periods of time at lower levels and consequently less use was made of the higher alpine meadows.

The number of deer taken per unit effort was lower in the vicinities of Wrangell, Petersburg and Juneau in 1962 than in 1961, but increased near Sitka and Ketchikan where winter conditions had been less severe. Age classes in the hunter harvest show the proportion of yearling deer taken in the 1962 harvest to be approximately 12 per cent less than in 1961. This also reflects the winter losses of 1961-1962, for the fawn class is usually the most susceptible to severe winter conditions and these losses become conspicuous by the absence of yearlings in the following hunter harvest.

There was an abundance of deer sign in all areas examined in 1962. With the good fawn crop observed this spring, the total deer population is probably again at its 1958-1960 level of about 200,000 in spite of relatively heavy 1961-1962 winter losses.

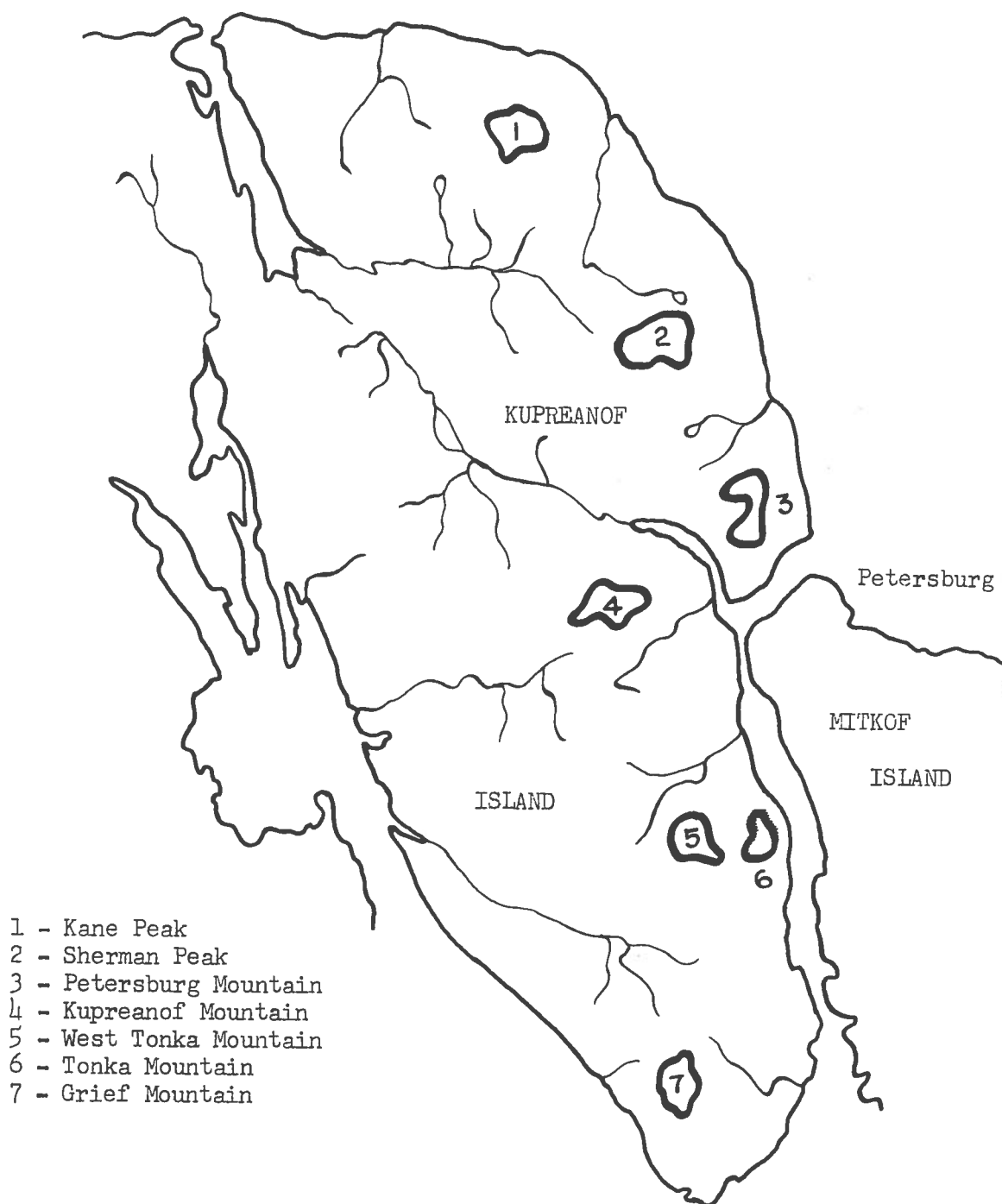


Figure 1. Map showing the locations of alpine deer counts made on Kupreanof Island during July and August, 1962.

Abundance and Composition Surveys - Southeast Alaska

The results of this job are included in Job No. 1-a.

Natural Mortality Surveys - Southeast Alaska

Records on deer mortality since 1952 indicate that winter losses from starvation have been the major factor causing fluctuations in deer numbers.

The winter of 1962-1963 was unusually mild and only three carcasses were found in the 50 localities checked. Inspection of the bone marrow showed that death was probably due to causes other than starvation.

Weather records show that only during the months of December, January and February does the average temperature for Southeast Alaska usually fall below 32° F. The average temperatures for these months for the past winter were: December, 33.5° F (2.1° above average); January, 31.7° F (2.3° F above average); and February, 37.7° F (6.8° F above average). The only heavy snowfalls of the season came during late-December and mid-April. The snow melted quickly and was of no serious consequence to deer welfare.

Wolves have always been present on the mainland and the islands south of Frederick Sound where they subsist primarily on deer. There is no noticeable difference in the fluctuation of deer herds on islands which do or do not have wolves.

Characteristics of the Hunter Harvest - Southeast Alaska

Estimate of the Hunter Harvest: The deer hunting season in Southeast Alaska was open from August 1 through December 15 and was extended in some areas through December 31. The bag limit was four deer; however, antlerless deer could only be taken after September 15.

The estimated total legal deer harvest was 10,500 animals, which is about 750 less than in 1961 and is the lowest kill since 1957. The highest kill on record was 13,000 for 1958. The number of hunters actually in the field was about 5,800 for both 1961 and 1962. The reduction in the number of animals taken resulted from a lower kill in the Petersburg and Juneau areas. Ketchikan, Sitka and Wrangell each had an increase in kill over 1961. The reduced kill from the vicinities of Petersburg and Juneau was at least partially attributable to the larger than average winter losses during 1961-1962. In

areas where winter losses had been light, the hunter take in 1962 increased over that of 1961.

Hunter Success: Table 2 summarizes the 1962 deer hunter harvest information for Southeast Alaska and Table 3 compares it to previous years. Hunter success averaged 76 per cent, only 1 per cent less than for the previous year. The number of deer taken per hunter was 1.8 in 1962, compared to 2.2 in 1961. The average hunter spent 5.9 days in the field in search for deer and hunted 3.4 days for each deer taken. The effort required per deer was greater than in 1961; however, hunters also spent less time in the field. Petersburg showed the greatest decrease in number of deer taken per hunter, 2.0 in 1962 as compared to 3.5 in 1961.

Distribution of the Harvest: Figure 2 shows the chronological distribution of the deer kill for 1962. The month of November accounted for 52 per cent of the total take. In the vicinities of Juneau and Petersburg, hunters usually wait for snow to force deer to low elevations before taking to the field. In 1962 the weather remained mild throughout the hunting season and a large proportion of hunters spent less time than usual hunting. At Petersburg no appreciable snow fell during the entire season contributing to the unusually low take. Near Juneau, however, one heavy snowfall occurred during the last few days of the season and good hunting was enjoyed during this time. In the southern and western areas of Southeast Alaska, snowfall is normally light and hunters do not rely on deer being forced to the beaches, consequently their hunting effort is more evenly distributed.

Sex and Age Composition: Two significant factors were evident in the 1962 deer harvest: first, the proportion of yearling animals was 12 per cent lower than in 1961 and second, the proportion of females was 8 per cent greater than previously recorded. Table 3 compares the proportion of females in the total kill from 1956 through 1962 and Table 4 shows the age composition for deer, determined through jaw collections, in 1962. Age classes represent the Petersburg area predominantly as jaw collections were concentrated in this locale.

In 1962 only 11 per cent of the deer were of yearling age, compared to a usual 20 to 25 per cent. This substantiates the relatively heavy fawn losses of the previous winter which were heaviest in the Petersburg-Juneau areas. The proportion of deer in other age classes was: 2-1/2, 32 per cent; 3-1/2, 24 per cent; 4-1/2, 24 per cent; and 5-1/2, 7 per cent.

Table 2. Summary of 1962 deer hunter harvest data for Southeast Alaska.

	<u>Juneau</u>	<u>Ketchikan</u>	<u>TOWN</u> <u>Petersburg</u>	<u>Sitka</u>	<u>Wrangell</u>	<u>All SE</u> <u>Alaska</u>
Hunter Success*	61%	73%	80%	82%	85%	76%
Ave. No. Deer Per Hunter	1.4	1.9	2.0	2.0	2.0	1.8
Ave. No Days Hunted	4.5	6.0	7.8	5.5	5.8	5.9
Ave. No. Days Per Deer	3.1	3.2	4.0	2.7	3.4	3.4
Female Portion of Kill	38%	35%	39%	27%	36%	34%
No. Licenses Sold	2,316	1,901	674	1,111	457	6,902**
No. Actual Hunters	1,810	1,620	590	970	430	5,820
Total Hunter Kill	2,530	3,080	1,180	1,940	860	10,500
Sample Size	105	100	83	105	49	442

* Proportion of Hunters taking at least one deer.

** Includes approximately 400 hunters from small villages.

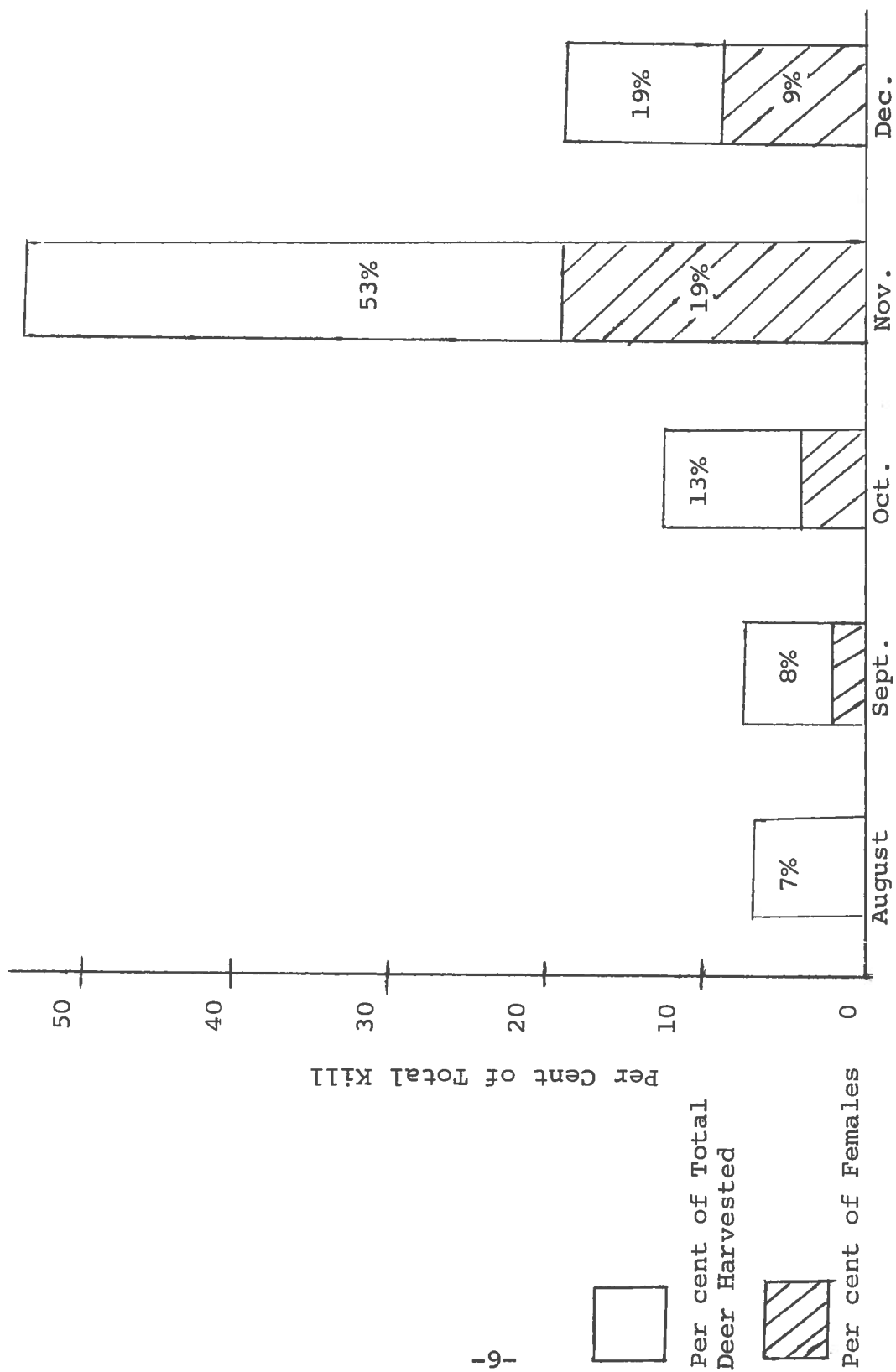


Figure 2. Chronological distribution of the 1962 deer harvest in Southeast Alaska.

Table 3. Summary of hunter harvest data for Southeast Alaska, 1956-1962.

<u>Year</u>	<u>Hunter Success (%)</u>	<u>Deer Per Hunter</u>	<u>No. Days Hunted</u>	<u>Days Per Deer</u>	<u>% Kill Female</u>	<u>Total Kill</u>
1956	74	1.4	5.7	4.0	15	7,780
1957	69	1.6	5.6	3.6	25	8,250
1958	85	2.4	6.3	2.6	26	13,000
1959	74	1.8	6.1	3.6	24	11,000
1960	83	2.3	6.8	2.9	21	12,450
1961	77	2.2	6.9	3.1	26	11,250
1962	76	1.8	5.9	3.4	34	10,500

Weights and Measurements: With the exception of November, deer taken were so scattered and sparse in the area where collections were made that it was difficult to obtain an adequate sample. Tables 5 and 6 show the average dressed weights of deer, Table 7, the metacarpal bone lengths, and Table 8, the hind foot lengths. The average field dressed weight for bucks was 99 pounds and for does, 71 pounds. Metacarpal bone lengths for male deer were slightly less in 1962 than in 1961. This may have been caused by the short growing season during the summer of 1962.

Range Studies - Southeast Alaska

Utilization of browse species by deer in Southeast Alaska averaged only 43 per cent for the winter of 1962-1963. This is the lowest figure since 1958 when it was also 43 per cent. The browse species V. ovalifolium and V. parvifolium can withstand a continual use of at least 65 per cent of the current annual growth before suffering detrimental effects. The average condition index of plants checked was 33 inches. Table 9 gives the utilization for each district in Southeast Alaska and Table 10 for each transect checked. Fifteen new transects were established. A description of each transect location is provided in the Appendix.

Utilization was lightest in the southern districts, averaging only 29 per cent for Kasaan (Prince of Wales Island) and was greatest in the Chatham District (east Admiralty and Douglas Islands) where the use was 63 per cent. The highest use for a single transect was 75 per cent at King Salmon Bay. On the West Coast, the only area showing moderate use was Halibut Harbor, Kosciusko Island. Much of the southern portion of this island has been logged for ten or more years. The cutover areas provide an abundance of food species and the deer population has been steadily increasing. No alpine range is present in this area and deer are resident in the lowlands throughout the year.

The low use for the past winter will enable the vegetation to recover from the heavy use of the previous winter (1961-1962) when it averaged 73 per cent.

An exclosure was constructed at Mile 17 along the Mitkof Highway near Petersburg enclosing six 2-milacre plots within which V. ovalifolium was clipped to simulate utilization of 0, 20, 40, 60, 80 and 100 per cent. These plots will be clipped annually in April to determine the effects of sustained use of varying degrees.

Table 4. Age composition of a sample of 183 deer in the 1962 hunter harvest for Southeast Alaska.

	Age Class						Sample Size
	<u>Fawn</u>	<u>1-1/2</u>	<u>2-1/2</u>	<u>3-1/2</u>	<u>4-1/2</u>	<u>5-1/2</u>	
Bucks	0	10	36	23	24	7	44
Does	8	10	20	28	26	8	39
All Deer	2	11	32	24	24	7	183

Table 5. Average field dressed weights of 69 deer by age class in the 1962 hunter harvest.

	Age Class						Sample Size
	<u>Fawn</u>	<u>1-1/2</u>	<u>2-1/2</u>	<u>3-1/2</u>	<u>4-1/2</u>	<u>5-1/2</u>	
Bucks		77	87	104	118	97	54
Does		56	86	82	62	69	15

Table 6. Chronological field dressed weights for 53 male deer, Southeast Alaska, 1962.

<u>Month</u>	<u>1-1/2</u>	<u>2-1/2</u>	<u>3-1/2</u>	<u>4-1/2</u>	<u>5-1/2</u>	<u>Sample Size</u>
August			117			1
September	100	78				2
October			94			1
November	72	86	102	116	91	34
December	79	92	94	112	71	15

Arrangements were made to establish condition and trend transects throughout Southeast Alaska. Forest Service personnel will be responsible for the project as per instructions outlined in the W-6-R-3 segment report.

Table 7. Metacarpal bone lengths (millimeters) of deer in the 1962 hunter harvest, Southeast Alaska.

	Age Class					Sample Size
	<u>1-1/2</u>	<u>2-1/2</u>	<u>3-1/2</u>	<u>4-1/2</u>	<u>5-1/2</u>	
Bucks	171.3	174.4	175.4	177.2	171.4	56
Does	162.5	165.0	169.0	166.2	166.0	20

Table 8. Hind foot lengths (inches) of deer in the 1962 hunter harvest, Southeast Alaska.

	Age Class					Sample Size
	<u>1-1/2</u>	<u>2-1/2</u>	<u>3-1/2</u>	<u>4-1/2</u>	<u>5-1/2</u>	
Bucks	16.5	16.9	17.2	17.4	17.1	51
Does	15.8	16.2	16.4	16.5	16.5	14

Table 9. Deer range utilization, condition index and average plant height for districts in Southeast Alaska, 1962-1963.

Location	Average Per Cent Utilization	Average Condition Index	Average Plant Height	Number of Transects
<u>Southern Districts</u>				
Ketchikan	53	2.3	27	4
Kasaan	24	1.4	31	14
Craig	43	1.8	33	4
Southern Average	31	1.9	31	
<u>Northern Districts</u>				
Chatham	63	1.9	27	8
Sitka	48	1.8	29	7
Petersburg	44	1.9	30	7
Wrangell	54	2.1	32	6
Northern Average	52	1.9	29	
<u>All Southeast Alaska</u>				
	43*	1.9	30	50

* Average for Southeast Alaska is based on individual transect utilization, not on district averages.

Table 10. Deer range utilization, condition index, and average height for each utilization transect in Southeast Alaska, 1962-1963.

Transect Number and Location	Average Per Cent Utilization	Average Condition Index	Average Plant Height
<u>Ketchikan District</u>			
1 Helm Bay	39	2.4	25
2 Carrol Inlet	47	2.2	32
3 Carrol Inlet (cutover)	63	1.8	23
4 George Inlet	61	2.6	30
<u>Kasaan District</u>			
21 East Polk Inlet	20	1.7	38
22 Dog Salmon Ck. (cutover)	1	1.5	30
23 Thorne Bay	56	2.1	31
24 Thorne Bay (cutover)	62	1.7	28
25 Moira Sound	5	2.2	33
26 Chomly Sound	35	2.1	26
27 Karta River	10	1.6	39
28 Hollis Road (cutover)	20	2.0	31
30 Indian Creek	54	2.0	37
31 Coffman Cove	38	2.0	26
32 Whale Pass	10	2.0	31
33 Salmon Bay	5	2.0	26
34 Red Bay	11	1.4	33
35 Union Bay	13	2.0	30
<u>Craig District</u>			
41 Warm Chuck Inlet	19	1.6	37
42 Port St. Nicholas	16	1.8	33
43 San Alberto Bay	34	1.8	37
44 Halibut Harbor	60	2.2	23
<u>Wrangell District</u>			
61 So. Woronkofski Island	71	2.1	32
62 Thoms Place	40	1.8	33
63 Dewey Harbor	47	1.8	29
64 St. Johns Harbor	51	2.0	33
65 No. Woronkofski Island	55	2.0	35
66 Anita Bay	60	2.3	32

Table 10 (continued)

Transect Number and Location	Average Per Cent Utilization	Average Condition Index	Average Plant Height
<u>Petersburg District</u>			
81 Wrangell Narrows	44	1.9	32
82 Big John Bay	64	2.1	31
83 Duncan Canal	40	1.9	32
84 Fivemile Creek	35	1.8	31
85 Totem Bay	63	2.1	24
86 Portage Bay	41	1.8	27
87 Ideal Cove	22	1.9	32
<u>Sitka District</u>			
101 Ushk Bay	62	1.6	30
102 Nakwasina Passage	69	2.0	24
103 Hood Bay	28	1.4	31
104 Fish Bay	26	2.0	31
105 Port Krestof	62	1.8	28
106 Catherine Island	31	1.9	32
107 Hoonah Sound	58	1.8	25
<u>Chatham District</u>			
121 Pybus Bay	74	2.0	21
122 Mole Harbor	61	2.0	28
123 Point Hilda	57	2.1	26
124 Eliza Harbor	44	1.8	27
125 Gambier Bay	53	2.0	31
126 King Salmon Bay	75	2.1	22
127 Young Bay	74	1.9	25
128 Eliza Harbor (cutover)	69	1.1	39

Productivity Studies - Southeast Alaska

Information on productivity was still being collected at the submission date of this report and will be included in the W-6-R-5 segment.

Evaluation of Herd Status - Kodiak Island

Hunter Harvest: During the 1962 deer hunting season approximately 775 hunters took a total of 533 deer, or 0.7 deer per hunter. Forty-three per cent of the hunters took at least one deer. The total kill for 1962 was about 200 more than for 1961; however, the success per hunter was only 43 per cent in 1962 compared to 64 per cent in 1961. Table 11 summarizes the hunter harvest data and Table 12 gives the age classes represented in the harvest.

Thirty-eight per cent of the total take was does, compared to 52 per cent in 1961. Yearling deer were the largest age class represented (33 per cent) and 23 per cent of the take was of deer 5-1/2 years of age or older.

Most of the deer were taken along the road system near Kodiak, with 32 per cent coming from the Chiniak Peninsula area. As shown in Figure 3, hunting pressure was distributed throughout the season with 33 per cent of the total kill being made in October.

SUBMITTED BY:

APPROVED BY:

Harry R. Merriam
Game Biologist

Don H. Haddock
Federal Aid Coordinator

James W. Brooks
Director, Division of Game

Table 11. Summary of 1962 hunter harvest data for Kodiak Island.

Hunter success	43%
Ave. no. of deer per hunter	0.7
Ave. no. of days hunted	5.3
Ave. no. of days per deer	7.7
Female portion of kill	38%
Total hunters	774
Total kill	533
No. hunting license holders	1,172
Sample size	175

Table 12. Per cent of deer in each age class in the 1962 deer harvest for Kodiak Island.

	<u>Fawn</u>	<u>1-1/2</u>	<u>2-1/2</u>	<u>3-1/2</u>	<u>4-1/2</u>	<u>5-1/2</u>	<u>Sample Size</u>
Bucks	2	36	14	14	5	29	37
Does	13	31	13	17	13	13	23
All Deer	7	33	13	15	9	23	60

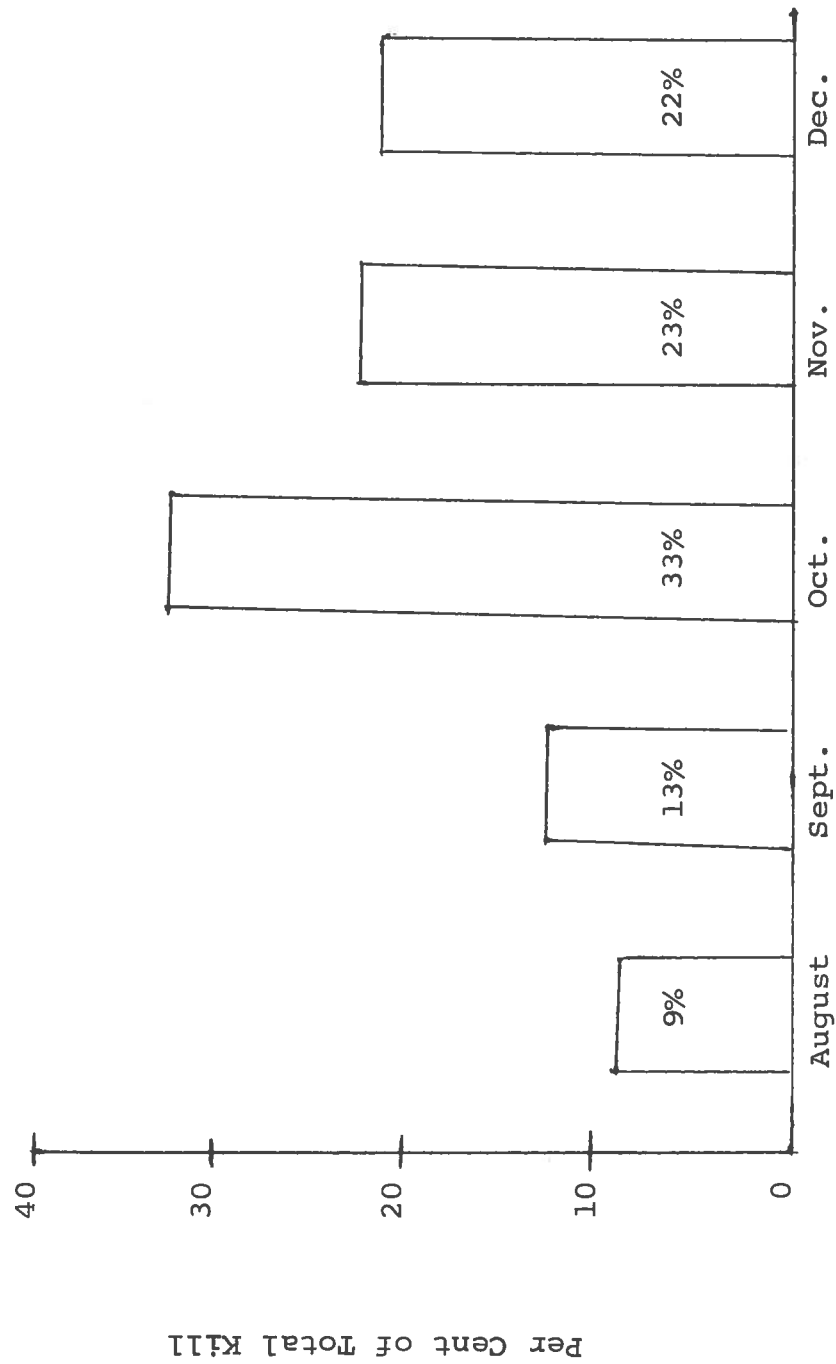


Figure 3. Chronological distribution of the 1962 deer harvest for Kodiak Island.

APPENDIX

Locations of Deer Utilization Transects in Southeast Alaska.

<u>No.</u>	<u>Name</u>	<u>Location</u>
1	Helm Bay	Mainland - west side of Helm Bay, 0.9* miles south of south end Forss Island.
2	Carrol Inlet	Revilla Island - north side of Carrol Inlet, 2.8 miles northeast from Brunn Point.
3	Carrol Inlet (cutover)	Revilla Island - north side of Carrol Inlet, 2.7 miles northeast from Brunn Point.
4	George Inlet	Revilla Island - west side of George Inlet, 0.5 miles south of White River Boy Scout Camp.
5	Tongass Narrows	Gravina Island - 2.2 miles southeast of Rosa Reef.
21	Polk Inlet	Prince of Wales Island - east side of Polk Inlet, 3.0 miles north of Polk Creek.
22	Polk Inlet	Prince of Wales Island - west side Polk Inlet, 0.2 miles southeast of Dog Salmon Creek.
23	Thorne Bay	Prince of Wales Island - north side of entrance to Thorne Bay, 1.6 miles south-west of Thorne Head.
24	Thorne Bay	Prince of Wales Island - east side of south arm of Thorne Bay, 0.7 miles north of south tip of bay.
25	Moir Sound	Prince of Wales Island - north side of Niblack Anchorage, 1.8 miles northeast of Red Rock.

* All distances are in a straight line.

<u>No.</u>	<u>Name</u>	<u>Location</u>
26	Chomly Sound	Prince of Wales Island - north side of Chomly Sound, 0.5 miles west of Sunny Point.
27	Karta River	Prince of Wales Island - north side of Karta Bay, 0.6 miles southwest of Mound Point.
28	Hollis Road (cutover)	Prince of Wales Island - north side of "100" spur road (Maybeso Creek), 0.2 miles north of intersection with "200" road, Hollis.
29	Harris River	Prince of Wales Island - north side of "240" spur road (Harris River), 0.8 miles from intersection with "200" road, Hollis.
30	Indian Creek	Prince of Wales Island - west side of mouth of Indian Creek, Hollis.
31	Coffman Cove	Prince of Wales Island - west side of Coffman Cove, 1.2 miles southeast of Gull Rock.
32	Whale Pass	Prince of Wales Island - west side of Whale Pass, 0.4 miles south of south point at mouth of Neck Lake Creek.
33	Salmon Bay	Prince of Wales Island - north side of Salmon Bay, 2.3 miles southwest of Rookery Island light.
34	Red Bay	Prince of Wales Island - south end of Bell Island, 2.1 miles southwest of Pine Point.

<u>No.</u>	<u>Name</u>	<u>Location</u>
35	Union Bay	Mainland - east side of Union Bay, 1.3 miles northwest of the mouth of Black Bear Creek.
41	Warm Chuck Inlet	Heceta Island - north side of west arm of Warm Chuck Inlet, 2.6 miles northwest of the mouth of Chuck Creek.
42	Port St. Nicholas	Prince of Wales Island - south side of Port St. Nicholas at Point Miraballes.
43	San Alberto Bay	Prince of Wales Island - north side of San Alberto Bay, 13 miles northeast of Point Ildefonso.
44	Halibut Harbor	Kosciusko Island - north side Halibut Harbor, 2.1 miles west of the mouth of Survey Creek.
61	Woronkofski Island	South side of Woronkofski Island, 0.3 miles southeast of Reef Point.
62	Thoms Place	Wrangell Island - east side of Thoms Place, 1.2 miles southeast of the mouth of Thoms Creek.
63	Dewey Harbor	Etolin Island - south end of Etolin Island (opposite Stone Island), 1.8 miles northeast of Gull Point.
64	St. John's Harbor	Zarembo Island - east side of St. John's Harbor, 1.5 miles southwest of Low Point.
65	Woronkofski Island	North side of Woronkofski Island, 0.3 miles southeast of Woronkofski Point.

<u>No.</u>	<u>Name</u>	<u>Location</u>
66	Anita Bay	Etolin Island - north side of Anita Bay, 2.0 miles southwest of Anita Point.
81	Wrangell Narrows	Kupreanof Island - west side of Wrangell Narrows, 3.0 miles north of Mountain Point.
82	Big John Bay	Kupreanof Island - northwest side of Big John Bay, 3.4 miles southwest of McNaughton Point.
83	Duncan Canal	Kupreanof Island - east side of Duncan Canal, 0.7 miles northwest of Hood Point.
84	Fivemile Creek	Kupreanof Island - east side of Kupreanof Island, 0.3 miles north of Fivemile Creek.
85	Totem Bay	Kupreanof Island - north side of Totem Bay, 3.2 miles north-east of the mouth of Little Totem Creek, and 3.8 miles northeast of the north side of Shingle Island.
86	Portage Bay	Kupreanof Island - west side of Portage Bay, 1.0 miles south of Hook Point.
87	Ideal Cove	Mitkof Island - west side of Ideal Cove, 0.9 miles southwest of Cosmos Point and 2.0 miles south of the south tip of Coney Island.
88	Mitkof Highway	Mitkof Island - north side of Mitkof Highway at Mile 17.
101	Ushk Bay	Chichagof Island - north entrance to Ushk Bay, 0.5 miles southwest of Rodgers Point.

<u>No.</u>	<u>Name</u>	<u>Location</u>
102	Nakwasina Passage	Baranof Island - north side of Nakwasina Passage, 0.6 miles east of Limit Island.
103	Hood Bay	Admiralty Island - north side of North Arm, Hood Bay, 2.1 miles northeast of the point between the North and South Arms.
104	Fish Bay	Baranof Island - north side of Fish Bay, 3.6 miles east of Haley Point.
105	Port Krestof	Kruzof Island - northeast side of Port Krestof, 1.7 miles west of Rob Point.
106	Catherine Island	Northwest side of Catherine Island 2.0 miles southwest of Point Hanus.
107	Hoonah Sound	Chichagof Island - on tip of peninsula between North and South Arms of Hoonah Sound, 0.4 miles northwest of the north end of Moser Island.
121	Pybus Bay	Admiralty Island - north side of entrance to Pybus Bay, 0.5 miles northwest of triangulation marker "Deer".
122	Mole Harbor	Admiralty Island - north side of Mole Harbor, 1.1 miles west of Flaw Point.
123	Point Hilda	Douglas Island - southwest side of Douglas Island, 1.8 miles northeast of Point Hilda.
124	Eliza Harbor	Admiralty Island - west side of Eliza Harbor, 4.7 miles northwest of Loon Point.

<u>No.</u>	<u>Name</u>	<u>Location</u>
125	Gambier Bay	Admiralty Island - north side of Gambier Bay, 1.6 miles northwest of Gambier Bay entrance light and 0.9 miles northeast of triangulation marker "Kan".
126	King Salmon Bay	Admiralty Island - north side of King Salmon Bay, 1.2 miles from point at the North entrance to bay.
127	Young Bay	Admiralty Island - west side of Young Bay, immediately south of Young Bay - Hawk Inlet trail, 1.5 miles south of triangulation marker "Hawk".
128	Eliza Harbor (cutover)	Admiralty Island - east side of Eliza Harbor, 5.0 miles north of Loon Point.