

REFUGE NARRATIVE REPORT

May - - - - - August, 1960

KENAI NATIONAL MOOSE RANGE
Kenai Alaska

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U. S. DEPT. of the INTERIOR
Bureau of Sport Fisheries and Wildlife
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*CC sent
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TABLE OF CONTENTS

Page No.

I. GENERAL

A. Weather Conditions	1
TABLE I - Rainfall, Maximum & Minimum Temperatures	2
B. Habitat Conditions	
1. Water	1
2. Food and Cover	1

II. WILDLIFE

A. Migratory Birds	
1. Waterfowl	1 & 3
2. Other Water Birds	
a. Common Loon	3
b. Trumpeter Swan	3-6
MAP I - Trumpeter Swan Survey - 1960	
B. Upland Game Birds	
1. Spruce Grouse	6
2. Ptarmigan	6
C. Big-Game Animals	
1. Moose	6-8
TABLE II - 1960 Moose Calf Survey	7
MAP II - 1960 MOOSE - Calf Count Area	
2. Dall Sheep	8
MAP III - 1960 Aerial Sheep Count	
3. Mountain Goat	9
MAP IV - 1960 Aerial Goat Count	
4. Bear, Brown & Black	9
D. Fur Animals, Predators, Rodents, & Other Mammals	9
E. Hawks, Eagles, Owls, Crows, Ravens, and Magpies	10
F. Other Birds	10
G. Fish	10
I. Disease - No report	

III. REFUGE DEVELOPMENT & MAINTENANCE

A. Physical Development.	11 & 12
C. Collections and Receipts	
2. Specimens	12
D. Control of Vegetation	12
F. Fires	12 & 13

IV. RESOURCE MANAGEMENT

C. Fur Harvest - No report	
D. Timber Removal	13 & 14
F. Other Uses	14

TABLE OF CONTENTS cont'd

	<u>Page No.</u>
V. FIELD INVESTIGATION and APPLIED RESEARCH	
A. Permanent Forage Plots	14-16
TABLE III - Forage Utilization 1959-1960	15
VI. PUBLIC RELATIONS	
A. Recreational Uses	16 & 17
B. Refuge Visitors	17 & 18
C. Refuge Participation - No Report.	
D. Hunting	19
E. Violations	19 & 20
VII. OTHER ITEMS	
A. Items of Interest	21-26
PHOTOGRAPHS - Back of Report	
STATE OF ALASKA GAME REGULATIONS , etc. - Last Enclosure	

KENAI NATIONAL MOOSE RANGE

NARRATIVE REPORT

May - - - - - August, 1960

I GENERAL

A. Weather Conditions.

Rainfall, maximum and minimum temperatures as recorded at the Kenai FAA Station are presented in TABLE I.

A mild spring with some precipitation extended through May-- followed by an unseasonably dry spell throughout June and the greater part of July. The annual summer rains began July 23rd with rain falling practically every day until the end of the period. Sixty-seven days out of one hundred twenty-three had rain.

B. Habitat Conditions.

1. Water. Water levels, due to the prolonged dry spell during May, June and July decreased sharply. Muskeg and swamp areas, formerly water-covered, appeared completely dry. Surface water returned to normal with the annual summer rains.

2. Food and Cover. Food was abundant. Prevailing weather conditions during the spring produced a bumper crop of all kinds of berries. The dry period was followed by overly abundant rain which resulted in an excellent growth of both herbaceous and browse vegetation.

II WILDLIFE

A. Migratory Birds.

1. Waterfowl. The small waterfowl population on the Moose Range nested successfully. Broods of five to seven ducklings were observed during July. These included mallard, pintail, scaup and goldeneye. On May 2, 1960, the annual Kenai Moose Range waterfowl survey was conducted. Refuge Supervisor Spencer and Refuge Manager Hakala in Cessna N-750 flew the route from Kenai, covering the flats to the mouth of Kaslof River; then up Kaslof to Tustumena Lake; then northwestward across the lowlands to the mouth of

TABLE I - RAINFALL (in inches) - Maximum and Minimum Temperatures

Day	MAY			JUNE			JULY			AUGUST		
	Rain- fall	Max. T.	Min. T.	Rain- fall	Max. T.	Min. T.	Rain- fall	Max. T.	Min. T.	Rain- fall	Max. T.	Min. T.
1		58	41		54	38	.22	58	45	.33	62	48
2		51	33		53	42	.01	62	36	T	66	45
3		45	32		60	32	T	64	43	.04	57	41
4		50	33		60	36	.20	66	47	.33	54	49
5	.01	55	38		70	43	.03	56	45	.24	63	49
6	.03	54	37		53	45	.08	55	46	.30	65	49
7		45	34		56	43	T	59	47		59	49
8	.01	45	38	T	69	40	T	54	46		63	45
9		47	34	.01	61	38		67	41		77	40
10		54	32	T	68	33		65	40	T	71	45
11	T	49	30		60	38		82	50		60	48
12	.04	50	38		62	34		78	44		63	47
13		54	34	T	61	45		68	45	.21	60	45
14		61	37	T	61	42	T	62	51	.16	58	49
15	T	59	33		59	37		56	49	.12	59	50
16		55	30		66	46		69	49	.01	58	49
17		55	33		62	48	T	75	44	T	58	46
18	.02	53	36		67	43	T	70	51	T	58	43
19		52	35		58	43		59	50	.13	62	42
20		63	32	T	64	35		63	49		60	36
21	.04	53	34		65	43		60	46	.07	55	36
22	.33	59	44		63	45		57	52	.23	58	46
23	.16	69	46		59	49	.74	60	51		64	46
24	.03	55	47		54	46	.40	59	52		60	37
25		56	44	.12	59	47	.49	57	52	.15	56	41
26	.19	46	43		56	44	.11	58	51	.89	55	50
27	T	48	39	T	66	37	.20	59	51	.10	55	42
28		63	38	.13	62	47	.34	56	51		56	40
29	.06	49	44	.06	59	46	.07	60	50	.04	59	44
30	T	48	43	.07	55	48	.03	59	47		62	34
31	T	51	40				.59	55	47		62	33

Funny River; then up the Kenai River to Skilak Lake; down the East Fork of Moose River and up the Moose River drainage to Mystery Creek and Chickaloon River to the Chickaloon Flats; then west to the terminus of Swanson River; down the Swanson and across the flats back to Kenai. A total of 1,387 waterfowl, two (2) Marsh Hawks, one (1) Rough-legged Hawk and two (2) Bald Eagles were observed. The waterfowl count follows:

Trumpeter Swan	- 30	Pintails	- 433
Whistling Swan	- 2	Widgeon	- 24
Lesser Canada Goose	- 357	Goldeneye	- 198
Snow Geese	- 652	Scaup	- 70
Lesser Sandhill Crane	- 102	Gadwall	- 2
Cormorants	- 5	Teal	- 6
Loons (Common)	- 1	Bufflehead	- 16
Mallards	- 139	Canvasback	- 2

At period's end, Lesser Canada and white-fronted geese were on the move. On August 29, an estimated population of 3,500 waterfowl was observed in the Chickaloon River area bordering the mud flats. These included 300 Lesser Canada and white-fronted geese, 1,500 mallards, 1,000 pintails and the remainder were shovelers, green-winged teal and scaup.

2. Other Water Birds.

a. Common Loon. On July 11, a loon convention was observed on Swan Lake. Two rafts, consisting mainly of adult males and juveniles numbering 100-150 each were seen. The birds apparently were in their summer molt.

b. Trumpeter Swan. Investigations consisted of aerial surveys to establish distribution and size of 1960 nesting populations. Fourteen (14) flights were made during the nesting and brooding period, covering the lake area from Tustumena Lake north to Pt. Possession. Sixty-two individual observations were recorded. Re-checks of brooding populations made during August, in conjunction with moose patrol, was unsuccessful. Increased air activity by moose hunters, use of lakes of all sizes by float aircraft with planes flying at tree top level during all daylight hours, forced most of the birds to abandon their nesting lakes and go into hiding.

Twenty-seven nest sites either in the process of construction, containing eggs and/or cygnets were located. Twenty of the nests were known to have contained eggs and eighteen of these produced cygnets.

Number of eggs and cygnets ranged from one to eight. A total of eighty-one adults and nine juvenile birds was tallied during the flightless period in July. This is a considerable drop in total numbers of adult and juvenile birds (120) which left the Kenai last fall. Cygnet production for 1960 will have to wait on the fall count.

Record of nests:

MAP I shows the location of observed nests. A record of observations on individual nests follows:

- #1 (Site occupied 1957-1960) - Pair, nest and 5-6 eggs noted May 13, 1960. Two adults and 3-4 cygnets seen 6/3/60. Cygnets observed 7/22/60. Pair and one (1) cygnet seen 8/20/60.
- #4 (Site occupied 1957-1960) - Pair and nest observed 5/25 and 5/28, 6/3, 7/22 and 8/20.
- #5 (Site occupied 1957-1960) - Pair and nest observed 5/13/60. Two adults observed 5/25 & 28, 6/3, 7/22 and 8/20.
- #7 (Site occupied 1957 and 1958) - Pair observed building nest 5/13/60. Two adults observed 5/28, 6/3 and 7/21.
- #9 (Site occupied in 1957 and 1959) - Two adults observed 5/13/60. One adult and three (3) eggs seen 5/28/60. Completely abandoned 7/13/60.
- #11 (Site occupied 1957 and 1959) - Pair building nest observed 5/13/60. Completely abandoned 6/3/60.
- #13 (Site occupied 1957-1960) - Pair and nest observed 5/17/60. Two adults, nest and 6 eggs observed 5/25/60. Pair and 4 cygnets seen 7/19. Unable to locate on 8/22 and 8/30/60.
- #14 (Site occupied 1957) - Two adults and nest observed 5/17/60. Two adults, nest and 7 eggs seen 5/25/60. One adult and 4 cygnets observed 7/19 and 8/3/60. Unable to locate on 8/22 and 8/30.
- #16 (Site occupied in 1959) - Two adults observed 5/17/60. Pair, nest and 5 eggs observed 5/31/60. Two adults and 4-5 cygnets seen 6/22 and 7/13/60. Unable to locate on 8/20 and 8/24/60.
- #17 (New nest site) - Two adults, nest and one egg observed 5/13. Two adults, 2-3 cygnets and eggs observed 6/24/60 (eggs hatching). Pair & 4 cygnets seen 8/20. Unable to locate 8/24/60.

- #20 (Site occupied 1958) - Two adults and 5 eggs observed 5/25/60. Two adults, no cygnets seen 7/13/60. Two adults and one cygnet observed 7/22/60. Unable to locate 8/20 and 8/24/60.
- #21 (Site occupied in 1957) - Two adults and 5 eggs observed 5/25. Pair and one cygnet seen 7/19 and 7/22. Unable to locate on 8/20 and 8/24/60.
- #26 (New site) - Two adults, nest and unknown number of eggs observed 5/25/60. Pair and four cygnets seen 7/21/60. Two adults and four cygnets seen 8/24/60.
- #27 (New Site) - Two adults building nest & served 5/25 and 5/28. Pair and one cygnet observed 7/19/60. Unable to locate 8/2 and 8/20/60.
- #32 (Site occupied 1959) - Two adults, 7-8 eggs observed 5/28. Pair and seven to eight cygnets observed 7/13 and 7/20/60. Unable to locate 8/24/60.
- #34 (New site) - Two adults, nest without eggs observed 5/28/60. Abandoned 7/13/60.
- #35 (New site) - Two adults building nest & served 5/28/60. Four adults, no eggs 7/13/60.
- #37 (New site) - Two adults, nest and three eggs observed 6/7/60. Unable to locate on 7/13 and 8/29/60.
- #38 (New site) - Two adults, nest and six to seven eggs observed 6/9/60. Pair and five to six cygnets seen 6/24/60. Two adults and two cygnets seen 7/13 and 8/20/60.
- #40 (New site) - Two adults building nest & served 6/13/60. Site abandoned 7/13/60.
- #43 (Site occupied in 1957 and 1958) - Two adults, nest with five eggs observed 6/13. Pair and three cygnets seen 7/13 and 7/22/60. Unable to locate 8/20 and 8/24/60.
- #46 (Site occupied 1957-1960) - Two adults and four cygnets observed 6/22. Pair and three cygnets observed 7/13/60 and 7/21/60. Unable to locate 8/24/60.

#47 (Site occupied 1958) - Two adults observed 6/22. One adult, 2-3 cygnets observed 7/13/60. Two adults and three cygnets seen 7/21/60. Unable to locate 8/24/60.

#48 (New site) - Two adults with unknown number of cygnets observed 6/22. unable to locate 7/13 and 8/24/60.

#52 (Site occupied 1958 and 1959) - Two adults and six cygnets seen 6/22. Pair and four cygnets observed 7/13 and 7/22. Unable to locate 8/20 and 8/24/60.

#53 (New site) Two adults and three cygnets seen 6/22. Pair and one cygnet observed 7/19. Two adults and three cygnets observed 7/22. Unable to locate 8/20 and 8/30/60.

#54 (New site) - Two adults observed 6/24. Pair and 3-4 cygnets observed 8/18. Unable to locate 8/20 and 8/24/60.

B. Upland Game Birds.

1. Spruce Grouse. A dry spring and early summer produced a bumper crop of spruce grouse on the Kenai. Broods of eight to twelve birds are common compared with the four to six observed last year.

2. Ptarmigan. Limited observations indicate a fair Refuge population. Reports from sheep hunters indicate good survival in the mountainous areas, largely the result of a dry spring and a good berry year.

C. Big-Game Animals.

1. Moose. The moose population is doing well. All animals taken since the opening of hunting season August 20th have been rolling in fat. Hunting pressure has been heavy with the known kill light.

During May, June and July, eleven (11) aerial surveys were made within the limits of the Moose River drainage and portions of Chickaloon and Mystery Creek areas to determine 1959 herd reproduction and composition. One area (MAP II) was repeatedly covered and a minimum count of fifty (50) cows per flight was attempted but not always maintained. The counts began May 13th and concluded July 5. The greatest number of moose observed on any one flight was 238 and the least 105.

A total of 1,687 moose was observed during the period. Data obtained is presented in TABLE II. The census consisted of the

TABLE II - 1960 MOOSE CALF SURVEY - Moose River Drainage

Date	Total Cows	*Cows with Calves		Total Calves	Yearlings		Bulls	Total Moose	Ratio Calves:100 Cows
		1/c	2/c		Male	Female			
5/17	53	2	2	6	5	15	28	107	11.3
5/25	58	8	5	18	4	19	51	150	31.0
5/31	51	14	7	28	13	20	34	146	54.9
6/4	41	9	6	21	10	10	23	105	51.2
6/8	70	16	9	34	5	22	46	177	48.6
6/13	66	18	9	36	13	19	45	179	54.5
6/21	78	17	9	35	19	36	55	223	44.9
6/27	72	28	5	38	20	24	41	195	52.8
7/1	50	30	6	42	13	27	35	167	84.0
7/5	<u>83</u>	<u>35</u>	<u>12</u>	<u>59</u>	<u>23</u>	<u>36</u>	<u>37</u>	<u>238</u>	<u>71.1</u>
Totals:	622	177	70	317	125	228	395	1,687	Av. 50.4:100

*Number included in total cows.

following: 622 cows, 317 calves, 395 bulls, and 353 yearlings. The yearling count may be subject to some error through incorrect identification of yearling females and adult cows. The yearling class was composed of 125 males and 228 females. Cow:calf ratio for the total female population was 100:34. Adult cow:calf ratio averaged 50.4:100--the highest ever recorded for the Moose Range.

Herd composition percentages are as follows: 23.4% bulls, 36.9% cows, 18.8% calves and 19.9% yearlings. Of the total of 622 cows observed, 247 or 39.7% produced calves. One hundred seventy-seven (177) or 71.7% of the cows observed had single calves; and seventy or 28.3% had twin calves--no triplets were observed.

On June 9, 1960, the ADF&G captured fifteen (15) moose calves in the Moose River drainage using a helicopter. Eight (8) of these were males, which were ear-tagged and released. The seven (7) females were removed as transplant stock to Berner's Bay in southeast Alaska. A list of tag numbers of the released male calves was furnished this office.

A large bull moose was observed by the Kenai Pipe Line Officials crossing an access road east of Daniels Lake on May 12, 1960. The moose still had last year's antlers.

A cow moose was noted dead in the Chickaleon River area May 20, 1960. She appeared to have been in a fight with a bear and had apparently died from the injuries.

2. Dall Sheep. A sheep count was made on foot in the Killey River and North Fork of Indian Creek June 14 to 16, inclusive. A total of one hundred sixty-six (166) sheep was tallied. Composition was as follows: Fifty-eight (58) ewes, twenty-seven (27) lambs, eighteen (18) yearlings, twenty-three (23) rams--twenty of which were half-curl or larger--and forty (40) undetermined sheep. A lamb:ewe ratio of 47:100 is indicated for this portion of the Range.

An aerial survey to determine sheep numbers and concentrations on the Moose Range was conducted August 9 and 19. A total of 763 sheep was tallied--a slight drop from the number (798) observed in 1959.

Composition of the sheep observed is as follows: 162 adult rams, 98 ewes, 91 lambs, 30 yearlings and 382 ewes and/or yearlings. Distribution of sheep at time of survey is presented in MAP III.

3. Mountain Goat. The annual August aerial survey of the Refuge goat herd (MAP IV) totalled 134 goats, of which twelve (12) were identified as Billys and twenty-five (25) as Kids. Considerable movement exists in the goat population between the Moose Range and bordering areas. The 1959 count totalled 94 animals, 17 of which were identified as Kids.

4. Bear.

a. Brown Bear. Two brown bear sightings were made this period, one in the Mystery Creek area May 17, 1960, while conducting early morning moose calf counts and the other, June 5, 1960 on Frying Pan Island in Skilak Lake. An additional sighting of a brown bear sow with cub was reported in the "excepted area" south of Naptowne but, so far, the bear has managed to keep out of rifle range of the homesteaders in the vicinity.

b. Black Bear. Black bear appear just as numerous as ever, no flight during May and the early part of June seldom failing to see five or six bear. Five black bear sows were seen May 25, 1960, with 2-3 cubs each. Only one single black bear was observed during May. On June 21, 1960, a black was observed feeding on a moose calf on the bank of Chickaloon River. An excited cow moose was seen approximately one-eighth of a mile away watching the bear. An unconcerned bull moose was in her immediate vicinity. Eight individual black bear sightings were made the same day. All were large, single bear.

During the annual sheep survey in August, 14 black bear were observed on Surprise Mountain feeding on berries. A check made on Bear Creek August 7, jumped eight (8) blackies and/or grizzlies fishing for salmon.

D. Fur Animals, Predators, Rodents, and Other Mammals.

Lack of rain during the early part of the period which resulted in the lowering of all water levels kept the aquatic fur bearers confined to the main waterways and lakes. Arrival of the summer rains which raised water levels and induced greater mobility to these animals resulted in numerous sightings of mink, muskrat, beaver and land otter during the month of August. No coyote were observed during the period.

E. Hawks, Eagles, Owls, Crows, Ravens, and Magpies.

Hawks and owls are present but not overly abundant. Sightings were made of the Red-tailed, American Rough-legged and Marsh Hawks; also, Great Horned and Boreal Owls.

Bald eagles are common, with probably 90-100 present in the area. Nesting populations consist of an estimated 25-30 pair. Three (3) nest sites were observed along the Moose River drainage.

Ravens and magpies are as abundant as ever.

F. Other Birds.

A bird observation of considerable importance was reported to this office June 29. Mrs. Mary Smith, Ornithologist from Coho, Alaska, reported observing two (2) Hudsonian Godwits, Limosa haemastica (Linnacus), a male and female, which appeared to be nesting behind the Smith's fishing site on Cook Inlet below the mouth of the Kaslof River. According to Gabrielson, "In the days of its abundance this bird seemed to have straggled somewhat regularly to Alaska. Nevertheless, the last of these known occurrences was in 1907, and in view of the greatly reduced numbers of this fine bird, it is not probable that it will be found again in the Territory." A check made during July found the birds had nested successfully with one young observed. Sketches were made and photographs taken by the Smiths.

G. Fish.

The Alaska Department of Fish and Game has been conducting sports fishery research in the lakes adjacent to highways and roads on the Kenai Moose Range for the past three months. A request has been made to the P-R Project Leader to furnish this office with copies of the results of their investigations. Kenai quadrangle maps have been furnished them for this purpose.

Fishing pressure has been heavy throughout the period. Good catches of salmon (all species, including land-locked reds), rainbow and Dolly Varden trout were made. Lake trout fishing has been heavy in Hidden Lake, with good success. On August 7, a 16-pound lake trout was observed taken.

On May 27, 1960, Ninilchik Bill brought in a Pacific Lamprey eel caught in the Ninilchik River which measured twenty-five inches in length. The eel was turned over to Mr. Bud Weberg, Commercial Fishery Management Biologist, ADF&G. Additional reports of eels measuring up to two feet in length moving up the Bishop River were reported by fishermen, May 30, 1960.

I. Disease.

No report.

III REFUGE DEVELOPMENT and MAINTENANCE

A. Physical Development.

Construction during the period consisted of the following:

1. Installation of a Van Packer chimney and construction of a 12 x 20 fire equipment storage building at the Skilak Fire Guard Station.
2. Construction of a 9 x 12 aircraft equipment storage building at the Kenai Airfield.
3. Construction of a bunkhouse addition to the washhouse which will serve as temporary office space during the interim period while construction of a new office building is being contemplated.
4. Manufacture and installation of two large, cedar-planked Kenai National Moose Range signs at the eastern and western terminus of the Moose Range along the Sterling Highway, replacing the originals--one of which had been destroyed by vandalism last April.

Maintenance during the period consisted of the following:

1. New fluorescent lights installed in the Office Pacific Hut.
2. Office Pacific Hut re-caulked and waterproofed.
3. Exterior painting of all buildings at the Headquarters Site, Airfield, and Skilak Guard Station completed.
4. Three (3) house trailers received a coating of FWS green, with black trim. FWS decals were mounted on two; floor repaired in one, and two of the units moved afield to serve as Quarters for personnel engaged in habitat improvement work. One of these units has been mounted on a "go-devil" to facilitate hauling by tractor into remote areas.
5. Underground telephone cable was laid to the office and Game Management Agent's Quarters.

6. Maintenance on vehicles, including three (3) 5,000-mile checks.
7. Maintenance of Headquarters Site and campground areas, including improvement work at the Hidden Lake Campground.

C. Collections and Receipts.

2. Specimens. An adult swan, apparently the victim of a gunshot wound, was found in a badly decomposed condition by Game Management Agent Thayer on Engineer Lake September 3, 1960. The skeleton will be prepared and added to the Refuge collection.

D. Control of Vegetation.

Habitat improvement work during the period consisted of measuring one six hundred and forty (640) acre plot and one (approximately) four hundred and eighty-acre (480) plot, running boundary lines and subdividing into forty-acre tracts. One forty-acre parcel of land is being hand picked--removing all spruce reproduction--as part of a long range program in determining viability of spruce seed and length of time required for re-invasion of the area by spruce. Size of spruce stock removed has ranged from matchstick size to two feet in height.

Number of seedlings removed in approximately a five-foot strip the full length of a forty-acre tract has ranged from 1,100 to 1,300 or 7,280 to 8,580 plants per acre. Two-thirds of the forty acres has been hand picked to date--a long time consuming, arduous task. The plot will need to be re-picked during the next few years to ensure complete removal of all spruce stock.

F. Fires.

The period began with a warm, dry spell during the latter part of May, all of June and continued into July which resulted in high fire hazard conditions. Eighteen fires aggregating 868.6 acres occurred. Three fires which resulted through negligence (two by Homer Electric Association's Right-of-Way construction and one by a Alaska Pipeline survey crew) were turned over to the Field Solicitor's Office for action. The fires which occurred during the period are as follows:

Date	Fire No.	Origin	Cause	Acre Size	Est. Damage	BLM Suppression Costs
5/10	1	*E. A.	Campfire	2	None	3 man hours
5/15	2	**R. L.	Debris burn	40	400.	28 " "

Date	Fire No.	Origin	Cause	Acre Size	Est. Damage	B. L. M. Suppression Costs
5/16	3	*E. A.	Debris burning	0.25	None	42 man hours
5/17	4	"	" "	2	10.00	6 " "
5/22	5	**R. L.	" "	400	3,425.	739 " "
5/22	6	"	" "	339	--	
6/1	7	*E. A.	Unknown	2.5	--	60 " "
6/11	8	"	Debris burning	3	--	4 " "
6/12	9	**R. L.	" "	40	--	250 " "
6/15	10	*E. A.	" "	3	--	75 " "
6/15	11	"	" "	7	--	
6/15	12	"	" "	2	--	40 " "
6/16	13	"	" "	1	--	1 " "
6/19	14	**R. L.	Lightening	2	--	10 " "
6/21	15	"	Campfire	0.2	--	8 " "
6/23	16	*E. A.	Misc.	35	--	240 " "
6/25	17	**R. L.	Campfire	1.5	--	250 " "
7/19	18	"	"	0.1	--	2 " "

*E. A. - Excepted Area - Totals: 54.75
 **R. L. - Refuge Lands - " : 813.8

Wayne Fellers and Dave Schroer, Bureau of Land Management fire guards, were on duty at the Skilak Guard Station throughout the period.

IV RESOURCE MANAGEMENT

C. Fur Harvest.

No report.

D. Timber Removal.

Commercial permits issued for timber removal during the period are as follows:

Permit #	Date	Permittee	Use	Fee
32864	5/10/60	David Boston	4,000 l. f. logs	\$10.00
32867	6 9/60	R. LaFrenere	25 cords D&D	6.25
32867	8/ 8/60	H. S. Clark	40 cords D&D	10.00
32879	8/16/60	Myron Counce	10,000 l. f. logs	25.00

Free use timber permits follow:

Permit #	Date	Permittee	Use
32866	6/13/60	Chas. W. Stiles	75 plus D&D poles
32869	6/15/60	L. W. Wilcox	250 house logs
32871	6/21/60	W. F. Cooper	30 poles

The Kenai Pipe Line Company, in accordance with special "Specific Instructions", removed 20,000 board feet of timber at the rate of \$1.50 b. f. for a total of \$30.00.

F. Other Uses.

Special Use Permits issued for the period follow:

Permit #	Date	Permittee	Use	Fee
32865	5/17/60	Paul Nester	1,000 yds. gravel	50.00
28701	5/30/60	Marshall Farmer	Guided Hunt & Fish Camp	Free
32868	6/14/60	Don Johnson	" " " "	"
32870	6/16/60	Murphy & Bradford	" " " "	"
28782	6/17/60	Alaska Pipeline Co.	Survey	"
32872	7/25/60	R. R. Gaetano	Guided Hunting Camp	Free
32873	7/25/60	Sea Airmotive	" " " "	"
32874	7/27/60	Truman Douglas	" " " "	"
32875	8/1/60	J. L. Jewell	Operate Ferry	5.00
32877	8/9/60	U. S. Air Force	R-of-Way Clearing	Free
32878	8/11/60	W. Pedersen	Guided Hunting Camp	"
32880	8/17/60	H. F. Reger	" " " "	"
36201	8/17/60	R. McNutt	" " " "	"
36202	8/18/60	Alaska Bush Carrier	" " " "	"
36202	8/18/60	Isaak, Meadows, Wilson	Access Road	"

V FIELD INVESTIGATION and APPLIED RESEARCH

A. Permanent Forage Plots.

TABLE III presents the results of measurements of permanent forage plots for the winter of 1959-1960. Average utilization for all species was 50.1%. It is interesting to note that since the plots were established in 1952, mortality of the various species is as follows: willow - 47.6%, Kenai birch - 40%, and cottonwood - 0.0%. The major influence on this mortality is overbrowsing by moose.

TABLE III - FORAGE UTILIZATION 1959-1960 - Permanent Forage Plots

Plot No.	Species	Location	Oct.	May	Inches of Forage Used	Percentage of Use
1	Willow	Kasilof	622	68	554	89.1
2			84	8	76	90.5
3			190	16	174	91.6
4			622	56	566	91.0
5			1046	170	876	83.7
6			286	20	266	93.0
9	Willow	Kenai	66	*		
8	Willow	Skilak	1796	490	1306	72.7
10			1110	322	788	71.0
11			-0-	-0-	-0-	
4	Kenai Birch	Kasilof	2114	200	1914	90.5
5			2167	146	2021	93.3
6			1469	246	1223	83.2
9	Kenai Birch	Kenai	112	*		
9	Dwarf Birch	Kenai	82	*		
1	Aspen	Kasilof	-0-	-0-	-0-	
5			158	22	136	86.1
7	Aspen	Skilak	2224	1802	422	19.0
8			490	490	-0-	-0-
10			1506	1396	110	7.3
11			3690	3690	-0-	-0-
12			1650	1650	-0-	-0-
1	Cottonwood	Kasilof	26	10	16	61.5
2	Cottonwood	Kasilof	54		54	100

*Not checked - Spring 1960

Average - 50.1%

A ground check of the 1947 Burn area north of the Sterling Highway and west of Jean Lake indicates a considerable increase in browse plant production. The area, formerly almost 100% black spruce, is re-vegetating itself into a deciduous stand. Approximately 30% of the area has come back into aspen, birch, and a little willow; 10-15% is black spruce reproduction; and the remainder grass, sedges and mosses. A quick check of permanent plots established in 1950, indicates the same trend. It appears that the moose, in browsing back these species, force the vigorous plants to send up shoots from adventitious buds along their root systems, thereby increasing the density where formerly only one plant had occurred. Average height of these plants was twelve to fourteen inches (12-14") compared with an average of twenty-four inches (24") in the permanent plot locations. This could be a serious factor during a year of heavy snowfall, but does account for the large number of moose tallied in the area during one day's flight (1,040) in the 1959 fall survey.

VI PUBLIC RELATIONS

A. Recreational Uses.

All public campgrounds, Service sites and gravel pits received heavy use during the period. The two Biological Aids alternate on weekend duty, patrolling for fires, checking on campground attendance and fishing success, and policing areas. Campground attendance for the month of June averaged one thousand (1,000) man-days per week by campers, picnickers and fishermen. This survey covers only Skilak-Hidden Lakes areas; a portion of Kenai River from the Skilak cutoff to Henton's Lodge; East Fork of Moose River; and the Swanson River Bridge. Heavy usage by the public is made of the northern lake area by fly-in fishermen, the Russian River System, Tustumena Lake and Kaslof River System, and the "excepted portion" of the Moose Range. No surveys have been made of this usage to date.

Sports fishing opened May 28 and continued through the period. Fishing pressure has been heavy at Hidden Lake, Lower Russian River, Moose River and Lower Alcatraz Lake to moderate along the Kenai River between Skilak Lake and Naptowne, East Fork of Moose River and Swanson River. "Fly-in" fishermen made use of the lakes in the northern portion of the Range. Good success was reported on salmon, rainbow and lake trout.

Big-game and small-game seasons opened August 20th continuing through to the end of the period. Opening day found a large influx of hunters using every available space for camping and parking purposes.

Aircraft made use of all natural strips and lakes located close to game for wheel and float landings. Pack trips, both afoot and by horse, were made into the mountainous area south and east of Skilak Lake and northeast of Tustumena Lake.

Overnight campers, berry pickers and picnickers were out in full force during the period. A heavy influx of out-of-state vehicles was noted. Berry pickers were out after the bumper crop of blueberry, raspberry, highbush cranberry and lingonberry produced this season.

B. Refuge Visitors.

Date	Name & Title	Organization	Purpose
5/5	Loren Stewart	Cheechako News	Courtesy Call
5/5	Bob Southerland	Alaska Pipeline	Pipeline
"	H. L. Davis, Contr. in Chg.	Williams Bros.	"
"	R. S. Smith	Delta Engineering	"
"	Walter Spence, Adm. Mgr.	" "	"
"	J. R. Dunn, Research Biol.	ADF&G, Seward	Courtesy Call
5/13	Jack Gellan	Delta Engineering	Pipeline
5/13	Shellhamer, Local Agent	" "	"
5/16	Jess Willard, Guide	Private	Courtesy Call
5/18	Bud Fay		Visitor
5/23	Ray Woolford, Supv. Enf.	BSFW, Juneau	Inspection
5/23	John Findlay, Chief, Br. Enf. & Mgmt.	Wash. D. C.	"
5/23	Paul Quick, Chief, Div. of Wildlife,	Wash., D. C.	"
5/23	Jim Reardon, Biologist	ADF&G, Homer	Courtesy Call
5/26	Bob Hofferd	Newburg, Oregon	Outside interest
5/27	Carl Oaks	Halasko (Halbouty)	Business
5/27	Tom Kelly	" "	"
5/30	F. Hadleigh	West College, Alaska	Courtesy Call
5/30	John Distard	College, Alaska	"
6/10	W. Aletter	Newton, Mass	Applicant f/R. M. job
6/10-11	- Troyer, Will, Ref. Mgr., Kodiak,	BSFW	Courtesy Call
6/13	Gary Atwell, Biologist	ADF&G, Anchorage	Sheep Count
6/15	R. W. Glynn	Ironwood, Mich.	Visitor
6/16	Carl A. Merson, Archeol.	U of A, Alaska	Business
"	Fred J. Kent	" "	"
6/16-18	- Major Bromfield, Game Officer, Bechuaraland Protectorate, Africa		
6/17	Jack Crocker, Dist. Supt.	Std. Oil Co.	Business
6/27	W. Spence, Adm. Mgr.	Delta Engineering	"
6/27	R. C. Appling, Gen. Supt. Constr.	"	"
6/29	Howard Bayless	Copper Center	Pipeline
6/29	Jack E. Cole	Anchorage	"

Date	Name & Title	Organization	Purpose
7/1	J. T. Crooker, Dist. Supt.	Std. Oil Co.	Kenai Pipeline
"	Bob Kulney	Kenai Pipe Line Co.	"
"	John Nelson, Engineer -in- Chg.	"	"
7/5	C. F. Nickel, Asst. Prot. Of., ADF&G		Routine Call
7/7	Bob Southerland	Alaska Pipeline	Business
7/7	R. C. Appling, Gen. Supt. Com t., Delta		Pipeline
7/8	Carl A. Peterson, Archeol. UofA, Alaska		Business
7/8	Fred J. Kent, Archeol. UofA, Alaska		"
7/14	D. Simonetti, Dist. Supt. Asst. -Std. Oil Co.		"
7/14	J. T. Crooker, Dist. Supt.	Std. Oil Co.	"
7/14	B. L. Prince, Dist. Landman	"	"
7/14	John Nelson, Eng. -in- Chg.	Kenai Pipe Line Co.	"
7/15	Ernest A. Strand, Mgr.	Caribou Is. Subdivision (in Skilak Lake)	
7/16	Dan Ralston, Asst. Reg. Dir., BSWF, Juneau		Visit
7/19	Al Erickson, Biologist	ADF&G, Anchorage	Courtesy Call
7/20	Paul Wright, Chief Inspector, Delta Engineering		Pipeline
7/20	Bob Southerland	Delta Engineering	"
7/20	R. V. Pedy, Geophysicist	Std. Oil Co.	Business
7/21	Eugene Wiles, Field Solicitor, U. S. Dept. of Interior-		Ferry permit
7/22	M. Peck	Std. Oil Co.	Business
7/26	E. E. Fulkerson, Prod. Design-Kenai Pipe Line Co.		"
7/26	J. E. McGuire, Dist. Foreman, Std. Oil Co.		Pipeline
7/26	E. J. Hyde, Asst. Mgr.	Std. Oil Co.	"
7/26	John Rinne, Div. Supv.	Kenai Pipe Line Co.	"
7/26	John Ross, Field Eng.	" "	"
7/27	Wm. W. Redmond, Reg. Solicitor, U. S. Dept. of Interior-KNMR problem		
7/29	Wallace D. Bowman (Conservation Foundation, N. Y. Outdoor Recreation		
7/29	Hugh C. Davis (Review Commission(Resources), Wash., D. C.		
8/3	L. A. Shellhamer, Local Agent, Delta Engineering		Alaska Pipeline
8/11	Paul Wright, Chief Inspec. Delta Engineering		"
8/11	Bob Southerland,	" "	"
8/16 & 17	- Everett Horn, Wildlife Adm., Richfield Oil Co.		Inspection trip
8/22	Jerry Lames, Asst. Protec. Of., ADF&G		Routine
8/29	H. L. Davis, Contr. -in- Chg., Williams Bros.		Alaska Pipeline
8/29	Bob Southerland	Delta Engineering	"
8/29	Bill Cheney, Conservation	Alaska Pipeline	"
8/30	J. Larsen, In Charge	State Hghwy Dept. Pioneer Access Road	

C. Refuge Participation.

No Report.

D. Hunting.

Moose, sheep and goat seasons opened on the Kenai, August 20, 1960. To date, the known kill on the Moose Range is 74 moose, 7 sheep, 1 goat, 1 black bear, and one aircraft. The Alaska Department of Fish and Game Checking Station located at the junction of the Sterling-Seward Highways checked through, as of the end of August, 109 moose, 11 sheep, 3 goats, and 5 black bear--the majority of which were reported to have been taken on the Kenai.

The opening of the annual big-game season August 20, 1960, in the State of Alaska, and on the Kenai National Moose Range, has clearly portrayed the basic change in the Bureau of Sport Fisheries and Wildlife enforcement policy in Alaska concerning indigenous species of fish and game that came with the advent of Statehood. Whereas, formerly, Refuge personnel cooperated with and aided BSWF Game Management Agents in the enforcement of existing fish and Game regulations, this under Statehood, has become a primary duty of Refuge Managers. On an area as large as the Kenai National Moose Range, with its diversified fish, game, and heavy recreational and economic use, enforcement of the game laws requires full-time duty to the detriment of other activities. The time required for patrol points out the need for a trained full-time enforcement agent empowered to enforce both State and Federal regulations.

Attached is a copy of the State of Alaska Fish and Game Regulations with Supplements.

E. Violations.

A fire case, which occurred during July in the "excepted area" adjacent to the Moose Range boundary, in the vicinity of White Alice Site #19, was successfully prosecuted before the Deputy Magistrate at Kenai by BLM Fire Guard David Schroer who is stationed at the Skilak Fire Guard Station. The defendant, Sgt. Ruber Wells, was found guilty under State of Alaska Fire Laws for leaving a homestead fire unattended and fined twenty-five (\$25.00) dollars. Biological Aid Cheney and Refuge Manager Hakala were witnesses for the prosecution.

A Moose Range trespass by hunters using a swamp-buggy was observed and investigated August 20. On the advice of the Field Solicitor, the owner of the vehicle was given written warning specifying that any future violation would be prosecuted. Signs have been stenciled and posted at strategic points notifying hunters that "use of motorized vehicles off public roads on the Moose Range is not authorized".

Two moose cases resulting from failure to set up a camp prior to hunting big-game while using an aircraft for transportation into a hunting area in Unit 15, of which the Kenai National Moose Range is a part, were brought before the District Deputy Magistrate. The first case was successfully prosecuted by Mr. Charles Wilson, ADF&G Protection Officer, which resulted in a \$500 fine--\$250 was suspended --revocation of his license for one month, and seizure of the bull moose. On the second arraignment, the two defendants requested a trial by a panel of twelve jurors. The case was heard Saturday, August 27, and resulted in a "not guilty" verdict.

VII OTHER ITEMS

A. Items of Interest.

Assistant Refuge Manager Frost transferred as U.S. Game Management Agent to Lamar, Colorado. Mr. Frost and family left Kenai May 26, 1960.

Mr. Robert V. Wade, Refuge Manager, GS-7, Upper Mississippi River Wildlife And Fish Refuge, Thomson, Illinois, accepted the position as Assistant Refuge Manager, Kenai National Moose Range (effective date August 20, 1960) arrived at Kenai with his family on August 29, 1960. Mr. Wade graduated with a B. S. Degree in Forestry from Iowa State College, Iowa, in 1948. Bob has been with the Service since April 1948 having served at Piedmont National Wildlife Refuge, Georgia, and St. Marks National Wildlife Refuge, Florida, before moving to Thomson, Illinois, and the Kenai.

Mr. William Cheney was hired May 31, 1960, as a Biological Aid. Mr. Cheney holds a Master's Degree and has worked in Agricultural Extension work the past ten (10) years, primarily with 4H Clubs in the State of New York. Cheney is on leave of absence from his former job and took the temporary summer employment as a vacation. He resigned August 8, to accept employment, on the recommendation of the Refuge Manager, with the Alaska Pipeline Company as their go-between on conservation matters pertaining to the natural gas pipeline crossing of the Moose Range.

Mr. Carl Divinyi, a student in Wildlife Management at the University of Alaska, and Miami, was hired as a Biological Aid June 6. Carl had previously worked as a Biological Aid on the Moose Range during

the summer of 1958. He will be returning to the University of Alaska as a Junior this fall. We all were happy to have Carl back with us so proceeded to ship him into the sheep hills on a sheep survey.

Mr. Steven Smith was hired August 15, as Biological Aid. Steven holds a B. S. Degree from the University of Southern Illinois majoring in soils. Steven will be with us until the middle of October.

Mr. John Meissner was hired as a Biological Aid August 23. John has worked the past three seasons as Fire Control Officer for the Bureau of Land Management. He is a graduate of the New York Forest Ranger's School and intends to return to Missoula, Montana, the first of the year to continue his education. John has worked on every major fire which occurred on the Kenai the past two seasons.

Mr. Paul Quick, Chief, Division of Wildlife, Mr. John Findlay, Chief, Branch of Management and Enforcement, Washington, D. C. and Mr. Ray Woolford, Supervisor, Management and Enforcement, Juneau, Alaska, visited Kenai May 22 and 23.

Major Patrick Bromfield, Officer in Charge of Game Control, Bechuanaland Protectorate, Africa, was a visitor at Kenai from June 16 to 18. Major Bromfield was a guest of the U. S. State Department as a participant in the Foreign Specialist Program of the International Exchange Service. The Major was greatly interested in the work done at Kenai using the Cap-Chur gun as he has used it considerably in the past and on his return, plans to use it on rogue elephants. He was greatly impressed by the number of moose tallied in a four-hour early morning flight on which he acted as an observer. The Major left Kenai for a visit to the Kodiak Nat'l Wildlife Refuge prior to returning to Washington, D. C.

Mr. Everett Horn, Wildlife Administrator for Richfield Oil Company, visited the Kenai August 16 and 17. An inspection trip via car and by plane was made of the oil activity concentrated in the northern portion of the Moose Range. He was impressed with the change both in appearance and construction procedure used since his last visit a year ago. He fully realizes that oil exploration and production can be accomplished without leaving a mess and still retain part of the natural aspect of the area by companies simply complying with the Stipulations of the Secretary covering oil and gas leasing, and the recommendations of this office.

Standard Oil Company of California announced one "dry" hole and four producers during the period, increasing the total number of oil-producing wells to eleven on the Kenai plus four gas wells.

During the quarter, Standard Oil Company was authorized to construct six (6) well locations in their Soldotna Creek Unit and three (3) well locations in their Swanson River Unit. Two tank settings for collection of crude oil and a new water injection well location were also authorized.

During the month of July, Standard Oil Company had four drill rigs in operation. One of these was turned over in August to Halasko Oil to drill their Bishop Creek Well.

Halbouty King-Alaska (Halasko) Oil Company made preliminary inquiries May 27, 1960, concerning an application to construct an additional 1,500 feet of road and a new well location in the general vicinity of their Well Site #2, which was constructed in the winter of 1958-1959, but never drilled. They intend to drill this new site as a joint venture with Standard Oil Company. Authority to go ahead with this new construction was agreed to May 28, 1960 provided, Halbouty stipulates in their application, that cleanup of Halbouty Well Site #1, repair of all culverts along the access road to Site #1 and erosion control be instituted immediately. A flight over the site Saturday, May 28, indicated cleanup proceeding with a D-6 dozer on the job. Halasko Oil, at period's end, had two drill rigs in operation. The second rig is located five miles north of Sterling, Alaska, and was reported to be below 12,500 feet at the end of August.

Anchorage Natural Gas Pipeline Officials visited this office May 5, 1960, to make preliminary inquiries on a proposed pipeline from Kalifornski Beach across the Moose Range to Turnagain Arm and across the Inlet to Anchorage. Three routes were proposed. They were advised to make formal application to the Bureau of Land Management according to CFR Title 43, Chap. 1, Subpart A, Sec. 244.3, etc., which would be subject to review by the Bureau of Sport Fisheries and Wildlife. On a visit to the Anchorage Office of the BLM, May 11, 1960, Refuge Supervisor Spencer noted the proposed route submitted, which was forwarded for Regional and Central Office information. On May 13, 1960, two individuals representing Delta Engineering Corporation came to the office to inquire whether they would be required to replace all moss removed in road and pipeline construction. Questioning brought out the fact

that the Corporation, without any permit, was surveying the route, using tracked equipment, from the Moose River east to the foothills and then north along the mountains to Burnt Island. They were told that they had no authorization for such activity, that they were in trespass, and the equipment used would have to be removed immediately. A check of the route by plane the next morning indicated the equipment had been removed. Anchorage Pipeline officials were contacted and told the Bureau had objections to their proposed route but if they wanted to continue their survey, a permit authorizing them to do so on foot could be issued by this office.

Pipeline activity was the theme for the month of June. A set of "Special Conditions" covering pipeline rights-of-way on the Kenai National Moose Range was prepared by the Field Solicitor's Office on recommendations by the BSWF. On June 3, the Alaska Pipeline Company was permitted to proceed with a line-of-sight survey by foot and helicopter. On June 12, a forest fire on this line, resulting from the activities of the survey crew, forced this office to place the activity under a special use permit to protect the interests of the U. S. Government. A report received June 27, indicated the line-of-sight survey would be completed June 28. On June 28, a set of regulations covering specific items to be complied with in right-of-way clearing, which were compiled by the Refuge Manager and awaiting approval, raised such a furor, they were revised to include wheeled vehicles.

Kenai Pipe Line Company's application for right-of-way across the Moose Range was approved, bond posted and construction of a tank setting began July 1. At period's end, clearing of right-of-way, stringing of pipe and two-thirds of ditching and welding was completed.

Alaska Pipeline Company's application for right-of-way across the Moose Range was approved, bond posted and the Company is in the process of clearing their right-of-way within the Moose Range. Construction began August 12th. Actual requirements for construction of this line are in direct contradiction to plans submitted in the Company's right-of-way easement application and upon which the BSWF "Special Conditions" are based and on which the "Special Instructions" of this office were compiled. Equipment crossings at the East Fork of Moose River prior to construction of a suitable bridge has resulted in a muddy quagmire the full width of the river valley. All river crossings by equipment have been stopped until bridges are constructed. Written requests for changes in operating

plans have been demanded and are finally filtering in. Requests for access roads and trails are in the making, with possibly a DC-3 strip request in the future. The Company is finally realizing the difficulties of construction in this area.

Standard's cleanup of their production facilities is progressing very satisfactorily. Well Location Nos. 32-10, 23-22, 41-4 and 12-27 are completed; one sump it covered at Site #12-15; former gravel pits graded and cleanup of berms, erosion and repair of culverts in the Swanson River Unit and former Halbouty location (dry hole) has been completed.

Cleanup is keeping up with their drilling activities. New methods used in constructing well sites and roads (the result of past experience) is absorbing most of the cost of cleanup and is presenting a very favorable appearance. The area is actually taking on a "park-like" look.

Standard began cleanup of their past winter's seismic lines and shot holes July 23, 1960. A check of all lines was made to correct any slumping of holes which may have occurred during spring break-up. This work was completed August 20. A spot check was made of lines, in conjunction with moose hunting patrol, and approved. Standard's seismic permit was extended for an additional year.

Homer Electric Association's cleanup of a portion of their power-line right-of-way lying between the Kenai River, east of Soldotna, Alaska, to where it leaves the Moose Range south of Soldotna, was disapproved June 30, 1960. Additional cleanup is required along the whole route.

The Soldotna Chamber of Commerce applied for a preliminary emergency construction permit from the Bureau of Land Management prior to granting of easement right-of-way for a road through a corner of Moose Range lands southeast of Soldotna, July 14, 1960. An inspection was made of the route July 7, 1960, and recommendations forwarded to the Regional Office for action. Approval for the road was received July 22, 1960, but no further action has been taken by the BLM.

A flurry of activity took place during the month of July on the Caribou Island Subdivision located in Skilak Lake. Seventy-eight (78) lots had been sold by July 10, 1960. In anticipation of increa-

sed activity at Skilak Campground No. 1, Mr. Ernest Strand, Anchorage, in charge of sales, was contacted by phone July 11, 1960. Mr. Strand visited this office, Friday, July 15, 1960, and advised that the Caribou Island Association (made up of Lot Owners) would contact this office before any large scale construction activity takes place.

The 562nd Engineering Company of Fort Richardson, Alaska, moved into the former military recreation area at the outlet to Skilak Lake, July 8, 1960, to conduct river boat training on the Kenai River. A check of the operation was made July 11, 1960, by Refuge Supervisor Spencer and Refuge Manager Hakala. The Company was scheduled to remain one (1) week and left the area July 15, 1960.

The State Highway Department began their projected soil stabilization program in the Jean Lake area July 22, 1960. Talus and coarse gravel is being dumped along the shoulders of the highway in an effort to stop further soil erosion.

A special use permit was issued August 9, to the District Corps of Engineers to clear an area of tree growth seven hundred and seventy-five (775) feet in length and five hundred (500) feet in width into the Moose Range northeast of White Alice Site #17. This strip is to be used as a communications wave path.

A request for a homestead access road involving three parties was checked out on the ground during August. On the advice of the Field Solicitor, a temporary, revocable special use permit has been drawn up authorizing access along an old "Cat" trail into the "excepted area" from the Sterling Highway south of Soldotna. The permit awaits signatures of the interested parties.

Two Military personnel were drowned in Skilak Lake the evening of August 21. They had been successful in obtaining a moose and were in the process of hauling it to Skilak Campground No. 1. One trip had been accomplished and it is believed their small 12-foot craft was swamped during a sudden squall which came up Sunday evening. The BLM Fire Guard discovered the swamped boat at 1100 Monday. An aerial search by CAP, Military and BSWF personnel was unsuccessful. An attempt at dragging the area did not prove feasible. Refuge personnel and equipment participated.

The forces of attrition move steadily on--whittling away piece by piece. Private and public interests are involved. Reports indicate

aerial surveys have been made of the Anchorage natural gas pipeline route to check the feasibility of a public road connecting the Sterling Highway with Hope, Alaska. Work is in progress re-aligning the Hope-Seward Highway roads at considerable expense.

Submitted by:

John B. Hakala
John B. Hakala, Refuge Manager

September 20, 1960

Approved by:

W. S. Spencer

KENAI NATIONAL MOOSE RANGE

U.S. DEPT. OF THE INTERIOR

ALASKA

MAP 1

FISH AND WILDLIFE SERVICE

Rest Sites 1960

Rest Sites Utilized for two (2) years or more

Rest Sites Abandoned after one (1) year



1960
TRUPPER SWAN SURVEY

COMPILED IN THE DIVISION OF LAND ACQUISITION
BASED BY U.S.D. OF A. FOREST SERVICE.

WASHINGTON, D.C.

MAY 1960

Scale

0 1 2 3 4 5 6 7 8 9 10

MEAN
DECLINATION
1954

2 KEN-2

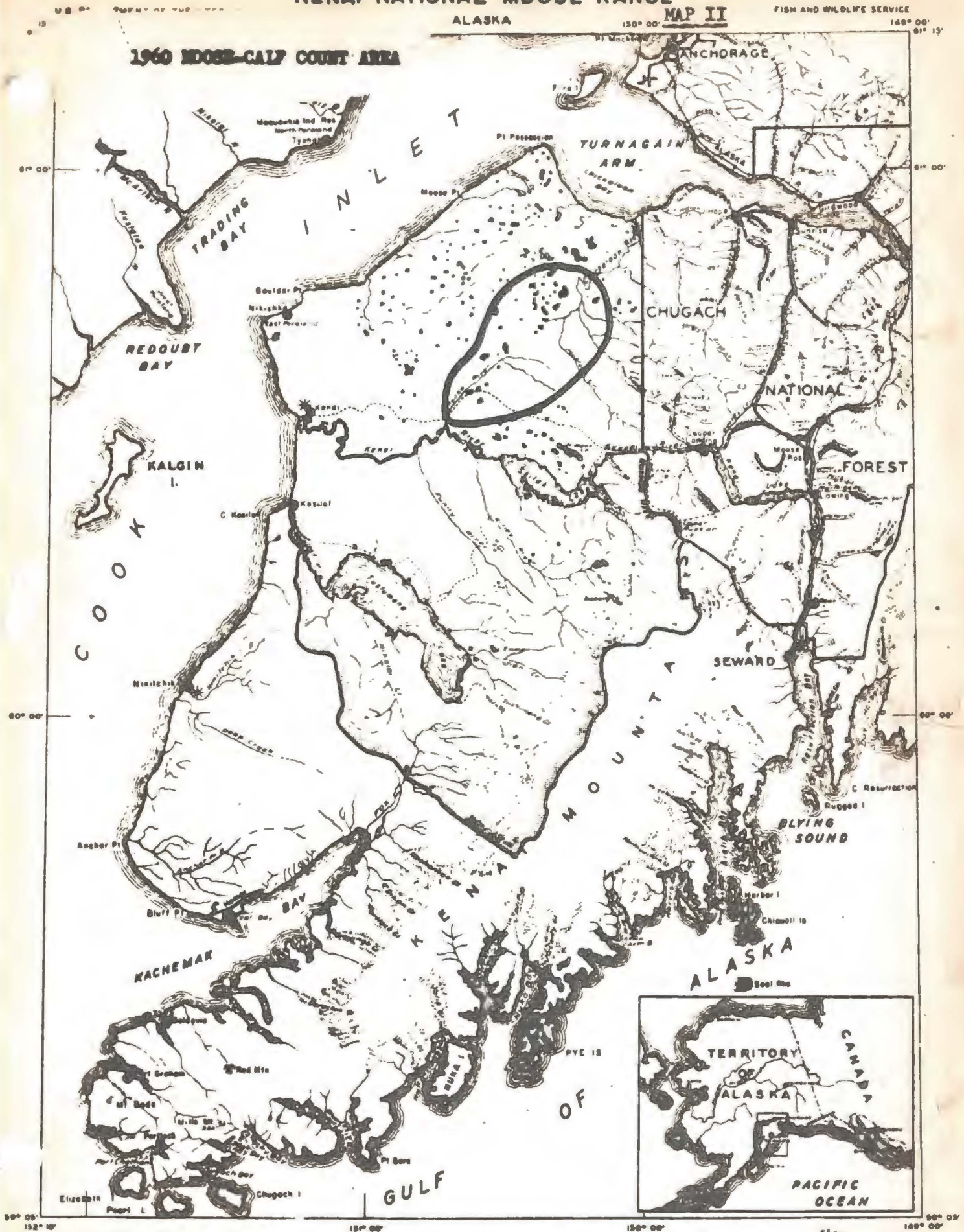
KENAI NATIONAL MOOSE RANGE

ALASKA

MAP II

FISH AND WILDLIFE SERVICE

1960 MOOSE-CALF COUNT AREA



COMPILED IN THE DIVISION OF LAND ACQUISITION
BASED BY U.S.D. OF A FOREST SERVICE
WASHINGTON, D.C.

MAY 1960

Scale

0 1 2 3 4 5 MILES

MEAN
DECLINATION
1954

2 KEN.8

KENAI NATIONAL MOOSE RANGE

U.S. DEPARTMENT OF THE INTERIOR

ALASKA

MAP III

FISH AND WILDLIFE SERVICE

1960
AERIAL SHEEP COUNT



COMPILED IN THE DIVISION OF LAND ACQUISITION
BASED BY U.S.D. OF A FOREST SERVICE.

WASHINGTON, D.C.

MAY 1960

Scale 0 10 20 Miles

MEAN
DECLINATION
1954

2-KENR

KENAI NATIONAL MOOSE RANGE

U.S. DEPARTMENT OF THE INTERIOR

ALASKA

MAP IV

FISH AND WILDLIFE SERVICE

1960
AERIAL GOAT COUNT



COMPILED IN THE DIVISION OF LAND ACQUISITION
BASED ON U.S. OF A FOREST SERVICE
WASHINGTON, D.C.

MAY 1960

Scale 1:50,000

MEAN
ELEVATION
1954

2 KENAI



Figure 1. New Kenai Nat'l Moose Range sign installed at Eastern Boundary.



Figure 2. Close-up view--same sign.



**Figure 3. New sign installed-
Western terminus "Excepted Area".**



**Figure 4. Halbouty Road cleanup and
repair by Standard Oil Company. (Note
Derrick in distance.)**

Views
Kenai Pipeline Construction
Nikishka Beach to Swanson River



Figure 5. Construction difficulties.



Figure 6. Splicing in section crossing muskeg bog.



Figure 7. Pipe ready to be dropped in place. Note submerged tractor.



Figure 8. Pipe ready for laying in ditch.



Figure 9. Pipe being lowered into ditch.



Figure 10. View of above route before filling ditch.



Figure 11. Backfilling ditch completed.



Figure 12. Wheeled and tracked equipment used. Wheeled vehicles had to be towed along route by tractors.

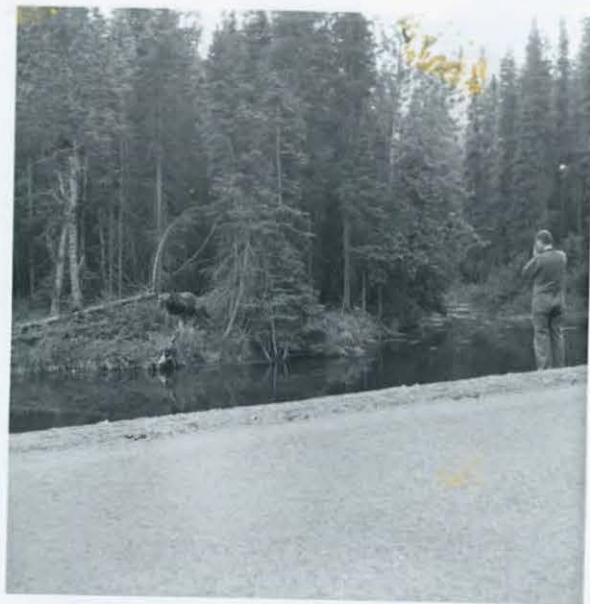


**Figure 13. View of completed line
prior to cleanup.**



**Figure 14. Major Bromfield, Game Officer
in Charge, Bechuaraland Protectorate, Africa,
(tourist) taking moose pictures.**

Photo by A. Thayer



**Figure 15. Major Bromfield (more of same).
Photo by A. Thayer**



**Figure 16. Major Bromfield (as above).
Photo by A. Thayer**

SUPPLEMENT NO. 2

to

ALASKA GAME REGULATIONS

1960 EDITION

WATERFOWL REGULATIONS

ALASKA DEPARTMENT OF FISH AND GAME

Juneau, Alaska

Species	Open Season	Daily Bag Limit	Possession Limit	Notes
acksnipe	Sept. 1 - Oct. 15	8	8	
Game Ducks	Sept. 1 - Dec. 3	5	10	
Geese	Sept. 1 - Dec. 3	5	10	Not more than 3 daily or 6 in possession may be Canada geese or subspecies of Canada geese and whitefronted geese.
Brant	Sept. 1 - Dec. 3	3	3	
Coot	Sept. 1 - Dec. 3	15	15	
Old Squaw, Harlequin, Cotter, Eider ducks and Mergansers	Sept. 1 - Dec. 3	10	20	Singly or in aggregate of all kinds.

SHOOTING HOURS: One half hour before sunrise to sunset.

PLUGS: Shotguns must be plugged to a 3-shell capacity or less.

WEAPONS: Waterfowl may be taken with a shotgun or bow and arrow, but not with a rifle or pistol.

BOATS: Hunting is not permitted from a power or

sail boat, including outboard boats when motor is attached, unless such boat is beached, resting at anchor, or fastened within or tied alongside a stationary hunting blind.

STAMPS: No person 16 or more years of age may take waterfowl unless he carries a current validated Federal migratory bird hunting stamp (Duck stamp) on his person.

SUPPLEMENT NO. 1

containing

Amendments

to

ALASKA GAME REGULATIONS

1960 Edition

ALASKA DEPARTMENT OF FISH AND GAME

Juneau, Alaska

(Effective June 4, 1960)

THE FOLLOWING ADDITIONS AND AMENDMENTS TO THE 1960 EDITION OF THE ALASKA GAME REGULATIONS ARE EFFECTIVE JUNE 4, 1960.

PART 301—DEFINITIONS

301.55 Trapping

Trapping means the taking of game declared by regulation to be fur animals, except wolves and coyotes when taken by means of firearms.

PART 302—LICENSE FEES AND INFORMATION

302.02 License and tag fees

A new class of license is added as follows:

Resident trapping license -----\$3.00

302.03 Special provisions

Subsection (b) of this section has been amended to provide that nonresident big game tags issued and not used for a particular species of animal may be utilized to satisfy the tagging requirements for any other species of animal for which the tag fee is of equal or lesser value, but only for the year in which the tag is purchased.

PART 303—METHODS AND MEANS

303.02 Big game

This section has been amended to allow the taking of all big game by means of bow and arrow except for brown or grizzly bears in Units 1 through 5.

303.03 Fur animals

This section has been amended to permit the taking of fink in Units 1 through 6 by means of steel traps or snares only.

PART 304—SPECIAL PROVISIONS

304.04 Purchase and sale

Subsection (c) of this section is amended to prohibit the sale of skulls, horns, or antlers (other than naturally shed antlers) of Alaska big game animals.

PART 307—CLOSED AREAS

307.05 Strait Island Closed Area.

This closed area has been abolished, and a new closed area created as follows:

Paxson Closed Area (in Unit 13)

The eastern drainage of Gulkana River lying west of the Richardson Highway between the north end of Paxson Lake and the Denali Highway (Closed on moose only).

307.27 A new closed area has been created as follows:

Mendenhall Closed Area (near Juneau)

The Mendenhall Peninsula west of the Glacier Highway but not including Mendenhall Flats in Unit 1 (Closed to hunting).

PART 308—STATE GAME REFUGES AND SANCTUARIES

308.01 General Provisions

The taking of game by hunting or trapping, otherwise permitted by these regulations, is prohibited or restricted on

all areas designated as State Game Refuges or Sanctuaries, as provided in this and the following Sections on this Part.

308.02 Aleutian Islands State Game Refuge.

All of the Aleutian Islands are closed to hunting and trapping with the following exceptions:

(a) Umnak, Unalaska, Akun, Akutan, Sanak, and Tigalda Islands are open to hunting and trapping in accordance with Alaska Game Regulations.

(b) Adak, Unimak, Shemya, Attu and Great Sitkin Islands are open to waterfowl and ptarmigan hunting in accordance with Alaska Game Regulations.

(c) Unimak Island is open to hunting and trapping in accordance with Alaska Game Regulations.

308.03 Bering Sea State Game Refuge.

St. Matthew and Hall Islands and Pinnacle Islet in the Bering Sea are closed to hunting.

308.04 Bogoslof Islands State Game Refuge.

Bogoslof Islands are closed to hunting and trapping.

308.05 Chamisso Island State Game Refuge.

Chamisso Island is closed to hunting and trapping.

308.06 Forrester Island State Game Refuge.

Forrester Island and adjacent rocks are closed to hunting and trapping.

308.07 Hazen Bay State Game Refuge.

Nunivakchak and Krigegeg Islands in Hazen Bay are closed to hunting and trapping.

308.08 Hazy Islands State Game Refuge.

Hazy Islands in southeastern Alaska are closed to hunting and trapping.

308.09 Kenai State Game Refuge.

The area corresponding to the Kenai National Moose Range on the Kenai Peninsula is open to hunting and trapping in accordance with Alaska Game Regulations.

308.10 Kodiak State Game Refuge.

The area on Kodiak Island corresponding to the Kodiak National Wildlife Refuge is open to hunting and trapping in accordance with Alaska Game Regulations.

308.11 Nunivak Island State Game Refuge.

Nunivak Island in the Bering Sea is open to hunting and trapping in accordance with Alaska Game Regulations.

308.12 St. Lazaria Island State Game Refuge.

St. Lazaria Island at the entrance of Sitka Sound is closed to hunting and trapping.

308.13 Semidi Islands State Game Refuge.

The Semidi Island Group is closed to hunting and trapping.

308.14 Tuxedni Islands State Game Refuge.

Chisik, Egg and the other small islands in Tuxedni Harbor, Cook Inlet, are closed to hunting and trapping.

308.15 Walrus Islands State Game Sanctuary.

Round Island, Crooked Island, High Island, Summit Island, The Twins, and Black Rock in Bristol Bay and the adjacent state waters are closed to the taking of walrus only.

PART 311—SEASONS AND BAG LIMITS

311.02 Big Game

Species and Units	Season	Bag Limit
MOOSE		
Unit 7 -----	Aug. 20 — Sept. 20	1 bull a year
Unit 7 (except south of the Sterling Highway and a line drawn from the junction of the Sterling and Seward Highways to John-son and thence easterly along the Alaska R. R. to Hunter, and thence due east to the boundary of Unit 6) -----		
	Nov. 20 — Nov. 30	1 bull a year

SPECIAL MOOSE HUNT REGULATIONS:

Unit 6 -----	Aug. 20 — to be closed by Commissioner's announcement.	1 bull a year by permit only. 50 permits to be issued.
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Moose may be taken in Unit 6 only by persons holding a valid permit, as provided herein:

1. Applications for permits will be accepted only when submitted on forms provided for this purpose, obtained by mail or in person from the office of the Alaska Department of Fish and Game, Cordova.

2. Completed application forms must be submitted to the Alaska Department of Fish and Game, Cordova, to be eligible for drawing, and must be postmarked or returned no later than August 5, 1960.

3. Successful applicants, whose names will be selected at a public drawing to be held at 10:00 A.M. at the U. S. Post Office, Cordova, on August 6, 1960, will be notified by mail.

4. Special instructions relating to Unit 6 moose hunting will be furnished with the permit application.

Units 14 and 15

Special regulations relating to antlerless moose hunts in Area A (Unit 15) and Areas B and C (Unit 14) described in the Alaska Game Regulations, are as follows:

Antlerless moose may be taken only by persons holding a valid permit as provided below:

Area A	150 permits
Area B	200 permits
Area C	250 permits

1. Applications for permits will be accepted only when submitted on forms provided for this purpose, obtainable by mail or in person from the offices of the Alaska Department of Fish and Game, in Homer, Seward, and Anchorage.

2. Completed application forms must be submitted to the Alaska Department of Fish and Game, Anchorage, to be eligible for drawing, and must be postmarked or returned no later than November 15, 1960.

3. Successful applicants, whose names will be selected by means of a public drawing, will be notified by mail.

4. Special instructions relating to antlerless moose hunting will be furnished with the permit application.

FERAL REINDEER

It is illegal to take feral reindeer at any time in Units 18, 22 and 23.

STATE OF ALASKA
ALASKA DEPARTMENT OF FISH
AND GAME

Amendments to the Sport Fishing
Seasons and Bag Limits, 1960 Edition
(Supplement No. 1)
Effective Date June 4, 1960

- (a) Smelt.
 - (1) Sport fishing license required prior to taking smelt for personal use.
 - (2) Smelt cannot be taken except with a dip net in fresh water.
 - (3) Daily bag or in possession limit of 20 pounds of smelt in all fresh waters draining into Turnagain Arm.
- (b) Salmon.
 - (1) Fresh water season on the Kenai Peninsula and all drainages of Cook Inlet to Cape Douglas (except the Susitna River drainage above Talkeetna and Tustumena Lake) for king salmon only from January 1 to March 30 and from May 7 to December 31.
 - (2) Fresh water daily bag or in possession limit of 6 salmon in the Situk River, Yakutat area.
 - (3) Salt Water Bag and Possession Limit daily or in possession in S.E. Alaska to Cape Fairweather of 50 pounds of king salmon and one king salmon or 3 king salmon, whichever is less restrictive, provided that the king salmon are 26 inches or over from tip of snout to fork of tail; under-sized king salmon must be returned to the water without injury.
 - (4) Salmon sport fishing is prohibited in Behm Canal in S. E. Alaska north of a line drawn from Point Eva to Cactus Point around to a line drawn from Point Lees to Claude Point.

- (5) Salmon sport fishing is prohibited in all fresh waters draining into the east end of Valdez Bay between Point Jackson and Mineral Creek.
- (6) Salmon sport fishing is prohibited in Moose Creek and Moose Creek tributaries in the Seward area.
- (c) Water closed to sport fishing.
 - (1) Sport fishing is prohibited in the Kenai and lower Russian Rivers within 600 yards of their confluence until August 27, 1960. After this date the area remains closed to salmon sport fishing but trout and char may be taken.
- (d) Pike.
 - (1) Northern pike may be taken by spear throughout the State.
- (e) Katmai National Monument.
 - (1) A daily bag or in possession limit of 2 red salmon and 10 fish or 10 pounds and 1 fish of any other species in the waters within the Katmai National Monument.
 - (2) In the Katmai National Monument sport fishing is permitted only with artificial lures. Each such artificial lure may consist of not more than two flies or not more than one plug, spoon, or spinner, to which may be attached not more than one treble hook; except that in the Brooks River, other than in the area from the mouth of the river to a point approximately 880 feet upstream (as designated by posted signs), the lures shall be restricted to not more than two flies. In said posted area, from the mouth of the Brooks River to a point approximately 880 feet upstream, plugs, spoons, and spinner with not more than one barbless treble hook and not more than one attraction blade may be used.
 - (3) Sport fishing is prohibited within 100 yards above and within 100 yards below the weir in Brooks River and from the fish ladder over Brooks Falls.

STATE OF ALASKA
WILLIAM A. EGAN, Governor

Sport Fishing Seasons and Bag Limits

Effective Date January 1, 1960

1960 Edition

Alaska Board of Fish and Game

Richard Janson, Jr., Chairman	-	-	-	-	-	-	Cordova
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Erling Strand	-	-	-	-	-	-	Petersburg

Alaska Department of Fish and Game
C. L. Anderson, Commissioner
E. S. Marvich, Chief, Sport Fish Division

You are a stockholder in one of Alaska's most valuable resources—its sport fish. Preserve, protect and use wisely this heritage that insures recreation and sustenance to you and your descendants.

Index

Subject	Page
Summary of illegal acts	2
License fees and information	3
Methods and means	5
Seasons and bag limits	
Fresh water	6
Salt water	8
Razor clam sport fishing	9
Special exceptions	10
Closed waters	10
Wanton waste and possession	13

Summary of the Fish and Game Code, Sport Fishing
Regulations and other information compiled by:

Alaska Department of Fish and Game
229 Alaska Office Building, Juneau
326 I Street, Anchorage
Box 105, College

SUMMARY OF ILLEGAL ACTS

It Is Unlawful	Page No.
(1) to sport fish, in either fresh or salt water, without a valid sport fishing license in possession (except juveniles)	3
(2) to take razor clams without a license	3
(3) to sport fish for trout, char, grayling or salmon with more than one line, one set of spinners and two flies or hooks	5
(4) to sport fish in planted waters when such waters are posted by the Department	5
(5) to sport fish for trout, char, grayling or salmon in fresh water with a weighted multiple hook or with a weight following the hook	5
(6) to sport fish in fresh water with bare multiple hook having a gap larger than ¼ inch or with lured multiple hook having a gap larger than ½ inch	5
(7) to sport fish for trout, char or salmon with a spear, underwater gun or arrow	5
(8) to take razor clams with anything other than a manually operated shovel or fork	5
(9) to sport fish in fresh water with live fish for bait	5
(10) to take trout, char, grayling or salmon for subsistence except as provided in the Sport Fishing Regulations and the commercial Fishing Regulations	5
(11) to take grayling by any means other than a hook and line	6
(12) to use explosives or toxicants to take fish	6
(13) to sport fish in a stream within 300 feet of an artificial barrier	10
(14) to unnecessarily waste or destroy fish or game	13
(15) to transport live fish, marine fishes exempted	13

LICENSE FEES AND INFORMATION

Alien: Any person, not a citizen of the United States, who does not have a petition for naturalization pending before the district court.

Resident: A person who for the immediately preceding year has maintained a permanent place of abode within the State and who has continually maintained his legal residence in the State; provided, however, that any member of the military service stationed in the State for a period of twelve consecutive months, and the dependent of any such member, shall be considered a resident for the purpose of these regulations. Dependents must reside in the state for twelve consecutive months to qualify as residents.

Nonresident: Any citizen of the United States who does not qualify as a resident as herein defined.

Visitor: Any nonresident or alien who is temporarily sojourning in the State as a visitor or tourist.

It shall be unlawful for any person to engage in sport fishing, including the taking of razor clams, without having first procured the appropriate licenses as hereinafter provided, and without having such licenses in his actual possession.

Note: Sport fishing is permitted only on approval of the Commanding Officer on military reservations.

License fees are as follows:

- (a) Resident sport fishing license\$ 5.00
- (b) Resident hunting and sport fishing license\$12.00
- (c) Resident hunting, trapping and sport fishing
license\$15.00

Provided, however, that the above license may be obtained by the head of any family or one solely dependent upon himself for support for a fee of \$.25 upon proof presented by the applicant that the applicant (1) is obtaining or has obtained during the imme-

diately preceding six months, assistance under any state or federal welfare program to aid the indigent, or (2) has an annual income of less than \$800.00 for the year immediately preceding application or (3) has historically been dependent on fish and game for subsistence. (Workmen's Compensation is not considered to be welfare.)

- (d) Visitor's special sport fishing license—valid only for ten (10) days after date of issuance \$ 5.00
- (e) Nonresident and alien sport fishing license \$10.00
- (f) Nonresident and alien hunting and sport fishing license _____\$20.00

Except: No license shall be required of any resident or nonresident person under the age of sixteen for the purpose of sport fishing.

The license period shall be from January 1 to December 31 inclusive, in the current calendar year.

Licenses are available from designated issuing agents, or by mail from the Commissioner, Alaska Department of Fish and Game, Juneau.

Any person who loses his license may procure replacement by applying to the Commissioner, Alaska Department of Fish and Game, Juneau.

Any false statement as to any material fact in an application for license shall render null and void the license issued upon it; and any person who shall make any false statement in such an application shall be guilty of a violation of these regulations.

Any person who shall alter, change, loan or transfer to another person any license issued to him pursuant to these regulations or any person who shall use any license other than the one issued to him, shall be guilty of a violation of these regulations.

METHODS AND MEANS

Sport fishing, as authorized by a sport fishing license, may be done only by a spear, underwater gun or by a single line held in the hand or attached to a rod so held or closely attended, except as hereafter provided.

Taking of trout, char, grayling, salmon or pike is permitted only as provided in the Sport Fishing Regulations, Title 5, Chapter 2; in the Commercial Fisheries Regulations of Alaska, Title 5, Chapter 1; or as authorized by the Commissioner of Fish and Game.

Sport fishing for trout, char, grayling, or salmon may be done only with a single line having attached to it not more than one plug, spoon, spinner or series of spinners or two flies or two hooks.

No sport fishing may be conducted in restocked or planted waters when such waters are so designated by appropriately posted Alaska Department of Fish and Game signs.

Trout, char, grayling or salmon shall not be taken by sport fishing in fresh water by means of a:

- (a) Multiple weighted hook or multiple hook to which a weight is attached in such a manner that when retrieved by the angler the weight follows the hook. A multiple hook is one with two or more points.
- (b) Multiple hook with gap between point and shank larger than $\frac{1}{4}$ inch when not attached to a plug, spoon, spinner, or artificial lure.
- (c) Plug, spoon, spinner, or artificial lure having a multiple hook with gap between point and shank larger than $\frac{1}{2}$ inch.
- (d) Spear, underwater gun, or arrow.

No razor clams may be taken with aid of any device other than a manually operated shovel or fork.

No live fish may be used as bait when sport fishing in fresh water.

The use of any explosive or toxicant is prohibited in the taking of any fish in the waters of Alaska.

No grayling may be taken by any means other than a hook and line in any of the waters of Alaska.

SPORT FISHING SEASONS; BAG AND POSSESSION LIMITS IN FRESH WATER

Fresh Water Seasons

Area	Open Season
All of Alaska	Jan. 1 - Dec. 31 except as listed in this section and in Special Exceptions, page 10.
1. Kenai Peninsula and all drainages of Cook Inlet to Cape Douglas (except the Susitna River drainage above Talkeetna and Tustumena Lake).	Jan. 1 - Mar. 30
2. Naknek River and waters of Naknek Lake to the Katmai National Monument Boundary Line.	May 28 - Dec. 31
3. Shaw Creek and the Tanana River for three miles below Shaw Creek.	
1. Susitna River drainage above Talkeetna.	Jan. 1 - April 30
2. Copper River drainage above Woods Canyon.	June 9 - Dec. 31
3. Delta River drainage above Rapids on the Richardson Highway.	

Fresh Water Bag and Possession Limits

Area

Bag and Possession Limits

All of Alaska	1. 15 fish daily in total of trout, grayling and char, provided, that such limit may not contain more than 3 of these species over 20 inches in length. Possession limit: 2 daily bag limits. 2. except as provided below.
1. Kenai Peninsula and all drainages of Cook Inlet to Cape Douglas. 2. Tanana River drainage above Kantishna River. 3. Copper River drainage above Woods Canyon.	10 in total of trout, char, grayling and salmon daily or in possession, provided, such limit shall not contain more than 3 salmon over 16 inches in length, of which not more than 2 can be king salmon and not more than 2 trout, char or grayling over 20 inches in length.
Tanana River drainage from the Kantishna River to Rapids on the Delta River and to Cathedral Rapids on the Tanana River.	10 pike daily or in possession.
1. Kvichak River drainage. 2. Alaska Peninsula southwest of Cape Douglas. 3. Aleutian Islands.	10 in total of trout, char, and grayling daily or in possession, provided, that such limit may not contain more than 2 of these species over 20 inches in length.

Area	Bag and Possession Limits
Southeast Alaska drainage to Cape Fairweather.	{ 15 immature salmon daily or in possession.
Saltery Cove, Chiniak, Pasagashak, Anton Larsen and Monashka Bays and freshwater drainages (Kodiak Area).	{ 6 salmon per day, of which no more than 2 can be silver salmon. Possession limit: 2 daily bag limits.
Ward Cove Creek drainage	{ 2 salmon daily or in possession.
Naknek River and waters of Naknek Lake to the Katmai National Monument Boundary Line.	{ 10 in total of trout, char, grayling and salmon daily or in possession, provided such limit shall not contain more than 2 salmon over 26 inches in length and not more than 2 trout, char or grayling over 20 inches in length.

SPORT FISHING SEASONS: BAG AND POSSESSION LIMITS IN SALT WATER

Salt Water Seasons	
Area	Open Season
All of Alaska	{ Jan. 1-Dec. 31 except as listed in this section, in Razor Clams, page 9; and in Special Exceptions, page 10.

Salt Water Bag and Possession Limits	
Area	Bag and Possession Limits
S. E. Alaska to Cape Fairweather	{ 50 pounds and one king salmon or three king salmon, whichever is less restrictive, provided that the king salmon are 26 inches

-8-

(Cont.)

Area	Bag and Possession Limits
Ward Cove, Ketchikan area	{ or over from tip of snout to fork of tail. Undersized fish must be returned to the water without injury. 2 salmon daily. The possession limit shall be the daily bag limit.
1. Resurrection Bay north of a line from the southeast corner of the Alaska Railroad dock to the southwest corner of the Alaska Freight line dock. (Seward area). 2. Cook Inlet, within one-half statute mile of the terminus of all salmon streams.	{ 3 salmon per day, of which not more than 2 can be king salmon.
Saltery Cove, Chiniak, Pasagashak, Anton Larsen and Monashka Bays and freshwater drainages (Kodiak Area).	{ 6 salmon per day, of which not more than 2 can be silver salmon. Possession limit: 2 daily bag limits.

RAZOR CLAM SPORT FISHING

Area	Open Season	Bag Limits
All of Alaska except as listed below	{ No closed season	No bag limit
Cook Inlet Area; East side of Cook Inlet from the Kenai River to the end of the Homer Spit only.	{ Jan. 1 - July 9 Sept 1 - Dec. 31	30 razor clams daily

(Cont.)

-9-

Area	Open Season	Bag Limits
1. Prince William Sound	Jan. 1 - June 30 Aug. 16 - Dec. 31	No bag limit
2. Bering River - Yakataga Area		
3. Copper River Area		

SPECIAL EXCEPTIONS TO THE SPORT FISHING REGULATIONS

Dolly Varden and lake trout may be taken at any time without regard to bag limits and by the use of gill net, fyke net, or seine in all drainages into the Arctic Ocean within 30 miles of the coastline from Cape Krusenstern to Demarcation Point, and in salt water where the taking of salmon for commercial purposes by netting is permitted.

Dolly Varden and lake trout may be taken for subsistence without regard to bag limits during the period December 1 through April 30 by use of a gill net, fyke net, or seine in the waters of Iliamna, Ugashik, Becharof Lakes and their outlet streams, and in the Nushagak River drainage.

Northern pike may be taken at any time without regard to bag limits and by use of a gill net, fyke net, seine or spear in all waters of Alaska except in the Tanana River drainage from the Kantishna River to the Delta River at Rapids on the Richardson Highway and the Tanana River at Cathedral Rapids on the Alaska Highway where such taking shall be by hook and line and in numbers according to the applicable bag limit.

Nothing in these regulations shall prohibit any person from taking fish in case of dire emergency for food.

CLOSED WATERS

1. All streams within 300 feet of an artificial barrier, wier, dam, or obstruction are closed to all sport fishing.

2. All waters of the Chatanika River within 500 feet of the tailrace area of the Chatanika powerhouse, located at Mile 32.3 on the Steese Highway, are closed to sport fishing.

3. Ship Creek, Cook Inlet Area, is closed to sport fishing.

4. Closed to sport fishing for salmon unless otherwise provided:

General Area	Water
S. E. Alaska	1. Salt water in Behm Canal and contiguous bays north of a line from Point Eva to Cactus Point. 2. Ketchikan Creek and Thomas Basin. 3. Mahoney Creek in George Inlet.
Cook Inlet Area	1. Copper Creek. 2. The Kenai and lower Russian Rivers within 600 yards of their confluence, and within 300 yards of the falls on the lower Russian River. 3. Fish Creek, near Wasilla, provided, however, that sport fishing for salmon will be allowed from Aug. 22 until Sept. 23. 4. Campbell Creek, near Anchorage, provided, however, that sport fishing for salmon will be allowed from Aug. 22 until Sept. 23.

(Cont.)

General Area	Water
Cook Inlet Area (Cont.)	<p>5. The following streams above markers placed approximately as described:</p> <p>a. Anchor River, 3 miles above mouth.</p> <p>b. Stariski Creek, 3 miles above mouth.</p> <p>c. Deep Creek, 3 miles above mouth.</p> <p>d. Ninilchik River, 5 miles above mouth.</p> <p>e. Bird Creek, 1 mile above mouth.</p> <p>f. Eagle River, 6 miles above mouth.</p> <p>g. Peters Creek, 3 miles above mouth.</p> <p>h. Willow Creek, 1 mile upstream from the Alaska Railroad.</p> <p>i. Little Willow Creek, 1 mile upstream from the Alaska Railroad.</p> <p>j. Montana Creek, 1 mile upstream from the Alaska Railroad.</p>
Copper River Drainage	Gulkana River and all of its tributaries above Gulkana Lake.
Kodiak Area	All streams tributary to Saltery Cove, Chiniak, Pasagashak, Anton Larsen and Monashka Bays from Aug. 1 to Sept. 10 inclusive

—12—

(Cont.)

General Area	Water
Seward Area	Salmon Creek Drainage.
Tanana River Drainage	<p>1. Salcha River.</p> <p>2. Little Salcha River.</p>
Valdez Area	Freshwater drainage of Valdez Bay east of a line drawn from Jackson Point to the mouth of Mineral Creek.

WANTON WASTE AND POSSESSION

It shall be unlawful for any person wantonly to waste or unnecessarily destroy any fish or game.

It shall be unlawful to possess, transport or release any live fish or live fish eggs, marine fishes exempted, except in accordance with the terms of a permit that may be issued by the Commissioner.

No person may possess any dead fish, or part thereof, not legally taken by himself unless he furnishes upon request of any official authorized to enforce the regulations, a written statement of the name, address, and license or permit number of the person from whom such fish, or part thereof, was obtained, or furnishes other information sufficient to establish the manner in which lawful possession was obtained.

—13—