Spencer

REFUGE NARRATIVE REPORT

January --- April, 1954

KENAI NATIONAL MOOSE RANGE

Kenai Alaska

U. S. DEPT. OF THE INTERIOR

Fish & Wildlife Service

Kenai, Alaska

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PERSONNEL:

D. L. Spencer. . . Refuge Supervisor
J. D. Petersen . . Refuge Manager
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I GENERAL

A. Weather Conditions

Overall the weather conditions for the period could be considered good, with no severe storms or other extremes. A mild spell in the second week of January brought thawing conditions for a few days, causing icy roads and crusted snow. The entire month of February was clear and cold. Snow depth at Kenai on the first of January was approximately 16 inches, and it reached a maximum depth of 27 inches the latter part of March. By April 27 all snow had melted at this point. Heavier snowfalls occurred at other places on the Moose Range, particularly in the mountains and foothills. Despite a slightly heavier snowfall than the previous year, the conditions were not such that the moose were hampered too much in their movement over the Range.

A brief summary of weather as recorded at the CAA station at Kenai follows:

	Max. Snow Depth	Low Temp.
Jan	19"	-22
Feb	18"	-34
Mar	27"	-20
Apr (4/27)	27" (0")	-02 (+ 50)

B. Water Conditions

Normal for period.

C. Fires

No fires occurred during the period.

II WILDLIFE

A. Migratory Birds

Waterfowl appeared in the area around April 20 in small numbers and flocks of geese were seen in increasing numbers, flying overhead, the remainder of the month.

B. Upland Game Birds

Ptarmigan were noted in larger numbers in the low country than in previous years, particularly in the Skilak Lake-Naptowne area, Kasilof and Cohoe.

C. Big Game

Moose:

a. Annual Inventory: The annual aerial moose inventory was made January 14 - 25. Spencer, Petersen and Agent Neujahr conducted the survey in FWS plane N-705.

Table I summarizes the moose tally by units for the survey area during the period 1950-1954. Figure 1 presents this information graphically. The uniform rise in population has continued.

The 1947 burn area shows a higher population than last year (shown in Table I), however, the heavy influx of moose from adjacent areas seems to be leveling off.

Distribution of moose by units shows little change from previous years with a few exceptions. The area between Skilak Lake, Kenai River and the Seven Lakes series shows a marked increase in moose. This became particularly evident in late winter when moose moved in from exhausted ranges to the north and south. This area, bordering the highway, had abundant Aspen forage largely untouched in previous years. The use of this range is reflected in the permanent forage plots where some plots untouched in 1953 were utilized this winter to over 100% of the annual growth.

The 1947 burn area (area #18) to the northwest of the Moose River swamp likewise shows an increase in moose, with a 1954 count double that of 1953.

b. Range Surveys:

General reconnaissance notes: The 1947 burn area between Seven Lakes and Mystery Creek supports a fairly large summer

and fall moose population. This range was exhausted by late December, due to heavy use early in the winter, and to past use which has restricted height growth of brouse. Moose moved out of this area in January, moving south below the Seven Lakes. Some animals moved westward to the portion of the 1947 burn west of Moose River.

The 1947 burn range between Killey River and Skilak Lake, south of the Kenai River was also heavily used in early winter, and abandoned in January and February. This is a particularly good developing winter range, supporting a higher than average percentage of willow.

The area immediately north of Skilak Lake and the Kenai River, formerly only lightly used, was heavily broused in late winter as noted previously.

Snow depth reached a maximum of 2½ feet and did not unduly restrict the movement of moose in search of forage.

As frequently occurs, a number of moose wintered high above timberline on wind-blown ridges. There is usually considerable forage here in relation to the number of wintering moose. The availability of this forage depends considerably on weather conditions.

All winter ranges examined were heavily used.

Permanent Forage Plots:

Table II presents the results of measurements on these tagged forage plots for 1953-1954. Table IV shows a comparison between use in 1953 and 1954. According to our present knowledge, proper use on willow and birch would be around 60-70% and on aspen considerably lower. The overuse on these sample plots this past winter is quite evident.

c. Winter Mortality:

Table V records winter mortality in the area west of the Kenai Mountains. As is to be expected, the natural winter kill ascribed to malnutrition was highest in the young animals about ten months old. Of winter kills where sex and age were determined, two thirds were of animals less than one year old. Of the remainder, most were old animals.

A high percentage of animals shot, struck by cars, or falling in rivers came to light. We have no way of determining what proportion of the winter loss has been found. In general, the natural and accidental winter kill is grouped around inhabited areas where carcasses were noted and reported by people afoot. Whether it represents 1/2 or 1/20th of the

winter loss is not known. This year is the heaviest winter loss of which we have record. We believe it is indicative of winter loss of significant magnitude.

Of dead cow moose that were examined during the winter period (the last cow examined was killed 5/26/54), reproductive condition is as listed below:

3 - condition unsuitable for conclusive examination
3 - had no fetus development
1 - had single fetus

The three moose having no fetus had well-worn teeth, indicating old age animals.

d. Summary of Kenai Moose Conditions:

Major considerations are as follows:

1. The Moose Range moose population has continued a steady rise which, since 1950, has amounted to a 50% increase in the herd.

2. Winter range utilization this winter is uniformly heavy and on measured plots [redacted] approaches 90% of the year's growth.

3. Although not a severe winter, known winter kills are the highest recorded since 1946. The approximate total number of this winter loss is not known.

4. When it became evident that the present hunting seasons did not suffice to harvest the annual surplus, recommendations were made for the 1954 season to lengthen the season, remove various restrictions and remove a number of cows (See memo of Feb. 3, 1954). Subsequently a season on bulls only, double the length of recent seasons (August 20 - Sept. 30) was approved for 1954. Whether this increased season will reduce the moose population to within the range capacity remains to be seen. Experience elsewhere with buck seasons indicates a population cannot be reduced by the harvest of males alone. A higher 1954 kill on bulls, plus the past winter loss, should result in momentarily arresting the uniform increase noted in these herds.

5. In following the cautious herd reduction pattern of wide precedence in the control of big game herds, it seems unlikely that the Kenai moose herds will, in actual practice, be held within range capacity by orderly hunting harvest within the next few years. However, the responsibility for sound management of these herds conveyed by the establishment of the Moose Range, requires that investigations and

procedures be continued, leading to an adequate management program for the Kenai moose herds at the earliest possible date.

D. Other Mammals

Beaver.

During the open season February 1 to March 31, 170 beaver were known to be taken on the west side of the Kenai Peninsula, with 68 of these from the Moose Range by seven trappers. Probably an additional thirty beaver were trapped on the Refuge that were not brought to Kenai for tagging.

Coyote.

Eighty-two coyotes were certified for bounty by Refuge and Enforcement personnel at Kenai, with 38 of these known or believed to be taken within the Moose Range.

Wolverine.

A bounty of $15. was placed on this animal by the last Territorial Legislature; however, there was no appreciable increase in the hunting or trapping activity for the wolverine on the Kenai Peninsula. Three animals were taken - one near Tustumena Lake, and two in the Caribou Hills-Kachemak Bay area. Affidavits for bounty were certified by the enforcement agents at Kenai.

Mink, Land Otter, Weasel, Fox, Lynx.

At the opening of the season on November 16 mink appeared to be numerous along the streams and trappers were quite successful the first two weeks or so. Then a sudden drop in the take occurred for some unknown reason, and the mink seemed almost extinct the remainder of the season. Some land otter were taken, and all signs indicated the population to be about the same as the last two years. Weasel and lynx were not trapped to any extent, but small numbers were observed at various points on the Kenai. Fox have not increased in any numbers as yet.

III REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development

Skilak Guard Station:

By the end of the period, construction was nearing completion on this cabin, located near Skilak Lake. Bob Anderson, a skilled log worker, was hired February 16th, and with the periodic assistence of refuge personnel, completed all construction with the exception of the

finished roof. (See photographs of cabin). It is anticipated that the cabin will be ready for fire guard occupancy May 15. The fire guard this year, from Homer, will continue to do some finish work on the cabin during the summer.

IV ECONOMIC USE OF REFUGE

C. Fur Harvest

See Section D, under Wildlife.

D. Timber Removal

One free use and one commercial use permit were issued during the period as follows:

Permit No. 15980 - Grilley Lumber Co., for 33,333 bd. ft. saw timber - $50.00 fee.

Permit No. 20601 - Chester D. Moore, for 25 cords dead and down timber - Free Use.

Permit No. 20602 - John C. Ingram, for 2000 lin. ft. house logs - Free Use.

VI PUBLIC RELATIONS

A. Recreational Uses

A small amount of ice fishing was done on Hidden and Alcatraz Lakes near Skilak as well as some on lakes on the northern part of the Moose Range.

Ptarmigan hunting on a small scale provided some recreation to a few hunters.

B. Refuge Visitors

NAME	ORGANIZATION	PURPOSE	TIME IN AREA
C. Carson	FWS	Enforcement	Several visits
R. Allin	FWS	Game Fish	2 days
E. Chatelain	FWS	Moose Invest.	game hearings
T. Costello	FWS	Fisheries Mgt.	2 days
D. Roberts	FWS	Enf.-Fisheries	2 days

D. Ralston	FWS	Enforcement	1 day
T. Wardleigh	FWS	Aircraft	2 days
W. Elkins	FWS	Refuge Inspection	3 days
D. Hilliard-PHS	PHS	Fish. Research	1 day
J. Scott	BLM	Fire Control, Timber	several days
J. Edge	BLM	Fire Control-Skilak	2 days

C. Refuge Participation

Public game hearings were held on the Kenai Peninsula and attended by Refuge personnel as follows:

Kenai	Jan. 22
Kasilof	Jan. 26
Ninilchik	Jan. 20
Homer	Jan. 19
Naptowne	Jan. 21
Seward	Jan. 15

A second meeting was held in Seward on February 4 and approximately 200 people turned out to discuss the proposed cow season on the Kenai.

Refuge Supervisor Spencer attended the Regional Field Conference and the Alaska Game Commission Meeting in Juneau February 10 to 19th.

D. & E. Hunting and Fishing

See Recreational Use.

F. Enforcement

Agent Neujahr and assistants carried out patrol and other activities which were formerly taken care of by the Refuge staff. Asst. Refuge Manager accompanied Enforcement Patrolman Brown to obtain affidavits on a case at Anchor Point in February. Several beaver hides were tagged by Refuge personnel in April.

VII OTHER ITEMS

A. ITEMS OF INTEREST

Transient Trailer Facility: Construction was started on a bath house and trailer facility, the cost being divided equally among the using branches, this office contributing $600.00 and a part of the supervisory work.

FIGURE I

Moose Populations on Kenai Inventory Area

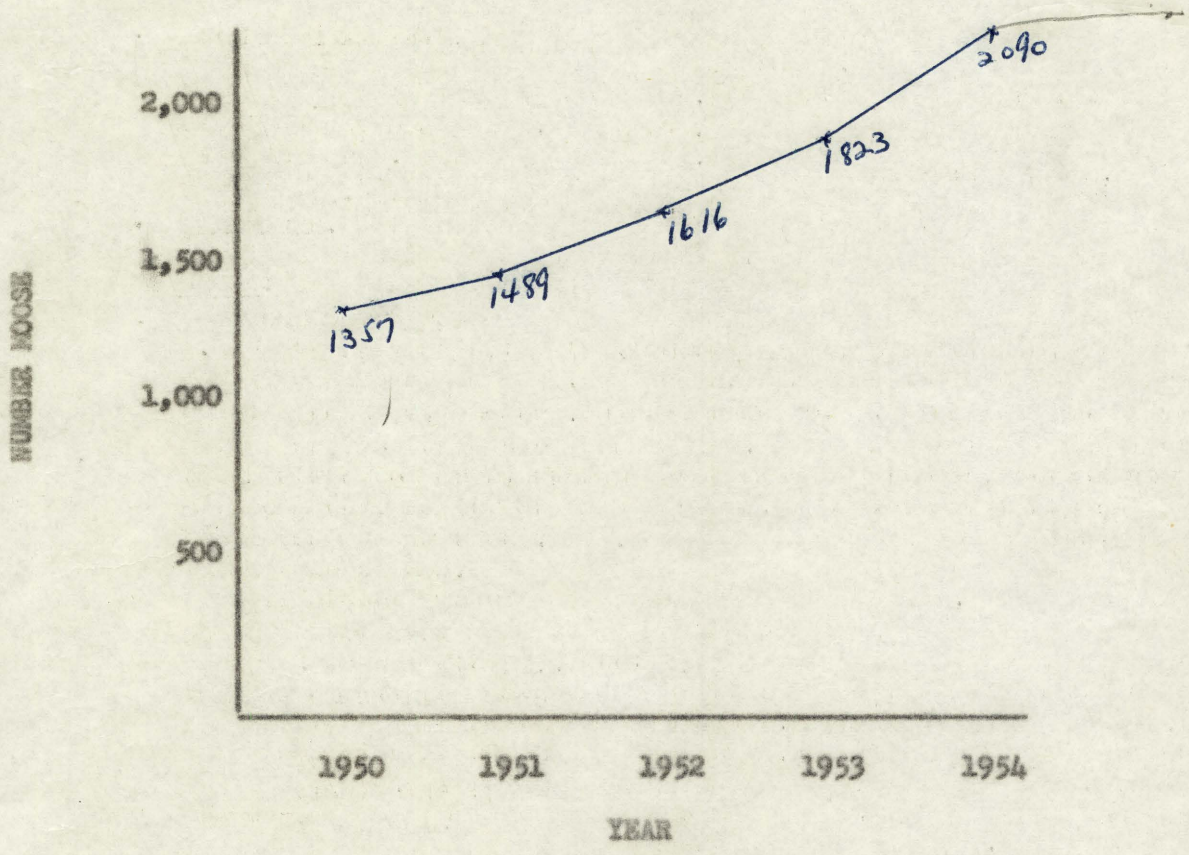

TABLE I

KENAI MOOSE INVENTORY BY UNITS 1950 - 1954

	AREA	1950	1951	1952	1953	1954
1.	N. Slopes Caribou Hills to Lk. Tustumena, Fox R. to Sterling Highway	112	113	135	69	107
2.	Kenai R. to Kasilof R.; Sterling Hiway to Inlet	328	275	267	300	289
3.	Kasilof R. to Clam Gulch; Sterling Hiway to Inlet	110	63	76	94	171
4.	Kasilof to Tustumena Lake	163	138	140	125	149
6.	Tustumena Glacier Flats	34	3	74	8	20
7.	W. Funny R. to Sterling Hiway; E. Kenai R.	32	32	15	15	14
8.	Kenai to Soldotna; W. Kenai R.	128	99	113	155	157
11 & 9.	Soldotna to Hills; W. Kenai R. & Skilak Lake to Sterling Highway	52	45	107	107	234
12.	Moose R. to Mountains; W. Sterling Hiway to Mystery Creek	209	244	318	544	519
5,10 & 17.	Plateau N. Tustumena Lk.; Killey R. to Funny R., Kenai R. to Mts.; N. Slopes Tustumena Lk.	189	477	371	406	430
	Comparison Totals for 5 years	1357	1489	1616	1823	2090
15.	King County Cr. to Killey R.; Mts. to Skilak Lk.		31	167	174	175
16.	King County Cr. to Mts.; S. Skilak Lk.		8	16	16	13
18.	1947 Burn area N. & W. Moose R.; N. Sterling Hiway Soldotna to Moose R.			105	102	206
	Totals all areas			1904	2115	2484

Moose Population within 1947 Burn Area

1950 - 273
1951 - 344
1952 - 618
1953 - 1111
1954 - 1223

TABLE II

FORAGE UTILIZATION 1953-54 ON PERMANENT FORAGE PLOTS

Length of annual growth in inches

Plot No.	December	May		Percent Use
Willow				
Kasilof				
1	762	168		77.9
2	614	146		76.2
3	224	64		71.4
4	716	54		92.3
5	2336	166		92.9
6	964 5616	76		92.1
Kenai				
9	824	260		68.4
Skilak				
8	2448	160		93.5
10	542	176		67.5
Kenai Birch				
Kasilof				
4	1130	110		90.3
5	1600	160		90.0
6	3404	368		89.2
Kenai				
9	86	38		55.8
Dwarf Birch				
Kenai				
9	0	88		omitted
Aspen				
Kasilof				
1	164	2		100.0
5	216	16		92.6
			Average	96.3
Skilak				
7*	2262	4		100.0
8	580	412		29.0
10	1420	114		91.9
11	2380	170		92.9
12	2782	322		88.4
Cottonwood				
Kasilof				
1	76	10		86.8
2	166	18		84.5
			Average	85.65

* A number of trees were 9 to 11 ft. high in the fall, and measurements could not be made. However, upon checking the plot in the spring, it was found that all bushes had been utilized.

TABLE III

(1953-1954)

TOTAL AVERAGE UTILIZATION

OF ALL SPECIES

SPECIES	INCHES OF LEADER		PERCENT
	DECEMBER	MAY	UTILIZATION
Willow	9430	1270	86.5
Kenai Birch	6220	676	89.1
Aspen	9804	1040	89.4
Cottonwood	242	28	88.4
Dwarf Birch	--	--	--

TABLE IV

Average Utilization - 1953 and 1954

SPECIES	1953	1954
Willow	79.7	86.5
Kenai Birch	83.1	89.1
Aspen	13.8	89.4
Cottonwood	67.8	88.4
DwarfBirch	84.0	—

TABLE V

WINTER MORTALITY - 1953-54

	IMMATURE		ADULT		UNKNOWN	TOTAL
	M	F	M	F		
Natural Winter Kill	10	12	8	3	9	42
Accidental Deaths:						
Struck by cars:	1		2	1	1	5
Ice, rivers, falls:		1	2	2	9	14
Shot, Illegal	2		1	1		4
Other reasons	1	3	3			7
TOTALS	14	16	16	7	19	72

*3 later.

June 12, 1954

Submitted by:

D L Spencer

David L. Spencer
Refuge Supervisor

Approved by:

TEST NETTING TUSTUMENA LAKE

CUTTING NET HOLES

TEST NETTING TUSTUMENA LAKE

CUTTING NET HOLES

TEST NETTING TUSTUMENA LAKE

River Basin Biologist Munson hauling the net.
Catch primarily of lake trout, with a few
round white fish and Dolly Varden.

WINTER KILLED MOOSE
AN OLD COW

WINTER KILLED MOOSE
A CALF
Frequently dead moose have the appearance
of being asleep.

WINTER KILLED MOOSE
Two dead moose - one in foreground and one in far right. Center in area lightly covered by 1947 burn.

COW MOOSE ON TUSTUMENA LAKE
Killed by fall from cliff to ice

OLD COW MOOSE DEAD ON

NORTH SHORE TUSTUMENA LAKE

HEAVILY BROUSED ASPEN GROWTH IN
1947 BURN AREA

Previous to this winter, this was
only lightly utilized.

SKILAK GUARD STATION CONSTRUCTION

Walls partly up, showing rigging used for handling logs.

CAULKING SEAMS

Note method of fitting logs and pinning them together.

PUTTING ON RAFTERS

RAFTERS COMPLETED