ALASKA DEPARTMENT OF FISH AND GAME
JUNEAU, ALASKA

STATE OF ALASKA
William A. Egan, Governor

DEPARTMENT OF FISH AND GAME
Walter Kirkness, Commissioner

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

DATA COLLECTIONS

Note: No other bison report for 1964. Also includes elk and goat.

Loren Croxton, Work Plan Leader

Harry Merriam, Jack Didrickson , Oliver Burris
Sterling Eide, Ben Ballenger, Reporting Biologists

Volume VI
Annual Project Segment Report
Federal Aid in Wildlife Restoration
Project W-6-R-5, 6, Work Plan D

(Printed July 1965)

WORK PLAN SEGMENT REPORT
FEDERAL AID IN WILDLIFE RESTORATION

STATE: Alaska

PROJECT NO.: W-6-R-5, 6 TITLE: Alaska Wildlife Investigations

WORK PLAN: D TITLE: Statewide Data Collections

JOB NO.: 1 TITLE: Elk Studies

PERIOD COVERED: January 1, 1964 to December 31, 1964

ABSTRACT

Aerial surveys were hampered by high winds and deep snows which kept the elk in heavy spruce timber.

Sixty animals were harvested by 105 hunters during the either-sex season between August 1 and December 31, 1964. Sixty per cent of the animals harvested were males.

Willows received light browsing in the Afognak Lake area; elderberry was intensively browsed in the Hatchery Mountain area.

WORK PLAN SEGMENT REPORT
FEDERAL AID IN WILDLIFE RESTORATION

TATE: Alaska

PROJECT NO.: W-6-R-5, 6 TITLE: Alaska Wildlife Investigations

WORK PLAN: D TITLE: State Data Collections

JOB NO.: 1 TITLE: Elk Studies

PERIOD COVERED: January 1, 1964 to December 31, 1964

OBJECTIVES

To determine population levels and trends of elk on the Afognak Island Group. To assess total annual natural mortality, including harvest. To determine range condition and utilization with emphasis on winter-spring use of browse.

PROCEDURES

Aerial surveys of the Afognak Island Group were conducted in February and September of 1964 to determine elk population levels.

An on-the-ground investigation of natural mortality was attempted in key wintering areas in the Afognak Lake area from May 27 to May 31, 1964.

Harvest information for the 1964 elk season was obtained from hunter interviews and from forms distributed to the Afognak Lake Navy Recreation Camp and the local air taxi services. Hunting parties utilizing boats for transportation were contacted by Alaska Department of Fish and Game personnel working on King Crab Research who in the course of their normal duties boarded all vessels that docked in Kodiak. Elk jaws were collected whenever possible and hunter cooperation in bringing in elk jaws was solicited by use of local news media.

Range studies were conducted in key wintering areas using a modification of the "closest plant"* technique of determining vigor, trend and utilization. This was a cooperative study by the Alaska Department of Fish and Game and the U.S. Forest Service. Key wintering areas were determined during February by means of aerial surveys. Thirty-three transects, each consisting of 30 stations, were installed during the period June 1-5, 1964.

*Alaska Department of Fish and Game, Annual Project Segment Report, Volume III, Work Plans D and L.

FINDINGS

Population Levels and Trends

Aerial surveys conducted in February were unsatisfactory because the elk tended to remain hidden under dense spruce cover.

The September aerial surveys were interrupted by high wind velocity and were discontinued. Further counts could not be conducted before the winter season since the survey airplane was not available. These surveys resulted in a count of 136 elk in the Raspberry Island herd and 70 elk in the Raspberry Straits herd. It is felt that counts in both areas were incomplete and were not indicative of the population trends.

Natural Mortality

As was the case in previous years, no instances of natural mortality were discovered.

Harvest Data

In 1964, there was a 153-day either-sex hunting season from August 1 through December 31 allowing a bag limit of two elk on Raspberry Island and Tonki Cape and one elk in the remainder of Unit 8. During this season 105 hunters harvested 60 elk for a success ratio of slightly over 57 per cent.

Table 1 shows that the 1964 elk harvest and hunter effort was less than in 1962 and 1963. Much of the reduction in hunting effort may be due to effects of the March 27 seismic wave which destroyed privately-owned boats, caused the village of Afognak to be evacuated, and created employment for individuals who othewise would have been free to hunt. It is also possible that some potential elk hunters took advantage of an economical moose hunt offered by one of the local air taxi services rather than participate in the 1964 elk hunt.

Table 1.--Elk kills on the Afognak Island Group, 1962-1964.

Year	Kill	Number of hunters	Percent hunter success
1964	60	105	57%
1963	85	160	53%
1962	110	185	59%

Composition of the Harvest.

During the 1964 season, 60 per cent of the elk taken were males and 40 per cent were females. Calves comprised 8 per cent of the total elk harvest. Only seven elk jaws were collected and it was felt that this was not a sufficient number to determine the age composition of the elk harvest.

Distribution of the harvest by area.

The Raspberry Island herd sustained the heaviest kill of any herd, accounting for 47 per cent of the total harvest. Table 2 shows the 1963 and 1964 harvests by area. The two elk bag limit on Raspberry Island may have been responsible for the high percentage of total kill in this area. Tonki Cape and Interior Afognak Island contributed a very small portion of the total harvest.

Chronological distribution of the harvest.

Distribution of the harvest by month is presented graphically in Figure 1. The peak of the harvest occurred in October when 50 per cent of the elk were killed. Mild weather and reduced vegetative cover in October probably contributed to the success of elk hunters during this time.

Afognak Lake Range Studies--1964.

The Malina Lake herd and the Raspberry Straits-Afognak Lake herds wintered in the vicinity of Afognak Lake during the winter of 1963-64. Heaviest use of the willow species was found in Malka and Muskomee Valleys; however, browsing intensity was generally light with plant vigor fair to good and plant trend largely progressive. Only 17 per cent of the willow plants sampled were considered retrogressive as compared to 54 per cent in 1962.

The heaviest use in the elderberry range was found at the base of Hatchery Mountain and on the south slopes of Afognak Mountain. In these areas, the elderberry browsing was heavy to severe with the plant trend generally retrogressive. The average vigor factor was lower than in previous years and very little resprouting was evident.

Figure 1.--Chronological elk harvest on the Afognak Island Group in 1964.

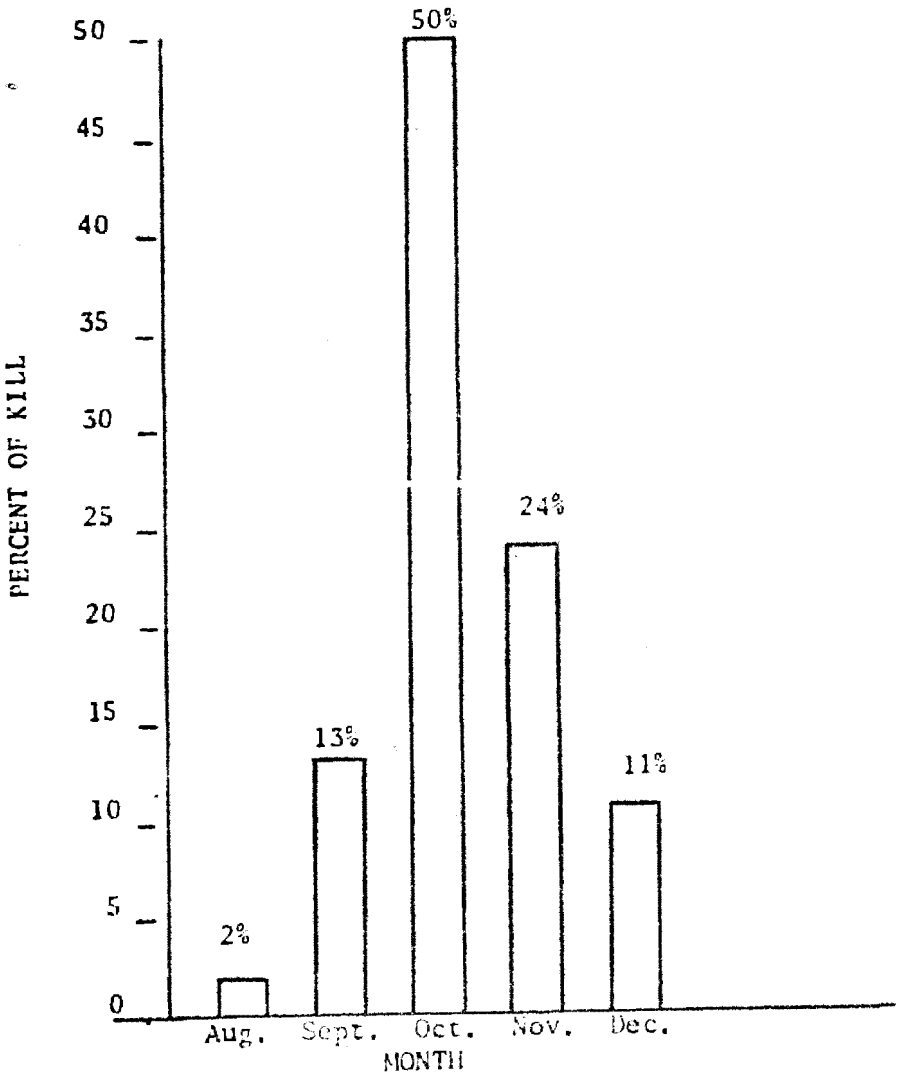


Table 2.--Distribution of elk harvest on the Afognak Island Group in 1963 and 1964.

Area	Number harvested		Percent of total	
	1963	1964	1963	1964
Raspberry Island	11	28	13%	47%
Malina	29	16	34%	27%
Raspberry Strait-Afognak Lake	11	12	13%	20%
Interior	15	4	18%	6%
Tonki Cape	19	0	22%	0%
Totals	85	60	100%	100%

The low vigor and large number of dead stems per plant appear to be caused by sustained browsing by elk and rapid advancement in plant succession.

ACKNOWLEDGEMENTS

John Mathies and Carl S. Wilhelm, Jr. Foresters for the U.S. Forest Service assisted in the establishment of range transects and analyzed the data.

WORK PLAN SEGMENT REPORT
FEDERAL AID IN WILDLIFE RESTORATION

STATE: Alaska

PROJECT NO.: W-6-R-5 and 6 TITLE: Alaska Wildlife Investigations

WORK PLAN: D TITLE: Statewide Data Collections

JOB NO.: 2 TITLE: Bison Studies

PERIOD COVERED: January 1, 1964 to December 31, 1964

ABSTRACT

Calf production of the Big Delta herd in 1964 was comparable with production in 1963. The percentage of calves observed in the herd was 19 percent in June and 17 percent in July.

A separate calving group of bison located on the Tanana River confirms the existance of a herd distinct from the Big Delta herd. Sixty-three bison were observed. Twenty-four percent were calves.

Calf production of the Copper River herd was 17.5 percent. Five cows, five calves and two bulls were observed on the Upper Chitina River. The adults are presumed to have come from the 1962 transplant to the Chitina River.

Three thousand five hundred applications were received for permits to harvest 20 bison from the Big Delta herd. The hunt commenced October 9 and ended October 14 when the 20th bison was taken. Fourteen males and 6 females were harvested.

Forty-three hunters harvested 14 bison during the registration Copper River bison hunt in 11 days, beginning on October 9, 1964 and ending October 19, 1964. Of the 14 bison harvested, 10 were males, 3 were females and one was unknown. Of the successful hunters, 11 utilized aircraft and 2 used river boats.

RECOMMENDATIONS

An annual permit hunt should be continued in both the Big Delta and Cooper River herds, and the number of animals harvested should be adjusted within the annual production.

WORK PLAN SEGMENT REPORT
FEDERAL AID IN WILDLIFE RESTORATION

STATE: Alaska

PROJECT NO.: W-6-R-5 and 6 TITLE: Alaska Wildlife Investigations

WORK PLAN: D TITLE: Statewide Data Collections

JOB NO.: 2 TITLE: Bison Studies

PERIOD COVERED: January 1, 1964 to December 31, 1964

OBJECTIVES

To determine annual population structure and production and implement management of the Big Delta and Cooper River bison herds.

TECHNIQUES

Aerial surveys were made in July and August to determine the annual production and herd composition of the Big Delta and Copper River bison herds.

Controlled hunts were conducted in the two herds in October, resulting in a harvest of 20 animals from the Big Delta herd, and 14 animals from the Copper River herd. A sample of animals was examined for parasitism and general health.

FINDINGS

Calf Production

On June 2 and 3 flights were made in the range of the Big Delta bison herd to determine their location and count calves.

A determined attempt was made to locate the calving grounds and establish calf production for the group of bison wintering in the Healy Lake area. On June 2, 1964 63 bison were located along the Tanana River from the mouth of the Volkmar River upstream to the mouth of the Gerstle River. Fifteen or 24 percent were calves. This observation confirms a report received in May 1963 of a group of bison with calves on the Tanana River.

On June 3, the Delta River Drainage was surveyed upstream to the Black Rapids Glacier. The calving segment of the Delta herd was located on its traditional calving grounds on the west side of the Delta River. A total of 149 bison were observed, 28 were calves (Table I). The total number of bison observed on the Delta River was lower than anticipated and a second count was planned.

Observations of the calving segment have revealed large variations in the total number of animals seen along the river within a period of only a few days. Local weather conditions apparently affect bison movements between the forest and river bars.

To obtain a reliable sample of calf production observations should be made until the observer feels the maximum number of bison are observed.

With the herd maintained at its present size, a sample of approximately 200 animals should provide an adequate sample of calf production.

Counts should be made only during the most favorable weather conditions. Counts conducted during the morning hours on warm windless days seem to give the best results.

The percentage of calves in the sample observed decreases with time primarily due to male bison regrouping with the calving segment of the herd as the breeding season approaches and loss of calves during the summer. Counts should be timed according to their purpose. Observations made in early June probably are much more representative of initial calf production than observations made later.

Late July counts are usually larger than June counts made under comparable conditions; therefore, late July counts more closely approach the total number of animals on the range.

The second count at Big Delta was made on July 28 and August 7. Two hundred and thirty bison including a minimum of 38 calves were observed on July 28. The bison were gathered in large groups and calves were difficult to count. The observers felt that not all calves were counted. On August 7, 29 adults and 6 calves were located on Jarvis Creek. This group may have been counted on July 28 but the observers felt that it was not.

The small differences in the percentage of calves obtained in the two counts made of the Big Delta herd (Table 1) is similar to the difference between the June and July counts made in 1963.

On July 28, 97 bison from the Copper River herd were observed on the Dadina River -- 17 were calves. Twelve bison were located July 30 on the Chitina River. Reports of other bison in the Chitina area could not be verified.

Two of the adult bison seen on the Chitina River were bulls and 5 were cows. Each cow was accompanied by a calf. The adults observed are probably some of the 35 bison from the Big Delta herd released at May Creek air field in 1962.

The observations made in both the Tanana River Drainage and Copper River Drainage have been separated into herds which are believed to be distinct and identifiable groups. This separation may prove to be premature, but in the advent that it is not, the separation will allow the maximum comparison of information on the herds.

Previous calf counts have not been made on the Tanana River or the Chitina River; therefore, they were not included in the comparison in Table II.

Movements and Distribution

The limited observations of the Healy Lake group suggest that this herd is distinct from the Big Delta herd. Unconfirmed reports place the group in the vicinity of the Gerstle River during most of the summer. Forty-nine bison (including 8 calves) were observed on Healy Lake December 3 again confirming the distinct wintering area for this herd. There is little opportunity for an exchange of individuals between the two herds.

No variations were observed of the movements previously reported for the Big Delta and Copper River herds.

Harvest

Big Delta Herd-A permit hunt for 20 animals was approved for the Big Delta herd. Twenty persons were selected to hunt and five persons selected as alternates from the 3,500 applications received. The public drawing was held on September 15.

The organization of the hunt was similar to the 1963 bison hunt. Five persons would be eligible to hunt each day commencing with the October 9 opening day. Each hunter was accompanied by a Department of Fish and Game employee.

The hunt progressed very well. Most hunters reported on the day they were eligible and killed their bison the same day. All animals were taken as scheduled, except one, which was taken October 14.

The sex ratio of the kill was 14 males and 6 females. One female was shot because she had a protracted uterus and was no longer of value to the herd. Another was shot accidentally and willingly accepted by another permittee. One large crippled male bison was sought out and killed. The 1964 harvest will have no significant effect on the reproduction of the herd.

Disease and parasite information from the harvested animals is reported in parasite and disease investigation, W-6-R-6.

Copper Delta Herd - Fourteen bison were killed during the Copper River bison hunt. Thirteen were taken by hunters and one was seen dead after being wounded by an unknown hunter. The sex of the kill was 10 males, 3 females and 1 unknown. All bison taken in the Copper River hunt were adults. Of the bison harvested, the majority were taken near the junction of the Dadina and the Copper Rivers. The 11 day registered hunt was conducted between the 9th and 19th of October, 1964.

Forty-three persons registered for the Copper River bison hunt. Twenty-eight of the hunters utilized aircraft, 10 utilized river boats, and the remainder hunted by vehicle or on foot. Of the successful hunters, 11 utilized aircraft and 2 used riverboats.

Figure 1 is a copy of the registration blank the Copper River bison hunters were required to fill out prior to hunting. The only explanation required regarding this form is the line entitled "plan to return by". This information was taken in the interest of public safety: in the event someone should become lost in the difficult terrain, a search could be initiated with some knowledge of the participant's intent to hunt a certain area.

Figure 2 is a copy of the instructions issued to the hunters before the Copper River bison hunt took place and is self explanatory.

Figure 3 is a map of the area open to bison hunting in the Copper River system. It was used to acquaint the hunters with the boundaries of the hunt area.

Figure 1. BISON HUNT REGISTRATION

COPPER RIVER

DATE: October , 1964

NAME: _____
Last First Initial

ADDRESS: _____ PHONE: _____

RESIDENT [ ] NON RESIDENT [ ] HUNTING LICENSE NO._____
NON RESIDNET TAG NO._____

TRANSPORTATION TYPE:

Aircraft No._____ Boat_____

Ground Vehicle_____ Foot_____

INTENDED HUNTING AREA (Drainage preferred): _____

_____ _____

_____ _____

PLAN TO RETURN BY:_____

* *

SUCCESSFUL: No [ ] Yes [ ]

SEX: ♀ [ ] ♂ [ ]

DATE OF KILL: _____

AREA OF KILL: _____

_____

_____

Figure 2. HUNTER INSTRUCTIONS

Copper River Bison Hunt, 1964

1. The hunt will begin on October 9, 1964 at 1:00 a.m. and end by field announcement when 15 mature bison have been taken.

2. The area you may hunt bison in is bounded on the west by the west bank of the Copper River; on the north by the north bank of the Sanford River and the Sanford Glacier; on the east by the boundary between Game Management Units 11 and 12, and on the south by the southern bank of the Kotsina River, and upstream along the southernmost bank of the Kotsina River to Granite Peak, thence along a line due north to the boundary line between Game Management Units 11 and 12.

3. Before your hunt begins, you just register into the hunting area in person at one of the two check stations maintained by the Alaska Department of Fish and Game at Gulkana Airfield and Chistochina. Registration for the hunt will begin at 7:00 a.m., October 9, 1964.

4. When your hunt ends, you must check out through the same check station where your originally registered.

5. Successful hunters must report their bison kill to the Alaska Department of Fish and Game Check Station within twenty-four (24) hours.

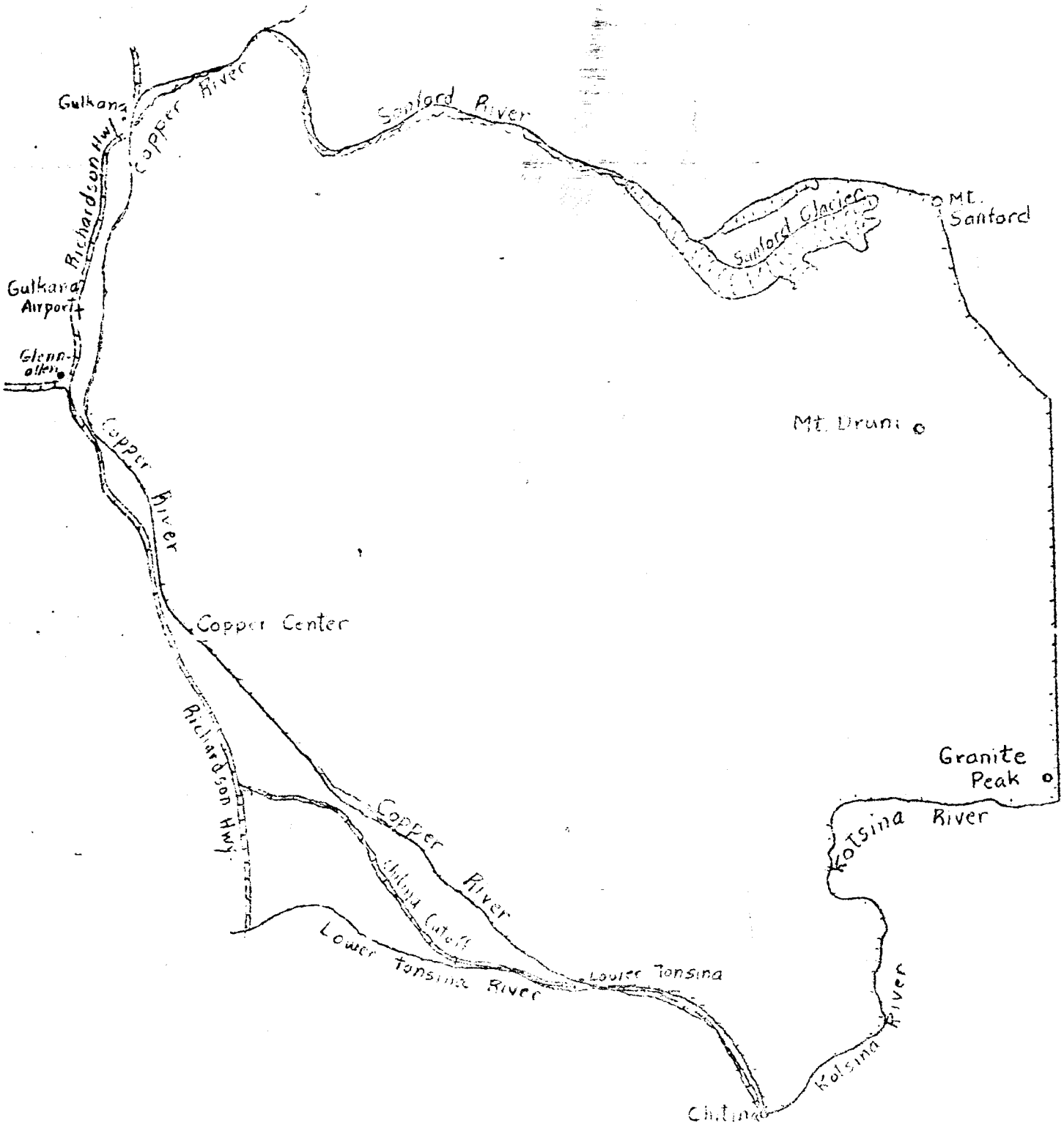
6. Bison hunters are required to have a transistor radio in camp and to tune into Station KCAM (790 on the radio dial) at 8:00 p.m. each day for the latest developments concerning the bison hunt. A rebroadcast will be made at 9:30 p.m. on the "Caribou Clatter" program.

7. When fifteen (15) bison are taken, the season will be closed by field announcement. The closure will be announced over Station KCAM (790 on the radio dial) at 8:00 p.m. and 9:30 p.m. of the day of the closure.

   On the day of the hunt closure an attempt will be made to contact all hunters in the field by a loud speaker system from an aircraft or by dropping a red streamer to hunters afield.

8. Any person who shall participate in this hunt contrary to provisions as herein defined shall be in violation of Title 16, Alaska Statutes, as amended, relating to fish and game resources.

Figure 3. COPPER RIVER BISON HUNT AREA, 1964



The area open to bison hunting as shown above is bounded on the west by the west bank of the Copper River; on the north by the north bank of the Sanford River and the Sanford Glacier; on the east by the boundary between Game Management Units 11 and 12, and on the south by the southern bank of the Kotsina River, and upstream along the southernmost bank of the Kotsina River to Granite Peak, thence along a line due north to the boundary line between Game Management Units 11 and 12.

Table I. 1964 Calf production counts.

Area and Herd	Date 1964	Total Number Bison Observed	Adults	Calves	Percent Calves In the Total Number Observed
Healy Lake Herd - Tanana River	June 2	63	48	15	24
Big Delta Herd - Delta River	June 3	149	121	28	19
Big Delta Herd - Delta River and Jarvis Creek	July 28 and Aug.	265	221	44	17
Copper River Herd - Dadina River	July 29	97	80	17	17.5
Chitina River Herd - Chitina River	July 30	12	7	5	42

Table II. Comparison of calf production

Big Delta Herd

Date					
May 27, 1961	263	216	52	19	15
June 26, 1962	258	227	31	12	8.4
June 5, 1963	177	142	35	20	--
June 3, 1964	149	121	28	19	--

Copper River Herd

July , 1962	74	61	13	21
July 28, 1964	97	80	17	17.5

WORK PLAN SEGMENT REPORT
FEDERAL AID IN WILDLIFE RESTORATION

STATE: Alaska

PROJECT NO.: W-6-R-5, 6 TITLE: Alaska Wildlife Investigations

WORK PLAN: D TITLE: Statewide Data Collections

JOB NO.: 3 TITLE: Goat Studies

PERIOD COVERED: January 1, 1959 to December 31, 1964

ABSTRACT

Aerial censuses of mountain goat populations in Southeast Alaska have been flown from 1959 to 1964. Goats were found to be present throughout the Coast Range and on Baranof Island. An average of 8.7 goats was observed per mile of mountain range flown. Highest concentrations were in the Sumdum and Petersburg districts. Kid-adult ratios averaged 30:100 ranging from 20:100 to 61:100. Populations in most areas appear to be static.

RECOMMENDATIONS

The areas which have not been surveyed from Berners Bay to Haines and in the vicinity of Wrangell should be checked to complete the distribution pattern of mountain goats in Southeast Alaska.

Counts should be made bi-annually on Baranof Island as hunting pressure could possibly influence goat populations in this locality.

WORK PLAN SEGMENT REPORT
FEDERAL AID IN WILDLIFE RESTORATION

STATE: Alaska

PROJECT NO.: W-6-R-5, 6 TITLE: Alaska Wildlife Investigations

WORK PLAN: D TITLE: Statewide Data Collections

JOB NO.: 3 TITLE: Goat Studies

PERIOD COVERED: January 1, 1959 to December 31, 1964

OBJECTIVES

To determine distribution, abundance, composition and population trends of mountain goats in Southeast Alaska.

TECHNIQUES

Aerial flights were made in August and September. A segment of mountain goat habitat was checked each year from 1959 through 1964. Some areas were flown several times as a check on previous counts. Total numbers of goats observed and kid-adult ratios were recorded. Flights were made during early morning and evening hours when goats were feeding on open alpine slopes. Single engine float planes ranging from Piper Super Cub to Cessna 185 were used for flights. Flight patterns followed the contour of the mountains at an elevation of about 3500 feet. No attempt was made to determine total populations, but rather location of major herds and general distribution.

FINDINGS

Distribution

Mountain goats occur naturally throughout the Coast Range of Southeast Alaska. Distribution has been extended by transplants to Baranof and Chichagof Islands. The Baranof transplant (1923) was successful and goats are now present in sufficient numbers to allow annual hunting. From 1953 to 1956, 17 goats were placed on Chichagof Island. Flights over the island in 1959, 1960, and 1961 revealed no evidence of goats, but there are unconfirmed reports of sightings of two in 1958 by an airlines pilot and of five in 1962 by an employee of the U. S. Forest Service.

Figure 1 shows the areas of Southeast Alaska where counts have been made. The only locations which support goat populations and have not been checked are in the vicinity of Haines and Skagway and a small area just east of Wrangell.

Tables 1 through 3 summarize counts made from 1959 to 1964. Table 1 gives the statistics for each count, Table 2 summarizes all counts and Table 3 lists the maximum number of goats observed for each area.

Goats were observed over a wide altitudinal range. The highest concentrations were usually between 3,000 and 5,000 feet, but scattered animals were observed to 7,000 feet. Alpine range with abundant available food occurs from about 2,500 to 4,000 feet. Above 4,000 feet little vegetation is present.

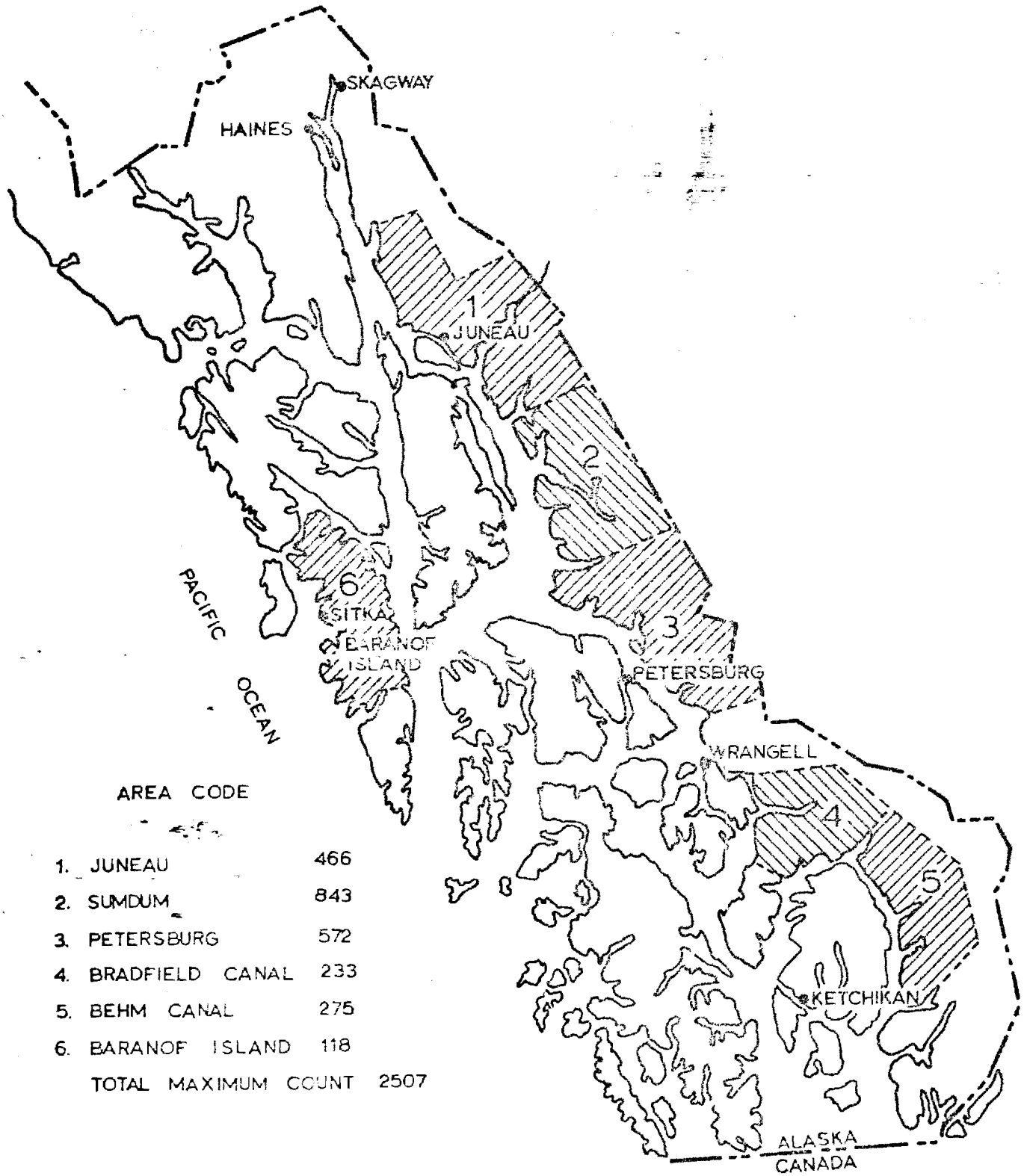
Populations

Herd size varied from single animals to over 50. The mainland area included in the census is about 275 miles long. In this distance 2,389 goats have been counted, an average of over 8.7 goats per mile. Some goats were found in all areas. The lowest populations were on Baranof Island, Bradfield Canal and Behm Canal. The greatest numbers were in the Petersburg and Sumdum areas. In the Sumdum district, 845 goats were observed in about 50 miles of coastal mountains, an average of 16.9 goats per mile.

Mountain goat populations appear to remain static in Southeast Alaska. Hunting pressure is very light and has little influence on goat numbers. Some areas, such as Sumdum and Bradfield Canal, receive practically no hunting pressure and yet numbers do not appear to change appreciably from year to year.

Composition

It was impossible to differentiate between sexes from an aircraft. Therefore only kid-adult ratios were determined. At the time of the year when counts are made the females, kids and young adult males congregate in herds while the older males are separated as singles or in small groups. The adult males also tend to prefer rougher, higher country than the herds and are more difficult to locate. For these reasons a greater portion of adult males are missed than other segments of the population and the observed kid-adult ratios are higher than in the total population. In areas where only large groups are located, the ratio is actually kids per adult females and yearlings rather than a true kid-adult ratio.



AREA CODE

1.	JUNEAU	466
2.	SUMDUM	843
3.	PETERSBURG	572
4.	BRADFIELD CANAL	233
5.	BEHM CANAL	275
6.	BARANOF ISLAND	118
	TOTAL MAXIMUM COUNT	2507

Mountain Goat Distribution
Southeast Alaska 1959-1964

MAXIMUM COUNT BY AREA

SCALE 1 INCH = 45 MILES

Table 1. Mountain goat counts in Southeast Alaska, 1959-1964.

Area 1 - Juneau

Date	Location	No. Kids	No. Adults	Kid-Adult Ratio	Total Count
8-25-61	Salmon Ck. to Berners Bay	61	216	28:100	277
9-11-61	Taku River to Salmon Ck.	23	107	21:100	130
9- 2-62	Mendenhall Gl. to Berners Bay	30	147	20:100	177
9-17-62	Taku River to Carlson Ck.	40	131	30:100	171
	Totals	154	601	26:100	755

Area 2 - Sumdum

Date	Location	No. Kids	No. Adults	Kid-Adult Ratio	Total Count
8-18-61	Port Houghton to Endicott Arm	74	178	42:100	252
9- 3-62	Endicott Arm to Whiting R.	118	475	25:100	593
	Totals	192	653	29:100	845

Table 1. (Continued)

Area 3 - Petersburg

Date	Location	No. Kids	No. Adults	Kid-Adult Ratio	Total Count
8-18-59	LeConte Bay to Baird Gl.	29	89	33:100	118
9-21-59	LeConte Bay to Stikine R.	21	58	36:100	79
8-22-60	Stikine R. to Patterson Gl.	79	184	43:100	263
9- 1-60	Patterson Gl. to Farragut R.	21	90	23:100	111
8-17-61	Farragut R. to Port Houghton	55	124	44:100	179
	Totals	205	545	38:100	750

Area 4 - Bradfield Canal

Date	Location	No. Kids	No. Adults	Kid-Adult Ratio	Total Count
8-19-61	Aaron Ck. to Unuk R.	13	46	28:100	59
9- 3-64	Aaron Ck. to Unuk R.	19	93	20:100	112
	Totals	32	139	23:100	171

Table 1. (Continued)

Area 5 - Behm Canal

Date	Location	No. Kids	No. Adults	Kid-Adult Ratio	Total Count
9-12-60	Wilson Arm to Walker Cove	20	33	61:100	53
8-10-61	Wilson Arm to Rudyerd Bay	15	28	54:100	43
9-12-61	Rudyerd Bay to Walker Cove	3	36	8:100	39
9-12-64	Walker Cove to Yes Bay	50	174	29:100	224
	Totals	88	271	32:100	359

Area 6 - Baranof Island

Date	Location	No. Kids	No. Adults	Kid-Adult Ratio	Total Count
9- 1-60	Whale Arm to Peril Strait	26	90	29:100	116
9-11-61	Whale Arm to Peril Strait	20	98	20:100	118
	Totals	46	188	24:100	234

Table 2. Summary of mountain goat counts in all areas of Southeast Alaska, 1959-1964.

	Area	No. Kids	No. Adults	Kid-Adult Ratio	Total Count
1.	Juneau	154	601	26:100	755
2.	Sumdum	192	653	29:100	845
3.	Petersburg	205	545	38:100	750
4.	Bradfield Canal	32	139	23:100	171
5.	Behm Canal	88	271	32:100	359
6.	Baranof Island	46	188	24:100	234
	Totals	717	2,397	30:100	3,114

Table 3. Maximum number of mountain goats counted in each area of Southeast Alaska, 1959-1964.

	Area	Maximum Count
1.	Juneau	466
2.	Sumdum	843
3.	Petersburg	572
4.	Bradfield Canal	233
5.	Behm Canal	275
6.	Baranof Island	118
	Total Maximum Count	2,507

The average kid-adult ratio for all counts was 30:100. Individual counts ranged from a low of 20:100 to a high of 61:100; the range between districts was from 23:100 to 38:100. Kid-adult ratios have remained relatively constant over the five year period.

Mortality factors, other than hunting, must be limiting goat numbers. Mainland winters are quite severe and probably account for most of the deaths. Wolves are present in the southern portion of the mainland range but only rarely north of the Sumdum district. Their presence does not appear to be a limiting factor.

Most goat populations are relatively inaccessible except by aircraft and even then a lake must be available as a landing site. Hunting is concentrated in the few accessible areas while the majority remains untouched. Goat are plentiful even adjacent to major towns such as Juneau, a town of over 6,000 people, but because of the difficulty of access, goat numbers appear to remain static.

About 30 goats are taken annually from Baranof Island. The presence of several lakes in good goat habitat and the proximity of the town of Sitka make this locality more vulnerable to hunting than most other areas of Southeast Alaska.

WORK PLAN SEGMENT REPORT
FEDERAL AID IN WILDLIFE RESTORATION

STATE: Alaska

PROJECT NO.: W-6-R-5, 6 TITLE: Alaska Wildlife Investigations

WORK PLAN: D TITLE: Statewide Data Collections

JOB NO.: 4 TITLE: Hunter Access Studies

PERIOD COVERED: January 1, 1964 to December 31, 1964

ABSTRACT

Potential and existing hunter access sites on the Glenn, Richardson, Denali, and Fairbanks-Anchorage highways and the Lake Louise Road were examined.

WORK PLAN SEGMENT REPORT
FEDERAL AID IN WILDLIFE RESTORATION

STATE: Alaska

PROJECT NO.: W-6-R-5, 6 TITLE: Alaska Wildlife Investigations

WORK PLAN: D TITLE: Statewide Data Collections

JOB NO.: 4 TITLE: Hunter Access Studies

PERIOD COVERED: January 1, 1964 to December 31, 1964

OBJECTIVES

To investigate existing and potential access to public hunting areas.

To make recommendations for orderly selection and withdrawal of lands for purposes of insuring hunter access to harvestable game populations.

TECHNIQUES

A cooperative field trip with personnel of the Sport Fish Division during portions of September and October 1964 provided the information presented in this report.

FINDINGS

Areas Investigated

A. Glenn Highway (Chickaloon-Eureka)
B. Lake Louise Road
C. Richardson Highway (Gulkana-Paxson Lake)
D. Richardson Highway (Copper Center-Thompson)
E. Denali Highway (Paxson-Cantwell)
F. Fairbanks-Anchorage Highway (Cantwell-Summit)

Hunter Access status

A. Glenn Highway

Present: Most of the land lying on either side of the Glenn Highway between the Chickaloon River and Eureka has been entered for homestead purposes. A hunter access problem currently exists as much of the land is posted "No Trespass".

Potential: Access problems will be compounded in the future unless:

1. Rights of way are acquired from private land owners.
2. Quitclaims are granted by entrymen.
3. Sites and rights-of-way for hunter trails are requested from Alaska Division of Lands (on state selected tracts).
4. The Department of Highways assists in providing parking pull-off areas along State highways.

Land status record searches indicate that Chickaloon, Nelchina, Hicks Creek, Eureka South, Crosswind-Grayling-Ewan, Lost Cabin Jerky and Mae West Lake trail-routes have been noted on official Bureau of Land Management records under 44 LD 513, ET.El. The degree and extent of safeguarding public passage on the above listed trails under precedent LD 513 are only as effective as the Bureau of Land Management wishes to make them.

B. Lake Louise Road

Present: Very few land entrees have been made and virtually the entire area is open to acquisition effort.

Potential: Planned angler rights-of-way dedication work on Burnt Lake (Milepost 2.5), Elbow Lake (M.P. 12.4), Caribou Lake (M.P. 13.0), Peter, Paul, and Mary Lakes (M.P. 13.8), Spruce Lake (M.P. 14.7), and Sarani Lake (M.P. 16.6) will be of value as hunter access trails.

C. Richardson Highway (Gulkana-Paxson Lake)

Twelve recent homestead entries were noted in this area, most encompassing the highway. All lands were posted with various types of "No Trespassing" signs. Department of Highway material sites, ADFG-USFWS angler access trails and BLM access roads were often posted by homesteaders in the area.

D. Richardson Highway (Copper Center-Thompson Pass)

The construction and extension of the State financed Klutina-Hudson access road beginning at Copper Center airstrip, will create interest in a new hunting and fishing area. Highway rights-of-way currently provide boat and on-foot access to Willow, Pippen, and Summit Lakes and many bank areas of the Tiekel River.

E. Denali Highway (Paxson-Cantwell)

Land status records indicate the greater portion of adjacent lands are still unreserved public domain and open to all forms of settlement. Several townships are being selected by the State in the Tangle River and Lakes areas. Numerous small acreage sites have been posted in the vicinity of mile posts 7-18, 60-85, and 100-120.

This excellent caribou range appears to require large tracts for hunter access. Dedicated angler access trails at Seven mile, Nine mile, Sixteen mile, Caribou, and Lavery Lakes are of assistance to hunters in locating access routes. Upper Tangle Lakes boat launching site, which has been requested for public access, provides a route to excellent hunting and fishing areas. Proposed rights-of-way dedication on existing trails to Nadi (Butte) and Sand Lakes will be of value to a hunter access program.

F. Fairbanks-Anchorage Highway (Cantwell-Summit)

Hunter access requirements for this area are unknown at present. However, when the highway can be used, definite access work will be required. Extensive mining claims will be encountered north of Cantwell. This area has minor private holdings at present, with the majority of land ownership rested in the State of Alaska and the Bureau of Land Management.

RECOMMENDATIONS

A. The ADFG and BLM can form co-operative land management agreements. An excellent opportunity exists for such an agreement on the Gulkana River area.

B. Acquisition of rights-of-way across private holdings, even to the extent of issuing restraining orders followed by permanent injunctions in some cases, appears to be the only course left open to parties interested in acquiring access rights.

SUBMITTED BY:

Loren Croxton
Work Plan Leader

APPROVED BY:

Don H. Strode
Federal Aid Coordinator

James H. Brooks
Director Division of Game