

A PROGRESS REPORT  
ON THE  
SQUANGA LAKE WOODLAND CARIBOU  
IMMOBILIZATION PROGRAM  
NOVEMBER 25, 1978

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C O N T E N T S

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## INTRODUCTION

Foothills Pipeline Ltd. retained the Yukon Game Branch to conduct migration studies on the Squanga Lake caribou population. A telemetry program was designed and implemented by the Branch. This report summarizes the results to date.

## MATERIALS AND METHODS

In order to obtain a general picture of caribou movements in relation to the proposed pipeline route, individuals from three potentially separate sub populations were fitted with radio transmitters. These caribou were selected according to their proximity to the proposed route, the sex of the animal and the density of each population (Fig. 2).

A combination of Etorphine (M99) and Acepromazine was used as an immobilization agent. Drug dosages as well as reactions to the drug varied due to the unfamiliarity of its affects on woodland caribou (Table 1). Etorphine has only recently become available to biologists in Canada. A veterinarian was hired on contract for the duration of the field operation.

Standard measurements were recorded from the immobilized animals and each was fitted with coloured plastic ear tags. Transmitter collars were painted with a bright orange paint to facilitate relocation.

TABLE 1 Immobilization Data on Squanga Lake Caribou

<u>Animal</u>	<u>Age</u>	<u>Sex</u>	<u>Weight (kg)</u>	<u>Immobilization Dosages (mg/kg)</u>		<u>Induction Time (Min.)</u>	<u>Antidote Dosage (mg)</u>	<u>Recovery Time (Min.)</u>
				<u>M99</u>	<u>Acepromazine</u>			
1	old	♀	135 (estimated)	3.0	10.0	15.0	1.5	3.0
2	mature	♀	123	3.0	12.5	18.0	4.0	3.0
3	old	♀ calf	139	3.0	12.5	17.5	4.0	3.5
4	mature	♀ calf	132	3.0	12.5	25.0	4.0	1.5
5	mature	♂	195 (estimated)	5.8	30.0	61.5	6.0	3.5
6	mature	♀ calf	150	3.0	12.5	64.0	4.0	1.5

The transmitters, which were designed by Canadian Wildlife Service (Ottawa) weigh approximately 300 g (transmitter plus collar) and affixed around the neck with pop rivets. The transmitters, which are equipped with a magnetic on - off switch, have a life expectancy of between 120 - 150 weeks, depending upon the pulse rate. Optimal frequencies were pre-determined and occur in the 171.97 - 172.20 MHz band.

A model La 12 portable radiotelemetry receiver, equipped with a four beam antenna were used to obtain fixes on the transmitters. Initially, a Turbo Beaver was used to relocate animals, however, a Gazelle helicopter was later employed. It was felt that visual contact was necessary, at least on the first relocation sightings, to verify the health of the animal and the accuracy of the equipment. Visual contact proved to be very difficult from the fixed wing plane.

Records were kept on numbers and sex of caribou running with collared animals as well as groups observed during the immobilization and relocation operations.

## RESULTS

Thirteen attempts were made to tranquilize caribou between September 1 to 4. Seven animals were successfully collared and four were lost after being darted due to heavy timber, low fog or lack of daylight. Two animals were killed during the tagging operation and two more were

found dead later. This results in a 38% success and a 30% fatality rate.

Presently there are five caribou fitted with transmitters. Relocation of these animals was accomplished during five flights (November 2, 7, 9, 20 and 21). Visual contacts were made on all animals. Movements (straight line distances) from the original immobilization sites varied from between one to sixteen miles (Fig. 1).

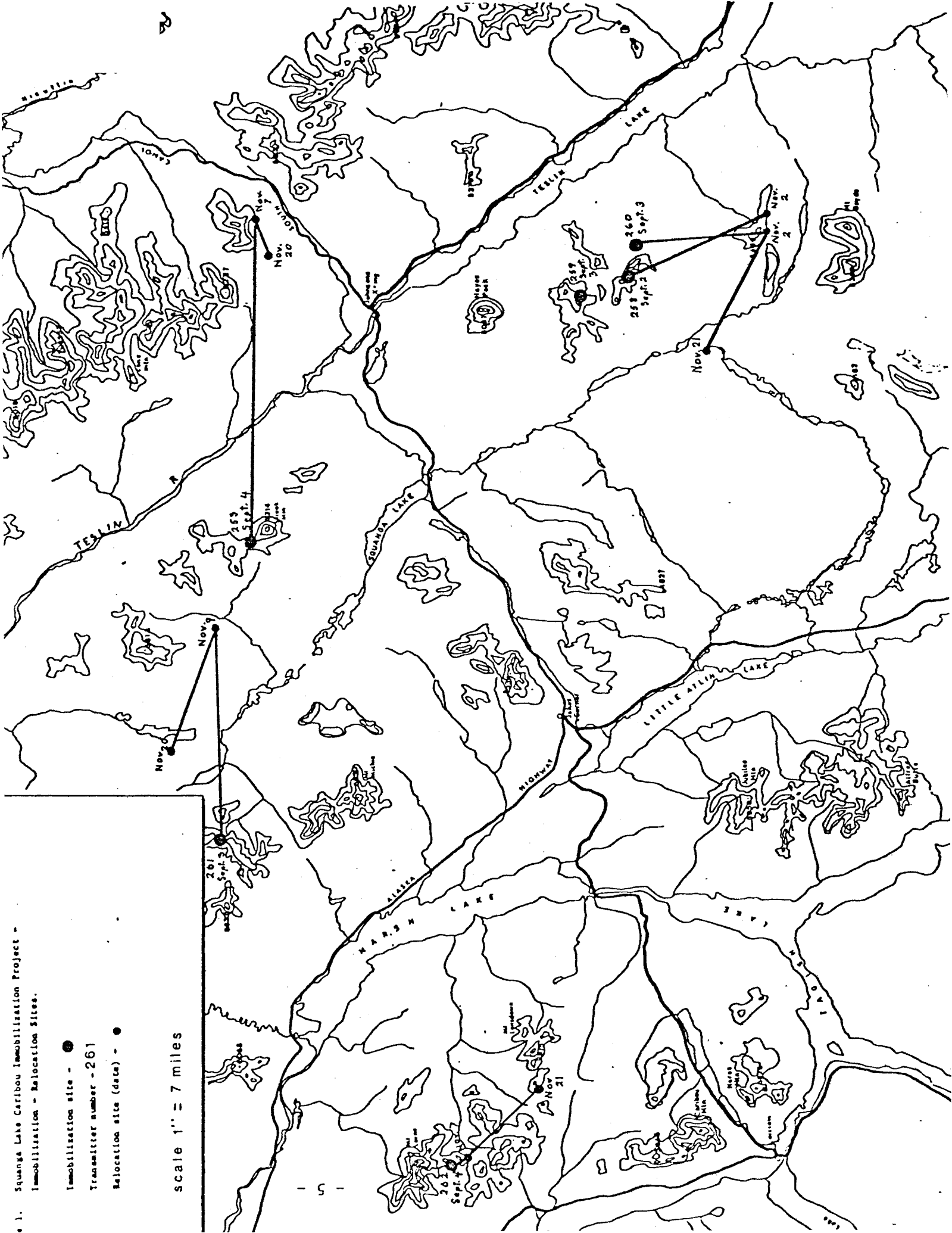
Thirty-three groups of caribou (accumulative) have been recorded to date (including collared animals, relocation of collared animals and additional group sightings) (Fig. 2)

The type of habitat each group was observed in as well as the elevation was recorded (see field notes).

e. 1. Squange Lake Caribou Immobilization Project -  
Immobilization - Relocation Sites.

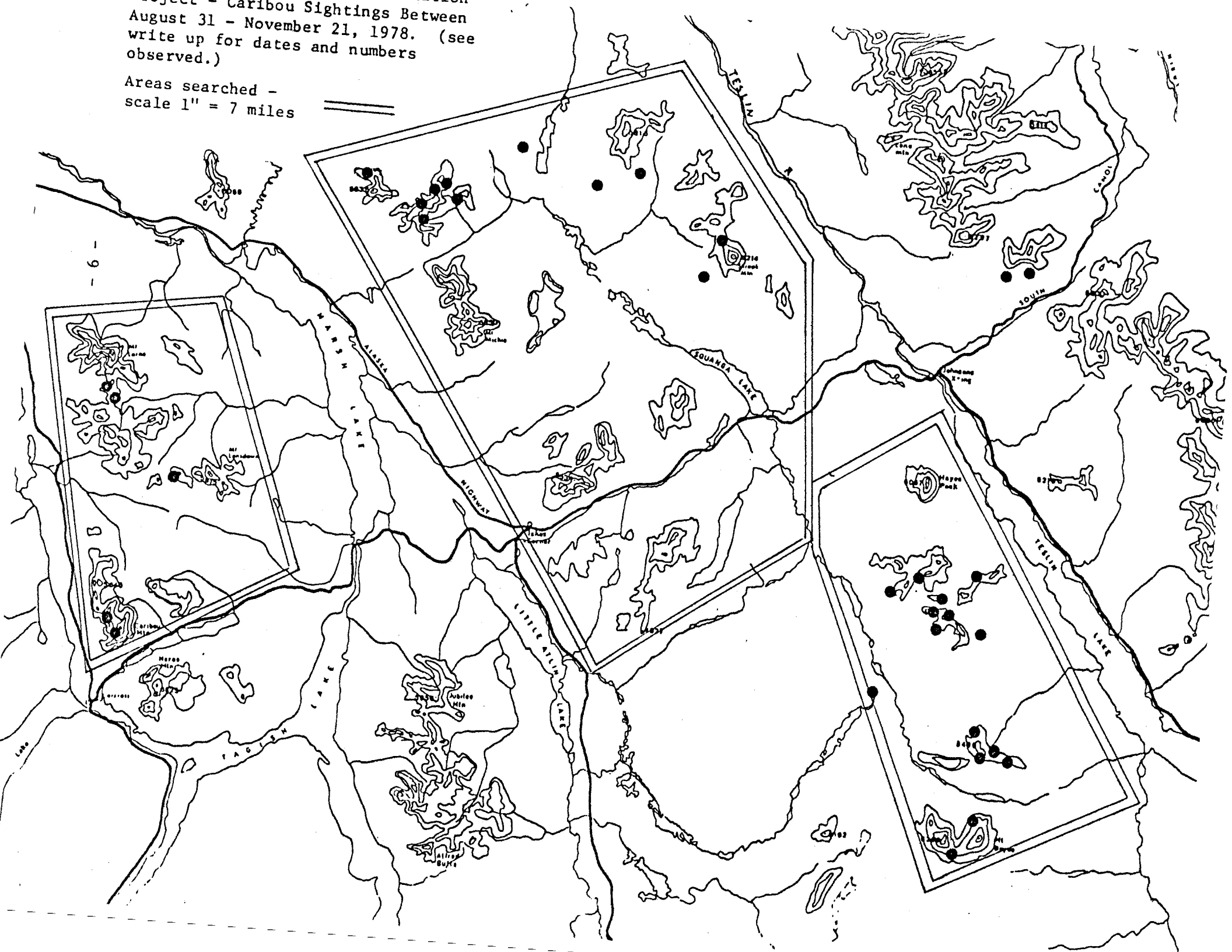
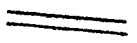
- Immobilization site -
- Transmitter number - 261
- Relocation site (date) -

scale 1" = 7 miles



Project - Caribou Sightings Between  
August 31 - November 21, 1978. (see  
write up for dates and numbers  
observed.)

Areas searched -  
scale 1" = 7 miles





PROJECT COSTS TO NOVEMBER 15, 1978

Equipment:	Drugs	\$	503.25
	Drugs - Freight		40.90
	Transmitters		802.25
	Receiver		785.00
	Receiver - Customs and Exchange		545.86
	Receiver - Freight		40.80
	Veterinary Supplies		250.00
	Immobilization Equipment		838.00
	Miscellaneous Equipment		569.00
Aircraft:	Helicopter		
	Jet Ranger @ 325/hr		832.94
	Gazelle @ \$350/hr		9,479.21
	Extra Fuel		454.45
	Fixed Wing		
	Turbo Beaver @ \$186/hr		706.80
Personnel:	Contract Veterinarian - 5 days @ \$200/day		1,000.00
	Game Branch Employees		<u>1,811.20</u>
	TOTAL	\$	<u><u>19,659.66</u></u>

IMMOBILIZATION

FIELD NOTES

CARIBOU IMMOBILIZATION PROGRAM - SQUANGA LAKE

Date: August 31, 1978

Aircraft: Jet Ranger (206B), T.N.T.A.

Pilot: Kerry Guenter

Crew: D. Larsen, navigator-recorder  
W. Kale

Weather: Overcast, wind 10 - 15 m.p.h., 10 - 15°C

Helicopter time: 3.1 hours

Observations: An intensive search for caribou above tree line was conducted in the following areas: ridges west of Cantlie Lake and south of Jake's Corner, Hayes Peak, Streak Mountain and Mount Michie complexes. Seven caribou were observed (4♀♀, 1♂, 1 calf, 1♀).

Two females and one calf were observed six miles north of Mount Michie, the single female was eight miles south of Hayes Peak.

Three black bears were observed, all were in the alpine. Two were between Mount Michie and Jake's Corner and the third was at Hayes Peak.

D.L.

CARIBOU IMMOBILIZATION PROGRAM - SQUANCA LAKE

Date: September 1, 1978

Aircraft: Shirley Helicopters - Gazelle

Pilot: W. Eng

Crew: M. Hoefs  
D. Larsen  
D. Pitt-Brooke

Weather: Cool, overcast

Observations: One group of caribou (1♂, 3♀♀, 1 yearling) was observed 8 miles north of Mt. Michie. A single ♀ was also seen in the same area.

An attempt was made to tranquilize the animal on the ground. However, due to low clouds, we were unable to follow the darted animal.

D.L. .

CARIBOU IMMOBILIZATION PROGRAM - SQUANGA LAKE

Date: September 2, 1978

Aircraft: Shirley Helicopters - Hughes 500

Pilot: B. Cleveland

Crew: M. Hoefs  
D. Larsen  
D. Pitt-Brooke

Weather: overcast, warm

Observations: Two ♀♀ and 2 calves were observed 8 miles north of Mt. Michie. Three separate groups were seen 7 miles south of Hayes Peak (1♂, 3 possible males; 5♀♀, 1♂).

One of the calves at Mt. Michie was accidentally drugged and died immediately from internal bleeding. Both of the males in the Hayes Peak area were drugged and subsequently lost. One ♀ was collared in this area - Collar #258.

D.L.

BRANCH CARIBOU INVESTIGATION DATA SHEET

Location of investigation (population):... Squanga.....

Date of investigation:... September 2, 1978.....

Capture location:... S.E. of Hayes Peak.....

Type of animal (species, sex, age):... ♀ (old).....

Weight of animal:... No weight.....

Heart girth:... 52".....

Total length:... 84".....

Ear length:... 6".....

Tail length:... 8½".....

Hindfoot length:... 24½".....

Shoulder height:... ..

Chest height:... ..

Antlers: length of main beam: left: 14½..... right: 13.....  
number of points: left: 5..... right: 4.....

If female (young at heel, or lactating)?: lactating - no young.....

Amount of tranquilizer given (M-99)?: 3mg.....

Time between administration of tranquilizer  
and animal down? (reaction time):... 15 minutes.....

Amount of antidote (M-50/50) administered?: 1.5mg.....  
Reaction time?:... standing within 3 minutes.....

Numbers of ear tags and colour combinations:.....  
right ear ? : 8 orange.  
left ear ? : 7 orange.  
Opt.

Frequency of transmitter?: 171.971... Setting... Band 1 Ch. 4 Freq. 3.5.....

Colour and type of collar attached?: Collar 258 (wide collar).....

Additional information:.....  
.....  
.....  
.....  
.....

CARIBOU IMMOBILIZATION PROGRAM - SQUANGA LAKE

Date: September 3, 1978

Aircraft: Shirley Helicopters - Gazelle

Pilot: W. Eng

Crew: M. Hoefs  
D. Larsen  
D. Pitt-Brooke  
L. Mychasiw

Weather: overcast, cool, calm

Observations: The following groups were observed 6 - 8 miles south of Hayes Peak (3♀♀, 2 calves, 3♀♀, 5♀♀, 1 calf). On Mt. Bryde and ridges six miles north, the following were seen: 1♀, 1 calf; 6♀♀; 1 yearling; 4♀♀, 3 calves; 1♂.

Two ♀♀ and 1 calf (probably the same group from which the calf was accidentally killed on September 2nd) were seen north of Mt. Michie.

The lone male which was darted on September 2nd and subsequently lost was found dead. Cause of death was internal injuries inflicted from falling down a talus slope.

Three ♀♀ were collared: #259 and 260 in the Hayes Peak area; #261 in the Mt. Michie area.

D.L.

BRANCH CARIBOU INVESTIGATION DATA SHEET

Location of investigation (population):.. Squanga.....  
 Date of investigation:.... September 3, 1978.....  
 Capture location:.. 8 miles S. of Hayes Peak.....  
 Type of animal (species, sex, age):.. ♀.....  
 Weight of animal:.. 270.....  
 Heart girth:..... 50".....  
 Total length:..... 80".....  
 Ear length:..... 5 7/8".....  
 Tail length:..... 7 7/8".....  
 Hindfoot length:.. 21".....  
 Shoulder height:..... 7.....  
 Chest height:..... 7.....  
 Antlers: length of main beam: left: 19".... right: 19"....  
 number of points: left: 6".... right: 6"....  
 If female (young at heel, or lactating)?:.... No.....  
 Amount of tranquilizer given (M-99)?:.... 3mg.....  
 Time between administration of tranquilizer  
 and animal down? (reaction time):..... 18 minutes.....  
 Amount of antidote (M-50/50) administered?:.... 4mg.....  
 Reaction time?:..... 3 minutes.....  
 Numbers of ear tags and colour combinations:.....  
 right ear ? : 9 white...  
 left ear ? : 10 white...  
 Opt.  
 Frequency of transmitter?:..... Setting Band Ch. Freq.....  
 Colour and type of collar attached?: wide band #259.....  
 Additional information:..... heart - 60.....  
 ..... temp. - 43.2°.....  
 .....  
 .....





E BRANCH CARIBOU INVESTIGATION DATA SHEET

POST-MORTEM

Location of investigation (population):... Squanga .....

Date of investigation:..... September 3, 1978. (dated September 2 - 8 P.M.)

Capture location:.... S. of Hayes Peak .....

Type of animal (species, sex, age):... ♂ (large) .....

Weight of animal:.... 462 lbs .....

Heart girth:..... 66 .....

Total length:..... 90" .....

Ear length:..... 5 7/8" .....

Tail length:..... 6" .....

Hindfoot length:.. 24" .....

Shoulder height:..... .....

Chest height:..... .....

Antlers: length of main beam: left: 48 1/2" ... right: 41 1/2" ...

number of points: left: 12 ..... right: 17 .....

If female (young at heel, or lactating)?:..... .....

Amount of tranquilizer given (M-99)?:... 4mg ... (September 2nd - late evening)

Time between administration of tranquilizer and animal down? (reaction time):..... .....

Amount of antidote (M-50/50) administered?:..... .....

Reaction time?:..... .....

Numbers of ear tags and colour combinations:..... .....

right ear ? :..... .....

left ear ? :..... .....

Opt.

Frequency of transmitter?:..... Setting Band Ch. Freq. ....

Colour and type of collar attached?:..... .....

Additional information:..... - fell down talus slope (approx. 50') .....

..... - esophagus and mouth filled with stomach ..

..... content .....

..... .....

E BRANCH CARIBOU INVESTIGATION DATA SHEET

Location of investigation (population):... Squanga Lake.....  
Date of investigation:.. September 3, 1978.....  
Capture location:.. N.N.W. Mt. Michie - 12 miles - sight of accidental death of calf  
Sept. 2.  
Type of animal (species, sex, age):.. ♀ and calf.....  
Weight of animal:.. 290 lbs.....  
Heart girth:..... 50"  
Total length:..... 78"  
Ear length:..... 6"  
Tail length:..... 8 5/8"  
Hindfoot length:..... 20 1/2"  
Shoulder height:..... -  
Chest height:..... -  
Antlers: length of main beam: left:.. 15 1/2".... right:.. 15 3/4".  
number of points: left:.. 2..... right:.. 3.....  
If female (young at heel, or lactating)?:.. yes.....  
Amount of tranquilizer given (M-99)?:.. 4mg.....  
Time between administration of tranquilizer  
and animal down? (reaction time):..... 20 - 30 minutes - perhaps didn't receive full  
dosage.  
Amount of antidote (M-50/50) administered?:.. 4mg.....  
Reaction time?:..... 1 1/2 minutes.....  
Numbers of ear tags and colour combinations:.....  
right ear?:.. 32 yellow.  
left ear?:.. 31 yellow.  
Opt.  
Frequency of transmitter?:..... Setting Band Ch. Freq.....  
Colour and type of collar attached?:.. #261 (wide band).....  
Additional information:..... temp. 42:.....  
..... heart rate - 66.....  
..... middle age - 6 - 8 years.....  
..... young grizzly was seen close to Jake's Corner.....

CARIBOU IMMOBILIZATION PROGRAM - SQUANGA LAKE

Date: September 4, 1978

Aircraft: Shirley Helicopters - Gazelle

Pilot: W. Eng

Crew: M. Hoefs  
D. Larsen  
D. Pitt-Brooke  
M. George

Weather: Clear, calm, sunny

Observations: One large male was observed on Streak Mtn. One group (1♂, 5♀♀, 3 calves) was seen on Caribou Mtn. and a ♀ with calf on Mt. Lorne.

The single male (#253) on Streak Mtn. was collared as well as the ♀ on Mt. Lorne. (#262)

D.L.

E BRANCH CARIBOU INVESTIGATION DATA SHEET

Location of investigation (population): Squanga - Michie

Date of investigation: Streak Mountain, September 4, 1978

Capture location: Streak Mountain

Type of animal (species, sex, age): caribou, ♂, middle to old age

Weight of animal: no weight (estimate 400 - 420 lbs)

Heart girth: 63"

Total length: 8' 4"

Ear length: 6 1/8"

Tail length: 7"

Hindfoot length: 25"

Shoulder height: 50"

Chest height: 26"

Antlers: length of main beam: left: 48" right: 44"

number of points: left: 15 right: 14

If female (young at heel, or lactating)?

Amount of tranquilizer given (M-99): two shots 1) 4mg, 2) 1.8mg

Time between administration of tranquilizer and animal down? (reaction time): 61.5 minutes until down

Amount of antidote (M-50/50) administered? 6mg

Reaction time? 3.5 minutes up and back down, 8 - up and down, 5 - 6 hrs. later still very docile

Numbers of ear tags and colour combinations: red - red

right ear?: red #30

left ear?: red #29

Opt.

Frequency of transmitter?: Setting Band Ch. Freq.

Colour and type of collar attached?: orange, narrow, 2 extensions put on in field #253

Additional information: Heart rate - 120+

Temp. - 42.8 sides of anus

Collar was 42" - narrow collar

E BRANCH CARIBOU INVESTIGATION DATA SHEET

Location of investigation (population): Squanga

Date of investigation: September 4, 1978

Capture location: Mt. Lorne

Type of animal (species, sex, age): ? with calf

Weight of animal: 325 - 330 lbs.

Heart girth: 52 1/2"

Total length: 86"

Ear length: 5 7/8"

Tail length: 7"

Hindfoot length: 23 1/2"

Shoulder height: 46"

Chest height: 24"

Antlers: length of main beam: left: 24 1/2" right: 24"

number of points: left: 6 right: 5

If female (young at heel, or lactating)? with calf

Amount of tranquilizer given (M-99)? 3mg

Time between administration of tranquilizer and animal down? (reaction time): 27 minutes

Amount of antidote (M-50/50) administered? 4mg

Reaction time? 1 minute 38 seconds

Numbers of ear tags and colour combinations:

right ear #: #12 - yellow

left ear #: #11 - blue

Opt.

Frequency of transmitter? Setting Band Ch. Freq.

Colour and type of collar attached? collar #262

Additional information: Temp. 42.3°

Heart - 64

CARIBOU IMMOBILIZATION PROGRAM - SQUANGA LAKE

Date: October 12, 1978

Aircraft: Shirley Helicopters - Gazelle

Pilot: W. Eng

Crew: M. Hoefs  
D. Larsen  
W. Kale

Weather: Windy, overcast, +1°C, 1 inch snow above treeline

Observations: Two groups of caribou were observed: the first (3♂, 4♀) eight miles north of Mt. Michie, and the second (6♂, 11♀, 3 calves) on Caribou Mtn. One grizzly was seen in the willow - shrub zone on Mt. Michie. All caribou were above treeline.

Two attempts were made to tranquilize caribou. The first was a mature bull from the Mt. Michie group. The animal was collared, however, it died later possibly from internal injuries inflicted from a fall. The second attempt was a barren female from the Caribou Mtn. group. She was eventually lost in the fog.

Males from both groups were demonstrating definite rutting behaviour.

D.L.

E BRANCH CARIBOU INVESTIGATION DATA SHEET

Location of investigation (population):... Squanga Lake .....

Date of investigation:.. October 12, 1978 .....

Capture location:.... Caribou Mountain .....

Type of animal (species, sex, age):... ♀ .....

Weight of animal:.....

Heart girth:.....

Total length:.....

Ear length:.....

Tail length:.....

Hindfoot length:.....

Shoulder height:.....

Chest height:.....

Antlers: length of main beam: left:..... right:.....  
number of points: left:..... right:.....

If female (young at heel, or lactating)?:.....

Amount of tranquilizer given (M-99)?:. 1st dart -. 3cc . 2nd dart -. 3cc ...

Time between administration of tranquilizer  
and animal down? (reaction time):..... 1st and 2nd -. 30 minutes...  
2nd to down - lost in fog

Amount of antidote (M-50/50) administered?:.....

Reaction time?:.....

Numbers of ear tags and colour combinations:.....  
right ear ? :.....  
left ear ? :.....

Frequency of transmitter?:.....  
Opt. Setting Band Ch. Freq. ....

Colour and type of collar attached?:.....

Additional information:..... 1st dart - neck .....

..... 2nd dart - hind quarters .....

..... animal lost in fog .....

.....

.....



E BRANCH CARIBOU INVESTIGATION DATA SHEET

Location of investigation (population):...Svavanga Lake.....

Date of investigation:...October 12, 1978.....

Capture location:.....Mt. Michie.....

Type of animal (species, sex, age):...♂ mid to old age.....

Weight of animal:.....470 lbs.....

Heart girth:.....62".....

Total length:.....101".....

Ear length:.....5½".....

Tail length:.....8½".....

Hindfoot length:.....24½".....

Shoulder height:.....50".....

Chest height:.....29".....

Antlers: length of main beam: left:..49.... right:..47.....

number of points: left:..13.... right:..14.....

If female (young at heel, or lactating)?:.....

Amount of tranquilizer given (M-99)?: 1st dart - 5mg .. 2nd dart - 3mg - total 8mg

Time between administration of tranquilizer  
and animal down? (reaction time): 1st to 2nd - .35 minutes - 2nd to down - 4 minutes  
TOTAL 39 minutes

Amount of antidote (M-50/50) administered?:...8cc.....

Reaction time?:.....21 minutes.....

Numbers of ear tags and colour combinations:.....

right ear ? :.....

left ear ? :.....

Opt.

Frequency of transmitter?:..... Setting Band Ch. Freq.....

Colour and type of collar attached?:.....

Additional information:..1st dart - neck..... both S.C.....

.....2nd dart - hind quarter.....

...Bull found dead approximately six hours later.....

...Cause of death unknown.....

RELOCATION

FIELD NOTES

CARIBOU IMMOBILIZATION PROGRAM - SQUANGA LAKE POPULATION

Date: November 2, 1978

Weather: High overcast, 0°C, slight wind, 3 - 5 inches of snow

Aircraft: Turbo Beaver - TNTA

Pilot: B. Parsons

Crew: D. Larson  
W. Olson  
C. Boyd  
E. Rempel

Observations: Two transmitters were left the previous night at a pre-determined location near Annie Lake. Prior to searching for the collared caribou, these two transmitters were monitored to determine range and strength of signal. Strong signals were received 3 - 6 miles away (line of sight) at both 1000 and 2000 feet A.G.L. The strongest signals were received when the aircraft was orientated at right angles to the transmitters. A null occurred when orientation was in a straight line with the transmitters.

A strong signal from collar #262 (Channel 9, Band 1, Frequency 5) (8 miles south of original immobilization site) One group of caribou (1♂, 5♀♀ and calves) were observed four miles south of Mt. Lansdowne. No collared animals were seen.

A strong signal from collar #253 (Channel 10, Band 1, Frequency 1) was recorded three miles south and three miles east of Streak Mtn. (point of original immobilization). Twenty caribou were spotted three miles east of Streak Mtn. (3♂♂, 17♀♀ and calves) They were on a ridge in semi-open spruce-pine forest. No collars were observed.

Two collared animals (#258, 260) were observed six miles north of Mt. Bryde. Positive identification (#258 - orange ear tags, #260 - blue ear tags) was made on both

animals. A total of 21 caribou (5♂♂, 16♀♀ and calves) were observed in this group. It should be noted that only those individuals which are obviously males, are so identified. Younger males may be classified as females. This group of caribou were observed at tree line. The two collared animals had moved approximately ten miles south of their original immobilization site.

A strong signal from collar #259 was received at a point between the original immobilization sites of #259 and 258.

A second group of caribou (15 total) were observed above tree line on the same ridge which #258 was collared.

The only transmitter which was not recorded was #261.

A weak signal from transmitter #253 was picked up on the west side of Mt. Michie, approximately twenty miles from the original immobilization site and approximately twenty-five miles from the strong signal received earlier in the day. A similar phenomenon occurred with transmitter #262 being received eight miles east of Mt. Lansdowne.

Obviously, the reception was excellent on transmitters in the field if they were within line of sight.

D.L.

CARIBOU IMMOBILIZATION PROGRAM - SITE LOCATION DATA

Date: November 2, 1978

Collar #: No collar

Ear tags - R

- L

Frequency:

Number of Animals seen with: 1♂, 5♀♀ and calves

Elevation: 3500 - 4000 feet

Habitat: Semi-open spruce-pine forest - broken by small lakes

Location: 4 miles south of Mt. Lansdowne

Remarks:

CARIBOU IMMOBILIZATION PROGRAM - SITE LOCATION DATA

Date: November 2, 1978

Collar #: Nil

Ear tags - R

- L

Frequency:

Number of Animals seen with: 3♂♂, 17♀♀ with calves

Elevation: 4000 feet

Habitat: Semi-open spruce-pine forest

Location: 3 miles east of Streak Mountain

Remarks:

CARIBOU IMMOBILIZATION PROGRAM - SITE LOCATION DATA

Date: November 2, 1978

Collar #: 258 and 260

Ear tags - R orange      R blue

- L orange      L blue

Frequency: 258 - Channel 5, Band 1, Frequency 0.5

260 - Both Channel 7, Band 1, Frequency 0; and Channel 6,

Band 1, Frequency 4.5. NOTE: The latter was the

strongest of the two, although both were very strong

Number of Animals seen with: Total of 21 (5♂♂, 18♀♀ and calves)

Elevation: 4500 feet

Habitat: treeline

Location: North of Mt. Bryde - 5 miles

Remarks: The males (plus a few females) were segregated by themselves  
approximately 200 yards from the main group.

CARIBOU IMMOBILIZATION PROGRAM - SQUANGA LAKE POPULATION

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Date: November 7, 1978

Aircraft: Shirley Helicopters - Gazelle

Pilot: W. Eng

Crew: D. Larsen  
W. Olson

Weather: Overcast, snow, light wind, -3°C, approximately 12" of snow  
above treeline.

Observations: Three animals were positively identified. Caribou (262)  
was observed one mile S.E. of its original immobilization  
site. Two calves were with her at this time.

Caribou (253) was observed next to the Canol Road, 18 miles  
east of the original immobilization site.

Caribou (259) was found dead, not more than 100 yards from  
the immobilization site. Only the hide and transmitter were  
found, indicating she was dead for some time.

Due to poor visibility, the search for caribou (261) was  
postponed.

D.L.



CARIBOU IMMOBILIZATION PROGRAM - SITE LOCATION DATA

Date: November 7, 1978

Collar #: 262

Ear tags - R: yellow

- L: blue

Frequency: Channel 8, Band 1, Frequency 3

Number of Animals seen with: 2 calves were with her

Elevation: 4,500 feet

Habitat: Alpine

Location: Mt. Lorne

Remarks: The strong signal received on the November 2nd survey may not have been collar 262. I suspect interference from a collar left at Needle Mountain.

CARIBOU IMMOBILIZATION PROGRAM - SITE LOCATION DATA

Date: November 7, 1978

Collar #: 253

Ear tags - R: red

- L: red

Frequency: Channel 10, Band 1, Frequency 1

Number of animals seen with: Nil

Elevation: 4,500 feet

Habitat: Semi-open, spruce-pine forest

Location: 18 miles due east of Streak Mountain

Remarks: A number of tracks were observed, however, no other animals were seen. A strong signal was recorded at Streak Mountain on November 2. He may have moved the 18 miles since then.

CARIBOU IMMOBILIZATION PROGRAM - SITE LOCATION DATA

Date: November 7, 1978

Collar #: 259

Ear tags - R:

- L:

Frequency:

Number of Animals seen with:

Elevation:

Habitat:

Location:

Remarks: Caribou (259) was found dead not more than one hundred yards from the original immobilization site. Cause of death unknown. Transmitter was recovered.

CARIBOU IMMOBILIZATION PROGRAM - SQUANGA LAKE POPULATION

Date: November 9, 1978

Aircraft: Shirley Helicopters - Gazelle

Pilot: W. Eng

Crew: D. Larsen  
B. Smith

Weather: Clear, -16°C, 10 - 15 mph winds

Observations: Caribou (261) was positively identified (yellow ear tags)  
thirteen miles east of the original immobilization site.

The transmitter frequency has drifted to: Channel 7, Band 1,  
Frequency 4.25. Another female and two calves were observed  
with her.

D.L.

CARIBOU IMMOBILIZATION PROGRAM - SITE LOCATION DATA

Date: November 9, 1978

Collar #: 261

Ear tags - R: yellow

- L: yellow

Frequency: Channel 7, Band 1, Frequency 4.25

Number of Animals seen with: 19, 2 calves

Elevation: 4,000 feet

Habitat: Semi-open spruce ridge

Location: 13 miles east of original immobilization site

Remarks:

CARIBOU IMMOBILIZATION PROGRAM - SQUANGA LAKE

Date: November 20, 1978

Aircraft: Gazelle

Pilot: W. Eng

Crew: D. Larsen  
M. Hoefs

Weather: 5000' elevation - +2°C, 3500' elevation - -8°C, 2500' elevation  
- -18°C; overcast, light snow.

Observations: Caribou 261 was observed two miles N.E. of Fox Lake. One male, 8 female and two calves were seen in the same area. Caribou 253 was observed seven miles N.E. of Johnson's Crossing. Two ♀ were in the same area.

D.L.

CARIBOU IMMOBILIZATION PROGRAM - SITE LOCATION DATA

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Date: November 20, 1978

Collar #: 261

Ear tags - R:

- L:

Frequency:

Number of animals seen with: 1♂, 8♀, 2 calves

Elevation: 3,000'

Habitat: Dense spruce forest

Location: 3 miles N.E. of Fox Lake

Remarks:

CARIBOU IMMOBILIZATION PROGRAM - SITE LOCATION DATA

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Date: November 20, 1978

Collar #: 253

Ear tags - R:

- L:

Frequency:

Number of animals seen with: 2♀ and 4 unclassified adults

Elevation: 4,500'

Habitat: Semi-open pine forest

Location: N.E. of Johnson's Crossing six miles

Remarks:



CARIBOU IMMOBILIZATION PROGRAM - SITE LOCATION DATA

Date: November 21, 1978

Collar #: 260

Ear tags - R:

- L:

Frequency:

Number of animals seen with: 6♀, 4 calves

Elevation: 3,000'

Habitat: a small lake in a large burned area

Location: N. tip of Snafu Lake

Remarks:

CARIBOU IMMOBILIZATION PROGRAM - SQUANGA LAKE

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Date: November 21, 1978

Aircraft: Gazelle

Pilot: W. Eng

Crew: D. Larsen  
M. Hoefs  
W. Olson

Weather: Overcast, windy

Observations: Caribou 260 was tracked to the northern tip of Snafu Lake. Six other females and four calves were observed with her. They were seen on a small lake, surrounded by a semi-open burn area. Caribou 262 was seen three miles west of Mt. Lansdowne, in open spruce habitat. Four females and four calves were with her.

D.L.

CARIBOU IMMOBILIZATION PROGRAM - SITE LOCATION DATA

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Date: November 21, 1978

Collar #: 262

Ear tags - R:

- L:

Frequency:

Number of animals seen with: 4♀, 4 calves

Elevation: 4,500'

Habitat: open spruce

Location: 3 miles west of Mt. Lansdowne

Remarks: