Winter inventory of important wildlife areas in the Ruby, Nisling, and Dawson Ranges (Game Management Zone 5)

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Original with Manfred Hoefs

Introduction

The enclosed report is a continuation of wildlife inventory in the Yukon Territory and deals with the winter surveys done during March 1975.

It consists of two sections: Part I discussed sheep wintering areas as well as moose and caribou estimation for the Ruby and Nisling Ranges and was done by M. Hoefs. Part II deals with moose and caribou in the remainder of this area (wildlife management zone 5), not discussed by M. Hoefs, primarily with the Dawson Range and was done by G. Lortie.

Wildlife Inventory in Game Management Zone 5

Manfred Hoefs

Catalogue of sheep winter ranges in the Ruby and Nisling Ranges, and surveys of moose and caribou areas.

Method and Materials:

In connection with winter surveys for moose and caribou in the Ruby and Nisling Ranges the winter ranges of Dall sheep were mapped.

Surveys were carried out on March 17, 18 and 19, 1975 with a Jet Ranger helicopter piloted by Ron Brick, with M. Hoefs and Bruce Taylor serving as observers. All three survey days were sunny and calm. A total of 13 hours were flown amounting to about $3300.00.

The procedure was to fly the valleys at an altitude of about 500 feet and only ascend to higher elevations when windswept, bare slopes were encountered which have the potential of being sheep winter ranges.

For moose the time of the survey was a little too late, since many of them had already left the valleys. However, their tracks were still obvious on important moose winter ranges. Very few moose were encountered at high elevations (timberline) neither, which led us to assume that these animals were on their migration from valley bottoms to the sub-alpine shrub zone and many were at this time working their way uphill under trees.

I Sheep winter ranges:

The area surveyed is bordered by the Aishihik road in the east, the Alaska Highway in the south and southwest, the Kluane River in the west, and Tincup Creek, the broad valley of Redtail Lake and Dwarf Birch Creek in the north. In additon the sheep winter ranges in the Long Lake area and along the Nisling River were located. The total area, excluding the Long Lake country, is about 4100 square miles in size, and, including the Long Lake area, is known to support a

summer population of about 3000 Dall sheep. It is felt that most important winter ranges were located. Areas which have also been surveyed this summer, but for which the winter ranges are not yet known includes the Sifton Range, Miners Range, the various sheep ranges west of the Kluane River to the Alaska boundary as well as the few sheep areas in the Dawson Range, north of the survey area to the Yukon River.

List of sheep winter ranges:

a) Long Lake area:

At least 8 different wintering areas exist between Long Lake in the northwest and the Nordenskold River in the southeast.

Most of them are on south, south-east and south-west facing slopes. The geographical coordinates are approximately:

1) 61°15' north, 136°-20' east (along north shore of Nordenskold River).
2) 61°18' north; 136°-25' west
3) 61°20' north; 136°-27' west
4) 61°20' north; 136°-30' west
5) 61°21' north; 136°-30' west
6) 61°22' north; 136°-26' west
7) 61°22' north; 136°-30' west
8) 61°24' north; 136°-30' west

These winter ranges are known to support at least 250 sheep, and there is a great possibility that some of another 120 sheep, which use the summer ranges further south between the Aishihik Road and Moraine Lake also winter here, since no important winter ranges were located in the Moraine Lake area.

b) Moraine Lake area:

There are two small winter ranges in this general area, both on south-facing slopes.

1) 61°-02' ; 136°-50'

2) 60°-59' ; 136°-50'

Only 15 sheep were observed here on winter ranges, but 120 are known to use this area as summer range. As already pointed out, it is assumed that most of the sheep will move to the Long Lake country to winter.

c) The Three Guardsmen area:

This area, which is located between Sekulmun Lake in the west, Aishihik Lake in the east and the West Aishihik River in the south, has 4 known sheep winter ranges, of which three are fairly extensive.

1) 61°-12'; 137°-15'-small area (not important)

2) 61°-13'; 137°-25'-extensive area

3) 61°-18'; 137°-24'-extensive area

4) 61°-19'; 137°-18'-extensive area

All these winter ranges are on west-facing slopes. The area is known to support about 160 sheep during summer months, and more than 100 were observed during this flight. The fact that these winter ranges are fairly extensive and that more than a 100 sheep were observed without any searching leads us to assume that the area is used as winter range by more than 160 sheep. It is likely that some of the sheep that summer south of the West Aishihik area also winter there, since no good winter range was discovered south of the West Aishihik River, an area that supports well over 400 sheep during the summer months.

d) The Mount Bark area:

This large area is bordered by the West Aishihik River in the northeast, the Twelfth of July Creek and the Jarvis River in the west, the Alaska Highway in the south, and the Aishihik River in the east. It includes summer survey areas L-3 and L-4, and supports a summer population of 470 to 500 sheep.

Only 5 very small winter ranges were located here, supporting less than 100 sheep.

1) 61°- 03'; 137°-16',(small area)
2) 61°-04'; 137°-44', (small area
3) 61°-08'; 137°-45', (small area)
4) 61°-08'; 137°-48', (small area)
5) 61°-09'; 137°-54', (small area)

As already pointed out, it is assumed that most sheep move out of this area and spend the winter either north of the Aishihik River or in the Cultus Bay area along Kluane Lake.

No winter ranges at all were located in the southern half of this area (L-4), where up to 70 were observed during the summer months.

e) The Cultus Bay area of Kluane Lake:

The area is one of the most important sheep winter ranges in the southwest Yukon. It is known to support at least 300 sheep, since these have been counted here (area 7 - 3) during the summer. However, it is assumed that more sheep move into this area during winter, since some of the very good summer ranges to east and northeast (Areas K-4, L-3) have over 500 sheep but very little winter range.

During this flight no accurate counts were made, but over 130 sheep were observed during one pass along the area. There are 5 distinct wintering areas here, four of which are fairly extensive.

1) 61°-09'; 138°-16', (medium size)
2) 61°-10'; 138°-22', (medium size)
3) 61°-11'; 138°-23', (large)
4) 61°-12'; 138°-23', (small)
5) 61°-13'; 138°-31', (medium size)

All these wintering areas are on south and southwest-facing slopes.

f) The Gladstone area:

This area includes the most extensive winter range known to occur in the southwest Yukon. The entire valley of about 25 miles in length of Gladstone Creek, Gladstone Lakes and Isaac Creek had good wintering range along its north side (south-facing). This winter range is more or less continuous, beginning in the east only two miles from Sekulmun Lake (137°-40' west), and terminating along the middle course of Gladstone Creek (138° -30' west). An additional small winter range is found along Sekulmun Lake (61° -24'north, 137° -40' west).

These winter ranges are known to support at least 500 sheep, since this number was counted in areas 7-2 and K-3 during the summer surveys (see summer report on sheep, 1975).

g) Talbot Arm area:

There are a number of sheep winter ranges along Talbot Arm of Kluane Lake, most of them are small in area and are limited to south-facing aspects along small creeks that drain into the lake. However, one large winter range is located along the east side of Talbot Arm,

extending northward from Raft Creek for a distance of 6 to 7 miles. This range is known to support more than 300 sheep while the smaller ones along the west side probably haven't more than 100 to 150 sheep on them.

1) 61°-29'; 138°-29', (small area along Raft Creek)
2) 61°-32'; 138°-37'; (large, along east side of Talbot Arm)
3) 61°-25'; 138°-40', (medium size area)
4) 61°-27'; 138°-40', (small area)
5) 61°-29'; 138°-40', (small area)
6) 61°-32'; 138°-41', (small area)
7) 61°-35'; 138°-41', (small area)
8) 61°-36'; 138°-41', (small area)

h) Upper Talbot Creek area:

One winter range of medium size is located along the upper third of Talbot Creek, starting at the confluence of Talbot and Alaskite Creeks and extending westward for a distance of 5 to 6 miles. It is estimated that up to 50 sheep utilize this range; this number was observed here (areas I-1, K-2) during summer inventories. Approximate coordinates: 61° -36'; 138°-10'.

i) Tyrrell Creek area:

A small wintering area was located along the east side of Tyrrell Creek, however, only sheep signs were observed. It is estimated that no more than 20 to 30 sheep utilize this area.

Approximate coordinates;

61° -43'; 138° -02'.

j) Nisling River area:

A very good sheep winter range is located along the Nisling River opposite the mouths of Dwarf Birch Creek and Rhyolite Creek at very low elevations along the banks immediately above the river. The total range is 6 to 8 miles long but limited in alitude to very low elevations (3000 to 3500 feet). Up to 120 sheep are known to winter on this area.

Approximate coordinates:

61° -55'; 138° -10'.

k) Brooks Creek area:

There are a total of at least 14 distinct patches of winter range on the east as well as on the west sides of the Brooks Creek valley. Those along the east side are larger in size, while those along the west side are restricted to exposed (south-facing) slopes of a few small creeks that drain into Brooks Creek. It is not possible to list the exact coordinates of each little patch of winter range since the extent of each is not known, but in general they extend from the end of Brooks Arm of Kluane Lake (61° -32' north latitude) north to the end of the mountain range to latitude 61° -41'. The winter ranges along the east slope support up to 100 sheep, while those along the west side probably are not used by more than 50 or 60 sheep.

1) Tincup Lake area:

There is one winter range along the northern half of Tincup Lake on its east shore. This is not a critical area since very few sheep utilize that mountain range.

The coordinates are as follows:

61° -47' north, and 139° -14' west.

Probably not more than 20 to 30 sheep use this area.

m) Onion Creek area:

There is a winter range supporting perhaps up to 100 sheep along the east slope of an unnamed creek draining into Onion Creek in the Nisling range.

The coordinates are as follows:

61° -50' north, and 138° -48' west.

Since this is the only winter range located in the Nisling Range south of the Nisling River, it may be a "critical" one.

II Moose Survey:

The total area surveyed - as outlined on the map - is about 3474 square miles. This figure does not include large bodies of water (Kluane Lake, Tincup Lake, etc.). A total of about 1400 square miles are above the 5000 foot contours, and are largely unsuitable for moose. This leaves about 2070 square miles of potential moose range. Within this potential moose range densities vary greatly, and - as already pointed out, the time of survey was too late to do accurate counts - but at least 5 large areas and one small one were located which were exceptional and which will support late winter densities of about 1 moose per square mile. There may be more of such good areas in the northern portion of the area surveyed, since only major valleys were inspected, but it is doubtful that such areas would be of any large sizes.

The five good moose ranges are the following (they are marked in blue on the map).

1) Aishihik River area and West Aishihik River area.
   Total size about 30 square miles.

2) Jarvis River area to Cultus Creek drainage.
   Total size about 60 square miles.

3) Nisling River area from the mouth of Stevens Creek in the east to the mouth of Maloney Creek in the west.
   Total size about 50 square miles. This good moose range continues beyond the above boundary into areas not surveyed during this flight.

5) Brooks Creek area to the end of Kluane Lake.
   Total size about 30 square miles.

6) Kluane River area from junction of Tincup Creek with Kluane River southward to (about) the Alaska Highway.
   Total size about 20 miles^2.

In addition there is one small area known along Dwarf Birch Creek of about 6 miles^2.

There is, therefore, in the area surveyed at least a total of 200 square miles of good moose range with a density of an estimated 1 moose per square mile giving a total of 200 moose. Density in the remaining 1870 square miles of potential moose range is difficult to determine, but it will be much less than that of the good ranges mentioned earlier. Many of these areas are not occupied at all in winter because of deep snow, others consist of rather 'sterile' dense forest with a very low carrying capacity for moose.

It is therefore estimated that the density may be around 1 moose per 10 square miles in these 1870 square miles giving an

additional 190 moose for the area surveyed for a total of about 400 moose.

These estimates will most likely be conservative, but until better density figures become available, an under-estimation is better than an over-estimation.

III Caribou survey:

During summer and winter surveys a total of 111 caribou were sighted in 12 different groups.

The area where caribou have been located are shown on the map as well as the total areas where signs (trails, etc), indicate that caribou are or have been using the area. Four such areas (2 large and two small ones) are outlined. While it is likely that exchange between these areas takes place, certain areas, as for instance the high mountains in the central portion, as well as the southeastern portion of the mapped area, definitely have no caribou.

Area (1) Kluane Hills. A very small area where 5 caribou were observed and perhaps 15 to 20 may live.

Area (2) A large area extending from the lower half of Sekulmun Lake in the east to about 138° -00' longitude west (Fourth of July Creek). A total of 62 caribou were seen here in summer, and a total population of 150 to 200 caribou is estimated to live here. This estimation is supported by observations made by outfitters, guides and hunters of the area.

Area (3) A small area west of Brooks Arm where 28 caribou were counted during winter surveys. These caribou apparently moved out of

the Kluane Park Sanctuary (Burwash Uplands) some years ago. They are regularly hunted by the outfitter of the area. This small population has been between 25 and 35 animals for the past 3 to 5 years.

Area (4) A very large area covering most of the northern portion of the area maps, approximately from Talbot Creek in the south to Nisling River in the north.

Only three bands of caribou, totalling 10 animals were actually counted, but the survey was only superficial. It is ideal caribou country, and many old trails were found in the mountains.

It is estimated that there will be 150 to 200 caribou in the area.

The total number of caribou estimated to live in the mapped area is therefore estimated to be between 350 and 450 animals.

The harvest by outfitters during the 1974 season was 31 animals; it is not known whether any were taken by resident hunters or natives.

Except for that little bunch near Burwash (Area 3), which may be hunted pretty hard, the harvesting of the other populations at present is not significant.

Wildlife Inventory in Game Management Zone 5

Grant Lortie

Wildlife Reconnaissance Survey G.M.Z. #5

Introduction:

From March 10 - 14 inclusive a transect survey of G.M.Z. #5 was conducted with the use of a locally chartered Cessna 185. Exclusive of the Nisling & Ruby ranges, transect lines were flown on ten minute longitude intervals from 136° 30' W to 141° 00' W. Occasionally some transect lines or segments were omitted if game or the sign of game was scarce.

A survey altitude of 500' above the terrain was ideal. The aircraft speed was 120 m.p.h. Transect width was 1/4 mile on either side of the aircraft.

Flight observations were recorded on magnetic tape with a Sony C-60 tape recorder. Verbal notations of time, location and nature of observations were recorded. Taped notes were transcribed to prepared observation sheets after each flight. Total flying time was 27.1 hours with a total cost of approximately $4000.00.

This survey is a continuation of basic wildlife inventories which commenced in 1972.

Data:

An examination of the minimum and maximum densities in Table I needs an explanation. The minimum density for each transect is computed on the basis of moose actually observed on the surveyed area. Maximum densities are computed on the basis of the sum of moose observed and fresh tracks intersected where no moose was seen. These densities are averages for the transect.

On areas where moose were concentrated, i.e. on segments of transects B1, B2, B3 and E3, E4 and E5 moose densities vary slightly around one moose per square mile.

This density figure is assumed to be realistic for lowlands mapped as moose wintering areas.

During the entire survey, 88 moose were observed on transect - six of them calves - the remainder adults and sub-adults. This renders a late winter calf survival of 6.8% of the total sample.

Results:

Moose:

Due no doubt to prevailing moderate weather this winter and generally light snow falls, moose had already begun to leave lowland wintering areas for higher elevations. Compact concentrations of wintering moose were not found (except in one case - E 3 - Houghton Lake), the animals being scattered to all elevations from valley bottoms to the sub-alpine zone. Major wintering areas were easy to locate because of the abundance of sign in areas where moose had concentrated.

Actual moose densities for the total area surveyed likely lie between the extremes presented in Table I. The subjective nature of interpreting track freshness and continuity from the air preclude a reliable population estimate, however, an approximation is possible.

West of Wellesley Lake, in spite of physiographic continuity and similarity, important areas of moose concentrations were not found. This area lies outside the 'weather shadow' of the Ruby and Nisling Ranges, with a noticeably deeper snowfall. An isolated small area southeast of MacCauley Ridge (A 3) harboured a small winter moose concentration.

A total area of 13,732 square miles was surveyed. Of this total, approximately 120 square miles of lakes and 2,737 square miles of terrain above 4000' elevation are unsuitable as moose habitat.

Nine moose winter ranges were located and listed below: (these are marked in blue on the map).

(1) West Aishihik River (included in Hoefs' concurrent report on the Ruby and Nisling Ranges)

Data.

Table I: Moose Observations.

Date	Transect #	(1) Moose Observed	(2) Tracks Observed	Survey Miles	Transect Width	(3) Area Surveyed	Average Transect Directions 3/1 Minimum Density	Average Transect Directions 3/1 + 2 Maximum Density
10 March	A1	6	26	92	1/4	23	1/3.8	1/0.72
	A2	2	19	90	1/4	22.5	1/11.25	1/1.07
	A3	1	19	80	1/4	20	1/20	1/1
	A4	4	12+	76	1/4	19	1/4.75	1/1.2
11 March	B1	7	24	96	1/2	48	1/3.4	1/0.77
	B2	9	11	76	1/2	38	1/4.2	1/1.90
	B3	0	17	68	1/2	34	-	1/2.0
	B4	13	18	44	1/2	22	1/1.70	1/0.70
12 March	C1	0	23	60	1/2	30	-	1/1.30
	C2	0	3	24	1/2	12	-	1/4.0
	C3	1	12	40	1/2	20	1/20.0	1/1.53
	C4	0	19	44	1/2	22	-	1/1.15
13 March	D1	0	11	56	1/4	14	-	1/1.27
	D2	0	7	56	1/4	14	-	1/2.0
	D3	0	18	64	1/4	16	-	1/0.88
	D4	0	9	64	1/4	16	-	1/1.77
	D5	0	12	46	1/4	11.5	-	1/10
	D6	0	10	40	1/4	10	-	1/1.0
	D7	0	13	28	1/4	7	-	1/0.5
	D8	0	6	24	1/4	6	-	1/1.0
14 March	E1	1	12	48	1/2	24	1/24	1/1.85
	E2	5	11	44	1/2	22	1/4.4	1/1.37
	E3	26	15	52	1/2	26	1/1.0	1/0.63
	E4	1	11	60	1/2	30	1/30	1/2.5
	E5	4	13	48	1/2	24	1/6.0	1/1.41
	E6	0	8	48	1/2	24	-	1/3.0
	E7	5	13	72	1/4	18	1/3.6	1/1.0
	E8	1	17	44	1/4	11	1/11	1/0.6

(2)	Houghton Lake	28 square miles
(3)	Upper Kirkland Creek	75 square miles
(4)	Upper Nordenskold River	92 square miles
(5)	Crossing and Merrice Creeks (burn)	99 square miles
(6)	Niggerhead Mountain	40 square miles
(7)	Deadman Hill	57 square miles
(8)	Koidern	27 square miles
(9)	Wellesley Lake - Nisling River-MacIntosh Creek	1223 square miles

This gives a total of 1641 square miles of high density moose range, the most significant one being the large area east of Wellesley Lake.

An estimate of the moose population on this portion of G.M.Z. #5 is derived as follows:

A density of 1 moose/ sq. mile on winter ranges yields a total of 1641 moose. Exclusive of the unsuitable habitat noted above, the remaining 9154 square miles has a density of approximately 1 moose/ 10 sq. miles for a sum of 915 moose. A total moose population estimate for G.M.Z. #5 therefore is: 1651 + 915 + 400 (from Hoefs) = 2956 or approximately 3000 moose.

In addition to the winter ranges noted, suitable winter habitat occurs in isolated belts and patches along all of the major stream courses such as the Ladue, White and Donjek Rivers. The Yukon River flood plain as well provides suitable wintering areas for moose, most notably, the mouth of Big Creek.

Caribou:

Higher elevations were surveyed in order to locate caribou or their sign. Much of the uplands surveyed north of the Nisling River

and Snag Creek bear the sign of thousands of caribou having occupied the area in some time past. The anastomizing trails characteristic of migratory caribou are deeply worn in tundra hillsides, scree slopes and sub-alpine creek bottoms.

Recent caribou sign observed on this survey was confined to scattered tracks and feeding craters at the upper limit of the shrub zone in the Dawson Range between Mt. Klaza in the east and the head of Home Creek in the west. This sign indicated only small bands likely numbering less than 15 animals.

On the morning of March 12th, a random search survey was conducted in the Kluane Game Sanctuary from the Duke River to the White River and that portion of G.M.Z. #5 north and west of the White River.

The Wolverine Creek Valley bottom west of Teepee Lake to the Generc River was entirely tracked with recent caribou sign. Six caribou were observed just west of Teepee Lake. This sign was continuous west of the Generc River between the north flank of the St. Elias piedmont and the White River, into Alaska. North of White River, caribou sign was noted on the south flank of the range south of Tchawsahmon Lake and further west, in Alaska below Ptarmigan Lake down Beaver Creek to a point directly west of Tchawsahmon Lake.

Sheep:

The morning flight of March 12th to locate wintering sheep on that portion of Dickson's outfitting area south of the highway, resulted in the following.

On the range S.W. of Tchawsahmon Lake, bands of sheep were located as follows: 5 unclassified sheep on north side of Rabbit Creek (#7), 15 unclassified sheep on most northerly point immediately

west of Tchawsahmon Lake (#8) and 9 rams on the most westerly point in Alaska adjacent to Beaver Creek (#9). Older sign was noted over much of the southwesterly and northwesterly flanks of the range.

West of Beaver Creek in Canada, 13 rams were located on Cottonwood Mountain (#11), and the recent sign of an unknown number of sheep was seen on the southeast flank of Beaver Mountain.

On the range north of Tchawsahmon Lake, the south facing flank had older sheep sign practically over its entirety. Two sheep observations were made (#'s 12 and 13), 5 unclassified and 1 ram respectively on Sanpete Creek and Mt. Doyle.

Eleven nursery sheep were located on Miles Ridge.

On March 13th, a band of 12 ewes and 4 lambs was located on the Nisling River opposite the mouth of Dwarf Birch Creek. Sheep sign along the bluffs north of the Nisling River is sporadic between a point opposite the mouth of Tyrell Creek downstream to the mouth of the large south flowing tributary west of Klaza River.

Three large rams were located on March 14th, on an isolated ridge approximately 15 miles N.E. of Hutshi Village.

Wolves:

4 wolves, 1 black and 3 greys were observed at the same location as the March 13th Nisling River sheep observation. These wolves were in the immediate area and were apparently hunting these sheep.

Other:

Ptarmigan sign was abundant in all locations in the shrub and alpine zones. Several flocks were seen.

Discussion:

The Cessna 185 was a generally suitable aircraft, but in the higher relief of the Dawson Range survey altitudes were impossible to maintain. For reconnaissance surveys in this type of terrain, an aircraft with higher performance capabilities such as a Turbo Beaver is recommended.

Terrain with relief over 1000' does not lend itself to transect-type surveys. Non-uniform vegetative cover types, varying slopes and varying light conditions, aside from the difficulty in maintaining survey altitude preclude reliable density and population estimates. More reliable results in this terrain type would result from intensive search surveys in sample blocks of occupied habitat. This work requires the use of a helicopter if population structure is to be determined.

With the exception of the unmaintained Aishihik, Mt. Nansen, Casino and Snag roads, land access to the area is poor. Consequently, harvests of big game are minimal, with the exceptional possibility of local over-harvesting along the Mt. Nansen and Aishihik Roads.

North of the Nisling River, marginal sheep range harbouring a small sheep population could, with improved access, be easily over-harvested.

Similarly with caribou, the remnant group(s) could be locally over-harvested, but because of geographic isolation, are largely immune to severe hunting pressure.

By far, the most serious factor in the welfare of sheep and caribou in this area, are land use practices, particularly mining exploration activity.

Habitat destruction as a result of assessment work (i.e. Mt. Nansen area) and disturbance through the intensive use of aircraft, particularly helicopters, over large areas of the Dawson Range constitute the most serious welfare threat at present.

Conclusion:

This survey did locate the more significant moose wintering areas upon which further winter work may be directed, and provided a rough estimate of 3000 moose in G.M.Z. #5.

Caribou survive in the Dawson Range in low numbers and are probably non-migratory. Evidence of less than 200 caribou in small groups was seen.

Reports of a small wintering sheep population on the middle Nisling River were confirmed.