038-50-1D

Moose Survey in Old Crow Flats on September 6 - 7, 1977.

An aerial survey was made of the Old Crow Flats with Yukon Air's Hiller 12E helicopter, piloted by John Blancke; M. Hoefs served as navigator and recorder and Ted Wagner was observer. We flew from 10:00 a.m. to 6:00 p.m., for a total of 6.5 helicopter hours and 1 hour on September 7, 1977. The weather was sunny, warm and calm. The survey consisted of 10 transects at 10 km intervals flown at a height of 500 feet. Reference marks were made on the helicopter windows allowing us to survey a transect width of 500 yards - 250 yeards on each side of the machine.

The size of the Old Crow Flats, here defined as the large bowl-shaped flat area of roughly 30 x 60 miles (1800 square miles) is 4608 square km in ~~size~~ extend. The total size of our transects works out to be 323 square km, or 7.0% of the area of the Flats. The multiplication factor to be used to extrapolate from the moose observed in our survey to those inhabiting the Flats as a whole is therefore x14.2.

The lay-out of the transects and the locations where moose were observed are shown on the attached map. The following list summarizes the observation locations and the classified moose counts.

1) 1 male
2) 2 males 1 female 1 calf
3) 1 female
4) 2 females
5) 2 males 1 female
6) 1 female 1 calf
7) 1 female 1 calf
8) 2 females
9) 1 male
10) 1 female 1 calf
11) 3 males 3 females 1 calf
12) 1 female
13) 1 male
14) 1 male

15) 1 female 1 calf

16) 1 male

17) 1 male 1 female 1 calf

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36 moose consisting of 13 males, 16 females, 7 calves.

In addition 1 female was heard at Schaefer Lake, but was not seen from the helicopter, and a cow with a calf was observed along Black Fox Creek on September 9, 1977 outside a transect line, giving a total of 13 males, 18 females, 8 calves.

Ted Wagner counted from the right-hand side of the helicopter and verbal communication during flight was not possible. Ted's count varied considerably from mine and both are list below:

| | Males | Females | Calves | Total |
|---|---|---|---|---|
| Hoefs | 13 | 18 | 8 | 39 |
| Wagner | 16 | 17 | 8 | 41 |
| $\bar{x}$ | 16 | 18 | 8 | 42 |

Some of these moose were observed beyond the predetermined width of the transect strip. The following table reflects the two observer's opinion, as to which moose were "inside" the strip and should therefore be used for total number and density calculations.

| | Males | Females | Calves | Total |
|---|---|---|---|---|
| Hoefs | 12 | 15 | 5 | 32 |
| Wagner | 12 | 9 | 3 | 24 |
| $\bar{x}$ | 12 | 12 | 4 | 28 |

Using the average value of 28 for the moose located within the transect width and multiplying their number by 14.2 (as elaborated on above) gives a mimimum total number of moose for the Flats of 398 moose. This is the number actually observed; we do not know what percentage was missed. Along rivers and creeks cover was very heavy and no moose were located at all in such habitats, but fresh tracks were observed on all the exposed mud flats and gravel bars of those water courses. We estimate that the true number of moose occupying the Flats at this time

will be at least 50% higher (600) and may even be double that (800). Only repeated counts at different times of the year as well as work on the ground will establish a more reliable estimate of the Old Crow Flats' moose populations.

Of the 42 moose observed, 8 were calves, which is 19.0% of the population range. This can be considered good for this time of the year.

Most moose were observed in the northwestern two-thirds of the Flats, and practically none in the northeastern quarter. The latter area has very low tundra-like vegetation, with cover of any sort limited to the creek and river beds.

We also observed many types of waterfowl (geese and ducks), but only swans were recorded since they were very obvious to locate during our transect flights. We located 39 swans on our transects, a high percentage of which were young birds. Some were very young and only one-half the size of their parents (4 at least). It is doubtful whether some of these young birds will still ~~need~~ reach sufficient growth to migrate south, since frost and ice on the lakes can be expected in the next few weeks.

M. Hoefs.