

1998 MAYO MOOSE SURVEY RESULTS SUMMARY



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1998 Mayo Moose Survey Results Summary

We conducted a moose survey in the Mayo area in late November 1998. The survey was done to monitor long-term changes in moose abundance in the area, and to help assess the effectiveness of the Aishihik Moose and Caribou Recovery Program. The area surveyed ran from the Silver Trail, north of Mayo, west to the McQuesten River, and south of Mayo, from the Stewart River, west to the Silver Trail, (see the attached map). It covers about 3073 square kilometers (about 1190 square miles) of habitable moose range (excludes mountain tops and large lakes). It includes Game Management Subzones (GMS) 2-58, 4-01 and the portion of 4-04 south of the Stewart River. We have done two previous moose counts in this area in 1988 and 1993.

A description of how we do moose counts is presented in the Yukon Government publication entitled "Yukon Moose". To receive a copy of this publication contact your local Department of Renewable Resources Field Services Office or the Department of Renewable Resources Moose Management Unit at 10 Burns Road, Whitehorse; or phone (867) 667-5787. We would like to thank the Mayo District Renewable Resources Council for organizing local observers to assist with the survey.

We estimate that there are now about 614 moose (or an average density of about 200 moose for every 1000 square kilometers) in the Mayo survey area (see attached table 1). This is about 65% more moose than estimated to be in the area in 1993, and almost twice as many as in 1988 (statistically significant; $P < 0.05$).

The current moose abundance in the Mayo area is high by Yukon standards. A similar size area around Whitehorse would have about 460 moose (150 moose for every 1000 square kilometers). In contrast, however, a similar size area around Finlayson Lake would probably have about 1035 moose (337 moose for every 1000 square kilometers).

Of the estimated 614 moose in the area in 1998, 232 were mature cows, 164 were mature bulls (70 for every 100 mature cows), 85 were yearlings (36 for every 100 mature cows), and 134 were calves (58 for every 100 mature cows). Twenty-nine percent of cows with calves had twins. This is among the highest twinning rates recorded to date in the Yukon. These population composition numbers, combined with the high twinning rate, are indicative of a healthy increasing moose population.

If we assume that the northern portion of GMS 4-04 has about the same moose abundance as the southern portion, the Mayo survey area (GMS 2-58, 4-01 and 4-04) can probably sustain a harvest of about 27 to 36 moose per year. The reported harvest by residents and non-residents between 1993 and 1997 is well within this sustainable limit, averaging only about 19 moose per year (see Figure 1, attached). This does not include the harvest by First Nations, however, as this information is not available. The fact that the area moose population has increased significantly over the past decade, however, confirms that the total harvest has also remained within sustainable limits.

In summary, moose abundance in the Mayo area is above average and appears to be increasing. The reported moose harvest is currently within sustainable limits but we do not know how many moose First Nation members harvest in the area each year.

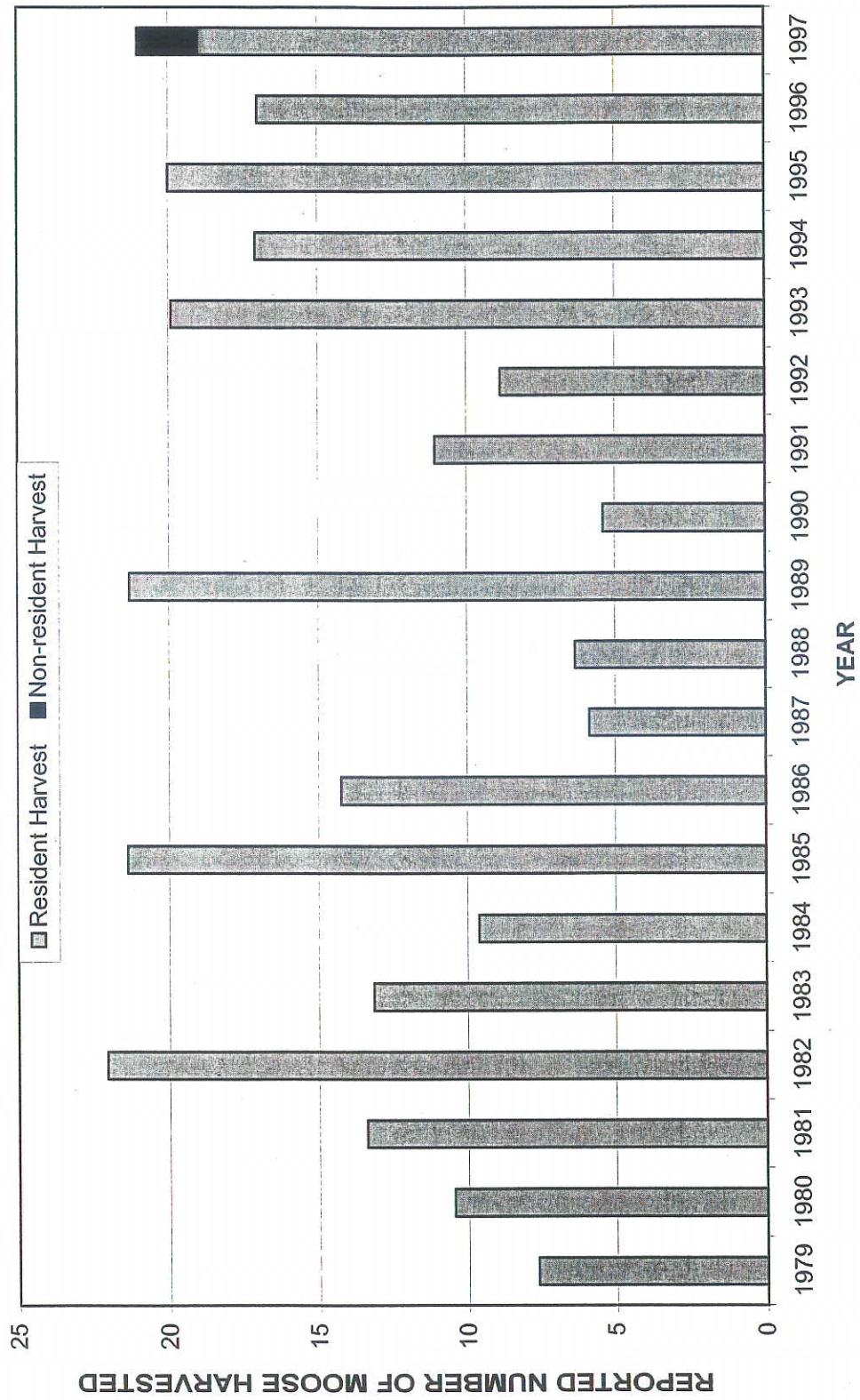
In addition to moose, we made notes on several other species observed during the survey. We encountered about 170 caribou in the Ethel Lake area. A pack of 9 wolves was observed near Elsa, and two single wolves were seen near Scheelite Dome. A mule deer and two foxes were also noted during the survey.

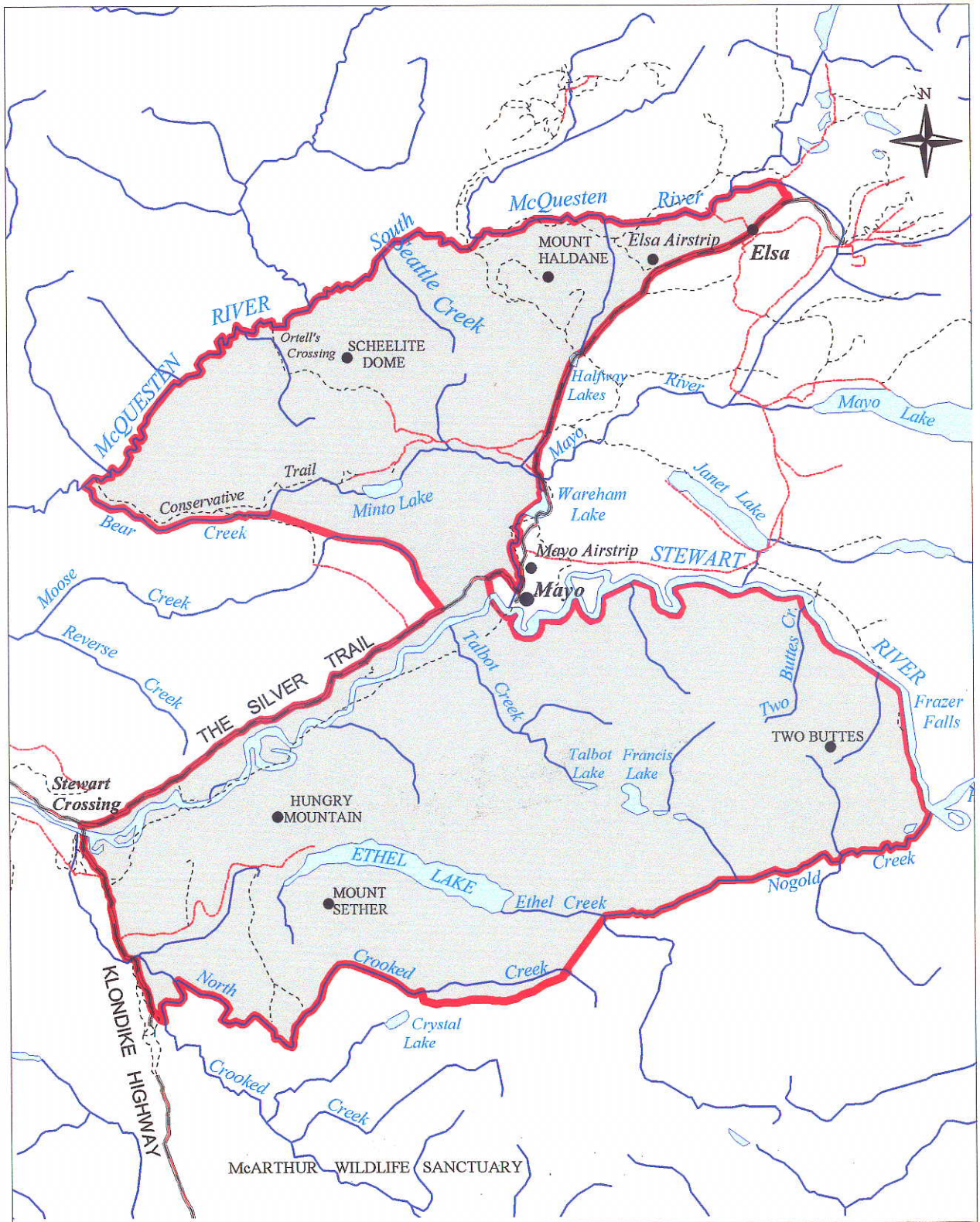
Table 1; Summary of 1988, 1993, and 1998 Mayo Area Moose Survey Results

POPULATION CHARACTERISTICS	1988¹	1993²	1998³
Estimated Abundance (90% C.I.)			
Total Moose	319 (251-387)	371 (308-435)	614 (497-732)
Density (Moose per 1000 Km ²)	104	121	200
Estimated Composition			
Mature Bulls (≥ 30 months)	74 (53-95)	121 (90-152)	164 (123-204)
Mature Cows (≥ 30 months)	109 (70-147)	148 (115-182)	232 (184-280)
Yearlings (Approx. 18 months)	59 (17-100)	26 (22-30)	85 (64-106)
Calves	78 (53-102)	76 (52-99)	134 (104-164)
Estimated Ratios			
Mature Bulls per 100 Mature Cows	68	82	70
Yearlings per 100 Mature Cows	54	18	36
Calves per 100 Mature Cows	71	51	58
Mature Bulls: % of Total Population	23%	33%	27%
Mature Cows: % of Total Population	34%	40%	38%
Yearlings: % of Total Population	18%	7%	14%
Calves: % of Total Population	24%	20%	22%
Twinning Rate	3%	24%	29%
SURVEY CHARACTERISTICS			
Stratification			
Survey Dates	Nov. 5-22	Nov. 21-24	Nov. 18-21
Area searched (Km ²) ⁴	3062	3077	3073
Time used in search (minutes)	--	2000	1832
Search Intensity (min. per Km ²)	0.4	0.65	0.60
Moose seen	146	251	277
Moose seen per minute	--	0.13	0.15
Census			
Survey Dates	Nov. 6 - 26	Nov. 24 – Dec. 1	Nov. 22-26
Area Searched (Km ²)	1168	1348	1742
Percentage of total area searched	38%	44%	57%
Time used in search (minutes)	2102	2591	3443
Search Intensity (minutes per Km ²)	1.8	1.9	2.0
Moose seen	143	258	315
Moose seen per minute	0.07	0.1	0.09

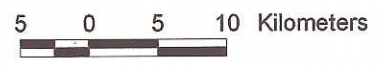
1. No sightability Correction Factor incorporated in population estimates
2. Sightability Correction Factor of 1.03 incorporated in population estimates
3. Sightability Correction Factor of 1.28 incorporated in population estimates
4. Differences in reported area due to measuring errors prior to use of GIS software in 1998

**Figure 1. Reported Moose Harvest by Residents and Non-residents in the Mayo Survey Area
(Game Management Subzones 2-58, 4-01 and 4-04)**





-  Mayo Survey Area
-  Rivers
-  Highway
-  Roads
-  Trails/other



Mayo Moose Survey Area, 1998