1998 BIG SALMON MOOSE SURVEY RESULTS SUMMARY

Yukon
Environment

2003

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Fish and Wildlife Branch
SR-03-05
Yukon Department of Environment

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Suggested citation:
ENVIRONMENT YUKON. 2003. 1998 Big Salmon Moose Survey Results Summary. Yukon Fish and Wildlife Branch Report SR-03-06, Whitehorse, Yukon, Canada.

1998 Big Salmon Moose Survey Results Summary

We conducted a moose survey in the Big Salmon River 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 included portions of Game Management Subzones (GMS) 8-03, and 8-05 to 8-11, along the Big Salmon and South Big Salmon rivers. It covers approximately 2698 square kilometers (1042 square miles) of habitable moose range (see the attached map). We had previously counted moose in this area in 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 Kwanlin Dun, Ta'an Kwach'an and Little Salmon/Carmacks First Nations for selecting local observers to assist with the survey.

Moose abundance and population composition in the Big Salmon survey area has remained virtually unchanged since our previous survey in 1993 (see attached table 1). We estimate that there are now about 526 moose (for an average density of 195 moose for every 1000 square kilometers) in the area compared to our 1993 estimate of 527 moose (no statistical difference $P>0.05$). This moose abundance is relatively high by Yukon standards. A similar size area south of Whitehorse would have about 410 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 526 moose in the area in 1998, 204 were mature cows, 138 were mature bulls (68 for every 100 mature cows), 84 were yearlings (41 for every 100 mature cows), and 101 were calves (49 for every 100 mature cows). Nineteen percent of cows with calves had twins. With the exception of a substantial increase in the proportion of yearlings in the population, the1998 population composition is similar to that observed in the area in 1993. It is also within the range normally associated with increasing moose populations.

If we assume moose abundance in the portions of GMS 8-03, and 8-05 to 8-11 outside the survey area was similar to that inside the survey area, these GMS can probably sustain a harvest of about 48 to 64 moose per year. Between 1993 and 1997, the reported harvest by residents and non-residents was well within this sustainable limit, averaging only about 10 moose per year (see Figure 1). Information on the moose harvest patterns or trends by First Nations in this area is not available. Most of the area is quite remote, however, so we expect the harvest by First Nation members is small.

In summary, moose abundance in the Big Salmon area is similar to that observed in the area in 1993. Population composition is within the range normally associated with

increasing moose populations. 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.

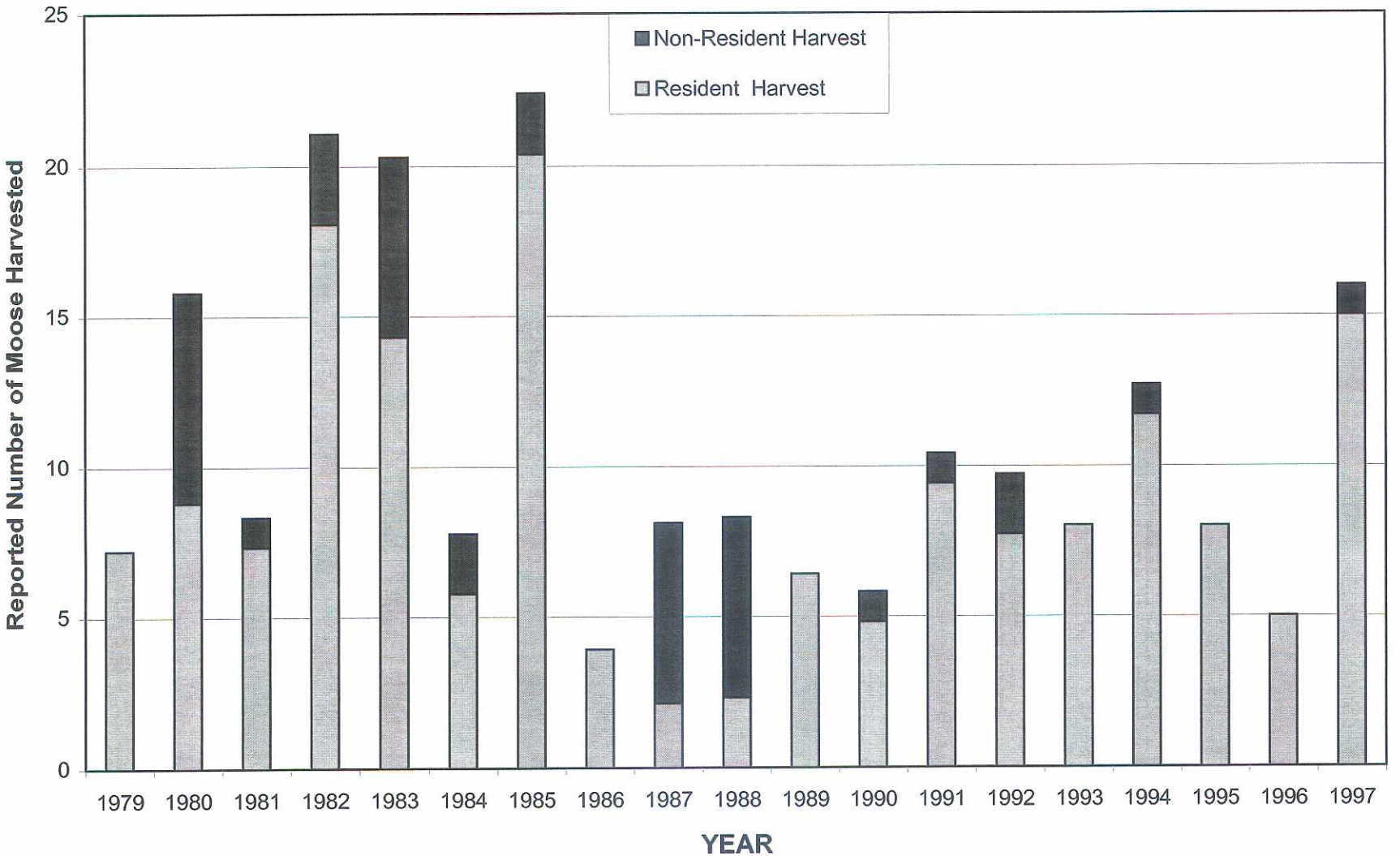
In addition to moose, we recorded a total of 122 caribou scattered throughout the survey area and 10 sheep at the north end of Mount Peters.

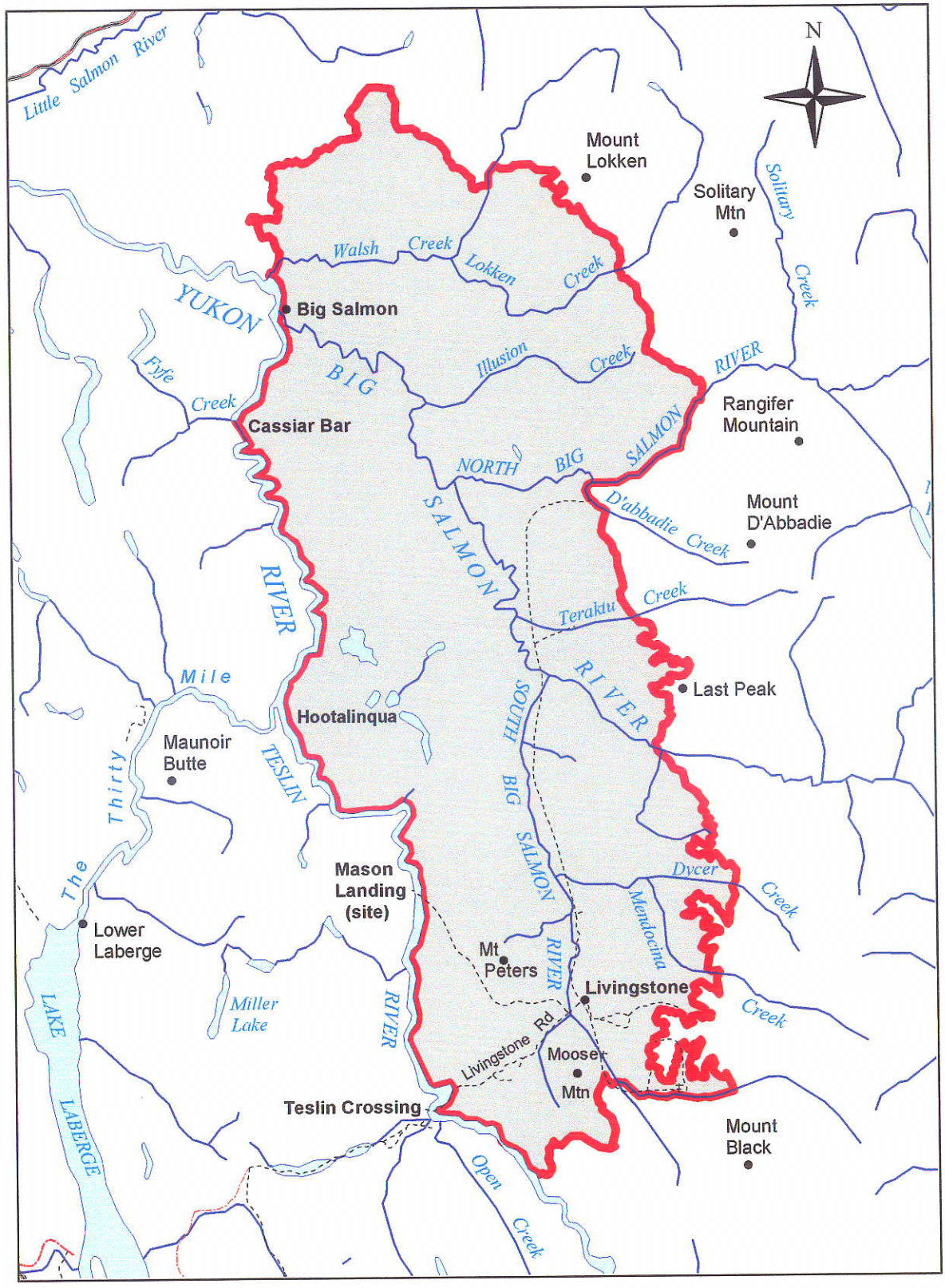
Table 1; Summary of 1993 and 1998 Big Salmon Area Moose Survey Results

POPULATION CHARACTERISTICS	1993[1]	1998[2]
Estimated Abundance (90% C.I.)		
Total Moose	527 (435-619)	526 (432-621)
Density (Moose per 1000 Km^2)	195	195
Estimated Composition		
Mature Bulls ($\geq$ 30 months)	158 (128-187)	138 (106-170)
Mature Cows ($\geq$ 30 months)	221 (180-261)	204 (163-245)
Yearlings (Approx. 18 months)	38 (16-60)	84 (54-113)
Calves	111(82-139)	101 (72 -129)
Estimated Ratios		
Mature Bulls per 100 Mature Cows	71	68
Yearlings per 100 Mature Cows	17	41
Calves per 100 Mature Cows	50	49
Mature Bulls: % of Total Population	30%	26%
Mature Cows: % of Total Population	42%	39%
Yearlings: % of Total Population	7%	16%
Calves: % of Total Population	21%	19%
Twinning Rate	25%	19%
SURVEY CHARACTERISTICS		
Stratification		
Survey Dates	Nov. 7-10	Nov. 18-24
Area searched (Km^2)[3]	2706	2698
Time used in search (minutes)	1455	1490
Search Intensity (min. per Km^2)	0.54	0.55
Moose seen	276	218
Moose seen per minute	0.19	0.15
Census		
Survey Dates	Nov. 11-17	Nov. 24-29
Area Searched (Km^2)	1054	1170
Percentage of total area searched	39%	43%
Time used in search (minutes)	2057	2335
Search Intensity (minutes per Km^2)	2.0	2.0
Moose seen	325	280
Moose seen per minute	0.16	0.12

1. Sightability Correction Factor of 1.07 incorporated in population estimates
2. Sightability Correction Factor of 1.08 incorporated in population estimates
3. Differences in reported area due to measuring errors prior to use of GIS software in 1998

Figure 1. Reported Moose Harvest in the Big Salmon River Area (Game Management Subzones 8-03, and 8-05 to 8-11)





Big Salmon Moose Survey Area, 1998